INTERNSHIP AT WEBITO INFOTECH

AN INTERNSHIP REPORT

Submitted by

Dhruv Shaileshbhai Mavani

200390116001

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

July-August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at WEBITO Infotech** has been carried out by **Dhruv Shaileshbhai Mavani** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof.Akshay Kansara	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate



Fig 1. Internship completion certificate

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship report submitted along with the Internship entitled **Internship at WEBITO Infotech** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad is a bonafide record of original project work carried out by me under the supervision of **Prof.Akshay Kansara** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student

Dhruv Mavani

Sign of Student



ACKNOWLEDGMENT

I extend my sincere gratitude to **WEBITO Infotech** for providing me with the invaluable opportunity to undertake a 15-day summer internship in the realm of mobile application development using Flutter. This experience has been instrumental in enhancing my practical knowledge and skills in the field.

I would like to express my heartfelt appreciation to **Mr. Kewal Bhalala** and **Mr. Brijesh Goyani** for their unwavering support and guidance throughout my internship journey. Their mentorship and insights have been instrumental in shaping my understanding of mobile app development.

The opportunity to translate classroom learning into practical applications by developing an actual mobile app has been both enlightening and rewarding. The experience of conceiving, designing, and implementing the app has provided me with a profound understanding of the software development lifecycle.

I am truly thankful for the knowledge and exposure I have gained during my time at WEBITO Infotech, which I believe will serve as a solid foundation for my future endeavors in the world of technology.

Once again, thank you for the opportunity and support.

Sincerely,

Dhruv Mavani

Abstract

During my enriching 15-day internship at WEBITO Infotech, an innovative IT service company headquartered in Surat, I had the privilege to collaborate with the Designing and Development departments. WEBITO Infotech, with its multifaceted divisions spanning Designing, Development, Human Resources, Finance, and more, provided me with an immersive learning experience. In the Design department, I delved into the art of crafting captivating mobile application user interfaces (UI) using industry-leading tools like Figma. Additionally, my journey extended to the Development department, where I had the opportunity to work hand-in-hand with skilled developers. This phase of my internship introduced me to the dynamic realm of Flutter, a versatile framework for mobile application development. Through this engagement, I acquired proficiency in a plethora of new concepts, which I enthusiastically integrated into my own project. The pinnacle of my internship involved conceptualizing and creating a fully functional mobile application. Furthermore, I embarked on a comprehensive exploration of the app development life cycle, gaining insights from design inception to the final deployment process. This journey culminated in the achievement of a significant milestone: deploying my developed application on the Google Play Store. This accomplishment underscored my grasp of the entire app development ecosystem, reinforcing my skills and confidence in both design and development domains.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE

Webito Infotech Pvt. Ltd. is one of the most trusted Software development companies today. With a futuristic vision, few people had begun the company quite humbly in 2020 with a little capital and a couple of employees for web designing as a primary service. What they all had was untiring energy and allegiance toward the work. In a year, the company witnessed roaring success and growth in both the workforce of over 15 employees and a wide range of services such as Mobile Application Development, Desktop application development, Cloud Solutions, Game Development, ERP applications, and almost everything under the hood of computing and communication technology.

Webito infotech enthusiasm will lead us to become a top IT company in India & USA for delivering various industry-led mobility solutions in web and mobile application development domains leveraging futuristic technologies like the Internet of Things (IoT), AI-ML, AR-VR, Voice assistants, and Voice Skills, DevOps & Cloud computing, etc.

The company grew leaps and bounds with over 30 (and counting…) successful customized web applications and solutions empowering businesses around the world to harness the force of technology to enrich human lives and increase business efficiency. We take immense pleasure to say that 70% of our business comes from existing clients.

1.2 MISSION AND VISION OF WEBITO INFOTECH

1.2.1 Mission

Webito commit to make the term ‘offshore’ synonymous with ‘quality’. We are constantly refining our outsourcing model to offer better deals to our clients. Webito expanding portfolio of services enables us to deliver end-to-end solutions, while our growing technical expertise makes it possible for us to tackle even highly complex projects. By building our presence in different parts of the world, nurturing talent, streamlining our management processes, and staying committed to continuous improvement, we find ways in which to deliver quality solutions at affordable rates. The open-minded professionals working with us match and exceed the client’s expectations. Webito is known for delivering high-quality, cost-effective, and productive solutions to help our client’s businesses grow. Webito understand that our success depends on our customers’ success.

1.2.1 Vision

For any business, customers are always at the center. Being a leading web and mobile app development company, our definition goes beyond our direct customers. Webito always starts from where you are with your ideas and we think from YOUR end customer's perspectives, and their pain areas and devise a solution that solves core problems to benefit your business. Communication is the Key. We tend to over-communicate at times. Although sounds overwhelming, eventually it works wonders for our client business. When our development team collaborates with our clients sitting a thousand miles away, it's apparent that we stay in touch with platforms and mediums that allow effectiveness, transparency, and accuracy. With over two decades of experience in the offshore IT software development industry, we have a great set of internal frameworks with best-in-class infrastructure that enables us to deliver solutions with superior quality, at all times. All these years, we have learned how to prevent failures and replicate success. We don't just brag about quality. Webito defines and delivers it in time.

1.3 PROJECT OVERVIEW

Introducing the GTU SPI Calculator app, a valuable tool tailored to students who wish to pre-calculate their SPI before official results are released. This user-friendly application streamlines the process by requesting essential input such as mid-sem marks and internal scores. Utilizing this information, the app generates an approximate SPI, closely mirroring the actual outcome. Students can further harness the app's capabilities to compute their CGPA and CPI, and even effortlessly convert SPI to percentage. With a seamlessly responsive UI, this app ensures a smooth and enjoyable experience across a diverse range of devices.

The evolution of this app spans multiple crucial phases, encompassing meticulous Designing, precise Development, rigorous Testing, and the ultimate Deployment. As a result, the GTU SPI Calculator app emerges as a comprehensive solution that harmonizes design aesthetics with functionality, offering students an intuitive platform to anticipate their academic progress with ease.

Chapter 2. PROCESS OF APPLICATION DEVELOPMENT

2.1 APPLICATION UI DESIGNING PHASE

2.1.1 Tool's

Figma - Figma played a pivotal role in shaping the entire application's user interface, encompassing a spectrum of screens adorned with a distinctive color palette. Elevating the user experience to paramount levels, I seamlessly integrated select third-party images and captivating animations. This fusion of design elements instills user-friendliness and lends a touch of innovation, resulting in a visually engaging and immersive interface.

2.1.2 Color Palette

I carefully selected a range of colors to craft the SPI Calculator app's user interface, following key principles of UI design. This palette sets a cohesive theme throughout the app, ensuring a pleasing and consistent visual experience.
Here are the colors I used:



Fig 2.1. Color Palette

2.1.3 Overview

Utilizing a carefully chosen set of 9 primary colors to define the app's theme, I meticulously crafted a total of 10 distinct screens. These screens encompass the Home screen, SPI Input screen, SPI Result screen, CPI Screen, CPI Result screen, CGPA screen, CGPA Result screen, Percentage screen, Error screen, and the final About Me screen. Each screen plays a crucial and unique role within the application, contributing to its overall functionality and enhancing the user experience.

2.1.4 Result of Designing Phase

Upon the culmination of the design phase, I obtained a comprehensive set of 10 distinct screens that offered a vivid preview of the app's post-development appearance. This UI compilation proved invaluable during the subsequent development process, facilitating the extraction of crucial design elements such as sizes, text styles, and various assets. Armed with this meticulously prepared UI, my role as a developer was enhanced with a crystal-clear understanding of the precise development objectives and a well-defined roadmap for interconnecting each screen, all seamlessly aligned with the established UI framework.

2.2 APPLICATION DEVELOPMENT PHASE

2.2.1 Used Technology

I built the SPI Calculator app using the following technologies:

1. Flutter: Flutter is an open-source framework developed and supported by Google. Frontend and full-stack developers use Flutter to build an application's user interface (UI) for multiple platforms with a single codebase.

2. Dart: Dart is a general-purpose programming language that can be used for various applications, including web development, server-side programming, and mobile app development. Flutter is a framework of the dart.

2.2.2 File Structure

To organize my whole application code for better understanding, increase productivity, and under the table by another developer, I structure my code in the below file format structure.

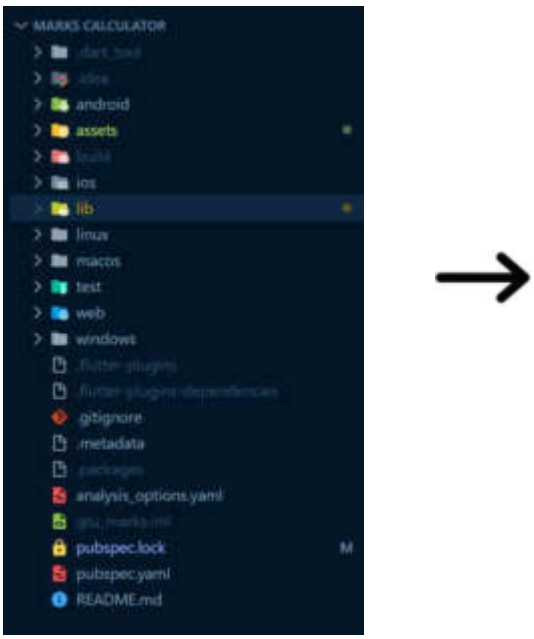


Fig 2.2 File Structure-I

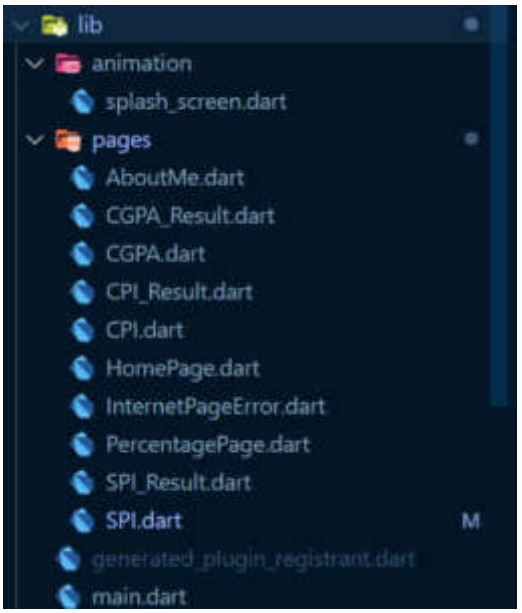


Fig 2.3 File Structure-I

2.2.2.1 pubspec.yaml file

In the realm of Flutter, when integrating third-party dependencies or packages from pub.dart, all of these additions are cataloged within the pubspec.yaml file. Moreover, this same pubspec.yaml file serves as the repository for various assets, including fonts, icons, and images.

```yaml
dependencies:
  flutter:
    sdk: flutter

  # The following adds the Cupertino Icons font to your application.
  # Use with the CupertinoIcons class for iOS style icons.
  cupertino_icons: ^1.0.2
  hexcolor: ^2.0.7
  animated_splash_screen: ^1.3.0
  url_launcher: ^6.1.5
  connectivity: ^3.0.6
```

Fig 2.4 Dependencies pubspec.yaml file

```yaml
# The following section is specific to Flutter packages.
flutter:
  # The following line ensures that the Material Icons font is
  # included with your application, so that you can use the icons in
  # the material Icons class.
  uses-material-design: true

  # To add assets to your application, add an assets section, like this:
  assets:
    - assets/images/
    - assets/icons/
```

Fig 2.5 Image assets in pubspec.yaml file

```yaml
fonts:
  - family: RobotoSlab
    fonts:
      - asset: assets/fonts/RobotoSlab-Medium.ttf
```

Fig 2.6 Font assets in pubspec.yaml file

2.2.3 Assets Structure

Assets are like the building blocks that make our app visually appealing. They include images, icons, fonts, and more. For this project, I gathered images, icons, and fonts, and placed them in a folder called "Assets." This way, everything we need for the app's look is neatly organized in one place, making it easy to find and use during design and development.

Here is my assets structure:

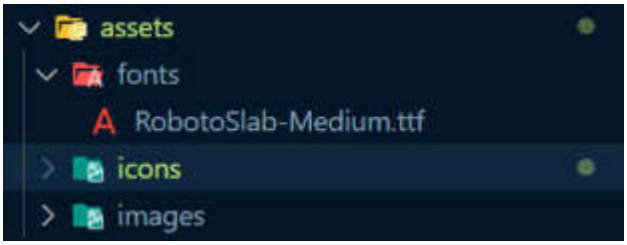


Fig 2.7 Assets structure

2.2.4 Process Overview

Once all the files were in place and the project was primed, I initiated the coding process, starting with the home screen. Here, I translated the designed UI into functional reality using Flutter. Progressing steadily, I proceeded to develop the remaining screens and seamlessly linked them. Stepping into the realm of logic, I scripted algorithms to calculate SPI, CPI, CGPA, and percentage. These calculations were seamlessly integrated into their respective screens, enabling users to effortlessly derive their SPI, CPI, CGPA, and percentage values based on the inputs they provide.

The entire calculation within the application adheres to the GTU grading system, which is outlined below:

Marks range out of 100	Grade	Grade point
85-100 marks	AA	10
75-84 marks	AB	9
65-74 marks	BB	8
55-64 marks	BC	7
45-54 marks	CC	6
40-44 marks	CD	5
35-39 marks	DD	4
Less than 35 marks	FF	0

Fig 2.8 GTU grade system

2.3 APPLICATION DEPLOYMENT PHASE

2.3.1 Deployment Process Overview

Following the completion of app development and thorough functionality testing, I moved on to the next phase of the application development cycle: deployment. As a preparatory step for releasing the app, I initiated the process by generating a unique and secure key dedicated to my app. This key played a crucial role in signing the app, serving as a means for the Play Store to distinguish and validate the app's authenticity, thereby preventing any duplicates.

Simultaneously, I ensured the app's distinct identity within the digital landscape. I achieved this by reversing my domain name and associating it with the app, a vital step for accurate recognition and proper categorization within the app ecosystem. With all prerequisites meticulously fulfilled, I executed the essential command to create both the release .apk and .aab files. This critical task, along with generating the app's icon and adjusting its name, meticulously set the stage for its smooth journey into the digital marketplace.

2.3.2 Commands for making .apk file and .adb file

I utilized the following command to create two distinct files that enable me to successfully publish my app on the Play Store:

For .apk file `flutter build apk --split-per-abi`

For app bundle (.aab) file `flutter build appbundle`

2.3.3 Deployment Platform Overview

To release my app, I utilized the Play Store platform. The uploading process involved several steps, outlined below:

1. **Creating the App:** I initiated by creating a new app listing on the Play Store.
2. **Providing Details:** I filled in essential details such as the app's title, and description, along with an eye-catching app banner. I also incorporated app screenshots, which I generated using a third-party website.
3. **Security and Country Information:** I addressed security and country-specific queries by completing relevant forms.
4. **Starting Production:** Once everything was set, I commenced the production process and uploaded my .aab file, which contains the app's compiled code and resources.
5. **App Verification and Release:** After a brief verification period, the Play Store approved my app, and it became accessible to users within a few days.
   This method facilitated a smooth and structured approach to getting my app live on the Play Store.

Chapter 3. PROTOTYPE OF APPLICATION

I included a collection of screenshots showcasing how my app looks and functions.



Fig 3.1 Splash screen



Fig 3.2 Home screen

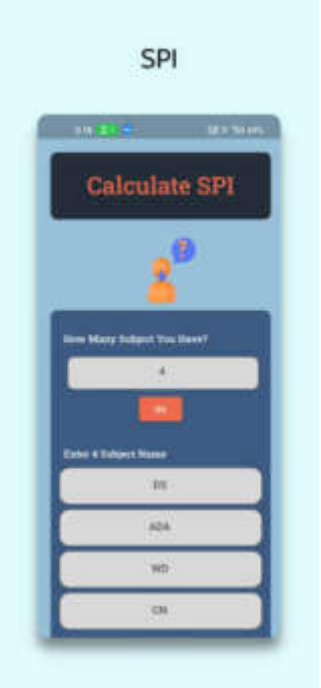


Fig 3.3 SPI screen

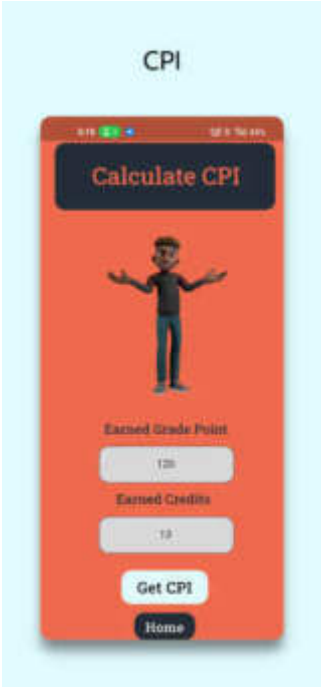


Fig 3.4 CPI screen

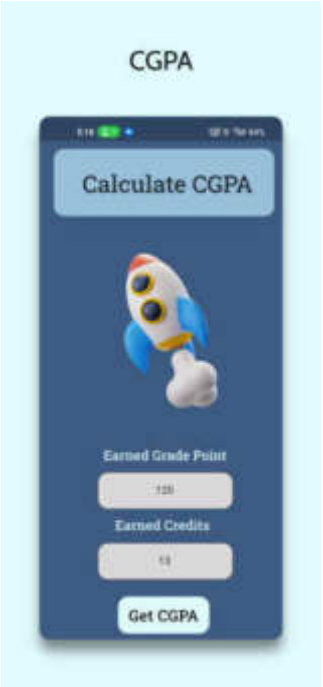


Fig 3.5 CGPAscreen

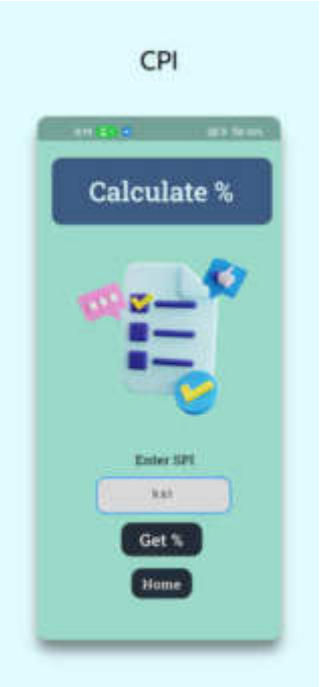


Fig 3.6 Percentage screen

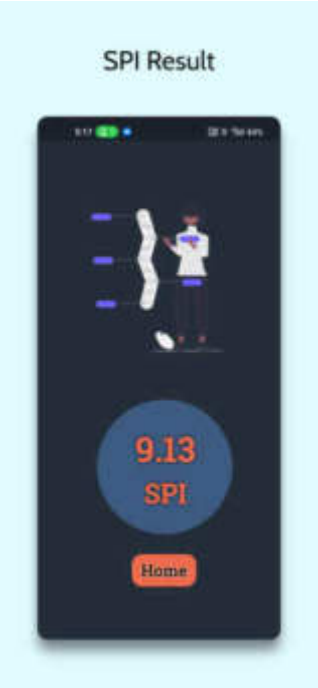


Fig 3.7 SPI result screen

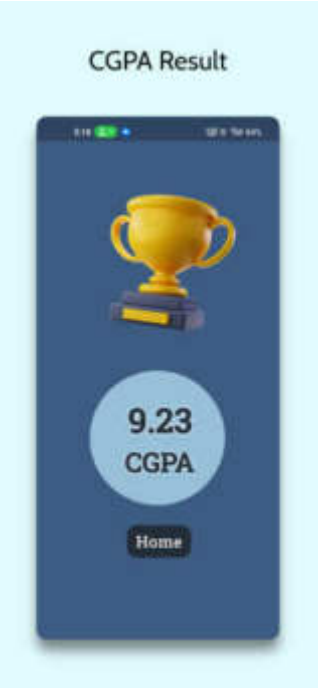


Fig 3.8 CGPA result screen

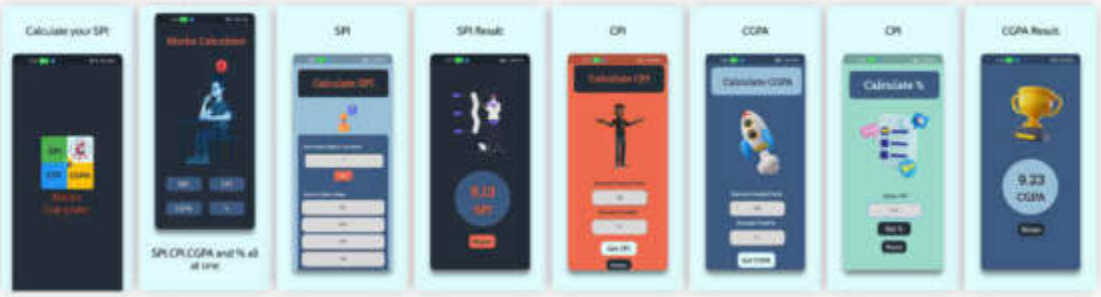


Fig 3.9 Full prototype

References

[1] Application Link of play store:
https://play.google.com/store/apps/details?id=com.DhruvMavani.MarksCalculator&hl=en_US

[2] Deployment Documentation: https://docs.flutter.dev/deployment/android

[3] Third-party flutter dependency and package installation site: https://pub.dev/

[4] Application Privacy policy generator for publishing in the play store:
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[5] Third-party assets and resources for development:
https://lordicon.com/icons
https://www.freepik.com/psd/3d-character

[6] Flutter learning:
https://www.udemy.com/course/flutter-dart-the-complete-flutter-app-development-course/
https://youtube.com/playlist?list=PLR2qQy0Zxs_UdqAcaipPR3CG1Ly57UlhV

[7] Webito Infotech company website: https://webitoinfotech.com/

[8] Calculation Reference: http://old.gtu.ac.in/institute/Evaluation%20system.pdf

Appendix

Annexure 1: Offer letter



WEBITO Infotech
OUR PASSION , YOUR BUSINESS

303-305 Golden Square, besides D-mart,
Mota Varachha,
Surat, Gujarat - 394101
India.
social@webitoinfotech.com
webitoinfotech.com

TO WHOMSOEVER IT MAY CONCERN

To,

Mr. **Dhruv Mavani**

We are pleased to inform your acceptance of an internship position as a Trainee in **Flutter App Development** Your Internship Period Will Be from **27th July 2023 to 10th August 2023**. In addition to your duties outlined in the interview, you will report to your supervisor, Brijesh Goyani.

As an intern, you are not the company's employee and therefore, will not receive health and compensation benefits. But you will get a **LOR (Letter of Recommendation)** and **Certificate (Experience Letter).** You understand that participating in the internship program is not an offer of employment.

During your internship, you will have access to the company's clients and confidential information. You agree that you will keep all this information and client information strictly confidential and will not share this information with anyone outside the company and not use it for your benefit.

Congratulations.

Best Regards,

Brijesh Goyani
(Director)
WEBITO INFOTECH PVT. LTD.

Fig I. Offer letter

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD

AN INTERNSHIP REPORT

Submitted by

ROSHAN HARESHBHAI MONPARA

200390116002

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

INFORMATION TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **ROSHAN HARESHBHAI MONPARA** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information & Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign

Prof. First Name Last Name

Internal Guide

Sign

Prof. FirstName Last Name

Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116002
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Monpara Roshan Hareshbhai .

In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework

We wish Monpara Roshan Hareshbhai all the best for future endeavors.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

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+91 8141236662
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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information & Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1.**ROSHAN HARESHBHAI MONPARA**	_____

ACKNOWLEDGMENT

I wish to express my sincere gratitude to our External guide Mr. Chetan nagrecha for continuously guiding me at the company and answering all my doubts with patience. I would also like to thank Infolabz Developers for helping me through my internship by giving me the necessary suggestions and advice along with their valuable co-ordination in completining this internship.

I also thank my parents, friends and all the members of the family for their precious support and encouragement which they had provided in completion of my work. In addition to that, I would also like to mention the company personals who gave me the permission to use and experience the valuable resources required forth internship.

Also, I appreciate the guidance given by the developer at Infolabz Mr.Chetan nagrecha as well as the panels especially for the internship that has advised me and gave guidance at every moment of the internship. Thus, in conclusion to the above said, I once again thank the staff members of Infolabz It Services Pvt. Ltd. for their valuable support in completion of the project.

Thank you all.

ROSHAN MONPARA
(200390116002)

Abstract

This report contains the work done by the author during his internship at **INFOLABZ IT SERVICES PVT. LTD.** It shows the work I did in the company during my internship period. In the report, In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework.

COMPANY PROFILE

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concepts which could be used by millions of people.

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	- Django project creation	
	• Django super user	
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	• SQLite Database Browser	
	• First Model : Database Table : Insert Update & Delete	
WEEK 1	**31 JULY 2023**	**10**
	• Multiple Database Tables with different Fields	
WEEK 1	**01 AUGUST 2023**	**14**
	- Foreign Key Concept	

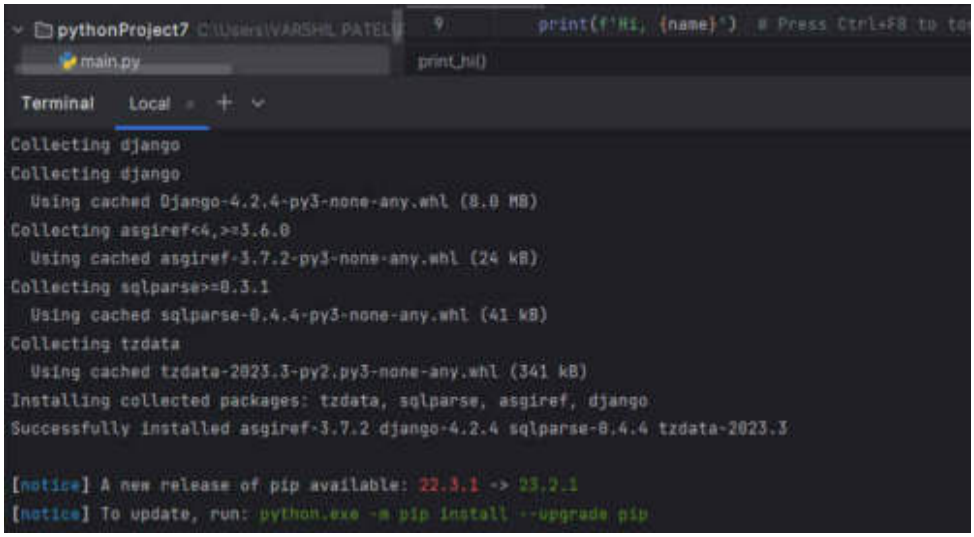
WEEK 1	**02 AUGUST 2023**	
	• Assignment project task	
	• Admin Panel Project : Backend Bank Customer DB development	
WEEK 2	**03 AUGUST 2023**	
	• Loading HTML Page in Django	
	• Page Routing in Django	
WEEK 2	**04 AUGUST 2023**	
	• Implementation of Static folder (CSS, JS & IMAGES) in Djnago	
	• Bootstrap	
WEEK 2	**07 AUGUST 2023**	
	• Dictionary	
	• Concept of APIs	
	• Requests Package	
	• API : Covid, Bitcoin, ISRO etc	
WEEK 2	**08 AUGUST 2023**	
	• API Integration in Webpages using Django Framework	
WEEK 2	**09 AUGUST 2023**	
	• Assignment project task	

	• Project : Real time news website using inshorts API	
WEEK 2	**10 AUGUST 2023**	
	• Project and Conlusion	

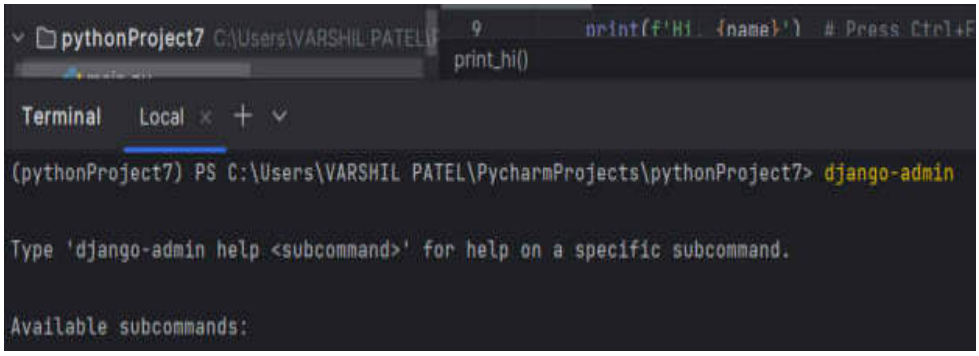
Week-1

- Day-1(27/07/2023)
    - Django Environment setyp :

1) Install DJANGO -pip install django



2) To check django is properly installed or not -django-admin



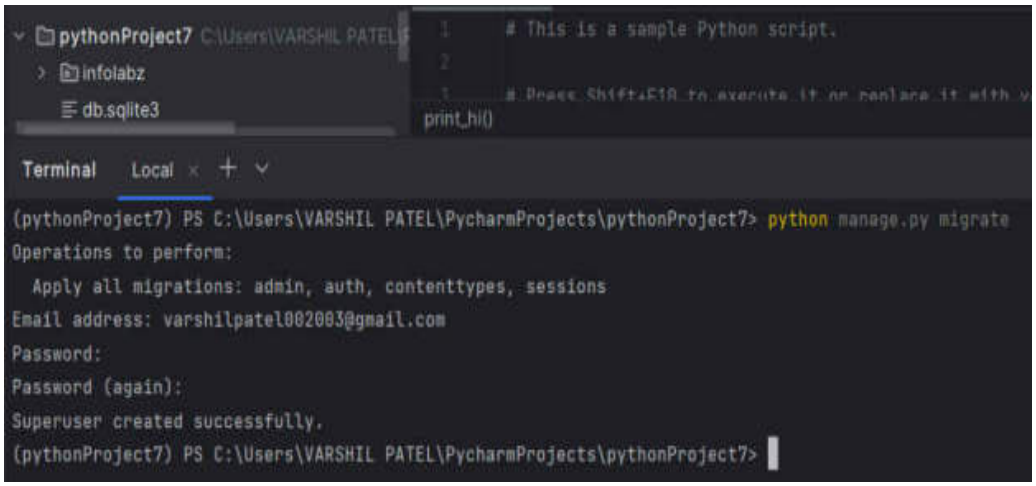
- Django project creation

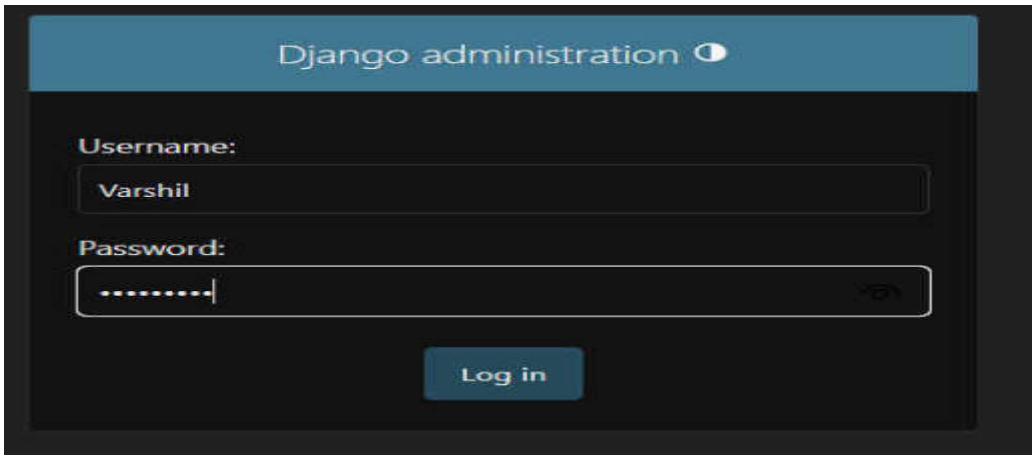
Create a project -django-admin startproject (projectname) .

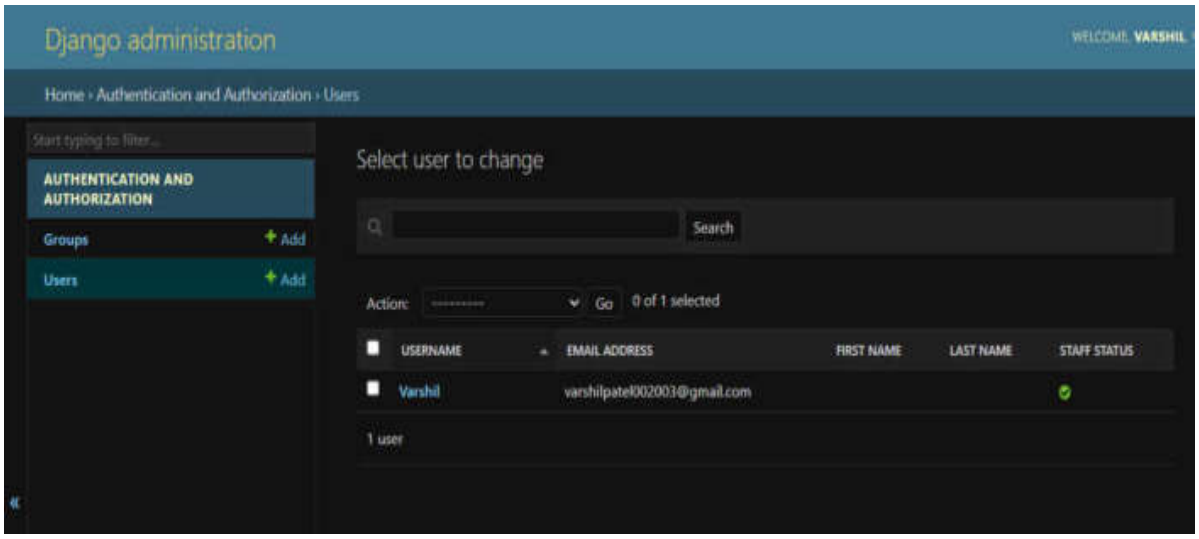


- Django super user

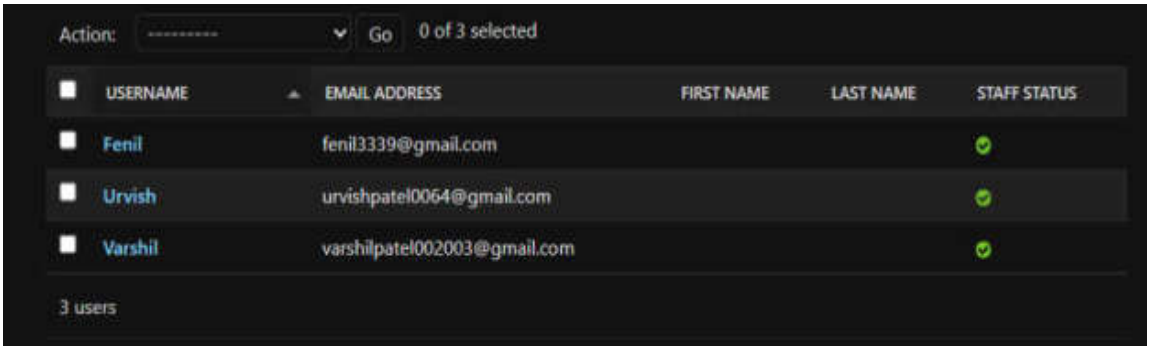
python manage.py createsuperuser

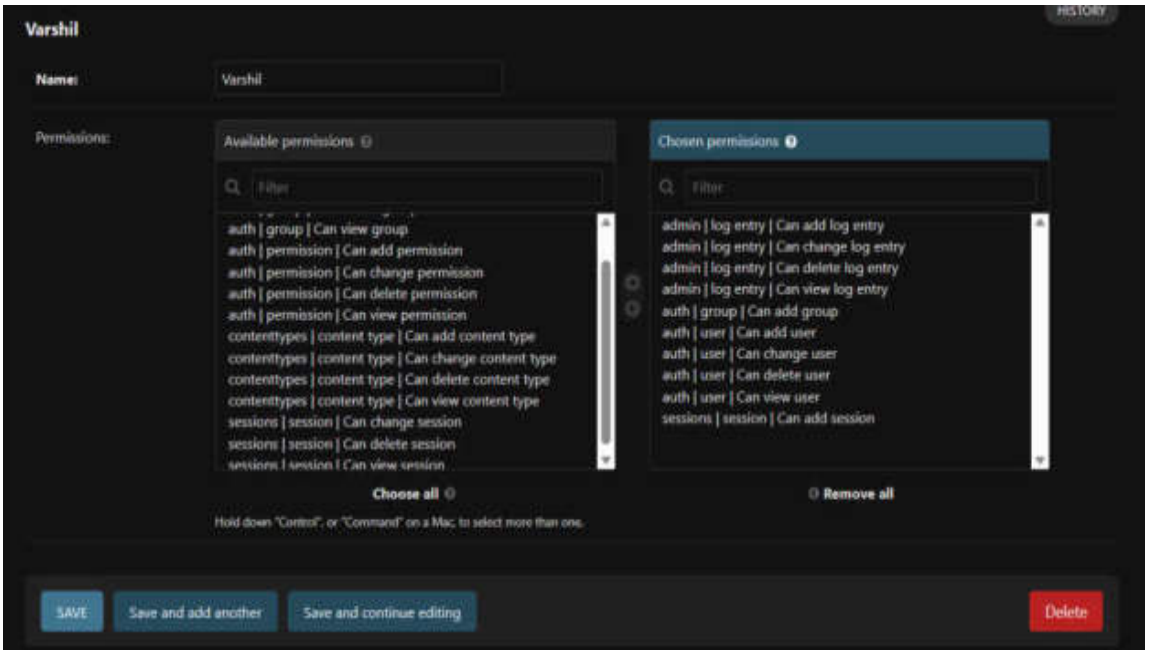


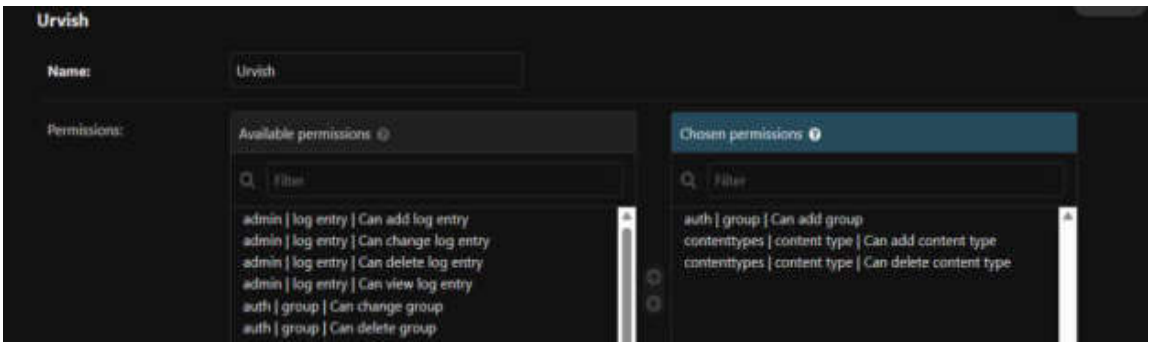




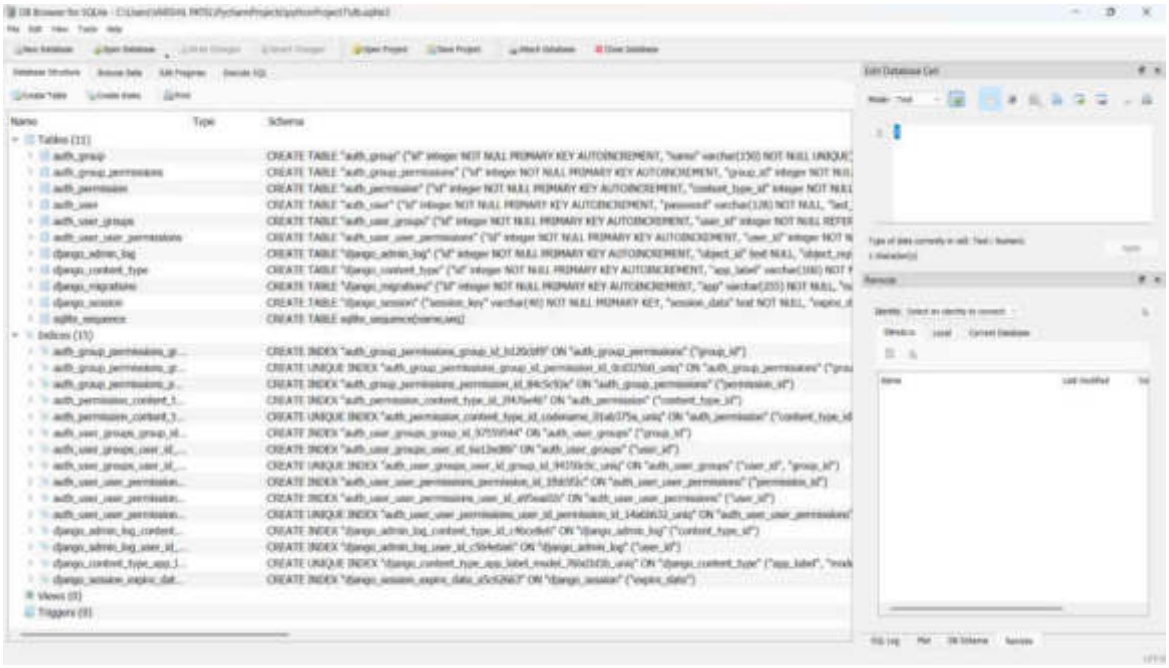
- Day-2(28/07/2023)
    - Superuser permissions

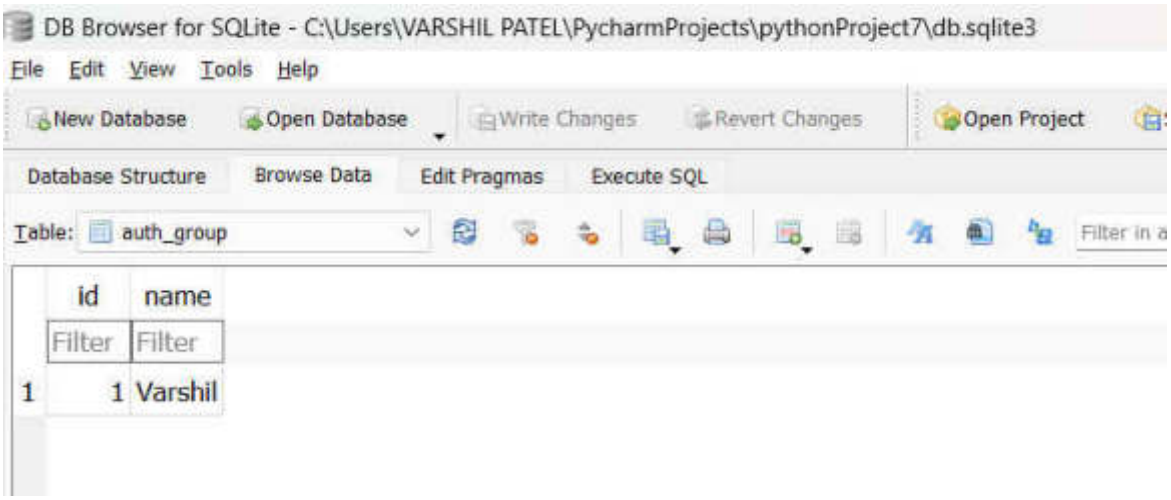




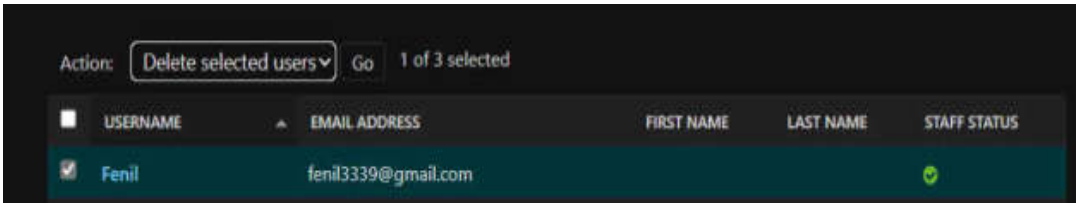


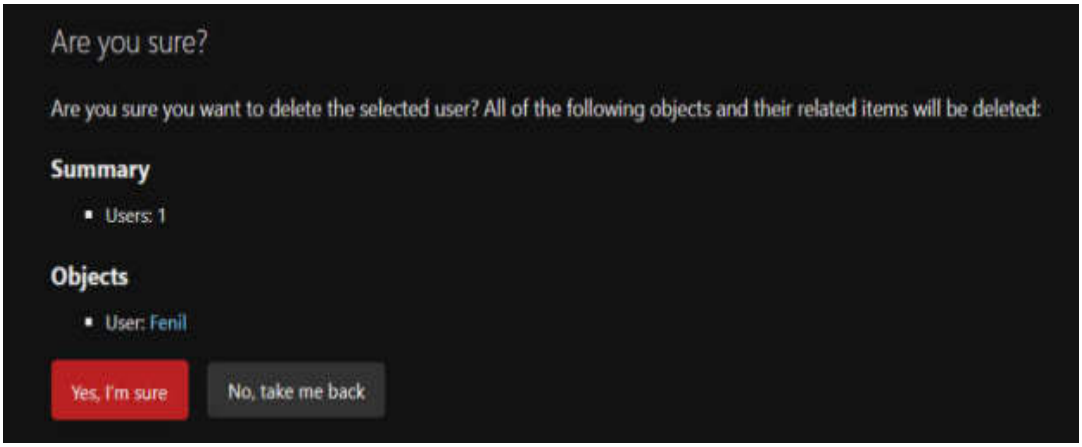
- SQLite Database Browser



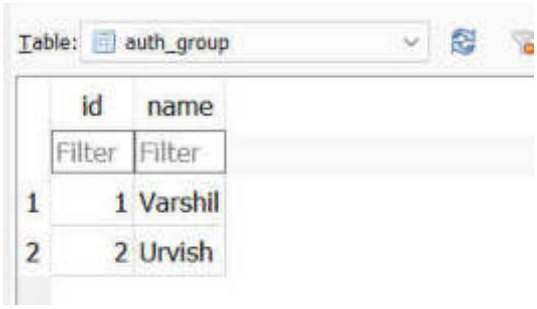


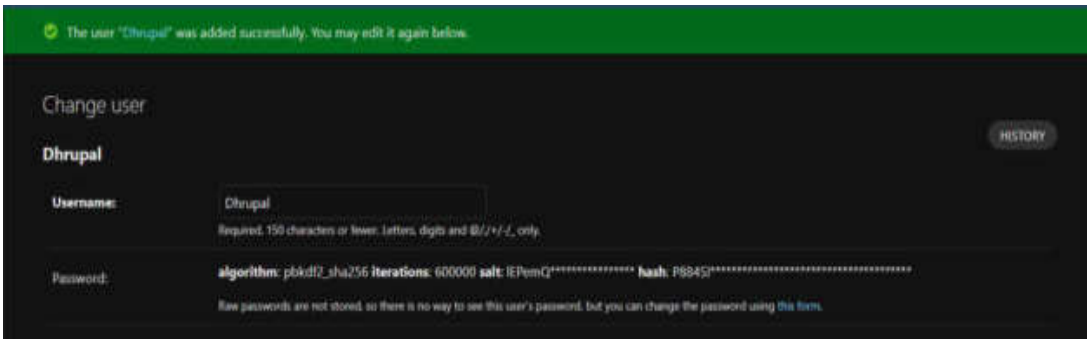
- First Model : Database Table : Insert Update & Delete





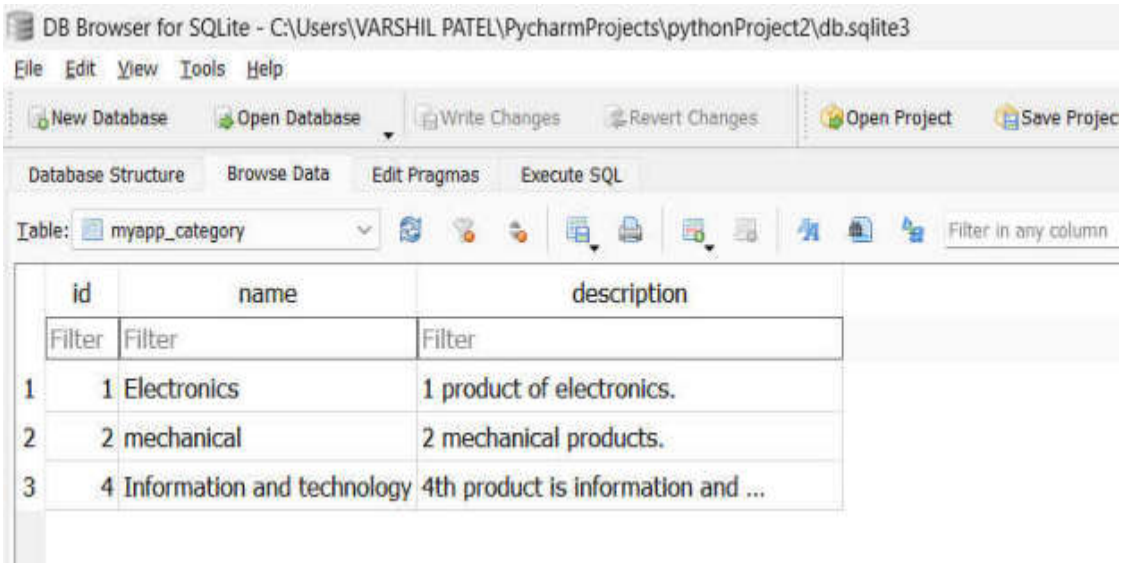




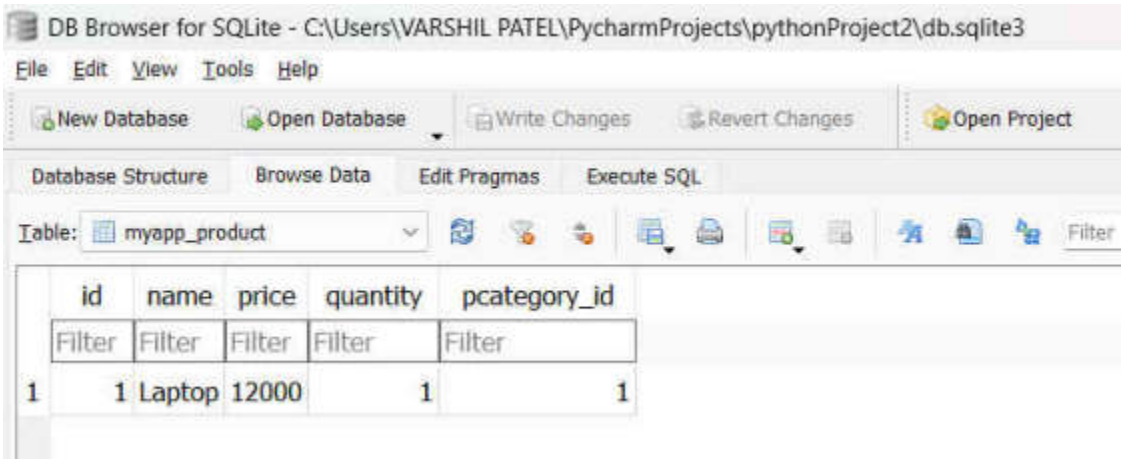


- Day-3(31/072023)
  - Multiple Database Tables with different Fields

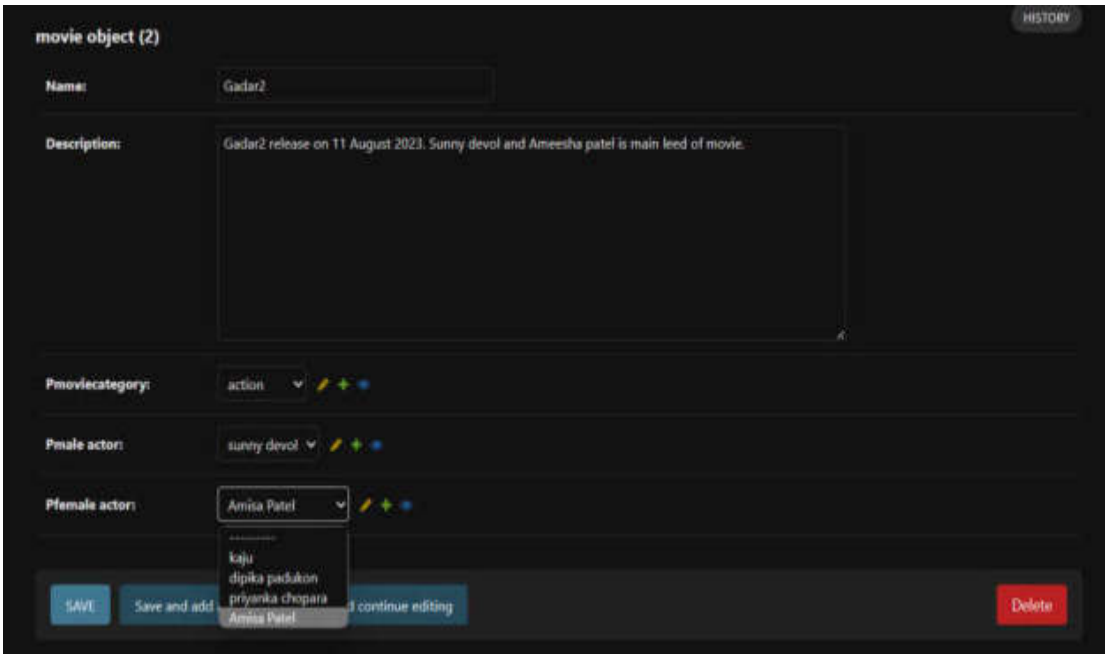
```
class category(models.Model):
    name = models.CharField(max_length=50)
    description = models.TextField()
```




```
class product(models.Model):
    name = models.CharField(max_length=50)
    pcategory = models.ForeignKey(category, on_delete=models.CASCADE)
    price = models.IntegerField()
    quantity = models.IntegerField()
```

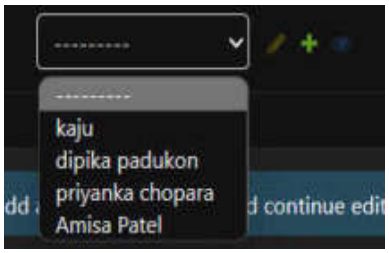


- Day-4(01/08/2023)
    - Foreign Key Concept











- Day-5(02/08/2023)
  - Assignment project task
  - Admin Panel Project : Backend Bank Customer DB development
  -

Models.py

```
from django.db import models


# Create your models here.
class role(models.Model):
    Id = models.AutoField(primary_key=True)
    UserTypeName = models.CharField(max_length=30)

    def __str__(self):
        return self.UserTypeName


STATUS_CHOICE = [
    ('0', 'Active'),
    ('1', 'Inactive')
]


class user_detail(models.Model):
    UserName = models.CharField(max_length=30)
    UserPassword = models.CharField(max_length=20)
    UserEmail = models.EmailField()
    UserPhone = models.IntegerField(max_length=10)
    UserType = models.ForeignKey(role, on_delete=models.CASCADE)
    UserStatus = models.CharField(choices=STATUS_CHOICE, max_length=20)

    def __str__(self):
        return self.UserName


MONTH_CHOICES = [
    ('1', 'Jan'),
    ('2', 'Feb'),
    ('3', 'Mar'),
    ('4', 'Apr'),
    ('5', 'May'),
    ('6', 'Jun'),
    ('7', 'Jul'),
    ('8', 'Aug'),
    ('9', 'Sept'),
    ('10', 'Oct'),
    ('11', 'Nov'),
    ('12', 'Dec')
]
YEAR_CHOICES = [
```

```
    ('1', '2022'),
    ('2', '2023'),
    ('3', '2024'),
    ('4', '2025'),
    ('5', '2026'),
    ('6', '2027'),
    ('7', '2028'),
    ('8', '2029'),
    ('9', '2030'),
]


class bank_Detail(models.Model):
    UserId = models.ForeignKey(user_detail, on_delete=models.CASCADE)
    BankName = models.CharField(max_length=50)
    cardNo = models.IntegerField()
    EndMonth = models.CharField(choices=MONTH_CHOICES, max_length=20)
    EndYear = models.CharField(choices=YEAR_CHOICES, max_length=20)


class country(models.Model):
    CountryName = models.CharField(max_length=50)

    def __str__(self):
        return self.CountryName


class state(models.Model):
    CountryId = models.ForeignKey(country, on_delete=models.CASCADE)
    StateName = models.CharField(max_length=30)

    def __str__(self):
        return self.StateName


class city(models.Model):
    StateId = models.ForeignKey(state, on_delete=models.CASCADE)
    CityName = models.CharField(max_length=30)

    def __str__(self):
        return self.CityName


class user_address(models.Model):
    UserId = models.ForeignKey(user_detail, on_delete=models.CASCADE)
    BuildingName = models.CharField(max_length=25)
    StreetName = models.CharField(max_length=15)
    CityName = models.ForeignKey(city, on_delete=models.CASCADE)
    Pincode = models.IntegerField()
```

admin.py

```
from django.contrib import admin
from newapp.models import role
from newapp.models import user_detail
from newapp.models import bank_Detail
from newapp.models import country
from newapp.models import state
from newapp.models import city
from newapp.models import user_address

# Register your models here.


class showrole(admin.ModelAdmin):
    list_display = ['UserTypeName']


admin.site.register(role, showrole)


class showuser_detail(admin.ModelAdmin):
    list_display = ['UserName', 'UserPassword', 'UserEmail', 'UserPhone', 'UserType', 'UserStatus']


admin.site.register(user_detail, showuser_detail)


class showbank_Detail(admin.ModelAdmin):
    list_display = ['UserId', 'BankName', 'cardNo', 'EndMonth', 'EndYear']


admin.site.register(bank_Detail, showbank_Detail)


class showcountry(admin.ModelAdmin):
    list_display = ['CountryName']


admin.site.register(country, showcountry)


class showstate(admin.ModelAdmin):
    list_display = ['CountryId', 'StateName']


admin.site.register(state, showstate)

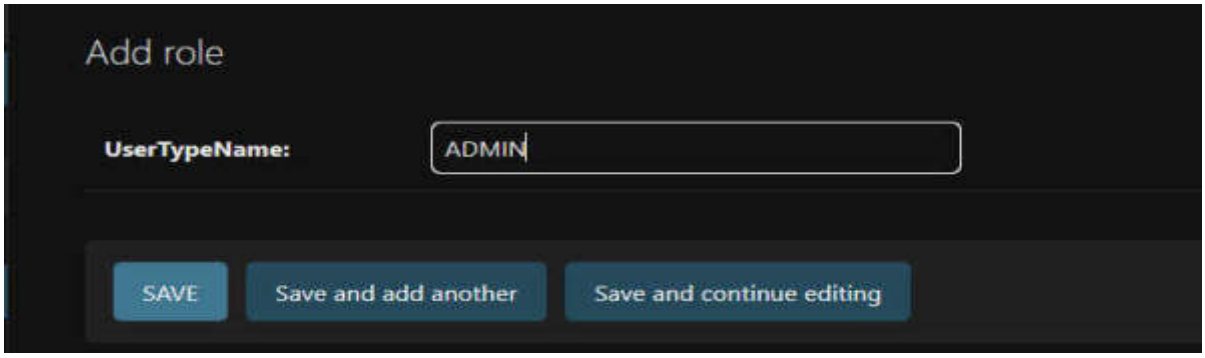

class showcity(admin.ModelAdmin):
    list_display = ['StateId', 'CityName']

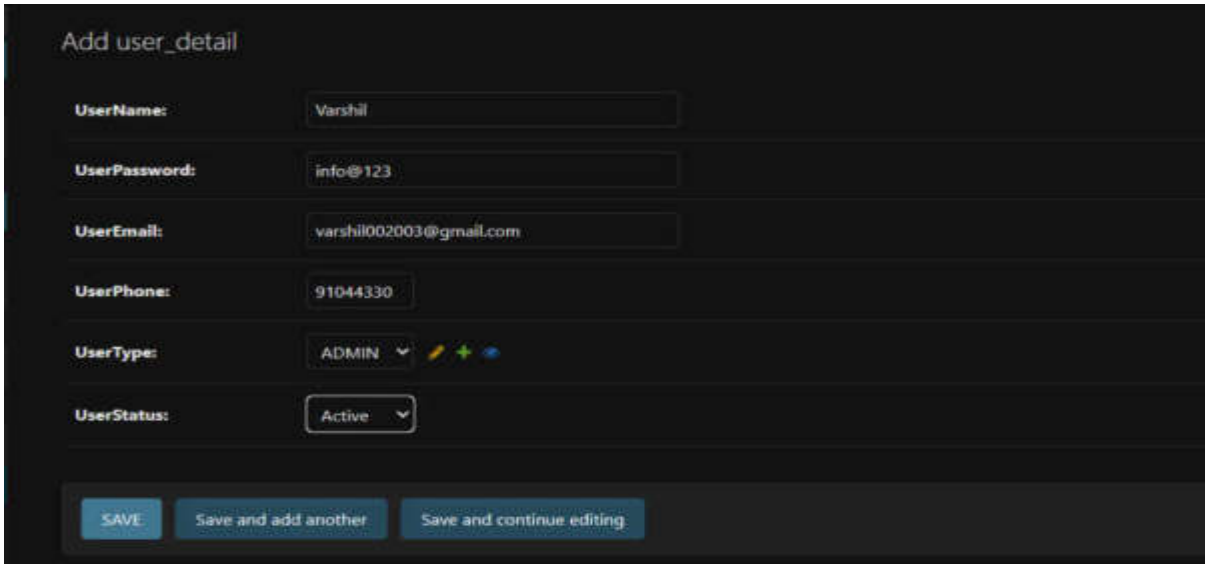

admin.site.register(city, showcity)
```

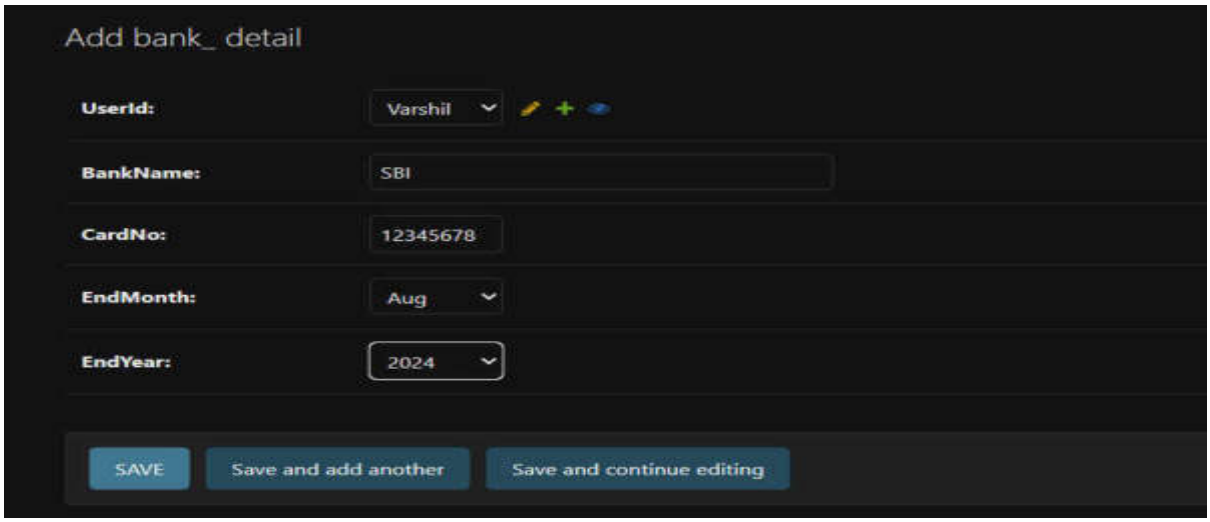
```
class showuser_address(admin.ModelAdmin):
    list_display = ['UserId', 'BuildingName', 'StreetName', 'CityName', 'Pincode']

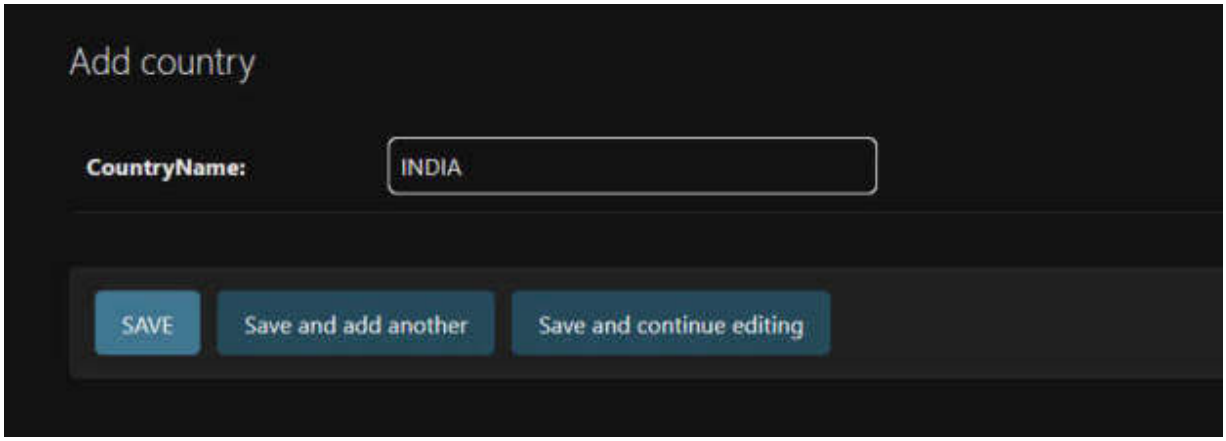

admin.site.register(user_address, showuser_address)
```

output:

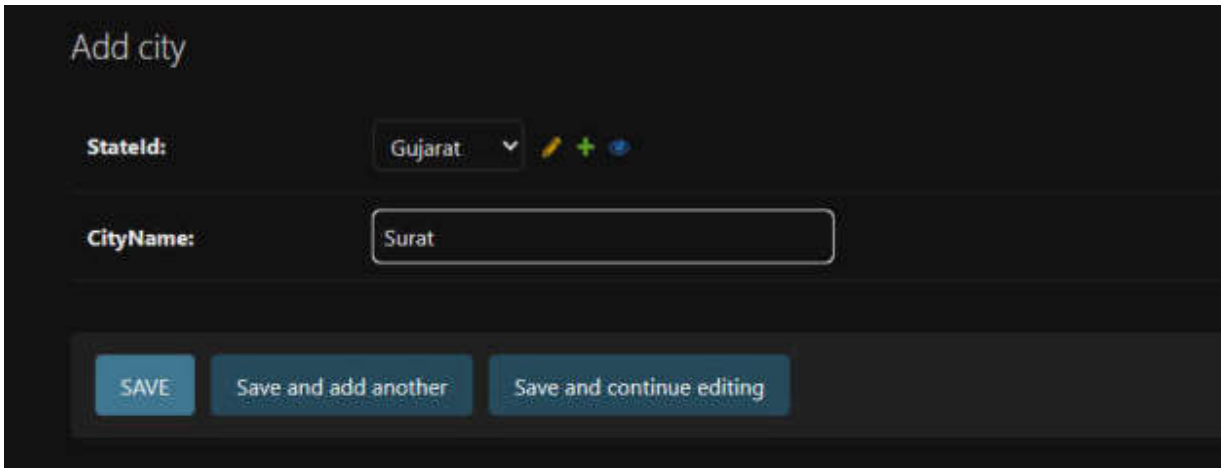


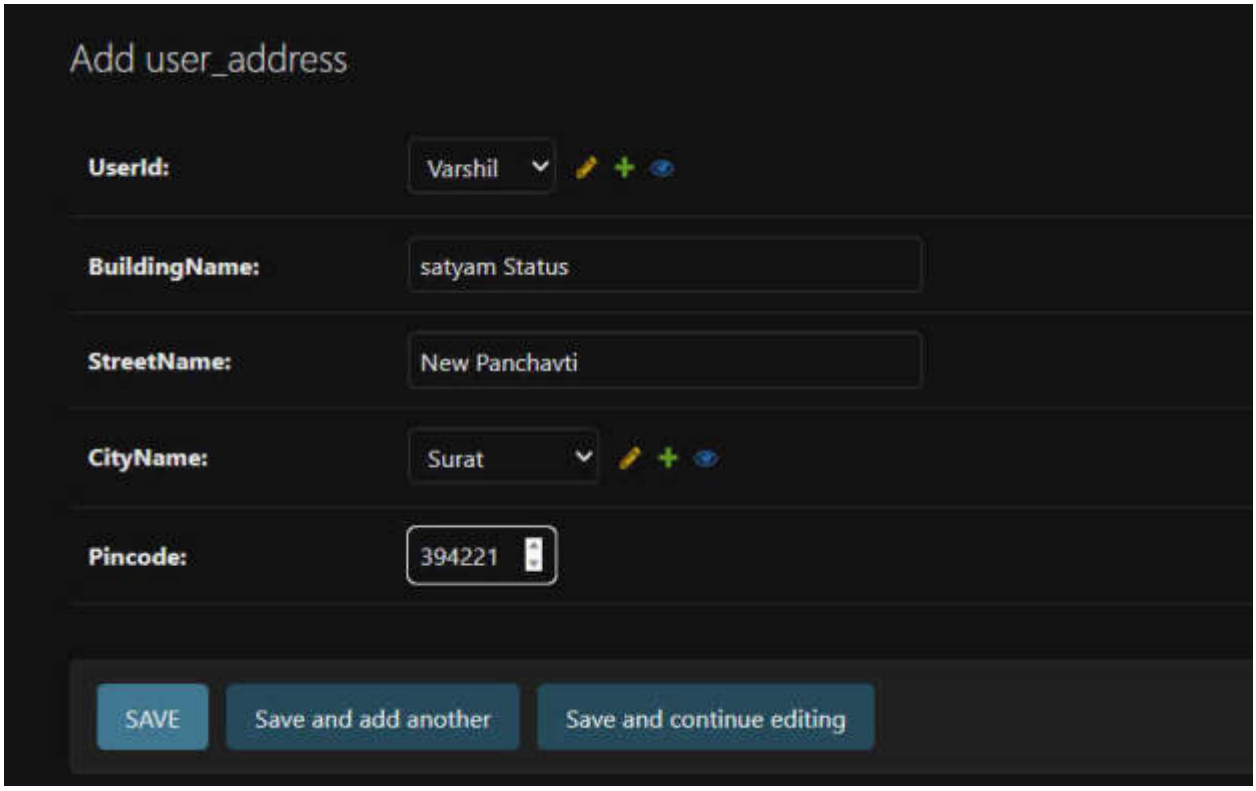


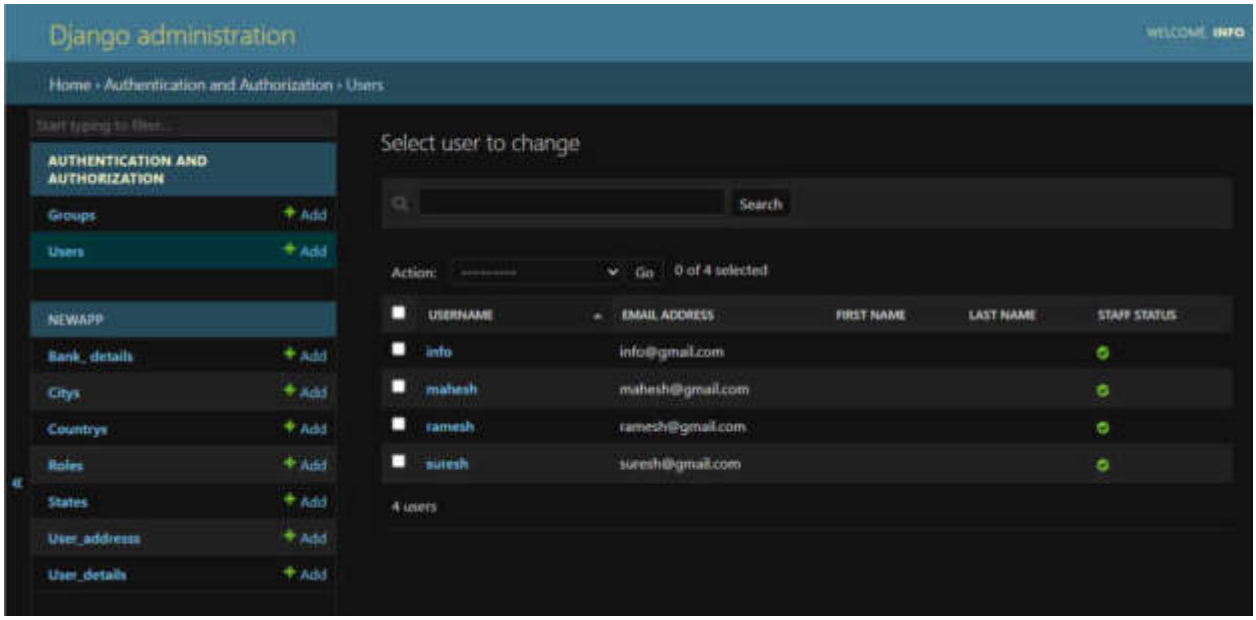



Add country
CountryName:
INDIA
SAVE
Save and add another
Save and continue editing


Add state
CountryId:
INDIA
StateName:
Gujarat
SAVE
Save and add another
Save and continue editing


Add city
StateId:
Gujarat
CityName:
Surat
SAVE
Save and add another
Save and continue editing


Add user_address
UserId:
Varshil
BuildingName:
satyam Status
StreetName:
New Panchavti
CityName:
Surat
Pincode:
394221
SAVE
Save and add another
Save and continue editing


Django administration
WELCOME, INFO
Home › Authentication and Authorization › Users
AUTHENTICATION AND AUTHORIZATION
Groups
Users
NEWAPP
Bank_details
Citys
Countrys
Roles
States
User_address
User_details
Select user to change
Search
Action:
Go
0 of 4 selected
USERNAME
EMAIL ADDRESS
FIRST NAME
LAST NAME
STAFF STATUS
info
info@gmail.com
mahesh
mahesh@gmail.com
ramesh
ramesh@gmail.com
suresh
suresh@gmail.com
4 users

Week-2

- Day-1(03/03/2023)
  - Loading HTML Page in Django
  - Page Routing in Django

View.py

```
from django.shortcuts import render

# Create your views here.

def index(request):
    return render(request, 'index.html')


def about(request):
    return render(request, 'about.html')


def services(request):
    return render(request, 'services.html')


def portfolio(request):
    return render(request, 'portfolio.html')


def contact(request):
    return render(request, 'contact.html')
```

newapp\urls.py

```
from django.urls import path
from . import views

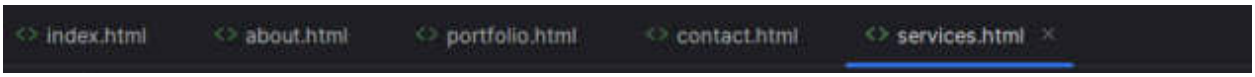
urlpatterns = [
    path('', views.index, name="indexfile"),
    path('aboutus', views.about, name="aboutusfile"),
    path('services', views.services, name="servicesfile"),
    path('portfolio', views.portfolio, name="portfoliofile"),
    path('contactus', views.contact, name="contactusfile")

]
```

infolabz/urls.py

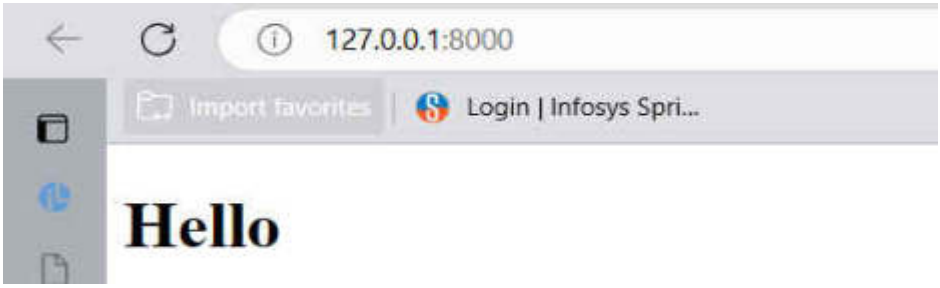
```
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('newapp.urls'))
]
```



index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Hello </h1>
</body>
</html>
```



about.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>

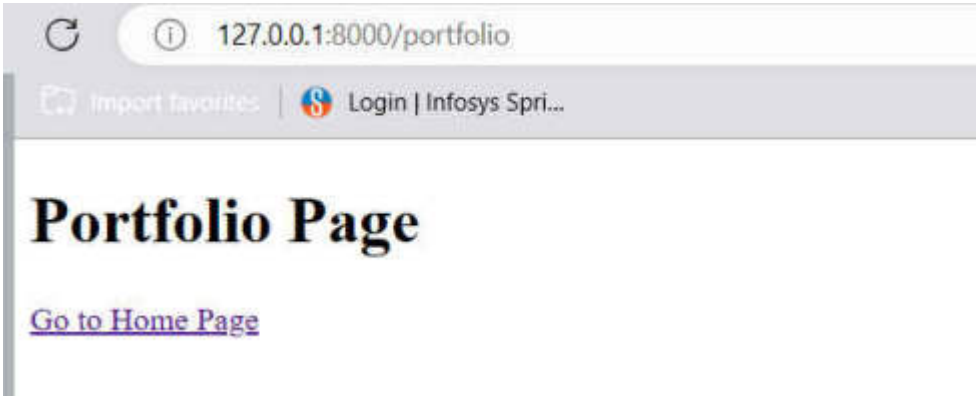
</head>
<body>
   <h1> About us page </h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
   <table border="2"  class="table table-dark">
      <tr>
         <th> Header 1 </th>
         <th> Header 2 </th>
         <th> Header 3 </th>
         <th> Header 4 </th>
         <th> Header 5 </th>
      </tr>
      <tr>
         <td> data1 </td>
         <td> data2 </td>
         <td> data3 </td>
         <td> data4 </td>
         <td> data5 </td>
      </tr>
       <tr>
```

```
        <td> data1.1 </td>
        <td> data2.1 </td>
        <td> data3.1 </td>
        <td> data4.1 </td>
        <td> data5.1 </td>
      </tr>
       <tr>
        <td> data1.2 </td>
        <td> data2.2 </td>
        <td> data3.2 </td>
        <td> data4.2 </td>
        <td> data5.2 </td>
      </tr>
   </table>
</body>
</html>
```



Portfolio.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Portfolio Page</h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```



Contact.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
      <h1> Contact Us page </h1>
      <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```

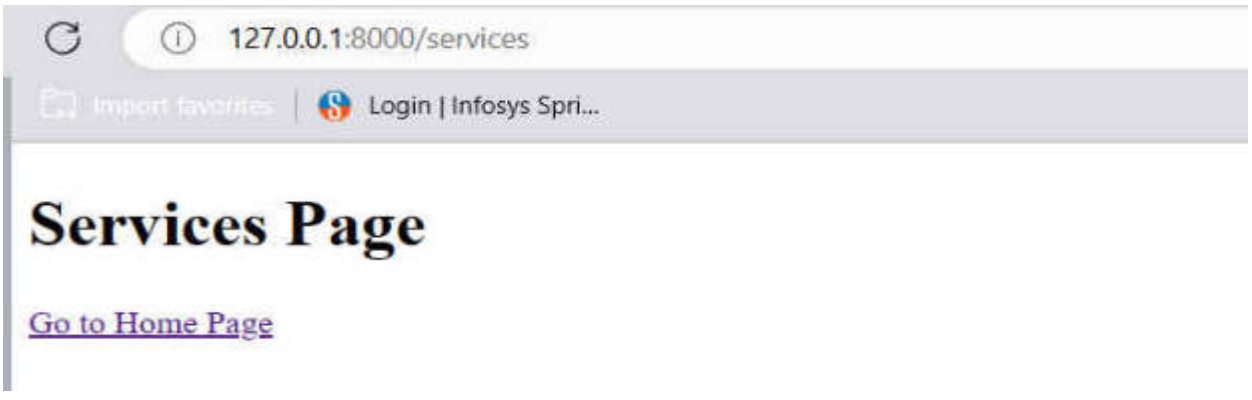


Contact Us page

Go to Home Page

Services.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Services Page </h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```



Services Page

Go to Home Page

- Day-2(04/08/2023)
  - Implementation of Static folder (CSS, JS & IMAGES) in Djnago
  - Bootstrap

Static folder

- Css

  style.css

```
h1{
color:red;
}
```

- Images

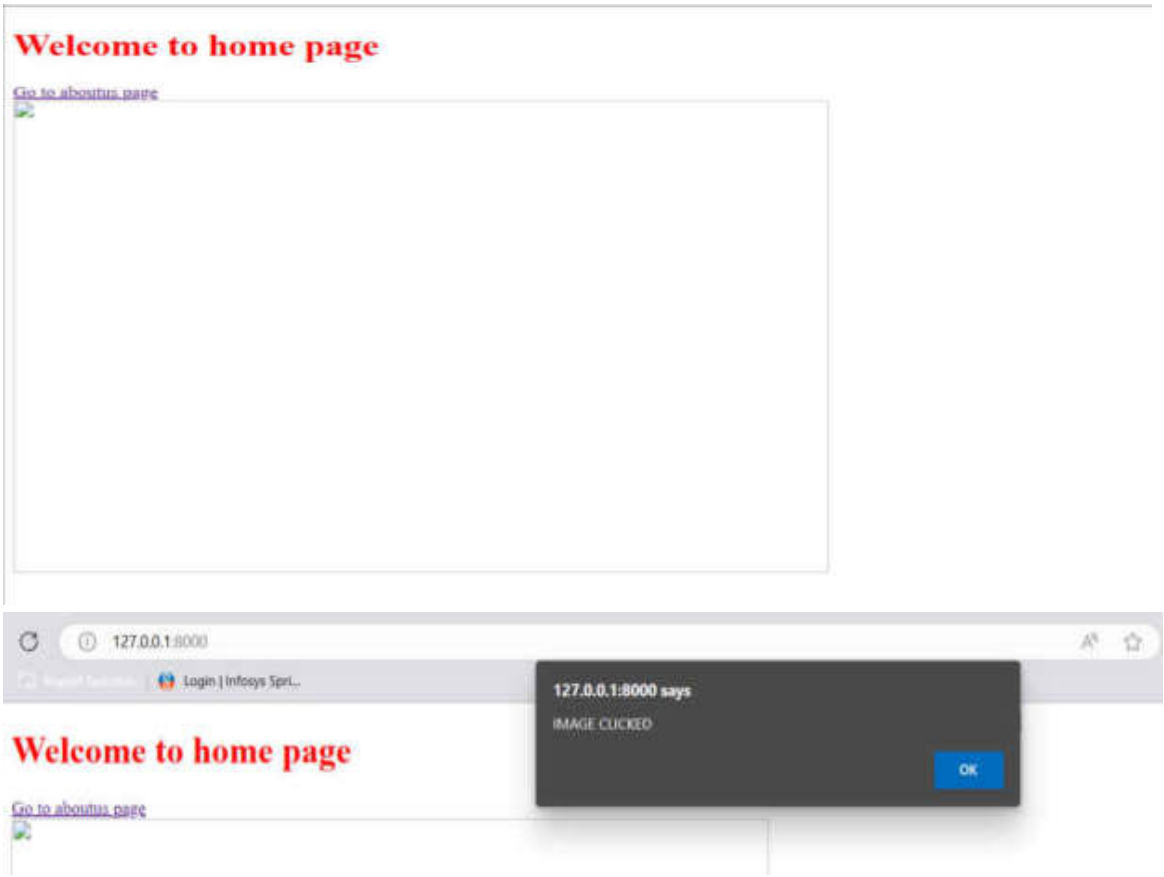
  ROSHAN.JPG

- js

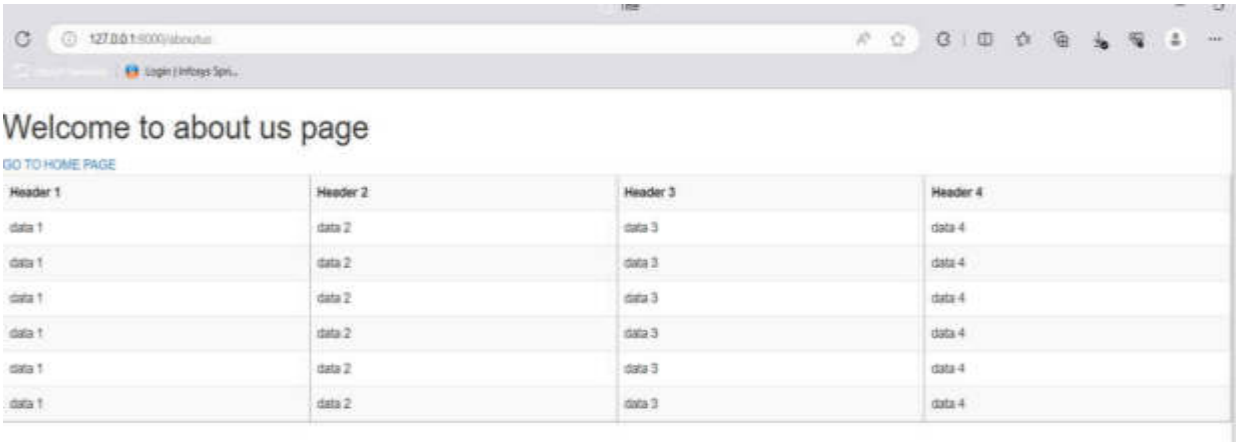
  demo.js

```
function viewmsg(){
    alert("IMAGE CLICKED");
}
```

index.html



About.html



- Bootstrap

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
```

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>

<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
```

- new\urls.py

```
from django.urls import path
from . import views

urlpatterns = [
    path('', views.index, name="indexfile"),
    path('aboutus', views.about, name="aboutusfile")
]
```

- infolabz\urls.py

```
from django.contrib import admin
from django.urls import path,include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('new.urls'))
]
```

- views.py

```
from django.shortcuts import render


# Create your views here.
def index(request):
    return render(request, 'index.html')


def about(request):
    return render(request, 'about.html')
```

- Day-3(07/08/2023)
  - Dictionary

- Concept of APIs
- Requests Package
- API : Covid, Bitcoin, ISRO etc

dictionary.py

```
mydata = {"Ahmedabad": 100, "Surat": 200, "Rajkot": 300}
print(mydata["Rajkot"])
mydata1 = {"Ahmedabad": 100, "Surat": [200, 250, 1], "Rajkot": 300}
print(mydata1["Surat"][1])

mydata2 = {"Ahmedabad": [{"date": "5 Aug 2023", "cases": 15},
                         {"date": "6 Aug 2023", "cases": 25},
                         {"date": "7 Aug 2023", "cases": 35}],
           "Surat": [200, 250, 1],
           "Rajkot": 300}
print(mydata2["Ahmedabad"][1]["date"])
print(mydata.keys())
```



- Django provides a powerful framework for building APIs through various tools and libraries. The most commonly used package for building APIs in Django is Django REST framework (DRF). DRF provides a set of utilities and classes that simplify the process of creating RESTful APIs.

  - Basic Terminologies :

1) Serializers: Serializers in DRF allow you to convert complex data types, such as Django models, into native Python data types, which can then be rendered into JSON or other content types. They also provide deserialization, allowing parsed data to be converted back into complex

types, after first validating the incoming data. Serializers play a vital role in handling the translation between the database and the API.

2) Views: In DRF, views are classes that define the logic for handling different HTTP methods (GET, POST, PUT, DELETE, etc.) on different endpoints. These views work similarly to regular Django views but are tailored for API interactions. DRF provides a variety of built-in view classes that simplify tasks such as retrieving, creating, updating, and deleting data.

3) URL Routing: Just like in regular Django projects, you use URL routing to map URLs to specific views. DRF provides its own set of URL routing mechanisms that allow you to define the API endpoints and associate them with corresponding view classes.

4) Authentication and Permissions: DRF provides authentication and permission classes that allow you to control access to your API endpoints. You can implement various authentication methods such as token-based authentication, session authentication, or OAuth, and define permission levels like read-only, read-write, or custom permissions.

5) Pagination: APIs often deal with large datasets, so DRF includes pagination classes that help manage the amount of data returned by an API endpoint. This prevents overwhelming the client with too much data at once.

6) ViewSets and Routers: DRF includes the concept of ViewSets, which combines the logic for multiple HTTP methods related to a single resource into a single class. Routers help in automatically generating the URL patterns for these ViewSets, reducing the need for manual URL configuration.

7) Authentication: DRF supports various authentication mechanisms out of the box, including token-based authentication, session authentication, and

basic authentication. This ensures that only authorized users can access your API endpoints.

8) Serialization of Data: DRF allows you to define serializers that handle the conversion between complex data types (such as Django models) and native Python data types (like dictionaries) that can be easily converted to JSON or other formats.

- Requests Package:

1) Install Requests:
   - pip install requests

2) Import Requests:
   - import requests

3) Sending HTTP Requests:
   - import requests
     url = "https://api.example.com/data"
     response = requests.get(url)
     print(response.status_code)
     print(response.text)

- API : Covid, Bitcoin, ISRO etc:

  - covid.py

```
import requests
url = requests.get("https://data.covid19india.org/data.json")
mydata = url.json()
print(mydata.keys())
print(mydata["cases_time_series"][0]["date"])
print(len(mydata["cases_time_series"]))
```



- bitcoin.py

```
import requests

url = requests.get("https://api.coindesk.com/v1/bpi/currentprice.json")
mydata = url.json()

print(type(mydata))
print(mydata["bpi"]["USD"]["rate"])
print(mydata.keys())
```



- Day-4(08/08/2023)
    - API Integration in Webpages using Django Framework

➢ The culmination of our arsenal of skills and resources is the Django framework-based integration of APIs into websites. We learn to manage the retrieval of data from APIs and smoothly render it within our HTML templates under the guidance of the web development principles. Through its views and template tags, the Django framework streamlines this connection and makes it easier for users to see dynamic content. We enter the world of practical implementation armed with knowledge of API endpoints, request techniques, and response types. We see the evolution of static websites into dynamic portals that react to real-time events, engage visitors with real-time data, and unleash the possibility for limitless innovation as we integrate APIs with our webpages.

- Day-5([09/08/2023]&[10/08/2023])
  - Assignment project task
  - Project : Real time news website using inshorts API
  - Project and Conlusion

1) Start new project as a news :
   django-admin startproject news .

2) Start new app categories
   django-admin startapp categories

3) News/settings.py

```
'categories.apps.CategoriesConfig'
```

4) Categories/urls.py

```
from django.urls import path
from . import views

urlpatterns = [
    path('', views.index, name="headlines")
]
```

5) news/urls.py

```
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('categories.urls'))
]
```

6) views.py

```
from django.shortcuts import render
import requests
```

```
# Create your views here.
def index(request):
    records = {}
    url = requests.get("https://inshorts.me/news/all?offset=0&limit=21")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, 'index.html', records)
```

7) templates/index.html

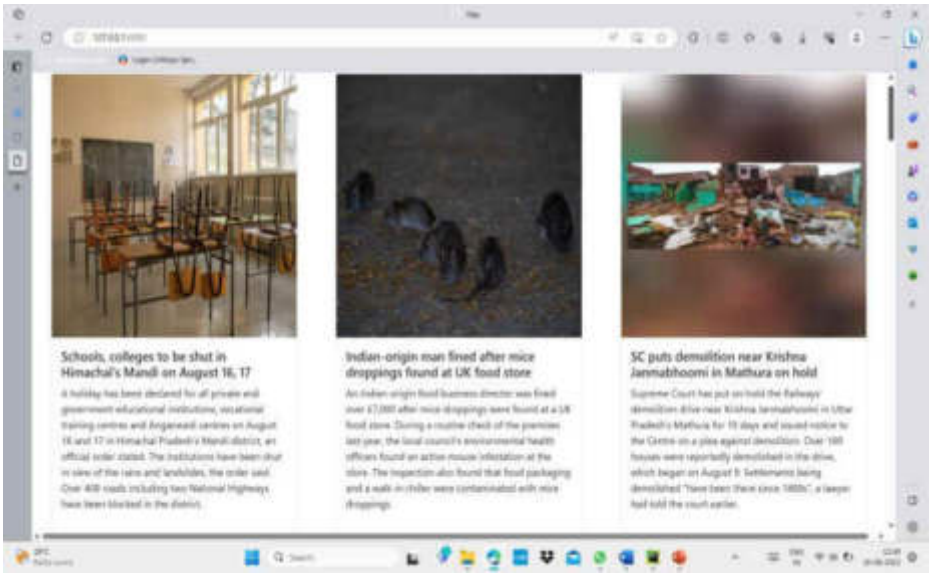
```
<!DOCTYPE html>

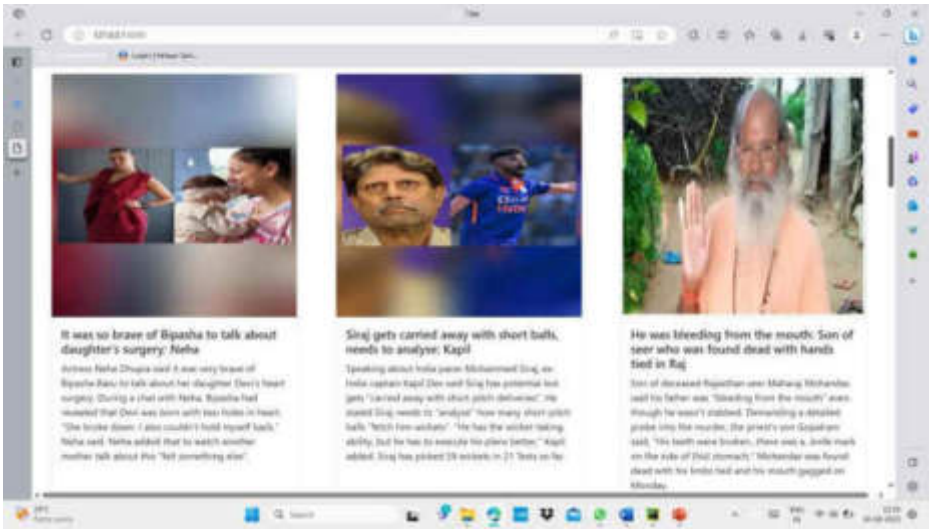
<html lang="en">
    <head>
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
1BmE4kWBq78iYhFldvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3" crossorigin="anonymous">
        <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js" integrity="sha384-
ka7Sk0Gln4gmd2MlQnikT1wXgYsOg+OMhuP+IlRH9sENBO0LRn5q+8nbTov4+1p" crossorigin="anonymous"></script>
        <meta charset="UTF-8">
        <title>Title</title>
    </head>
<body>

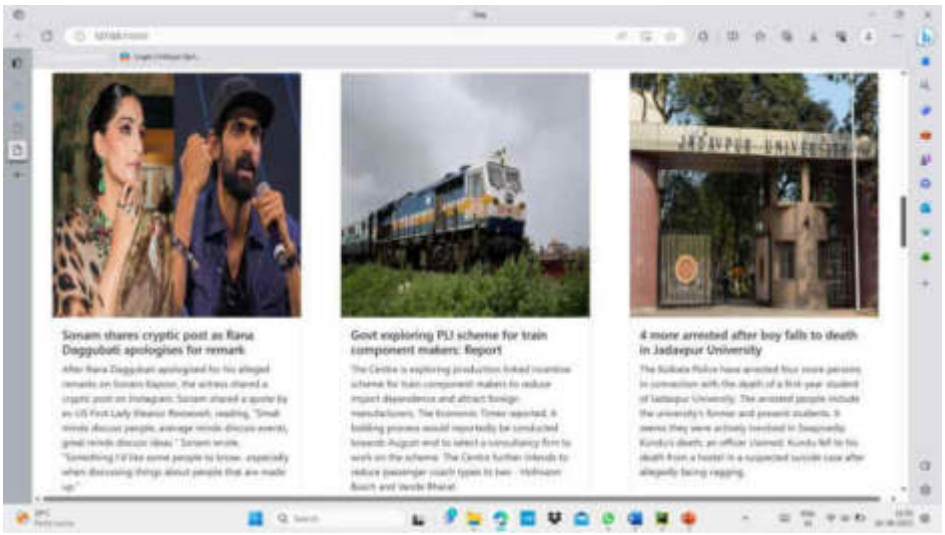
<!-- <div class="container">-->
<div class="row">
    <div calss="container">
    <div class="card-group" >
        {% for value in sportsdata.data.articles %}
        <div class="col-md-4">
            <div class="card" style="margin: 2rem; height: 45rem">
                <img src="{{ value.imageUrl }}" class="card-img-top" alt="Image"
style="height:25rem">
                <div class="card-body">
                    <h5 class="card-title">{{ value.title }}</h5>
```

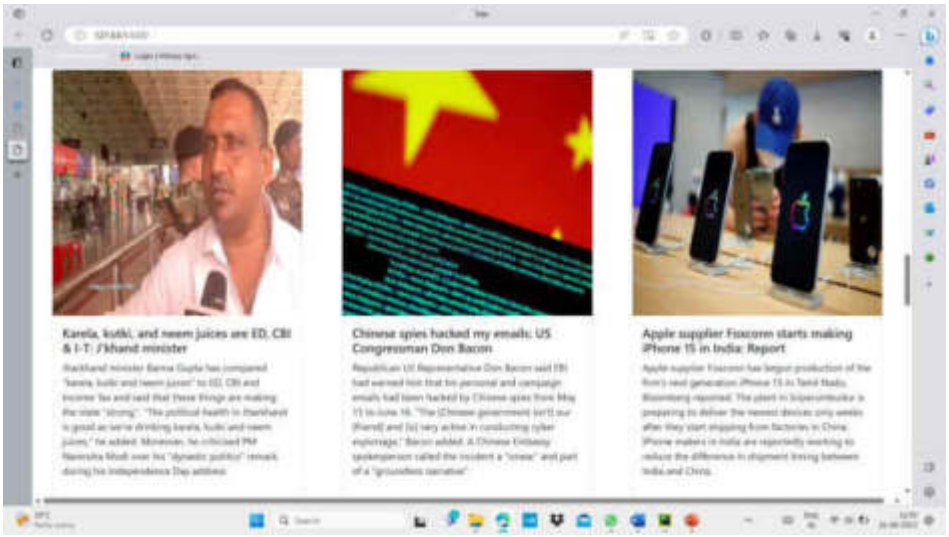
```
                <p class="card-text">{{ value.content }} </p>
              </div>
            </div>
          </div>
          {% endfor %}
      </div>
        </div>
</div>
<!-- </div>-->
</body>
</html>
```

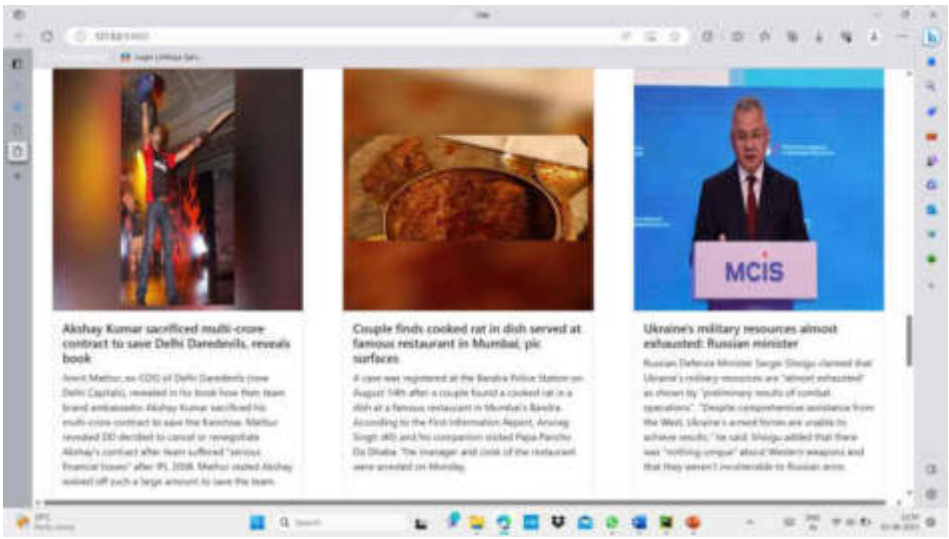
Output :

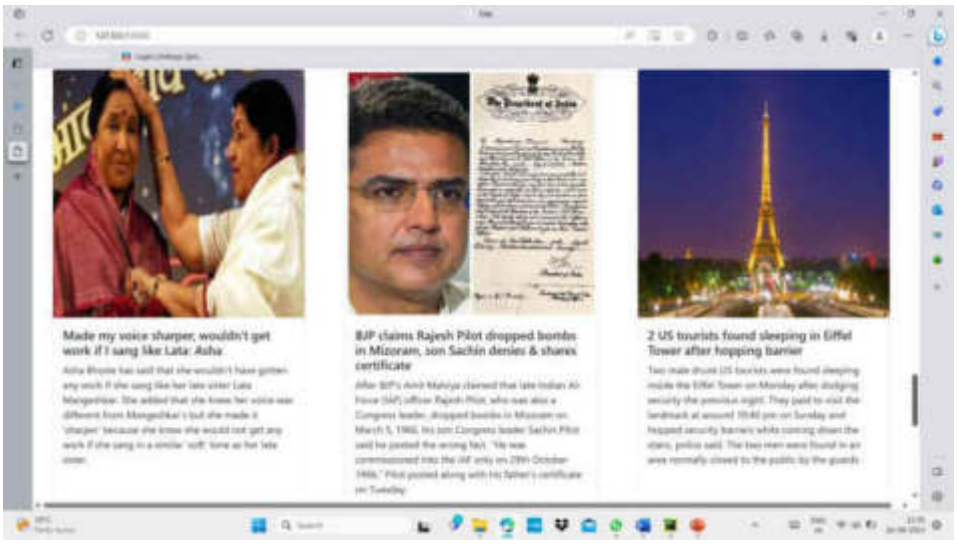


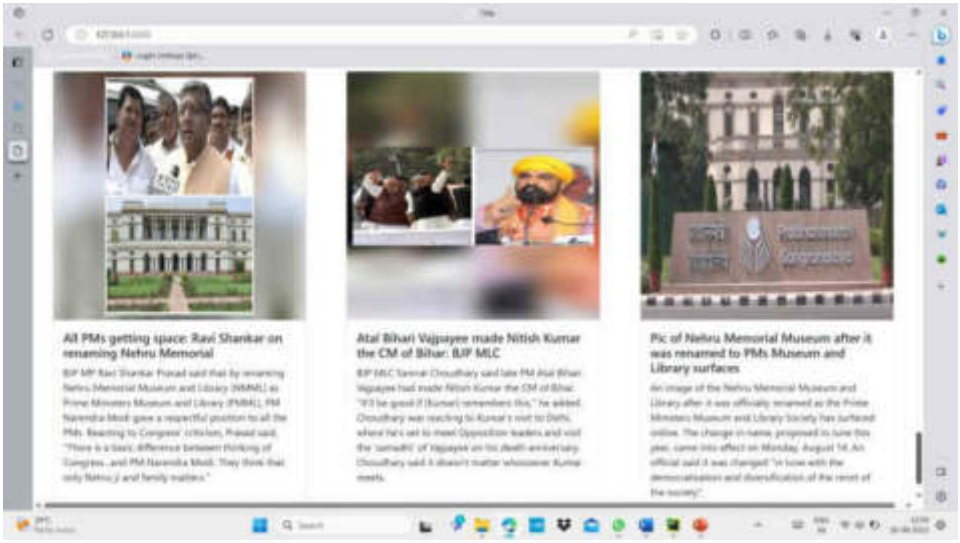



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Govt exploring PLI scheme for train component makers: Report
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Atal Bihari Vajpayee made Nitish Kumar the CM of Bihar: BJP MLC
Pic of Nehru Memorial Museum after it was renamed to PMs Museum and Library surfaces

INTERNSHIP AT OIL AND NATURAL GAS CORPORATION

AN INTERNSHIP REPORT

Submitted by

Panchal Rajan Mukeshbhai

200390116003

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at Oil and Natural Gas corporation** has been carried out by **Panchal Rajan Mukeshbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign

Prof. Nainsi Soni

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

ओएनजीसी

ONGC

ऑयल एण्ड नेचुरल गैस कॉरपोरेशन लिमिटेड
Oil and Natural Gas Corporation Limited

मेहसाना परिसम्पत्ति / Mehsana Asset
के.डी.एम. भवन, पालवासना, मेहसाना - ३८४ ००३ / KDM Bhavan, Palavasana, Mehsana - 384 003
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TO WHOM IT MAY CONCERN

This is to certify that Mr./Ms. Panchal Rajan M., a student of B.E. (IT) of S.P.B. Patel Engineering College, Linch, has completed internship at ONGC Mehsana Asset in Infocom Services. The duration of the internship was from 27.07.2023 to 10.08.2023.

We hope his/her time spent at ONGC Mehsana Asset was fruitful. We wish him/her all the success in his/her future.

Date: 23.08.2023

OIL AND NATURAL GAS CORPORATION LTD. MEHSANA

(Amit Maheshwari)
HR Executive
Training & Apprentice Cell





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship report submitted along with the Internship Project entitled **Internship at Oil and Natural Gas Corporation** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technological** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Nainsi Soni** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. Panchal Rajan Mukeshabhai	_____

ACKNOWLEDGMENT

I would like to express my sincere gratitude and appreciation to the entire team at Oil and Natural Gas Corporation (ONGC) for providing me with the opportunity to undergo a rewarding 15-day internship in the field of Information Technology. I extend my heartfelt thanks to my mentor, Mr. Shrikant sir, for his invaluable guidance and dedicated efforts in imparting his knowledge of the Laravel programming language. His support and mentorship played a pivotal role in enhancing my understanding and skills in web development. I am also thankful to the entire IT department for their warm welcome, constant encouragement, and the collaborative learning environment they provided throughout my internship journey. The experience gained during this internship has undoubtedly contributed to my personal and professional growth, and I am truly grateful for the insights and practical exposure that I have gained.

Abstract

This report contains the work done by the author during his internship at ***Oil And Natural Gas Corporation***. It shows the work I did in the company during my internship period. In the report, the author discusses the process of manufacturing and steps of assembly of the machines. The author also discusses the structure of the company, all the departments and their work . It also explains what the author learned during this internship period.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Maharatna ONGC is the largest crude oil and natural gas Company in India, contributing around 71 per cent to Indian domestic production. Crude oil is the raw material used by downstream companies like IOC, BPCL, HPCL and MRPL (Last two are subsidiaries of ONGC) to produce petroleum products like Petrol, Diesel, Kerosene, Naphtha, and Cooking Gas LPG.

ONGC has a unique distinction of being a company with in-house service capabilities in all areas of Exploration and Production of oil & gas and related oil-field services. Winner of the Best Employer award, this public sector enterprise has a dedicated team of around 27,000 professionals who toil round the clock in challenging locations.

ONGC Videsh Limited, a Miniratna Schedule "A" Central Public Sector Enterprise (CPSE) of the Government of India under the administrative control of the Ministry of Petroleum & Natural Gas, is the wholly owned subsidiary and overseas arm of Oil and Natural Gas Corporation Limited (ONGC), the flagship national oil company (NOC) of India. The primary business of ONGC Videsh is to prospect for oil and gas acreages outside India, including exploration, development and production of oil and gas. ONGC Videsh owns Participating Interests in 35 oil and gas assets in 15 countries and produced about 30.3% of oil and 23.7% of oil and natural gas of India's domestic production. In terms of reserves and production, ONGC Videsh is the second largest petroleum company of India, next only to its parent ONGC.

ONGC subsidiary Mangalore Refinery and Petrochemicals Limited (MRPL) is a schedule 'A' Miniratna, Central Public Sector Enterprise (CPSE) under the Ministry of Petroleum & Natural Gas. The 15.0MMTPA (Million Metric Ton per annum) Refinery has got a versatile design with complex secondary processing units and a high flexibility to process Crudes of various API, delivering a variety of quality products. MRPL, with its parent company Oil and Natural Gas Corporation Limited (ONGC), owns and operates ONGC Mangalore Petrochemicals Limited (OMPL), a petrochemical unit capable of producing 0.905 MMTPA of Para Xylene and 0.273 MMTPA of Benzene.

ONGC subsidiary HPCL is a Maharatna CPSE. HPCL has the second largest share of product pipelines in India with a pipeline network of more than 3370 kms for transportation of petroleum products and a vast marketing network consisting of 14 Zonal offices in major cities and 133 Regional Offices facilitated by a Supply & Distribution infrastructure comprising Terminals, Pipeline networks, Aviation Service Stations, LPG Bottling Plants, Inland Relay Depots & Retail Outlets, Lube and LPG Distributorships. Consistent excellent performance has been made possible by a highly motivated workforce of over 9,500 employees working all over India at its various refining and marketing locations.

1.2 MISSION AND VISION OF THE COMPANY:

Vision

To be a global leader in integrated energy business through sustainable growth, knowledge excellence and exemplary governance practices.

Mission

World Class

- Dedicated to excellence by leveraging competitive advantages in R&D and technology with involved people.
- Imbibe high standards of business ethics and organizational values.
- Abiding commitment to safety, health and environment to enrich quality of community life.
- Foster a culture of trust, openness and mutual concern to make working a stimulating and challenging experience for our people.
- Strive for customer delight through quality products and services.

Integrated In Energy Business

- Focus on domestic and international oil and gas exploration and production business opportunities.
- Provide value linkages in other sectors of energy business.
- Create growth opportunities and maximize shareholder value.

Dominant Indian Leadership

- Retain a dominant position in the Indian petroleum sector and enhance India's energy availability.

Carbon Neutrality

- Strive to reduce CO2 emissions across the activity chain with the objective of achieving carbon neutrality.

Chapter 2: Networks

2.1 Basics of Network:

In the initial two days, I observed different switches and gained in-depth knowledge about L2 and L3 switches, comprehending their operational mechanisms and data transmission processes. Furthermore, we extensively covered various cable connections, exploring their interconnections and functionalities. Notably, during this period, we had the opportunity to observe the Juniper L3 switch in action.

- **L1 Switch (Physical Layer):** Connects devices within a network and manages the physical connections, like plugging devices into sockets.
- **L2 Switch (Data Link Layer):** Uses MAC addresses to forward data within a local network, like directing traffic within a single neighborhood.
- **L3 Switch (Network Layer):** Routes data between different networks using IP addresses, like guiding traffic between different cities or regions.

2.2 Juniper Switch:



Fig. 2.1: Juniper Switch

Juniper Networks is a well-known networking equipment manufacturer that produces a wide range of networking devices, including routers, switches, and security appliances. Juniper's L3 (Layer 3) switches are designed to operate at the network layer of the OSI model, enabling them to perform routing functions and make forwarding decisions based on IP addresses.

Juniper L3 switches, like many other networking devices, consist of several key components that work together to provide routing and switching capabilities. While the specific components may vary based on the model and series of the Juniper L3 switch, here are some common parts typically found in Juniper L3 switches:

1. Processor (CPU): The processor is the brain of the switch, responsible for executing control plane functions, handling routing protocols, and managing the switch's overall operation.

2. Memory: Various types of memory are used in a Juniper L3 switch, including RAM (Random Access Memory) for temporary data storage and caching, and flash memory for storing the operating system and configuration files.

3. Switching Fabric: The switching fabric is a high-speed internal bus or architecture that allows data packets to be switched and forwarded between different ports and interfaces.

4. Network Interfaces: These are the physical ports on the switch that connect to devices, servers, routers, and other networking equipment. They can include Ethernet ports of different speeds (e.g., 1Gbps, 10Gbps, 40Gbps, 100Gbps) and may support various types of connectors (e.g., RJ-45, SFP, QSFP).

5. Routing Engine: The routing engine handles control plane functions, including running routing protocols, maintaining routing tables, and making routing decisions.

6. ASICs (Application-Specific Integrated Circuits): ASICs are specialized hardware components designed to accelerate specific networking functions. In an L3 switch, ASICs may be used to perform packet forwarding, routing lookups, and other processing tasks, improving performance and efficiency.

7. Power Supply Units (PSUs): These components provide electrical power to the switch. High-end switches may have redundant power supply units for increased reliability.

8. Cooling System: Juniper L3 switches are equipped with fans and cooling mechanisms to maintain optimal operating temperatures and prevent overheating.

9. Management Interfaces: These interfaces allow network administrators to configure, monitor, and manage the switch. They can include console ports, Ethernet management ports, and out-of-band management options.

10. Operating System (Junos): Juniper L3 switches run the Junos operating system, which provides the software framework for routing, switching, security, and management features.

11. CLI (Command Line Interface) and Management Software: Network administrators use the CLI and management software to configure the switch, monitor its performance, and troubleshoot issues.

12. Redundancy Features: High-end Juniper L3 switches often include redundancy features such as Virtual Chassis or Virtual Chassis Fabric, which allow multiple switches to operate as a single logical unit, enhancing fault tolerance and availability.

2.3 Working of Juniper Switch:

1. Routing Intelligence: A Juniper L3 switch starts by knowing where different parts of the network are located. It compiles a list of paths (routing table) that tells it the best ways to reach different destinations.

2. Packet Checkpoint: When data arrives, the switch checks its "address label" (destination IP) to figure out where it should go.

3. Smart Decision: Using its routing table, the L3 switch decides the quickest path for the data. Imagine choosing the fastest route on a map.

4. Physical Address: If the data needs to go to another "neighborhood" (subnet), the switch finds the recipient's "house number" (MAC address) through a quick lookup (ARP).

5. Packet Packing: The switch carefully wraps the data in a new package with the correct "neighborhood address" (MAC). It's like putting the data in the right envelope.

6. Onward Journey: The switch then sends the newly packaged data on its way, following the optimal path it selected earlier.

7. VLAN Magic: If there are different "parts of town" (VLANs), the L3 switch can help the data travel between them, like building virtual bridges.

8. Traffic Control: The switch can act like a traffic cop, using rules (ACLs) to allow or stop data based on instructions.

9. Priority Treatment: To keep things fair, the switch can also give important data a "green light" (QoS), ensuring it gets through quickly.

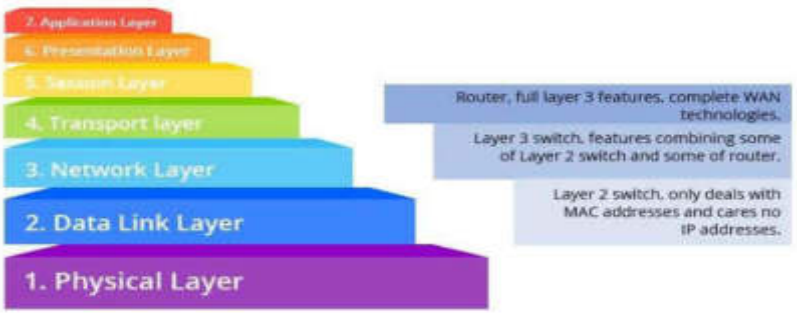


Fig. 2.2: OSI Layer

Chapter 3: Ubuntu & PHP

3.1 Learning Requirements:

We started our work with new OS which is Ubuntu, Ubuntu is a Linux-based operating system. I installed Ubuntu on my laptop, and set up everything inside ubuntu. I Install all necessary tools like vscode inside ubuntu.



Fig. 3.1: Ubuntu



Fig. 3.2: PHP

We learn the basics of PHP, because our main task is to update the website(dpr), store data in the database, fetching data from database and maintain all the dpr(Daily Production Report) of ONGC. and all the dpr we have to update using laravel language which is the framework of php.

PHP: PHP is a widely-used scripting language designed for web development and server-side programming. It boasts a user-friendly syntax that simplifies creating dynamic and interactive web applications. PHP operates seamlessly with HTML, allowing developers to embed PHP code directly within web pages. It supports variables, enabling the storage of data, and employs data types such as integers, strings, and arrays. Control structures like loops and conditional statements facilitate decision-making and iterative processes.

One of PHP's standout features is its robust support for database interaction. It can effortlessly connect to various databases, enabling the storage and retrieval of data. Functions and libraries are integral to PHP, offering in-built code snippets for common tasks. Moreover, PHP's object-oriented capabilities empower developers to structure code logically and reuse components. The language also facilitates seamless file manipulation, making it easy to read, write, and modify files. In essence, PHP serves as a versatile tool for crafting dynamic web applications, boasting features like form handling, session management, and secure authentication mechanisms.

3.2 Laravel Framwork:

Laravel is a sophisticated and widely-used PHP web framework renowned for its elegant design and developer-friendly features. Operating on the Model-View-Controller (MVC) architectural pattern, Laravel facilitates the organization of code into distinct components: Models, responsible for data handling and interaction with databases; Views, managing the presentation layer; and Controllers, governing application logic and user interactions.

Fig. 3.3: Laravel

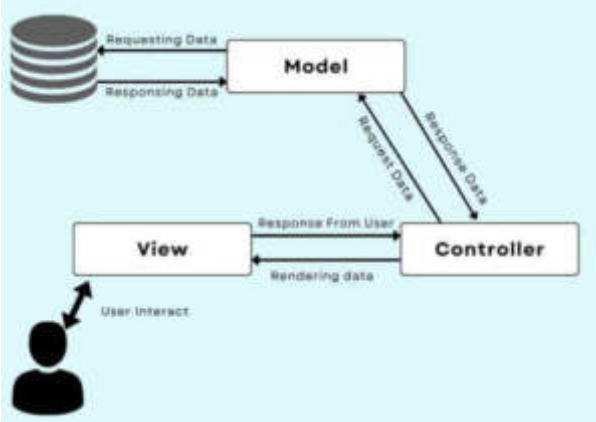


Fig. 3.4: MVC Architechture

Beyond its architectural prowess, Laravel comes equipped with a multitude of built-in tools and functionalities that expedite web development. Its routing system provides a straightforward way to define endpoints and handle HTTP requests, while the Blade templating engine offers expressive and reusable views. Laravel's authentication and security mechanisms ensure the safeguarding of user data, while the Eloquent ORM simplifies database interactions through an intuitive, object-oriented syntax.

Furthermore, Laravel's extensive ecosystem is enriched by Composer, a package manager that allows seamless integration of third-party libraries. Its vibrant community continually contributes to the framework's growth and evolution, offering a wealth of resources, tutorials, and forums. Overall, Laravel empowers developers to create feature-rich and maintainable web applications efficiently, making it a preferred choice within the realm of modern web development.

We are working with a **phpmyadmin** tool for managing and administering MySQL or MariaDB databases. Developed in PHP, phpMyAdmin provides a web-based interface that enables users to perform a wide range of database-related tasks, including creating, modifying, and deleting databases, tables, and records, as well as executing SQL queries, importing and exporting data, and managing user privileges. Its intuitive interface makes it accessible to both beginners and experienced database administrators, facilitating efficient database management without requiring extensive knowledge of command-line tools.



Fig. 3.5: phpMyAdmin

Chapter 4: Daily Production Report

4.1 Well Completion & Testing DPR:

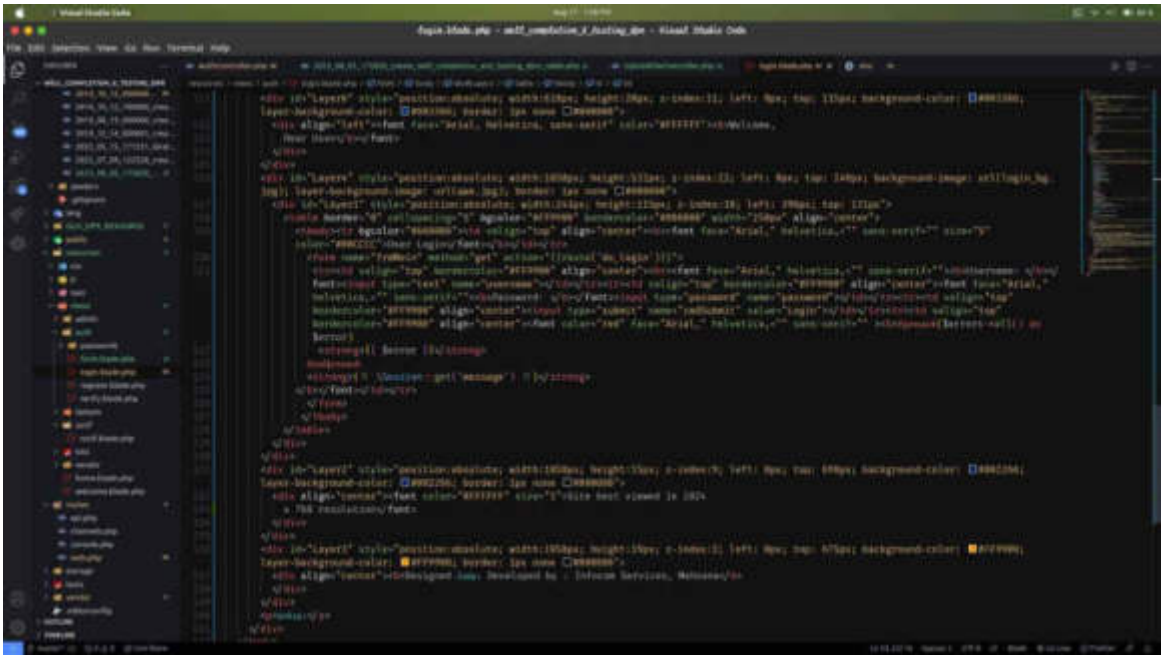


Fig. 4.1: Login Page

The Login credential of the User are saved in the phpMyAdimin database and the login page will check the credentials entered by the user with the database using the “Login Controller” (Fig. 3.7) and if the are correct then user can proceed further otherwise it will return “Login credentials are wrong” Error.

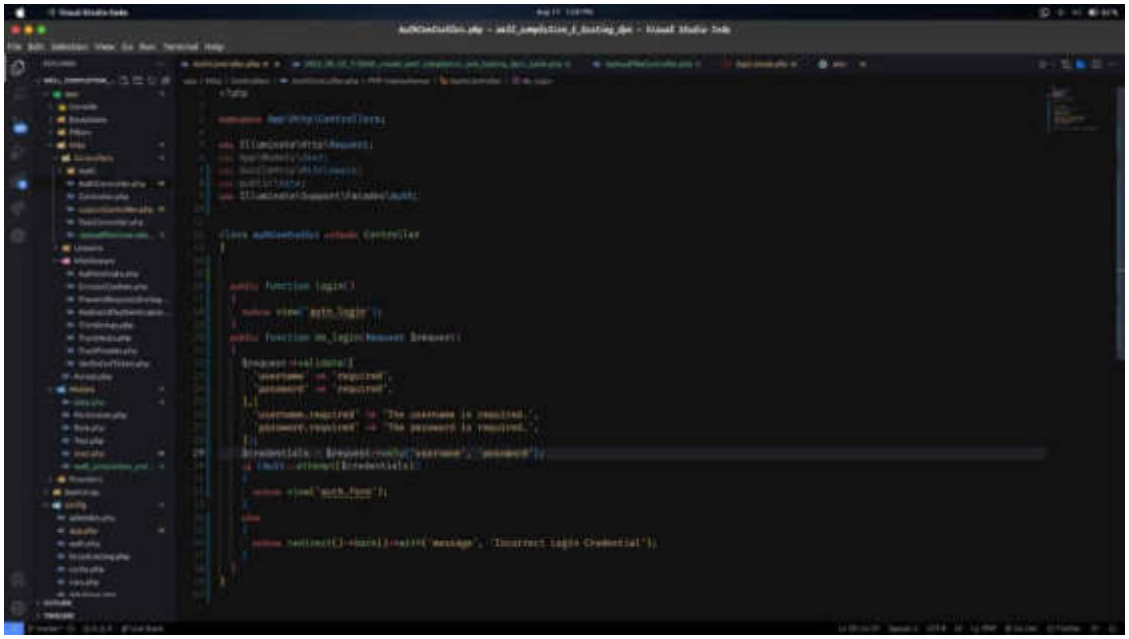


Fig. 4.2: Login Controller

After login is successful the user is redirected to the form (Fig. 3.8) where He/She can upload the PDF report of the day. All the uploaded PDFs are stored at the phpMyAdmin database in blob (format to store the file in the database) form.

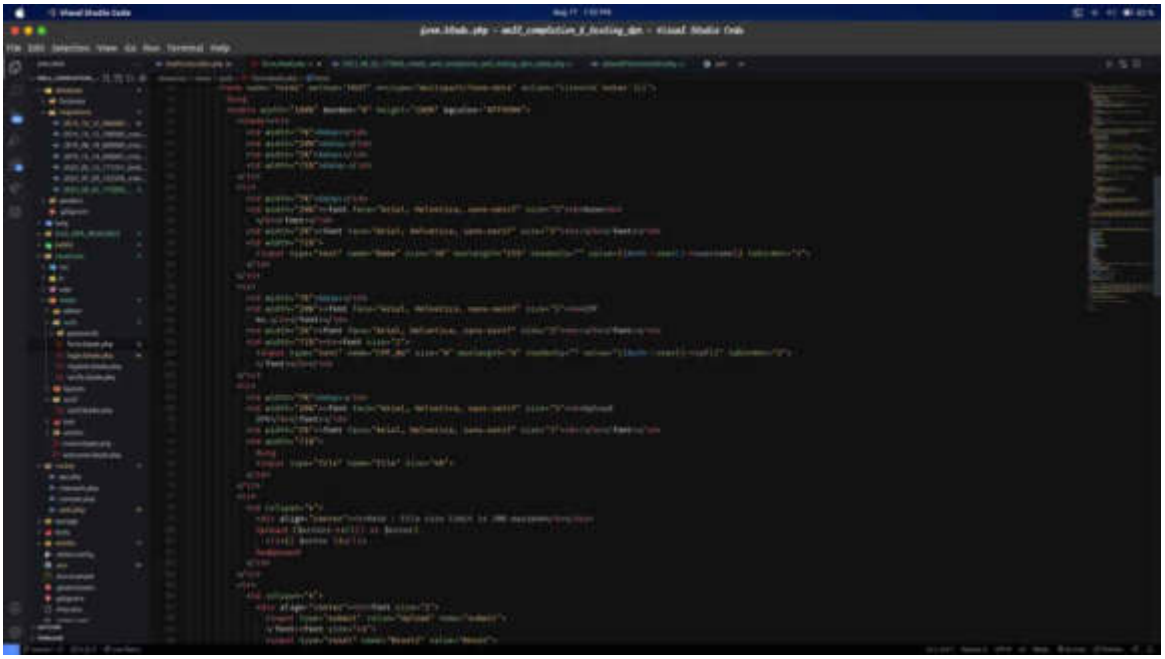


Fig. 4.3: Form Page

The user can browse the PDF from the computer and that PDF will uploaded and stored to the phpMyAdmin database using the “Upload File Controller” (Fig. 3.9).

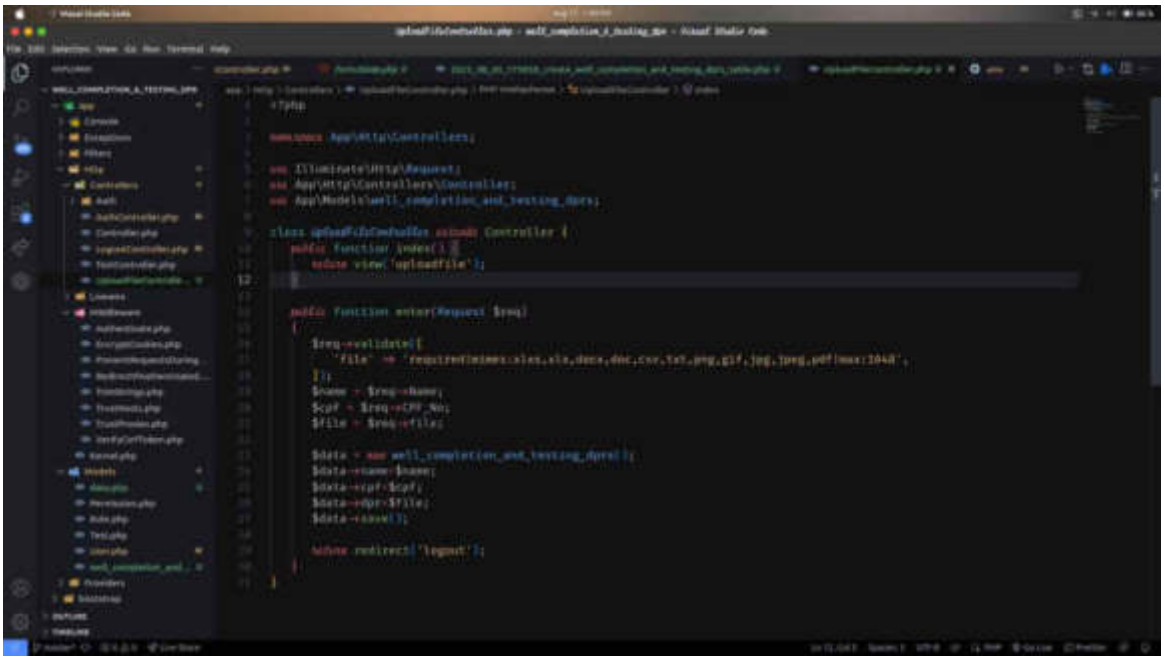


Fig. 4.4: Upload File Controller

4.2 Production DPR:

The Production DPR is used to collect the daily production report from every site and user. The login page (Fig. 3.10) perform same as the previous login page but it also contains a URL for “Power User Login” (Fig. 3.11). The login credentials are different for Normal and Power user and stored in different table of database.

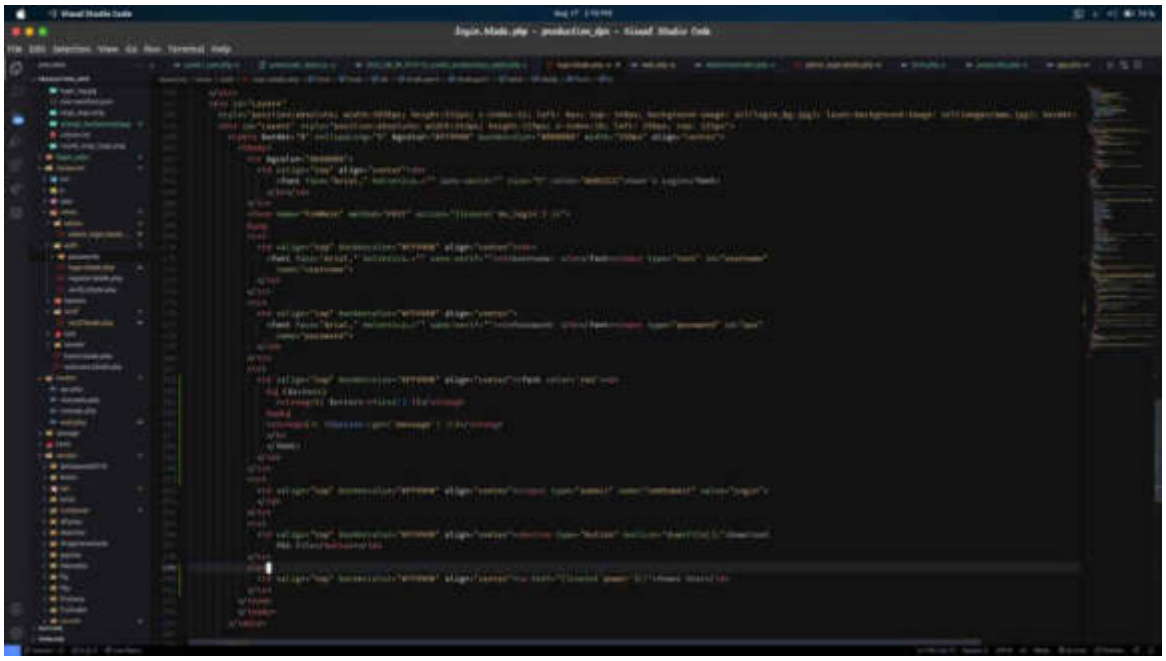


Fig. 4.5: Normal User Login Page

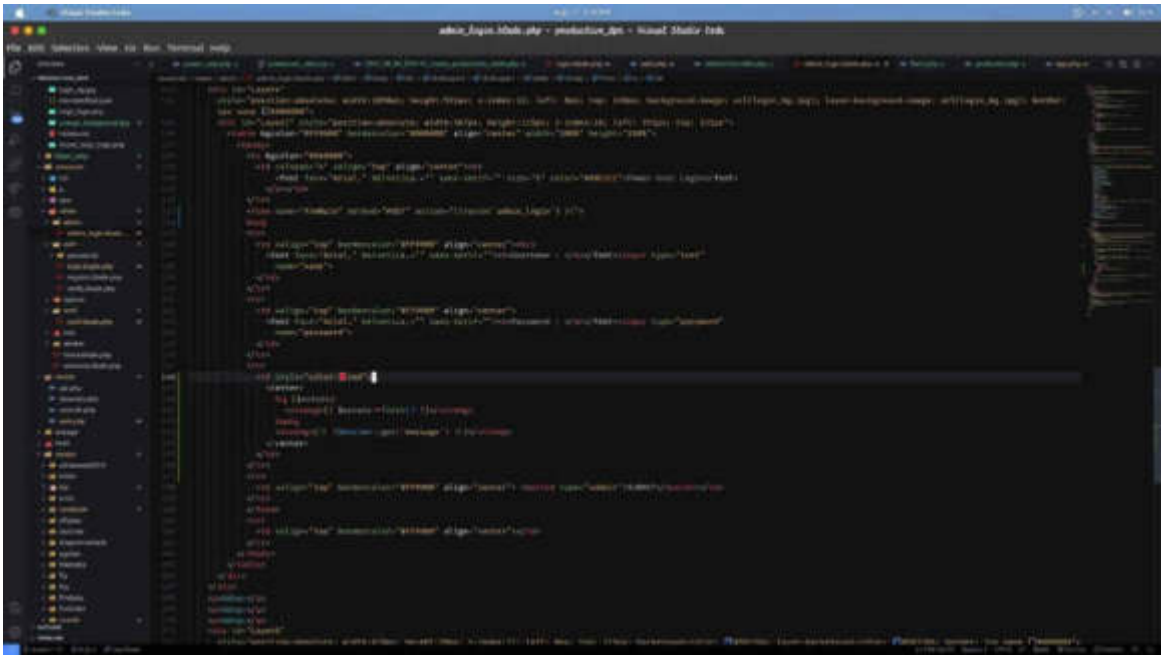


Fig. 4.6: Power User Login

After Normal user login they are redirected to the form (Fig. 3.12) page where they enters the daily production data and that data are stored into the phpMyAdmin database. After Power user login they can view the entered data in table format according to the dates or sites. They can also the download the report in PDF or Excel format using the Power User Controller (Fig. 3.12).



Fig. 4.7: Power User Controller

4.3 Info-Mehsana DPR:

Info-Mehsana is a Website which check the availability status of all the switch and router connected to the network. Which means it will check if the switch is active or not and if active then what is the latency and how fast it is responding. And if any of the switch is down then it will indicate it's status on the website. This is a team project where I developed the Python code for ping the IP Address and the Other team developed the website.

To check the status of the connected devices we basically ping it's IP Address in the terminal and check the latency. The main task is to check the latency of all the connected device at the same time and also update the data of latency in database. We used the "Threading" module of the Python to complete this. We created multiple threads and execute them at the same time. And to overcome the process synchronization we used the "Threading Lock".

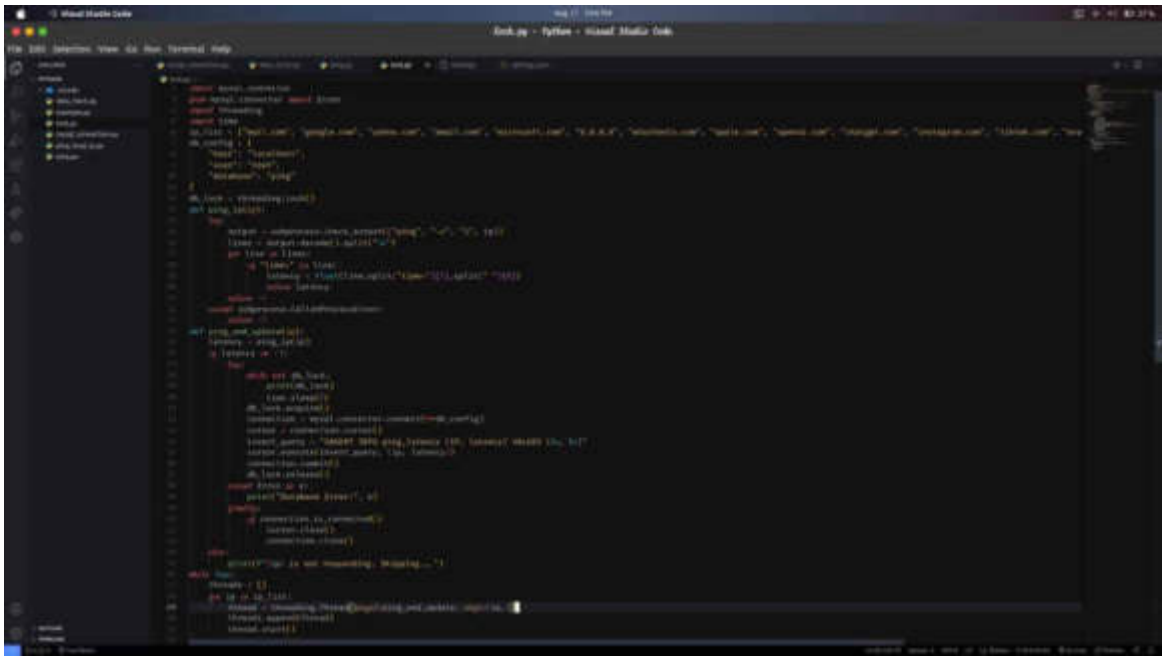
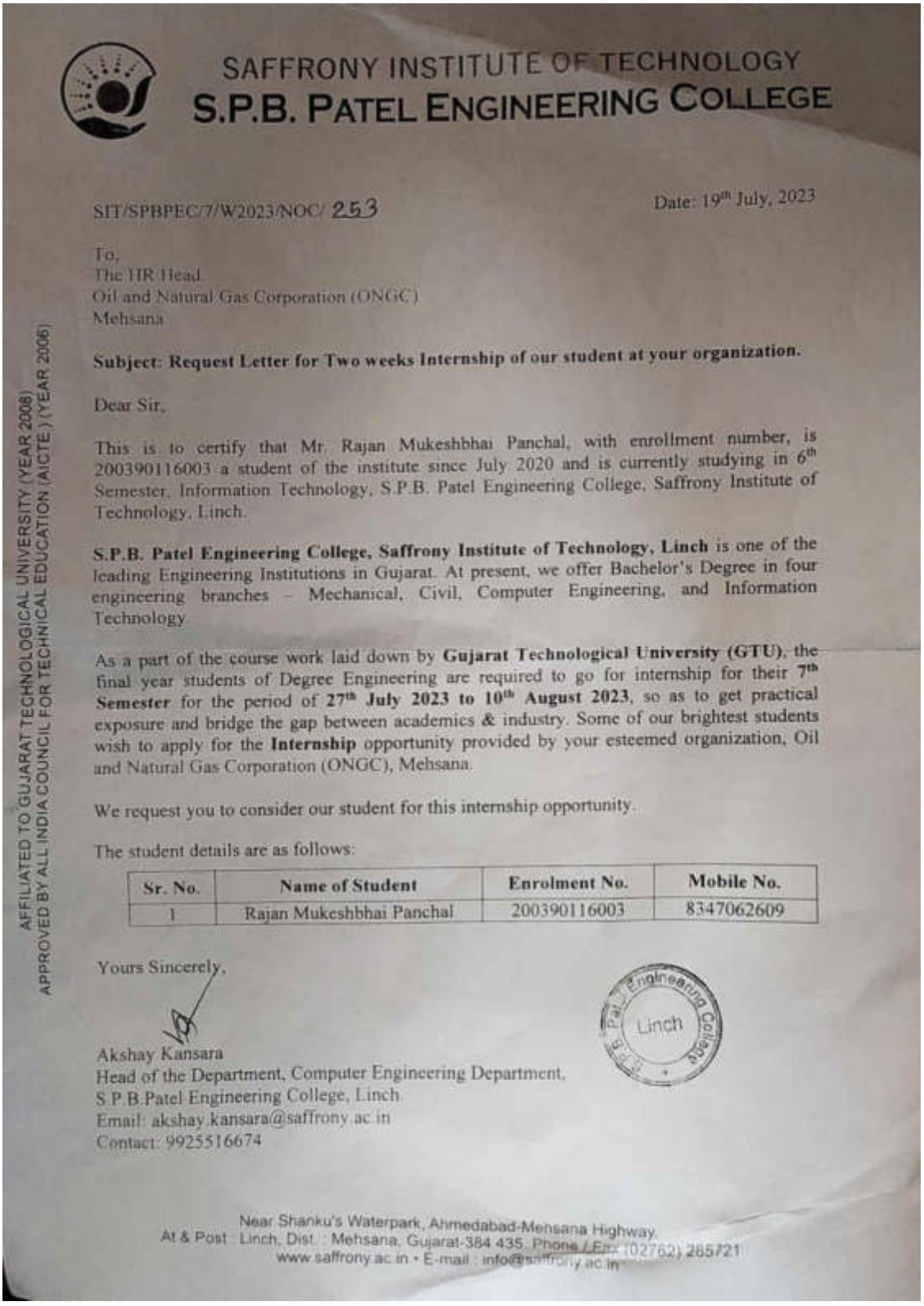


Fig. 4.8: Python code for Ping the IP Address

Appendix



SAFFRONY INSTITUTE OF TECHNOLOGY
S.P.B. PATEL ENGINEERING COLLEGE

AFFILIATED TO GUJARAT TECHNOLOGICAL UNIVERSITY (YEAR 2008)
APPROVED BY ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE) (YEAR 2006)

SIT/SPBPEC/7/W2023/NOC/ 253

Date: 19th July, 2023

To,
The HR Head
Oil and Natural Gas Corporation (ONGC)
Mehsana

Subject: Request Letter for Two weeks Internship of our student at your organization.

Dear Sir,

This is to certify that Mr. Rajan Mukeshbhai Panchal, with enrollment number, is 200390116003 a student of the institute since July 2020 and is currently studying in 6th Semester, Information Technology, S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch.

S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch is one of the leading Engineering Institutions in Gujarat. At present, we offer Bachelor's Degree in four engineering branches – Mechanical, Civil, Computer Engineering, and Information Technology

As a part of the course work laid down by **Gujarat Technological University (GTU)**, the final year students of Degree Engineering are required to go for internship for their **7th Semester** for the period of **27th July 2023 to 10th August 2023**, so as to get practical exposure and bridge the gap between academics & industry. Some of our brightest students wish to apply for the **Internship** opportunity provided by your esteemed organization, Oil and Natural Gas Corporation (ONGC), Mehsana.

We request you to consider our student for this internship opportunity.

The student details are as follows:

Sr. No.	Name of Student	Enrolment No.	Mobile No.
1	Rajan Mukeshbhai Panchal	200390116003	8347062609

Yours Sincerely,

S.P.B. Patel Engineering College Linch

Akshay Kansara
Head of the Department, Computer Engineering Department,
S.P.B.Patel Engineering College, Linch.
Email: akshay.kansara@saffrony.ac.in
Contact: 9925516674

Near Shanku's Waterpark, Ahmedabad-Mehsana Highway,
At & Post Linch, Dist. : Mehsana, Gujarat-384 435. Phone / Fax (02762) 285721
www.saffrony.ac.in • E-mail : info@saffrony.ac.in

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD

AN INTERNSHIP REPORT

Submitted by

CHAUDHARI ANISH RAJUBHAI

200390116005

In partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING

In

INFORMATION TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **ANISH RAJUBHAI CHAUDHARI** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information & Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign

Prof. First Name Last Name

Internal Guide

Sign

Prof. FirstName Last Name

Head of Department

Company Certificate



INFOLABZ IT SERVICES PVT. LTD.

WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116005
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Anish Chaudhari .

In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework.

We wish Anish Chaudhari all the best for future endeavors.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

+91 8866662662
+91 9141236662

info@infolabz.in
www.infolabz.in

405 Viraj Avenue, Above SAMS Pizza
Nr. Commerce Six Rd, Navrangpura,
Ahmedabad, Gujarat 380009

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information & Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **ANISH RAJUBHAI CHAUDHARI**	_____

ACKNOWLEDGMENT

I wish to express my sincere gratitude to our External guide Mr. Chetan nagrecha for continuously guiding me at the company and answering all my doubts with patience. I would also like to thank Infolabz Developers for helping me through my internship by giving me the necessary suggestions and advice along with their valuable co-ordination in completining this internship.

I also thank my parents, friends and all the members of the family for their precious support and encouragement which they had provided in completion of my work. In addition to that, I would also like to mention the company personals who gave me the permission to use and experience the valuable resources required forth internship.

Also, I appreciate the guidance given by the developer at Infolabz Mr.Chetan nagrecha as well as the panels especially for the internship that has advised me and gave guidance at every moment of the internship. Thus, in conclusion to the above said, I once again thank the staff members of Infolabz It Services Pvt. Ltd. for their valuable support in completion of the project.

Thank you all.

ANISH CHAUDHARI
(200390116005)

Abstract

This report contains the work done by the author during his internship at **INFOLABZ IT SERVICES PVT. LTD.** It shows the work I did in the company during my internship period. In the report, In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework.

COMPANY PROFILE

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced andhard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concept which could be used by millions of people.

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	Completion Certificate	**III**
	Company Profile	**IV**
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	- Django project creation	
	• Django super user	
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	• First Model : Database Table : Insert Update & Delete	
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	• Multiple Database Tables with different Fields	
WEEK 1	**01 AUGUST 2023**	**14**
	- Foreign Key Concept	

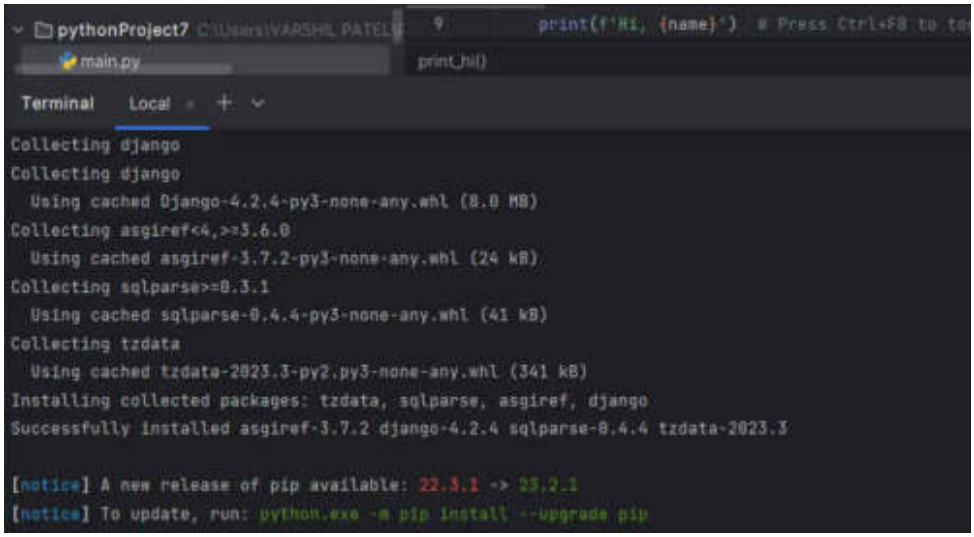
WEEK 1	**02 AUGUST 2023**	
	• Assignment project task	
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	• Assignment project task	

	• Project : Real time news website using inshorts API	
WEEK 2	**10 AUGUST 2023**	
	• Project and Conlusion	

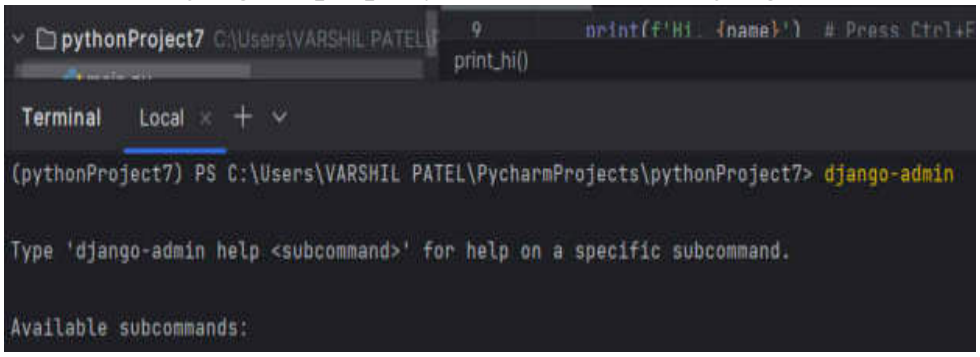
Week-1

- Day-1(27/07/2023)
    - Django Environment setyp :

1) Install DJANGO -pip install django



2) To check django is properly installed or not -django-admin



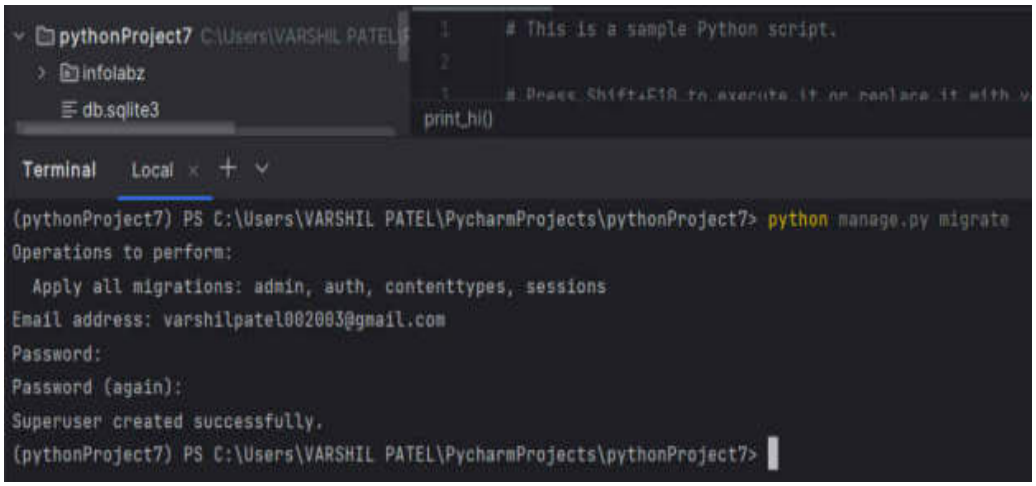
- Django project creation

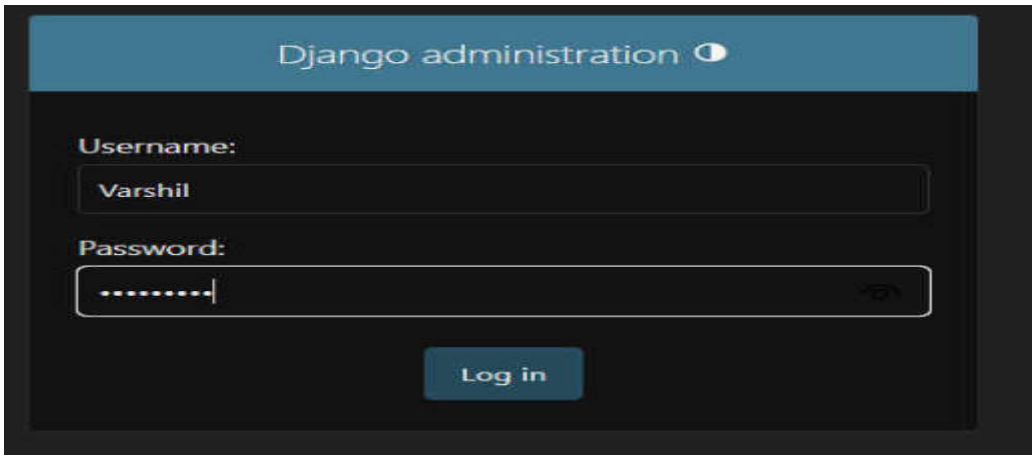
Create a project -django-admin startproject (projectname) .

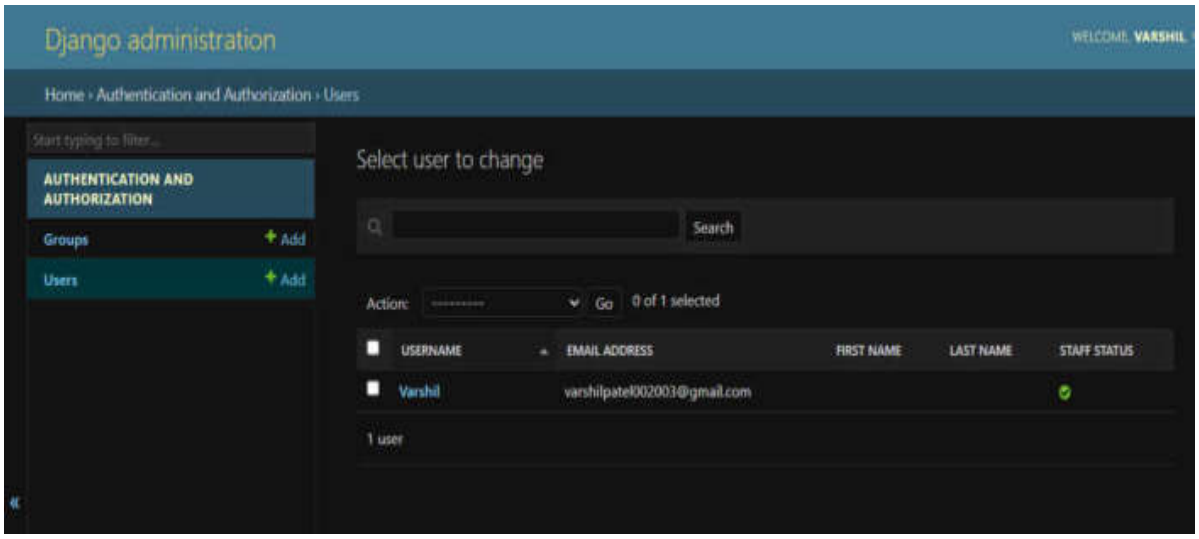


- Django super user

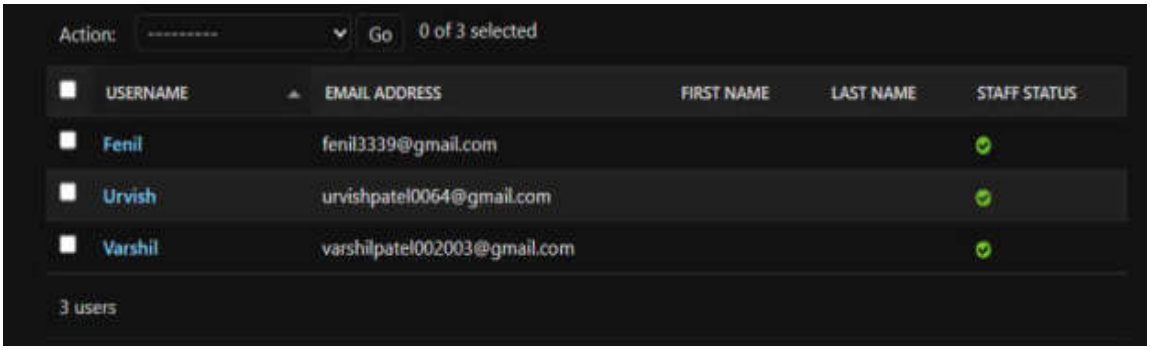
python manage.py createsuperuser

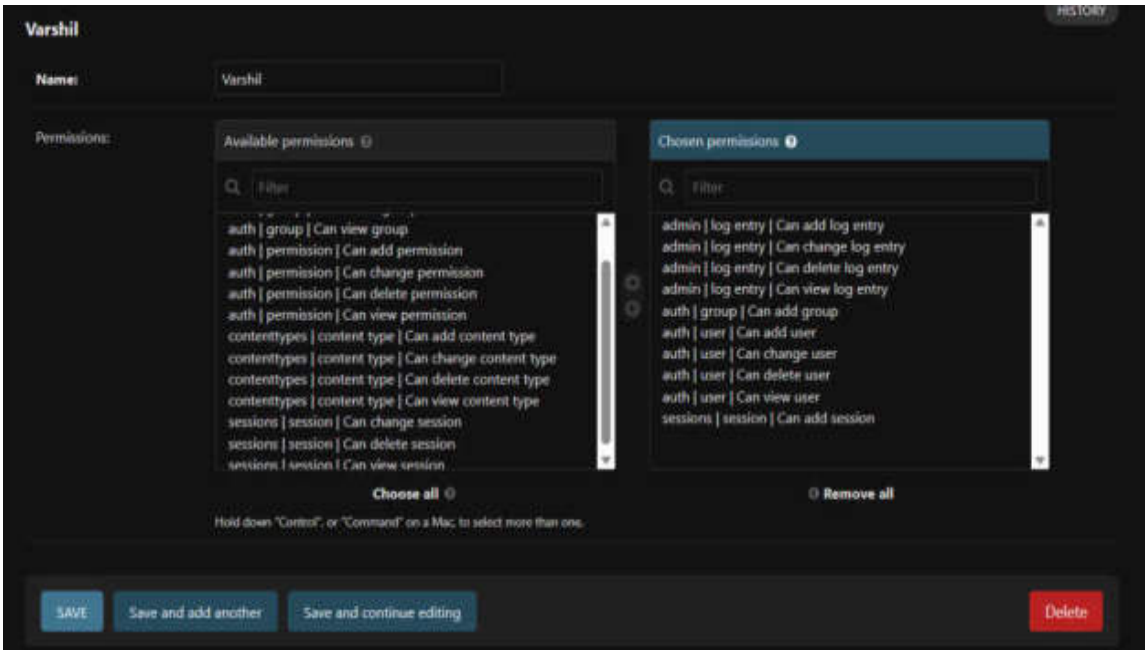


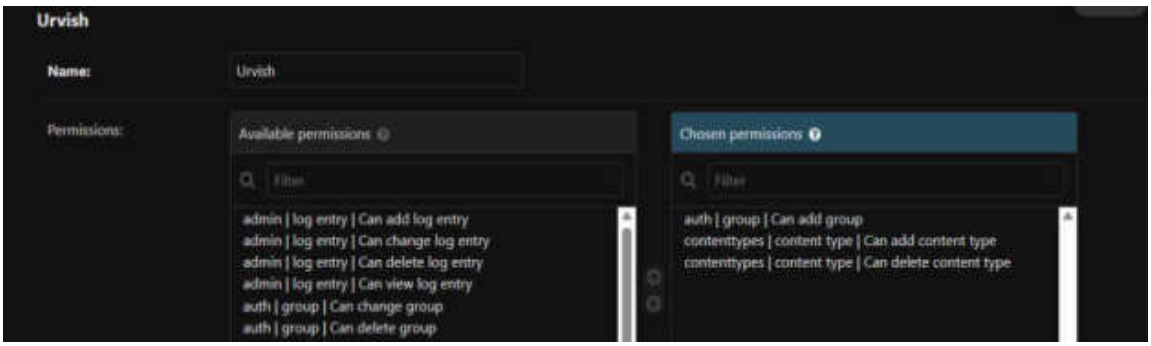




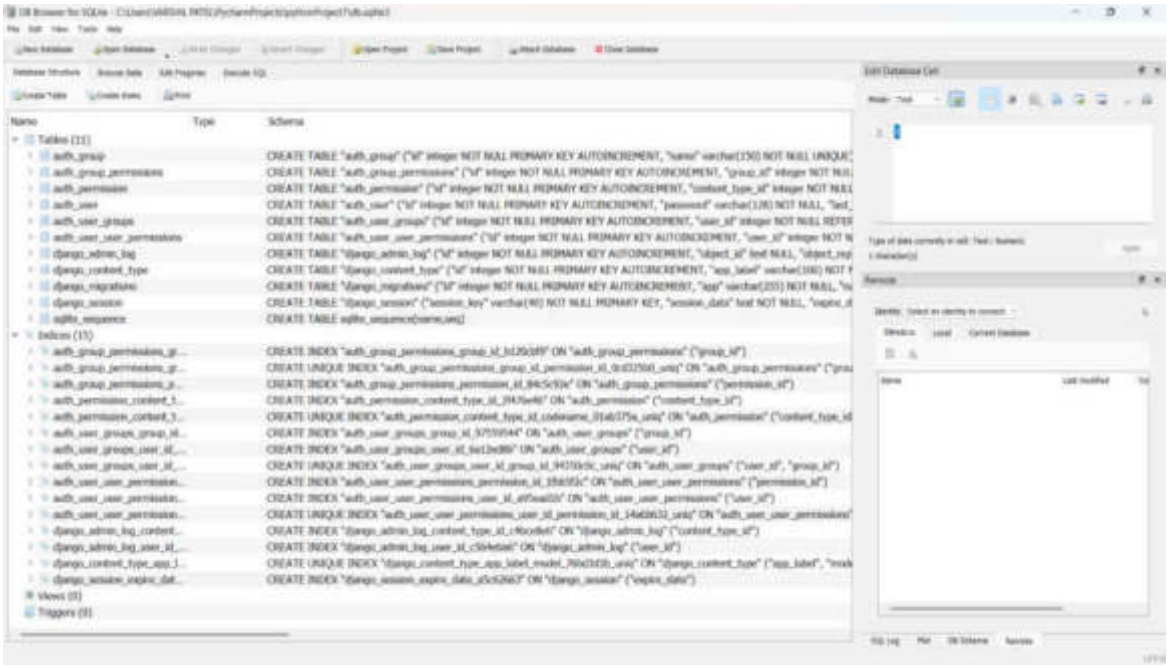
- Day-2(28/07/2023)
    - Superuser permissions

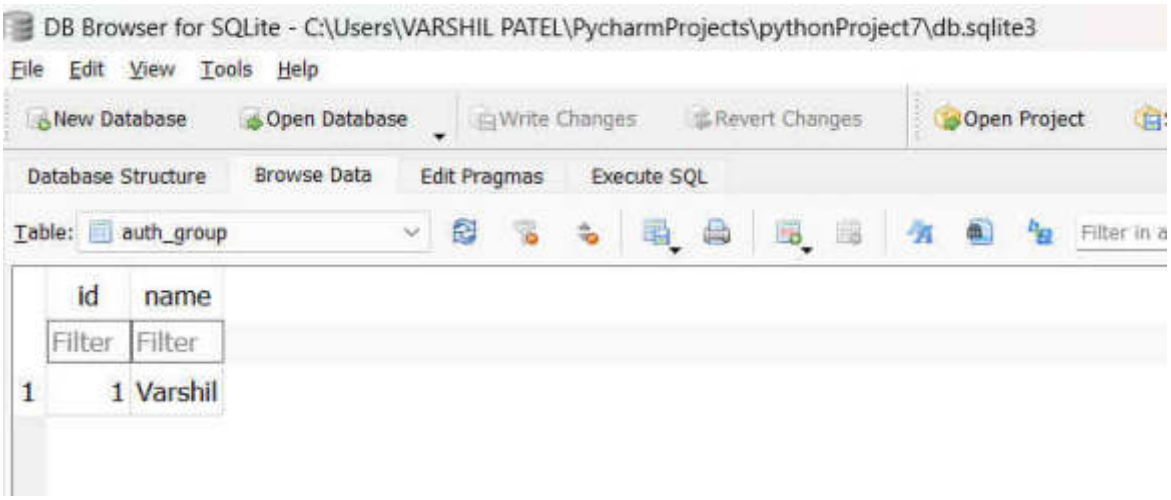




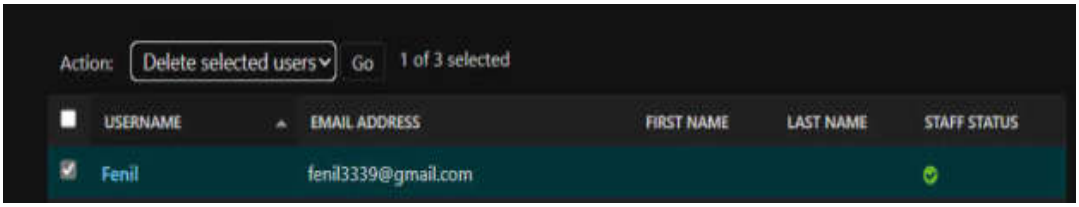


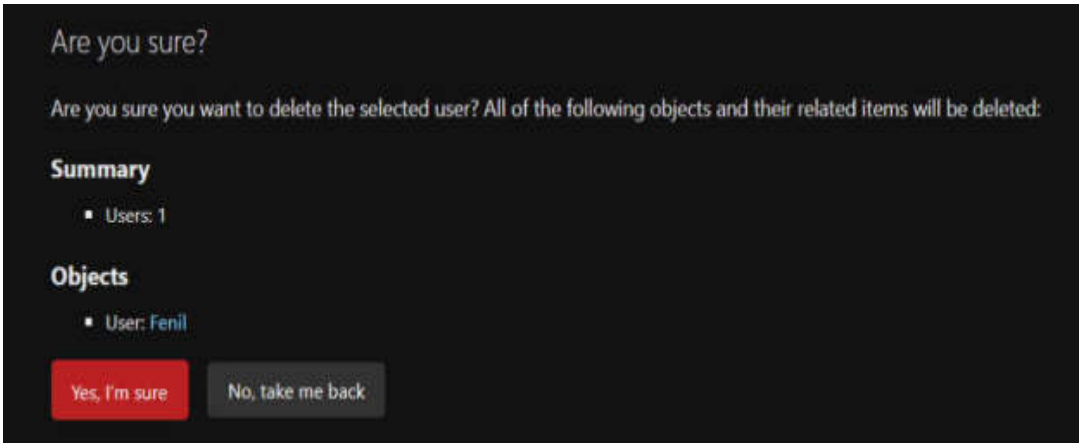
- SQLite Database Browser



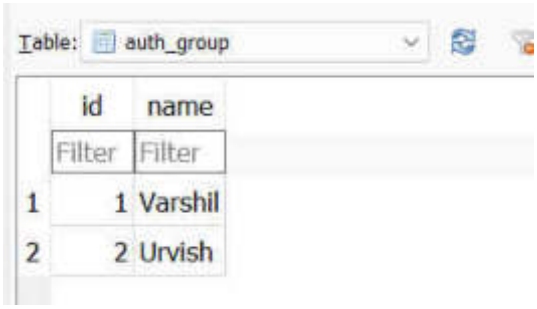


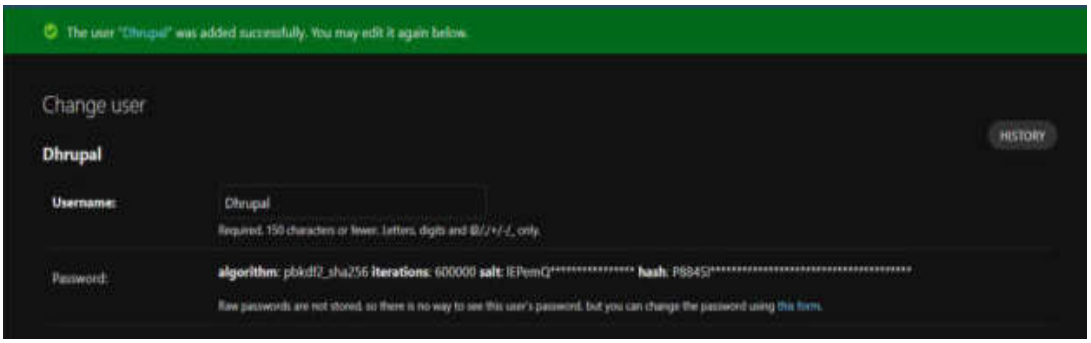
- First Model : Database Table : Insert Update & Delete





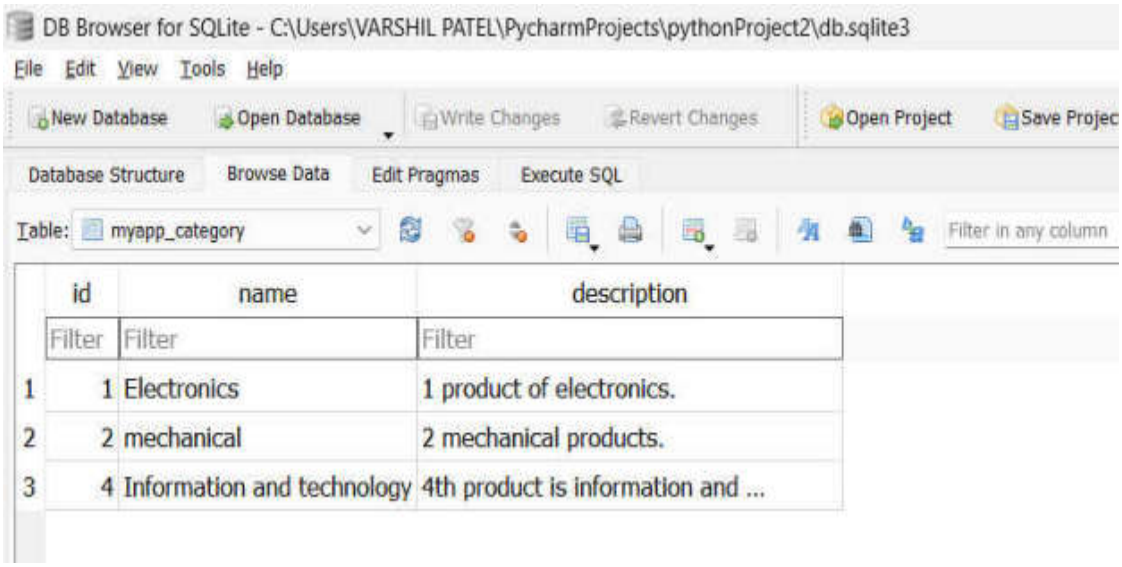




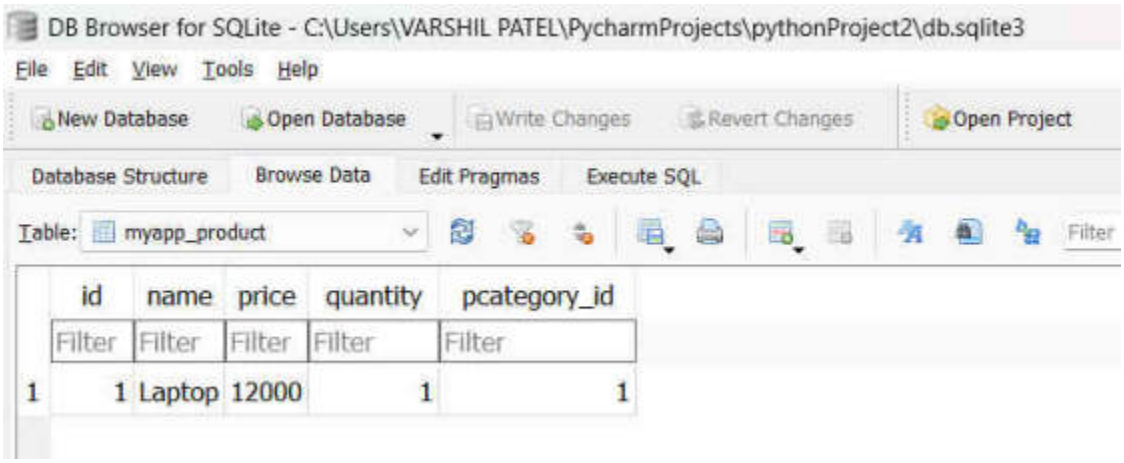


- Day-3(31/072023)
  - Multiple Database Tables with different Fields

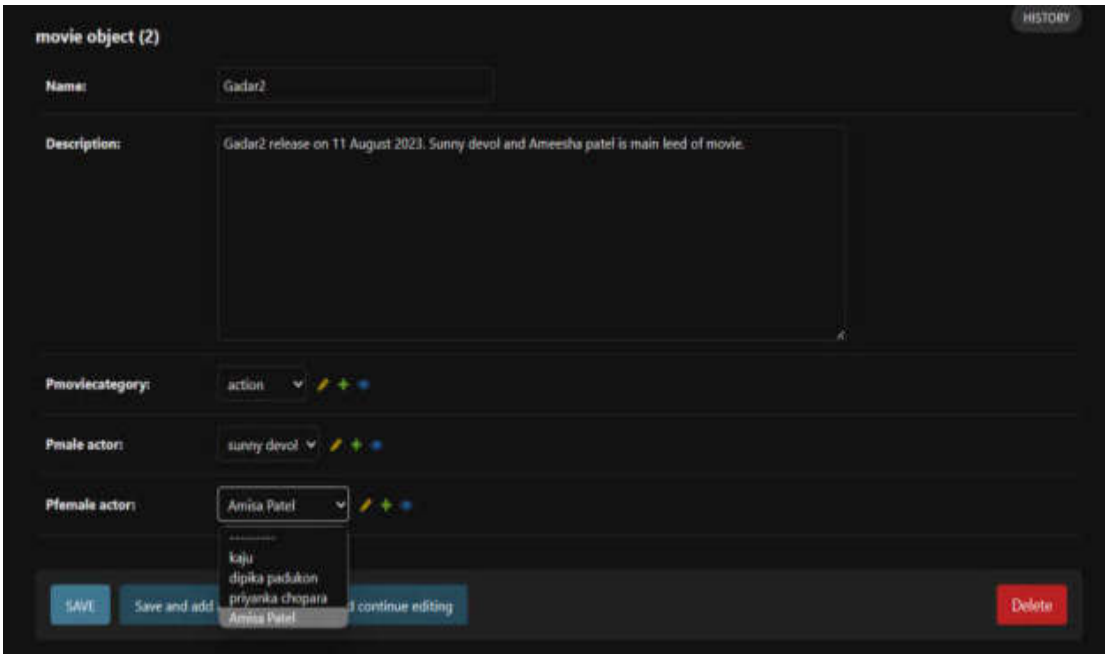
```
class category(models.Model):
    name = models.CharField(max_length=50)
    description = models.TextField()
```




```
class product(models.Model):
    name = models.CharField(max_length=50)
    pcategory = models.ForeignKey(category, on_delete=models.CASCADE)
    price = models.IntegerField()
    quantity = models.IntegerField()
```

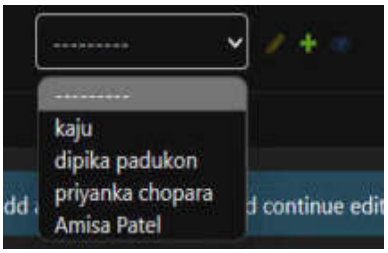


- Day-4(01/08/2023)
    - Foreign Key Concept











- Day-5(02/08/2023)
  - Assignment project task
  - Admin Panel Project : Backend Bank Customer DB development
  -

Models.py

```
from django.db import models


# Create your models here.
class role(models.Model):
    Id = models.AutoField(primary_key=True)
    UserTypeName = models.CharField(max_length=30)

    def __str__(self):
        return self.UserTypeName


STATUS_CHOICE = [
    ('0', 'Active'),
    ('1', 'Inactive')
]


class user_detail(models.Model):
    UserName = models.CharField(max_length=30)
    UserPassword = models.CharField(max_length=20)
    UserEmail = models.EmailField()
    UserPhone = models.IntegerField(max_length=10)
    UserType = models.ForeignKey(role, on_delete=models.CASCADE)
    UserStatus = models.CharField(choices=STATUS_CHOICE, max_length=20)

    def __str__(self):
        return self.UserName


MONTH_CHOICES = [
    ('1', 'Jan'),
    ('2', 'Feb'),
    ('3', 'Mar'),
    ('4', 'Apr'),
    ('5', 'May'),
    ('6', 'Jun'),
    ('7', 'Jul'),
    ('8', 'Aug'),
    ('9', 'Sept'),
    ('10', 'Oct'),
    ('11', 'Nov'),
    ('12', 'Dec')
]
YEAR_CHOICES = [
```

```
    ('1', '2022'),
    ('2', '2023'),
    ('3', '2024'),
    ('4', '2025'),
    ('5', '2026'),
    ('6', '2027'),
    ('7', '2028'),
    ('8', '2029'),
    ('9', '2030'),
]


class bank_Detail(models.Model):
    UserId = models.ForeignKey(user_detail, on_delete=models.CASCADE)
    BankName = models.CharField(max_length=50)
    cardNo = models.IntegerField()
    EndMonth = models.CharField(choices=MONTH_CHOICES, max_length=20)
    EndYear = models.CharField(choices=YEAR_CHOICES, max_length=20)


class country(models.Model):
    CountryName = models.CharField(max_length=50)

    def __str__(self):
        return self.CountryName


class state(models.Model):
    CountryId = models.ForeignKey(country, on_delete=models.CASCADE)
    StateName = models.CharField(max_length=30)

    def __str__(self):
        return self.StateName


class city(models.Model):
    StateId = models.ForeignKey(state, on_delete=models.CASCADE)
    CityName = models.CharField(max_length=30)

    def __str__(self):
        return self.CityName


class user_address(models.Model):
    UserId = models.ForeignKey(user_detail, on_delete=models.CASCADE)
    BuildingName = models.CharField(max_length=25)
    StreetName = models.CharField(max_length=15)
    CityName = models.ForeignKey(city, on_delete=models.CASCADE)
    Pincode = models.IntegerField()
```

admin.py

```
from django.contrib import admin
from newapp.models import role
from newapp.models import user_detail
from newapp.models import bank_Detail
from newapp.models import country
from newapp.models import state
from newapp.models import city
from newapp.models import user_address

# Register your models here.


class showrole(admin.ModelAdmin):
    list_display = ['UserTypeName']


admin.site.register(role, showrole)


class showuser_detail(admin.ModelAdmin):
    list_display = ['UserName', 'UserPassword', 'UserEmail', 'UserPhone', 'UserType', 'UserStatus']


admin.site.register(user_detail, showuser_detail)


class showbank_Detail(admin.ModelAdmin):
    list_display = ['UserId', 'BankName', 'cardNo', 'EndMonth', 'EndYear']


admin.site.register(bank_Detail, showbank_Detail)


class showcountry(admin.ModelAdmin):
    list_display = ['CountryName']


admin.site.register(country, showcountry)


class showstate(admin.ModelAdmin):
    list_display = ['CountryId', 'StateName']


admin.site.register(state, showstate)

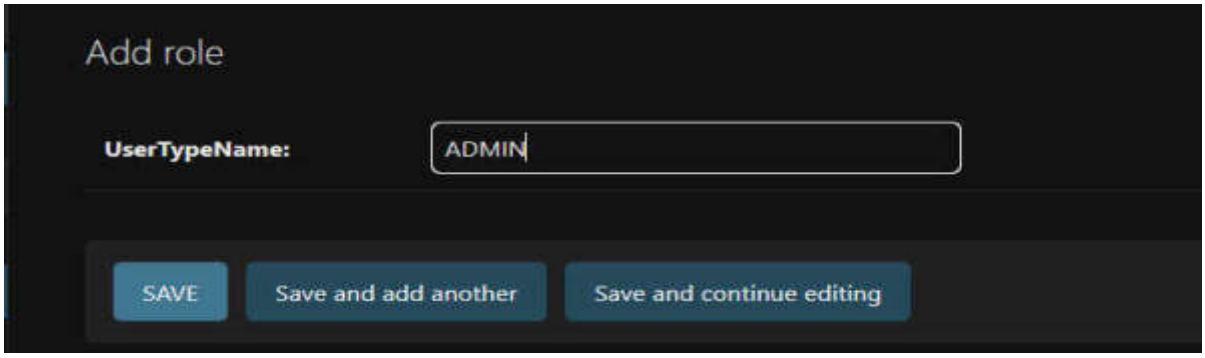

class showcity(admin.ModelAdmin):
    list_display = ['StateId', 'CityName']

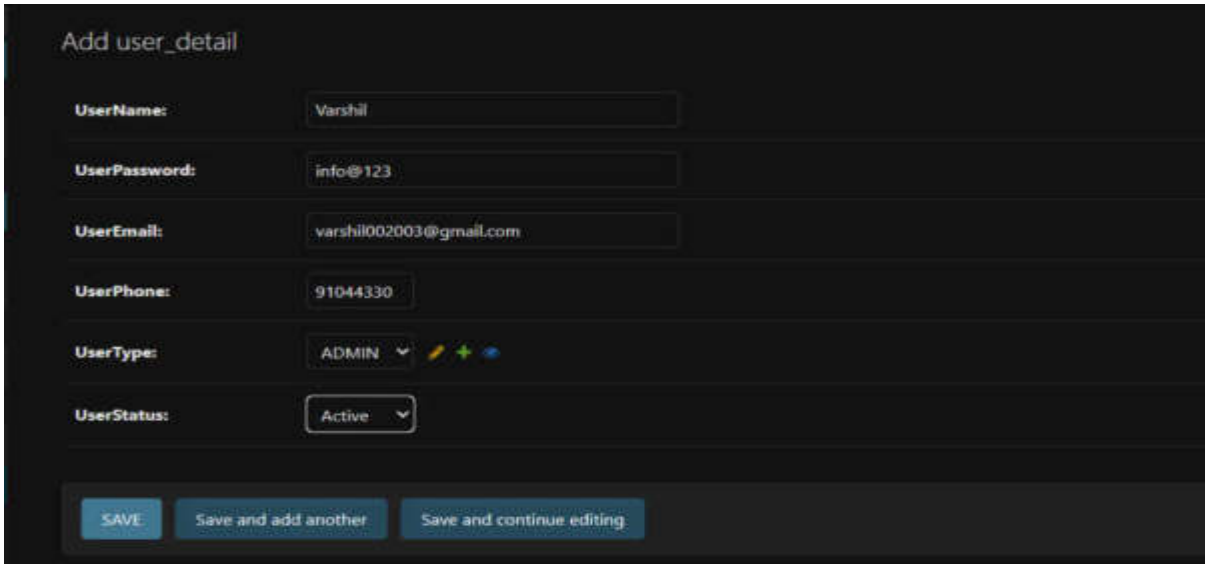

admin.site.register(city, showcity)
```

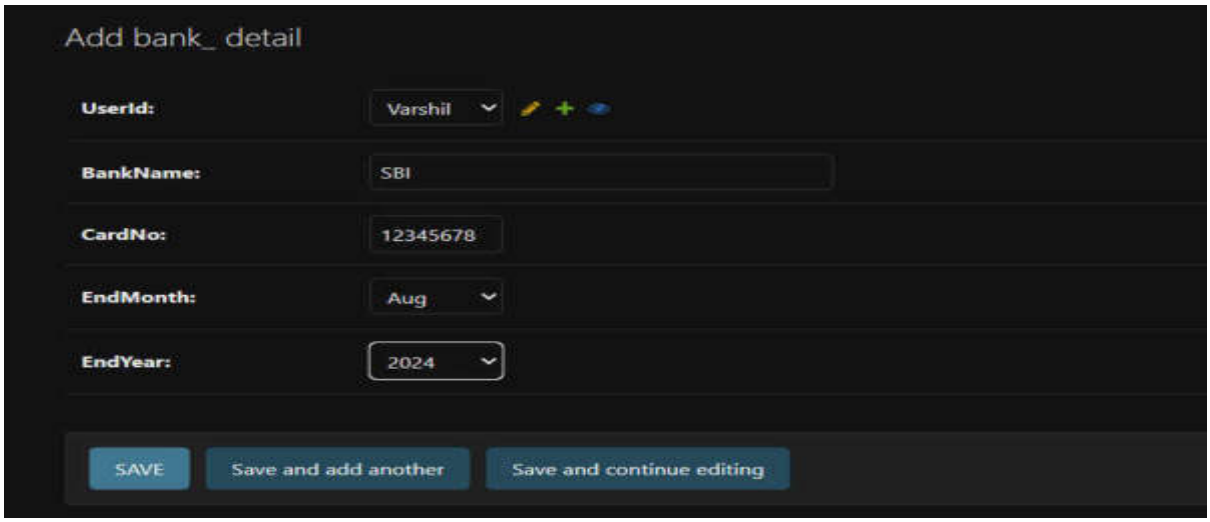
```
class showuser_address(admin.ModelAdmin):
    list_display = ['UserId', 'BuildingName', 'StreetName', 'CityName', 'Pincode']

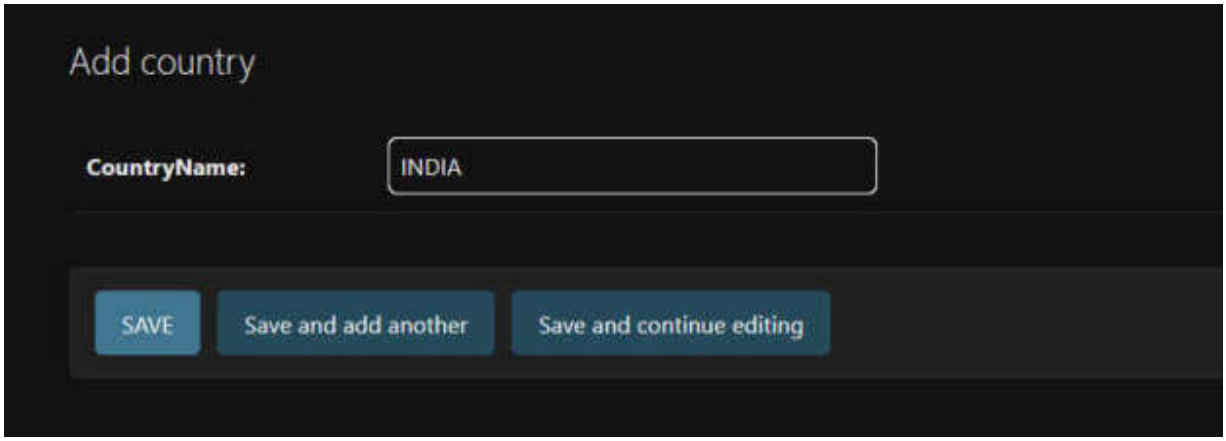

admin.site.register(user_address, showuser_address)
```

output:

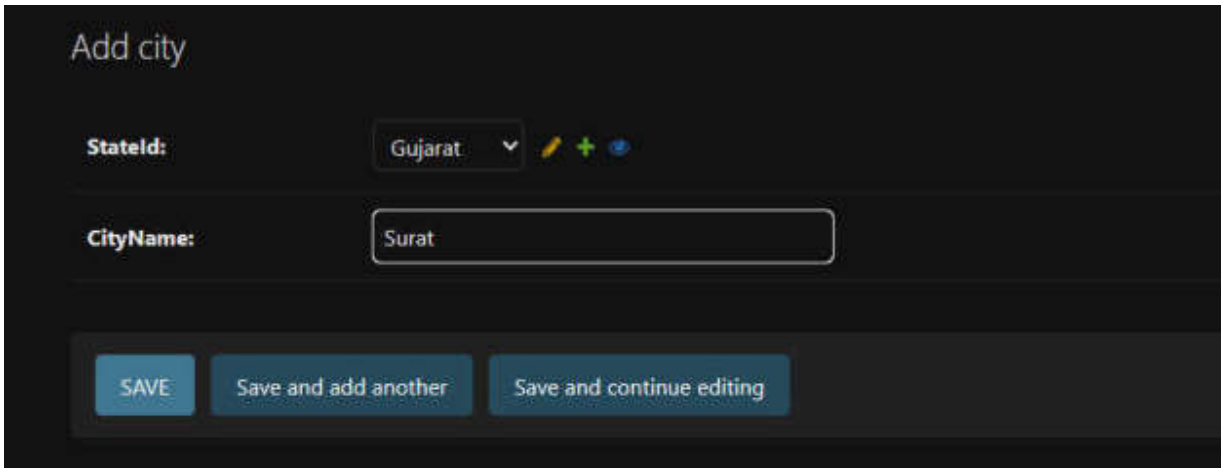


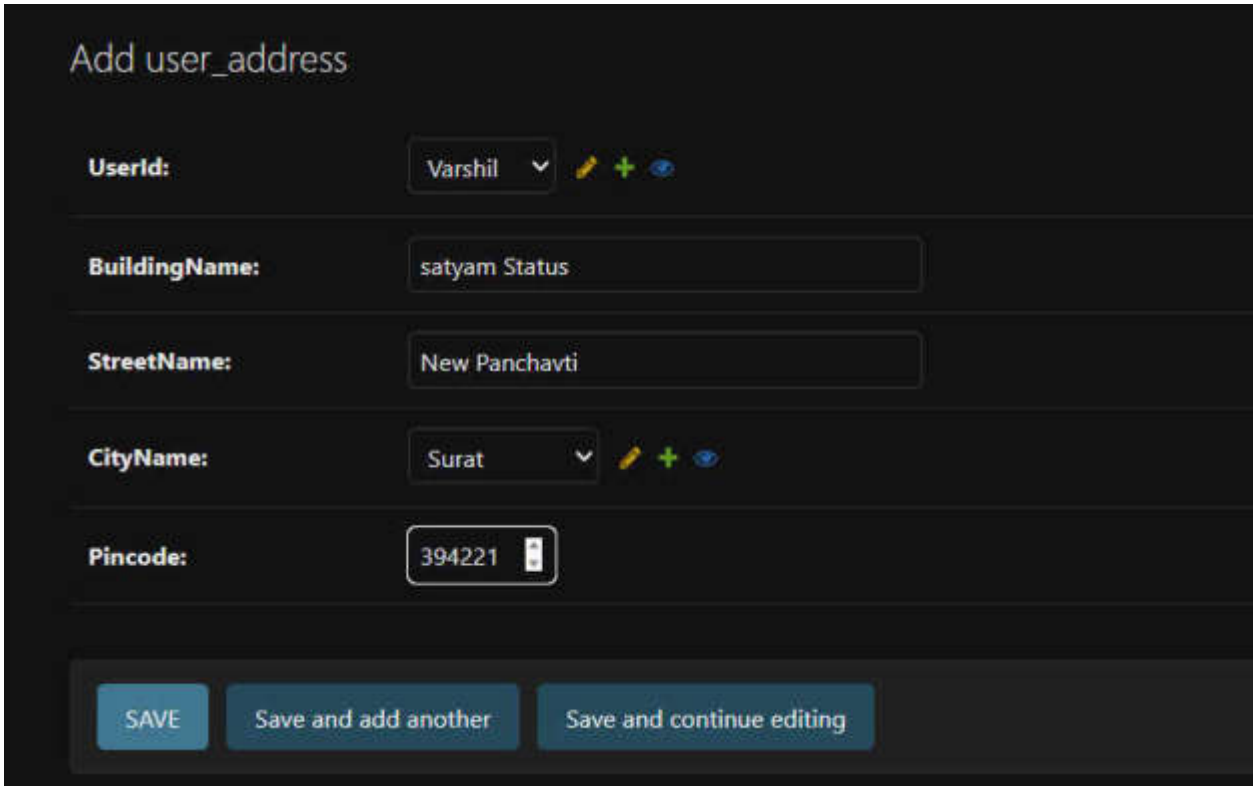


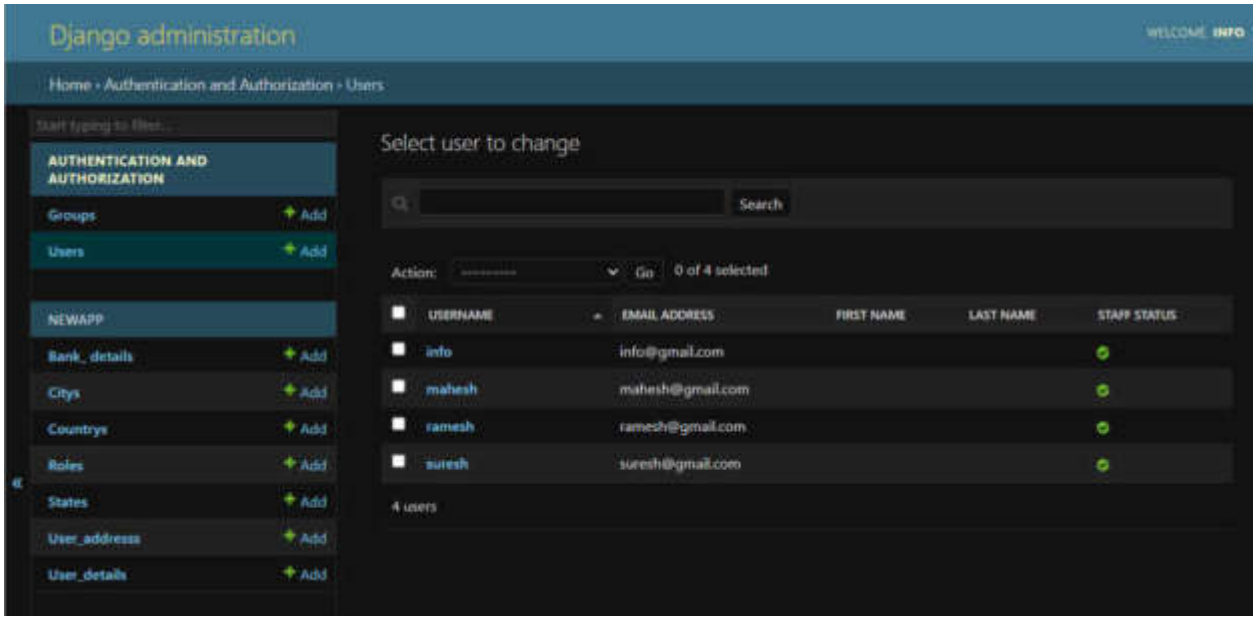



Add country
CountryName:
INDIA
SAVE
Save and add another
Save and continue editing


Add state
CountryId:
INDIA
StateName:
Gujarat
SAVE
Save and add another
Save and continue editing


Add city
StateId:
Gujarat
CityName:
Surat
SAVE
Save and add another
Save and continue editing


Add user_address
UserId:
Varshil
BuildingName:
satyam Status
StreetName:
New Panchavti
CityName:
Surat
Pincode:
394221
SAVE
Save and add another
Save and continue editing


Django administration
WELCOME, INFO
Home › Authentication and Authorization › Users
AUTHENTICATION AND AUTHORIZATION
Groups
Users
NEWAPP
Bank_details
Citys
Countrys
Roles
States
User_address
User_details
Add
Select user to change
Search
Action:
Go
0 of 4 selected
USERNAME
EMAIL ADDRESS
FIRST NAME
LAST NAME
STAFF STATUS
info
info@gmail.com
mahesh
mahesh@gmail.com
ramesh
ramesh@gmail.com
suresh
suresh@gmail.com
4 users

Week-2

- Day-1(03/03/2023)
  - Loading HTML Page in Django
  - Page Routing in Django

View.py

```
from django.shortcuts import render

# Create your views here.

def index(request):
    return render(request, 'index.html')


def about(request):
    return render(request, 'about.html')


def services(request):
    return render(request, 'services.html')


def portfolio(request):
    return render(request, 'portfolio.html')


def contact(request):
    return render(request, 'contact.html')
```

newapp\urls.py

```
from django.urls import path
from . import views

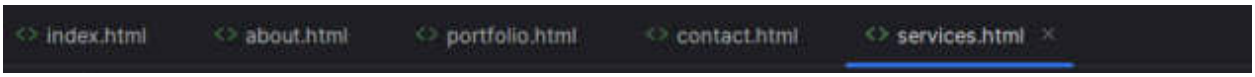
urlpatterns = [
    path('', views.index, name="indexfile"),
    path('aboutus', views.about, name="aboutusfile"),
    path('services', views.services, name="servicesfile"),
    path('portfolio', views.portfolio, name="portfoliofile"),
    path('contactus', views.contact, name="contactusfile")

]
```

infolabz/urls.py

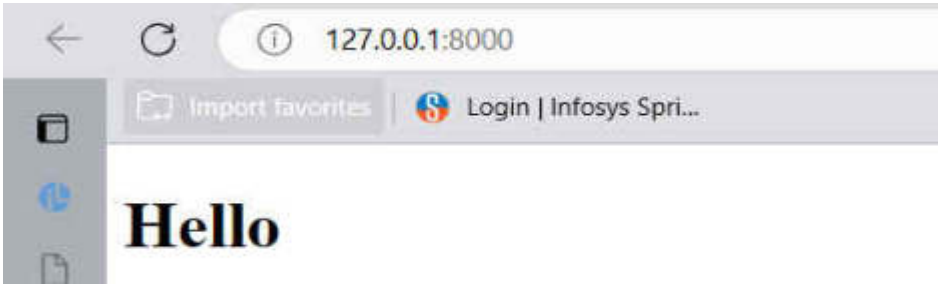
```
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('newapp.urls'))
]
```



index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Hello </h1>
</body>
</html>
```



about.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>

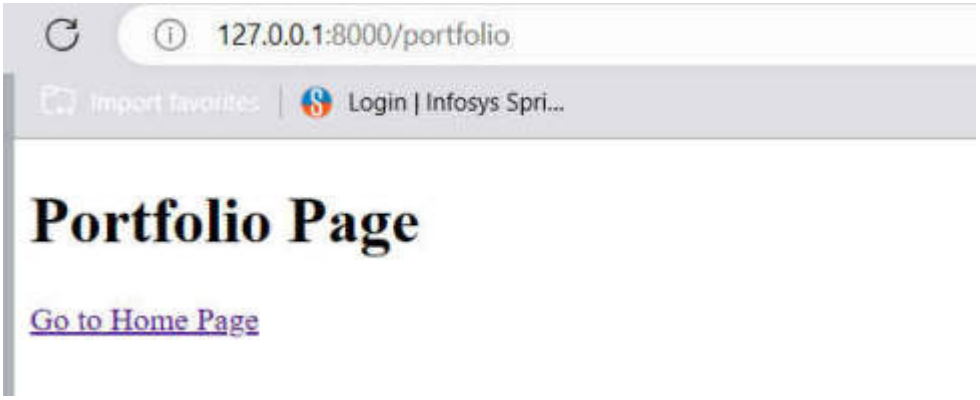
</head>
<body>
   <h1> About us page </h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
   <table border="2"  class="table table-dark">
      <tr>
         <th> Header 1 </th>
         <th> Header 2 </th>
         <th> Header 3 </th>
         <th> Header 4 </th>
         <th> Header 5 </th>
      </tr>
      <tr>
         <td> data1 </td>
         <td> data2 </td>
         <td> data3 </td>
         <td> data4 </td>
         <td> data5 </td>
      </tr>
       <tr>
```

```
        <td> data1.1 </td>
        <td> data2.1 </td>
        <td> data3.1 </td>
        <td> data4.1 </td>
        <td> data5.1 </td>
      </tr>
       <tr>
        <td> data1.2 </td>
        <td> data2.2 </td>
        <td> data3.2 </td>
        <td> data4.2 </td>
        <td> data5.2 </td>
      </tr>
   </table>
</body>
</html>
```



Portfolio.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Portfolio Page</h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```



Contact.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
      <h1> Contact Us page </h1>
      <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```

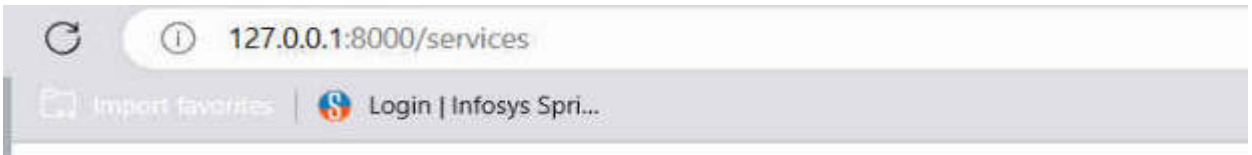


Contact Us page

Go to Home Page

Services.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Services Page </h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```



Services Page

Go to Home Page

- Day-2(04/08/2023)
  - Implementation of Static folder (CSS, JS & IMAGES) in Djnago
  - Bootstrap

Static folder

- Css

  style.css

```
h1{
color:red;
}
```

- Images

- js

  demo.js

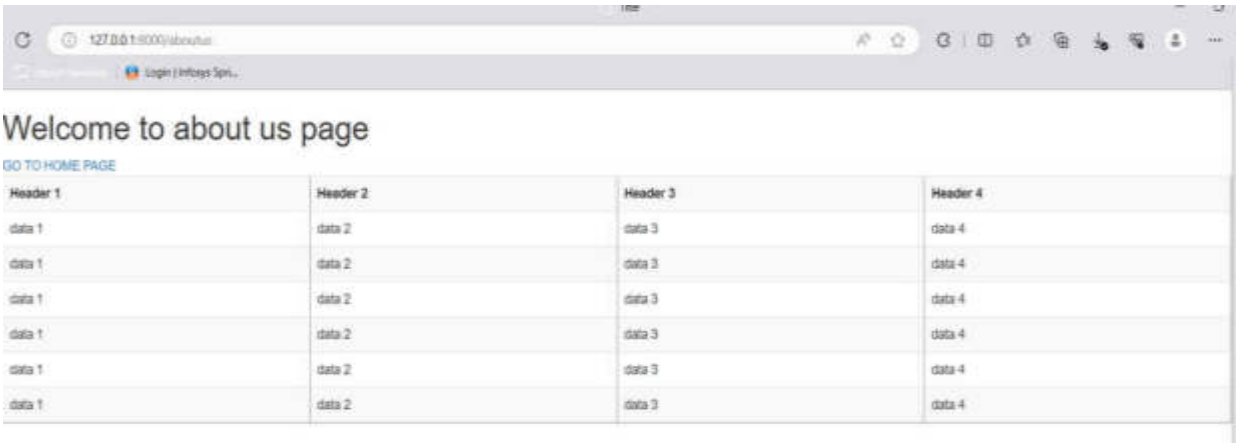
```
function viewmsg(){
   alert("IMAGE CLICKED");
}
```

index.html





About.html



- Bootstrap

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>

<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
```

- new\urls.py

```
from django.urls import path
from . import views

urlpatterns = [
    path('', views.index, name="indexfile"),
    path('aboutus', views.about, name="aboutusfile")
]
```

- infolabz\urls.py

```
from django.contrib import admin
from django.urls import path,include
```

```
urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('new.urls'))
]
```

➢ views.py

```
from django.shortcuts import render


# Create your views here.
def index(request):
    return render(request, 'index.html')


def about(request):
    return render(request, 'about.html')
```

- Day-3(07/08/2023)
  - Dictionary
  - Concept of APIs
  - Requests Package
  - API : Covid, Bitcoin, ISRO etc

dictionary.py

```
mydata = {"Ahmedabad": 100, "Surat": 200, "Rajkot": 300}
print(mydata["Rajkot"])
mydata1 = {"Ahmedabad": 100, "Surat": [200, 250, 1], "Rajkot": 300}
print(mydata1["Surat"][1])

mydata2 = {"Ahmedabad": [{"date": "5 Aug 2023", "cases": 15},
                  {"date": "6 Aug 2023", "cases": 25},
                  {"date": "7 Aug 2023", "cases": 35}],
```

```
        "Surat": [200, 250, 1],
        "Rajkot": 300}
print(mydata2["Ahmedabad"][1]["date"])
print(mydata.keys())
```



- Django provides a powerful framework for building APIs through various tools and libraries. The most commonly used package for building APIs in Django is Django REST framework (DRF). DRF provides a set of utilities and classes that simplify the process of creating RESTful APIs.

  Basic Terminologies :

1) Serializers: Serializers in DRF allow you to convert complex data types, such as Django models, into native Python data types, which can then be rendered into JSON or other content types. They also provide deserialization, allowing parsed data to be converted back into complex types, after first validating the incoming data. Serializers play a vital role in handling the translation between the database and the API.

2) Views: In DRF, views are classes that define the logic for handling different HTTP methods (GET, POST, PUT, DELETE, etc.) on different endpoints. These views work similarly to regular Django views but are tailored for API interactions. DRF provides a variety of built-in view classes that simplify tasks such as retrieving, creating, updating, and deleting data.

3) URL Routing: Just like in regular Django projects, you use URL routing to map URLs to specific views. DRF provides its own set of URL routing mechanisms that allow you to define the API endpoints and associate them with corresponding view classes.

4) Authentication and Permissions: DRF provides authentication and permission classes that allow you to control access to your API endpoints. You can implement various authentication methods such as token-based authentication, session authentication, or OAuth, and define permission levels like read-only, read-write, or custom permissions.

5) Pagination: APIs often deal with large datasets, so DRF includes pagination classes that help manage the amount of data returned by an API endpoint. This prevents overwhelming the client with too much data at once.

6) ViewSets and Routers: DRF includes the concept of ViewSets, which combines the logic for multiple HTTP methods related to a single resource into a single class. Routers help in automatically generating the URL patterns for these ViewSets, reducing the need for manual URL configuration.

7) Authentication: DRF supports various authentication mechanisms out of the box, including token-based authentication, session authentication, and basic authentication. This ensures that only authorized users can access your API endpoints.

8) Serialization of Data: DRF allows you to define serializers that handle the conversion between complex data types (such as Django models) and native Python data types (like dictionaries) that can be easily converted to JSON or other formats.

Requests Package:

1) Install Requests:
   - pip install requests

2) Import Requests:

- import requests

3) Sending HTTP Requests:

- import requests

```
url = "https://api.example.com/data"
response = requests.get(url)
print(response.status_code)
print(response.text)
```

- API : Covid, Bitcoin, ISRO etc:

- covid.py

```
import requests
url = requests.get("https://data.covid19india.org/data.json")
mydata = url.json()
print(mydata.keys())
print(mydata["cases_time_series"][0]["date"])
print(len(mydata["cases_time_series"]))
```



- bitcoin.py

```
import requests

url = requests.get("https://api.coindesk.com/v1/bpi/currentprice.json")
mydata = url.json()

print(type(mydata))
print(mydata["bpi"]["USD"]["rate"])
print(mydata.keys())
```


Run
bitcoin
"C:\Users\VARSHIL PATEL\venv\Scripts\python.exe" "C:\Users\VARSHIL PATEL\Downloads\pythonProject162\pythonProject162\bitcoin.py"
<class 'dict'>
29,335.5383
dict_keys(['time', 'disclaimer', 'chartName', 'bpi'])
Process finished with exit code 0

- Day-4(08/08/2023)
    - API Integration in Webpages using Django Framework

➢ The culmination of our arsenal of skills and resources is the Django framework-based integration of APIs into websites. We learn to manage the retrieval of data from APIs and smoothly render it within our HTML templates under the guidance of the web development principles. Through its views and template tags, the Django framework streamlines this connection and makes it easier for users to see dynamic content. We enter the world of practical implementation armed with knowledge of API endpoints, request techniques, and response types. We see the evolution of static websites into dynamic portals that react to real-time events, engage visitors with real-time data, and unleash the possibility for limitless innovation as we integrate APIs with our webpages.

- Day-5([09/08/2023]&[10/08/2023])
  - Assignment project task
  - Project : Real time news website using inshorts API
  - Project and Conlusion

1) Start new project as a news :
   django-admin startproject news .

2) Start new app categories
   django-admin startapp categories

3) News/settings.py

```
'categories.apps.CategoriesConfig'
```

4) Categories/urls.py

```
from django.urls import path
from . import views

urlpatterns = [
    path('', views.index, name="headlines")
]
```

5) news/urls.py

```
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('categories.urls'))
]
```

6) views.py

```
from django.shortcuts import render
import requests
```

```
# Create your views here.
def index(request):
    records = {}
    url = requests.get("https://inshorts.me/news/all?offset=0&limit=21")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, 'index.html', records)
```

7) templates/index.html

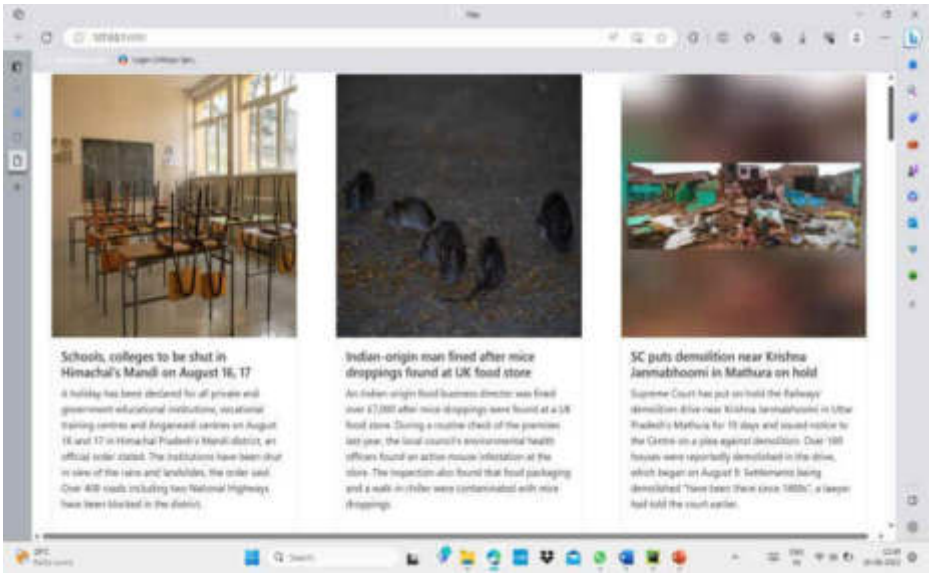
```
<!DOCTYPE html>

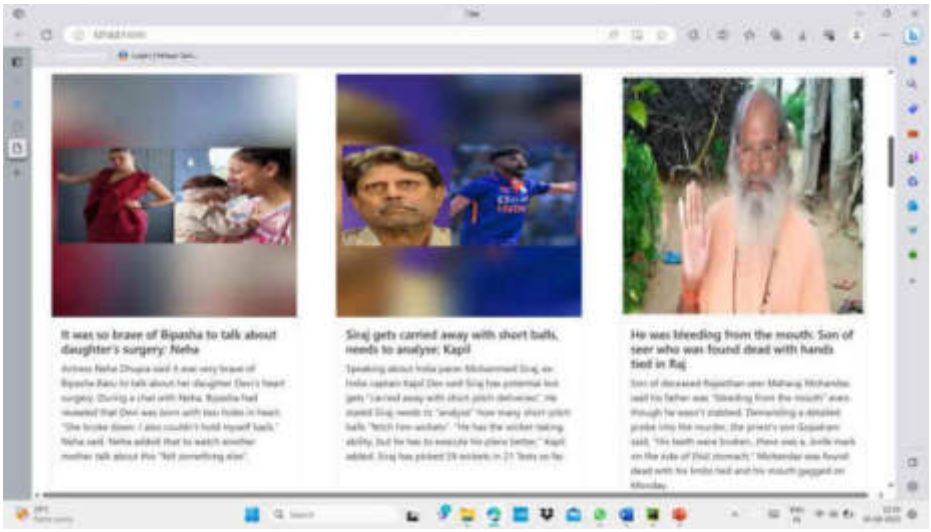
<html lang="en">
    <head>
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
1BmE4kWBq78iYhFldvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3" crossorigin="anonymous">
        <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js" integrity="sha384-
ka7Sk0Gln4gmd2MlQnikT1wXgYsOg+OMhuP+IlRH9sENBO0LRn5q+8nbTov4+1p" crossorigin="anonymous"></script>
        <meta charset="UTF-8">
        <title>Title</title>
    </head>
<body>

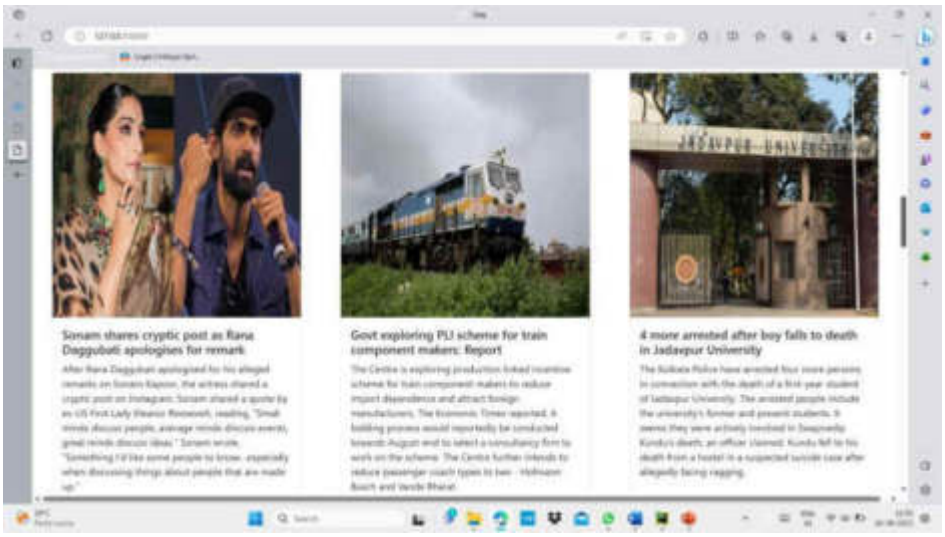
<!-- <div class="container">-->
<div class="row">
    <div calss="container">
    <div class="card-group" >
        {% for value in sportsdata.data.articles %}
        <div class="col-md-4">
            <div class="card" style="margin: 2rem; height: 45rem">
                <img src="{{ value.imageUrl }}" class="card-img-top" alt="Image"
style="height:25rem">
                <div class="card-body">
                    <h5 class="card-title">{{ value.title }}</h5>
```

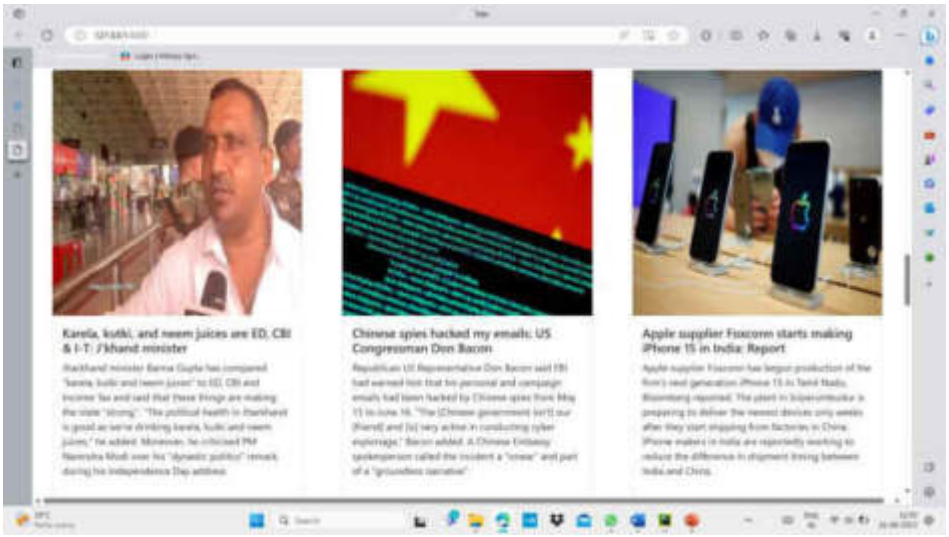
```
                <p class="card-text">{{ value.content }} </p>
              </div>
            </div>
          </div>
          {% endfor %}
      </div>
        </div>
</div>
<!-- </div>-->
</body>
</html>
```

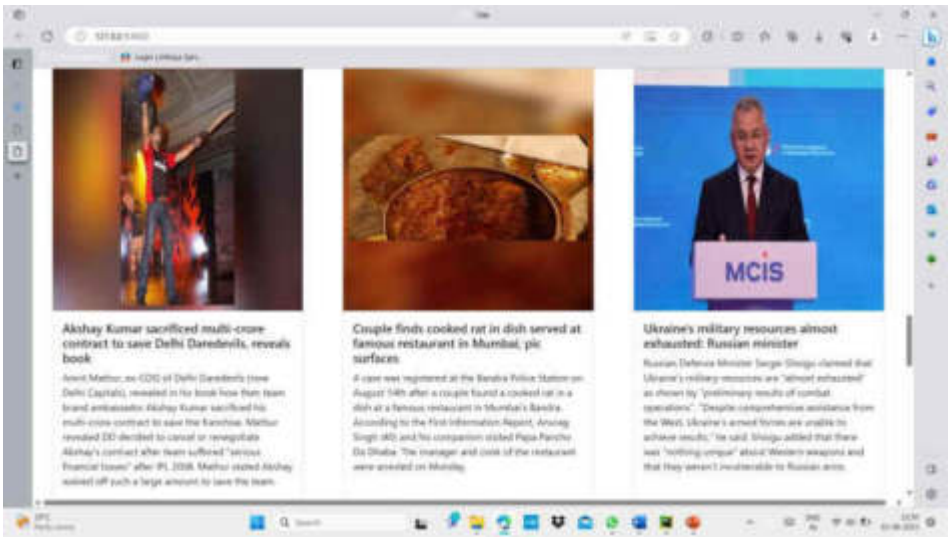
Output :

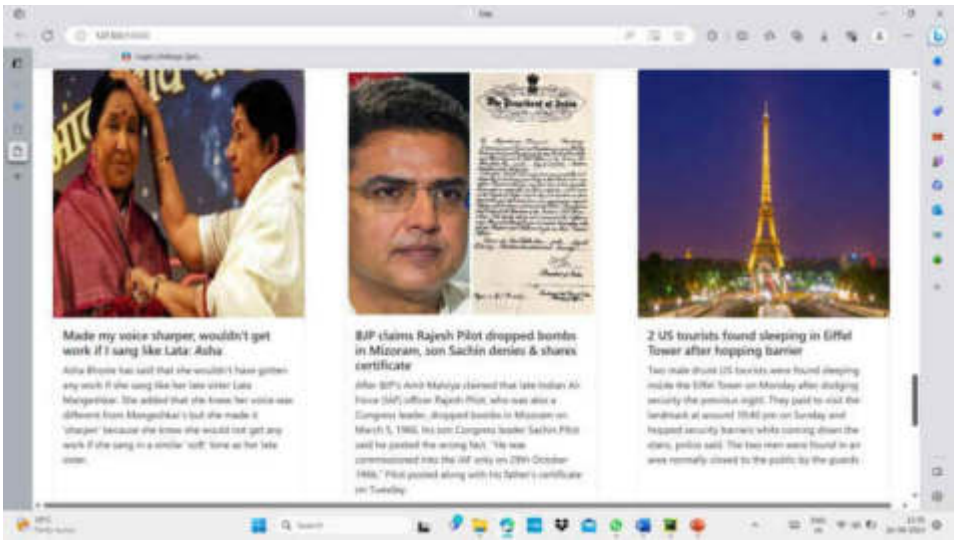


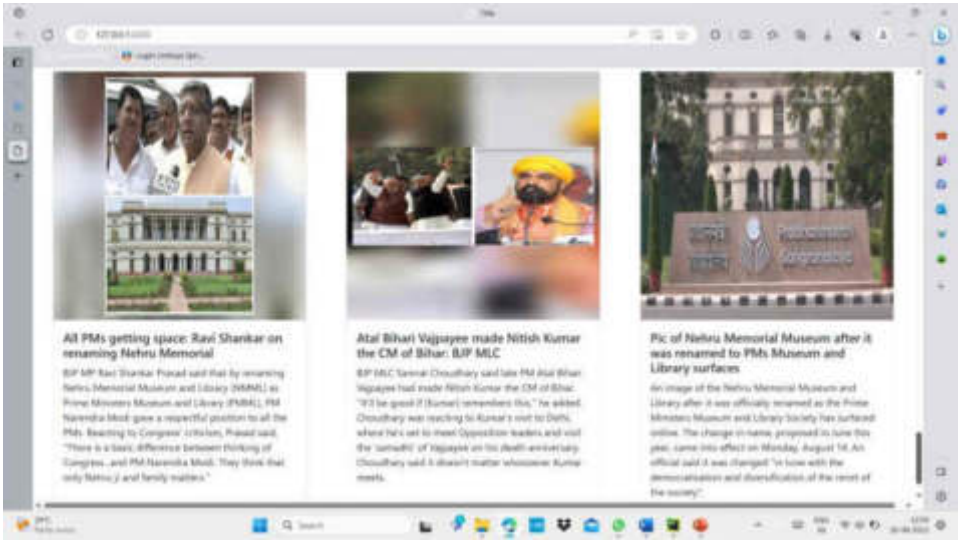



Sonam shares cryptic post as Rana Daggubati apologises for remark
Govt exploring PLI scheme for train component makers: Report
4 more arrested after boy falls to death in Jadavpur University


Karela, kutki, and neem juices are ED, CBI & I-T: J'khand minister
Chinese spies hacked my emails: US Congressman Don Bacon
Apple supplier Foxconn starts making iPhone 15 in India: Report


Akshay Kumar sacrificed multi-crore contract to save Delhi Daredevils, reveals book
Couple finds cooked rat in dish served at famous restaurant in Mumbai, pic surfaces
Ukraine's military resources almost exhausted: Russian minister
MCIS


Made my voice sharper, wouldn't get work if I sang like Lata: Asha
BJP claims Rajesh Pilot dropped bombs in Mizoram, son Sachin denies & shares certificate
2 US tourists found sleeping in Eiffel Tower after hopping barrier


All PMs getting space: Ravi Shankar on renaming Nehru Memorial
Atal Bihari Vajpayee made Nitish Kumar the CM of Bihar: BJP MLC
Pic of Nehru Memorial Museum after it was renamed to PMs Museum and Library surfaces

INTERNSHIP AT ONGC

AN INTERNSHIP REPORT

Submitted by

JINANG C. SUKHADIYA

200390116006

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at OIL AND NATURAL GAS CORPORATION LTD. (ONGC)** has been carried out by **Jinang C. Sukhadiya** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Akshay Kansara

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

ओएनजीसी
ONGC
ऑयल एण्ड नेचुरल गैस कॉरपोरेशन लिमिटेड
Oil and Natural Gas Corporation Limited
मेहसाना परिसम्पत्ति / Mehsana Asset
के.डी.एम. भवन, पालावासना, मेहसाना - ३८४ ००३ / KDM Bhavan, Palavasana, Mehsana - 384 003
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TO WHOM IT MAY CONCERN

This is to certify that Mr./Ms. Sukhadiya Jinang C., a student of B.E. (IT) of S.P.B. Patel Engineering College, Linch, has completed internship at ONGC Mehsana Asset in Infocom Services. The duration of the internship was from 27.07.2023 to 10.08.2023.

We hope his time spent at ONGC Mehsana Asset was fruitful. We wish him all the success in his future.

Date: 23.08.2023

OIL AND NATURAL GAS CORPORATION LTD.

(Hemant Kumar)
GM (HR)
हेमंत कुमार / HEMANT KUMAR
महाप्रबंधक (मा.सं.) / General Manager (HR)
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ENGINEERING COLLEGE
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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at ONGC** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Nancy Soni** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Jinang C. Sukhadiya**	

ACKNOWLEDGMENT

I would like to express my sincere gratitude and appreciation to the entire team at Oil and Natural Gas Corporation (ONGC) for providing me with the opportunity to undergo a rewarding 15-day internship in the InfoCom Department. I extend my heartfelt thanks to my mentor, Mr. Shrikant sir, for his invaluable guidance and dedicated efforts in imparting his knowledge of the Networking, Bootable OS, and Php Laravel Framework. His support and mentorship played a pivotal role in enhancing my understanding and skills in web development. I am also thankful to the entire InfoCom department for their support, teaching, constant encouragement, and the collaborative learning environment, they provided throughout my internship journey. The experience gained during this internship has undoubtedly contributed to my personal and professional growth, and I am truly grateful for the insights and practical exposure that I have gained.

Abstract

This report contains the work done by the author during his internship at ***ONGC***. It shows the work I did in the company during my internship period. In the report, the author discusses how the Ubuntu and Php Laravel framework operate and works. The author also discusses the structure of the company, all the departments and their work. It also explains what the author learned during this internship period.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Maharatna ONGC is the largest crude oil and natural gas Company in India, contributing around 71 per cent to Indian domestic production. Crude oil is the raw material used by downstream companies like IOC, BPCL, HPCL and MRPL (Last two are subsidiaries of ONGC) to produce petroleum products like Petrol, Diesel, Kerosene, Naphtha, and Cooking Gas LPG.

ONGC has a unique distinction of being a company with in-house service capabilities in all areas of Exploration and Production of oil & gas and related oil-field services. Winner of the Best Employer award, this public sector enterprise has a dedicated team of around 27,000 professionals who toil round the clock in challenging locations.

ONGC Videsh Limited, a Miniratna Schedule "A" Central Public Sector Enterprise (CPSE) of the Government of India under the administrative control of the Ministry of Petroleum & Natural Gas, is the wholly owned subsidiary and overseas arm of Oil and Natural Gas Corporation Limited (ONGC), the flagship national oil company (NOC) of India. The primary business of ONGC Videsh is to prospect for oil and gas acreages outside India, including exploration, development and production of oil and gas. ONGC Videsh owns Participating Interests in 35 oil and gas assets in 15 countries and produced about 30.3% of oil and 23.7% of oil and natural gas of India's domestic production. In terms of reserves and production, ONGC Videsh is the second largest petroleum company of India, next only to its parent ONGC.

ONGC subsidiary Mangalore Refinery and Petrochemicals Limited (MRPL) is a schedule 'A' Miniratna, Central Public Sector Enterprise (CPSE) under the Ministry of Petroleum & Natural Gas. The 15.0MMTPA (Million Metric Ton per annum) Refinery has got a versatile design with complex secondary processing units and a high flexibility to process Crudes of various API, delivering a variety of quality products. MRPL, with its parent company Oil and Natural Gas Corporation Limited (ONGC), owns and operates ONGC Mangalore Petrochemicals Limited (OMPL), a petrochemical unit capable of producing 0.905 MMTPA of Para Xylene and 0.273 MMTPA of Benzene.

ONGC subsidiary HPCL is a Maharatna CPSE. HPCL has the second largest share of product pipelines in India with a pipeline network of more than 3370 kms for transportation of petroleum products and a vast marketing network consisting of 14 Zonal offices in major cities and 133 Regional Offices facilitated by a Supply & Distribution infrastructure comprising Terminals, Pipeline networks, Aviation Service Stations, LPG Bottling Plants, Inland Relay Depots & Retail Outlets, Lube and LPG Distributorships. Consistent excellent performance has been made possible by a highly motivated workforce of over 9,500 employees working all over India at its various refining and marketing locations.

1.2 MISSION AND VISION OF THE COMPANY:

Vision

To be a global leader in integrated energy business through sustainable growth, knowledge excellence and exemplary governance practices.

Mission

World Class

- Dedicated to excellence by leveraging competitive advantages in R&D and technology with involved people.
- Imbibe high standards of business ethics and organizational values.
- Abiding commitment to safety, health and environment to enrich quality of community life.
- Foster a culture of trust, openness and mutual concern to make working a stimulating and challenging experience for our people.
- Strive for customer delight through quality products and services.

Integrated in Energy Business

- Focus on domestic and international oil and gas exploration and production business opportunities.
- Provide value linkages in other sectors of energy business.
- Create growth opportunities and maximize shareholder value.

Dominant Indian Leadership

- Retain a dominant position in the Indian petroleum sector and enhance India's energy availability.

Carbon Neutrality

- Strive to reduce CO2 emissions across the activity chain with the objective of achieving carbon neutrality.

Chapter 2: Week 1 (27/07/2023 , 28/07/2023)

2.1 Basics of Networks(Switch):

In the initial two days, I observed different switches and gained in-depth knowledge about L2 and L3 managed and un-managed switches of JUNOS OS, D-Link, and Cisco, comprehending their operational mechanisms and data transmission processes. Furthermore, we extensively covered various cable connections, exploring their interconnections and functionalities. Notably, during this period, we had the opportunity to observe the Juniper L3 switch in action.

- **L1 Switch (Physical Layer):** Connects devices within a network and manages the physical connections, like plugging devices into sockets.
- **L2 Switch (Data Link Layer):** Uses MAC addresses to forward data within a local network, like directing traffic within a single neighborhood.
- **L3 Switch (Network Layer):** Routes data between different networks using IP addresses, like guiding traffic between different cities or regions.

2.2 Juniper L3 switch:

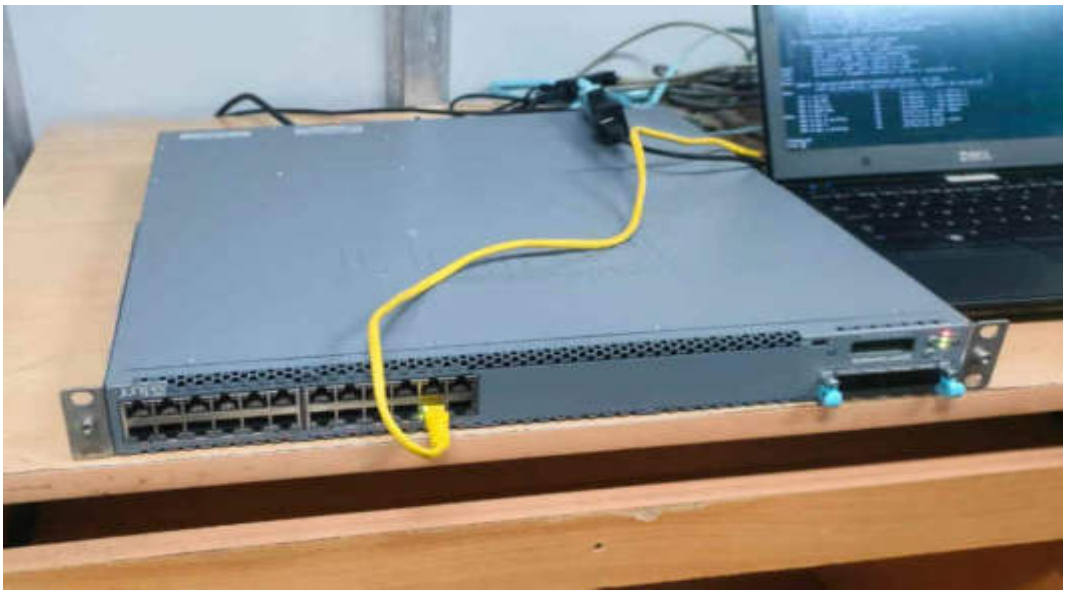


Fig:2.1 Live Juniper L3 switch



Fig:2.2 Juniper L3 switch

Juniper Networks is a well-known networking equipment manufacturer that produces a wide range of networking devices, including routers, switches, and security appliances. Juniper's L3 (Layer 3) switches are designed to operate at the network layer of the OSI model, enabling them to perform routing functions and make forwarding decisions based on IP addresses.

Juniper L3 switches, like many other networking devices, consist of several key components that work together to provide routing and switching capabilities. While the specific components may vary based on the model and series of the Juniper L3 switch, here are some common parts typically found in Juniper L3 switches:

1. Processor (CPU): The processor is the brain of the switch, responsible for executing control plane functions, handling routing protocols, and managing the switch's overall operation.
2. Memory: Various types of memory are used in a Juniper L3 switch, including RAM (Random Access Memory) for temporary data storage and caching, and flash memory for storing the operating system and configuration files.
3. Switching Fabric: The switching fabric is a high-speed internal bus or architecture that allows data packets to be switched and forwarded between different ports and interfaces.
4. Network Interfaces: These are the physical ports on the switch that connect to devices, servers, routers, and other networking equipment. They can include Ethernet ports of different speeds (e.g., 1Gbps, 10Gbps, 40Gbps, 100Gbps) and may support various types of connectors (e.g., RJ-45, SFP, QSFP).
5. Routing Engine: The routing engine handles control plane functions, including running routing protocols, maintaining routing tables, and making routing decisions.

6. ASICs (Application-Specific Integrated Circuits): ASICs are specialized hardware components designed to accelerate specific networking functions. In an L3 switch, ASICs may be used to perform packet forwarding, routing lookups, and other processing tasks, improving performance and efficiency.

7. Power Supply Units (PSUs): These components provide electrical power to the switch. High-end switches may have redundant power supply units for increased reliability.

8. Cooling System: Juniper L3 switches are equipped with fans and cooling mechanisms to maintain optimal operating temperatures and prevent overheating.

9. Management Interfaces: These interfaces allow network administrators to configure, monitor, and manage the switch. They can include console ports, Ethernet management ports, and out-of-band management options.

10. Operating System (Junos): Juniper L3 switches run the Junos operating system, which provides the software framework for routing, switching, security, and management features.

11. CLI (Command Line Interface) and Management Software: Network administrators use the CLI and management software to configure the switch, monitor its performance, and troubleshoot issues.

12. Redundancy Features: High-end Juniper L3 switches often include redundancy features such as Virtual Chassis or Virtual Chassis Fabric, which allow multiple switches to operate as a single logical unit, enhancing fault tolerance and availability.

working of juniper L3 switch:

1. Routing Intelligence: A Juniper L3 switch starts by knowing where different parts of the network are located. It compiles a list of paths (routing table) that tells it the best ways to reach different destinations.

2. Packet Checkpoint: When data arrives, the switch checks its "address label" (destination IP) to figure out where it should go.

3. Smart Decision: Using its routing table, the L3 switch decides the quickest path for the data. Imagine choosing the fastest route on a map.

4. Physical Address: If the data needs to go to another "neighborhood" (subnet), the switch finds the recipient's "house number" (MAC address) through a quick lookup (ARP).

5. Packet Packing: The switch carefully wraps the data in a new package with the correct "neighborhood address" (MAC). It's like putting the data in the right envelope.

6. Onward Journey: The switch then sends the newly packaged data on its way, following the optimal path it selected earlier.

7. VLAN Magic: If there are different "parts of town" (VLANs), the L3 switch can help the data travel between them, like building virtual bridges.
8. Traffic Control: The switch can act like a traffic cop, using rules (ACLs) to allow or stop data based on instructions.
9. Priority Treatment: To keep things fair, the switch can also give important data a "green light" (QoS), ensuring it gets through quickly.

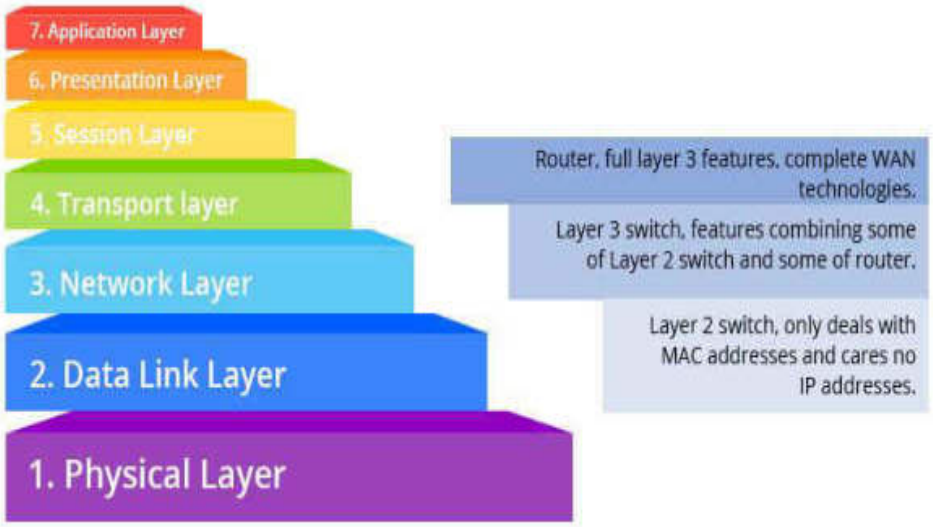


Fig:2.3 OSI Layer

Chapter 3: Week 2 (31/07/2023 To 04/08/2023)

3.1 Learning of Language

- We started our work with a new OS which is Ubuntu, Ubuntu is a Linux-based operating system. I booted Windows and Ubuntu in my laptop, and set up everything inside Ubuntu. I Install all necessary things like VSCode, Xampp, Nmap, Chrome, etc. inside Ubuntu.



Fig:3.1 Ubuntu



Fig:3.2 php

- We learn the basics of php, because our main task is to update the website(dpr), store data in the database, fetching data from database and maintain all the dpr(Daily Production Report) of ONGC. and all the dpr we have to update using laravel language which is the framework of php.

- php:- PHP is a widely-used scripting language designed for web development and server-side programming. It boasts a user-friendly syntax that simplifies creating dynamic and interactive web applications. PHP operates seamlessly with HTML, allowing developers to embed PHP code directly within web pages. It supports variables, enabling the storage of data, and employs data types such as integers, strings, and arrays. Control structures like loops and conditional statements facilitate decision-making and iterative processes.

  One of PHP's standout features is its robust support for database interaction. It can effortlessly connect to various databases, enabling the storage and retrieval of data. Functions and libraries are integral to PHP, offering pre-built code snippets for common tasks. Moreover, PHP's object-oriented capabilities empower developers to structure code logically and reuse components. The language also facilitates seamless file manipulation, making it easy to read, write, and modify files. In essence, PHP serves as a versatile tool for crafting dynamic web applications, boasting features like form handling, session management, and secure authentication mechanisms.

- now we learn about **Laravel** framework:



Fig:3.3 Laravel

Laravel is a sophisticated and widely-used PHP web framework renowned for its elegant design and developer-friendly features. Operating on the Model-View-Controller (MVC) architectural pattern, Laravel facilitates the organization of code into distinct components: Models, responsible for data handling and interaction with databases; Views, managing the presentation layer; and Controllers, governing application logic and user interactions.

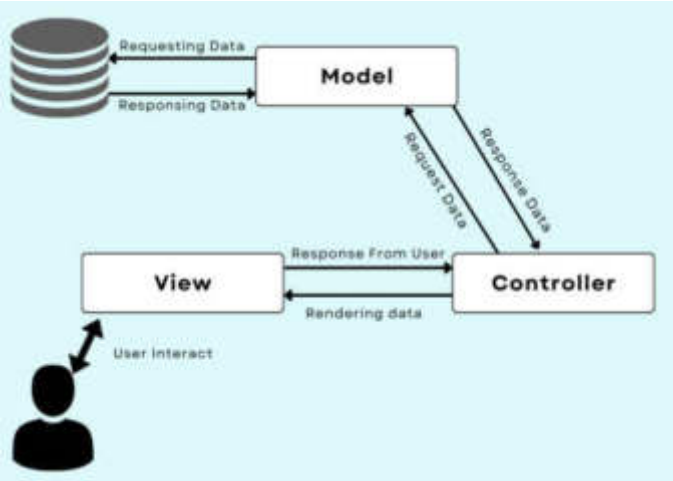


Fig:3.4 MVC Architecture

Beyond its architectural prowess, Laravel comes equipped with a multitude of built-in tools and functionalities that expedite web development. Its routing system provides a straightforward way to define endpoints and handle HTTP requests, while the Blade tempting engine offers expressive and reusable views. Laravel's authentication and security mechanisms ensure the safeguarding of user data, while the Eloquent ORM simplifies database interactions through an intuitive, object-oriented syntax.

Furthermore, Laravel's extensive ecosystem is enriched by Composer, a package manager that allows seamless integration of third-party libraries. Its vibrant community continually contributes to the framework's growth and evolution, offering a wealth of resources, tutorials, and forums. Overall, Laravel empowers developers to create feature-rich and

maintainable web applications efficiently, making it a preferred choice within the realm of modern web development.



Fig:3.5 phpMyAdmin

- We are working with a **phpmyadmin** tool for managing and administering MySQL or MariaDB databases. Developed in PHP, phpMyAdmin provides a web-based interface that enables users to perform a wide range of database-related tasks, including creating, modifying, and deleting databases, tables, and records, as well as executing SQL queries, importing and exporting data, and managing user privileges. Its intuitive interface makes it accessible to both beginners and experienced database administrators, facilitating efficient database management without requiring extensive knowledge of command-line tools.

3.2 WELL COMPLITION AND TESTING (DPR):

login1.blade.php:

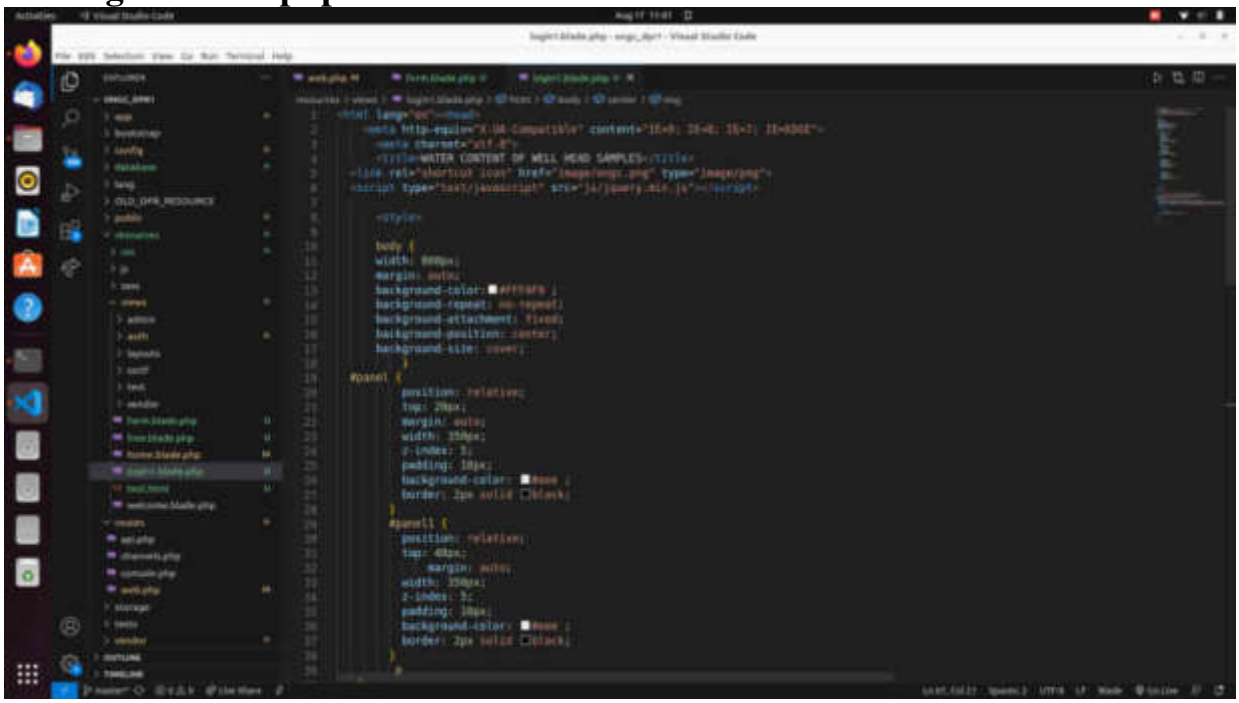


Fig:3.6 login1 Page

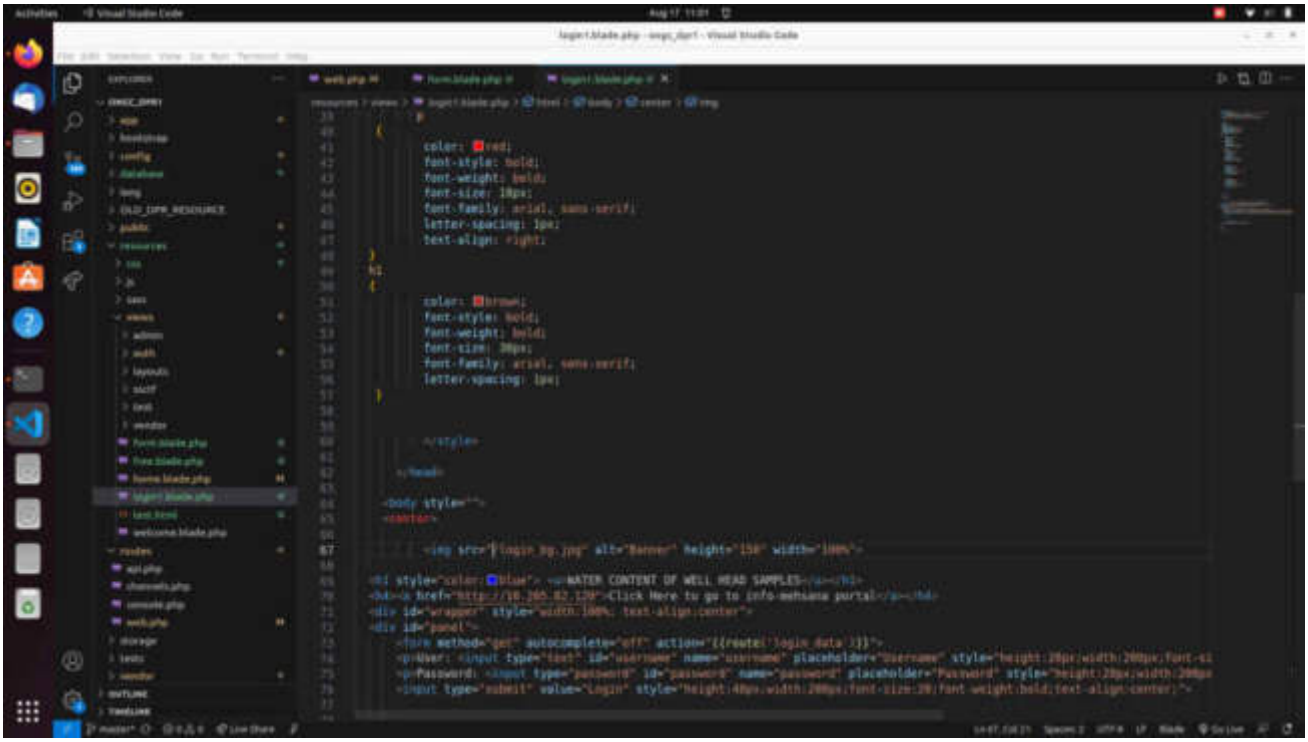


Fig:3.7 login1 Page

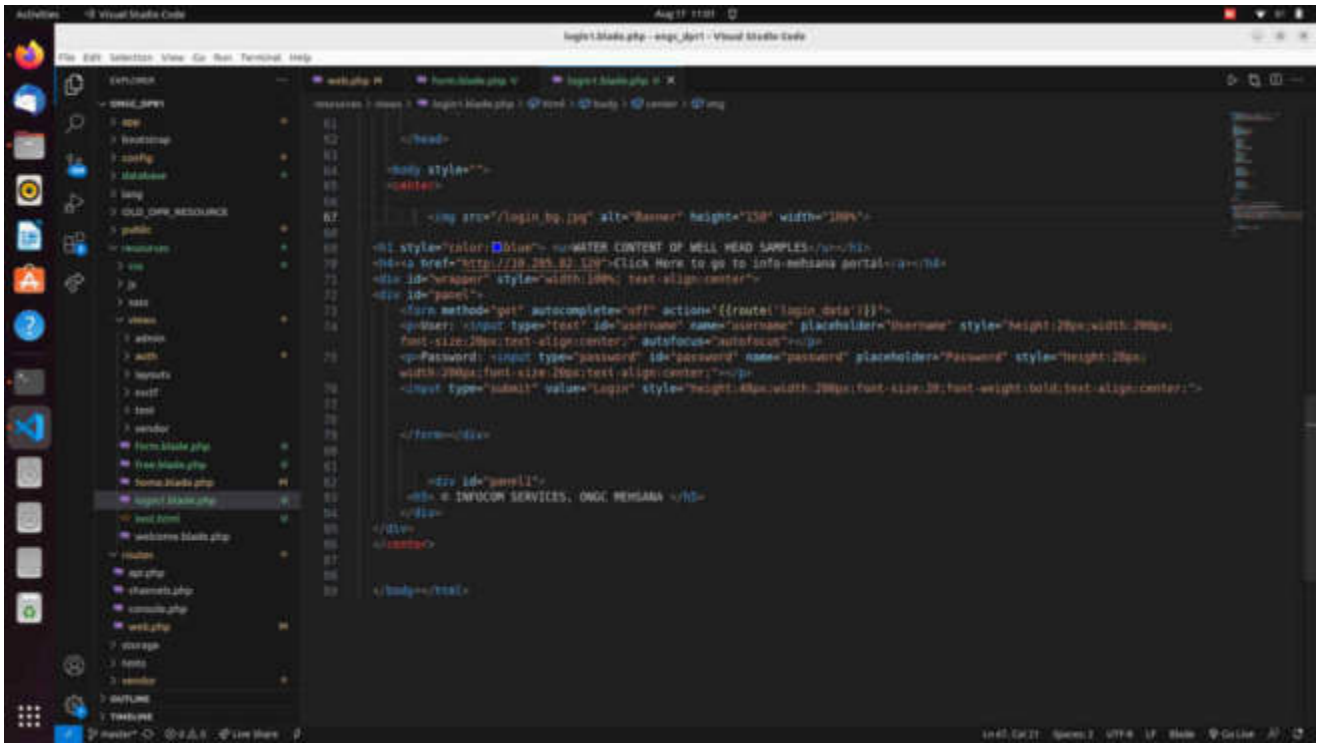


Fig:3.8 login1 Page

form.blade.php:

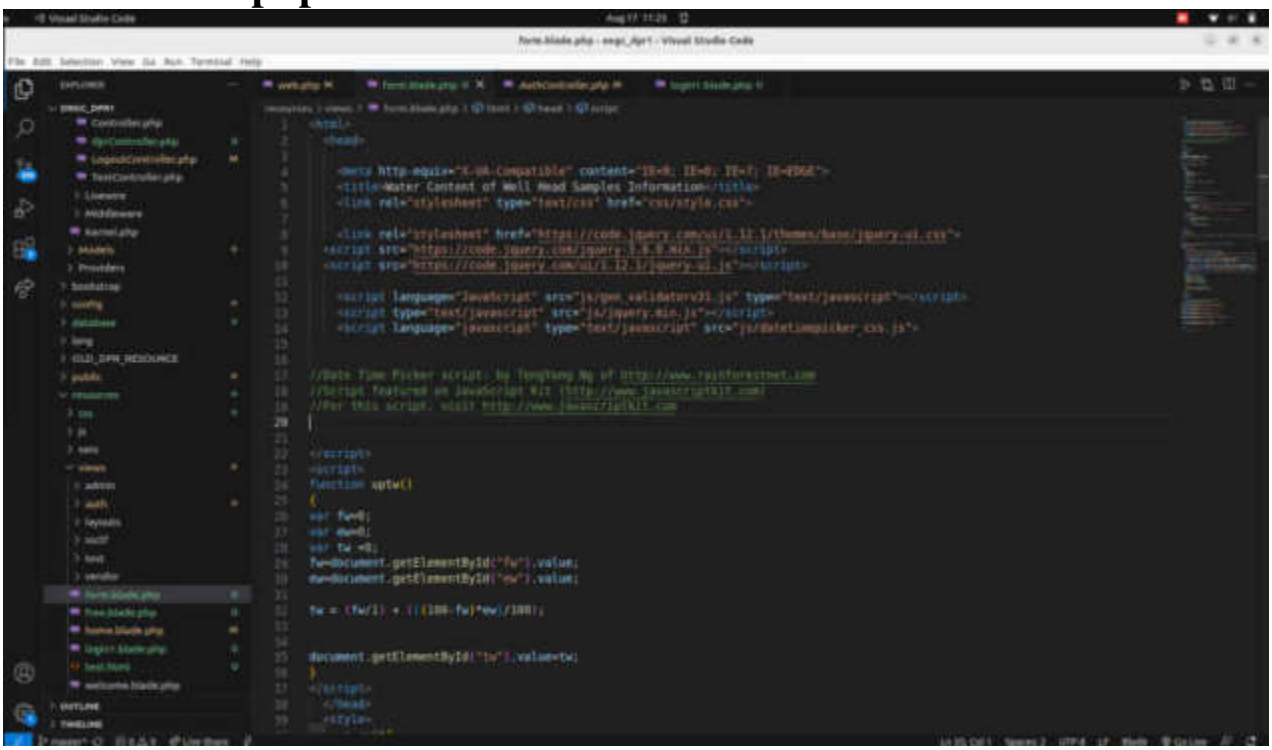


Fig:3.9 form Page

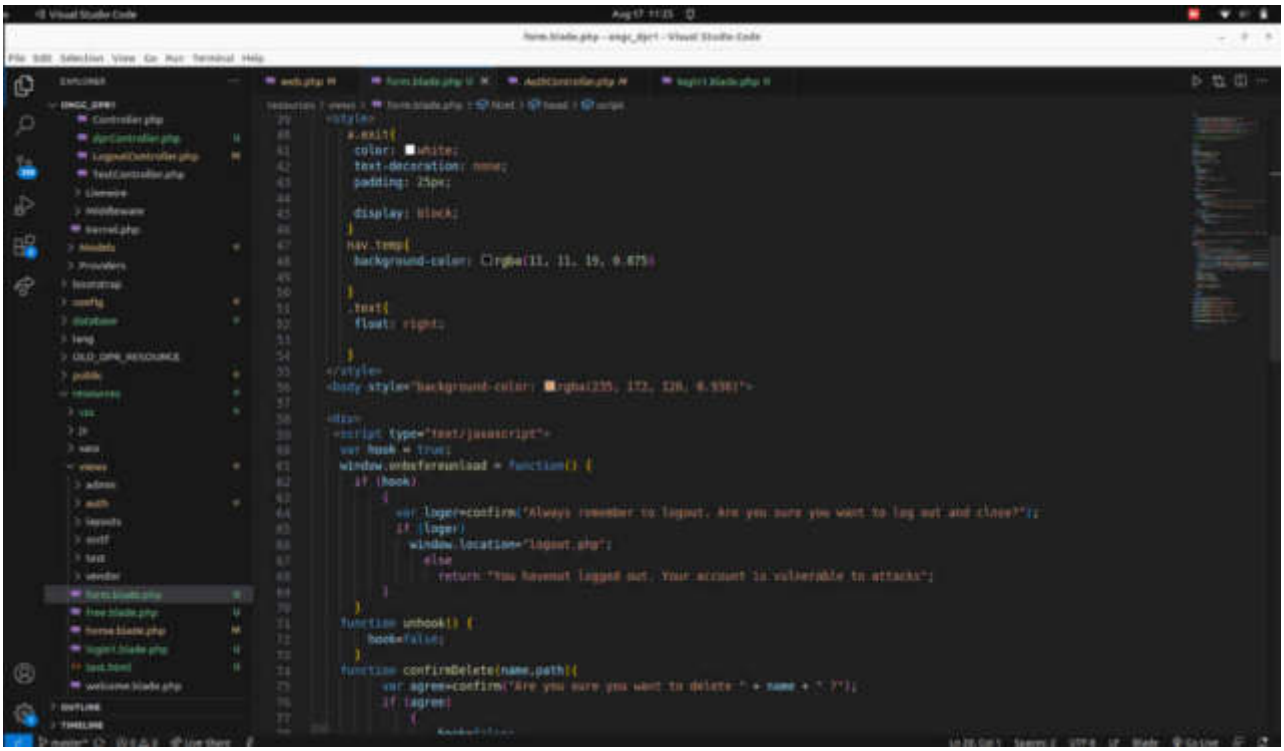


Fig:3.10 form Page

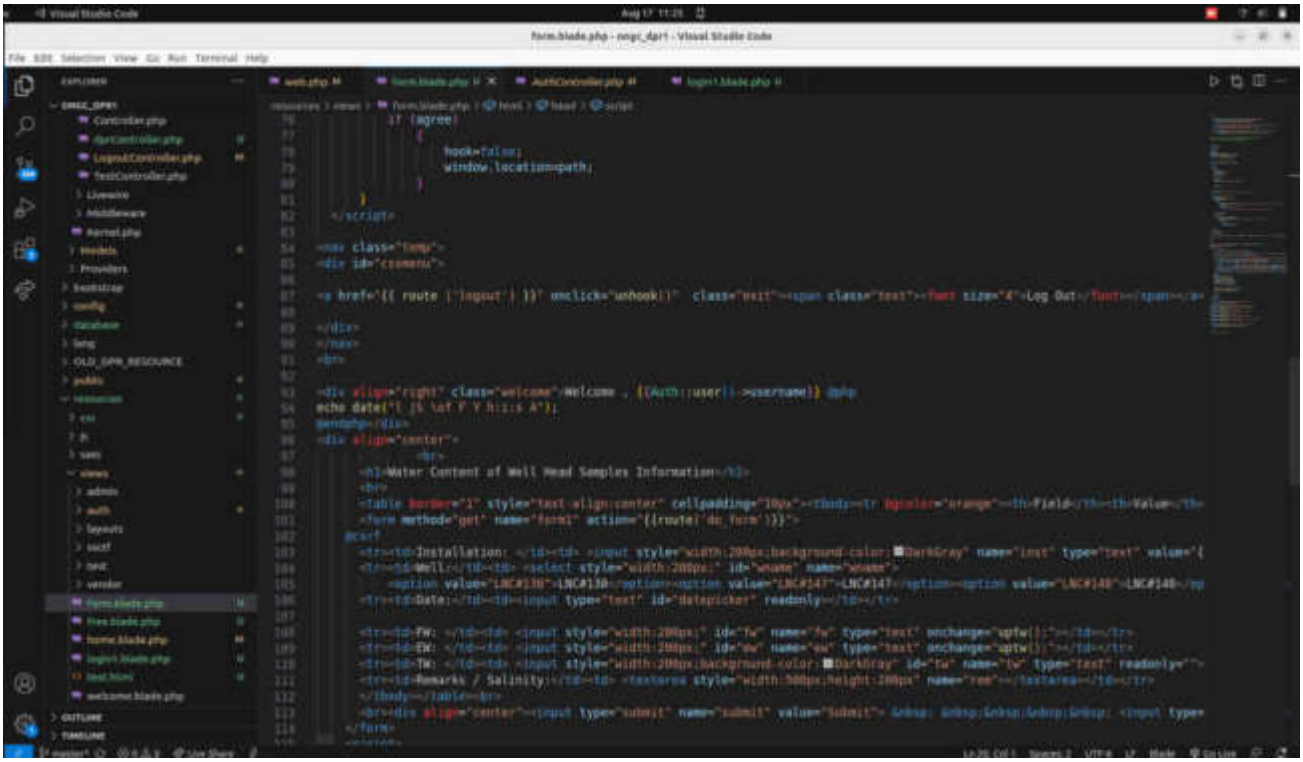


Fig:3.11 form Page

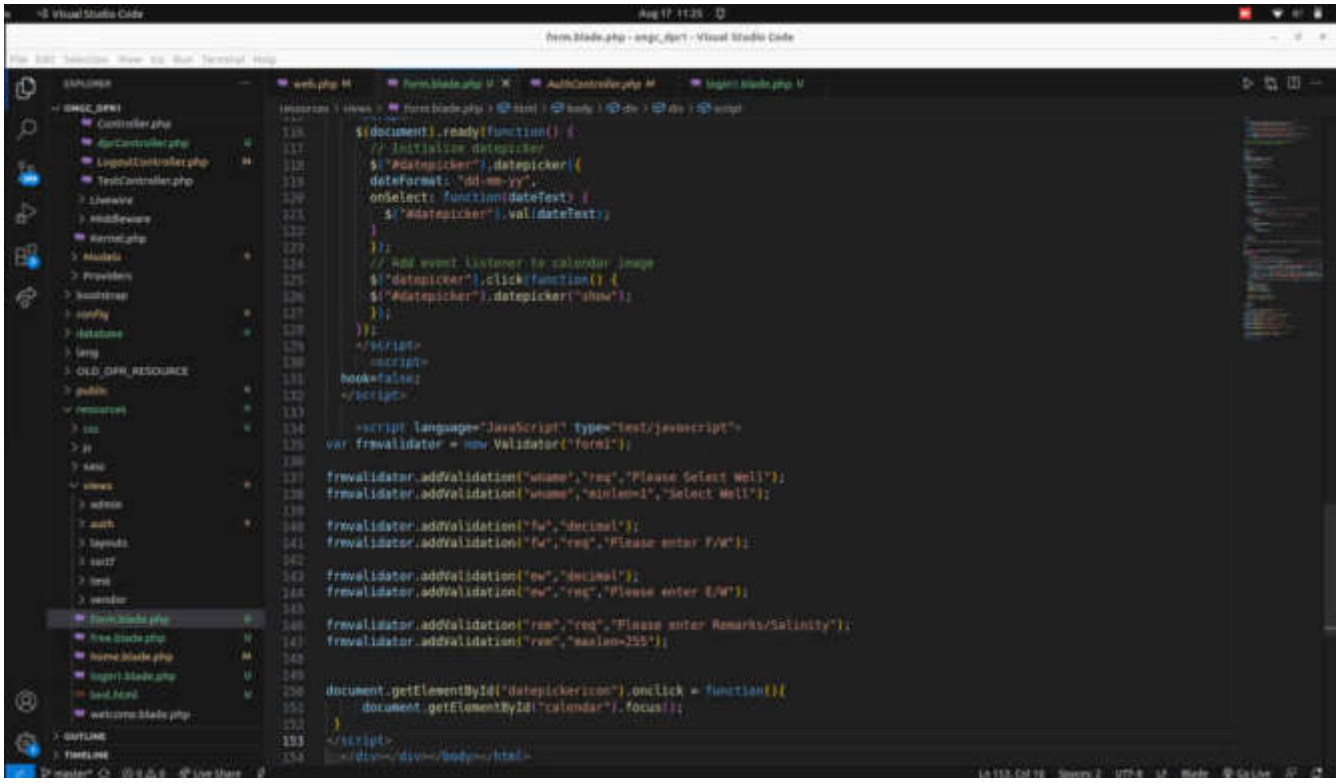


Fig:3.12 form Page

web.php:

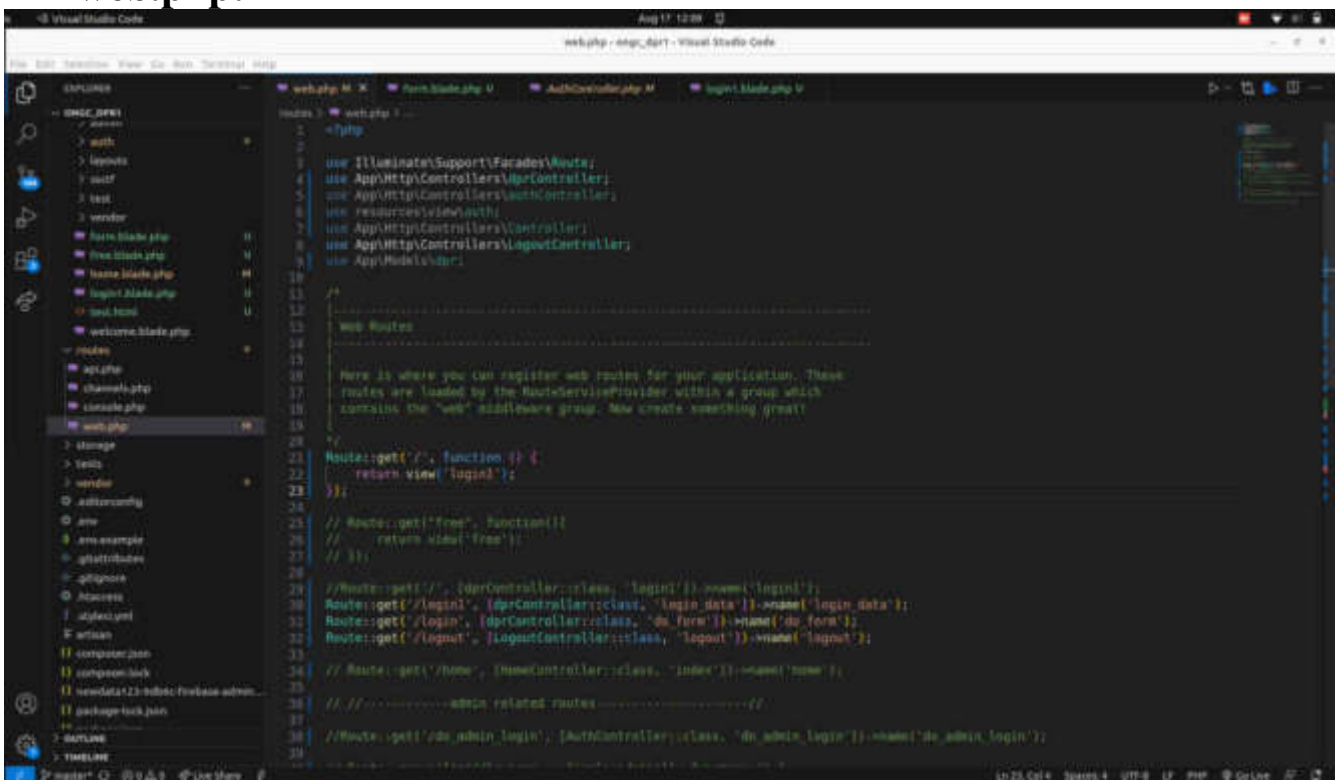


Fig:3.13 Web Page

dprController.php:

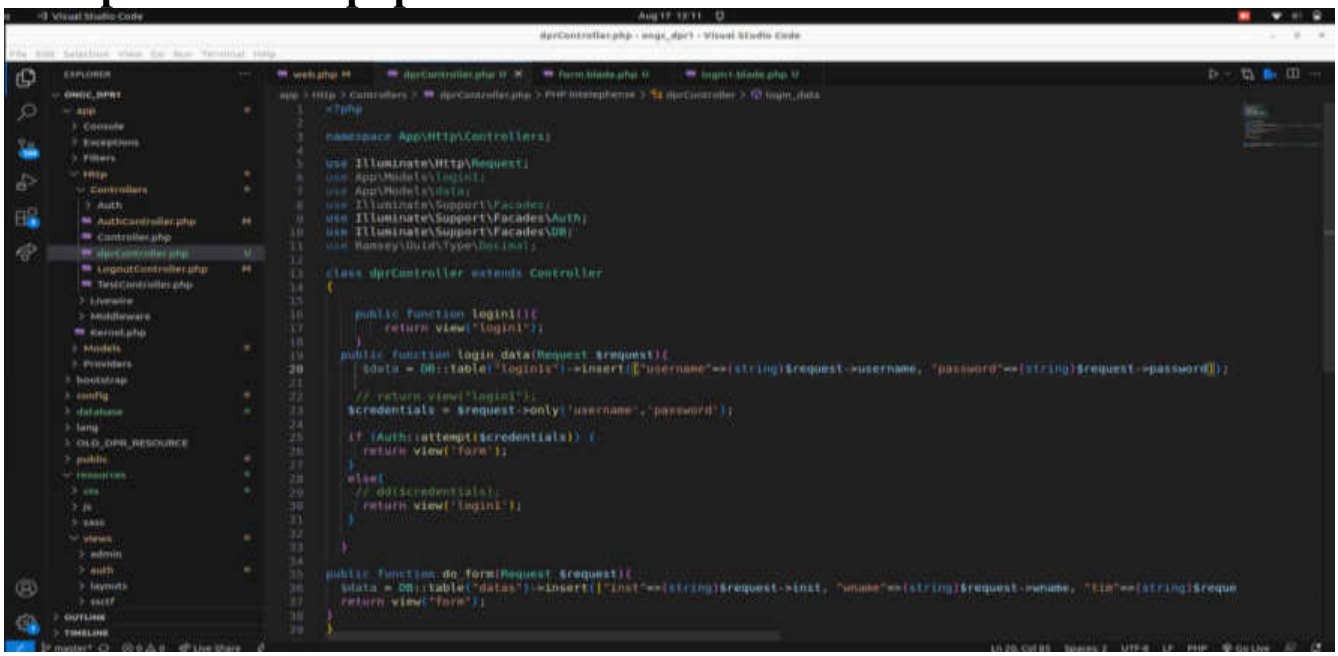


Fig:3.14 dprController Page

logoutController.php:

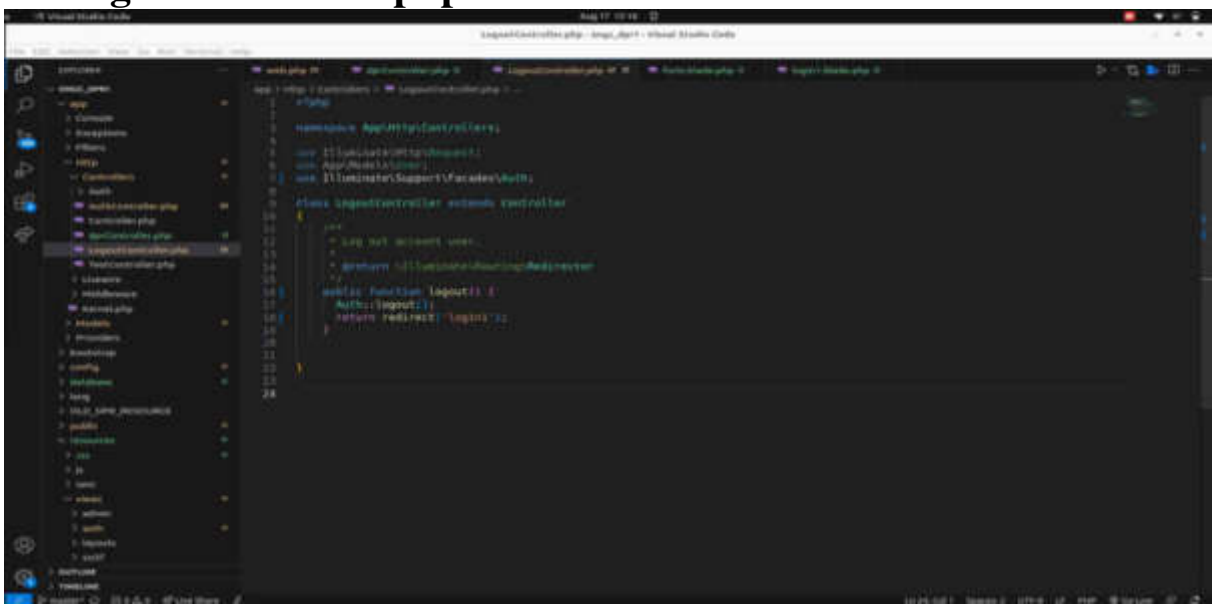


Fig:3.15 logoutController Page

phpMyAdmin:

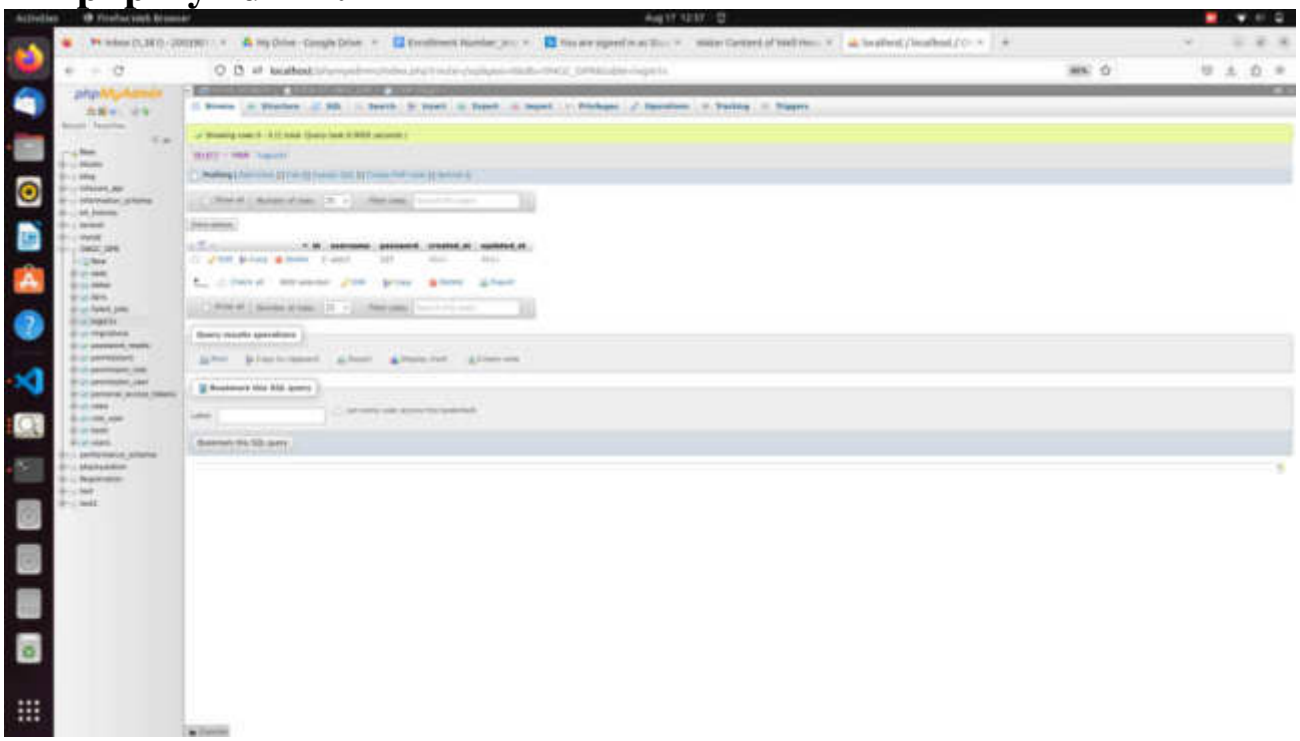


Fig:3.16 login data page

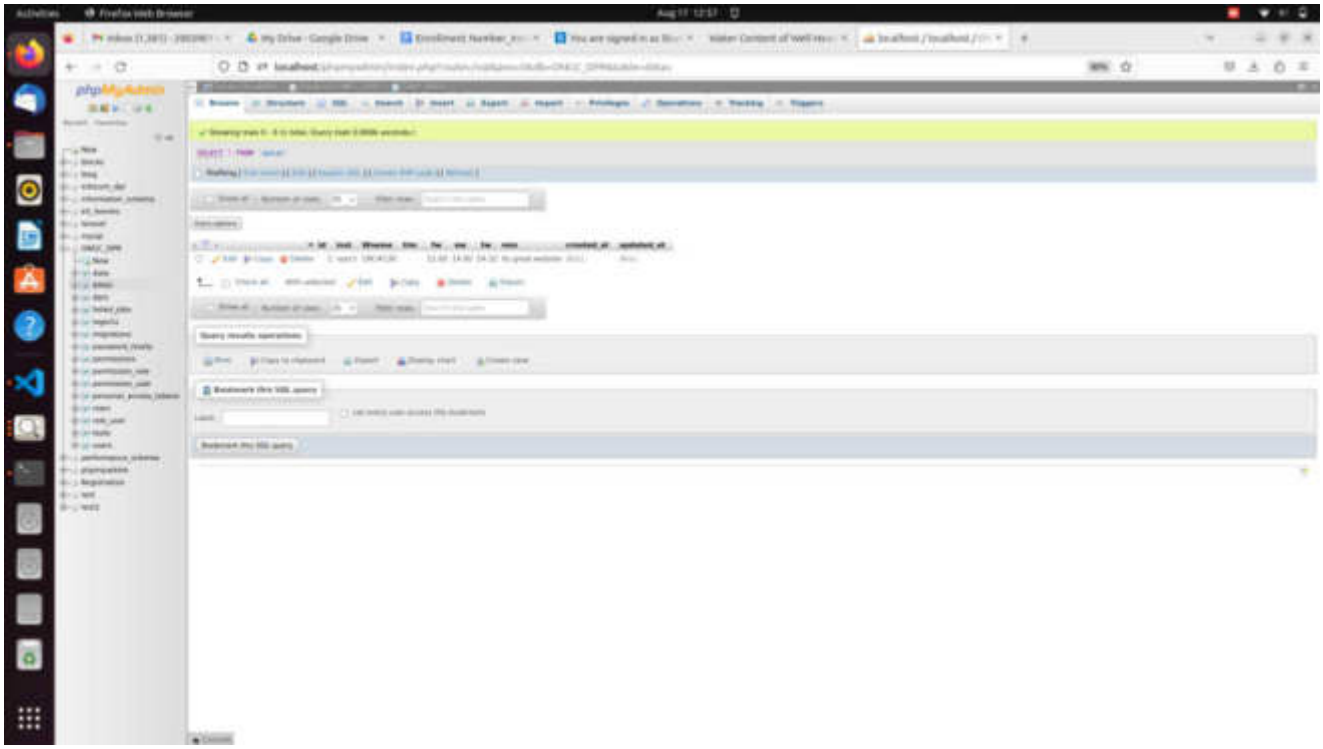


Fig:3.17 form data page

Chapter 4: Week 3 (07/08/2023 To 10/08/2023)

4.1 Nmap with Ubuntu:

In the last week of Internship, I learned and install the Nmap in Windows and Ubuntu both. In Ubuntu I install it in terminal with command “sudo apt-get install Nmap”. Now if we want to check the version of Nmap then we have to write the command “Nmap –version”.

Here Sudo refer to the Super User Do. It means command run by Super User. I learned and practice the different commands to check the host is up or down, ports are open or closed, and which OS is running on their pc. I was trying to connect all the device to one network and then I check the open and close ports, their MAC address and host is up or down.

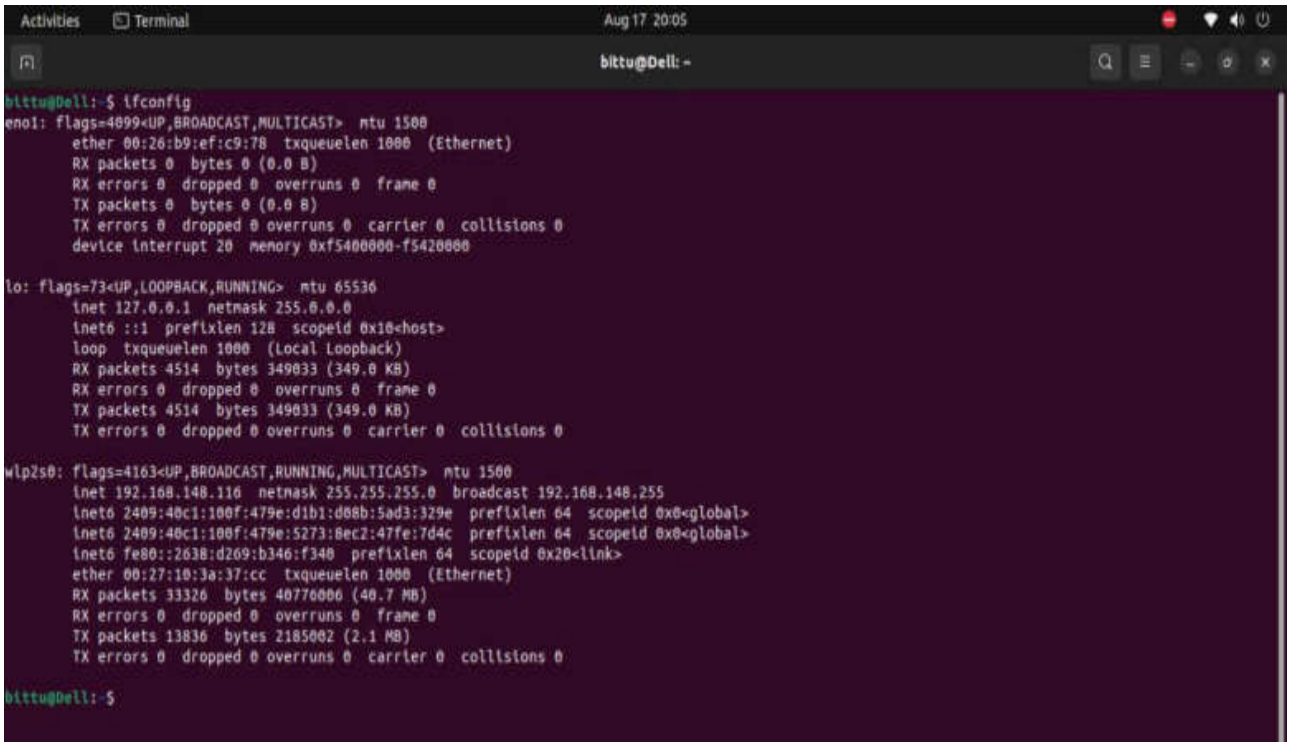


Fig:4.1 Find IP of PC

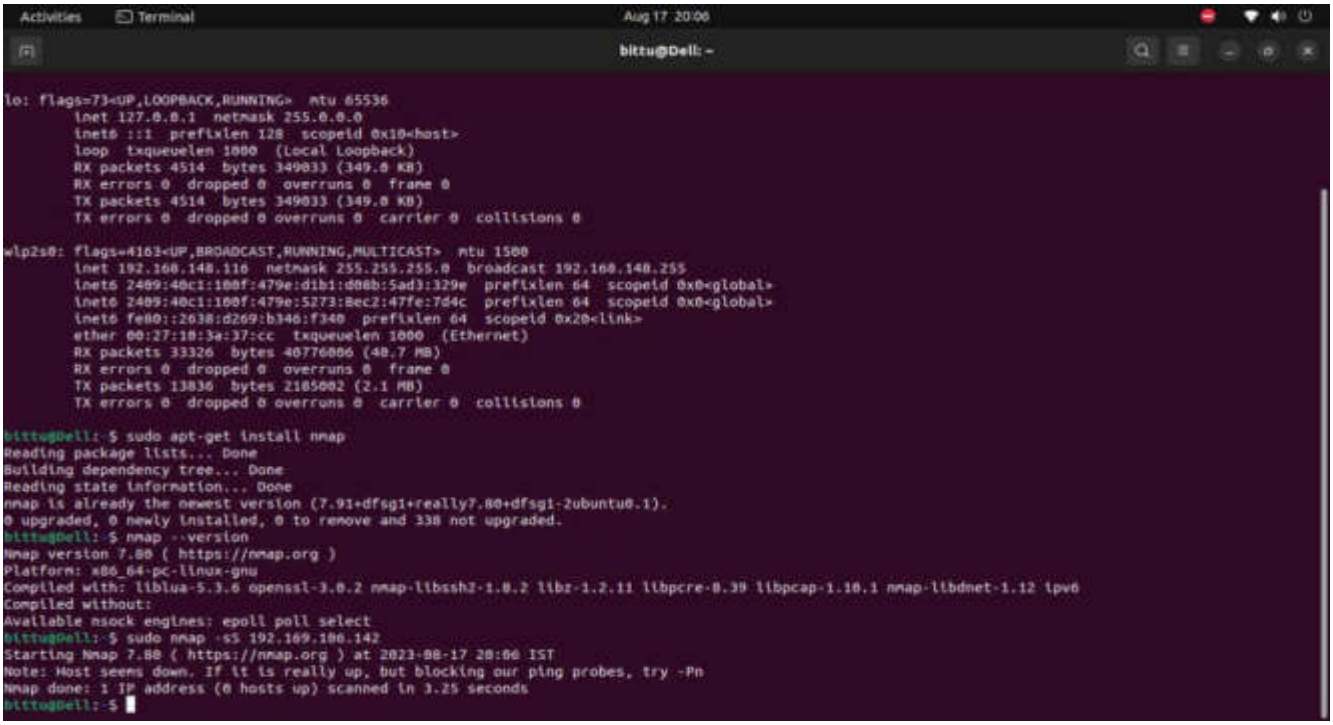


Fig:4.2 Install Nmap and Check Version

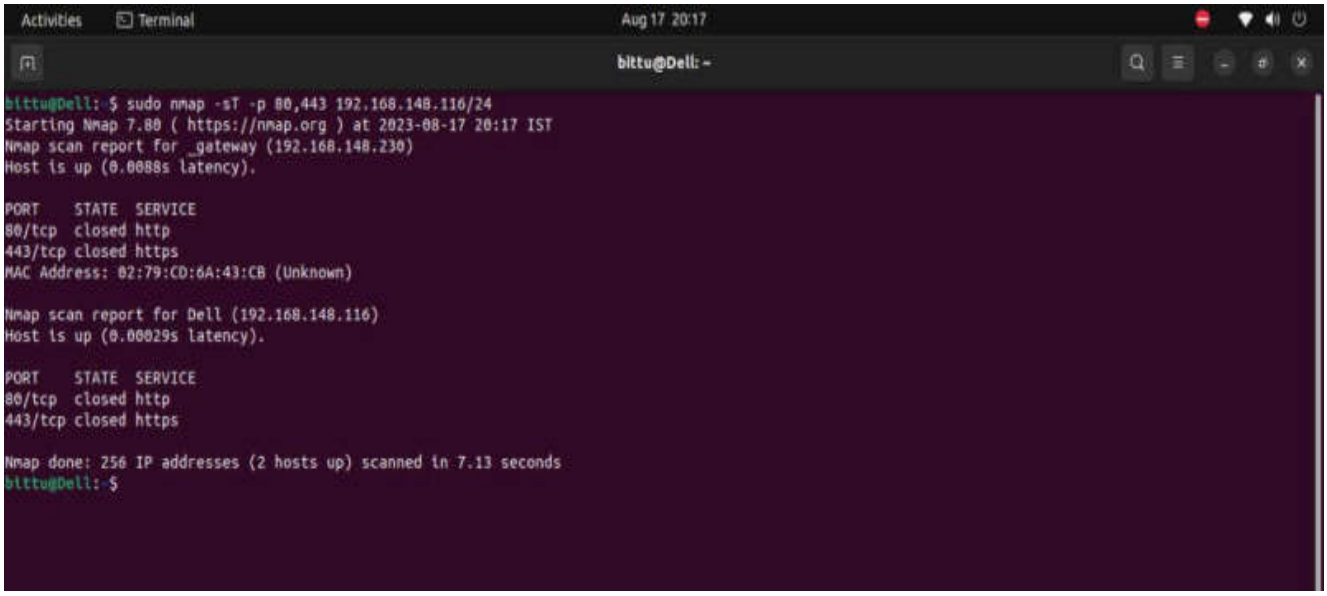


Fig:4.3 Command for Ports

4.2 Random Password Generator with .txt file:

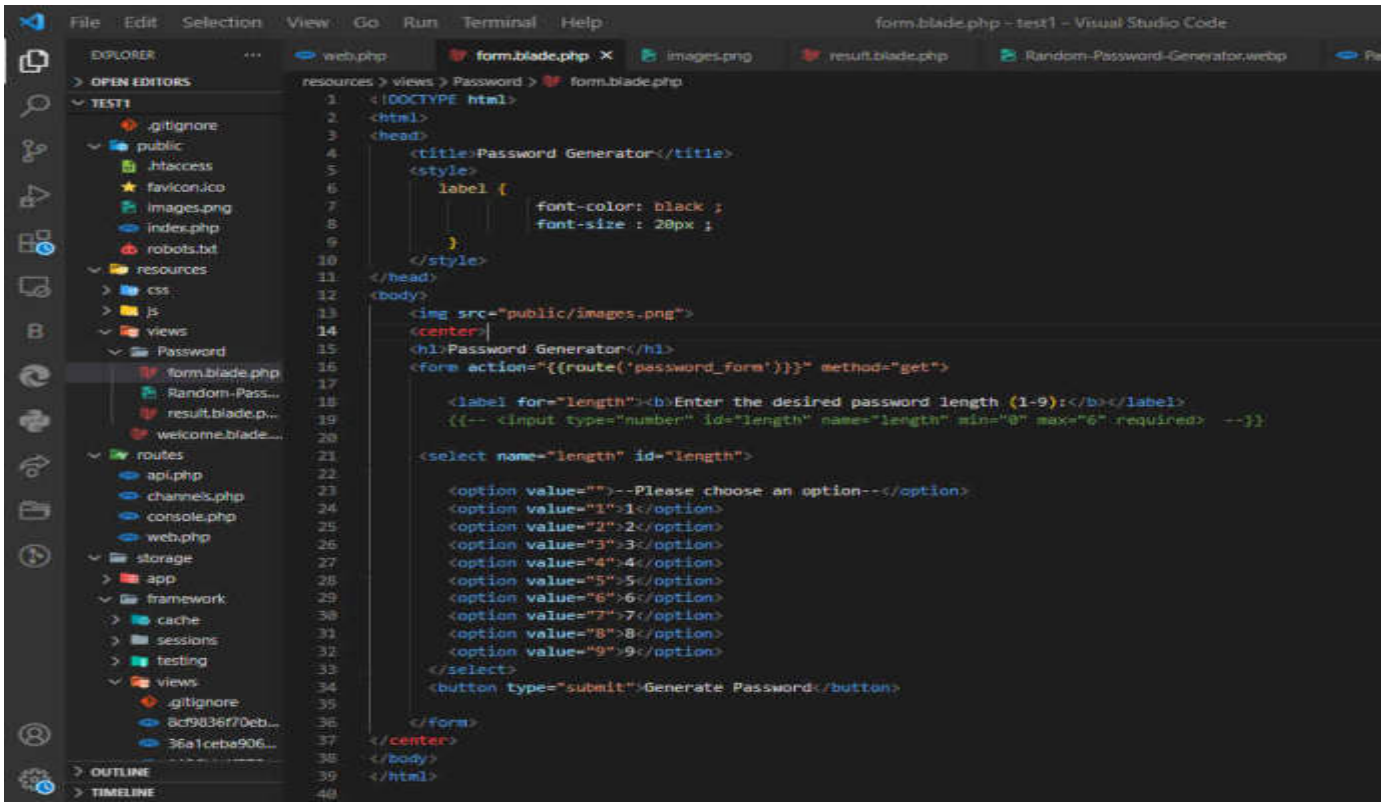


Fig:4.4 Form.blade page

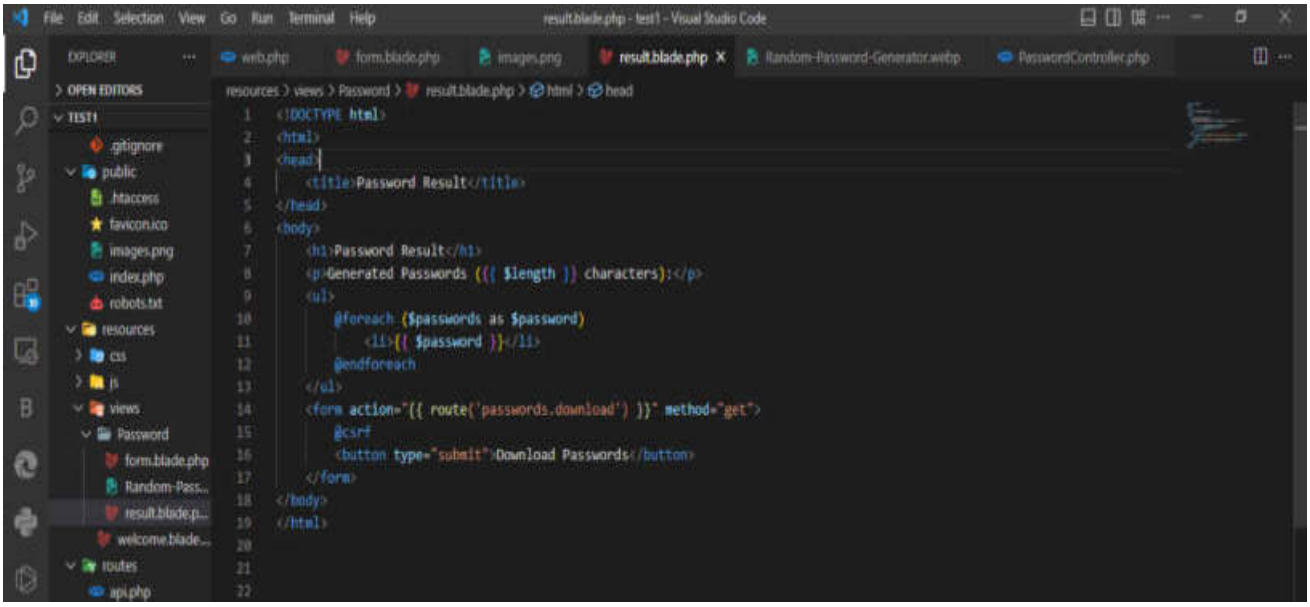


Fig:4.5 Result.blade page

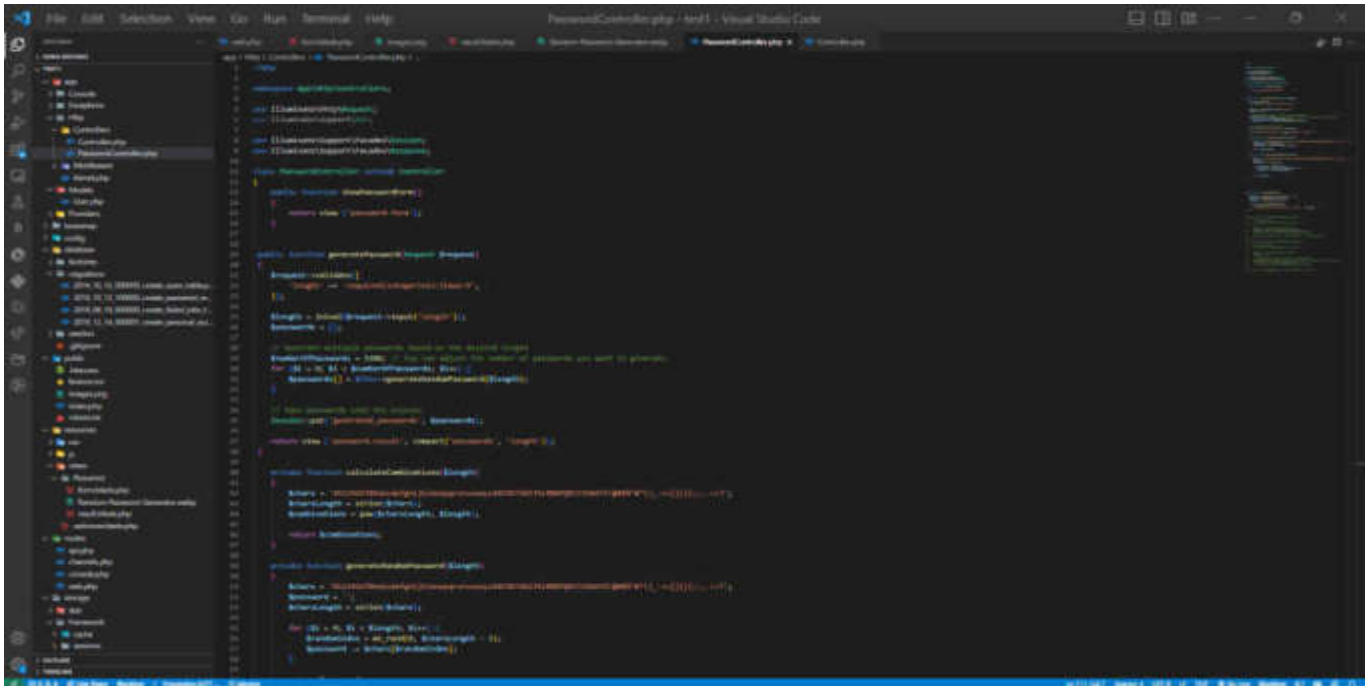


Fig:4.6 PasswordController page

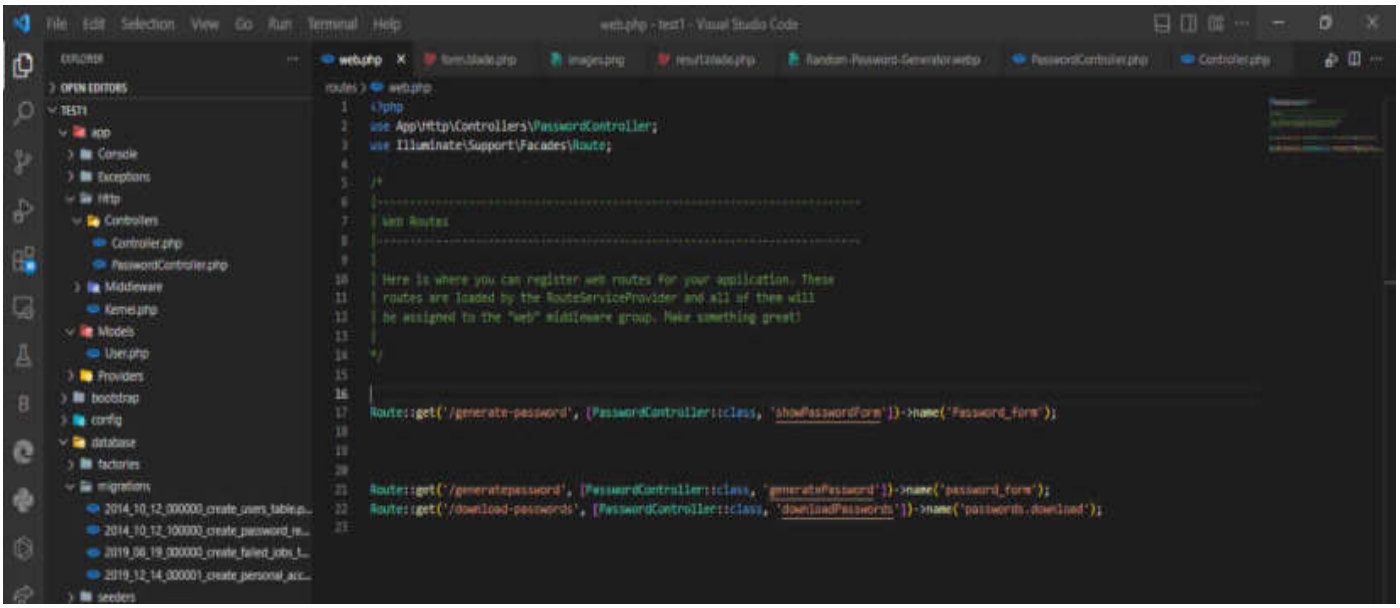


Fig:4.7 Web page

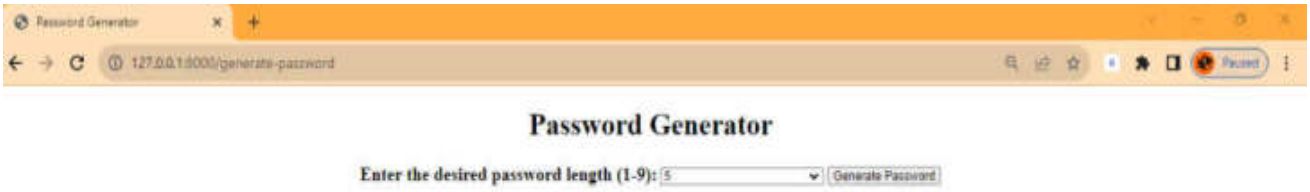


Fig:4.8 User Input



Fig:4.9 Random Combinations of Passwords

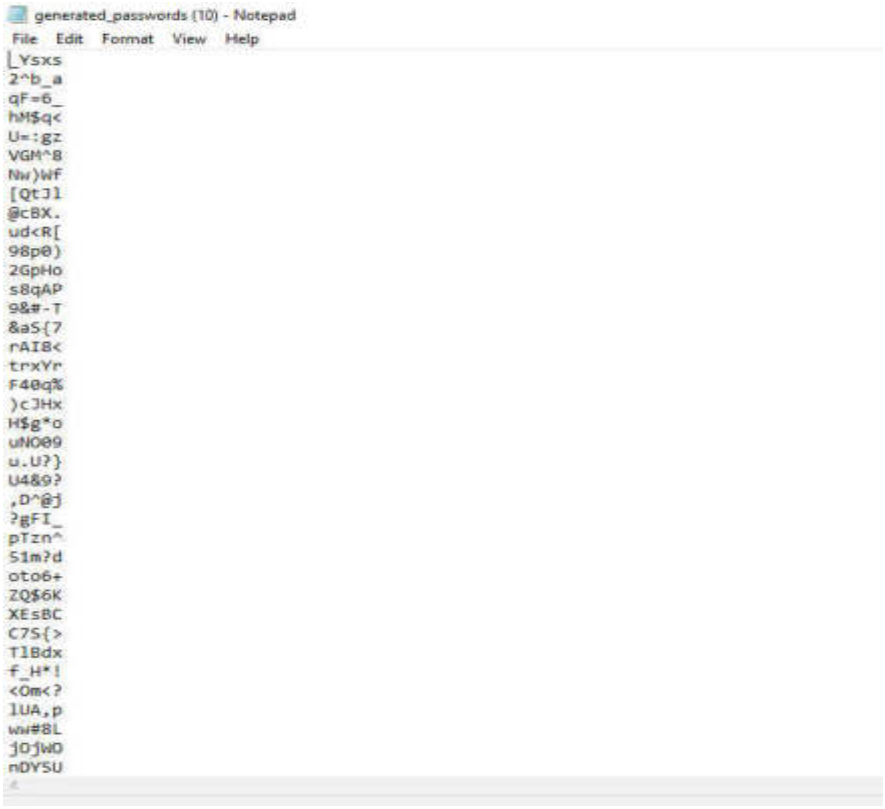


Fig:4.10 .txt file of Generated Passwords

Appendix

SAFFRONY INSTITUTE OF TECHNOLOGY
S.P.B. PATEL ENGINEERING COLLEGE

SIT/SPBPEC/7/W2023/NOC/ 251 Date: 19th July, 2023

To,
The HR Head,
Oil and Natural Gas Corporation (ONGC)
Mehsana

Subject: Request Letter for Two weeks Internship of our student at your organization.

Dear Sir,

This is to certify that Mr. Jinang Chetankumar Sukhadiya, with enrollment number, is 200390116006 a student of the institute since July 2020 and is currently studying in 6th Semester, Information Technology, S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch.

S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch is one of the leading Engineering Institutions in Gujarat. At present, we offer Bachelor's Degree in four engineering branches – Mechanical, Civil, Computer Engineering, and Information Technology.

As a part of the course work laid down by **Gujarat Technological University (GTU)**, the final year students of Degree Engineering are required to go for internship for their **7th Semester** for the period of **27th July 2023 to 10th August 2023**, so as to get practical exposure and bridge the gap between academics & industry. Some of our brightest students wish to apply for the **Internship** opportunity provided by your esteemed organization, Oil and Natural Gas Corporation (ONGC), Mehsana.

We request you to consider our student for this internship opportunity.

The student details are as follows:

Sr. No.	Name of Student	Enrolment No.	Mobile No.
1	Jinang Chetankumar Sukhadiya	200390116006	8160836248

Yours Sincerely,

Akshay Kansara
Head of the Department, Computer Engineering Department,
S.P.B.Patel Engineering College, Linch.
Email: akshay.kansara@saffrony.ac.in
Contact: 9925516674

S.P.B. Patel Engineering College Linch

AFFILIATED TO GUJARAT TECHNOLOGICAL UNIVERSITY (YEAR 2008)
APPROVED BY ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE) (YEAR 2006)

Near Shanku's Waterpark, Ahmedabad-Mehsana Highway,
At & Post : Linch, Dist. : Mehsana, Gujarat-384 435. Phone / Fax (02762) 285721
www.saffrony.ac.in • E-mail : info@saffrony.ac.in

INTERNSHIP AT TWS MEDIA PVT. LTD

AN INTERNSHIP REPORT

Submitted by

Sathwara Tirth Snehalkumar

200390116007

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at TWS MEDIA** has been carried out by **Sathwara Tirth Snehalkumar** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. FirstName Last Name
Internal Guide	Head of Department

CERTIFICATE OF COMPLETION



TWS media

INTERNSHIP COMPLETION LETTER

10 AUGUST 2023

This is to certify that

Mr/Ms. SATHWARA TIRTH SNEHALKUMAR
Enrollment No: 200390116007
College: Saffrony institute of technology

We are pleased to inform you that you have successfully completed your 15-day internship program at TWS MEDIA. During your time with us, you have shown a great deal of enthusiasm, dedication, and willingness to learn. We are confident that the skills and knowledge you have gained during your internship will be valuable assets as you continue to pursue your career goals.

We wish you all the best in your future endeavors and hope that you will keep in touch with us. If you have any questions or if there is anything we can do to support your career development, please do not hesitate to reach out to us.

Jay Sathwara
Managing Director

TWS MEDIA PRIVATE LIMITED
A-316, 3RD FLOOR, SAKAR-7, 380009 AHMEDABAD-Ahmedabad
www.tws.media | contact@tws.media

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at TWS MEDIA** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Full name of Student _____

COMPANY PROFILE

TWS Media Private Limited is an IT company based in India that provides a range of services, including website and mobile app development and digital marketing. The company was founded in 2019 and has since worked with a variety of clients across industries.

In addition to its development services, TWS Media also offers digital marketing services, including search engine optimization (SEO), social media marketing, and pay-per-click (PPC) advertising. The company's goal is to help clients improve their online presence and reach their target audience through effective digital marketing strategies.

Overall, TWS Media is a full-service IT company that offers a range of services to help clients succeed in the digital age. With its expertise in web and mobile app development, and digital marketing, the company is well-positioned to help businesses of all sizes achieve their goals and grow their online presence.

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Week 1

27 JULY 2023

- **JavaScript**

JavaScript is a versatile and widely-used programming language primarily used for web development. It enables dynamic and interactive web pages by allowing developers to manipulate HTML and CSS on the fly. With its client-side execution, JavaScript empowers user interactions, form validation, animations, and more. It has a vast ecosystem of libraries and frameworks like React and Node.js, making it essential for both frontend and backend development.

- **JavaScript Console Api**

The JavaScript Console API provides a powerful tool for developers to interact with and debug code within web browsers. It offers methods like console.log() to display messages and variables in the browser's developer console, aiding in real-time debugging. More advanced functions like console.error() and console.warn() help identify and rectify issues in code. Additionally, the Console API assists in measuring performance with console.time() and console.timeEnd() for precise optimization of web applications.

- **JavaScript variables**

JavaScript variables are containers that store data, such as numbers, strings, or objects, for use in a program. They are declared using keywords like var, let, or const. var has global scope, while let and const offer block-scoped variables, with let being mutable and const being immutable. Variables enable dynamic data manipulation and are a fundamental concept in JavaScript programming, facilitating data storage and manipulation in a flexible manner.

- **Data types in JavaScript**

1. Primitive Types: These comprise numbers (integers and floats), strings (text), booleans (true/false), null (intentional absence), and undefined (uninitialized).
2. Objects: Complex structures encompassing arrays (ordered lists), functions (executable code), and custom-defined objects.
3. Symbol: Immutable and unique values used as property keys, ensuring distinction.
4. BigInt: Facilitates handling large integers with precision beyond regular number limits.

JS notes.js > ...

```
// 1. Ways to print in JavaScript
// console.log("Hello World");
// alert("me");
// document.write("this is document write")

// 2. Javascript console API
// console.log("Hello World", 4 + 6, "Another log");
// console.warn("this is warning");
// console.error("This is an error");

// 3. JavaScript Variables
// What are Variables? - Containers to store data values
var number1 = 34;
var number2 = 56;
// console.log(number1 + number2);

// 4. Data types in JavaScript
// Numbers
var num1 = 455;
var num2 = 56.76;

// String
var str1 = "This is a string";
var str2 = 'This is also a string';

// Objects
var marks = {
    ravi: 34,
    shubham: 78,
    harry: 99.977
}
// console.log(marks);

// Booleans
var a = true;
var b = false;
// console.log(a, b);
```

Week 1

28 JULY 2023

- **Operators in JavaScript**

1. Arithmetic Operators: These handle basic math operations like addition (+), subtraction (-), multiplication (*), division (/), and modulus (%) for remainder calculation.
2. Comparison Operators: Used to compare values, including equality (==, === for strict equality), inequality (!=, !==), greater than (>), less than (<), etc.
3. Logical Operators: Logical operations such as AND (&&), OR (||), and NOT (!) are used to combine or negate conditions.
4. Assignment Operators: Assign values, such as =, +=, -= for adding or subtracting and assigning.
5. Conditional (Ternary) Operator: Offers a concise way to write conditional statements, like condition? value_if_true : value_if_false.
6. Type Operators: For checking data types, instanceof and typeof operators are used.
7. Bitwise Operators: Manipulate individual bits of values, useful in low-level operations.

notes.js

```
// Operators in JavaScript
// Arithmetic Operators
var a = 100;
var b = 10;
// console.log("The value of a + b is ", a+b);
// console.log("The value of a - b is ", a-b);
// console.log("The value of a * b is ", a*b);
// console.log("The value of a / b is ", a/b);
// Assignment Operators
var c = b;
// c += 2;
// c -= 2; // c = c - 2;
// c *= 2;
// c /= 2;
// console.log(c);
// Comparison Operators
var x = 34;
var y = 56;
// console.log(x == y);
// console.log(x >= y);
// console.log(x <= y);
// console.log(x > y);
// console.log(x < y);

// Logical Operators
// Logical and
// console.log(true && true)
// console.log(true && false)
// console.log(false && true)
// console.log(false && false)

// Logical or
// console.log(true || true)
// console.log(true || false)
// console.log(false || true)
// console.log(false || false)
```

Week 1

31 JULY 2023

- **Function in JavaScript**

A JavaScript function is a block of code designed to perform a specific task:

1. Declaration: Functions can be declared using the function keyword, given a name and parameters in parentheses, encapsulating a set of instructions.
2. Invocation: Functions are invoked or called by their name, passing arguments that the function can work with.
3. Return: They can optionally return a value using the return statement, allowing computed results to be utilized elsewhere.
4. Reusability: Functions promote code reusability, modularization, and encapsulation, contributing to organized and efficient programming.

- **Conditionals in JavaScript**

Very often when you write code, you want to perform different actions for different decisions.

1. if Statement: Used to execute code if a specified condition is true, allowing for branching based on the outcome.
2. else Statement: Paired with if, it executes an alternative code block when the initial condition is false.
3. else if Statement: Enables multiple conditions to be tested sequentially, providing different code paths based on various cases.
4. switch Statement: Offers a structured way to evaluate a single expression against multiple possible values, executing corresponding code blocks.

notes.js > ...

```
// Function in JavaScript
function avg(a, b) {
    c = (a + b) / 2;
    return c;
}
// DRY = Do not repeat yourself
c1 = avg(4, 6);
c2 = avg(14, 16);
// console.log(c1, c2);

// Conditionals in JavaScript
/*
var age = 41;
// Single if statement
if(age > 18){
    console.log('You can drink rasna water');
}
// if - else statement
// if(age > 18){
//     console.log('You can drink rasna water');
// }
// else{
//     console.log('You cannot drink rasna water');
// }

age = 25;
// if-else Ladder
if(age > 32){
    console.log("You are not a kid");
}
else if(age >26){
    console.log("Bachhe nahi rahe");
}
else if(age >22){
    console.log("Yes Bachhe nahi rahe");
}
else if(age >18){
```

notes.js > ...

```
*/

var arr = [1, 2, 3, 4, 5, 6, 7];
// console.log(arr);
// for(var i=0;i<arr.length;i++){
//     if(i==2){
//         // break;
//         continue;
//     }
//     console.log(arr[i])
// }

// arr.forEach(function(element){
//     console.log(element);
// })
// const ac = 0;
// ac++;
// ac = ac +1;
// let j = 0;
// while(j<arr.length){
//     console.log(arr[j]);
//     j ++;
// }

// do{
//     console.log(arr[j]);
//     j++;
// } while (j < arr.length);

let myArr = ["Fan", "Camera", 34, null, true];
// Array Methods
// console.log(myArr.length);
// myArr.pop();
// myArr.push("harry")
// myArr.shift()
// const newLen = myArr.unshift("Harry")
// console.log(newLen);
```

Week 1

1 August 2023

- **String Methods in JavaScript**

1. .length: Returns the length of a string, counting characters.
2. .charAt(): Retrieves the character at a specific index within the string.
3. .concat(): Combines multiple strings into one.
4. .toUpperCase() / .toLowerCase(): Converts a string's characters to uppercase or lowercase.
5. .trim(): Removes whitespace from the beginning and end of a string.
6. .indexOf() / .lastIndexOf(): Searches for a substring and returns its index.
7. .substring() / .slice(): Extracts a portion of the string based on start and end indices.
8. .replace(): Replaces a specified substring with another.
9. .split(): Breaks a string into an array of substrings based on a specified separator.
10. .startsWith() / .endsWith(): Checks if a string starts or ends with a specific substring.

- **Events in JavaScript**

1. Event Binding: Elements like buttons or links can be "bound" to specific actions using event listeners, like addEventListener(), to trigger JavaScript code when events occur.
2. Event Types: Events include user interactions (e.g., clicks, key presses), document changes (e.g., loading, resizing), and more.
3. Event Handling: Event listeners define functions to execute when events occur, enabling dynamic responses to user actions.
4. Event Object: When an event occurs, an event object is created, containing information about the event, such as the target element and event type

```
// String Methods in JavaScript
let myLovelyString = "Harry is a good boy good good Harry";
// console.log(myLovelyString.length)
// console.log(myLovelyString.indexOf("good"))
// console.log(myLovelyString.lastIndexOf("good"))

// console.log(myLovelyString.slice(1,4))
d = myLovelyString.replace("Harry", "Rohan");
// d = d.replace("good", "bad");
// console.log(d, myLovelyString)

let myDate = new Date();
// console.log(myDate.getTime());
// console.log(myDate.getFullYear());
// console.log(myDate.getDay());
// console.log(myDate.getMinutes());
// console.log(myDate.getHours());

// DOM Manipulation
let elem = document.getElementById('click');
// console.log(elem);

let elemClass = document.getElementsByClassName("container")
// console.log(elemClass);
// elemClass[0].style.background = "yellow";
elemClass[0].classList.add("bg-primary")
elemClass[0].classList.add("text-success")
// console.log(elem.innerHTML);
// console.log(elem.innerText);

// console.log(elemClass[0].innerHTML);
// console.log(elemClass[0].innerText);
tn = document.getElementsByTagName('div')
// console.log(tn)
createdElement = document.createElement('p');
createdElement.innerText = "This is a created para";
tn[0].appendChild(createdElement);
```

```
createdElement2 = document.createElement('b');
createdElement2.innerText = "This is a created bold";
tn[0].replaceChild(createdElement2, createdElement);
// removeChild(element); ---> removes an element

// Selecting using Query
// sel = document.querySelector('.container')
// console.log(sel)
// sel = document.querySelectorAll('.container')
// console.log(sel)

// function clicked(){
//     console.log('The button was clicked')
// }
// window.onload = function(){
//     console.log('The document was loaded')

// }
// Events in JavaScript
// firstContainer.addEventListener('click', function(){
//     document.querySelectorAll('.container')[1].innerHTML = "<b> We have clicked</b>"
//     console.log("Clicked on Container")
// })

// firstContainer.addEventListener('mouseover', function(){
//     console.log("Mouse on Container")
// })

// firstContainer.addEventListener('mouseout', function(){
//     console.log("Mouse out of Container");
// })

// let prevHTML = document.querySelectorAll('.container')[1].innerHTML;
// firstContainer.addEventListener('mouseup', function(){
//     document.querySelectorAll('.container')[1].innerHTML = prevHTML;
//     console.log("Mouse up when clicked on Container");
```

```
// Arrow Functions
// function summ(a, b){
//     return a+b;
// }
summ = (a,b)=>{
    return a+b;
}

logKaro = ()=>{
    document.querySelectorAll('.container')[1].innerHTML = "<b> Set interval fired</b>"
    console.log("I am your log")
}
// SetTimeout and setinterval
// clr = setTimeout(logKaro, 5000);
// clr = setInterval(logKaro, 2000);
// use clearInterval(clr)/clearTimeout(clr) to cancel setInterval/setTimeout

// JavaScript localStorage
// localStorage.setItem('name', 'harry')
// localStorage
// localStorage.getItem('name')
// localStorage.removeItem('name')
// localStorage.clear();

// Json
// obj = {name: "harry", length: 1, a: {this: 'tha"t'}}
// jso = JSON.stringify(obj);
// console.log(typeof jso)
// console.log(jso)
// parsed = JSON.parse(`{"name":"harry","length":1,"a":{"this":"that"}}`)
// console.log(parsed);

// Template literals - Backticks
a = 34;
console.log(`this is my ${a}`)
```

Week 1

2 August 2023

- **Tailwind introduction**

i. Utility-First: It offers a comprehensive set of utility classes that enable rapid development by applying styles directly in HTML, avoiding the need for custom CSS.
ii. Responsive Design: Tailwind provides responsive design utilities, making it easier to create adaptive layouts for different screen sizes.
iii. Customization: Developers can configure and extend Tailwind's default styles using a configuration file, allowing for a tailored design system.
iv. Modular and Scalable: Its modular structure promotes consistent design patterns and efficient development, while its extensive class options cater to a wide range of design needs.

- **Why Use?**

Tailwind is used because it offers a utility-first approach to CSS, making styling and design faster and more consistent by directly applying classes in HTML. It facilitates responsive design with built-in breakpoints and simplifies customization through a configuration file. Its modular nature and comprehensive set of utility classes lead to efficient development and easier maintenance of scalable projects.

- **Setup**

Use the Play CDN to try Tailwind right in the browser without any build step.Add the Play CDN script tag to the <head> of your HTML file, and start using Tailwind’s utility classes to style your content.

1. Installation: Use npm or yarn to install Tailwind CSS as a project dependency.
2. Configuration: Generate a tailwind.config.js file to customize settings and design choices.
3. Stylesheet: Create a CSS file to include Tailwind's classes and your custom styles.
4. Build Process: Integrate Tailwind into your build process (e.g., Webpack) to generate a final optimized CSS file for production.

Project:1

Live Clock

project1.html

```
<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
        integrity="sha384-9aIt2nRpC12Uk9gS9baDl411NQApFmC26EwAOH8WgZl5MYYxFfc+NcPb1dKGj7Sk" crossorigin="anonymous">

    <title>Hello, world!</title>
    <script>
        let a;
        let date;
        let time;
        const options = { weekday: 'long', year: 'numeric', month: 'long', day: 'numeric' };
        setInterval(() => {
            a = new Date();
            date = a.toLocaleDateString(undefined, options);
            time = a.getHours() + ':' + a.getMinutes() + ':' + a.getSeconds();
            document.getElementById('time').innerHTML = time + "<br>on " + date;
        }, 1000);
    </script>
</head>

<body>
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
        <a class="navbar-brand" href="#">Navbar</a>
        <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupportedContent"
            aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>
        </button>

        <div class="collapse navbar-collapse" id="navbarSupportedContent">
            <ul class="navbar-nav mr-auto">
```

```
            </li>
        </ul>
        <form class="form-inline my-2 my-lg-0">
            <input class="form-control mr-sm-2" type="search" placeholder="Search" aria-label="Search">
            <button class="btn btn-outline-success my-2 my-sm-0" type="submit">Search</button>
        </form>
    </div>
</nav>


<div class="container my-4">
    <div class="jumbotron">
        <h1 class="display-4">Current time Is: <span id="time"></span></h1>
        <p class="lead">We have got you covered. This is a simple hero unit, a simple jumbotron-style component for
            calling extra attention to featured content or information.</p>
        <hr class="my-4">
        <p>We are here to show you the time for different countries</p>
        <a class="btn btn-primary btn-lg" href="#" role="button">Browse Times</a>
    </div>
</div>

<!-- Optional JavaScript -->
<!-- jQuery first, then Popper.js, then Bootstrap JS -->
<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
    integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
    crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
    integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
    crossorigin="anonymous"></script>
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
    integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI"
    crossorigin="anonymous"></script>
</body>

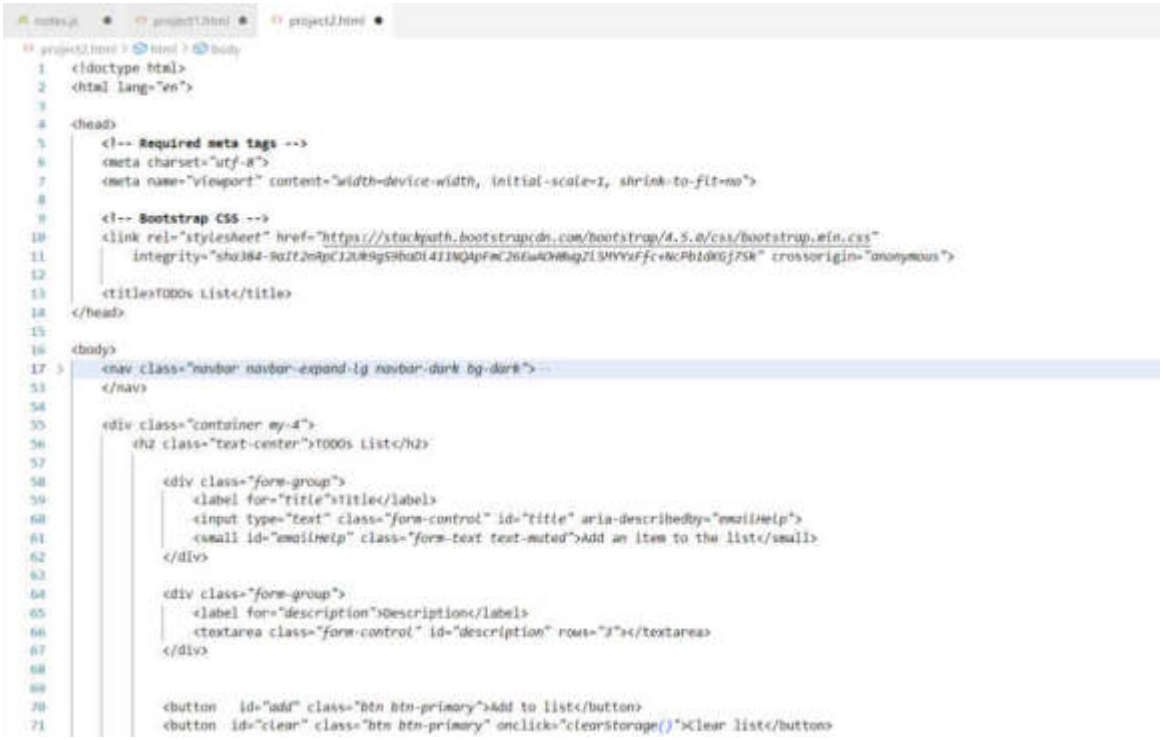
</html>
```

Output:



Project:2

To Do List



```
<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
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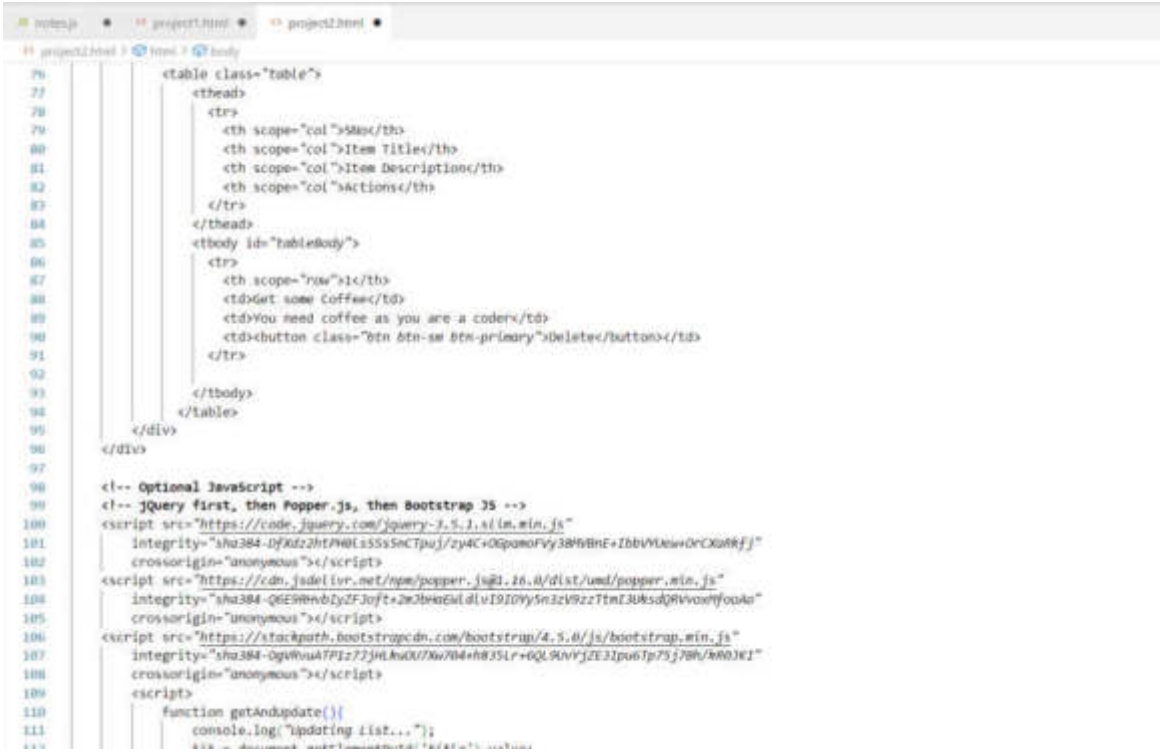
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    </nav>

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                <input type="text" class="form-control" id="title" aria-describedby="emailHelp">
                <small id="emailHelp" class="form-text text-muted">Add an item to the list</small>
            </div>

            <div class="form-group">
                <label for="description">Description</label>
                <textarea class="form-control" id="description" rows="3"></textarea>
            </div>


            <button   id="add" class="btn btn-primary">Add to list</button>
            <button  id="clear" class="btn btn-primary" onclick="clearStorage()">Clear list</button>
```



```
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                    <th scope="col">Item Title</th>
                    <th scope="col">Item Description</th>
                    <th scope="col">Actions</th>
                  </tr>
                </thead>
                <tbody id="tableBody">
                  <tr>
                    <th scope="row">1</th>
                    <td>Get some Coffee</td>
                    <td>You need coffee as you are a coder</td>
                    <td><button class="btn btn-sm btn-primary">Delete</button></td>
                  </tr>

                </tbody>
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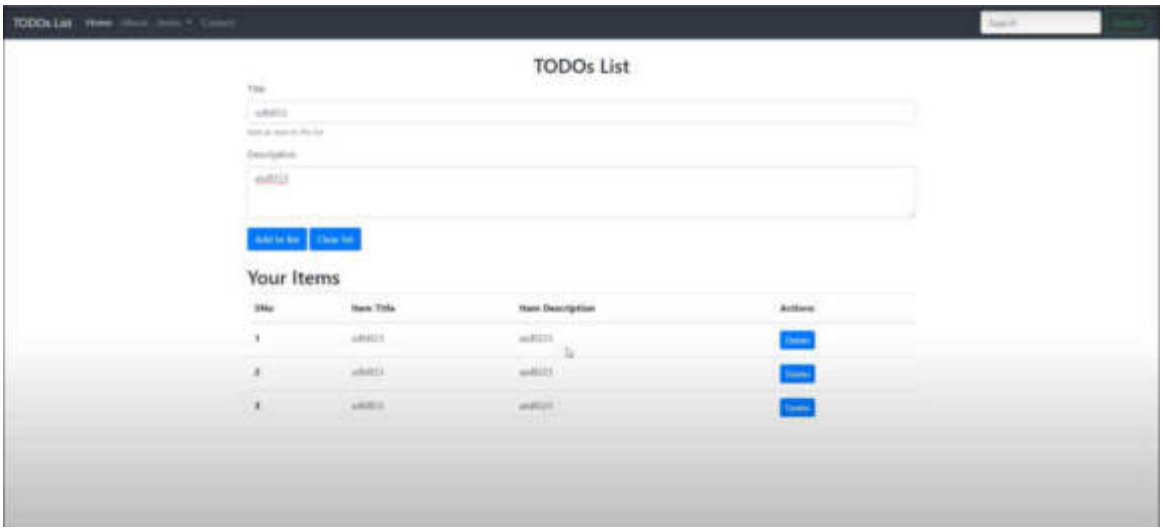
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        crossorigin="anonymous"></script>
        <script>
            function getAndupdate(){
                console.log("Updating list...");
```

```
            <table class="table">
                <thead>
                  <tr>
                    <th scope="col">SNo</th>
                    <th scope="col">Item Title</th>
                    <th scope="col">Item Description</th>
                    <th scope="col">Actions</th>
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                  </tr>

                </tbody>
              </table>
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        crossorigin="anonymous"></script>
        <script>
            function getAndupdate(){
                console.log("Updating list...");
```

Output:



Week 2

3 August 2023

- **Font size**

Utilities for controlling the font weight of an element.

- **Margin**

Utilities for controlling an element's margin.

m-0 margin: 0px;

mx-0 margin-left: 0px;

margin-right: 0px;

my-0 margin-top: 0px;

margin-bottom: 0px;

ms-0 margin-inline-start: 0px;

me-0 margin-inline-end: 0px;

mt-0 margin-top: 0px;

- **Square bracket notation**

```
<div class="before:content-['Hello_World']">
  <!-- ... -->
</div>
```

Week 2

4 August 2023

- **Responsive design**

sm	640px
md	768px
lg	1024px
xl	1280px
2xl	1536px

- **Hover**

Using utilities to style elements on hover, focus, and more.

```
<button class="bg-sky-500 hover:bg-sky-700 ...">
  Save changes
</button>
```

- **Apply directives**

Directives are custom Tailwind-specific at-rules you can use in your CSS that offer special functionality for Tailwind CSS projects.

Week 2

7 August 2023

- **apply layer and directive**

@apply - Use @apply to inline any existing utility classes into your own custom CSS.

@layer - Use the @layer directive to tell Tailwind which “bucket” a set of custom styles belong to.

- **Customization**

Customizing the default theme for your project.

The theme section of your tailwind.config.js file is where you define your project’s color palette, type scale, fonts, breakpoints, border radius values, and more.

- **Deploying website to production**

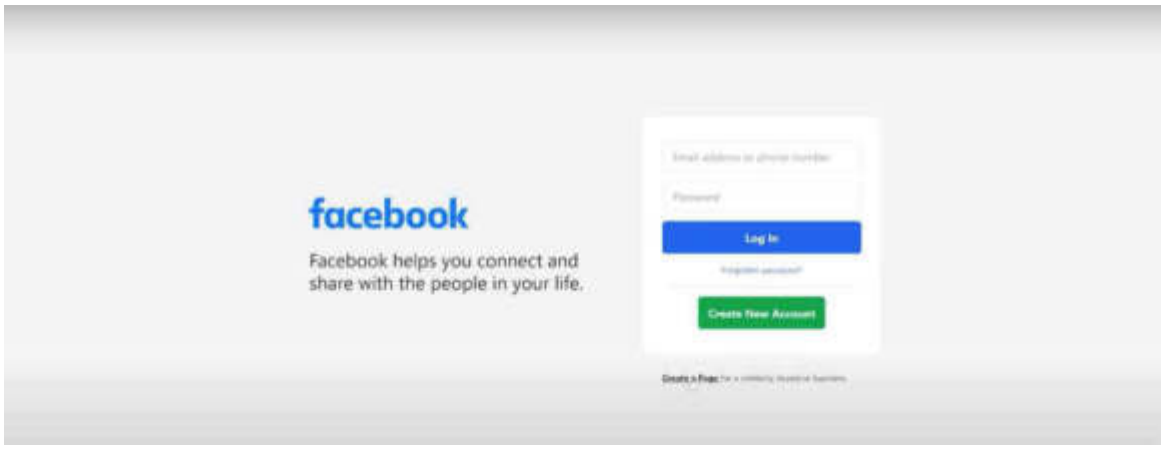
Getting the most performance out of Tailwind CSS projects.

Tailwind CSS is incredibly performance focused and aims to produce the smallest CSS file possible by only generating the CSS you are actually using in your project.

Week 2

8 August 2023

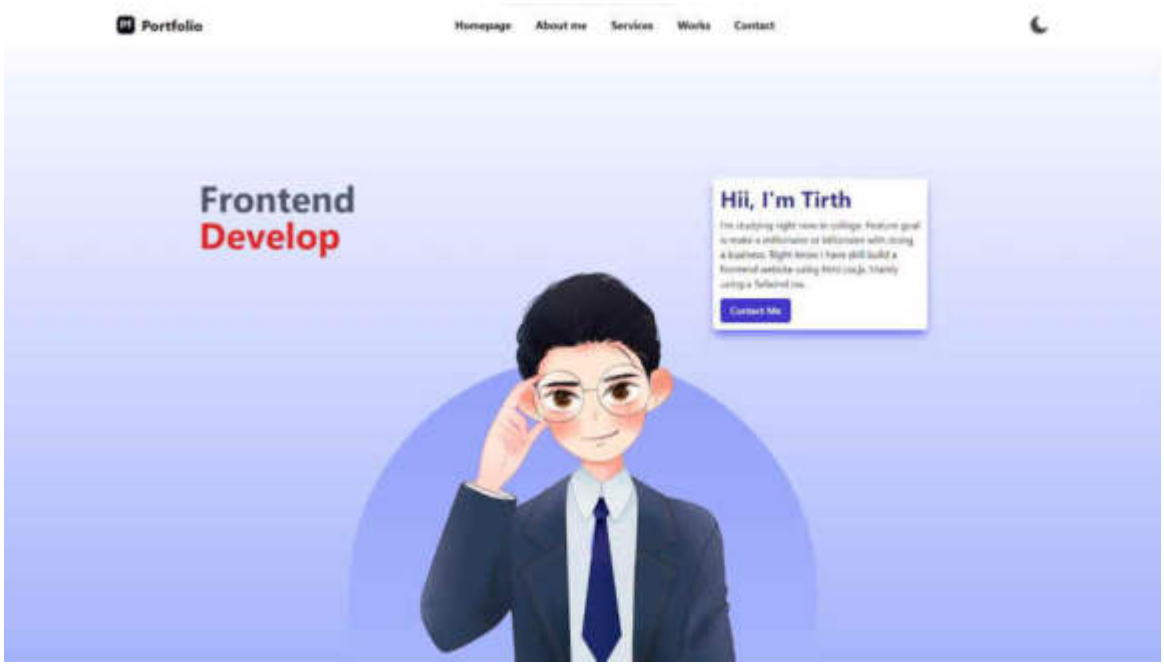
Project:1 Facebook Login Page

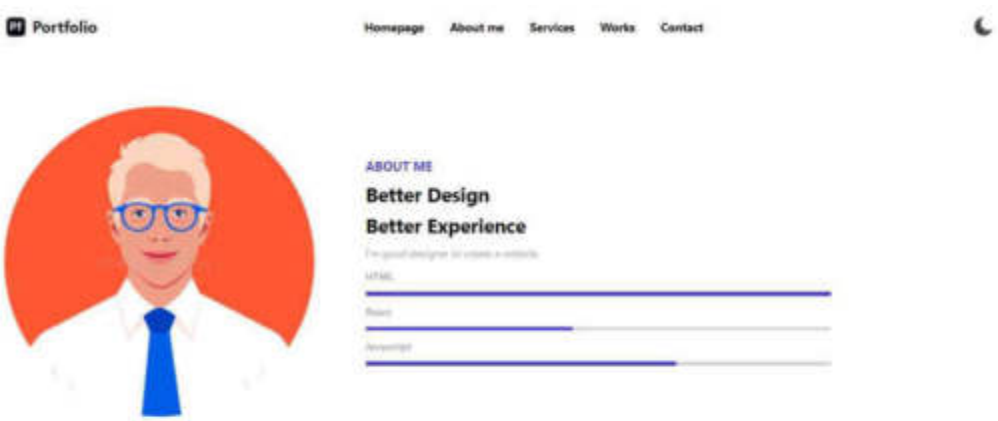


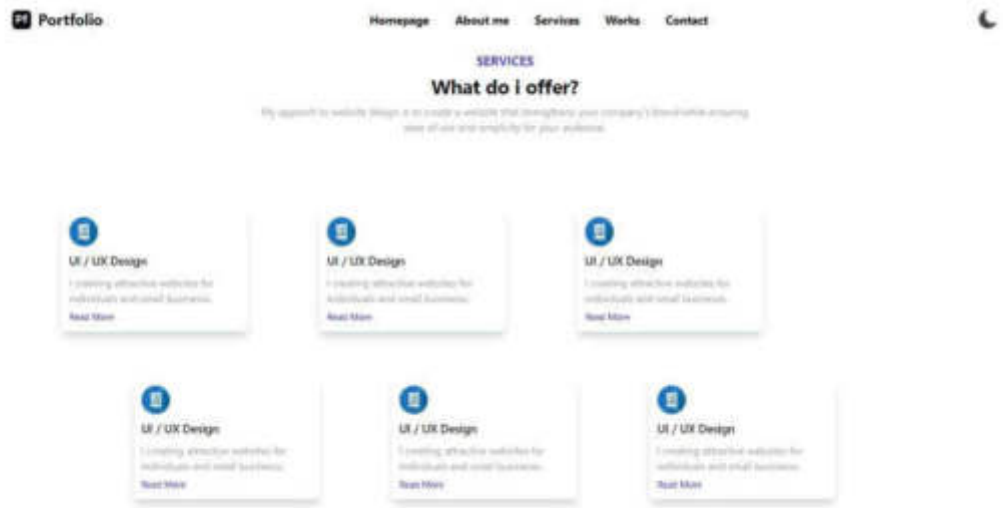
Week 2

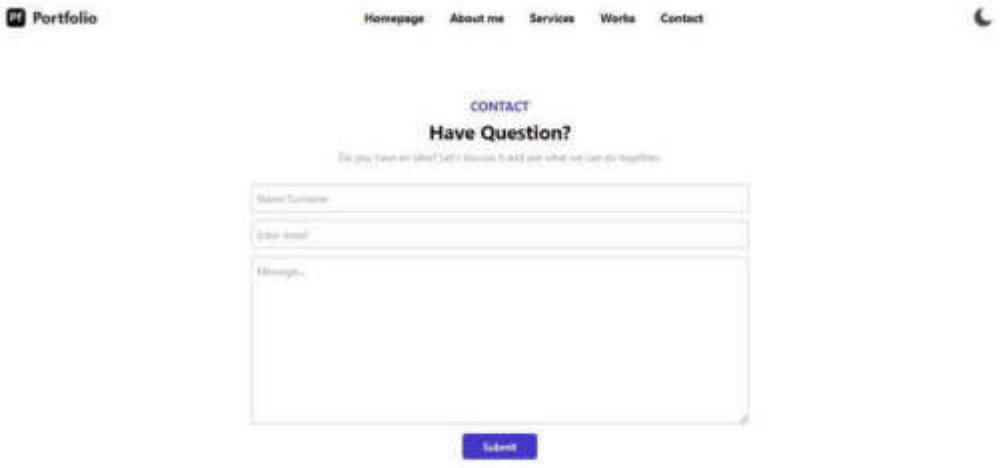
9 August 2023

Project:2 Portfolio






Portfolio
Homepage
About me
Services
Works
Contact
SERVICES
What do i offer?
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design


Portfolio
Homepage
About me
Services
Works
Contact
CONTACT
Have Question?
Submit

Week 2

10 August 2023

- **Conclusion:**

These past 15 days of internship have been an enriching and dynamic experience. I am delighted to have had the opportunity to work with TWS MEDIA and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved.

Throughout these 15 days, I've had the privilege of working alongside experienced professionals who have generously shared their knowledge and insights. I've gained exposure to Data analyst tools, which has significantly expanded my skill set.

During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.

In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and am committed to making the most of this internship experience. Thank you for this incredible opportunity.

TRAINING REPORT



IT DEPARTMENT
AT
SARDAR VALLABHBHAI PATEL INTERNATIONAL AIRPORT
AHMEDABAD, GUJARAT

SUBMITTED BY - SIDDHI MARVANIYA
SAFFRONY INSTITUTE OF TECHNOLOGY, MEHSANA

GUIDED BY - MR. RAMESH JOGADIYA
SENIOR MANAGER (IT)
SARDAR VALLABHBHAI PATEL INTERNATIONAL AIRPORT

ACKNOWLEDGEMENT

I extend my heartfelt gratitude and appreciation to the Airport Authority of India (AAI) for granting me the invaluable opportunity to undertake an internship in the IT Department. This experience has been a remarkable and enriching journey that has greatly contributed to my professional growth and understanding of the aviation industry's intricate technological landscape.

I am deeply thankful to Mr. Ramesh Jogadiya, Senior Manager of the IT Department, for his exceptional guidance, mentorship, and unwavering support throughout the internship period. Mr. Jogadiya's profound insights, vast knowledge, and patient guidance have been instrumental in shaping my understanding of IT operations within the aviation sector. His willingness to share his expertise and provide me with opportunities to delve into real-world projects has been truly inspiring.

I would also like to express my gratitude to the entire IT team at AAI for their warm welcome, encouragement, and willingness to share their experiences and expertise with me. The collaborative environment fostered by the team has provided me with a holistic view of the multifaceted IT operations at the airport.

Furthermore, I would like to acknowledge the administrative staff and all those who have contributed to making my internship a meaningful and memorable experience. Your constant support, assistance, and facilitation have played an essential role in ensuring a seamless and productive internship period.

Lastly, I am thankful to my academic institution for providing me with the foundation and skills that have enabled me to make the most of this internship opportunity.

In conclusion, I consider myself privileged to have been a part of the Airport Authority of India's IT Department and am excited to apply the knowledge and insights gained during this internship to my future endeavors. This experience has truly been invaluable, and I am deeply appreciative of the guidance, mentorship, and exposure provided to me.

Sincerely,

Siddhi Marvaniya

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1. INTRODUCTION OF SARDAR VALLABHBHAI PATEL INTERNATIONAL AIRPORT

Sardar Vallabhbhai Patel International Airport (IATA: AMD, ICAO: VAAH) is a prominent international aviation hub strategically positioned to cater to the dual urban nuclei of Ahmedabad and Gandhinagar within the vibrant state of Gujarat, India. Bearing the venerable appellation of Sardar Vallabhbhai Patel, the inaugural Deputy Prime Minister of India, this airport embodies a fusion of historical resonance and modern utility. As a testament to its stature, it claims the distinction of being Gujarat's premier and most expensive aviation nexus, commanding its place as the seventh busiest airport within the Indian subcontinent.

During the fiscal year spanning 2022-23, the airport witnessed the orchestration of an impressive traversal of over 10 million passengers, thus concretizing its accolade as the seventh most actively traversed aviation portal in the annals of Indian aviation. Intrinsically linked to this operational dynamic, the airport has emerged as a focal point for the operations of Go First, accentuating its role in the contemporary aviation landscape.

In consonance with the ever-evolving paradigms of aviation infrastructure and management, a seminal phase was initiated in 2015 with the commencement of proceedings for the privatization of the airport. This strategic shift seeks to recalibrate the operational ethos in line with burgeoning industry exigencies. Furthermore, to surmount the inherent limitations of expansion presented by the extant airport, the conception and development of the Dholera International Airport have been set into motion, underscoring the airport's resolute commitment to meet the escalating demands of aviation seamlessly and sustainably.



Fig 1.1 Sardar Vallabhbhai International Airport

1. **Structure**

   The airport currently consists of four terminals: domestic, international, an additional terminal for secondary traffic and a cargo terminal as well. The airport has 45 parking bays and both the international and domestic terminals have four aero-bridges each. The new terminal has been modeled based on Singapore Changi Airport.

   The new terminal has a half-kilometer-long moving walkway, which connects the two terminals. Airports Authority of India (AAI) will construct a new technical block which will enhance the flight handling capacity and provide better control of flights.

2. **Runway**

   The airport has a single runway that is 3,505 meters (11,499 ft) long.

3. **Air traffic control tower**

   As part of the airport modernisation process, the AAI announced that it would construct a new air traffic control (ATC) building that would include a new airport tower 65 meters (213 ft) in height.

4. **Terminals**

   4.1 Terminal 1

   Terminal 1 is used for domestic flights and has 32 check-in counters and has an area of 45,000 m2 (480,000 sq ft). In December 2018, a new Plaza Premium lounge was opened at Terminal 1 (near Gate 4 on first floor), which caters for Priority Pass and other select bank cards as well as some business class passengers based on airline flown.



Fig 1.2 Terminal 1 (Domestic) SVPIA

4.2 Terminal 2

Terminal 2 was inaugurated on 5 July 2010 and opened for international flights on 15 September 2010. The terminal won the award for the best Steel Structure at the 2009 edition of the National Structural Steel Design and Construction Awards. The terminal has four aerobridges and 32 check-in counters. With the total floor area of approximately 41,000 sq. meters, this terminal will be able to accommodate around 1,600 passengers at any given time. In November 2018, a new Plaza Premium lounge was opened at the international departures area of Terminal 2, which caters for business class and first class passengers as well as passengers holding Priority Pass and other bank cards. The new 51,975-square-meter (559,450 sq ft) apron area can cater for the parking of nine A-321 and four ATR-72 types of aircraft.

5. Cargo Terminal

The airport handled 51,637 tonnes of cargo, inclusive of gold and silver in 2013–14. Sixty percent of the cargo comes from domestic sources. In 2009, 3,685 square meters (39,670 sq ft) of land was leased for a period of seven years out by the AAI to Gujarat Agro Industries Corporation to set up a center for perishable cargo. However, due to a government policy that prevented third-party operations at airports run by the AAI, the CPC was not in use until July 2014, when the minister of state for civil aviation announced that the government had issued a No Objection Certificate for commencement of operations. In 2014, it was announced that the airport would be getting a dedicated cargo terminal which is expected to come up at Terminal 3.

2. HISTORY OF NETWORK CONNECTIVITY AT SVPIA

This section provides an overview of the history of network connectivity at Ahmedabad Airport (AMD) which utilized radio frequency (RF) technology for communication. It highlights the main hub and its connections to various sub-sectors such as terminals, fire, motor transport, and cargo. The report also discusses the disadvantages of using RF technology, particularly during adverse weather conditions, leading to issues in attendance systems, email communication, and Air Traffic Control (ATC) tower operations. In response to these challenges, the airport authorities initiated a new project, called the "Augmentation IT Network at AMD," to improve network connectivity.

1. History of Network Connectivity at Ahmedabad Airport

1.1 Radio Frequency (RF) Technology Implementation

In the past, Ahmedabad Airport heavily relied on Radio Frequency (RF) technology for establishing network connectivity across its various sectors. RF technology allowed wireless communication between devices, making it a convenient solution for airport operations. The main hub acted as the central point for network distribution, connecting critical sectors such as Terminal 1 (T1), Terminal 2 (T2), Terminal 3 (T3), Terminal 4 (T4), fire services, motor transport, and cargo division.

1.2 Advantages of RF Connectivity

The implementation of RF technology provided several advantages, including easy deployment, cost-effectiveness, and scalability. Its wireless nature enabled mobility, allowing personnel to communicate seamlessly across different areas of the airport.

2. Disadvantages of RF Connectivity

2.1 Weather-Dependent Connectivity Issues

One of the primary disadvantages of relying solely on RF technology was its susceptibility to weather conditions, especially during stormy or rainy days. Adverse weather often led to signal degradation, resulting in poor connectivity and communication disruptions. This was particularly problematic for critical systems, such as attendance tracking, email communication, and the efficient functioning of the ATC tower.

2.2 Limited Bandwidth and Interference

RF technology operated within specific frequency bands, which could result in limited bandwidth availability. As the airport's communication needs grew, the existing RF infrastructure

struggled to handle the increasing data demands. Additionally, interference from other wireless devices in the vicinity posed challenges to maintaining a stable and reliable network.

4. Project: Augmentation IT Network at AMD

Recognizing the limitations of the RF-based network, Ahmedabad Airport authorities embarked on a project called "Augmentation IT Network at AMD." The primary goal of this project was to enhance network connectivity and address the shortcomings of the existing RF system.

3. AUGMENTATION OF IT NETWORK AT SVPIA

1. Introduction

This section provides a detailed description of the "Augmentation of IT Network" project at Ahmedabad Airport (AMD). The project introduced in 2017 aimed to upgrade the existing network infrastructure by implementing a robust optical fiber connectivity solution in a ring topology. The main server room, located at Terminal 2 Departure, served as the central point of the network, and from there, the optical fiber ring extended to various critical centers such as ATC tower, Terminal 4 (T4), Terminal 1 (T1), and the CIC office. Additionally, each building connected to the main network established its own ring for redundancy and improved reliability.

Objectives

The key objectives of the "Augmentation IT Network at AMD" project were:

- ➔ Improved Connectivity: Deploy a modern and robust network infrastructure to ensure uninterrupted communication across all sectors of the airport, regardless of weather conditions.
- ➔ High Bandwidth: Implement a network with higher bandwidth capacity to cater to the growing data requirements and support future expansion.
- ➔ Redundancy and Reliability: Introduce redundancy in the network to minimize downtime and ensure high reliability.
- ➔ Security: Enhance network security measures to safeguard sensitive airport data and systems from potential cyber threats.

2. Network Architecture

The network architecture was designed to ensure seamless connectivity and redundancy throughout the airport. The primary optical fiber ring began at the main server room in Terminal 2 Departure and connected the following centers sequentially: Terminal 2 (T2), ATC tower, Terminal 4 (T4), Terminal 1 (T1), CIC office, and then back to Terminal 2 (T2), completing the loop.

2.1 Sub-Center Rings

To enhance reliability and prevent single points of failure, each sub-center, including the CIC office, established its own ring network. For instance, the CIC office, which spanned across three floors, created a ring for each floor, ensuring continuous connectivity even if one section experienced an issue.

3. Optical Fiber Connectivity

3.1 12-Core Optical Fiber Cable

To meet the growing data demands and ensure high-speed connectivity, the project utilized 12-core Optical Fiber Cables (OFC). The 12-core configuration allowed for future scalability and accommodated increased network requirements.

3.2 Underground Construction using HDD

The new optical fibers were constructed underground using Horizontal Directional Drilling (HDD) at a depth of 6 feet. This method minimizes disruption to the airport's operations during the installation process.

3.3 Dual-Side Placement of Cables

To enhance network resilience, the cables were placed on both sides of the road. This precautionary measure ensured that even if one side suffered damage due to unforeseen circumstances, the other side would remain functional, thus maintaining network connectivity.

3.4 Regular Markings for Maintenance

To facilitate timely maintenance and troubleshooting, the optical fiber cables were marked at 200-meter intervals. These markings allowed network technicians to quickly identify and address any issues that might arise along the cable routes.

4. Main Server Room Setup

The main server room, situated at Terminal 2 Departure, played a crucial role in distributing network connectivity to various parts of the airport.

4.1 ISP and Bandwidth

The server room housed two Internet Service Providers (ISPs): Jio and BSNL, each with a network bandwidth of 12 Mbps. Initially, the Jio network was preferred for its superior connectivity and minimal disturbances.

4.2 Firewall and Routers

The ISPs were equipped with inbuilt firewall systems to enhance network security. Following the ISPs, routers were deployed to distribute network connectivity to different sub-parts of the airport.

4.3 User Capacity

The network infrastructure was designed to accommodate up to 300 users simultaneously, ensuring that the airport's operational requirements were met without compromising on performance.

5. Conclusion

The "Augmentation of IT Network" project at Ahmedabad Airport marked a significant advancement in the airport's network infrastructure. The implementation of the optical fiber ring topology, along with sub-center rings, ensured seamless and redundant connectivity, minimizing the impact of any potential network disruptions. The use of 12-core OFC with underground installation and dual-side placement further contributed to the network's reliability and resilience. Additionally, the main server room's setup with dual ISPs and routers provided robust network distribution to support the airport's diverse operational needs. Overall, the project's successful execution significantly enhanced the airport's IT network and improved communication and connectivity capabilities, elevating Ahmedabad Airport's technological standards in the aviation industry.

4. AAI IT SERVER ROOM

1. Introduction:
The IT server room at the Airport Authority of India (AAI) is a critical nexus of technology that forms the backbone of the airport's digital ecosystem. Designed to ensure seamless connectivity, robust networking, and data integrity, the server room boasts a sophisticated infrastructure that encompasses equipment, cooling systems, power management, and redundancy mechanisms.

2. Infrastructure Overview:
At the heart of the server room lies a meticulously organized rack system, strategically placed atop a false flooring room. This design not only optimizes space but also facilitates an environment of controlled low-temperature degrees, safeguarding the performance and longevity of the sensitive equipment housed within. Two precision air conditioners (PAC) from STULZ have been judiciously installed to rigorously monitor and maintain optimal temperature conditions, thereby mitigating any adverse impact of heat on the technological assets.

3. Power Management and Redundancy:
A hallmark of reliability within the server room is the provision of battery-powered uninterruptible power supply (UPS) units, poised to deliver seamless power continuity in the event of unforeseen power disruptions. This resilient power architecture ensures the sustained operation of critical systems for up to three hours during such contingencies, thereby averting potential service interruptions.

4. Core Equipment:
The main rack stands as a repository of diverse and indispensable networking apparatus. Among these, the Cisco 4300 router assumes a pivotal role, orchestrating data flow with precision and efficiency. Crowning the rack are two distinct Internet Service Providers (ISPs), BSNL and Jio, ensuring redundancy and load balancing for uninterrupted internet connectivity.

5. Optical Fiber Connectivity:
Two 24-core Local Interface Units (LIU) are strategically positioned adjacent to the ISPs. These units are pivotal in translating the intricate network of optical fiber cables (OFC) into the more ubiquitous and user-friendly LAN cables. This conversion process underscores the interoperability of disparate components within the network infrastructure.

6. Switching Architecture:
Atop the rack, dual core switches are situated, constituting a formidable backbone for the network. Both switches are provisioned to bear the full network load independently, offering failover resilience in the event of a switch malfunction. This intelligent design ensures uninterrupted network connectivity.

7. Network Distribution:
Subsequent to the core switches, a distribution switch plays the role of disbursing the network signal to various locales within the airport's expanse. Every corner of the airport is interlinked with this central server, with the entire network reliant on the effective function of this distribution mechanism.

Conclusion:
The AAI IT server room embodies a harmonious synergy of cutting-edge technology, meticulous infrastructure design, and robust redundancy measures. This technological nucleus underpins the airport's seamless network connectivity, ensuring the convergence of data, communication, and operational processes. In the dynamic realm of modern aviation, the IT server room stands as an exemplar of innovation and operational excellence, elevating the Airport Authority of India's commitment to efficient and reliable technological services.

5. AIR TRAFFIC CONTROL (ATC) TOWER AT SVPIA

Location:

The Air Traffic Control (ATC) tower situated at Ahmedabad Airport has been strategically positioned to afford an unobstructed and panoramic view encompassing the runways, taxiways, and the contiguous airspace. This strategic placement grants air traffic controllers an elevated vantage point from which to orchestrate the intricate choreography of aircraft movements, both on terra firma and within the aerial expanse encompassing the airport's precinct.



Fig 5.1 ATC Tower at SVPIA

Function and Operations:

The pivotal function of the ATC tower at Ahmedabad Airport resides in its role as the sentinel of secure and expeditious aircraft movement. Within its confines, vigilant air traffic controllers engage in the orchestration of aviation ballet, facilitated through radio frequency communication

with pilots. This dialog, infused with authoritative directives, encompasses a spectrum of operational directives ranging from takeoff and landing protocols to the nuanced intricacies of taxiing and other ground-bound maneuvers. Moreover, the tower is instrumental in orchestrating the temporal alignment and sequential progression of aircraft during the pivotal phases of approach and departure.

Equipment and Technology:
Representing the apogee of modern aviation infrastructure, the ATC tower is replete with an ensemble of cutting-edge technological apparatus. Among these, advanced radar systems and surveillance cameras function harmoniously to engender acute situational awareness. This technology endowment empowers air traffic controllers to maintain vigilance even in scenarios of compromised visibility. Augmenting this are computational systems engaged in multifarious tasks, encompassing data processing, flight planning, and the seamless coordination of airspace sectors.

Collaboration and Coordination:
The ATC tower at Ahmedabad Airport assumes a pivotal role within a tapestry of collaborative endeavors. It functions in symphony with diverse airport departments and maintains a symbiotic relationship with adjacent control centers. This interdepartmental cohesion is quintessential for the orchestration of aircraft movements that transcend the spatial and procedural boundaries of the immediate airport vicinity.

Safety and Emergency Management:
A paragon of responsive functionality, the ATC tower at Ahmedabad Airport metamorphoses into a beacon of exigent management during unforeseen crises. It shoulders the weighty mantle of managing aircraft diversions, medical emergencies, and other unanticipated eventualities. These dire moments demand the prompt prioritization and orchestration of actions aimed at the preservation of safety and the restoration of operational equilibrium.

In summation, the ATC tower at Ahmedabad Airport stands as a sentinel of safety, a pivot of efficiency, and a bastion of meticulous coordination within the realm of aviation operations. Its strategic placement, technological acumen, and the expertise of its controllers collectively propel it to occupy a central echelon in the tapestry of airport infrastructure.

Working of Air Traffic Control (ATC) Tower

1. Airspace Division:
ATC commences by partitioning airspace into discrete sectors, each meticulously managed by specialized ATC facilities. These sectors encompass en-route centers, approach control, and

tower control. This segmentation is meticulously orchestrated to preempt conflicts, maintain orderly traffic flow, and avert potential collisions.

2. Flight Plan and Clearance:
Prior to takeoff, pilots file comprehensive flight plans outlining intended routes, altitudes, and relevant particulars. ATC scrutinizes these plans, refining them as needed, and then disseminates clearances incorporating altitude directives, routes, and potential constraints.

3. Ground Control:
Airport operations commence under the aegis of ground control. This facet masterminds aircraft movements on runways and taxiways, steering aircraft through pushback, taxiing, and takeoff maneuvers. Ground control ensures methodical movement to avert collisions and ensure operational smoothness.

4. Clearance Delivery:
Pilots' maiden instructions emanate from clearance delivery, encompassing allocated routes and initial altitudes. This pre-departure briefing ensures accuracy, with pilots dutifully repeating these directives to obviate misunderstanding.

5. Tower Control:
The pivotal tower control assumes responsibility for managing aircraft maneuvering in immediate proximity to the airport. Tower controllers meticulously coordinate takeoffs, landings, and taxiing on runways and taxiways, ensuring secure spacing between inbound and outbound flights.

6. Approach Control:
Approach controllers seamlessly navigate aircraft during their landing approach. They sequence flights, manage spacing, and issue altitude instructions, creating a safe and orderly inflow of incoming traffic.

7. En-Route Control:
Aircraft between airports are deftly overseen by en-route controllers. This cadre continually monitors flights, adjusting altitudes as needed, and meticulously preserving secure separations to forestall potential mid-air collisions.

8. Radar and Communication:
Central to ATC's efficacy is radar, tracking real-time aircraft positions. Displayed within ATC facilities, radar data empowers controllers with insights into flight movements, enabling precise instructions based on aircraft positions. Controllers interface with pilots using radio frequencies, issuing clearances, directives, and advisories.

9. Coordination and Handoffs:
As flights traverse distinct airspace sectors, responsibility transitions between ATC facilities through meticulously choreographed handoffs. Controllers seamlessly orchestrate these transitions, ensuring uninterrupted service throughout the flight trajectory.

10. Weather and Emergency Management:
ATC vigilantly monitors weather conditions, disseminating critical weather updates and advisories to pilots. In emergent situations, ATC strategizes diversion plans, manages medical incidents, and navigates other unanticipated emergencies.

11. Landing Clearance:
Approach controllers authoritatively grant landing clearances, providing pilots with essential instructions for a safe descent and touchdown. Pilots meticulously adhere to these directives to execute secure landings.

12. Taxi and Parking:
Post-landing, tower controllers expertly direct aircraft to designated gates or parking locales. Meticulously steering taxiing and ground movements, they guarantee secure traversal on the airfield.

In summation, ATC epitomizes an intricate symphony harmonizing multiple controllers, advanced technology, and meticulous protocols. This system engenders an environment of safety and efficiency, propelling the aviation industry forward while placing passenger and crew well-being at the forefront. ATC controllers, trained to navigate diverse scenarios, make prompt decisions, and seamlessly communicate with pilots, usher in a realm of smooth and secure flight experiences.

6. PASSENGER BAGGAGE TRACKING SYSTEM

Introduction:
In the bustling milieu of airport operations, the timely and accurate retrieval of passenger baggage assumes paramount importance. Traditional baggage claim processes have often led to challenges for passengers in locating their luggage, especially when faced with multiple conveyor belts and an inability to ascertain the status of their bags. To address this issue and enhance passenger experience, the IT department of the Airport Authority of India (AAI) has innovatively developed a Passenger Baggage Tracking System. This system aims to provide passengers with real-time information about the status and location of their baggage, thereby mitigating confusion and improving overall satisfaction.

1. System Design and Functionality:
The Passenger Baggage Tracking System is engineered to seamlessly integrate into the baggage handling infrastructure at the airport. It introduces a systematic approach to tracking and communicating the status of loaded bags to passengers. The system involves the following key components and workflow:

1.1 Bag Loading Interface: Ground workers responsible for loading passenger bags onto conveyor belts are equipped with an intuitive interface. At the initiation of loading, the worker clicks on "Start" and enters the belt number. This indicates the commencement of baggage loading for a specific conveyor belt.

1.2 Incremental Bag Counting: As bags are loaded onto the conveyor belt, the system incrementally counts the number of bags added. The worker has the flexibility to input the number of bags loaded at any given time.

1.3 Belt Closure: Once a predetermined number of bags (e.g30 bags) have been loaded onto the conveyor belt, the worker clicks on "Close" to signal the completion of loading for that belt.

1.4 Passenger Information Display: Real-time data from the Baggage Tracking System is integrated with display screens strategically positioned for passengers in the baggage claim area. These screens provide live updates on the number of bags loaded onto each belt, offering passengers valuable information to locate their luggage effectively.

2. Benefits and Impact:
The implementation of the Passenger Baggage Tracking System at the airport has yielded several significant benefits:

- *Enhanced Passenger Experience:* Passengers now possess accurate and up-to-date information about the status of their baggage, reducing anxiety and confusion during the baggage claim process.
- *Efficient Baggage Retrieval:* With the knowledge of the number of bags loaded on a specific belt, passengers can make informed decisions about which conveyor belt to monitor for their luggage. This reduces unnecessary waiting and congestion around the conveyor belts.
- *Improved Operational Transparency:* The Baggage Tracking System offers airport authorities and ground staff real-time insights into baggage loading and conveyor belt occupancy, enabling proactive management of the baggage handling process.
- *Streamlined Issue Resolution:* In instances where passengers are unable to locate their baggage after checking all available conveyor belts, they can promptly contact their respective airlines armed with accurate information, expediting the process of issue resolution.

Conclusion:

The introduction of the Passenger Baggage Tracking System at the airport exemplifies the convergence of technology and passenger-centric design. By providing passengers with a transparent and informative view of their baggage's journey, the system not only mitigates common challenges but also contributes to a smoother and more satisfying travel experience. This innovation underscores the commitment of the IT department of AAI to enhancing airport operations and passenger services through creative technological solutions.

7. DOCUMENT TRACKING SYSTEM (DTS)

The Document Tracking System (DTS) is an innovative digital solution developed for the efficient tracking of various types of documents, primarily focusing on emails, within a structured framework. This system has been meticulously designed to enhance document management and streamline the process of categorizing and monitoring digital communication. DTS offers a user-friendly interface that enables users to easily input, classify, and monitor documents, contributing to improved organizational efficiency and effective communication.

System Architecture and Categories:
DTS is organized into distinct categories to facilitate seamless document classification. Notably, these categories include "Outer Mail" and "Internal Outer Mail," each serving a specific purpose within the document tracking process. For optimal categorization, DTS employs a region-based approach, classifying documents based on their origin. With India divided into four regions, the system accurately determines whether a document is internal or external to Ahmedabad. This ensures that documents originating from within Ahmedabad are automatically categorized as "Internal Outer Mail," while those from outside the region are assigned to the "Outer Mail" category.

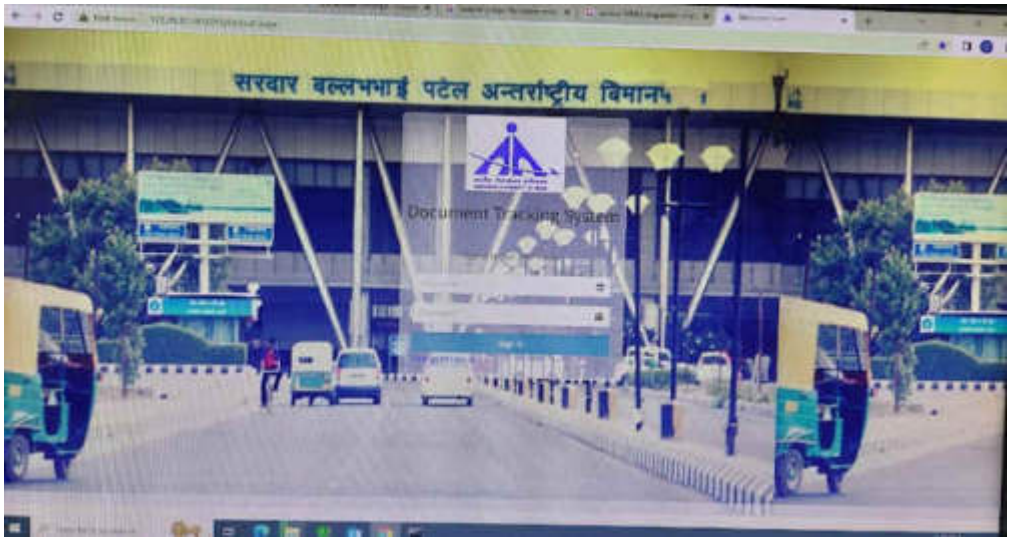


Fig 7.1 Login page of DTS

Key Data Fields and Information:
DTS captures essential information to provide comprehensive document tracking. When entering a document into the system, users are prompted to input critical details such as the subject of the mail, sender's information, recipient's information, corresponding region name, and the language of communication. This meticulous data collection ensures accurate document representation, aiding in efficient tracking and retrieval.

Functional Significance:

The DTS holds significant functional value in document management and organization. By categorizing documents based on their origin and type, the system optimizes the tracking process. This categorization system assists users in swiftly identifying the nature and source of a document, expediting decision-making processes. Furthermore, DTS promotes consistency and accuracy in document handling, thereby enhancing communication effectiveness across various departments and regions.

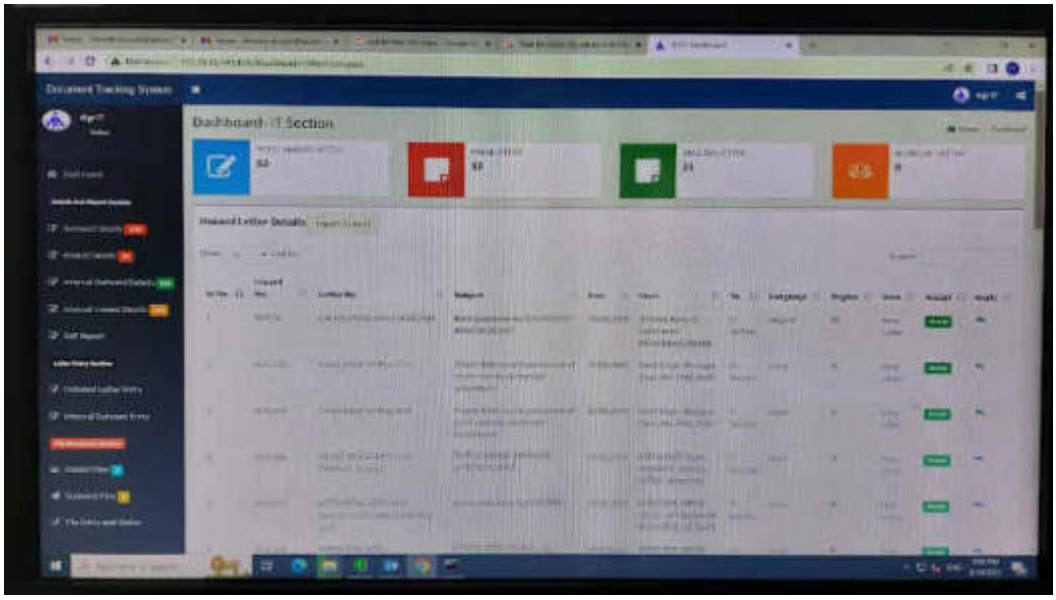


Fig 7.2 User Interface of DTS

Operational Efficiency and Benefits:

The DTS delivers tangible benefits in terms of operational efficiency. With its intuitive user interface, the system simplifies document entry, ensuring that all relevant details are accurately recorded. The categorization of documents based on region and type provides a streamlined framework for document management, enhancing search and retrieval capabilities. This results in reduced administrative overhead, minimized document loss, and improved response times.

In conclusion, the Document Tracking System (DTS) represents a significant advancement in the realm of document management and tracking, particularly in the context of digital communication such as emails. By effectively categorizing documents based on origin and type, the system enhances organizational efficiency, facilitates timely decision-making, and contributes to an optimized communication workflow. DTS underscores the invaluable role that technology plays in modernizing and streamlining administrative processes within complex organizational environments.

8. ACTIVITY: VISIT OF RUNWAY AT SVPIA

The Sardar Vallabhbhai Patel International Airport in Ahmedabad, India, features two primary runways. Here is some information about these runways:

1. Runway 05/23:

- ➔ Dimensions: Runway 05/23 is a key component of SVPIA's infrastructure, boasting dimensions of approximately 3,505 meters (11,500 feet) in length and 45 meters (148 feet) in width.
- ➔ Surface: The runway features an asphalt surface, which is meticulously designed and maintained to withstand the stresses imposed by aircraft operations.
- ➔ Orientation: Runway 05/23 is oriented along a compass direction of approximately 050° for Runway 05 and 230° for Runway 23. This orientation ensures optimal utilization based on prevailing wind conditions.
- ➔ Capacity: The dimensions and robust construction of Runway 05/23 enable it to accommodate a diverse range of aircraft, including large commercial airliners. The length of the runway is a critical factor in supporting various takeoff, landing, and taxiing scenarios.



Fig 8.1 Runway of SVPIA

2. Runway 14/32:

- ➔ Dimensions: Runway 14/32 is another vital component of SVPIA's runway network, with dimensions measuring approximately 2,905 meters (9,530 feet) in length and 45 meters (148 feet) in width.
- ➔ Surface: Similar to Runway 05/23, Runway 14/32 features an asphalt surface that is engineered to withstand the mechanical and thermal stresses imposed by aircraft movements.
- ➔ Orientation: The runway is oriented along a compass direction of approximately 140° for Runway 14 and 320° for Runway 32. This orientation further contributes to the airport's operational flexibility by allowing for aircraft movements aligned with prevailing wind conditions.
- ➔ Capacity: Runway 14/32 is designed to handle a wide spectrum of aircraft operations, including takeoffs, landings, and taxiing maneuvers. Its dimensions and surface quality are tailored to accommodate various aircraft categories.

Significance and Maintenance:

The runways at SVPIA are the lifelines of the airport's operations, serving as essential conduits for aircraft movements. The airport's dedicated maintenance teams ensure that the runways are kept in impeccable condition, with routine inspections, resurfacing efforts, and adherence to international safety standards. Proper runway markings, lighting, and navigational aids contribute to enhanced visibility and safe aircraft operations, especially during adverse weather conditions.



Fig 8.2 Taxiway at Runway

Runway Inspection:

Runway inspection is a critical aspect of ensuring the safety and operational integrity of an airport's runway system. Regular and systematic inspections are conducted to identify and address any issues or hazards that may affect aircraft operations. These inspections are typically carried out by trained personnel, often referred to as "runway inspectors" or "airfield maintenance personnel." The primary objectives of runway inspections include:

- ➔ Safety Assurance: Runway inspections aim to identify any hazards, foreign object debris (FOD), surface defects, or any other conditions that could compromise the safety of aircraft during takeoff, landing, and taxiing.

- ➔ Early Detection: By conducting routine inspections, airports can detect and address potential issues before they escalate into more significant problems that could disrupt operations or compromise safety.

- ➔ Regulatory Compliance: Airports are required to adhere to aviation regulations and guidelines set by aviation authorities, such as the International Civil Aviation Organization (ICAO) and national aviation authorities. Regular runway inspections help ensure compliance with these regulations.

- ➔ Maintenance Planning: Findings from runway inspections inform maintenance planning and scheduling. Based on inspection results, necessary repairs, resurfacing, or other maintenance activities can be planned and executed.

- ➔ Quality Control: Runway inspections contribute to the overall quality control of the airfield. They help maintain the structural integrity of runways, taxiways, and aprons, and ensure that they are in optimal condition for safe aircraft operations.



Fig 8.3 Runway Shoulder Strips

NOTAM Periods:

NOTAM, or Notice to Airmen, is a system used by aviation authorities to disseminate information about potential hazards, changes, or other significant information that could affect flight safety. NOTAMs provide essential details to pilots, air traffic controllers, and other aviation stakeholders. NOTAMs are issued for various reasons, including:

- ➔ Runway Closures: When a runway is closed for maintenance, repairs, construction, or any other reason, a NOTAM is issued to inform pilots and other aviation personnel about the unavailability of the runway.

- ➔ Navigation Aids: Changes to navigational aids, such as radio beacons, instrument landing systems (ILS), or GPS, are communicated through NOTAMs.

- ➔ Temporary Hazards: NOTAMs inform pilots about temporary hazards in the vicinity of the airport, such as crane operations, tall structures, bird activity, or other obstacles.

- ➔ Airspace Restrictions: Temporary restrictions or changes to airspace usage, such as during airshows or special events, are communicated via NOTAMs.

- ➔ Weather-related Information: NOTAMs may include weather-related information, such as changes in visibility due to fog, presence of ice on runways, or other meteorological conditions that could affect flight operations.

NOTAMs are time-sensitive and provide real-time information to ensure that aviation stakeholders are aware of any changes or potential hazards that could impact flight planning and safety.

Runway inspection and NOTAM periods are integral components of aviation safety and operational efficiency. Regular runway inspections help maintain the airfield's integrity, while NOTAMs provide essential information to pilots and aviation personnel to ensure safe and informed flight operations.

9. A COMPREHENSIVE REVIEW OF MY LEARNING JOURNEY THROUGH INTERNSHIP

The internship at the Airport Authority of India (AAI) Ahmedabad IT section provided an invaluable opportunity to gain comprehensive insights into the network architecture and IT systems that underpin the aviation industry's seamless operations. This report details the experiential journey, encompassing learning outcomes and activities undertaken during the internship.

1. Understanding Network Architecture and IT Systems:
The internship commenced with an in-depth exploration of the intricate network architecture and IT systems deployed at the airport. This immersive introduction delved into the backbone of aviation technology, encompassing server rooms, connectivity frameworks, and crucial data management processes.

2. Active Participation in Day-to-Day Activities:
The internship at the Airport Authority of India (AAI) Ahmedabad IT section provided an immersive hands-on experience into a range of activities conducted in a dynamic IT environment. Here are the various activities undertaken in collaboration with the IT team, shedding light on the practical application of IT skills.

I. Meeting Setup:
Participating in the meeting setup underscored the significance of effective communication and coordination. The process involved organizing the physical and technical aspects of the meeting environment, ensuring seamless audio and video connectivity for participants.

II. New LAN Connection for Network Printer:
Establishing a new Local Area Network (LAN) connection for a network printer showcased the meticulous process of integrating hardware within an existing network infrastructure. The setup emphasized the importance of precise configuration for optimal performance.

III. Network Printer Configuration:
Configuring the network printer encompassed a comprehensive understanding of network protocols, IP settings, and printer management. The process highlighted the role of IT in ensuring seamless printing solutions for operational efficiency.

IV. Network Cable Testing with RJ45 Cable Tester:
Performing network cable testing using an RJ45 cable tester exemplified the importance of ensuring cable integrity. The process demonstrated how technical tools can validate network connectivity and identify potential issues.

V. Creating Bootable Pen Drive - Windows 10 Pro:
Creating a bootable USB pen drive with Windows 10 Pro elucidated the steps required to prepare an installation medium for operating systems. This skill is crucial for system setup, recovery, and troubleshooting.

VI. System Formation with Partitioning:
System formation encompassed building a computer from scratch, involving hardware assembly, BIOS settings, and hard drive partitioning. Partitioning provided insights into data management and organization within a computing system.

VII. Data Backup of the System:
Taking data backups elucidated the importance of data preservation and disaster recovery. This step highlighted the necessity of safeguarding critical information against potential system failures or data loss incidents.

VIII. Assigning Static IP to the System:
Assigning static IP addresses to systems revealed the significance of network addressing and communication stability. Static IPs are vital for consistent connectivity within a network environment.

IX. Configuring Local System to the Domain Network:
Configuring a local system to a domain network showcased the integration of individual systems into a centralized network environment. This process facilitates streamlined user management, data access, and security protocols.

X. Microsoft Application Installations:
Installing Microsoft applications underscored the significance of software deployment for enhanced productivity. Familiarity with application installation is essential for creating efficient workstations.

XI. Switch Configuration - Uplink and Downlink:
Understanding switch configuration, including concepts of uplink and downlink, highlighted network topology optimization. This knowledge is pivotal for designing robust and efficient network architectures.

3. Involvement in IT Equipment Inventory Exercise during Internship

During my AAI internship, I was heavily involved in an ongoing project to carefully document all the IT equipment used throughout the airport. This project allowed me to work closely with the IT team, giving me hands-on experience in tracking assets and understanding how everything works together. I learned about the importance of keeping accurate records, which is crucial for smooth operations and quick problem-solving. Overall, this experience deepened my understanding of the vital role meticulous inventory management plays in maintaining a seamless IT infrastructure in the aviation sector, enhancing both my technical skills and my appreciation for the integration of IT principles in an airport environment.

4. Site Visits and Practical Exposure:

A highlight of the internship was site visits to different airport locations housing IT systems. Witnessing the integration of IT solutions with airport operations was not only enlightening but also provided a holistic perspective of the pivotal role technology plays in aviation. These visits also entailed engaging discussions with on-site personnel, elucidating their roles and the synergy between technology and aviation tasks.

5. Familiarity with Aviation Equipment:

The internship unveiled a trove of knowledge regarding the diverse equipment employed in the aviation industry. Exposure to specialized tools, communication devices, and infrastructure components further enriched the understanding of how technology is intricately woven into the fabric of aviation operations.

In summation, the internship at AAI Ahmedabad IT section was a profound and dynamic journey of learning and application. The amalgamation of theoretical knowledge with practical experiences in network architecture, troubleshooting, system implementation, and aviation technology showcased the seamless confluence of IT excellence and aviation prowess. The internship not only broadened horizons but also cemented the realization that technology forms the bedrock of aviation's success, ensuring safe, efficient, and interconnected skies.

CONCLUSION

In culmination, the 15-day technical internship at the Ahmedabad Airport Authority of India (AAI) IT section has been an immensely enriching and enlightening experience. This tenure provided a profound insight into the intricate workings of the aviation industry's technological landscape and the pivotal role played by cutting-edge IT systems in ensuring operational efficiency, safety, and passenger satisfaction.

The internship offered a firsthand opportunity to engage with a diverse array of IT operations, ranging from network architecture and server management to innovative solutions for enhancing passenger experience. Collaborating with seasoned professionals in the AAI IT team provided a platform for exchanging knowledge, learning best practices, and witnessing real-world applications of theoretical concepts.

Throughout the internship, exposure to the passenger baggage tracking system, server room infrastructure, and other critical IT components underscored the fusion of technology and aviation. Observing the rigorous protocols, proactive measures, and stringent quality controls embedded in the IT operations further reinforced the importance of precision and attention to detail in this domain.

The experience was not only intellectually stimulating but also offered a glimpse into the dynamic and fast-paced nature of the aviation industry. The dedication and commitment exhibited by the AAI IT team in maintaining seamless connectivity, safeguarding data, and optimizing operational workflows have been truly inspiring.

As this internship draws to a close, I am profoundly grateful for the opportunity provided by AAI Ahmedabad to be a part of their IT endeavors. This immersive exposure has undoubtedly enriched my technical acumen and fortified my passion for contributing to the realm of aviation technology. The insights gained, lessons learned, and connections established during this internship will undoubtedly resonate and shape my future endeavors in the IT sector.

INTERNSHIP AT WEBITO INFOTECH

AN INTERNSHIP REPORT

Submitted by

Amiraj Rajeshbhai Bhanderi

200390116010

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

Gujarat Technological University, Ahmedabad

July-August, 2023

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S.P.B. Patel Engineering College

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CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at WEBITO Infotech** has been carried out by **Amiraj Rajeshbhai Bhanderi** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Akshay Kansara
Internal Guide

Prof. Akshay Kansara
Head of Department

Company Certificate



Fig 1. Internship completion certificate

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship report submitted along with the Internship entitled **Internship at WEBITO Infotech** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad is a bonafide record of original project work carried out by me under the supervision of **Prof. Akshay Kansara** and that no part of this report has been directly copied from any students' reports or taken from any other sources, without providing due reference.

Name of the Student

Amiraj Rajeshbhai Bhanderi

Sign of Student



ACKNOWLEDGMENT

I extend my sincere gratitude to **WEBITO Infotech** for providing me with the invaluable opportunity to undertake a 15-day summer internship in the realm of mobile application development using Flutter. This experience has been instrumental in enhancing my practical knowledge and skills in the field.

I would like to express my heartfelt appreciation to **Mr. Kewal Bhalala** and **Mr. Brijesh Goyani** for their unwavering support and guidance throughout my internship journey. Their mentorship and insights have been instrumental in shaping my understanding of mobile app development.

The opportunity to translate classroom learning into practical applications by developing an actual mobile app has been both enlightening and rewarding. The experience of conceiving, designing, and implementing the app has provided me with a profound understanding of the software development lifecycle.

I am truly thankful for the knowledge and exposure I have gained during my time at WEBITO Infotech, which I believe will serve as a solid foundation for my future endeavors in the world of technology.

Once again, thank you for the opportunity and support.

Sincerely,

Amiraj Bhanderi

Abstract

During my enriching 15-day internship at WEBITO Infotech, an innovative IT service company headquartered in Surat, I had the privilege to collaborate with the Designing and Development departments. WEBITO Infotech, with its multifaceted divisions spanning Designing, Development, Human Resources, Finance, and more, provided me with an immersive learning experience. During these 15 days of learning phase I more focused on the Developing phase. Additionally, my journey extended to the Development department, where I had the opportunity to work hand-in-hand with skilled developers. This phase of my internship introduced me to the dynamic realm of Flutter, a versatile framework for mobile application development. Through this, I learned new concepts, which I integrated into my own project. The objective of my internship involved understanding of basic concepts and methods to apply them in a mobile application.

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Chapter 1. INTRODUCTION

COMPANY PROFILE

Webito Infotech Pvt. Ltd. is one of the most trusted Software development companies today. With a futuristic vision, few people had begun the company quite humbly in 2020 with a little capital and a couple of employees for web designing as a primary service. What they all had was untiring energy and allegiance toward the work. In a year, the company witnessed roaring success and growth in both the workforce of over 15 employees and a wide range of services such as Mobile Application Development, Desktop application development, Cloud Solutions, Game Development, ERP applications, and almost everything under the hood of computing and communication technology.

Webito infotech enthusiasm will lead us to become a top IT company in India & USA for delivering various industry-led mobility solutions in web and mobile application development domains leveraging futuristic technologies like the Internet of Things (IoT), AI-ML, AR-VR, Voice assistants, and Voice Skills, DevOps & Cloud computing, etc.

The company grew leaps and bounds with over 30 (and counting…) successful customized web applications and solutions empowering businesses around the world to harness the force of technology to enrich human lives and increase business efficiency. We take immense pleasure to say that 70% of our business comes from existing clients.

MISSION AND VISION OF WEBITO INFOTECH

Mission

Webito commit to make the term ‘offshore’ synonymous with ‘quality’. We are constantly refining our outsourcing model to offer better deals to our clients. Webito expanding portfolio of services enables us to deliver end-to-end solutions, while our growing technical expertise makes it possible for us to tackle even highly complex projects. By building our presence in different parts of the world, nurturing talent, streamlining our management processes, and staying committed to continuous improvement, we find ways in which to deliver quality solutions at affordable rates. The open-minded professionals working with us match and exceed the client’s expectations. Webito is known for delivering high-quality, cost-effective, and productive solutions to help our client’s businesses grow. Webito understand that our success depends on our customers’ success.

1.2.1 Vision

For any business, customers are always at the center. Being a leading web and mobile app development company, our definition goes beyond our direct customers. Webito always starts from where you are with your ideas and we think from YOUR end customer's perspectives, and their pain areas and devise a solution that solves core problems to benefit your business. Communication is the Key. We tend to over-communicate at times. Although sounds overwhelming, eventually it works wonders for our client business. When our development team collaborates with our clients sitting a thousand miles away, it's apparent that we stay in touch with platforms and mediums that allow effectiveness, transparency, and accuracy. With over two decades of experience in the offshore IT software development industry, we have a great set of internal frameworks with best-in-class infrastructure that enables us to deliver solutions with superior quality, at all times. All these years, we have learned how to prevent failures and replicate success. We don't just brag about quality. Webito defines and delivers it in time.

PROJECT OVERVIEW

Introducing to a multitasking application where User can view album photos. In the same application an intuitive Music player is also integrated . In home page there is option to select whether from Camera or Gallery, if user select camera option then they can click a image and view it, it they select a galley option they can select multiple images from the device local storage. The selected catalog is represented on the users screen in the grid view. One tap one album picture will zoom the picture.

Second screen is Music player. Currently all the music where added by developer which is a static list. There are options like PLAY / PAUSE / NEXT_SONG / PREVIOUS_SONG. On the top of the page cover picture is displayer. User can play next or previous song by just swipe according to on the music cover picture.

Chapter 2. PROCESS OF APPLICATION DEVELOPMENT

APPLICATION UI DESIGNING PHASE

Tool's

Figma - Figma played a pivotal role in shaping the Music Player screen's user interface, Elevating the user experience to paramount levels, I seamlessly integrated select third-party images and captivating animations. This fusion of design elements instills user-friendliness and lends a touch of innovation, resulting in a visually engaging and immersive interface.

Overview

Application screen is mainly divided into three parts: 1.Splash Screen 2.Phtoto viewer 3.Music Player. In this design phase I mostly work on the Music player UI to make it looks like an attractive and responsive player. While in Photo viewer screen main work is done by programming phase. Each screen plays a crucial and unique role within the application, contributing to its overall functionality and enhancing the user experience.

Result of Designing Phase

Upon the culmination of the design phase, I obtained a comprehensive set of 3 distinct screens that offered a vivid preview of the app's post-development appearance. This UI compilation proved invaluable during the subsequent development process, facilitating the extraction of crucial design elements such as sizes, text styles, and various assets. Armed with this meticulously prepared UI, my role as a developer was enhanced with a crystal-clear understanding of the precise development objectives and a well-defined roadmap for interconnecting each screen, all seamlessly aligned with the established UI framework.

APPLICATION DEVELOPMENT PHASE

Used Technology

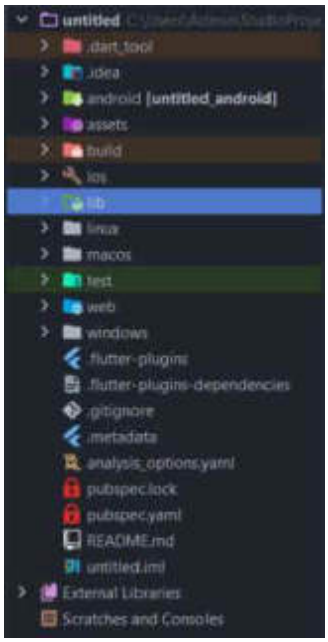
I built the Photos & Music app using the following technologies:

1. Flutter: Flutter is an open-source framework developed and supported by Google. Frontend and full-stack developers use Flutter to build an application's user interface (UI) for multiple platforms with a single codebase.

2. Dart: Dart is a general-purpose programming language that can be used for various applications, including web development, server-side programming, and mobile app development. Flutter is a framework of the dart.

File Structure

To organize my whole application code for better understanding, increase productivity, and under the table by another developer, I structure my code in the below file format structure.



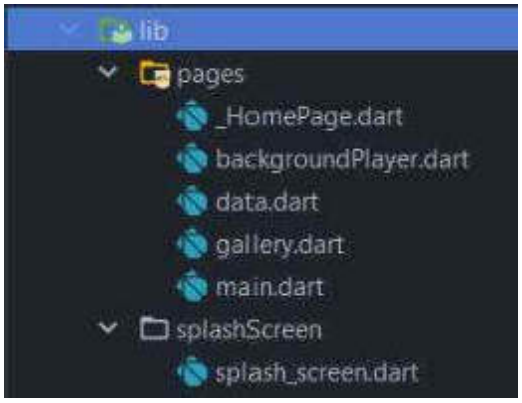


Fig 2.1 File Structure-I

Fig 2.2 File Structure-I

2.2.2.1 pubspec.yaml file

In the realm of Flutter, when integrating third-party dependencies or packages from pub.dart, all of these additions are cataloged within the pubspec.yaml file. Moreover, this same pubspec.yaml file serves as the repository for various assets, including fonts, icons, and images.

```
dependencies:
  flutter:
    sdk: flutter
  # The following adds the Cupertino Icons font to your application.
  # Use with the CupertinoIcons class for iOS style icons.
  shared_preferences: ^2.2.0
  cupertino_icons: ^1.0.5
  assets_audio_player: ^3.1.0
  percent_indicator: ^4.2.3
  card_swiper: ^3.0.1
  image_picker: ^1.0.2
  flutter_speed_dial: ^7.0.0
  galleryimage: ^2.0.1
```

Fig 2.3 Dependencies pubspec.yaml file

```yaml
# The following section is specific to Flutter packages.
flutter:

  # The following line ensures that the Material Icons font is
  # included with your application, so that you can use the icons in
  # the material Icons class.
  uses-material-design: true

  # To add assets to your application, add an assets section, like this:
  assets:
    - assets/images/
```

Fig 2.4 Image assets in pubspec.yaml file

```yaml
fonts:
  - family: Bold
    fonts:
      - asset: fonts/Raleway-Bold.ttf
  - family: Regular
    fonts:
      - asset: fonts/Raleway-Regular.ttf
```

Fig 2.5 Font assets in pubspec.yaml file

Assets Structure

Assets are like the building blocks that make our app visually appealing. They include images, icons, fonts, and more. For this project, I gathered images, icons, and fonts, and placed them in a folder called "Assets." This way, everything we need for the app's look is neatly organized in one place, making it easy to find and use during design and development.

Here is my assets structure:

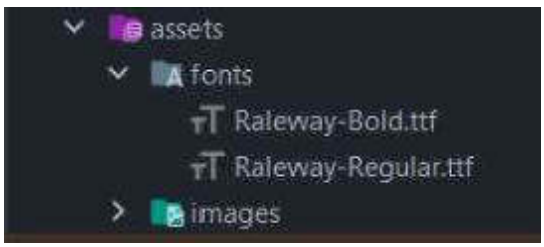


Fig 2.6 Assets structure

Process Overview

Once all the files were in place and the project was primed, I initiated the coding process, starting with the home screen. Here, I translated the designed UI into functional reality using Flutter. Progressing steadily, I proceeded to develop the remaining screens and seamlessly linked them. Stepping into the realm of logic, In the Photo viewer screen I developed two ways to add photos to the album, From Camera and From Gallery. These two ways integrated into a Floating button which has animation to look more responsive to user. On the other side in Music player screen for initiate base I used local storage and integrated some popular slogs in the player along with all detail of the music.

APPLICATION DEPLOYMENT PHASE

Deployment Process Overview

Following the completion of app development and thorough functionality testing, I moved on to the next phase of the application development cycle: deployment. As a preparatory step for releasing the app, I merged all the screens which I have implemented individually and made a single multitasking app where user can make album of photos and also play music.

As part of extra activities I tried some distinct ways to display user's photos and to access them in different ways including animation. In this section for the experimental purpose I have given online pictures for now.

Commands for making .apk file and .adb file

I utilized the following command to create two distinct files that enable me to successfully publish my app on the Play Store:

For .apk file `flutter build apk --split-per-abi`

For app bundle (.aab) file `flutter build appbundle`

Chapter 3. PROTOTYPE OF APPLICATION

I included a collection of screenshots showcasing how my app looks and functions.



Fig 3.1 Splash screen

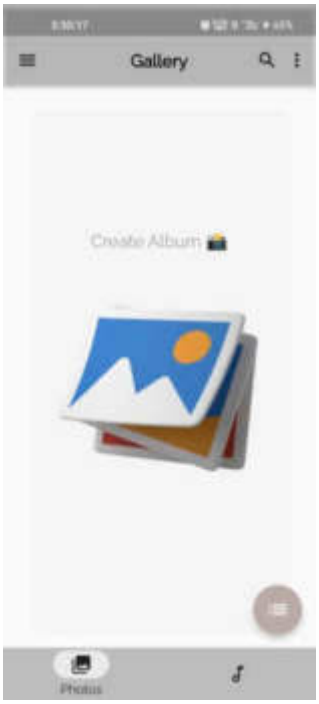


Fig 3.2 Home screen



Fig 3.3 Selection Options



Fig 3.4 Camera photo

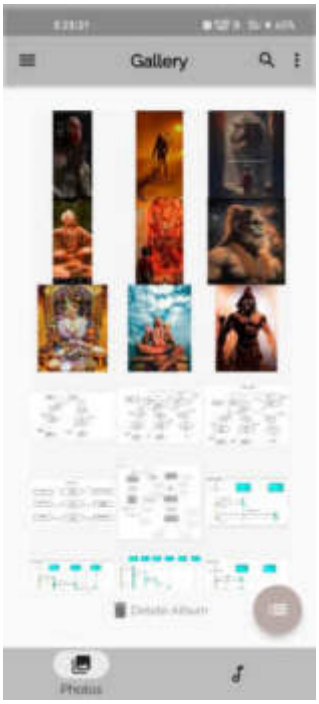


Fig 3.5 Gallery album



Fig 3.6 Zoom able Picture

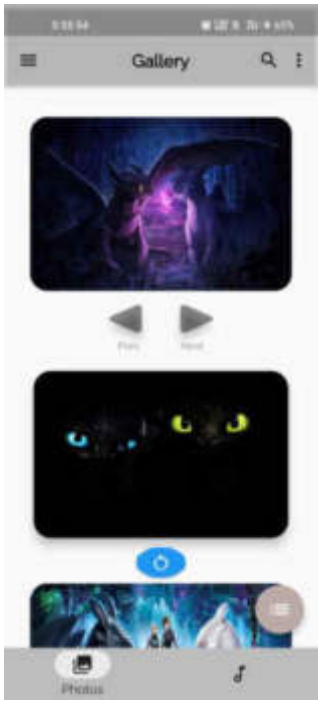


Fig 3.7 Network Pictures

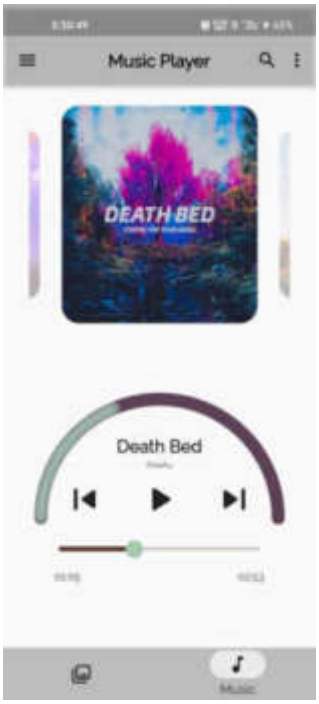


Fig 3.8 Music player screen

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[5] Webito Infotech company website: https://webitoinfotech.com/

[6] Network Image Reference: https://www.wallpaperflare.com/

[7] Development IDE reference: https://developer.android.com/studio

Appendix

Annexure 1: Offer letter



WEBITO Infotech
OUR PASSION , YOUR BUSINESS

303-305 Golden Square, besides D-mart,
Mota Varachha,
Surat, Gujarat - 394101
India.
social@webitoinfotech.com
webitoinfotech.com

TO WHOMSOEVER IT MAY CONCERN

To,

Mr. **Amiraj Bhanderi**

We are pleased to inform your acceptance of an internship position as a Trainee in **Flutter App Development** Your Internship Period Will Be from **27th July 2023 to 10th August 2023**. In addition to your duties outlined in the interview, you will report to your supervisor, Brijesh Goyani.

As an intern, you are not the company's employee and therefore, will not receive health and compensation benefits. But you will get a **LOR (Letter of Recommendation)** and **Certificate (Experience Letter).** You understand that participating in the internship program is not an offer of employment.

During your internship, you will have access to the company's clients and confidential information. You agree that you will keep all this information and client information strictly confidential and will not share this information with anyone outside the company and not use it for your benefit.

Congratulations.

Best Regards,

Brijesh Goyani
(Director)
WEBITO INFOTECH PVT. LTD.

Fig I. Offer letter

INTERNSHIP AT CREART SOLUTIONS PVT. LTD.

AN INTERNSHIP REPORT

ON

D'JANGO PYTHON

Submitted by

Aksh Darji

(200390116011)

In partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July-August, 2023

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled Internship at **CREART SOLUTIONS PVT. LTD.** has been carried out by **Darji Aksh Mukeshbhai** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof.	Prof. Akshay Kansara
Internal Guide	Head of Department

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

JOINING LETTER

CREART

INTERNSHIP JOINING LETTER

Date: 27th July 2023

This is to certify that

Mr/Ms. AKSH DARJI
Enrollment No : 200390116011
College : Saffrony Institute of Technology

has been selected for the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at CreArt Solutions, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

Figure 1: Joining Letter

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

COMPLETION LETTER



INTERNSHIP COMPLETION LETTER

CREART

Date: 10th August 2023

This is to certify that

Mr/Ms. AKSH DARJI
Enrollment No : 200390116011
College : Saffrony Institute of Technology

has successfully completed the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

Figure 2: Completion Letter

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I do declare that the Internship report submitted along with the Internship entitled on **NoticeHub** using **D'jango Python** at **CREART SOLUTIONS PVT. LTD.** submitted in partial fulfilment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad.

I hereby warrant that the work I have presented does not breach any existing copyright acts.

Name of the Student	Sign of Student
Aksh Darji	_____

ACKNOWLEDGMENT

I would like to extend my heartfelt gratitude to everyone who made my enriching 2-week internship at CREART SOLUTIONS PVT. LTD. a valuable learning experience. First and foremost, I am immensely thankful to Alkesh Kaba for his dedicated efforts in conducting daily sessions. His insightful guidance and patient teaching style helped me grasp the intricacies of Python and the Django framework, laying a strong foundation for my web development journey. I would also like to express my appreciation to Krishnamohan Gupta, the CEO of CREART SOLUTIONS for offering this invaluable internship opportunity. His visionary leadership and support have been instrumental in shaping this educational experience. Lastly, I want to acknowledge the entire CREART SOLUTIONS team for their welcoming atmosphere and collaborative spirit. Their camaraderie and willingness to share knowledge contributed greatly to my growth as a developer. I am truly grateful for the opportunity and look forward to applying the skills and insights gained during this internship in my future endeavours.

ABSTRACT

During the engaging two-week internship at CREART SOLUTIONS PVT. LTD., I had the privilege of participating in a comprehensive program designed to enhance my skills as a Django Developer. Under the guidance of Alkesh Kaba, I was introduced to the world of Python and gained practical experience in building applications using the Django framework. The internship culminated in the creation of "NoticeHub," a dynamic platform that enables efficient communication between administrators and students. This hands-on experience not only deepened my technical knowledge but also emphasized the importance of collaborative teamwork and the application of theoretical concepts in real-world scenarios. The internship, facilitated by CEO Krishnamohan Gupta, provided a valuable opportunity to bridge the gap between academic learning and practical implementation.

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CHAPTER 1: INTRODUCTION

1.1 About Company

- CreArt Solutions is a privately owned IT solutions company based in Ahmedabad, Gujarat, India. It was founded in 2013 with the mission to "create a resistant future" by bringing together business, people, and technology. CreArt offers a wide range of services, including software development, digital marketing, SEO, and cloud computing.

- CreArt is a fast-growing company with a strong focus on innovation and creativity. The company culture is collaborative and supportive, and employees are encouraged to take ownership of their work and to be creative in their problem-solving. CreArt has a proven track record of success, having worked with a variety of clients, including Fortune 500 companies. In 2022, CreArt was named one of the "Top 10 IT Companies in Ahmedabad" by the Economic Times.

- CreArt is committed to continued growth and innovation. The company plans to expand its services and to enter new markets in the coming years. CreArt is also committed to giving back to the community, and it supports a number of local charities.

- CreArt is also focused on providing training and development opportunities for its employees. The company offers a variety of training programs, both in-house and external, to help its employees stay up-to-date on the latest technologies and best practices.

- I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience.

1.2 Mission and Vision of the Company

Mission

CREART SOLUTIONS PVT. LTD. is committed to creating a resistant future by bringing together business, people, and technology. We believe that by working together, we can create innovative solutions that solve real-world problems.

Creart Solution strongly believe in delivering the best services to the clients till their satisfaction. Main objective of CreArt is to provide professional, qualitative, innovative and accessible services in every possible form.

Vision

We envision a world where everyone has access to the tools and technologies they need to succeed. We believe that technology can be a force for good, and we are committed to using our skills and expertise to make a positive impact on the world.

CHAPTER 2: ABOUT DOMAIN (WEEK 1)

2.1 Domain Introduction

- The internship at CreArt Solution offered a comprehensive introduction to the realm of web development, focusing on both foundational programming skills and advanced web framework utilization. In the first week, the curriculum centered around Python, a versatile and widely-used programming language, providing a strong basis for understanding coding concepts. The second week delved into the Django framework, a powerful tool for creating web applications efficiently.

- Django simplifies the complexities of web development by providing a structured approach and a range of built-in functionalities. This framework enables developers to swiftly create feature-rich websites and applications, making it an integral component of modern web development.

- As a practical culmination of the internship, I was tasked with designing and building a web application named "NoticeHub" using the Django framework. This platform facilitates seamless communication between administrators and users, streamlining the process of posting and accessing important notices. This project not only consolidated my learning but also underscored the practical application of the skills acquired throughout the internship, reinforcing the significance of hands-on experience in mastering web development.

2.2 Introduction and Installation

2.2.1 Python Introduction

- The inaugural lecture of the internship at CreArt Solution provided a comprehensive introduction to Python, a versatile and user-friendly programming language. Python's popularity stems from its simplicity, readability, and extensive libraries, making it an ideal language for both beginners and experienced developers.

- The lecture covered the fundamental concepts of Python programming, including data types, variables, operators, and control structures. Hands-on exercises allowed us to apply these concepts and gain a practical understanding of coding syntax and logic.

- Python's object-oriented programming (OOP) principles were also explored, elucidating the significance of classes, objects, and methods in creating efficient and modular code. The lecture underscored Python's strengths in data manipulation, and its usage in various domains, such as web development, data analysis, and artificial intelligence, was highlighted.

- As the foundation of our internship journey, this introduction to Python laid the groundwork for comprehending subsequent topics, enabling us to embark on the exploration of web development using the Django framework.



Figure 3: Django Image

2.2.2 Python and Text Editor Installation

- The lecture commenced with a step-by-step guide on installing Python on our local machines, ensuring that we have a functional development environment. Additionally, the lecture guided us through the installation of the Sublime Text text editor, a popular choice among programmers due to its user-friendly interface and powerful features.

- By providing us with hands-on experience in installing Python and setting up a reliable text editor, the lecture ensured that we were well-equipped to begin our journey into programming and web development using the Django framework. This foundational knowledge was pivotal in establishing a conducive learning environment for the subsequent stages of the internship.

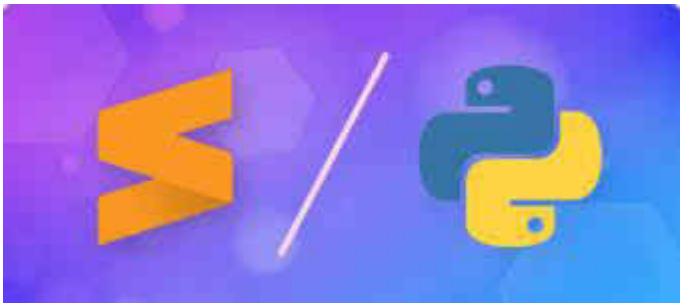


Figure 4: Sublime Editor Image

.

CHAPTER 3: PYTHON DATATYPES AND VARIABLES

3.1 Data Types and Variables

- The second lecture of the internship at CreArt Solution delved into the fundamental concepts of Python data types and variables. This lecture was instrumental in providing a solid understanding of how data is structured and manipulated within the Python programming language.

- We explored the various data types available in Python, including integers, floats, strings, lists, tuples, and dictionaries. Each data type was explained in detail, elucidating their specific characteristics and use cases. Practical examples were provided to illustrate how to declare variables and assign values of different data types.

- The lecture emphasized the importance of data type selection in optimizing memory usage and ensuring accurate data representation. Additionally, concepts like type casting and variable naming conventions were covered to promote coding best practices.

- By comprehensively covering Python data types and variables, this lecture equipped us with the foundational knowledge necessary for effective programming and data manipulation. This understanding formed the bedrock for our subsequent exploration of more advanced programming concepts and the application of these principles in web development using the Django framework.

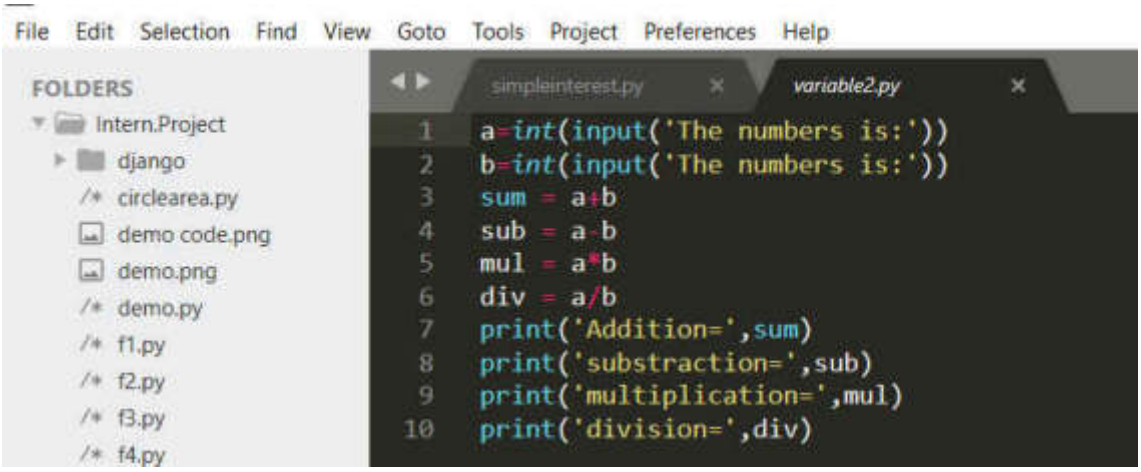


Figure 5: Data Types and Variables

CHAPTER 4: PYTHON PROBLEM SOLVING EXAMPLES

4.1 Area of Triangle and Pentagon

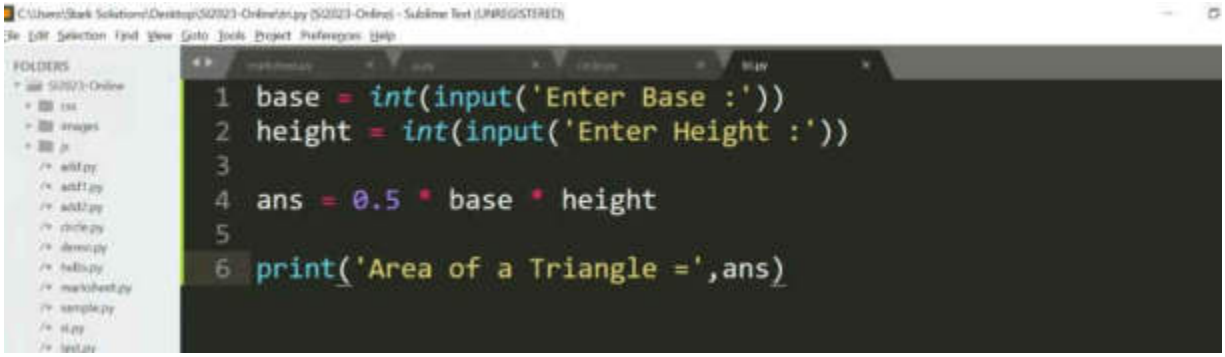
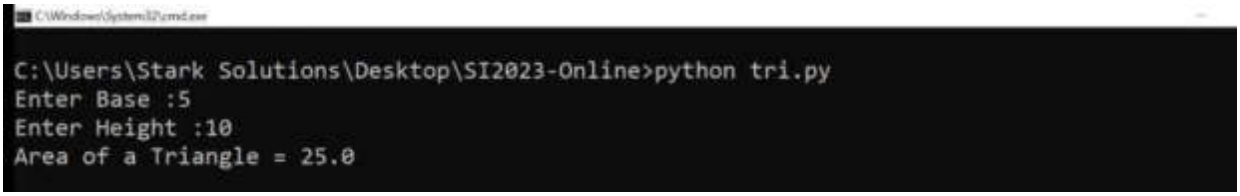


Figure 6: Area of Triangle

Output:



Area of Pentagon

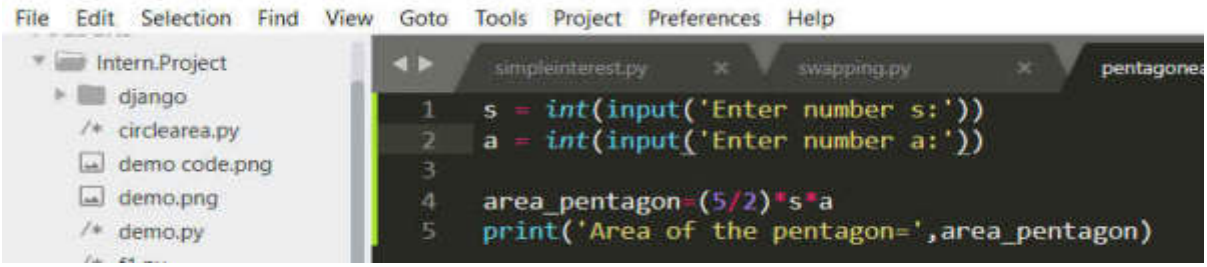


Figure 7: Area of Pentagon

Output:



4.2 Temperature Converter

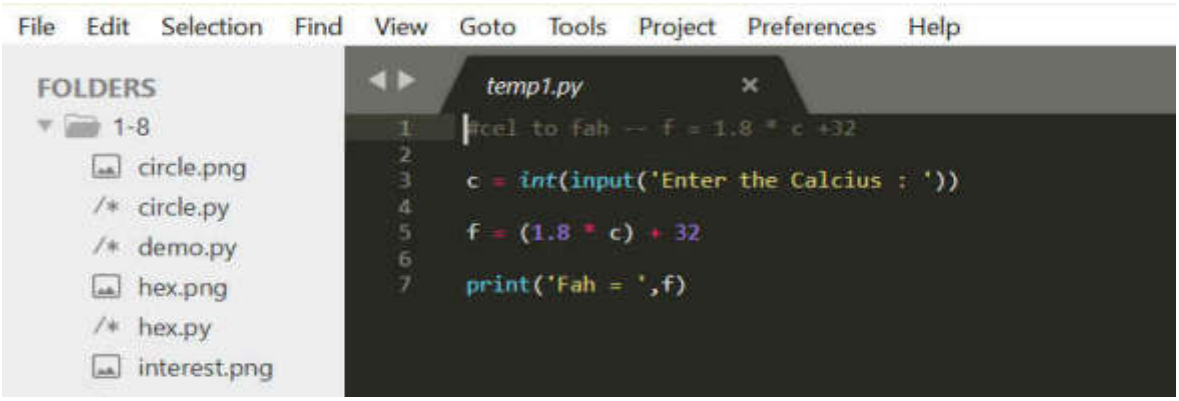


Figure 8: Temperature Converter

Output:

```
C:\Users\Stark Solutions\Desktop\SI2023-Online>python temp1.py
Enter the Temprature in Cel :25
Fah = 77.0
```

CHAPTER 5: PYTHON FUNCTION

5.1 Python Function

- A Function in Python is a reusable piece of code that performs specific tasks. It's defined using the def keyword, followed by a name and optional parameters in parentheses. Functions are called by their name with parentheses, and they can return values using the return statement.

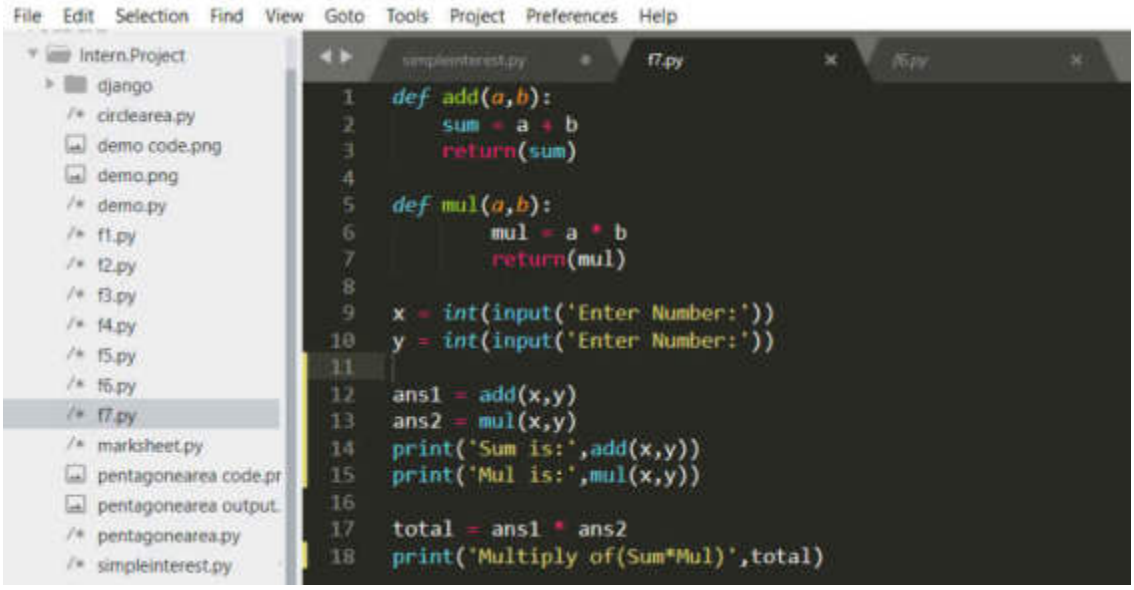


Figure 9: Python Function

Output:

```
Enter Number:10
Enter Number:20
Sum is: 30
Mul is: 200
Multiply of(Sum*Mul) 6000
```

CHAPTER 6: DJANGO INTRODUCTION (WEEK 2)

6.1 Introduction of Django Framework

The introduction to the Django framework during our internship at CreArt Solution was a pivotal moment. Django, a high-level Python web framework, revolutionizes web application development by providing a comprehensive toolkit and following a "batteries-included" philosophy. This lecture introduced us to Django's Model-View-Template (MVT) architecture, URL routing, and the powerful admin interface. This foundation set the stage for creating dynamic and efficient web applications, enriching our web development skills significantly.

6.2 Django installation and Environment Setup

Django Project Setup Steps:

1. **Creating a Virtual Environment:** We established a virtual environment to ensure isolated dependencies for our project. This step fosters a controlled development environment, preventing conflicts with other projects.

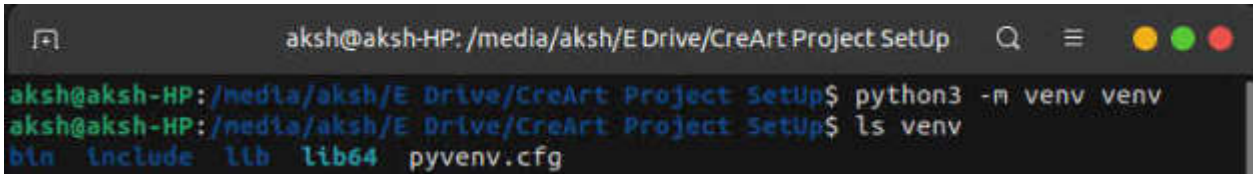


Figure 10: Virtual Environment

2. **Project Initialization:** Using the Django-admin command-line tool, we initiated a new project. This command automatically generated the basic structure necessary for a Django project.

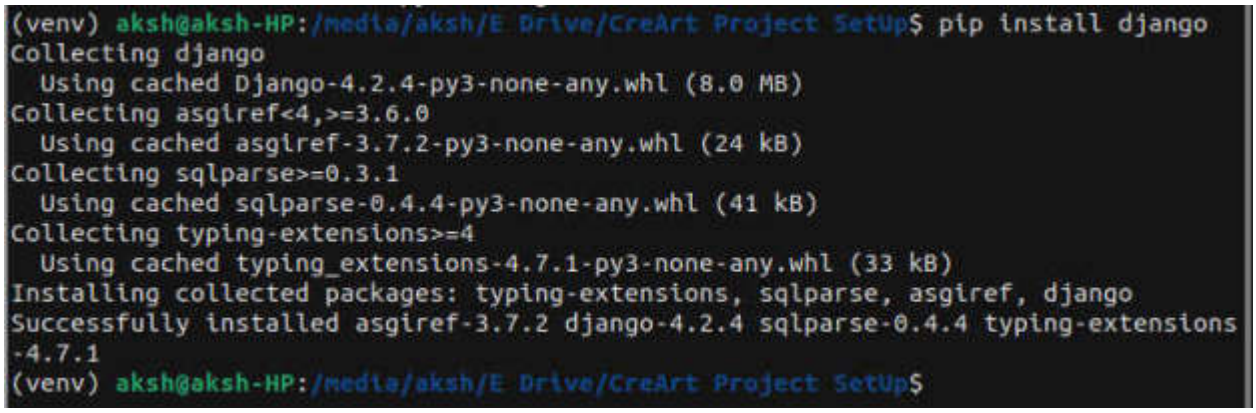


Figure 11: Project Initialization

3. **App Creation:** Within the project, we created distinct applications, each catering to specific features or components. Django's modularity shines through the creation of apps, enabling focused development.

```
(venv) aksh@aksh-HP:/media/aksh/E Drive/CreArt Project SetUp$ django-admin
startproject myproject
```

Figure 12: App Creation

4. **Database Configuration:** Django's robust Object-Relational Mapping (ORM) system facilitates database interactions. We configured the database settings to align with our project requirements.

```
DATABASES = {
    "default": {
        "ENGINE": "django.db.backends.mysql",
        "NAME": "NoticeHub",
        "USER": "root",
        "PASSWORD": "",
        "HOST": "127.0.0.1",
        "PORT": "3306",
    }
}
```

Figure 13: Database Configuration

5. **URL Mapping:** Through URL routing, we mapped URLs to specific views, ensuring seamless navigation within the application.

```
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('', include('user.urls')),
    path('admin/', admin.site.urls),
    path('user/', include('user.urls'))
]
```

Figure 14: URL Mapping

6. **Creating Views and Templates:** We designed views to manage data and templates to define the presentation of our web pages.

```
def home(request):
        context = {}
        return render(request,'user/home.html',context)

def aboutUs(request):
        context = {}
        return render(request,'user/aboutUs.html',context)
```

Figure 15: Creation Views and Templates

7. **Admin Interface Setup:** Django's powerful admin interface was configured to manage the application's data efficiently.

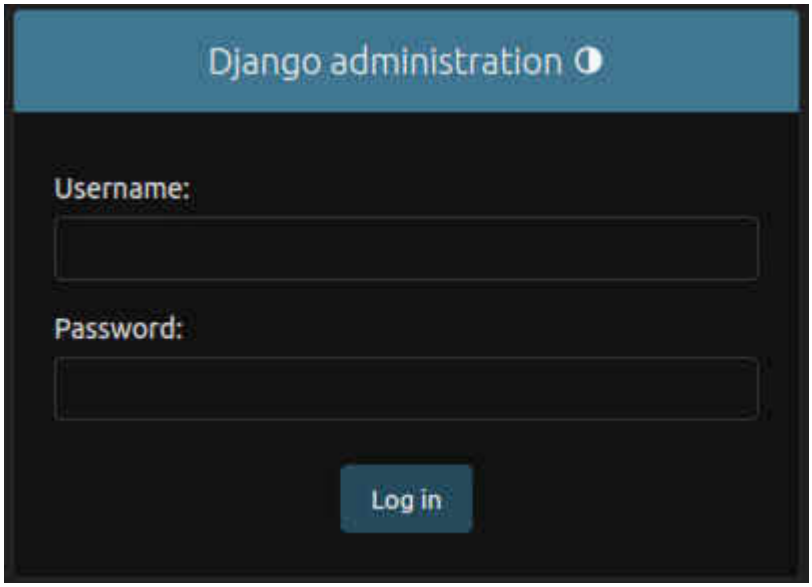


Figure 16: Admin Interface Setup

By meticulously following these steps, we established a functional project environment, ready to accommodate our web development journey using the Django framework. This process empowered us to progress from theoretical knowledge to hands-on application, facilitating the creation of dynamic and engaging web applications.

CHAPTER 7: TEMPLATES RENDERING

7.1 Templates configuration and creation

We configured Django's template system to separate HTML structure from Python code, promoting clean and organized code. By creating template files, we defined the visual presentation of our web pages while dynamically incorporating data from the backend, ensuring a user-friendly and adaptable interface.

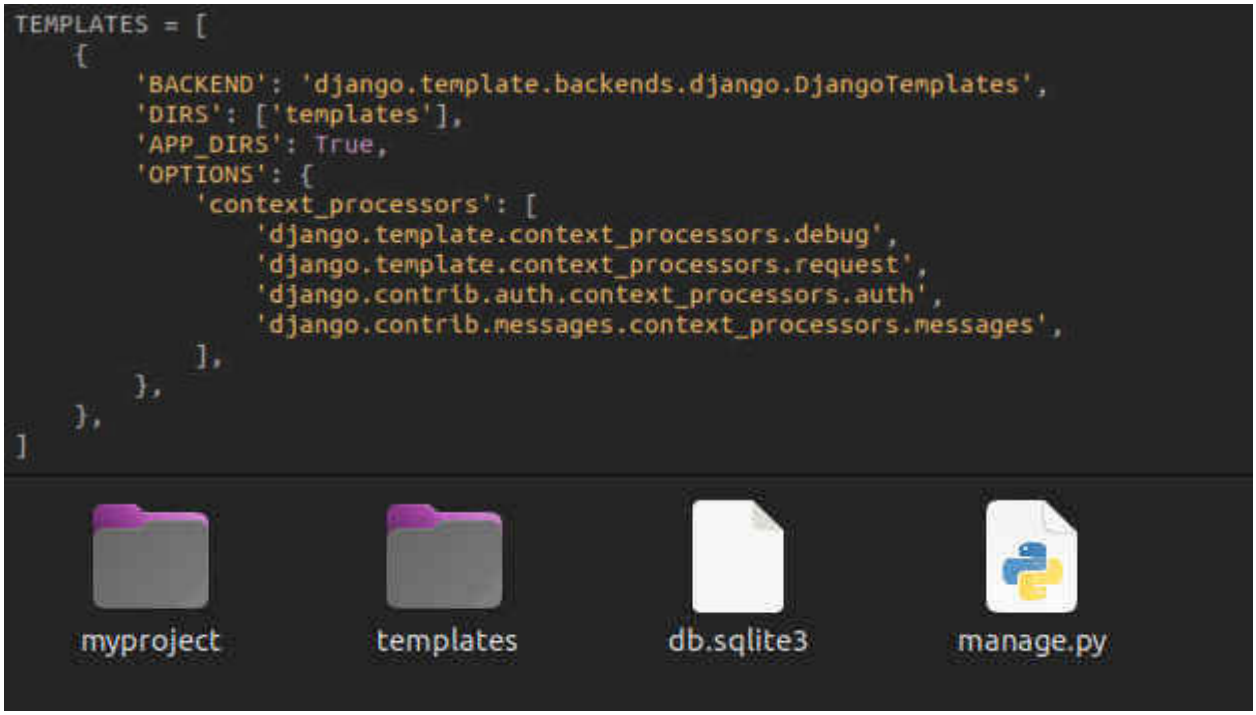


Figure 17: Templates Configuration

```
def home(request):
        context = {}
        return render(request,'user/home.html',context)

def aboutUs(request):
        context = {}
        return render(request,'user/aboutUs.html',context)
```

Figure 18: Templates Rendering

CHAPTER 8: ADDING CUSTOM CSS TO HTML PAGE

8.1 CSS file creation and load to HTML page

We integrated CSS styles into our Django project by creating a static directory and linking the CSS file to HTML templates using the **{% static %}** template tag, ensuring consistent and visually appealing designs across our web application.

We elevated the visual appeal of our Django web application by seamlessly integrating CSS styles, enriching user experience and interface aesthetics.

```css
/* Reset default margin and padding */
* {
    margin: 0;
    padding: 0;
    box-sizing: border-box;
}

/* Basic styling for the navigation bar */
.navbar {
    display: flex;
    justify-content: space-between;
    align-items: center;
    background-color: #333;
    padding: 10px 20px;
}
```

Figure 19: CSS file configuration

```
{% load static %}
<!DOCTYPE html>
<html>
<head>
    <title>Home</title>
    <link rel="stylesheet" type="text/css" href="{% static 'user/css/home.css'%}">
</head>
<body>
```

Figure 20: CSS load to HTML

CHAPTER 9: NOTICEHUB PROJECT

9.1 Project Introduction

NoticeHub:

The NoticeHub project, a culmination of our internship at CreArt Solution, exemplifies the practical implementation of Django. This platform empowers administrators to effortlessly publish notices while enabling students to conveniently access and view these updates. Through this project, we showcased our proficiency in web development and the application of Django's features in a real-world context.

Technology:

Python (Django), HTML, CSS and MySQL Database

9.2 Project Creation

1. **Creating a Virtual Environment:** We established a virtual environment to ensure isolated dependencies for our project.
2. **Project Initialization:** Using the Django-admin command-line tool, we initiated a new project.
3. **App Creation:** Within the project, we created distinct applications, each catering to specific features or components. Django's modularity shines through the creation of apps, enabling focused development.

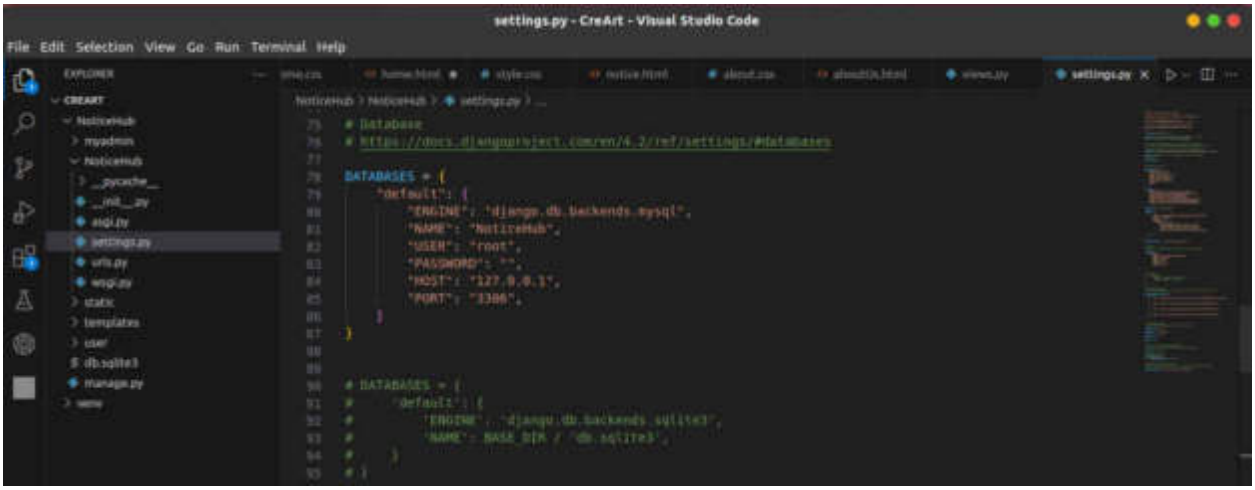


Figure 21: App Configuration

4. **Database Configuration:** Django's robust Object-Relational Mapping (ORM) system facilitates database interactions. We configured the database settings to align with our project requirements.

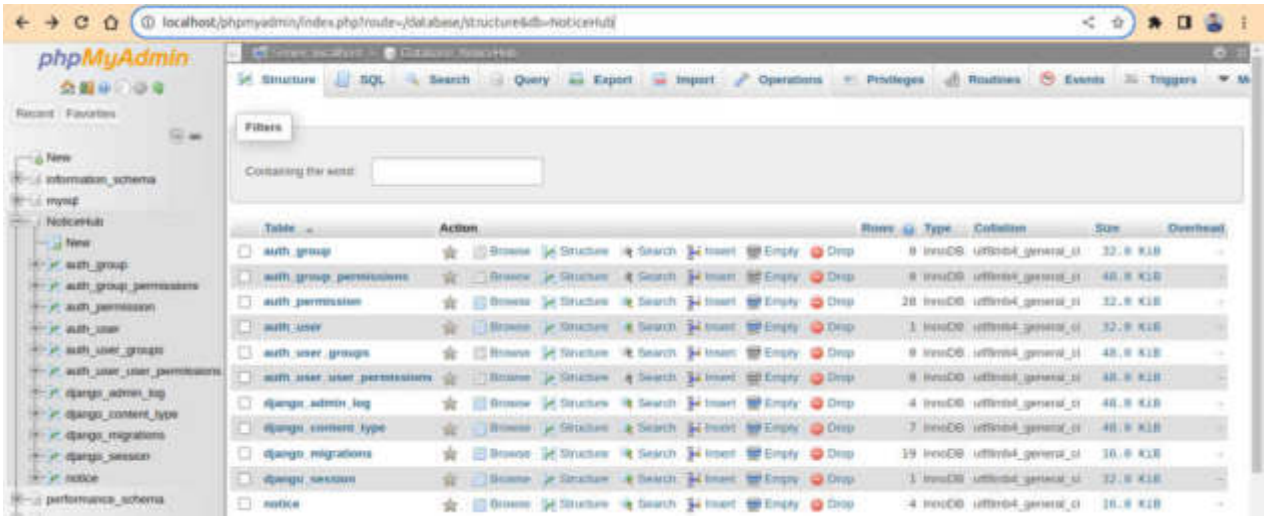


Figure 22: Database Creation

5. **Admin Interface:** We harnessed Django's powerful admin interface to efficiently manage and manipulate application data, enhancing the backend administration process

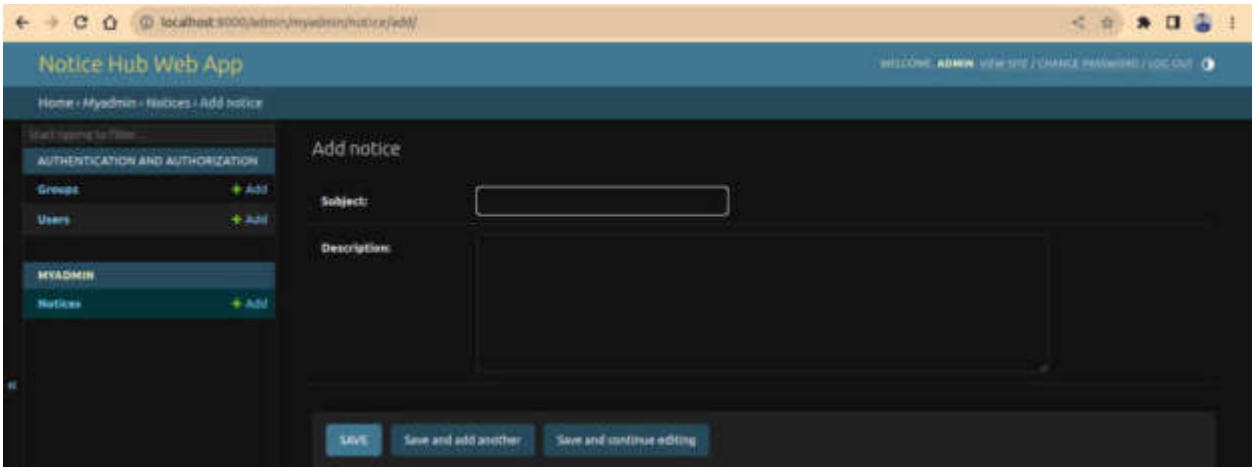


Figure 23: Admin Interface

6. **User Interface:** We created an intuitive and user-friendly interface for students, enabling easy access to important notices and facilitating effective communication between administrators and users.

```css
/* Reset default margin and padding */
* {
    margin: 0;
    padding: 0;
    box-sizing: border-box;
}

/* Basic styling for the navigation bar */
.navbar {
    display: flex;
    justify-content: space-between;
    align-items: center;
    background-color: #333;
    padding: 10px 20px;
}

/* Logo styling */
.logo img {
    height: 40px;
}
```

Figure 24: Styling page using CSS



Figure 25: User Interface

7. **AboutUs Page:** Uncover the journey, mission, and vision that drive CreArt Solution through our About Us page, providing insight into our values and expertise.



Figure 26: AboutUs page

CHAPTER 10: REFERENCES

* Alkesh Kaba, Software Engineer, CreArt Solutions, Ahmedabad, India. Email: alkesh.kaba@creart.in.

* Krishnamohan Gupta, CEO, CreArt Solutions, Ahmedabad, India. Email: krishnamohan.gupta@creart.in.

* * *

INTERNSHIP AT WEBITO INFOTECH

AN INTERNSHIP REPORT

Submitted by

Yash RiteshBhai Babariya

200390116012

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July-August, 2023

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at WEBITO Infotech** has been carried out by **Yash RiteshbBhai Babariya** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, **7th Semester** of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Akshay Kansara
Internal Guide

Prof. Akshay Kansara
Head of Department

Company Certificate



Fig 1. Internship completion certificate

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship report submitted along with the Internship entitled **Internship at WEBITO Infotech** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad is a bonafide record of original project work carried out by me under the supervision of **Prof. Akshay Kansara** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student

Yash Riteshbhai Babariya

Sign of Student

Y.R. Babariya

ACKNOWLEDGMENT

I extend my sincere gratitude to **WEBITO Infotech** for providing me with the invaluable opportunity to undertake a **15-day summer internship** in the realm of mobile application development using Flutter. This experience has been instrumental in enhancing my practical knowledge and skills in the field.

I would like to express my heartfelt appreciation to **Mr. Kewal Bhalala** and **Mr. Brijesh Goyani** for their unwavering support and guidance throughout my internship journey. Their mentorship and insights have been instrumental in shaping my understanding of mobile app development.

The opportunity to translate classroom learning into practical applications by developing an actual mobile app has been both enlightening and rewarding. The experience of conceiving, designing, and implementing the app has provided me with a profound understanding of the software development lifecycle.

I am truly thankful for the knowledge and exposure I have gained during my time at WEBITO Infotech, which I believe will serve as a solid foundation for my future endeavors in the world of technology.

Once again, thank you for the opportunity and support.

Sincerely,

Yash Babariya

Abstract

During my enriching 15-day internship at WEBITO Infotech, an innovative IT service company headquartered in Surat, I gained experience in designing mobile application user interfaces using Flutter Framework and working with skilled developers. I gained proficiency in Flutter, a versatile framework, and conceptualized and try to create a functional mobile application. The internship also provided insights into the app development life cycle, culminating in deploying the app on the Google Play Store, showcasing my skills and confidence in both design and development domains. This accomplishment underscored my grasp of the entire app development ecosystem, reinforcing my skills and confidence in both design and development domains.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE

Webito Infotech Pvt. Ltd. is one of the most trusted Software development companies today. With a futuristic vision, few people had begun the company quite humbly in 2020 with a little capital and a couple of employees for web designing as a primary service. What they all had was untiring energy and allegiance toward the work. In a year, the company witnessed roaring success and growth in both the workforce of over 15 employees and a wide range of services such as Mobile Application Development, Desktop application development, Cloud Solutions, Game Development, ERP applications, and almost everything under the hood of computing and communication technology.

Webito infotech enthusiasm will lead us to become a top IT company in India & USA for delivering various industry-led mobility solutions in web and mobile application development domains leveraging futuristic technologies like the Internet of Things (IoT), AI-ML, AR-VR, Voice assistants, and Voice Skills, DevOps & Cloud computing, etc.

The company grew leaps and bounds with over 30 (and counting…) successful customized web applications and solutions empowering businesses around the world to harness the force of technology to enrich human lives and increase business efficiency. We take immense pleasure to say that 70% of our business comes from existing clients.

1.2 MISSION AND VISION OF WEBITO INFOTECH

1.2.1 Mission

Webito commit to make the term ‘offshore’ synonymous with ‘quality’. We are constantly refining our outsourcing model to offer better deals to our clients. Webito expanding portfolio of services enables us to deliver end-to-end solutions, while our growing technical expertise makes it possible for us to tackle even highly complex projects. By building our presence in different parts of the world, nurturing talent, streamlining our management processes, and staying committed to continuous improvement, we find ways in which to deliver quality solutions at affordable rates. The open-minded professionals working with us match and exceed the client’s expectations. Webito is known for delivering high-quality, cost-effective, and productive solutions to help our client’s businesses grow. Webito understand that our success depends on our customers’ success.

1.2.1 Vision

For any business, customers are always at the center. Being a leading web and mobile app development company, our definition goes beyond our direct customers. Webito always starts from where you are with your ideas and we think from YOUR end customer's perspectives, and their pain areas and devise a solution that solves core problems to benefit your business. Communication is the Key. We tend to over-communicate at times. Although sounds overwhelming, eventually it works wonders for our client business. When our development team collaborates with our clients sitting a thousand miles away, it's apparent that we stay in touch with platforms and mediums that allow effectiveness, transparency, and accuracy. With over two decades of experience in the offshore IT software development industry, we have a great set of internal frameworks with best-in-class infrastructure that enables us to deliver solutions with superior quality, at all times. All these years, we have learned how to prevent failures and replicate success. We don't just brag about quality. Webito defines and delivers it in time.

1.3 PROJECT OVERVIEW

Introducing the Hamari Medicine’s app, This is a user-friendly mobile application designed to provide a convenient platform for users to explore, search for, and purchase generic medicine products. The app aims to enhance the shopping experience for health-conscious individuals and those looking for cost-effective alternatives to brand-name medications.

This Medicine app can be quite beneficial, as it provides users with easy access to information about various generic medicine products and allows them to make purchases conveniently.

➔ Key Features:

- User Registration
- Product Listings
- Product Details
- Shopping Cart

Chapter 2. PROCESS OF APPLICATION DEVELOPMENT

2.1 APPLICATION UI DESIGNING PHASE

2.1.1 Tool's

- Figma - Figma played a pivotal role in shaping the entire application's user interface, encompassing a spectrum of screens adorned with a distinctive color palette. Figma is use for creating design, prototyping and implementation Elevating the user experience I seamlessly integrated select third-party images and captivating animations.

2.1.2 Color Palette

- I carefully selected a range of colors to craft the app's user interface, following key principles of UI design. This palette sets a cohesive theme throughout the app, ensuring a pleasing and consistent visual experience.
- Here are the colors I used:

```
static Color blue = Colors.blueAccent;
static Color cream = Color(0xfff5f5f5);
static Color creem = Colors.white38;
```

Fig 2.1. Color Palette

2.1.3 Overview

- In designing that I am making total 4 screen and choose for three to four primary colors. These screens encompass the Login Page, Home Page, Home Detail Page and Add to Cart Page. Each screen plays a crucial and unique role within the application, contributing to its overall functionality and enhancing the user experience. Designing a medicine app using flutter involves creating an intuitive and user-friendly interface that allows users to purchase medicine products easily.

2.1.4 Result of Designing Phase

- This UI compilation proved invaluable during the subsequent development process, facilitating the extraction of crucial design elements such as sizes, text styles, and various assets. I am playing a crucial role during the designing phase of app development, ensuring that the design vision is technically feasible, implementable, and aligns with best practices. Also perform role for navigation, state management and components.

2.2 APPLICATION DEVELOPMENT PHASE

2.2.1 Used Technology

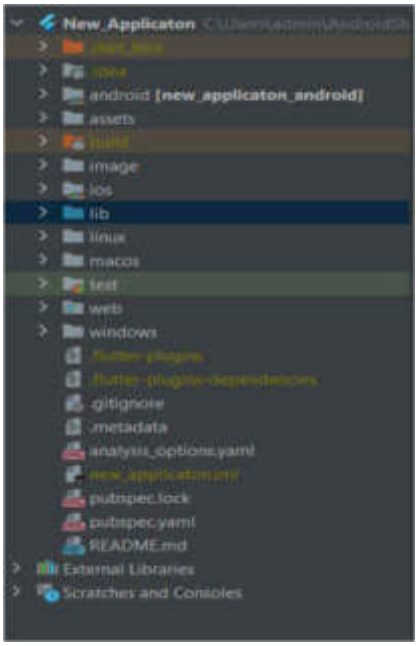
I built the Hamari Medicine's app using the following technologies:

1. Flutter: Flutter is an open-source framework developed and supported by Google. Frontend and full-stack developers use Flutter to build an application's user interface (UI) for multiple platforms with a single codebase.

2. Dart: Dart is a general-purpose programming language that can be used for various applications, including web development, server-side programming, and mobile app development. Flutter is a framework of the dart.

2.2.2 File Structure

To organize my whole application code for better understanding, increase productivity, and under the table by another developer, I structure my code in the below file format structure.



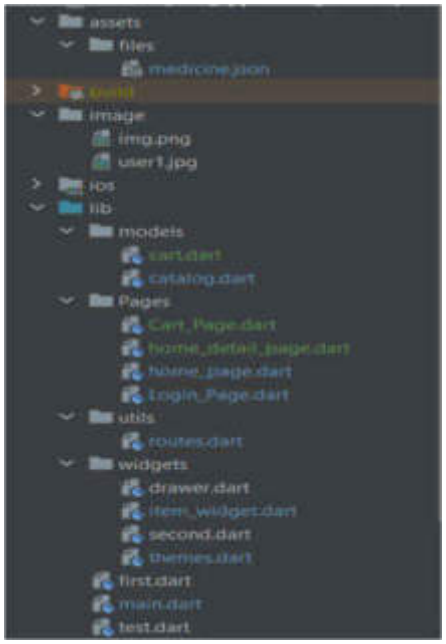


Fig 2.2 File Structure-I

Fig 2.3 File Structure-II

2.2.2.1 pubspec.yaml file

when integrating third-party dependencies or packages from pub. dart, all of these additions are cataloged within the pubspec.yaml file. Moreover, this same pubspec.yaml file serves as the repository for various assets, including fonts, icons, and images.

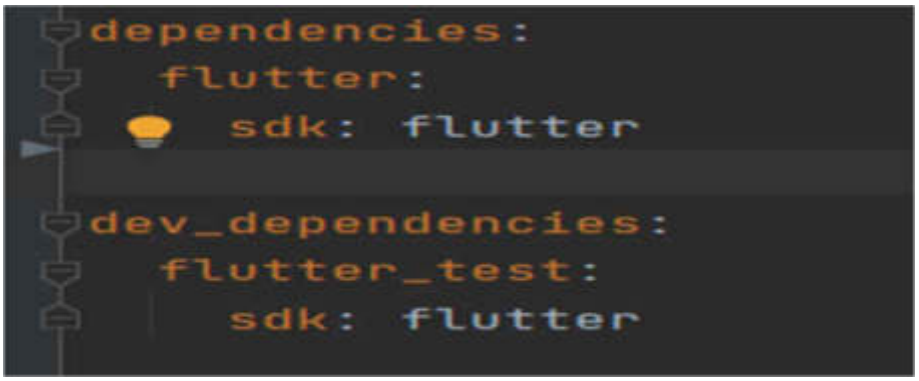


Fig 2.4 Dependencies pubspec.yaml file

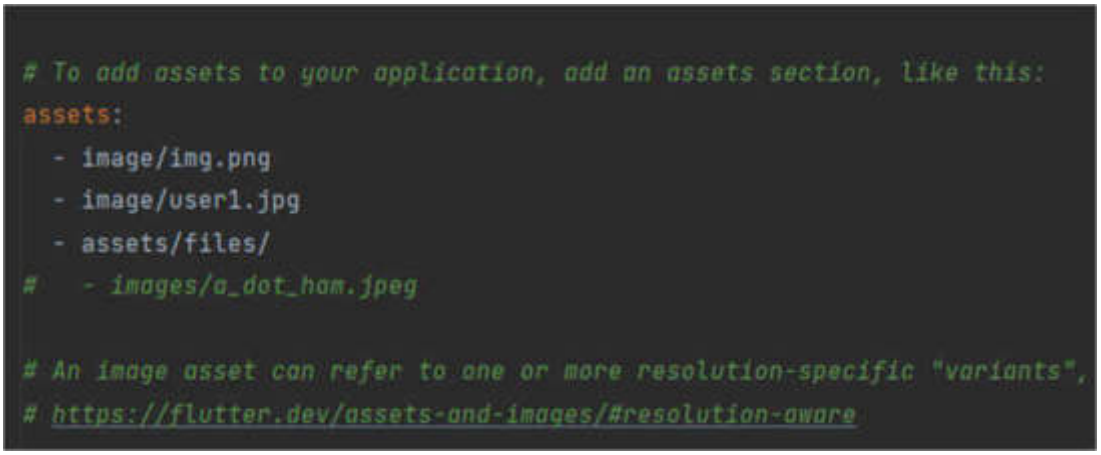


Fig 2.5 Image assets in pubspec.yaml file

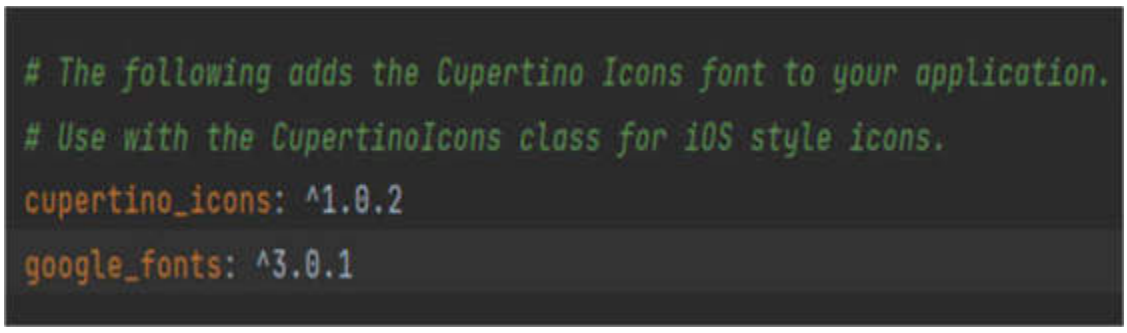


Fig 2.6 Font assets in pubspec.yaml file

2.2.3 Assets Structure

Assets are like the building blocks that make our app visually appealing. They include images, icons, files, and more. For this project, I gathered images & Files and placed them in a folder called "Assets." This way, everything we need for the app's look is neatly organized in one place, making it easy to find and use during design and development.

Here is my asset's structure:

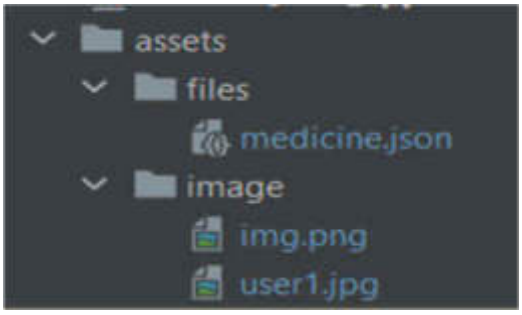


Fig 2.7 Assets structure

2.2.4 Process Overview

- Once all the files were in place and the project was primed, I initiated the coding process, starting with the login page screen. This page contains the customer basic login related info. Here, I translated the designed UI into functional reality using Flutter.
- Different widgets of Flutter have been used in the home page and shown the list of medicine. Different medicines are defined to its own properties like image, name, price and description.
- If click the individual medicine then next page shown for the more info about the medicine.
- here I am use for floating button for purchasing the medicine, which has animated to look more responsive to user.
- Next page is cart page that displays the user selected medicine list and also available on remove button features. Remove button That user who wants to remove the medicine can remove it.

2.3 APPLICATION DEPLOYMENT PHASE

2.3.1 Deployment Process Overview

- Following the completion of app development and thorough functionality testing, I moved on to the next phase of the application development cycle: deployment. As a preparatory step for releasing the app.
- I merge the all the widgets which I have implemented individually and made a single app Where users can easily buy different medicines from a single platform.

2.3.2 Commands for making .apk file and .adb file

I utilized the following command to create two distinct files that enable me to successfully publish my app on the Play Store:

For .apk file `flutter build apk --split-per-abi`

For app bundle (.aab) file `flutter build appbundle`

Chapter 3. PROTOTYPE OF APPLICATION

I included a collection of screenshots showcasing how my app looks and functions.

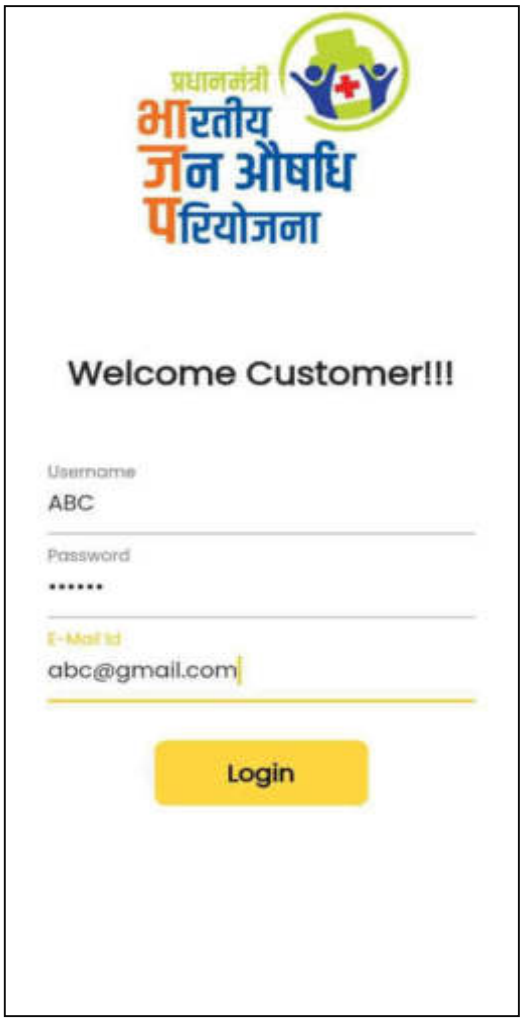


Fig 3.1 Login Page screen



Fig 3.2 Home screen - I



Fig 3.3 Home screen - II



Fig 3.4 Home screen select item



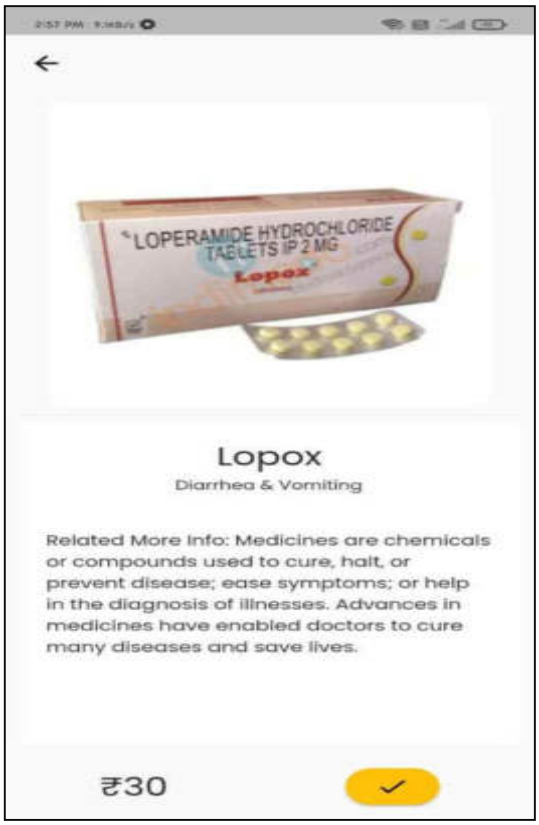


Fig 3.5 Medicine More Detail screen

Fig 3.6 Medicine More Detail screen-II

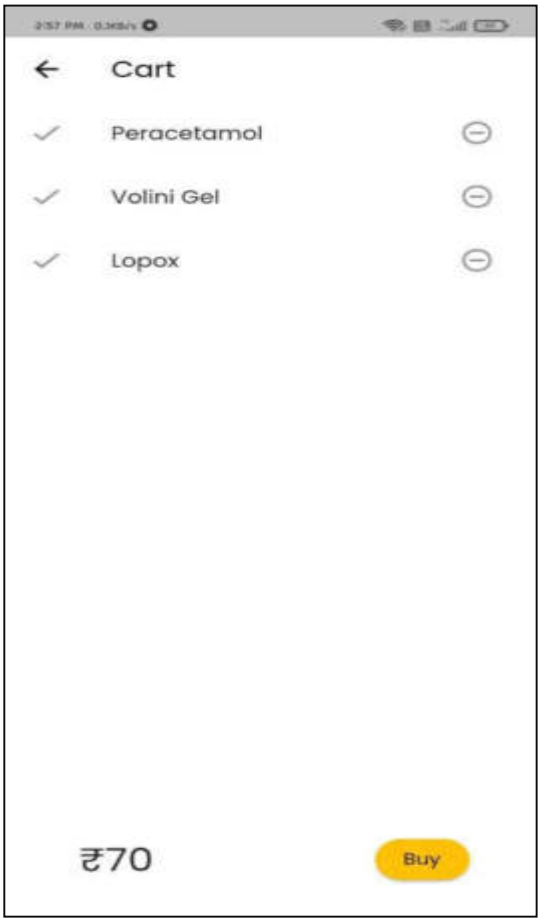


Fig 3.7 Add to Cart screen

References

[1]. Deployment Documentation: https://docs.flutter.dev/deployment/android

[2]. Third-party flutter dependency and package installation site: https://pub.dev/

[3]. Third-party assets and resources for development:
https://pub.dev/packages/google_fonts/versions

[4]. Flutter learning:

https://www.youtube.com/watch?v=agIf2HSqozc&list=PLz7ymP4HzwSF1zWwa7zHj4TvQY1fanCcX

https://www.youtube.com/watch?v=5rtujDjt50I&list=PLlxmoA0rQ-LyHW9voBdNo4gEEIh0SjG-q

[5]. Webito Infotech company website: https://webitoinfotech.com/

[6]. Medicine Reference: http://janaushadhi.gov.in/index.aspx

Appendix

Annexure 1: Offer letter



WEBITO Infotech
OUR PASSION , YOUR BUSINESS

303-305 Golden Square, besides D-mart,
Mota Varachha,
Surat, Gujarat - 394101
India.
social@webitoinfotech.com
webitoinfotech.com

TO WHOMSOEVER IT MAY CONCERN

To,

Mr. **Yash Babariya**

We are pleased to inform your acceptance of an internship position as a Trainee in **Flutter App Development** Your Internship Period Will Be from **27th July 2023 to 10th August 2023**. In addition to your duties outlined in the interview, you will report to your supervisor, Brijesh Goyani.

As an intern, you are not the company's employee and therefore, will not receive health and compensation benefits. But you will get a **LOR (Letter of Recommendation)** and **Certificate (Experience Letter).** You understand that participating in the internship program is not an offer of employment.

During your internship, you will have access to the company's clients and confidential information. You agree that you will keep all this information and client information strictly confidential and will not share this information with anyone outside the company and not use it for your benefit.

Congratulations.

Best Regards,

Brijesh Goyani

(Director)

WEBITO INFOTECH PVT. LTD.

Fig I. Offer letter

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD.

AN INTERNSHIP REPORT

ON

DYNAMIC WEB PAGE DESIGNING USING REACT JS

Submitted by

Modi Khushi Jagdishbhai

(200390116013)

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled Internship at **INFOLABZ IT SERVICES PVT. LTD.** has been carried out by **Modi Khushi Jagdishbhai** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Akshay Kansara	Prof. Akshay Kansara
Internal Guide	Head of Department

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

CONFIRMATION LETTER

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

Date: 15-07-2023

Subject: Regarding Summer Internship at INFOLABZ IT SERVICES PVT. LTD.
Internship Domain: Dynamic Web Page Designing Using React

Dear Khushi Modi ,

In reference to your application we would like to congratulate you on being selected for internship with InfoLabz IT Services Pvt. Ltd. based at Ahmedabad. Your internship is scheduled to start from 27 July 2023 for a period of 15 days.

During this internship, the concentration will be on helping you understand logical concepts with their practicality and implications to help you connect your classroom knowledge to industry standards. Your internship will include orientation and focus primarily on learning and developing new skills and gaining a deeper understanding of concepts through hands-on application of the knowledge.

We will be happy to guide you to learn new skills which are extremely helpful in professional standard.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

+91 8866662662
+91 8141236662
info@infolabz.in
www.infolabz.in
405 Vraj Avenue, Above SAM'S Pizza
Nr. Commerce Six Rd, Navrangpura,
Ahmedabad, Gujarat 380009

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

CERTIFICATE OF COMPLETION

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116013
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Khushi Modi .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Khushi Modi all the best for future endeavors.

INFOLABZ AHMEDABAD

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I do declare that the Internship report submitted along with the Internship entitled on **Dynamic web page designing using Reactjs at INFOLABZ IT SERVICES PVT. LTD.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad.

I hereby warrant that the work I have presented does not breach any existing copyright acts.

Name of the Student

Khushi Modi





COMPANY PROFILE

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concepts which could be used by millions of people.

ACKNOWLEDGMENT

The internship experience I had with INFOLABZ IT SERVICES PVT. LTD. was truly invaluable, providing me with a remarkable opportunity for learning and professional growth. I consider myself extremely fortunate to have been given this chance.

I would like to express my sincere gratitude to Mr. Chintan Nagrecha, the director and instructor at INFOLABZ IT SERVICES PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience. Additionally, I extend my heartfelt thanks to Ms. Zarana Shah, the HR professional at INFOLABZ IT SERVICES PVT. LTD., for her support and assistance.

This internship has marked a significant milestone in my career development, offering me a platform to acquire valuable skills and knowledge. I am committed to applying these newly acquired abilities in the most effective manner, while continuously striving to enhance and refine them. My dedication is geared towards achieving my ultimate career objectives.

Abstract

This internship will focus on dynamic webpage design using the popular React JavaScript framework, a crucial component of full stack web development. We will explore the significance of Application Programming Interfaces (APIs) as essential data sources, working with live APIs to create real-time dynamic web pages. The internship will cover key concepts such as HTTP's request-response mechanism and ES6, enabling us to fetch and integrate live data effectively. Through hands-on experience, we aim to master the art of crafting engaging and responsive web pages that reflect real-time information.

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WEEK 1: 27 JULY 2023

INTRODUCTION TO JS

- JavaScript (JS) is a programming language used for making websites interactive and dynamic.
- It runs in web browsers, helping create animations, forms, and real-time updates.
- It works with variables, functions, and events. It can modify webpage content (DOM) and handles user actions.
- JavaScript is versatile, has libraries/frameworks, and can also run on servers using Node.js.
- It's crucial for modern web development.

INTRODUCTION TO ES6

- ES6 (ECMAScript 2015) is a major update to the JavaScript programming language.
- It introduced new features and improvements to make code more concise, readable, and efficient.
- Some key ES6 features include arrow functions, template literals, `let` and `const` for variable declarations, classes for object-oriented programming, enhanced object and array handling, and more.
- It modernized JavaScript and enhanced its capabilities for developers.

OBJECTS

- In JavaScript, objects are fundamental data structures that store key-value pairs.
- They are used to represent real-world entities or concepts.
- Objects can hold various data types and functions, making them versatile for creating complex structures and behaviors.
- Properties are accessed using dot notation (`object.property`) or bracket notation (`object['property']`).
- Objects play a crucial role in JavaScript for organizing and manipulating data in a structured manner.

object.html > ...

```
<!DOCTYPE html>
<html lang="en">
<body>
    <script>
        const person = {
            firstName: 'Khushi',
            lastName: 'Modi',
            age: 20,
            isStudent: false,
            address: {
                street: 'XYZ',
                city: 'Mehsana',
                zipCode: '384002'
            },
            sayHello: function() {
                document.write(`Hello, my name is ${this.firstName} ${this.lastName}.`);
            }
        };

        document.write(person.firstName + "<br/>");
        document.write(person.age + "<br/>");
        document.write(person.address.city + "<br/>");
        person.sayHello();

    </script>
</body>
</html>
```

Fig1.1 Object.html

Output:

Khushi
20
Mehsana
Hello, my name is Khushi Modi.

Fig1.2 Output

WEEK 1: 28 JULY 2023

JS Functions & Arrow Functions

- **JavaScript functions** are blocks of code that perform specific tasks and can be reused throughout your program.
- They help organize code and make it more modular. Functions are defined using the `function` keyword, followed by a name, parameters, and a block of code.

- **Arrow functions**, introduced in ES6, provide a more concise syntax for defining functions.
- They are especially useful for short, inline functions. Arrow functions omit the `function` keyword and use a simplified syntax, making the code cleaner.

Example of a regular function:

```
function add(a, b) {
    return a + b;
    }
```

Example of an arrow function:

```
const add = (a, b) => a + b;
```

- Arrow functions also handle the `this` keyword differently, using the lexical context of where they are defined.
- They're a convenient way to write compact functions in JavaScript.

functions.html > ...

```
<!DOCTYPE html>
<body>
    <script>
        //1.function with no argument, no return value
        function one(){
            document.write("function one called..<br>");
        }
        one();

        //2.function with argument, no return value
        function two(a,b){
            document.write("addition of " +a+ " and " +b+ " is " +(a+b)+"<br>");
        }
        two(100,100);

        //3.function with no argument, with return value
        function three(){
            return "hello<br>";
        }
        var x = three();
        document.write(x);

        //4.function with argument, with return value
        function four(i,j){
            return "subtraction of " +i+ " and " +j+ " is " +(i-j);
        }
        var y = four(100,100);
        document.write(y);
    </script>
</body>
</html>
```

Fig2.1 Functions.html

Output:

function one called..
addition of 100 and 100 is 200
hello
subtraction of 100 and 100 is 0

Fig2.2 Output

arrowexample.html > ...

```
<!DOCTYPE html>
<body>
    <script>
        //even odd function with arrow function in js

        //1.function with no argument , no return value
        var one = () => {
            document.write("This is a message...<br>");
        };
        one(); // Output: This is a message.

        //2.function with argument, no return value
        var eo = (no) => {
            if(no%2==0){
                document.write("even <br>");
            }
            else{
                document.write("odd <br>");
            }
        }
        eo(18);

        //3.function with no argument , return value
        var generateRandomNumber = () => {
            return Math.random();
          };
        var randomNumber = generateRandomNumber();
        document.write(randomNumber);
        document.write("<br>"); // Output: A random number between 0 and 1

        //4.function with argument , with return value
        var square = (num) => {
            return num * num;
        };
        var result = square(5);
        document.write(result); // Output: 25
    </script>
</body>
</html>
```

Fig2.3 Arrowexample.html

Output :

This is a message...
even
0.4899374166347492
25

Fig2.4 Output

Async Function

- An async function in JavaScript is a function that allows you to write asynchronous code using a more readable and sequential syntax.
- It uses the `async` keyword before the `function` keyword and the `await` keyword to pause execution until promises are resolved.
- This simplifies handling asynchronous operations and error handling, making your code look and behave more like synchronous code.
- Async functions return promises and are a powerful tool for managing asynchronous tasks in a more intuitive way.

Syntax :

```
async function fetchData() {
  // Asynchronous code
}
```

Example:

Bit-Coin API

asyncfun.html > ...

```
<!DOCTYPE html>
<body>
    <script>
        async function load(){
            let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
            let myobject = await (await fetch(url)).json();
            document.write(myobject["bpi"]["USD"]["rate"]);
        }
        load();
    </script>
</body>
</html>
```

Fig2.5 Asyncfun.html

Output:

29,473.9916

Fig2.6 Output

WEEK 1: 31 JULY 2023

Covid API – Data fetching and mapping

coviddata.html > ...

```
<!DOCTYPE html>
<body>
    <script>
        async function load(){
            let url = "https://data.covid19india.org/data.json";
            let myobject = await (await fetch(url)).json();
            var days=0;
            document.write(myobject["cases_time_series"][0]["date"]+"<br>");
            document.write("Total number of days: "+myobject["cases_time_series"].length);

            document.write("<table border='1' width='100%'>");
                for(var i=0; i<myobject["cases_time_series"].length;i++){
                    if(myobject["cases_time_series"][i]["dailyconfirmed"]>=100000){
                        //add style
                        document.write("<tr style= 'color: red'><td>"+myobject["cases_time_series"][i]["date"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                                "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                                    "</td><td>"+myobject["cases_time_series"][i] ["dailyrecovered"]+"</td></tr>");

                        days = days + 1;
                    }
                    else{
                        document.write("<tr><td>"+myobject["cases_time_series"][i]["date"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                                "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                                    "</td><td>"+myobject["cases_time_series"][i]["dailyrecovered"]
                                        +"</td></tr>");
                    }
                }
                document.write("</table>");
                document.write("Total number of days with more than 1 lac cases :" +days);
            }
            load();
    </script>
</body>
</html>
```

Fig3.1 Coviddata.html

Output:

30 January 2020
Total number of days: 565

30 January 2020	1	0	0
31 January 2020	0	0	0
1 February 2020	0	0	0
2 February 2020	1	0	0
3 February 2020	1	0	0
4 February 2020	0	0	0
5 February 2020	0	0	0
6 February 2020	0	0	0
7 February 2020	0	0	0
8 February 2020	0	0	0
9 February 2020	0	0	0
10 February 2020	0	0	0
11 February 2020	0	0	0
12 February 2020	0	0	0
13 February 2020	0	0	1
14 February 2020	0	0	0
2 April 2021	89023	713	44179
3 April 2021	92984	514	46059
4 April 2021	103704	477	52840
5 April 2021	96563	446	50100
6 April 2021	111312	830	59714
7 April 2021	126276	884	59137
8 April 2021	131878	902	61829
9 April 2021	144945	773	77263
10 April 2021	152565	818	96928
11 April 2021	160914	904	75160
12 April 2021	160830	880	99748
13 April 2021	185297	1028	82271
14 April 2021	189584	1038	83423
15 April 2021	216828	1184	117897
16 April 2021	234002	1318	122896
17 April 2021	260845	1498	138209
18 April 2021	275083	1620	143829
19 April 2021	293603	1757	154357
20 April 2021	294365	2021	166656
21 April 2021	317752	2101	179434
22 April 2021	332585	2257	192317
23 April 2021	341206	2620	220545
24 April 2021	348996	2701	211809
25 April 2021	354658	2808	218626
26 April 2021	349471	2762	249009
27 April 2021	362913	3200	262349
30 July 2021	41499	598	37320
31 July 2021	41943	542	39485
1 August 2021	40629	424	36628
2 August 2021	30085	420	39120
3 August 2021	42530	561	36552
4 August 2021	42797	532	41873
5 August 2021	45005	465	40906
6 August 2021	38705	616	40026
7 August 2021	39068	491	43935
8 August 2021	36036	447	39832
9 August 2021	27428	376	41461
10 August 2021	38376	496	40097
11 August 2021	41586	491	39127
12 August 2021	40081	583	42156
13 August 2021	38761	477	35759
14 August 2021	36135	491	37936
15 August 2021	33245	421	35936
16 August 2021	24692	438	36862

Total number of days with more than 1 lac cases :63

Fig3.2 Output

USER INPUT 1: JS Pop Up Boxes

- Popup boxes in JavaScript provide simple ways to interact with users:

1. **Alert:** Shows a message with an OK button for displaying information.

   Syntax: alert("Hello!");

2. **Confirm:** Displays a message with OK and Cancel buttons for user confirmation.

   Syntax: const result = confirm("Continue?");

3. **Prompt:** Presents a message with an input field for user input.
   Syntax: const userInput = prompt("Enter your name:");

pop-upbox.html > ...

```html
<!DOCTYPE html>
<html>
<head>
    <title>Ticket Booking</title>
</head>
<body>
    <h1>Welcome to Event Ticket Booking</h1>
    <button onclick="bookTicket()">Book a Ticket</button>

    <script>
        function bookTicket() {
            // Prompt user for ticket quantity
            const ticketQuantity = parseInt(prompt('How many tickets would you like to book?'));

            // Validate input
            if (!isNaN(ticketQuantity) && ticketQuantity > 0) {
                // Calculate total price
                const ticketPrice = 20; // Example ticket price
                const totalPrice = ticketQuantity * ticketPrice;

                // Confirm booking
                const confirmation = confirm(`You are booking ${ticketQuantity} ticket(s) for a total of RS.${totalPrice}. Confirm?`);

                if (confirmation) {
                    alert('Tickets booked successfully! Thank you for your purchase.');
                } else {
                    alert('Booking cancelled.');
                }
            } else {
                alert('Invalid input. Please enter a valid number of tickets.');
            }
        }
    </script>
</body>
</html>
```

Fig3.3 Pop-upbox.html

Output:

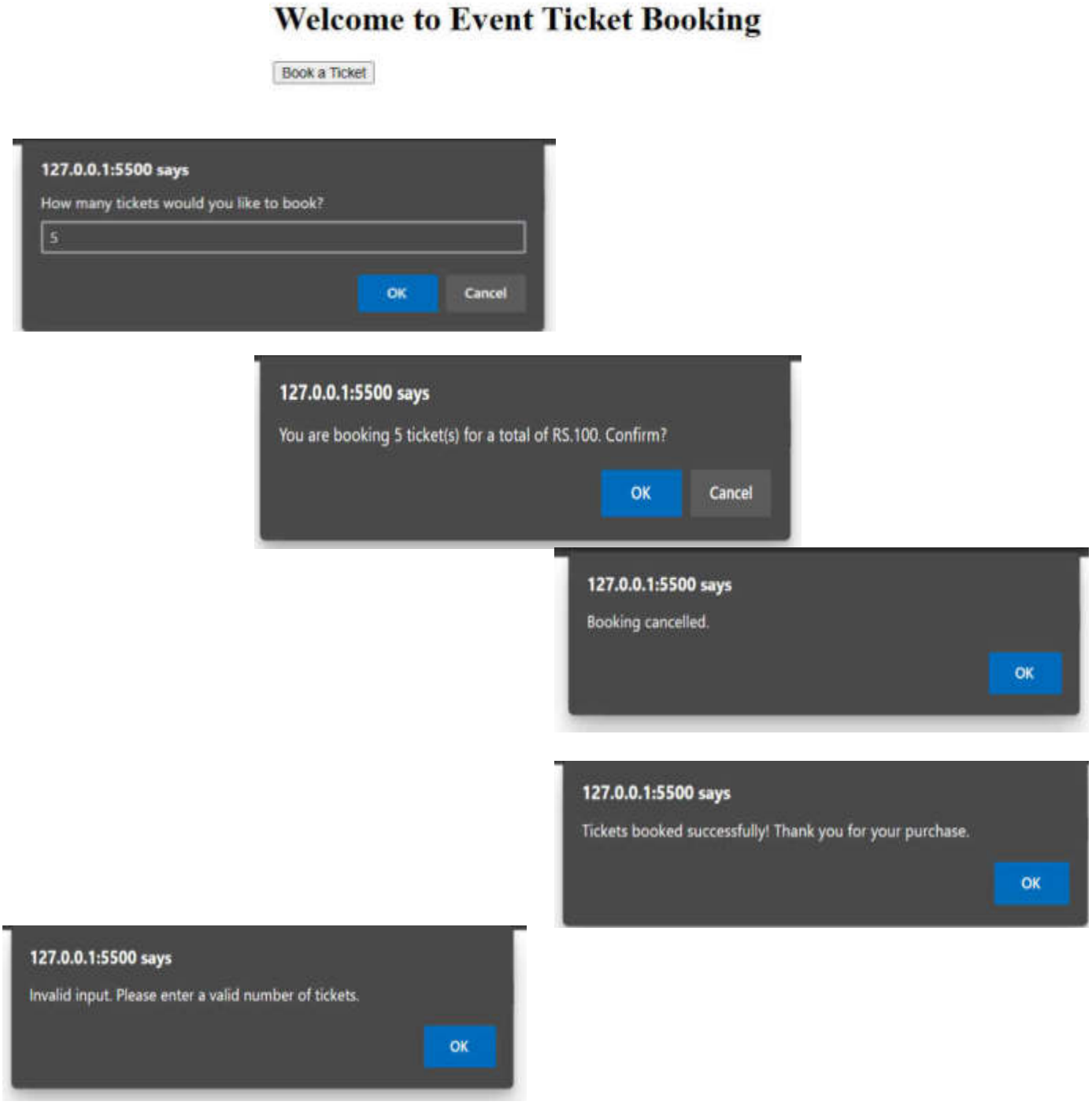


Fig3.4 Output

USER INPUT 2: Form to Variable

formtovariable.html > ...

```
<!DOCTYPE html>
<body>
    <script>
        function check(form){
            var name = form.uname.value;
            var surname = form.usurname.value;
            alert("user name is "+name+" user surname is "+surname);
        }
    </script>
    <form class="container">

        <div class="mb-3">
            <label for="form1" class="form-label">Name</label>
            <input type="text" class="form-control" id="form1" name="uname" placeholder="First Name">
          </div>
          <div class="mb-3">
            <label for="form2" class="form-label">Surname</label>
            <input type="text" class="form-control" id="form2" name="usurname" placeholder="Last Name">
          </div>
        <input type="submit" onclick="check(this.form);">
    </form>
</body>
</html>
```

Fig3.5 Formtovariable.html

Output:



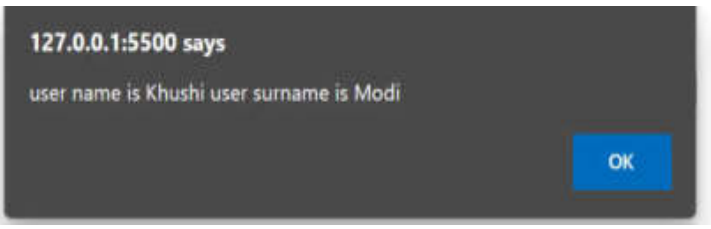


Fig3.6 Output

WEEK 1: 01 AUGUST 2023

Form to table

```
<!DOCTYPE html>
<html>
<head>
  <title>Form Data to Table</title>
</head>
<body>
   <script>
      function showdata(form){
         var name = form.uname.value;
         var password = form.upassword.value;
         var city = form.ucity.value;

         if(name=="" || password=="" || city==""){
            document.getElementById("msg").innerHTML = "Fields can not be blank";
         }
         else{
            document.getElementById("msg").innerHTML = "<table border='1' width='500px'><tr><td>Name:
</td><td>" +name+ "</td></tr><tr><td>Password: </td><td>" +password+ "</td></tr><tr><td>City : </td><td>"
+city+ "</td></tr></table>";
         }
      }
   </script>

   <form>
      <div>
         <label for="form1" class="form-label">Name</label>
         <input type="text" class="form-control" id="form1" name="uname" placeholder="Name">
      </div>
      <br>
      <div>
         <label for="Password" class="form-label">Password</label>
         <input type="password" class="form-control" name="upassword" id="Password" placeholder="Password">
      </div>
      <br>
      <select class="form-select" name="ucity">
         <option selected>City</option>
         <option value="ADI">Ahmedabad</option>
         <option value="MEH">Mehsana</option>
         <option value="RAJ">Rajkot</option>
      </select>
      <br>
      <div>
         <button type="submit" class="btn btn-primary" onclick="showdata(this.form); return
false;">Submit</button>
      </div>

   </form>
   <p id="msg"></p>
</body>
</html>
```

Output:

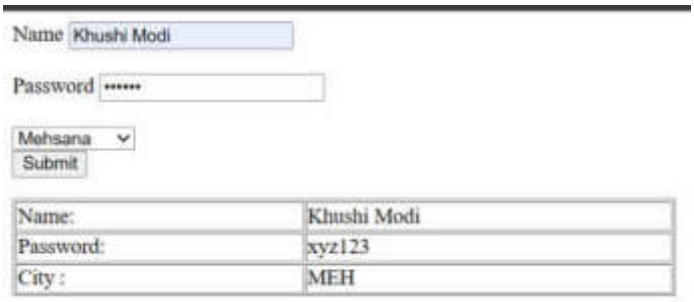


Fig4.1 Formtotable outpot

JS Arrays

```
<!DOCTYPE html>
<body>
  <script>

    //basic array concepts
    var mydata = [10,20,30,40,50,60];
    document.write(mydata+"<br>");
    document.write(mydata+"<br>");
    document.write(mydata[0]+"<br>");
    document.write(mydata[3]+"<br>");
    document.write(mydata[-3]+"<br>");
    document.write("Total number of elements : ",mydata.length+"<br>");

    //add the data at the end
    mydata.push(70);
    document.write(mydata);

    var emails = ["abc.com", "xyz.com", "pqr.com"];
    var password = ["abc123", "xyz123", "pqr123"];

    function login(form){
      var useremail = form.uemail.value;
      var userpassword = form.upassword.value;
      if(useremail=="" || userpassword==""){
        if(useremail=="" && userpassword !=""){
          document.getElementById("msg").innerHTML = "Email Field can not be blank";
        }
        else if(useremail !="" && userpassword==""){
          document.getElementById("msg").innerHTML = "Password Field can not be blank";
        }
        else{
          document.getElementById("msg").innerHTML = "both Fields are required.";
        }
      }
      else{
```

```
            for(var i=0; i<emails.length; i++){
                if(useremail==emails[i] && userpassword==password[i]){
                    document.getElementById("msg").innerHTML = "<font style='color:green'>Login
Successful</font>";
                    break;
                }
                else{
                    document.getElementById("msg").innerHTML = "<font style='color:red'>Invalid username or
password</font>";
                }
            }
        }
    }
  </script>
  <form>
    Email : <input type="email" name="uemail"><br>
    Password : <input type="password" name="upassword"><br>
    <input type="submit" onclick="login(this.form); return false;">
  </form>
  <p id="msg"></p>
</body>
</html>
```

Output:



Fig4.2 Array outpot

WEEK 1: 02 AUGUST 2023

Task Assignment

1. Covid Data Search

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
</head>
<body>
  <h1>COVID-19 India Data</h1>
  <input type="text" id="inputDate" placeholder="Enter date (dd-mm-yyyy)">
  <button onclick="load()">Submit</button>
  <p id="msg"></p>

  <table class="table table-striped" id="dataTable">
    <tr>

    </tr>
  </table>

  <script>
    async function load() {
      const inputDate = document.getElementById('inputDate').value;
      const outputTableElement = document.getElementById('msg');
      const dataTable = document.getElementById('dataTable');

      if (!inputDate) {
        outputTableElement.innerText = "Please enter a date instead of table.";
        return;
      }

      var url = "https://data.covid19india.org/data.json";
      var myobject = await (await fetch(url)).json();

      const casesData = myobject.cases_time_series; // Corrected property access
      let dateFound = false;

      for (let i = 0; i < casesData.length; i++) {
        if (casesData[i].date === inputDate) {
          dateFound = true;
          outputTableElement.innerText = "";

          dataTable.innerHTML = `

            <tr>
              <td>New Cases</td>
              <td>${casesData[i].dailyconfirmed}</td>
            </tr>
            <tr>
              <td>New Deaths</td>
              <td>${casesData[i].dailydeceased}</td>
```

```
                </tr>
              `;
              break;
            }
          }

          if (!dateFound) {
            outputTableElement.innerText = "Date not found instead of table.";
          }
        }
    </script>
</body>
</html>
```

Output:

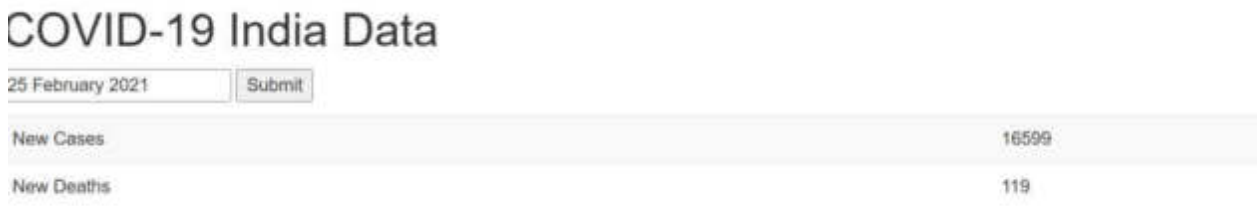


Fig5.1 Covid data search outpot

2. Mutual Fund API

```
<!DOCTYPE html>
<html lang="en">

<head>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/css/bootstrap.min.css" rel="stylesheet"
        integrity="sha384-
4bw+/aepP/YC94hEpVNVgiZdgIC5+VKNBQNGCHeKRQN+PtmoHDEXuppvnDJzQIu9"
crossorigin="anonymous">
</head>

<body>

    <script>
        async function clickHandle(form) {
            var scode = form.scode.value;
            if (scode == "") {
                document.getElementById("msg").innerHTML = "<span class='text-danger'>Please enter the
<strong>Scheme Code</strong></span>";
            } else {
                let url = "https://api.mfapi.in/mf";
                let myMFData = await (await fetch(url)).json();
                for (let j = 0; j < myMFData.length; j++) {
                    if (myMFData[j]["schemeCode"] == scode) {
```

```
                    console.log(1);
                    document.getElementById("msg").innerHTML = "<span class='text-success'><strong>" +
myMFData[j]["schemeName"] + "</strong></span>";
                    break;
                  } else {
                    console.log(2);
                    document.getElementById("msg").innerHTML = `<strong class='text-danger'>The entered
Scheme code ${scode} not found</strong>`;
                  }
                }
                document.getElementById("totalScheme").innerHTML = "<span class='text-primary'>The total
number of Scheme available in this API is <strong>" + myMFData.length + "</strong></span>";
            }
        }
    </script>

    <div class="container my-2 text-center">
     <h2> Mutual Fund Data</h2>
       <h5>Take the scheme code from the user and print scheme name</h5>

       <form>
         <div class="mb-3 ms-auto me-auto" style="width: 50%">
           <label for="scode" class="form-label"><strong>Scheme Code</strong></label>
           <input type="number" class="form-control" name="scode" id="scode" required>
         </div>
         <div class="ms-auto me-auto" style="width: 10%;">
           <button type="button" class="btn btn-primary" onclick="clickHandle(this.form);">Show
Fund</button>
         </div>
         <p id="msg" class="my-3"></p>
         <p id="totalScheme"></p>
       </form>

    </div>
</body>
</html>
```

Output:

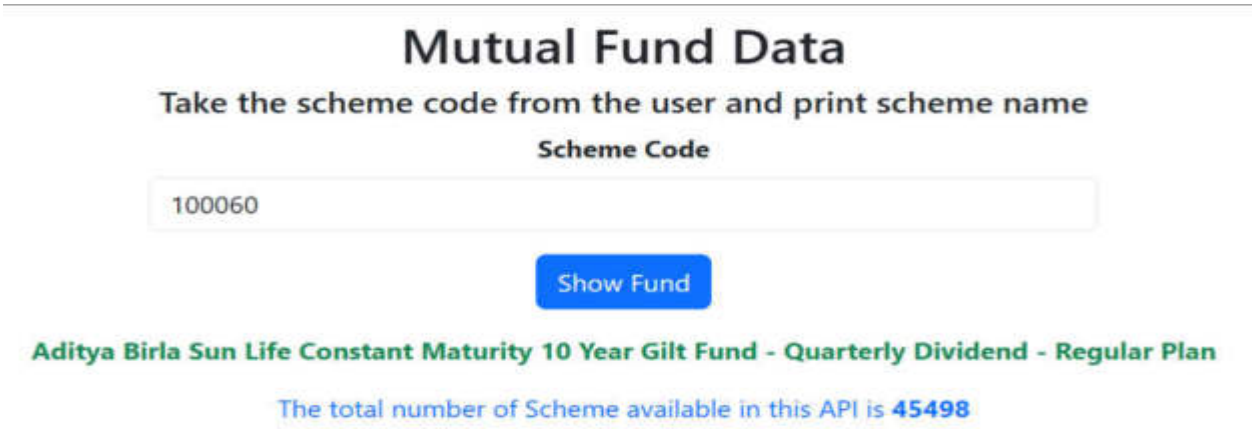


Fig5.2 Mutual fund API outpot

WEEK 2: 03 AUGUST 2023

React Environment setup (Node JS installation)

- Here's a short guide on setting up a React environment by installing Node.js:

1. **Install Node.js:**

   - Go to the official Node.js website: https://nodejs.org/
   - Download the LTS (Long Term Support) version for your operating system (Windows, macOS, Linux).
   - Run the installer and follow the on-screen instructions.

2. **Verify Installation:**

   - Open a terminal (Command Prompt on Windows) and type:
     node -v
   - You should see the version number of Node.js printed.

3. **NPM(Node Package Manager):**

   - npm is installed along with Node.js. You can verify it by typing:
     npm -v

   - You should see the version number of npm printed.

4. **Create a React App**:

   - Once you have Node.js and npm installed, you can create a new React app using `create-react-app`, which is a tool that sets up a new React project with the necessary files and configuration.
   - In your terminal, run:

     npx create-react-app my-react-app

   - Replace `my-react-app` with your preferred project name.

5. **Navigate to Your Project:**
   - Change your working directory to the newly created app:

     cd my-react-app

6. **Start the Development Server:**
   - To start a development server and see your React app in action, run:

     npm start

   - This will start the development server, and your default web browser will open, displaying your React app.

First React App

App.js M index.js

src > App.js > ...

```
1   import logo from './logo.svg';
2   import './App.css';
3
4   function App() {
5     return (
6       <div className="App">
7         <header className="App-header">
8           <img src={logo} className="App-logo" alt="logo" />
9           <p>
10            React Internship
11            <h1>This is my First React App</h1>
12          </p>
13          <a
14            className="App-link"
15            href="https://reactjs.org"
16            target="_blank"
17            rel="noopener noreferrer"
18          >
19            Learn React
20          </a>
21        </header>
22      </div>
23    );
24  }
25  export default App;
```

Fig6.1 First React App

Output:



Fig6.2 Output

Functional Components

- Functional Components in React are a way to create reusable UI elements using JavaScript functions.
- They are a core concept in React and provide a simpler way to define components compared to class components.

src > App.js > ...

```
1  import logo from './logo.svg';
2  import React, { useState } from 'react';
3  import './App.css';
4
5
6  function Counter() {
7    const [count, setCount] = useState(0);
8
9    return (
10     <div>
11       <p>Count: {count}</p>
12       <button onClick={() => setCount(count + 1)}>Increment</button>
13     </div>
14   );
15 }
16 export default Counter;
```

Fig6.3 Functional Component

Class Components

- Class Components are another way to create reusable and dynamic UI elements in React.
- They were the primary way of creating components in React before the introduction of functional components and hooks.
- Class components have methods like `render()`, `componentDidMount()`, `componentDidUpdate()`, and more, which allow you to control the component's lifecycle and behavior.

src > App.js > ...

```
1  import logo from './logo.svg';
2  import './App.css';
3  import React, { Component } from 'react';
4
5  //class component....
6  class Counter extends Component {
7    constructor(props) {
8      super(props);
9      this.state = {
10       count: 0,
11     };
12   }
13   incrementCount = () => {
14     this.setState(prevState => ({
15       count: prevState.count + 1,
16     }));
17   };
18   render() {
19     return (
20       <div>
21         <p>Count: {this.state.count}</p>
22         <button onClick={this.incrementCount}>Increment</button>
23       </div>
24     );
25   }
26 }
27 export default Counter;
```

Fig6.4 Functional Component

Output:



Fig6.5 Output

WEEK 2: 04 AUGUST 2023

Mapping

- Mapping in ReactJS refers to using the .map() function to iterate over an array of data and create React components or elements for each item.
- It's a technique for dynamically rendering lists or repetitive content.
- This helps avoid manual coding for each item, making your code cleaner and more efficient.
- Each mapped element should have a unique `key` prop to optimize performance during updates.

1. Variable Data Map

react internship > variabledata > src > App.js > ...

```
import logo from './logo.svg';
import './App.css';
function App(){
  const newdata = "how are you?";
  return(
    <div>
      <h1>Variable Data</h1>
      <h3>{newdata}</h3>
      <h3>{data}</h3>
    </div>
  );
}
const data ="Khushi";
const newacc = [50,100,150,200,250];
function Newcomp() {
  return (
    <div>
      <h1>Variable Data</h1>
      <h3>{data}</h3>
      <h3>{newacc[3]}</h3>
    </div>
  );
}
function Display(){
  return(
    <div>
    {
      newacc.map(
        (data) => {
          return <h3>{data}</h3>
        }
      )
    }
    </div>
  );
}
export default App;
export {Newcomp,Display};
```

src > index.js > ...

```
1   import React from 'react';
2   import ReactDOM from 'react-dom/client';
3   import './index.css';
4   import App , {Newcomp,Display} from './App';
5   import reportWebVitals from './reportWebVitals';
6   const root = ReactDOM.createRoot(document.getElementById('root'));
7   root.render(
8     <React.StrictMode>
9       <App />
10      <Newcomp/>
11      <Display/>
12    </React.StrictMode>
13  );
14  reportWebVitals();
```

Fig7.1 Map

Output:

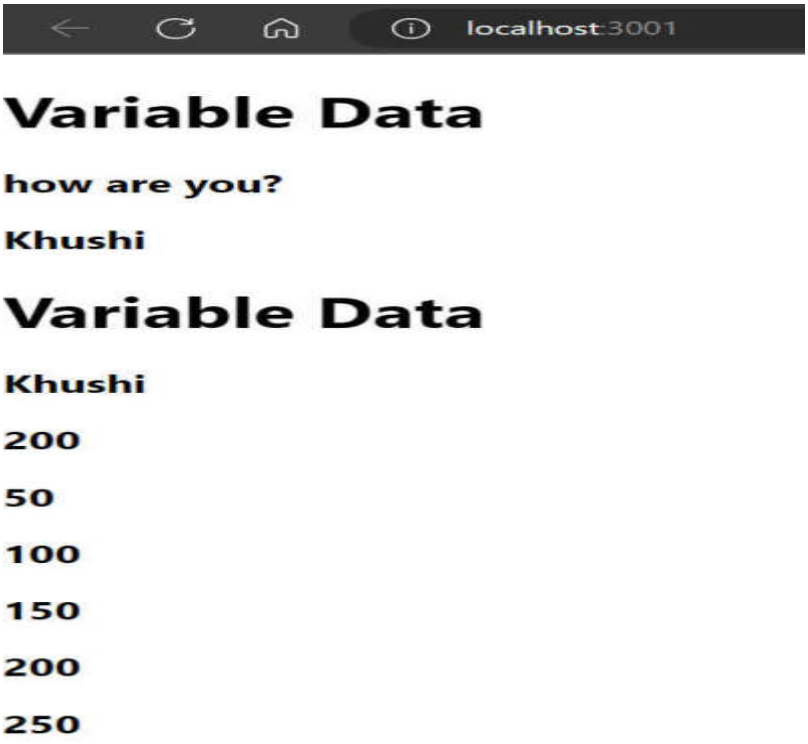


Fig7.2 Output

2. Object Map

App.js

```
import logo from './logo.svg';
import './App.css';

function App() {
  return (
    <div>
      <h1>Object Data Map</h1>
    </div>
  );
}
const data = {"KEY1":"Value1","KEY2":"Value2"};
function Datashow(){
  return(
    <div>
    {
      Object.keys(data).map(
        (items,i) => {
          return <h4>{items} and {data[items]}</h4>
        }
      )
    }
    </div>
  );
}
const isrodata = {
  "spacecrafts": [
      {
          "id": 1,
          "name": "Aryabhata"
      },
      {
          "id": 2,
          "name": "Bhaskara-I"
      },
      {
          "id": 3,
          "name": "Rohini Technology Payload (RTP)"
      },
      {
          "id": 4,
          "name": "Rohini Satellite RS-1"
      },
      {
          "id": 5,
          "name": "Rohini Satellite RS-D1"
      },
  ]
}

function IsroTable() {
  return (
```

```
    <div>
     {
      isrodata.spacecrafts.map(
       (value) => {
        return <h4>{value.id} and {value.name}</h4>
       }
      )
     }
    </div>
  );
}

export default App;
export {Datashow,IsroTable};
```

src > index.js > ...

```
1  import React from 'react';
2  import ReactDOM from 'react-dom/client';
3  import './index.css';
4  import App,{Datashow , IsroTable} from './App';
5  import reportWebVitals from './reportWebVitals';
6
7  const root = ReactDOM.createRoot(document.getElementById('root'));
8  root.render(
9    <React.StrictMode>
10     <App />
11     <Datashow/>
12     <IsroTable/>
13   </React.StrictMode>
14 );
15
16 // If you want to start measuring performance in your app, pass a function
17 // to log results (for example: reportWebVitals(console.log))
18 // or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vitals
19 reportWebVitals();
```

Fig7.3 Object Map

Output:

Object Data Map

KEY1 and Value1

KEY2 and Value2

1 and Aryabhata

2 and Bhaskara-I

3 and Rohini Technology Payload (RTP)

4 and Rohini Satellite RS-1

5 and Rohini Satellite RS-D1

Fig7.4 Output

WEEK 2: 07 AUGUST 2023

React Props

src > App.js > ...

```
1  import logo from './logo.svg';
2  import './App.css';
3  import Details,{Multipledata} from './propscomponents';
4
5  function App() {
6    return (
7      <div className="App">
8        <h1>hello</h1>
9      </div>
10   );
11 }
12 function New(){
13   return(
14     <div>
15       <h3>New component added.</h3>
16       <Details name="Internship" />
17       <Details name="Reactjs" />
18       <Details name="GTU" />
19       <Multipledata  name="Khushi Modi" email="khushimodi277@gmail.com" />
20       <Multipledata name="xyz" email="xyz@gmail.com"/>
21     </div>
22   );
23 }
24 export default App;
25 export {New};
```

src > index.js > ...

```
1  import React from 'react';
2  import ReactDOM from 'react-dom/client';
3  import './index.css';
4  import App,{New} from './App';
5  import reportWebVitals from './reportWebVitals';
6
7  const root = ReactDOM.createRoot(document.getElementById('root'));
8  root.render(
9    <React.StrictMode>
10     <App />
11     <New />
12   </React.StrictMode>
13 );
14 reportWebVitals();
```

Fig8.1 React Props

Output:



Fig8.2 Output

React Bootstrap

- React-Bootstrap is a popular open-source library that combines the power of React with the styling and components from Bootstrap, a widely used CSS framework.
- It provides pre-designed UI components that you can use to quickly build responsive and attractive web applications without the need for extensive custom styling.
- React-Bootstrap components are designed to seamlessly integrate into React applications, making it easier to create consistent and visually appealing user interfaces.

1. **Installation:** npm install react-bootstrap bootstrap
2. **Import Bootstrap CSS:** import 'bootstrap/dist/css/bootstrap.min.css';
3. **Use React-Bootstrap Components:** import { Button, Navbar, Container, Row, Col } from 'react-bootstrap';

src > index.js > ...

```
1   import React from 'react';
2   import ReactDOM from 'react-dom/client';
3   import './index.css';
4   import App,{Tablecomp, Btn} from './App';
5   import reportWebVitals from './reportWebVitals';
6
7   const root = ReactDOM.createRoot(document.getElementById('root'));
8   root.render(
9     <React.StrictMode>
10      <App />
11      <Tablecomp />
12      <Btn />
13    </React.StrictMode>
14  );
15  reportWebVitals();
```

C: > react internship > reactbs > src > App.js > ...

```
import logo from './logo.svg';
import './App.css';
import 'bootstrap/dist/css/bootstrap.min.css';
import { Table, Button } from 'react-bootstrap';

function App() {
  return (
    <div className="App">
      <p>React bootstrap</p>
    </div>
  );
}
function Tablecomp(){
  return(
    <div>
      <Table striped bordered hover>
      <thead>
        <tr>
          <th>#</th>
          <th>First Name</th>
          <th>Last Name</th>
          <th>Username</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>1</td>
          <td>Mark</td>
          <td>Otto</td>
          <td>@mdo</td>
        </tr>
        <tr>
          <td>2</td>
          <td>Jacob</td>
          <td>Thornton</td>
          <td>@fat</td>
        </tr>
      </tbody>
    </Table>
    </div>
  );
}
function Btn(){
  return(
    <div>
      <Button variant="primary">Click</Button>
    </div>
  );
}
export default App;
export {Btn,Tablecomp};
```

Fig8.3 React Bootstrap

Output:

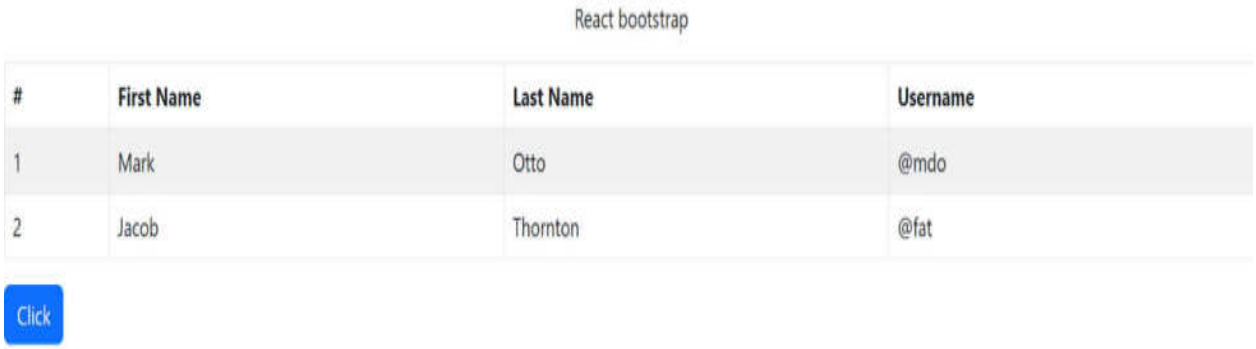


Fig8.4 Output

WEEK 2: 08 AUGUST 2023

React Hooks : UseEffect and UseState

- Certainly! React Hooks, specifically `useState` and `useEffect`, are essential for managing state and side effects in functional components. Here's an explanation of each hook:

1. useState:

- The `useState` hook allows you to add state to your functional components.
- It returns a state variable and a function to update that variable.
- When the state is updated, React re-renders the component, reflecting the updated state.

2. useEffect:

- The `useEffect` hook is used to perform side effects in functional components, such as data fetching, DOM manipulation, and subscribing to external services.
- It is similar to lifecycle methods in class components.

API data fetch with react

Example:

App.js

```
import logo from './logo.svg';
import './App.css';
import { Container, Row, Col, Card, Table } from 'react-bootstrap';
import 'bootstrap/dist/css/bootstrap.min.css';
import React, { useState, useEffect } from 'react';

function App() {
  const [mydata, setData] = useState([]);
  const apiget = () => {
    fetch('https://inshortsapi.vercel.app/news?category=politics')

      .then((response) => response.json())
      .then((json) => {
        console.log(json);
        setData(json);
        setData(json.data)
      });
```

```
};

useEffect(() => {
 apiget();
 const interval = setInterval(() => { apiget(); }, 500000);
 return () => clearInterval(interval);
}, []);

return (

 <Container fluid>
  <Row xs={1} md={3} className="g-4">
   {
    mydata.map(
     (value) => {
      return (
       <>
        <Col className="container-fluid mt-4">

         <Card border="info">
          <Card.Title>{value.title}</Card.Title>
          <Card.Img variant="top" src={value.imageUrl}style={{height: 350}} />
          <Card.Body>
           <Card.Title>{value.title}</Card.Title>
           <Card.Text>
            {value.content}
           </Card.Text>
           <footer className='blockquote-footer'>
            published on : {value.date} , {value.time}
           </footer>
          </Card.Body>
         </Card>
        </Col>
       </>
      )
     }
    )
   }
  </Row>
```

```
    </Container>
  );
}
export default App;
```

index.js M

src > index.js > ...

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import App from './App';
import reportWebVitals from './reportWebVitals';

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <App />
  </React.StrictMode>
);
reportWebVitals();
```

Fig9.1 Fetch Politics Data

Output:



We don't do politics over development: Mandaviya to Tejashwi



We don't do politics over development: Mandaviya to Tejashwi

Reacting to Bihar Deputy CM Tejashwi Yadav's claim that Centre didn't approve construction of AIIMS in Darbhanga, Union Health Minister Mansukh Mandaviya said that Modi government doesn't do politics over development but it believes in politics of development. "Centre had approved AIIMS Darbhanga's construction on September 19, 2020, and Bihar government allocated land on November 2021," he added.

— published on : Sunday, 13 August, 2023 , 09:23 am

FIR filed against Priyanka Gandhi's '50% commission' post against BJP in MP



FIR filed against Priyanka Gandhi's '50% commission' post against BJP in MP

An FIR has been filed against the Twitter handles of Congress leaders Priyanka Gandhi, Kamal Nath and Arun Yadav over post that alleged Madhya Pradesh's BJP government is seeking "50% commission" for projects, police said. BJP's Nimesh Pathak said that a fake letter complaining that contractors in the state are being asked to pay 50% commission is being circulated.

— published on : Sunday, 13 August, 2023 , 09:19 am

Who asked Smriti Irani to catch Rahul Gandhi's flying kiss: Sarika



Who asked Smriti Irani to catch Rahul Gandhi's flying kiss: Sarika

Reacting to Union Minister Smriti Irani's claim that Congress leader Rahul Gandhi blew a flying kiss in Parliament, RJD leader Sarika Paswan said that Rahul gets proposals from Hollywood as well as Bollywood. She further added, "Who asked Smriti Irani to catch Rahul Gandhi's flying kiss? Will she ever be able to prove that Rahul's flying kiss was for her?"

— published on : Sunday, 13 August, 2023 , 09:00 am

Sharad, Ajit hold 'secret meeting', BJP MLA says 'They're family'



Sharad, Ajit hold 'secret meeting', BJP MLA says 'They're family'

NCP chief Sharad Pawar and his nephew and Maharashtra Deputy CM Ajit Pawar are believed to have held a secret meeting at a businessman's residence in Pune on Saturday, according to reports. BJP MLA Atul Bhatkhalkar reacted to this, saying that Sharad and Ajit are "family members". State NCP (Sharad Pawar faction) President Jayant Patil was also reportedly present.

— published on : Sunday, 13 August, 2023 , 08:45 am

PM taking false credit for opening AIIMS in Darbhanga: Tejashwi



PM taking false credit for opening AIIMS in Darbhanga: Tejashwi

Bihar Deputy CM Tejashwi Yadav claimed that the central government did not approve the construction of AIIMS in Darbhanga despite the state government allocating 151 acres of land free of cost. Taking to X, Yadav said, "Today, PM was taking false credit for opening the AIIMS in Darbhanga...The country expects PM to speak truth but he spoke a white lie".

— published on : Sunday, 13 August, 2023 , 08:44 am

Mockery of democracy, Parliament: Shiv Sena MP on PM's LS speech



Mockery of democracy, Parliament: Shiv Sena MP on PM's LS speech

Shiv Sena (UBT) MP Priyanka Chaturvedi on Saturday criticised PM Narendra Modi's speech in Lok Sabha and called it a "mockery of democracy and a mockery of the Parliament". "That is why the Opposition chose to walk out," Chaturvedi said. "Despite the walkout, the PM only chose to speak for about three to four minutes on Manipur," she added.

— published on : Saturday, 12 August, 2023 , 10:15 pm

Priyanka is qualified, should be in Lok Sabha for sure: Robert



Priyanka is qualified, should be in Lok Sabha for sure: Robert

Congress leader Priyanka Gandhi's husband Robert Vadra has asserted that he feels that Priyanka should be in Parliament, especially Lok Sabha. "[Priyanka] has all the qualifications for it. She would be very good in Parliament and she deserves to be there," he said. He added that he hopes that the Congress party "accepts and plans better" for Priyanka.

— published on : Sunday, 13 August, 2023 , 10:20 am

Fig9.2 Output

WEEK 2: 09/10 AUGUST 2023

ASSIGNMENT -TASK (Project):

API BASED REAL TIME NEWS WEB APPLICATION

App.js

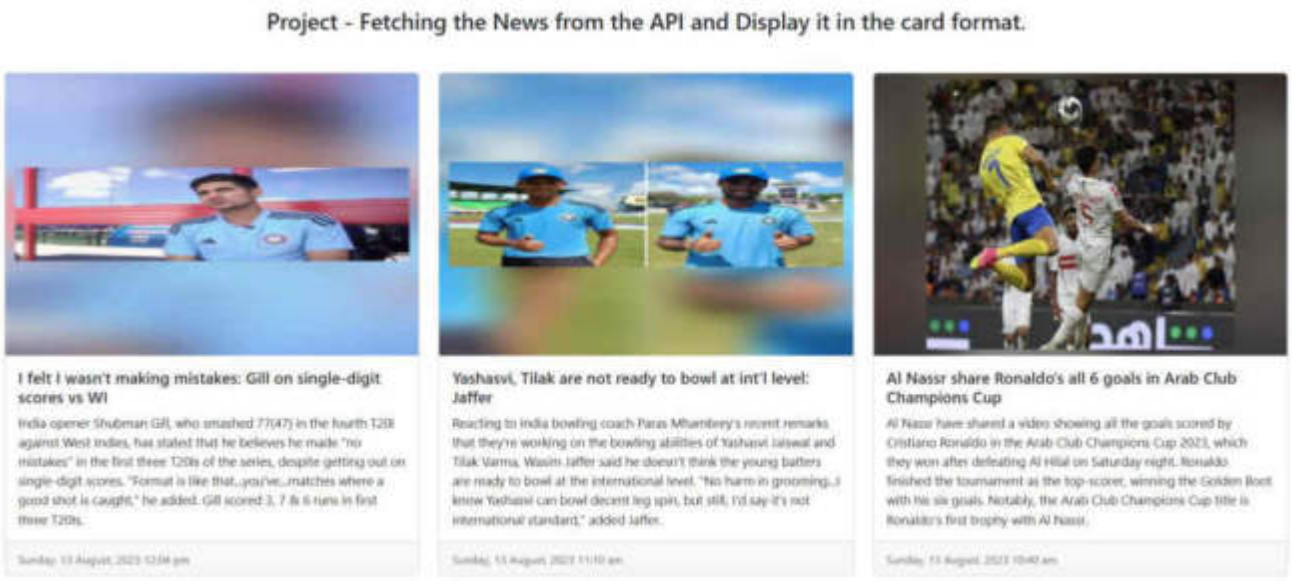
```
import './App.css';
import React, { useState, useEffect } from 'react'
import 'bootstrap/dist/css/bootstrap.min.css';
import { Container, Card, Row, Col } from 'react-bootstrap';
const Cards = () => {
  const [myData, setData] = useState([]);
  const apiget = () => {
    fetch('https://inshortsapi.vercel.app/news?category=sports')
    .then((response) => response.json())
    .then((json) => {
      console.log(json);
      setData(json.data)
    });
  }

  useEffect(() => {
    apiget();
    const interval = setInterval(()=>{apiget();}, 50000);
    return () => clearInterval(interval);
  }, []);

  return (
    <Container fluid>
      <h3 className="text-center my-3">Project - Fetching the News from the API and Display it in
the card format.</h3>
      <Row className='mt-4 g-4' xs={1} md={3}>
        {
          myData.map(
            (value) => {
              return (
                <>
```

```
                        <Col>
                          <Card>
                            <Card.Img variant="top" src={value.imageUrl} style={{height: 350}} />
                            <Card.Body>
                              <Card.Title>{value.title}</Card.Title>
                              <Card.Text>
                                {value.content}
                              </Card.Text>
                            </Card.Body>
                            <Card.Footer>
                              <small className="text-muted">{value.date} {value.time}</small>
                            </Card.Footer>
                          </Card>
                          </Col>
                        </>
                      )
                    }
                  )
                }
              </Row>
            </Container>
        )
    }
    export default Cards
```

Output:



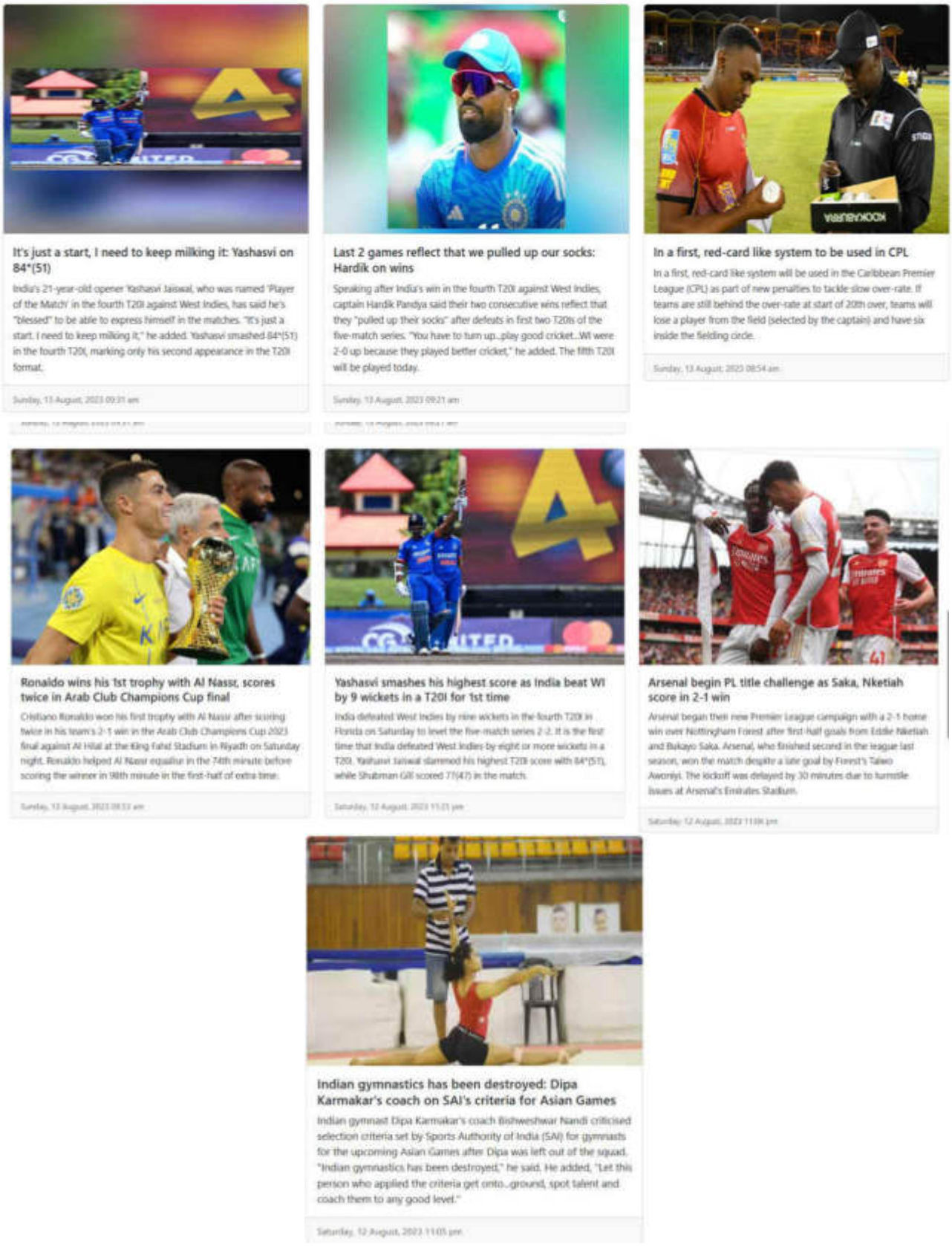


Fig10.1 Sports Data Output

Conclusion

I would like to express my sincere gratitude to Mr. Chintan Nagrecha, Director of Infolabz IT Services Pvt Ltd, and Ms. Zarna Shah, HR at Infolabz IT Services Pvt Ltd, for providing me with the opportunity to participate in the React JS internship program.

Their guidance and support throughout the internship have been invaluable. Mr. Nagrecha's expertise and vision in the field of IT services have been truly inspiring, and I have learned a great deal under his leadership. Ms. Shah's assistance in facilitating the internship and her dedication to creating a positive learning environment have been instrumental in making this experience productive and rewarding.

I am grateful for the chance to work with a company that values professional development and provides hands-on experience in a dynamic industry. This internship has not only enhanced my technical skills in React JS but has also given me insights into the practical aspects of the IT business.

INTERNSHIP AT TWS MEDIA PVT. LTD

AN INTERNSHIP REPORT

Submitted by

Patel Jenish Pravinbhai

200390116014

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2023





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CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at TWS MEDIA** has been carried out by **Patel Jenish Pravinbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. FirstName Last Name
Internal Guide	Head of Department

CERTIFICATE OF COMPLETION



TWS media

INTERNSHIP COMPLETION LETTER

10 AUGUST 2023

This is to certify that

Mr/Ms. Patel Jenish Pravinbhai
Enrollment No: 200390116014
College: Saffrony institute of technology

We are pleased to inform you that you have successfully completed your 15-day internship program at TWS MEDIA. During your time with us, you have shown a great deal of enthusiasm, dedication, and willingness to learn. We are confident that the skills and knowledge you have gained during your internship will be valuable assets as you continue to pursue your career goals.

We wish you all the best in your future endeavors and hope that you will keep in touch with us. If you have any questions or if there is anything we can do to support your career development, please do not hesitate to reach out to us.

Jay Sathwara
Managing Director

TWS MEDIA PRIVATE LIMITED
A-316, 3RD FLOOR, SAKAR-7, 380009 AHMEDABAD-Ahmedabad
www.tws.media | contact@tws.media

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ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at TWS MEDIA** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Full name of Student _____

COMPANY PROFILE

TWS Media Private Limited is an IT company based in India that provides a range of services, including website and mobile app development and digital marketing. The company was founded in 2019 and has since worked with a variety of clients across industries.

In addition to its development services, TWS Media also offers digital marketing services, including search engine optimization (SEO), social media marketing, and pay-per-click (PPC) advertising. The company's goal is to help clients improve their online presence and reach their target audience through effective digital marketing strategies.

Overall, TWS Media is a full-service IT company that offers a range of services to help clients succeed in the digital age. With its expertise in web and mobile app development, and digital marketing, the company is well-positioned to help businesses of all sizes achieve their goals and grow their online presence.

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Week 1

27 JULY 2023

- **JavaScript**

JavaScript is a versatile and widely-used programming language primarily used for web development. It enables dynamic and interactive web pages by allowing developers to manipulate HTML and CSS on the fly. With its client-side execution, JavaScript empowers user interactions, form validation, animations, and more. It has a vast ecosystem of libraries and frameworks like React and Node.js, making it essential for both frontend and backend development.

- **JavaScript Console Api**

The JavaScript Console API provides a powerful tool for developers to interact with and debug code within web browsers. It offers methods like console.log() to display messages and variables in the browser's developer console, aiding in real-time debugging. More advanced functions like console.error() and console.warn() help identify and rectify issues in code. Additionally, the Console API assists in measuring performance with console.time() and console.timeEnd() for precise optimization of web applications.

- **JavaScript variables**

JavaScript variables are containers that store data, such as numbers, strings, or objects, for use in a program. They are declared using keywords like var, let, or const. var has global scope, while let and const offer block-scoped variables, with let being mutable and const being immutable. Variables enable dynamic data manipulation and are a fundamental concept in JavaScript programming, facilitating data storage and manipulation in a flexible manner.

- **Data types in JavaScript**

1. Primitive Types: These comprise numbers (integers and floats), strings (text), booleans (true/false), null (intentional absence), and undefined (uninitialized).
2. Objects: Complex structures encompassing arrays (ordered lists), functions (executable code), and custom-defined objects.
3. Symbol: Immutable and unique values used as property keys, ensuring distinction.
4. BigInt: Facilitates handling large integers with precision beyond regular number limits.

JS notes.js > ...

```
// 1. Ways to print in JavaScript
// console.log("Hello World");
// alert("me");
// document.write("this is document write")

// 2. Javascript console API
// console.log("Hello World", 4 + 6, "Another log");
// console.warn("this is warning");
// console.error("This is an error");

// 3. JavaScript Variables
// What are Variables? - Containers to store data values
var number1 = 34;
var number2 = 56;
// console.log(number1 + number2);

// 4. Data types in JavaScript
// Numbers
var num1 = 455;
var num2 = 56.76;

// String
var str1 = "This is a string";
var str2 = 'This is also a string';

// Objects
var marks = {
    ravi: 34,
    shubham: 78,
    harry: 99.977
}
// console.log(marks);

// Booleans
var a = true;
var b = false;
// console.log(a, b);
```

Week 1

28 JULY 2023

- **Operators in JavaScript**

1. Arithmetic Operators: These handle basic math operations like addition (+), subtraction (-), multiplication (*), division (/), and modulus (%) for remainder calculation.
2. Comparison Operators: Used to compare values, including equality (==, === for strict equality), inequality (!=, !==), greater than (>), less than (<), etc.
3. Logical Operators: Logical operations such as AND (&&), OR (||), and NOT (!) are used to combine or negate conditions.
4. Assignment Operators: Assign values, such as =, +=, -= for adding or subtracting and assigning.
5. Conditional (Ternary) Operator: Offers a concise way to write conditional statements, like condition? value_if_true : value_if_false.
6. Type Operators: For checking data types, instanceof and typeof operators are used.
7. Bitwise Operators: Manipulate individual bits of values, useful in low-level operations.

notes.js

```
// Operators in JavaScript
// Arithmetic Operators
var a = 100;
var b = 10;
// console.log("The value of a + b is ", a+b);
// console.log("The value of a - b is ", a-b);
// console.log("The value of a * b is ", a*b);
// console.log("The value of a / b is ", a/b);
// Assignment Operators
var c = b;
// c += 2;
// c -= 2; // c = c - 2;
// c *= 2;
// c /= 2;
// console.log(c);
// Comparison Operators
var x = 34;
var y = 56;
// console.log(x == y);
// console.log(x >= y);
// console.log(x <= y);
// console.log(x > y);
// console.log(x < y);

// Logical Operators
// Logical and
// console.log(true && true)
// console.log(true && false)
// console.log(false && true)
// console.log(false && false)

// Logical or
// console.log(true || true)
// console.log(true || false)
// console.log(false || true)
// console.log(false || false)
```

Week 1

31 JULY 2023

- **Function in JavaScript**

A JavaScript function is a block of code designed to perform a specific task:

1. Declaration: Functions can be declared using the function keyword, given a name and parameters in parentheses, encapsulating a set of instructions.
2. Invocation: Functions are invoked or called by their name, passing arguments that the function can work with.
3. Return: They can optionally return a value using the return statement, allowing computed results to be utilized elsewhere.
4. Reusability: Functions promote code reusability, modularization, and encapsulation, contributing to organized and efficient programming.

- **Conditionals in JavaScript**

Very often when you write code, you want to perform different actions for different decisions.

1. if Statement: Used to execute code if a specified condition is true, allowing for branching based on the outcome.
2. else Statement: Paired with if, it executes an alternative code block when the initial condition is false.
3. else if Statement: Enables multiple conditions to be tested sequentially, providing different code paths based on various cases.
4. switch Statement: Offers a structured way to evaluate a single expression against multiple possible values, executing corresponding code blocks.

notes.js > ...

```
// Function in JavaScript
function avg(a, b) {
    c = (a + b) / 2;
    return c;
}
// DRY = Do not repeat yourself
c1 = avg(4, 6);
c2 = avg(14, 16);
// console.log(c1, c2);

// Conditionals in JavaScript
/*
var age = 41;
// Single if statement
if(age > 18){
    console.log('You can drink rasna water');
}
// if - else statement
// if(age > 18){
//     console.log('You can drink rasna water');
// }
// else{
//     console.log('You cannot drink rasna water');
// }

age = 25;
// if-else Ladder
if(age > 32){
    console.log("You are not a kid");
}
else if(age >26){
    console.log("Bachhe nahi rahe");
}
else if(age >22){
    console.log("Yes Bachhe nahi rahe");
}
else if(age >18){
```

notes.js > ...

```
*/

var arr = [1, 2, 3, 4, 5, 6, 7];
// console.log(arr);
// for(var i=0;i<arr.length;i++){
//     if(i==2){
//         // break;
//         continue;
//     }
//     console.log(arr[i])
// }

// arr.forEach(function(element){
//     console.log(element);
// })
// const ac = 0;
// ac++;
// ac = ac +1;
// let j = 0;
// while(j<arr.length){
//     console.log(arr[j]);
//     j ++;
// }

// do{
//     console.log(arr[j]);
//     j++;
// } while (j < arr.length);

let myArr = ["Fan", "Camera", 34, null, true];
// Array Methods
// console.log(myArr.length);
// myArr.pop();
// myArr.push("harry")
// myArr.shift()
// const newLen = myArr.unshift("Harry")
// console.log(newLen);
```

Week 1

1 August 2023

- **String Methods in JavaScript**

1. .length: Returns the length of a string, counting characters.
2. .charAt(): Retrieves the character at a specific index within the string.
3. .concat(): Combines multiple strings into one.
4. .toUpperCase() / .toLowerCase(): Converts a string's characters to uppercase or lowercase.
5. .trim(): Removes whitespace from the beginning and end of a string.
6. .indexOf() / .lastIndexOf(): Searches for a substring and returns its index.
7. .substring() / .slice(): Extracts a portion of the string based on start and end indices.
8. .replace(): Replaces a specified substring with another.
9. .split(): Breaks a string into an array of substrings based on a specified separator.
10. .startsWith() / .endsWith(): Checks if a string starts or ends with a specific substring.

- **Events in JavaScript**

1. Event Binding: Elements like buttons or links can be "bound" to specific actions using event listeners, like addEventListener(), to trigger JavaScript code when events occur.
2. Event Types: Events include user interactions (e.g., clicks, key presses), document changes (e.g., loading, resizing), and more.
3. Event Handling: Event listeners define functions to execute when events occur, enabling dynamic responses to user actions.
4. Event Object: When an event occurs, an event object is created, containing information about the event, such as the target element and event type

```
// String Methods in JavaScript
let myLovelyString = "Harry is a good boy good good Harry";
// console.log(myLovelyString.length)
// console.log(myLovelyString.indexOf("good"))
// console.log(myLovelyString.lastIndexOf("good"))

// console.log(myLovelyString.slice(1,4))
d = myLovelyString.replace("Harry", "Rohan");
// d = d.replace("good", "bad");
// console.log(d, myLovelyString)

let myDate = new Date();
// console.log(myDate.getTime());
// console.log(myDate.getFullYear());
// console.log(myDate.getDay());
// console.log(myDate.getMinutes());
// console.log(myDate.getHours());

// DOM Manipulation
let elem = document.getElementById('click');
// console.log(elem);

let elemClass = document.getElementsByClassName("container")
// console.log(elemClass);
// elemClass[0].style.background = "yellow";
elemClass[0].classList.add("bg-primary")
elemClass[0].classList.add("text-success")
// console.log(elem.innerHTML);
// console.log(elem.innerText);

// console.log(elemClass[0].innerHTML);
// console.log(elemClass[0].innerText);
tn = document.getElementsByTagName('div')
// console.log(tn)
createdElement = document.createElement('p');
createdElement.innerText = "This is a created para";
tn[0].appendChild(createdElement);
```

```
createdElement2 = document.createElement('b');
createdElement2.innerText = "This is a created bold";
tn[0].replaceChild(createdElement2, createdElement);
// removeChild(element); ---> removes an element

// Selecting using Query
// sel = document.querySelector('.container')
// console.log(sel)
// sel = document.querySelectorAll('.container')
// console.log(sel)

// function clicked(){
//     console.log('The button was clicked')
// }
// window.onload = function(){
//     console.log('The document was loaded')

// }
// Events in JavaScript
// firstContainer.addEventListener('click', function(){
//     document.querySelectorAll('.container')[1].innerHTML = "<b> We have clicked</b>"
//     console.log("Clicked on Container")
// })

// firstContainer.addEventListener('mouseover', function(){
//     console.log("Mouse on Container")
// })

// firstContainer.addEventListener('mouseout', function(){
//     console.log("Mouse out of Container");
// })

// let prevHTML = document.querySelectorAll('.container')[1].innerHTML;
// firstContainer.addEventListener('mouseup', function(){
//     document.querySelectorAll('.container')[1].innerHTML = prevHTML;
//     console.log("Mouse up when clicked on Container");
```

```
// Arrow Functions
// function summ(a, b){
//     return a+b;
// }
summ = (a,b)=>{
    return a+b;
}

logKaro = ()=>{
    document.querySelectorAll('.container')[1].innerHTML = "<b> Set interval fired</b>"
    console.log("I am your log")
}
// SetTimeout and setinterval
// clr = setTimeout(logKaro, 5000);
// clr = setInterval(logKaro, 2000);
// use clearInterval(clr)/clearTimeout(clr) to cancel setInterval/setTimeout

// JavaScript localStorage
// localStorage.setItem('name', 'harry')
// localStorage
// localStorage.getItem('name')
// localStorage.removeItem('name')
// localStorage.clear();

// Json
// obj = {name: "harry", length: 1, a: {this: 'tha"t'}}
// jso = JSON.stringify(obj);
// console.log(typeof jso)
// console.log(jso)
// parsed = JSON.parse(`{"name":"harry","length":1,"a":{"this":"that"}}`)
// console.log(parsed);

// Template literals - Backticks
a = 34;
console.log(`this is my ${a}`)
```

Week 1

2 August 2023

- **Tailwind introduction**

i. Utility-First: It offers a comprehensive set of utility classes that enable rapid development by applying styles directly in HTML, avoiding the need for custom CSS.
ii. Responsive Design: Tailwind provides responsive design utilities, making it easier to create adaptive layouts for different screen sizes.
iii. Customization: Developers can configure and extend Tailwind's default styles using a configuration file, allowing for a tailored design system.
iv. Modular and Scalable: Its modular structure promotes consistent design patterns and efficient development, while its extensive class options cater to a wide range of design needs.

- **Why Use?**

Tailwind is used because it offers a utility-first approach to CSS, making styling and design faster and more consistent by directly applying classes in HTML. It facilitates responsive design with built-in breakpoints and simplifies customization through a configuration file. Its modular nature and comprehensive set of utility classes lead to efficient development and easier maintenance of scalable projects.

- **Setup**

Use the Play CDN to try Tailwind right in the browser without any build step.Add the Play CDN script tag to the <head> of your HTML file, and start using Tailwind’s utility classes to style your content.

1. Installation: Use npm or yarn to install Tailwind CSS as a project dependency.
2. Configuration: Generate a tailwind.config.js file to customize settings and design choices.
3. Stylesheet: Create a CSS file to include Tailwind's classes and your custom styles.
4. Build Process: Integrate Tailwind into your build process (e.g., Webpack) to generate a final optimized CSS file for production.

Project:1

Live Clock

project1.html

```
<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
        integrity="sha384-9aIt2nRpC12Uk9gS9baDl411NQApFmC26EwAOH8WgZl5MYYxFfc+NcPb1dKGj7Sk" crossorigin="anonymous">

    <title>Hello, world!</title>
    <script>
        let a;
        let date;
        let time;
        const options = { weekday: 'long', year: 'numeric', month: 'long', day: 'numeric' };
        setInterval(() => {
            a = new Date();
            date = a.toLocaleDateString(undefined, options);
            time = a.getHours() + ':' + a.getMinutes() + ':' + a.getSeconds();
            document.getElementById('time').innerHTML = time + "<br>on " + date;
        }, 1000);
    </script>
</head>

<body>
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
        <a class="navbar-brand" href="#">Navbar</a>
        <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupportedContent"
            aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>
        </button>

        <div class="collapse navbar-collapse" id="navbarSupportedContent">
            <ul class="navbar-nav mr-auto">
```

```
            </li>
          </ul>
          <form class="form-inline my-2 my-lg-0">
            <input class="form-control mr-sm-2" type="search" placeholder="Search" aria-label="Search">
            <button class="btn btn-outline-success my-2 my-sm-0" type="submit">Search</button>
          </form>
        </div>
    </nav>

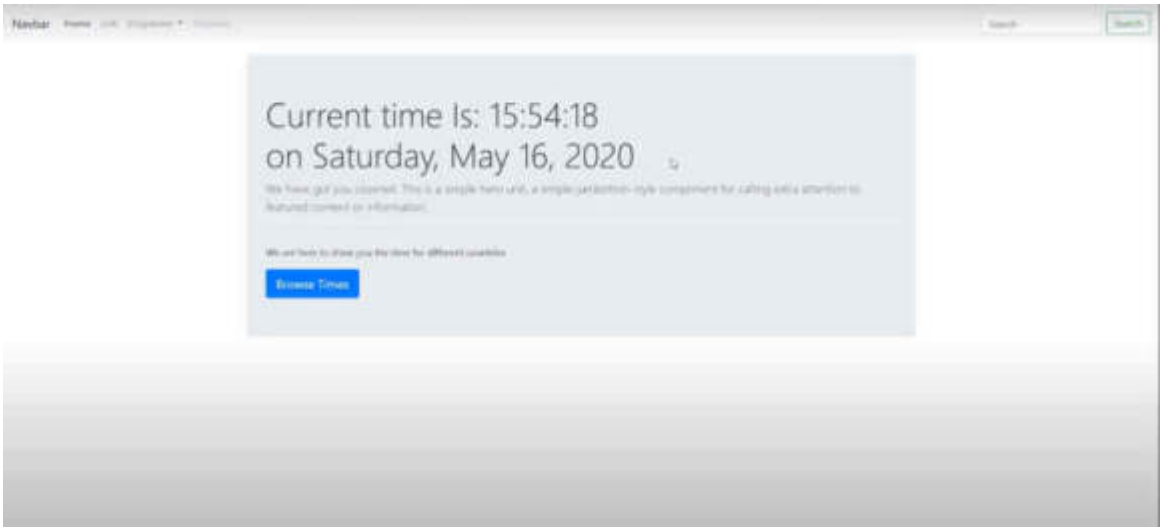


    <div class="container my-4">
        <div class="jumbotron">
            <h1 class="display-4">Current time is: <span id="time"></span></h1>
            <p class="lead">We have got you covered. This is a simple hero unit, a simple jumbotron-style component for
                calling extra attention to featured content or information.</p>
            <hr class="my-4">
            <p>We are here to show you the time for different countries</p>
            <a class="btn btn-primary btn-lg" href="#" role="button">Browse Times</a>
        </div>
    </div>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
        integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI"
        crossorigin="anonymous"></script>
</body>

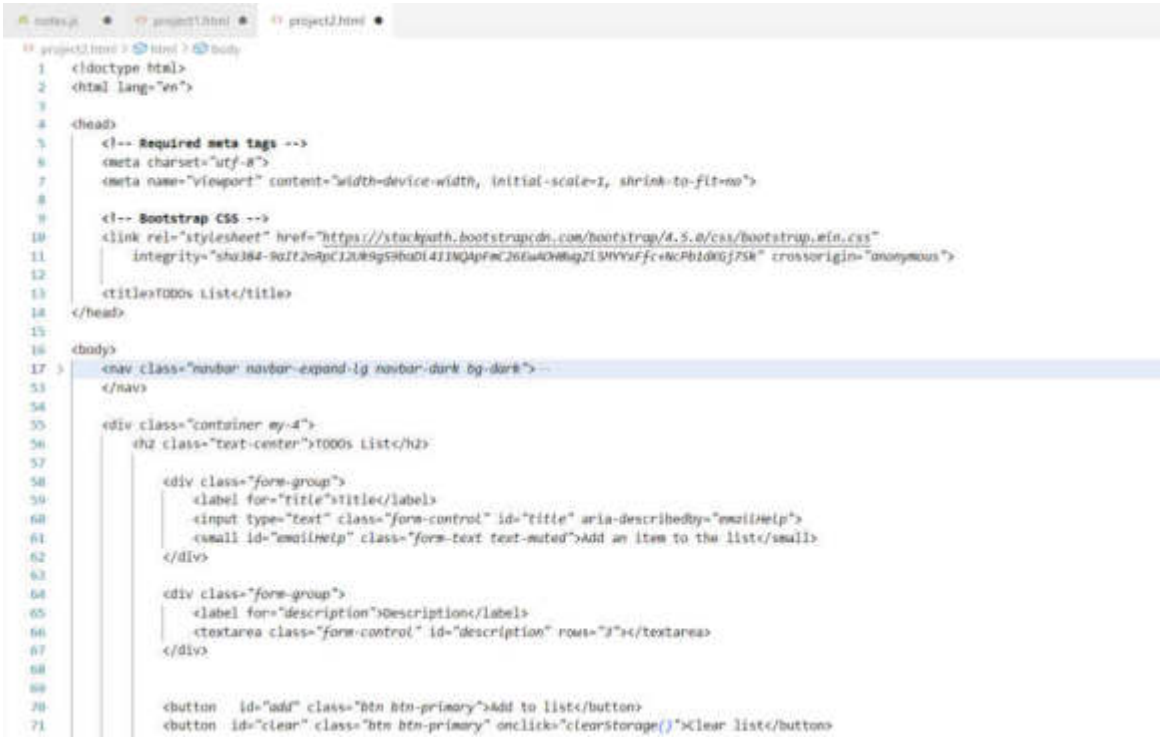
</html>
```

Output:



Project:2

To Do List



```
<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
        integrity="sha384-9aIt2nRpC12Uk9gS9baDl411NQApFmC26EwAOH8WgZl5MYYxFfc+NcPb1dKGj7Sk" crossorigin="anonymous">

    <title>TODOs List</title>
</head>

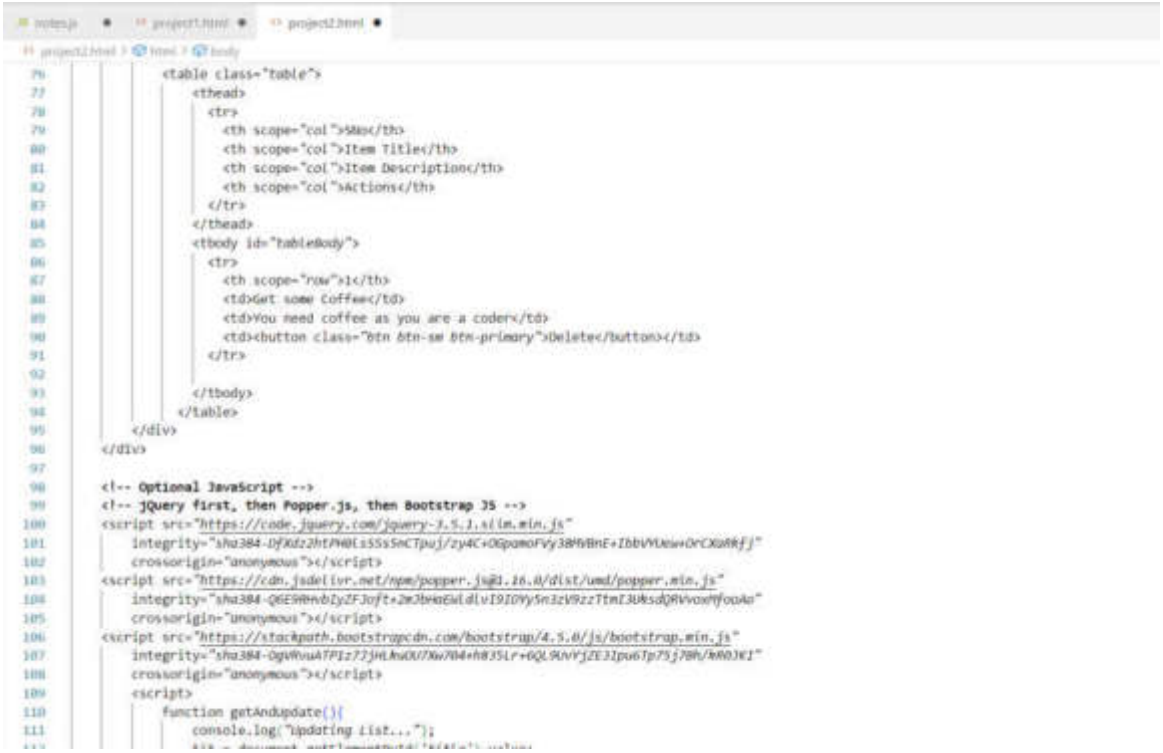
<body>
    <nav class="navbar navbar-expand-lg navbar-dark bg-dark">...
    </nav>

    <div class="container my-4">
        <h2 class="text-center">TODOs List</h2>

            <div class="form-group">
                <label for="title">Title</label>
                <input type="text" class="form-control" id="title" aria-describedby="emailHelp">
                <small id="emailHelp" class="form-text text-muted">Add an item to the list</small>
            </div>

            <div class="form-group">
                <label for="description">Description</label>
                <textarea class="form-control" id="description" rows="3"></textarea>
            </div>


            <button   id="add" class="btn btn-primary">Add to list</button>
            <button  id="clear" class="btn btn-primary" onclick="clearStorage()">Clear list</button>
```



```
            <table class="table">
                <thead>
                  <tr>
                    <th scope="col">Sno</th>
                    <th scope="col">Item Title</th>
                    <th scope="col">Item Description</th>
                    <th scope="col">Actions</th>
                  </tr>
                </thead>
                <tbody id="tableBody">
                  <tr>
                    <th scope="row">1</th>
                    <td>Get some Coffee</td>
                    <td>You need coffee as you are a coder</td>
                    <td><button class="btn btn-sm btn-primary">Delete</button></td>
                  </tr>

                </tbody>
              </table>
        </div>
    </div>

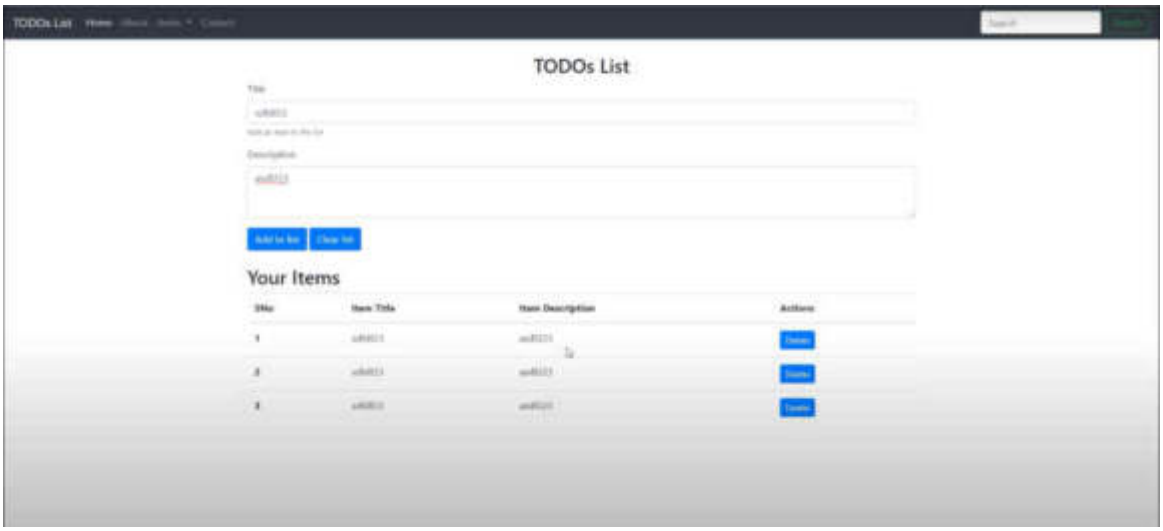
    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
        integrity="sha384-DfXdz2htPH0lsSSsSnCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipuq7pr0BfXMNOIE1"
        crossorigin="anonymous"></script>
        <script>
            function getAndupdate(){
                console.log("Updating list...");
```

```
            <table class="table">
                <thead>
                  <tr>
                    <th scope="col">SNo</th>
                    <th scope="col">Item Title</th>
                    <th scope="col">Item Description</th>
                    <th scope="col">Actions</th>
                  </tr>
                </thead>
                <tbody id="tableBody">
                  <tr>
                    <th scope="row">1</th>
                    <td>Get some Coffee</td>
                    <td>You need coffee as you are a coder</td>
                    <td><button class="btn btn-sm btn-primary">Delete</button></td>
                  </tr>

                </tbody>
              </table>
        </div>
    </div>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
        integrity="sha384-DfXdz2htPH0lsSSsSnCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI"
        crossorigin="anonymous"></script>
        <script>
            function getAndupdate(){
                console.log("Updating list...");
```

Output:



Week 2

3 August 2023

- **Font size**

Utilities for controlling the font weight of an element.

- **Margin**

Utilities for controlling an element's margin.

m-0 margin: 0px;

mx-0 margin-left: 0px;

margin-right: 0px;

my-0 margin-top: 0px;

margin-bottom: 0px;

ms-0 margin-inline-start: 0px;

me-0 margin-inline-end: 0px;

mt-0 margin-top: 0px;

- **Square bracket notation**

```
<div class="before:content-['Hello_World']">
  <!-- ... -->
</div>
```

Week 2

4 August 2023

- **Responsive design**

sm 640px

md 768px

lg 1024px

xl 1280px

2xl 1536px

- **Hover**

Using utilities to style elements on hover, focus, and more.

<button class="bg-sky-500 hover:bg-sky-700 ...">

Save changes

</button>

- **Apply directives**

Directives are custom Tailwind-specific at-rules you can use in your CSS that offer special functionality for Tailwind CSS projects.

Week 2

7 August 2023

- **apply layer and directive**

@apply - Use @apply to inline any existing utility classes into your own custom CSS.

@layer - Use the @layer directive to tell Tailwind which “bucket” a set of custom styles belong to.

- **Customization**

Customizing the default theme for your project.

The theme section of your tailwind.config.js file is where you define your project’s color palette, type scale, fonts, breakpoints, border radius values, and more.

- **Deploying website to production**

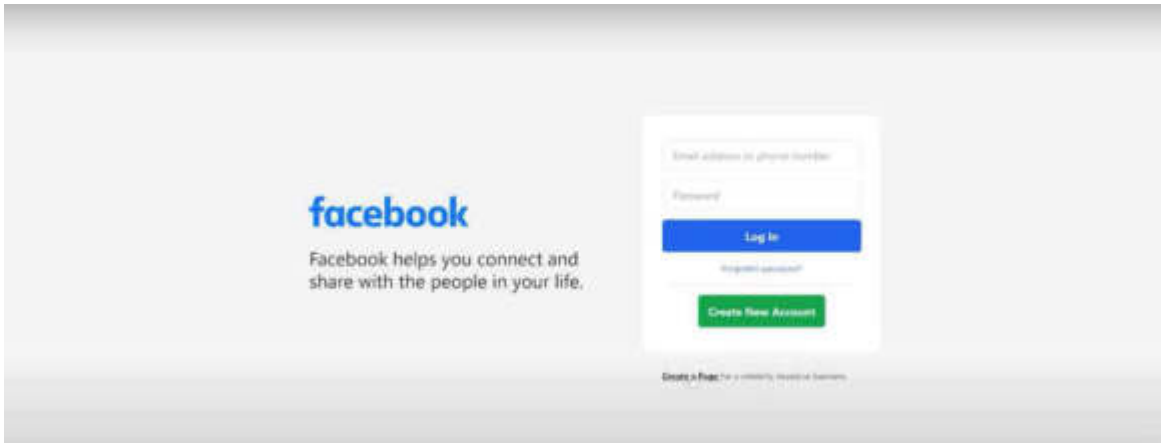
Getting the most performance out of Tailwind CSS projects.

Tailwind CSS is incredibly performance focused and aims to produce the smallest CSS file possible by only generating the CSS you are actually using in your project.

Week 2

8 August 2023

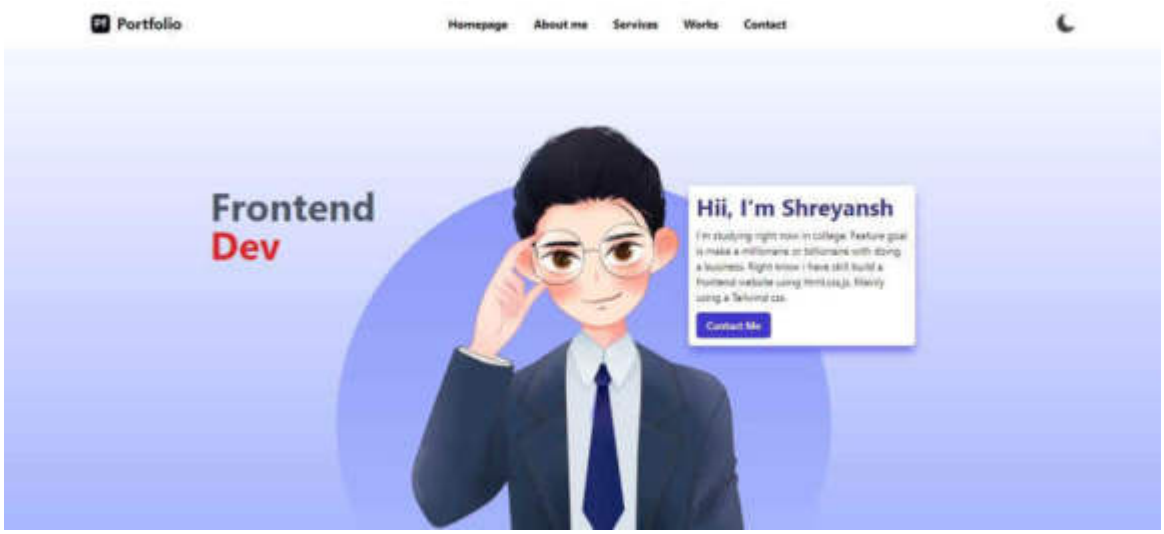
Project:1 Facebook Login Page

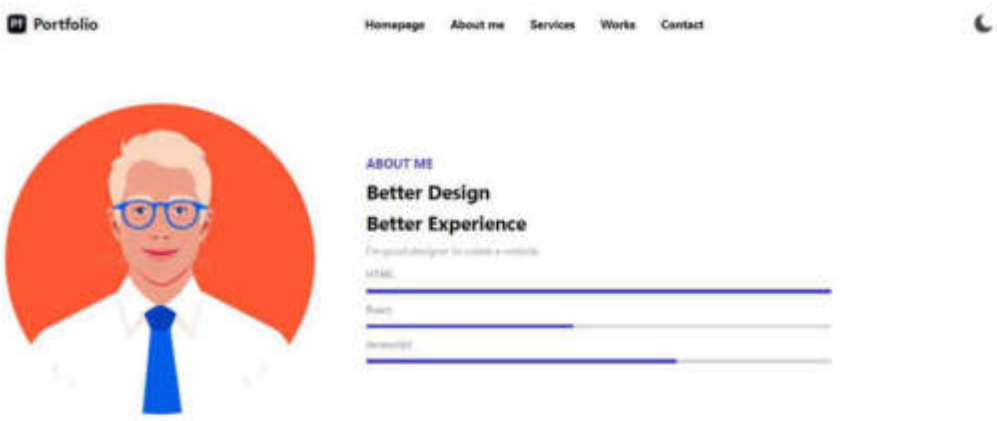


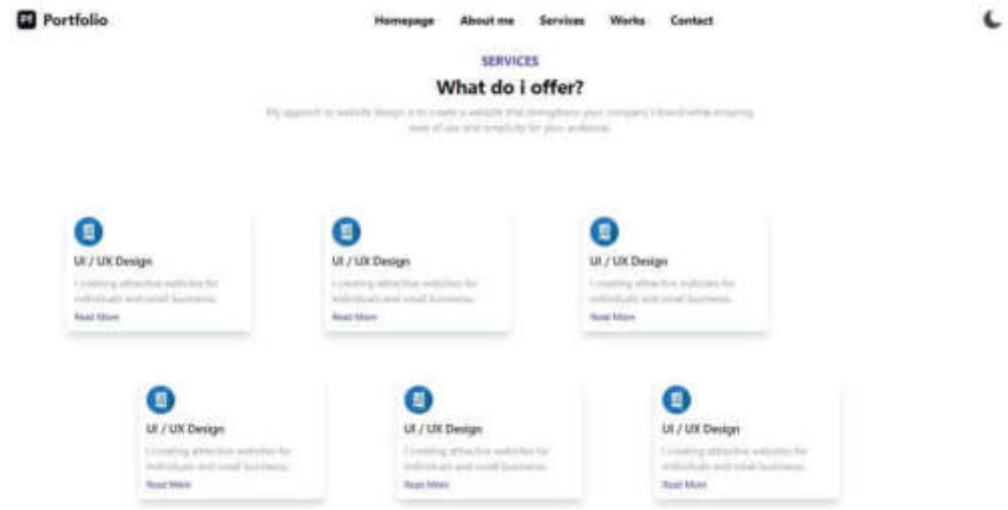
Week 2

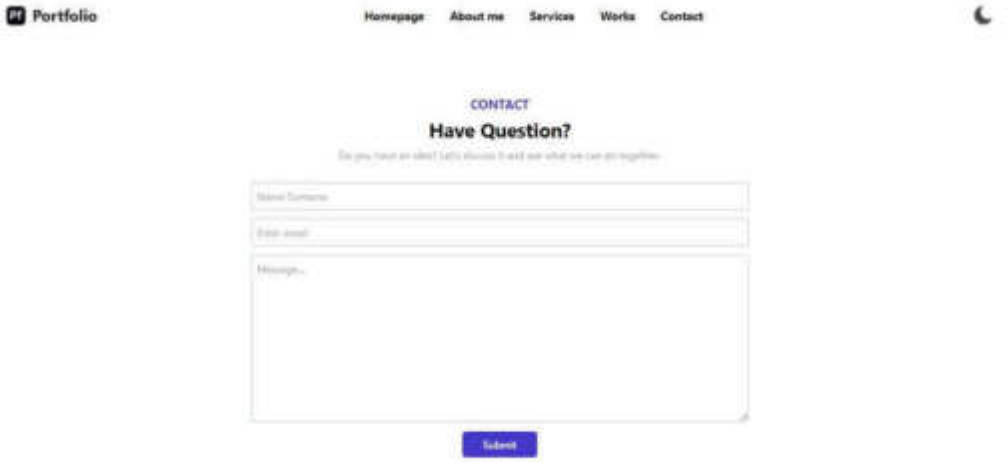
9 August 2023

Project:2 Portfolio






Portfolio
Homepage
About me
Services
Works
Contact
SERVICES
What do i offer?
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design


Portfolio
Homepage
About me
Services
Works
Contact
CONTACT
Have Question?
Submit

Week 2

10 August 2023

- **Conclusion:**

These past 15 days of internship have been an enriching and dynamic experience. I am delighted to have had the opportunity to work with TWS MEDIA and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved.

Throughout these 15 days, I've had the privilege of working alongside experienced professionals who have generously shared their knowledge and insights. I've gained exposure to Data analyst tools, which has significantly expanded my skill set.

During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.

In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and am committed to making the most of this internship experience. Thank you for this incredible opportunity.

INTERNSHIP AT INFOLABZ

AN INTERNSHIP REPORT

Submitted by

Purohit Vedant Pareshkumar

200390116016

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Purohit Vedant Pareshkumar** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Nainsi Soni

Internal Guide/ Reviewer

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116016
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Purohit Vedant Pareshkumar .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Purohit Vedant Pareshkumar all the best for future endeavors.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

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Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at InfoLabz** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technoloy** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName & FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Purohit Vedant Pareshkumar**	_____

ACKNOWLEDGMENT

I extend my heartfelt gratitude to those who have contributed to the successful completion of my internship. My sincere appreciation goes to **Mr. CHINTAN NAGRECHA** for their invaluable guidance, expertise, and mentorship, which have profoundly shaped my understanding of **ReactJS**. I am also thankful to the **InfoLabz** team for their warm welcome, and **S.P.B. Patel Engineering College** for facilitating this opportunity. I'm honored to have undertaken this enriching internship, and I am deeply grateful for the experiences and lessons it has provided.

Abstract

During my 15-day internship at Infolabz Company, I was immersed in a captivating project focused on developing a dynamic news application that retrieves real-time data from news APIs. This immersive experience provided me with a comprehensive grasp of pivotal concepts, including ES6 arrow functions, asynchronous programming, user input handling, and data visualization. Throughout the internship, I delved deep into the intricacies of modern JavaScript, honing my proficiency in leveraging ES6 features like arrow functions for succinct coding and effectively utilizing async functions to manage asynchronous operations. Additionally, I refined my ability to craft user-friendly interfaces that ensure smooth interactions and efficient data management. Beyond its practical exposure to API integration, the project also afforded me insights into the complexities of real-time data retrieval, processing, and presentation. This experience not only enhanced my technical skills but also reinforced my capacity for innovative problem-solving. In essence, my tenure at Infolabz has been an illuminating journey of transformation. Through hands-on application, I have not only mastered essential programming concepts but also elevated my aptitude for creating user-centric applications. This report stands as a testament to the comprehensive growth and heightened expertise I attained during this enriching internship.

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Chapter 1 : INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concept which could be used by millions of people.

Chapter 2 : JS AND ES6 CONCEPTS

2.1 INTRODUCTION TO JS:-

- JavaScript, abbreviated as JS, is a dynamic and versatile programming language integral to modern web development, enabling interactive and engaging user experiences by seamlessly interacting with HTML and CSS. Developed by Netscape in the mid-1990s, JS has evolved into a fundamental tool for creating real-time interactions, dynamic content updates, and responsive elements within web browsers. Beyond its browser-based functions, the rise of server-side frameworks like Node.js has extended JavaScript's reach to backend development, making it a ubiquitous language across the full software stack. This introduction offers a foundational glimpse into JavaScript's core concepts, syntax, and far-reaching capabilities, making it an essential asset for both newcomers and experienced developers aiming to build dynamic web applications..

2.2 INTRODUCTION TO ES6:-

- ECMAScript 6, or ES6, represents a significant evolution of JavaScript, introducing a range of powerful features and syntax enhancements that enhance code readability and functionality. With innovations like block-scoped variables, arrow functions, classes, and async/await, ES6 simplifies complex tasks and provides an intuitive approach to handling asynchronous operations. Beyond its language advancements, ES6 has become the cornerstone of modern web development, influencing subsequent ECMAScript versions and serving as a vital toolkit for creating robust and scalable applications. This introduction to ES6 offers insights into its key features and practical applications, providing a foundation for crafting efficient and cutting-edge JavaScript code, whether you're a seasoned developer or new to programming.

2.3 OBJECTS:-

- JavaScript objects serve as containers for organizing interconnected data using key-value pairs. Crafted using `{}`, they have the versatility to encompass diverse data types, encompassing functions and even other objects. Objects enable systematic data and method organization, enabling property addition, alteration, and access through dot notation or square brackets. Moreover, objects can serve as templates, constructing akin objects via constructors or classes. Their pivotal role lies in facilitating intricate data and functionalities management within JavaScript applications.

2.4 TASK 1 : PRINT THE DATA FROM JSON API INTO TABLE

Code:

```
table.html > html > body > script > cases > "Chennai"
<!DOCTYPE html>
<html><head><style>
    table {
        font-family: Arial, sans-serif;border-collapse: collapse;width: 80%; margin: 20px auto;}
th, td {
        border: 1px solid #dddddd;
        text-align: left;
        padding: 8px;}
th {
        background-color: #f2f2f2; }
tr:nth-child(even) {
        background-color: #f2f2f2;}
</style></head>
<body><script>
  var cases = {"Mumbai":[2500,600,12],"Pune":[700,200,10],"Chennai":[1100,20,7]};

    document.write("<h3>Cases Data:</h3>");
     document.write("<table>");
     document.write("<tr><th>City</th><th>New Cases</th><th>Recovered Cases</th><th>Death Cases</th></tr>");
     for(var i in cases){
       document.write("<tr><td>" + i + "</td><td>" + cases[i][0] + "</td><td>" + cases[i][1] + "</td><td>" +
       cases[i][2] + "</td></tr>");
     }
     document.write("</table>");

</script>
</body>
</html>
```

Fig 2.1 JSON API Data To Table

Output:

Cases Data:

City	New Cases	Recovered Cases	Death Cases
Mumbai	2500	600	12
Pune	700	200	10
Chennai	1100	20	7

Fig 2.2 Output Of JSON API Data To Table

Chapter 3 : JS FUNCTIONS

3.1 JS FUNCTIONS & ARROW FUNCTIONS:-

- JavaScript functions are reusable blocks of code designed to perform specific tasks. They encapsulate a set of instructions that can be invoked by calling the function's name, along with any required arguments. Functions enhance code modularity and maintainability, as they allow you to break down complex tasks into smaller, manageable units. They can accept inputs, process data, and produce outputs, making them a fundamental building block of JavaScript programming.
- Arrow functions, introduced in ES6, provide a concise and expressive way to create functions. They offer a more streamlined syntax, often requiring fewer lines of code compared to traditional function expressions. Arrow functions automatically inherit the surrounding context (i.e., the value of `this`), which can simplify code in certain scenarios. While arrow functions are a powerful tool for writing more elegant code, it's important to note that they may not be suitable for all use cases, particularly when more advanced function behavior or dynamic context handling is required.

3.2 ASYNC FUNCTION :

- An async function in JavaScript is a specialized type of function introduced in ES2017 that allows for the management of asynchronous operations in a more organized and readable manner. By using the `async` keyword before the function declaration, it enables the function to implicitly return a Promise, simplifying asynchronous code flow. Within an async function, the `await` keyword can be used to pause the function's execution until a Promise is resolved, making it easier to handle asynchronous actions like fetching data from a server or performing time-consuming computations. This streamlined approach to handling asynchronous tasks enhances code clarity and maintainability, facilitating the development of more efficient and responsive applications.

3.3 TASK 2: FETCH LIVE DATA FROM BITCOIN API.

Code:

bitcoin.html > ...

```
<!DOCTYPE html>
<head></head>
<body><script>
        async function load(){
            let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
            let myobject = await (await fetch(url)).json();
            document.write(myobject["bpi"]["USD"]["rate"]);}
        load();
    </script></body>
</html>
```

Fig 3.1 Fetch Data From API

Output:



Fig 3.2 Live Rate Of BitCoin

3.4 TASK 3: FETCH THE DATA FROM THE COVID-19 API AND PRINT IT IN THE TABLE

Code:

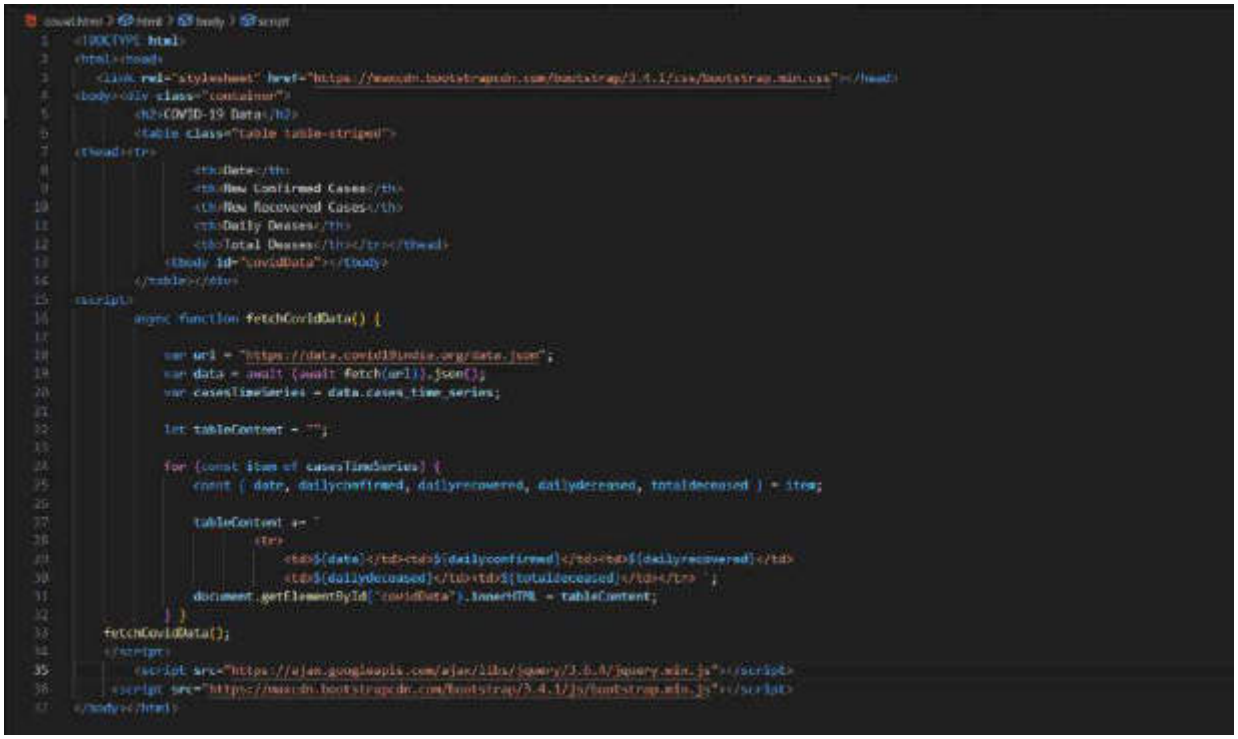


Fig 3.3 Fetch Covid-19 Data From API



COVID-19 Data

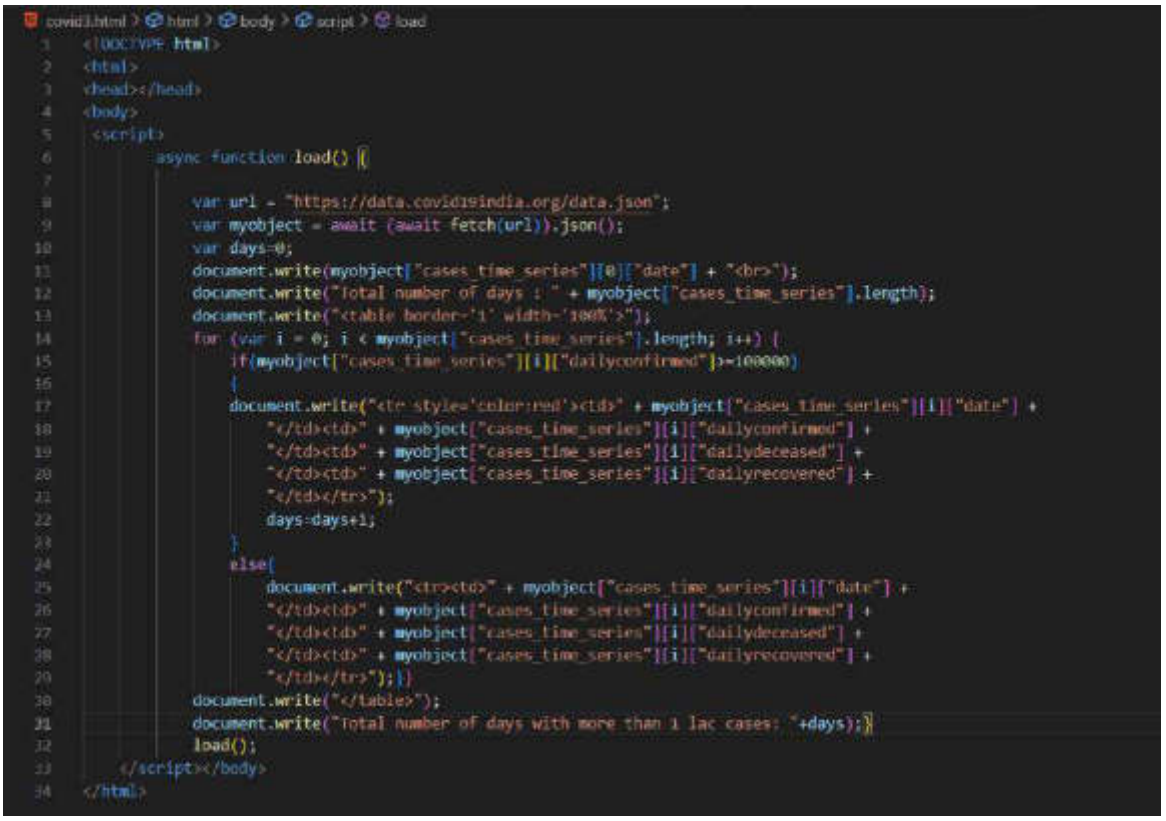
Date	New Confirmed Cases	New Recovered Cases	Daily Deases	Total Deases
30 January 2020	1	0	0	0
31 January 2020	0	0	0	0
1 February 2020	0	0	0	0
2 February 2020	1	0	0	0

Fig 3.4 Output Of Covid-19 API Data To Table

Chapter 4 : JS INPUT METHODS

4.1 COVID API – DATA FETCHING AND MAPPING:-

Code:



```
<!DOCTYPE html>
<html>
<head></head>
<body>
 <script>
        async function load() {

            var url = "https://data.covid19india.org/data.json";
            var myobject = await (await fetch(url)).json();
            var days=0;
            document.write(myobject["cases_time_series"][0]["date"] + "<br>");
            document.write("Total number of days : " + myobject["cases_time_series"].length);
            document.write("<table border='1' width='100%'>");
            for (var i = 0; i < myobject["cases_time_series"].length; i++) {
                if(myobject["cases_time_series"][i]["dailyconfirmed"]>=100000)
                {
                document.write("<tr style='color:red'><td>" + myobject["cases_time_series"][i]["date"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailyconfirmed"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailydeceased"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailyrecovered"] +
                    "</td></tr>");
                    days=days+1;
                }
                else{
                    document.write("<tr><td>" + myobject["cases_time_series"][i]["date"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailyconfirmed"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailydeceased"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailyrecovered"] +
                    "</td></tr>");}}
            document.write("</table>");
            document.write("Total number of days with more than 1 lac cases: "+days);}
            load();
    </script></body>
</html>
```

Fig 4.1 Code Of Covid-19 API Data

Output:



30 January 2020
Total number of days : 565

30 January 2020	1	0	0
31 January 2020	0	0	0
1 February 2020	0	0	0
2 February 2020	1	0	0
3 February 2020	1	0	0
4 February 2020	0	0	0
5 February 2020	0	0	0
6 February 2020	0	0	0
7 February 2020	0	0	0
8 February 2020	0	0	0
9 February 2020	0	0	0
10 February 2020	0	0	0
11 February 2020	0	0	0
12 February 2020	0	0	0
13 February 2020	0	0	1
14 February 2020	0	0	0
15 February 2020	0	0	0

Fig 4.2 Output Of Covid-19 API Data To Table

4.2 JS POP UP BOXES:-

JavaScript provides three types of pop-up boxes:
1. Alert: Displays a message with an OK button for notifications.
   Syntax: alert("Message");
2. Confirm: Displays a message with OK and Cancel buttons for user confirmation.

   Syntax: const result = confirm("Confirm?");
3. Prompt: Displays a message with an input field for gathering user input.
   Syntax: const input = prompt("Enter something:");

These pop-up boxes are simple but can disrupt user experience and are less customizable. Modern alternatives like CSS frameworks or custom modals are often preferred for better user interaction.

4.3 USER INPUT : FORM TO VARIABLE:-

Code:



```
<!DOCTYPE html>
<head></head>
<body>
    <script>
        function check(form){
            var name = form.uname.value;
            var Surname = form.usurname.value;


        document.getElementById("msg").innerHTML = "User name is " + name + " Surname is " + Surname;
        }
        </script>
        <form>
            Name : <input type="text" name="uname"> <br>
            Surname : <input type="text" name="usurname"> <br>

            <input type="submit" onclick="check(this.form); return false;">
        </form>
        <mark id="msg"></mark>

</body>
</html>
```

Fig 4.3 Form To Variable

Output:

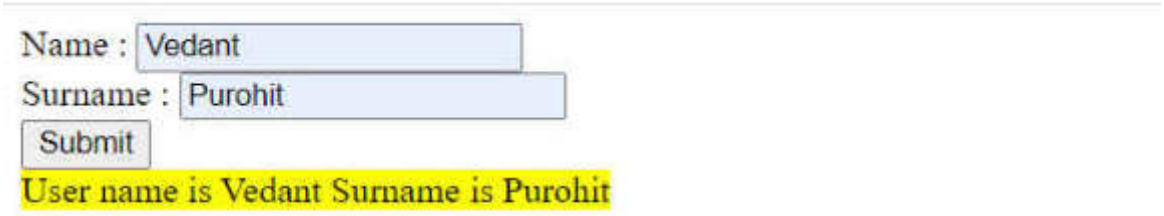


Fig 4.4 Output Of Form To Variable

4.4 TASK 4 :- GET THE INPUT FROM THE USER AND PRINT THE DATA IN THE FORM OF TABLE.

Code:

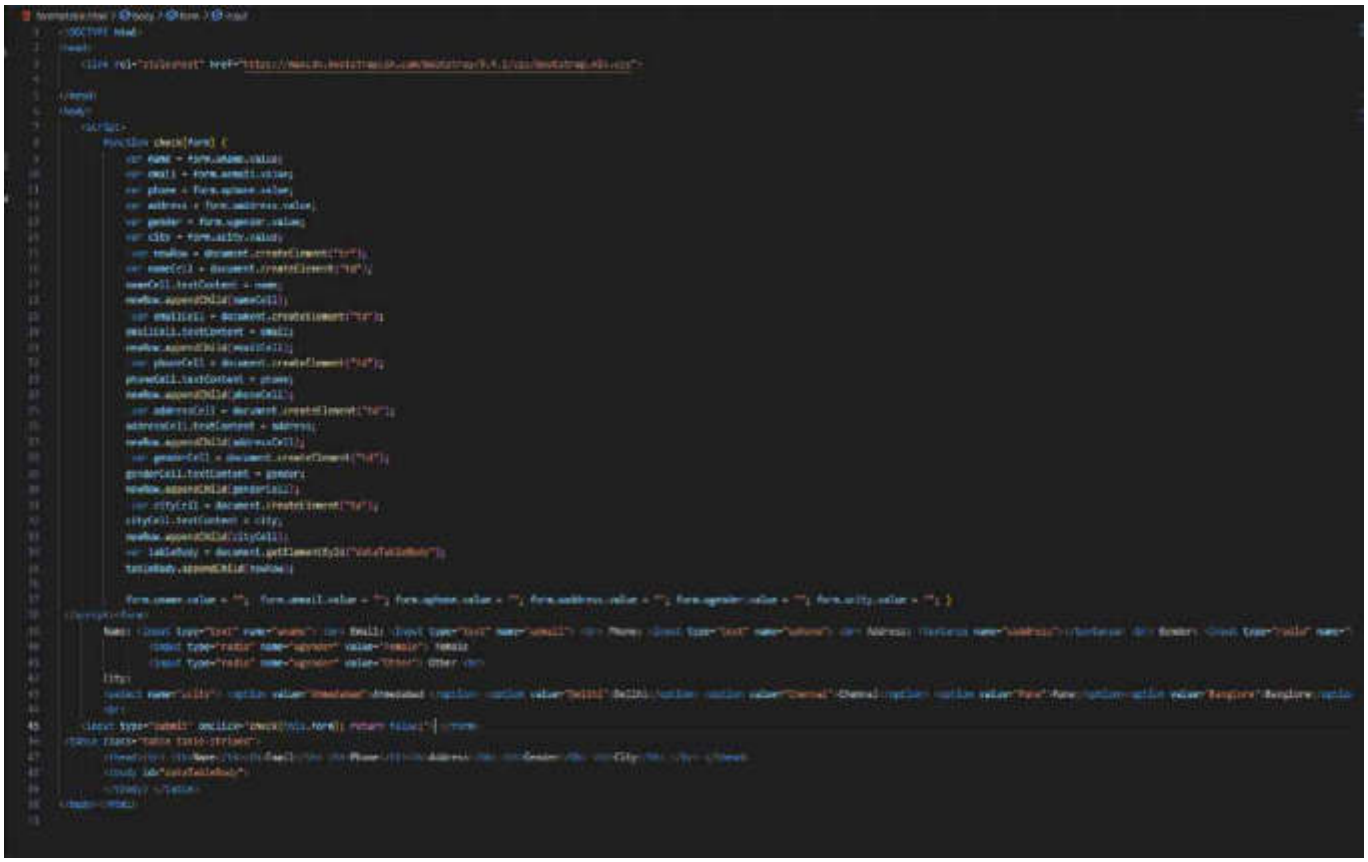


Fig 4.5 Form To Table

Output:



Fig 4.6 Output Of Form To Table

Chapter 5 : JS ARRAYS

5.1 INTRODUCTION TO ARRAYS :-

- JavaScript arrays are versatile and dynamic data structures used to store collections of values, which can include various data types such as numbers, strings, objects, and even other arrays. Arrays are defined using square brackets and can hold elements in a sequential order. Each element is assigned an index starting from zero, enabling efficient access and manipulation of data. Arrays offer a range of built-in methods for adding, removing, and manipulating elements, making them essential tools for tasks like data processing, iteration, and storage of related information. Their flexibility and functionality make arrays fundamental components in JavaScript, enabling developers to efficiently manage and operate on sets of data within their programs.

Code :

```
array.html > html
<!DOCTYPE html>
<html>
<head></head>
<body><script>
        var emails = ["a@b.com", "i@j.com", "x@y.com"];
        var passwords = ["abc123", "ijk123", "xyz123"];

        function login(form) {
            var useremail = form.uemail.value;
            var userpassword = form.upassword.value; // Corrected variable name

            if (useremail == "" || userpassword == "") {
                if (useremail == "" && userpassword != "") {
                    document.getElementById("msg").innerHTML = "Email field cannot be blank";
                } else if (useremail != "" && userpassword == "") {
                    document.getElementById("msg").innerHTML = "Password field cannot be blank";
                } else {
                    document.getElementById("msg").innerHTML = "Both fields are required";
                }
            } else {
                var isValidUser = false; // Added a flag to check if the user is valid

                for (var i = 0; i < emails.length; i++) {
                    if (useremail == emails[i] && userpassword == passwords[i]) {
                        isValidUser = true; // Set flag to true if valid user found
                        break;}  }

                if (isValidUser) {
                    document.getElementById("msg").innerHTML = "<font color='green'>Login Successful</font>";
                } else {
                    document.getElementById("msg").innerHTML = "<font color='red'>Invalid username or password</font>"; }}}
</script>
<form>
        Email : <input type="email" name="uemail"><br>
        Password : <input type="password" name="upassword"><br> <!-- Corrected name attribute -->
        <input type="submit" onclick="login(this.form); return false;"> </form>
    <p id="msg"></p></body>
</html>
```

Fig 5.1 Authentication Using Array

Output :

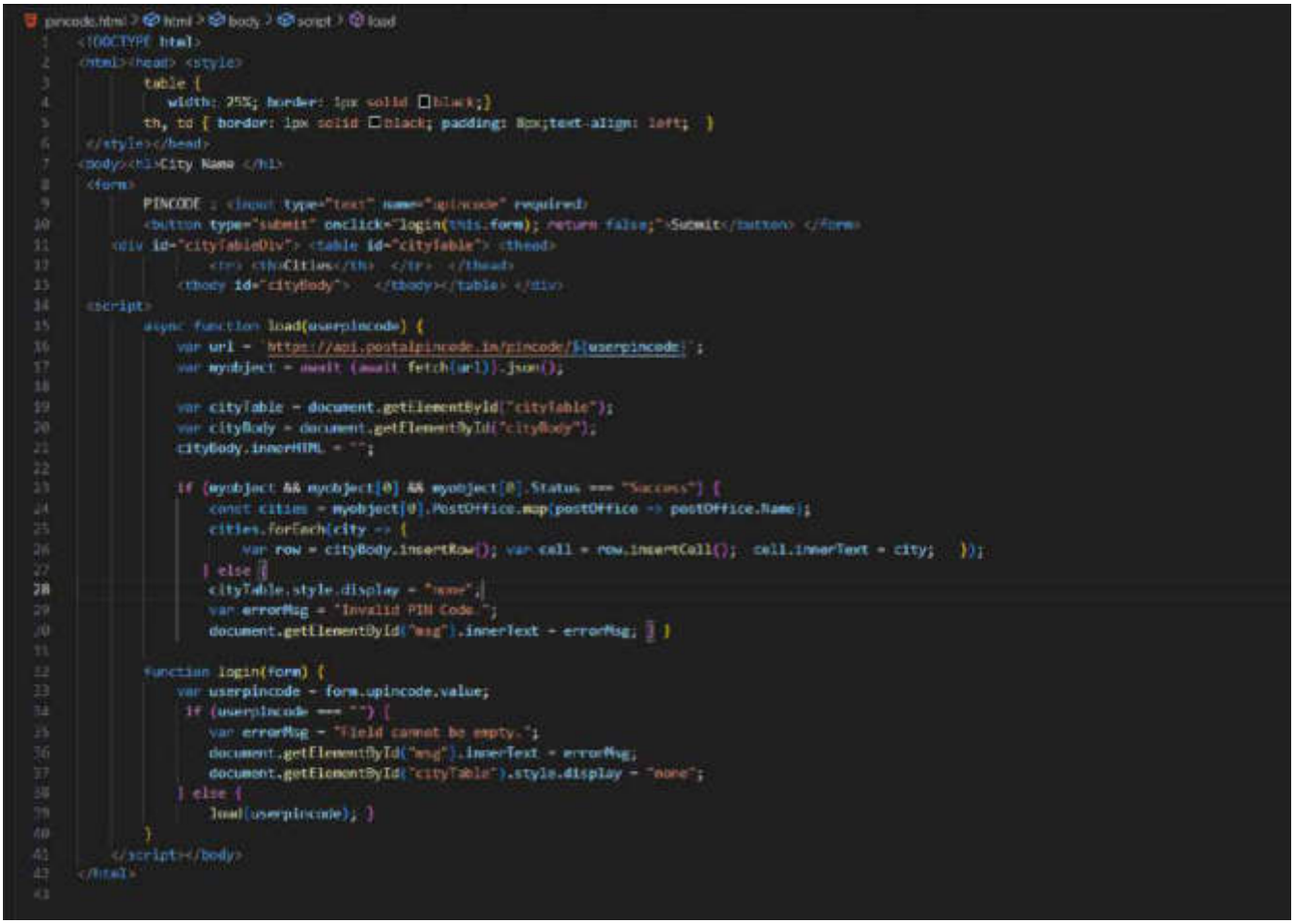


Fig 5.2 Output Of Authentication Using Array

5.2 FORM TO TABLE :-

5.2.1 Task 5 : Fetch Data from API and Get the User value print in the form of Table.

Code:



```
pincode.html > html > body > script > load
<!DOCTYPE html>
<html><head> <style>
        table {
            width: 25%; border: 1px solid black;}
        th, td { border: 1px solid black; padding: 8px;text-align: left; }
</style></head>
<body><h1>City Name </h1>
<form>
        PINCODE : <input type="text" name="upincode" required>
        <button type="submit" onclick="login(this.form); return false;">Submit</button> </form>
    <div id="cityTableDiv"> <table id="cityTable"> <thead>
                <tr> <th>Cities</th> </tr> </thead>
            <tbody id="cityBody">  </tbody></table> </div>
<script>
        async function load(userpincode) {
            var url = `https://api.postalpincode.in/pincode/${userpincode}`;
            var myobject = await (await fetch(url)).json();

            var cityTable = document.getElementById("cityTable");
            var cityBody = document.getElementById("cityBody");
            cityBody.innerHTML = "";

            if (myobject && myobject[0] && myobject[0].Status === "Success") {
                const cities = myobject[0].PostOffice.map(postOffice => postOffice.Name);
                cities.forEach(city => {
                    var row = cityBody.insertRow(); var cell = row.insertCell();  cell.innerText = city;  });
                } else {
                cityTable.style.display = "none";
                var errorMsg = "Invalid PIN Code ";
                document.getElementById("msg").innerText = errorMsg; } }

        function login(form) {
            var userpincode = form.upincode.value;
            if (userpincode === "") {
                var errorMsg = "Field cannot be empty.";
                document.getElementById("msg").innerText = errorMsg;
                document.getElementById("cityTable").style.display = "none";
            } else {
                load(userpincode); }
        }
    </script></body>
</html>
```

Fig 5.3 Form To Table

Output:

City Name

PINCODE : 380001 Submit

Cities
Ahmedabad
Dariapur (Ahmedabad)
District Court (Ahmedabad)
Gandhi Road (Ahmedabad)
Gheekanta Road
Jamalpur (Ahmedabad)
Kalupur Chakla
Khadia
Khanpur (Ahmedabad)
Lal Darwaja
Manek Chowk
Municipal Corporation
Raikhad
Raipur (Ahmedabad)

Fig 5.4 Cities Names From Respected PINCODE

Chapter 6 : BASICS OF REACT

6.1 INTRODUCTION TO REACT :-

- React is an open-source JavaScript library that simplifies the process of building user interfaces for web applications. Developed by Facebook, React allows developers to create reusable UI components that efficiently update and render based on changes in data. It employs a virtual DOM (Document Object Model) to optimize performance by minimizing direct interactions with the actual DOM, resulting in faster rendering and a more responsive user experience. React's component-based architecture and declarative syntax enable developers to build complex, interactive, and maintainable applications, making it a cornerstone of modern web development.

6.2 INTRODUCTION TO NODE.JS :

- Node.js is a server-side runtime environment built on the V8 JavaScript engine. It allows developers to execute JavaScript code on the server, enabling the creation of scalable and high-performance applications. Node.js facilitates non-blocking, event-driven architecture, making it ideal for handling asynchronous operations like network requests and file I/O. It offers a vast ecosystem of modules and packages through npm (Node Package Manager), streamlining development by providing ready-to-use tools for various tasks. Node.js has revolutionized server-side programming, allowing developers to use a single language (JavaScript) for both front-end and back-end development, ultimately enhancing efficiency and fostering seamless communication between client and server components.

6.3 FIRST REACT APP :

Code :

App.js Myfun.js

src > Myfun.js > default

```
1  import React from 'react';
2
3  class Myfun extends React.Component {
4      render() {
5          return (
6              <>
7                  <h1>Hello!!!</h1>
8
9              </>
10         );
11     }
12 }
13 export default Myfun;
```

Fig 6.1 Myfun Component

App.js Myfun.js

src > App.js > ...

```
1  import React from "react";
2  import Myfun from "./Myfun";
3
4  function App() {
5    return (
6      <React.Fragment>
7        <Myfun />
8      </React.Fragment>
9    );
10 }
11
12 export default App;
13
```

Fig 6.2 App.js Component

Output:



Fig 6.3 First React App

6.3.1 Functional Components :

- The first and recommended component type in React is functional components. A functional component is basically a JavaScript/ES6 function that returns a React element (JSX). According to React's official docs, the function below is a valid functional component:

```
function Welcome(props) {
  return <h1>Hello, {props.name}</h1>;
}
```

Fig 6.4 Functional Component

6.3.2 Class Components :

- The second type of component is the class component. Class components are ES6 classes that return JSX. Below, you see our same Welcome function, this time as a class component:

```
class Welcome extends React.Component {
  render() {
    return <h1>Hello, {this.props.name}</h1>;
  }
}
```

Fig 6.5 Class Component

Chapter 7 : MAP IN REACT

7.1 INTRODUCTION TO MAP :-

- In React, the `map()` function is a powerful method used to iterate through an array of data and create a new array of transformed elements. Commonly employed for rendering dynamic content, `map()` applies a provided function to each item in the array, enabling the creation of JSX elements or components based on the data. This facilitates the efficient generation of lists, tables, or any dynamic content structure by mapping data to their corresponding UI representations. Overall, `map()` is a fundamental tool for rendering dynamic content in React applications, enhancing code modularity and enabling the seamless display of data-driven user interfaces.

```jsx
import React from 'react';

const ItemList = ({ items }) => {
  return (
    <ul>
      {items.map((item, index) => (
        <li key={index}>{item}</li>
      ))}
    </ul>
  );
}

export default ItemList;
```

Fig 7.1 Structure Of Map()

7.2 VARIABLE DATA MAP :

- In React, the concept of "variable data mapping" refers to dynamically rendering components or elements based on data stored in a variable, typically an array. This involves using methods like the `map()` function to iterate through the data and generate corresponding UI representations. By mapping variable data to components or elements, developers can create dynamic and flexible user interfaces that adapt to changes in the data. This approach enhances code reusability and modularity, allowing for efficient display of lists, grids, or other structured content while maintaining a clear separation between data and presentation in React applications.

```
const alldata = [5,10,15,20,25];
function Display() {
  return (
    <div>
      {
        alldata.map(
          (data) => {
            return <h1>{data}</h1>
          }
        )

      }
    </div>
  );
}

export default App;
export {Newcomp,Display};
```

Fig 7.2 Variable Data Map

7.3 OBJECT MAP :

7.3.1 Task 6 : Map the Object data and print in the form of Table.

Code :

```
import React from "react";
import './App.css';

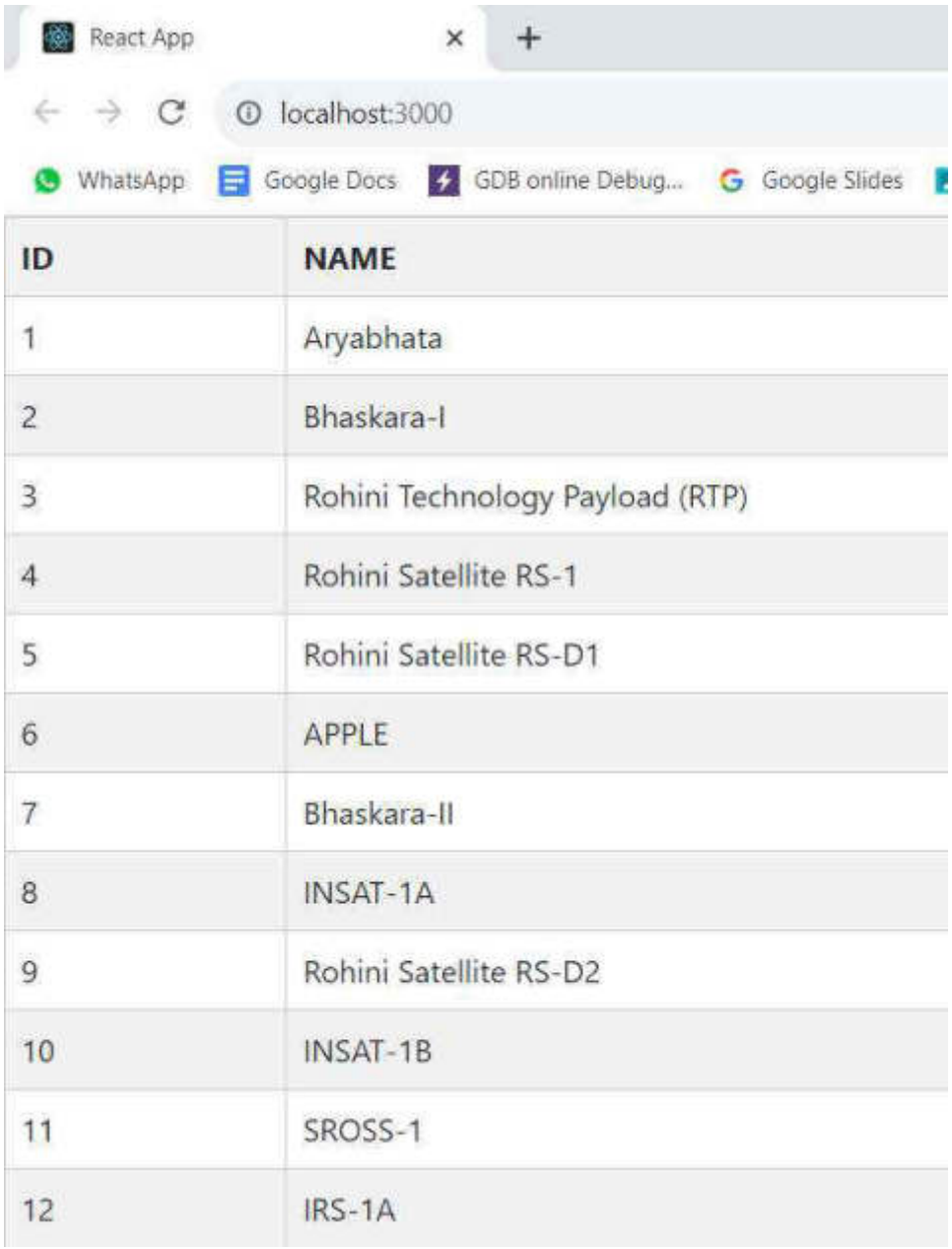
const isrodata = { "spacecrafts": [{ "id": 1, "name": "Aryabhata" }, { "id": 2, "name": "Bhaskara-I" },

function IsroTable() {
    return (
        <div><table className="custom-table">
        <thead><tr> <th>ID</th><th>NAME</th></tr>
       </thead> <tbody>
                    { isrodata.spacecrafts.map(
                            (value, index) => (
                                <tr key={index}>
                                    <td>{value.id}</td>
                                    <td>{value.name}</td>
                                </tr>
                            )
                        )
                    }
                </tbody>
            </table>
        </div>
    );
)

export default IsroTable;
```

Fig 7.3 Object Map

Output :



ID	NAME
1	Aryabhata
2	Bhaskara-I
3	Rohini Technology Payload (RTP)
4	Rohini Satellite RS-1
5	Rohini Satellite RS-D1
6	APPLE
7	Bhaskara-II
8	INSAT-1A
9	Rohini Satellite RS-D2
10	INSAT-1B
11	SROSS-1
12	IRS-1A

Fig 7.4 SpaceCrafts Data From Object To Table

Chapter 8 : PROPS AND HOOKS

8.1 INTRODUCTION OF PROPS :

- In React, "props" (short for properties) are a fundamental concept used for passing data from a parent component to its child components. They allow for the communication and sharing of information between different parts of a React application. Props are read-only and provide a way to configure and customize child components by supplying them with specific values or functions. This enables the creation of dynamic and reusable components that can efficiently display data, respond to user interactions, and maintain a clear separation of concerns within the component hierarchy, contributing to the modularity and maintainability of React applications.

  Code :

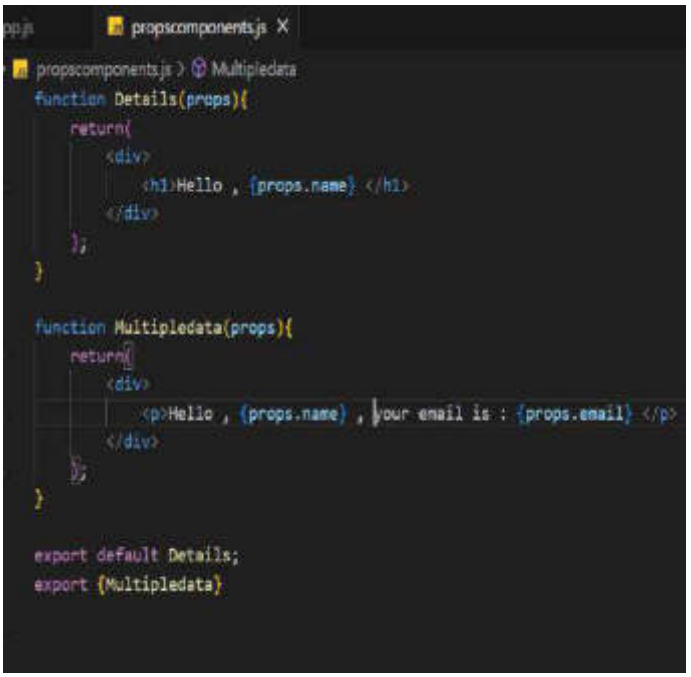


Fig 8.1 Props Component



Fig 8.2 App,js Component

Output :

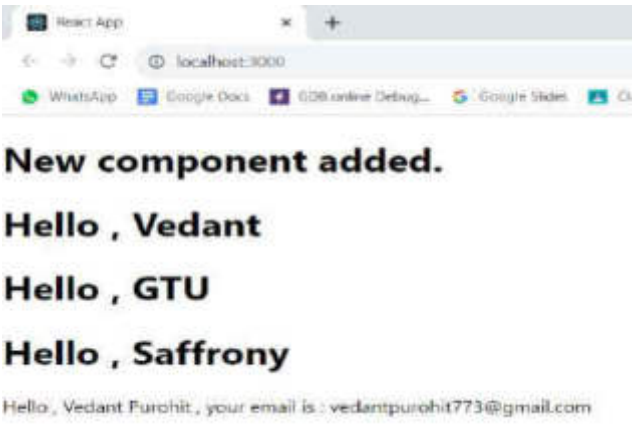


Fig 8.3 Output After Passing Props

8.2 INTRODUCTION OF HOOKS:

- Hooks are a groundbreaking addition to React that empowers developers to incorporate state and lifecycle functionalities into functional components, eliminating the need for class components in many cases. Introduced in React 16.8, Hooks facilitate the management of local component state, side effects, and context usage within functional components, thereby promoting a more concise and readable code structure. By providing functions like `**useState**` and `**useEffect**`, Hooks enable developers to integrate state management and lifecycle behaviors directly into functional components, streamlining development and enhancing code reusability. This innovation marks a pivotal shift in React development, enabling more modular and easily maintainable applications while preserving the flexibility and performance for which React is renowned.

8.3 REACT BOOTSTRAP :

- React Bootstrap is a front-end framework that seamlessly integrates the power of Bootstrap, a popular CSS framework, with the flexibility and component-based architecture of React. By combining these technologies, React Bootstrap empowers developers to build responsive, visually appealing, and interactive user interfaces with ease. It provides a collection of pre-designed, customizable components such as navigation bars, buttons, modals, and forms, eliminating the need to write complex CSS and JavaScript from scratch. React Bootstrap simplifies the process of creating modern web applications by offering a comprehensive set of UI components that adhere to best practices, while also enabling seamless integration with existing React projects for enhanced efficiency and consistency in design and functionality.

8.4 TASK 7: USING HOOKS AND REACT BOOTSTRAP CREATE A APP WITH CARDS.

Code :

```
src > News.js > News
import React, { useState, useEffect } from 'react'
import { Container, Card, Row, Col } from 'react-bootstrap';

const News = () => {
    const [myData, setData] = useState([]);
    const apiget = () => {
        fetch('https://inshortsapi.vercel.app/news?category=science')
            .then((response) => response.json())
            .then((json) => { console.log(json);
                setData(json.data) }); }
        useEffect(() => {
        apiget();
        const interval = setInterval(() => { apiget(); }, 50000);
        return () => clearInterval(interval); }, []);
 return (
        <Container fluid>
            <h5 className="text-center my-3">API data fetch with React</h5>
            <Row className='mt-4 g-4' xs={1} md={3}> {
                myData.map((value) => {
                    return ( <>
                            <Col><Card> <Card.Img variant="top" src={value.imageUrl} style={{ height: 350 }} />
                                <Card.Body> <Card.Title>{value.title}</Card.Title>
                                    <Card.Text> {value.content}</Card.Text></Card.Body>
                                    <Card.Footer> <small className="text-muted">{value.date} {value.time}</small>
                                        </Card.Footer></Card> </Col> </> ) }) }
    </Row> </Container>)}

export default News;
```

Fig 8.4 useState And useEffect Hooks

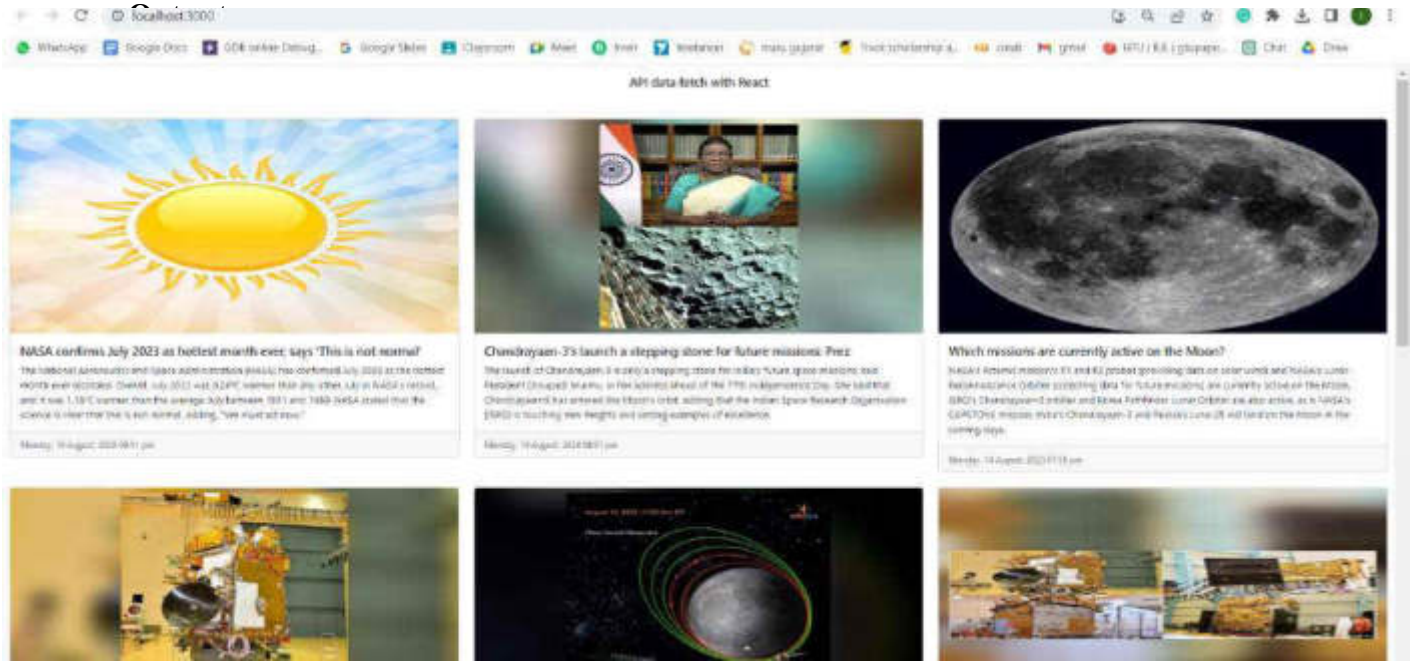


Fig 8.5 Single Page Using Hooks

Chapter 9: ASSIGNMENTS

9.1 ASSIGNMENT 1 :

9.1.1 Task 8: Datewise Covid data search from API and Print into Table Format.

Code :

```
Covid.html > body > script > check > load
<!DOCTYPE html>
<head></head>
<body>
 <script>
        async function check(form) {
        var uname = form.dt.value;
        async function load(){

            var url = "https://data.covid19india.org/data.json";
            var obj = await (await fetch(url)).json();

            for (var i = 0; i < obj["cases_time_series"].length; i++) {

                if(uname==obj["cases_time_series"][i]["date"]){
                document.getElementById("msg").innerHTML = "<table border='1' width='500px'><tr><td>NEW CASES</td><td
                    + obj["cases_time_series"][i]["dailyconfirmed"] +"</td></tr><tr><td>NEW DEATHS</td><td>"
                        + obj["cases_time_series"][i]["dailydeceased"] +"</td></tr></table>";
                    break;}
                } }
              load();   }
 </script>
 <form>
            Date : <input type="text" name="dt">

            <input type="submit" onclick="check(this.form); return false;" /> </form>
        <p id="msg"></p></body>
</html>
```

Fig 9.1 Covid Data Fetch From API

Output :

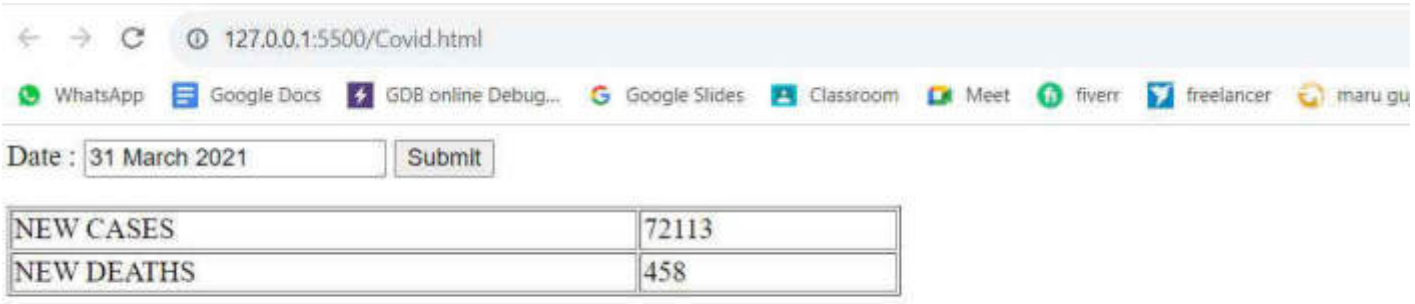
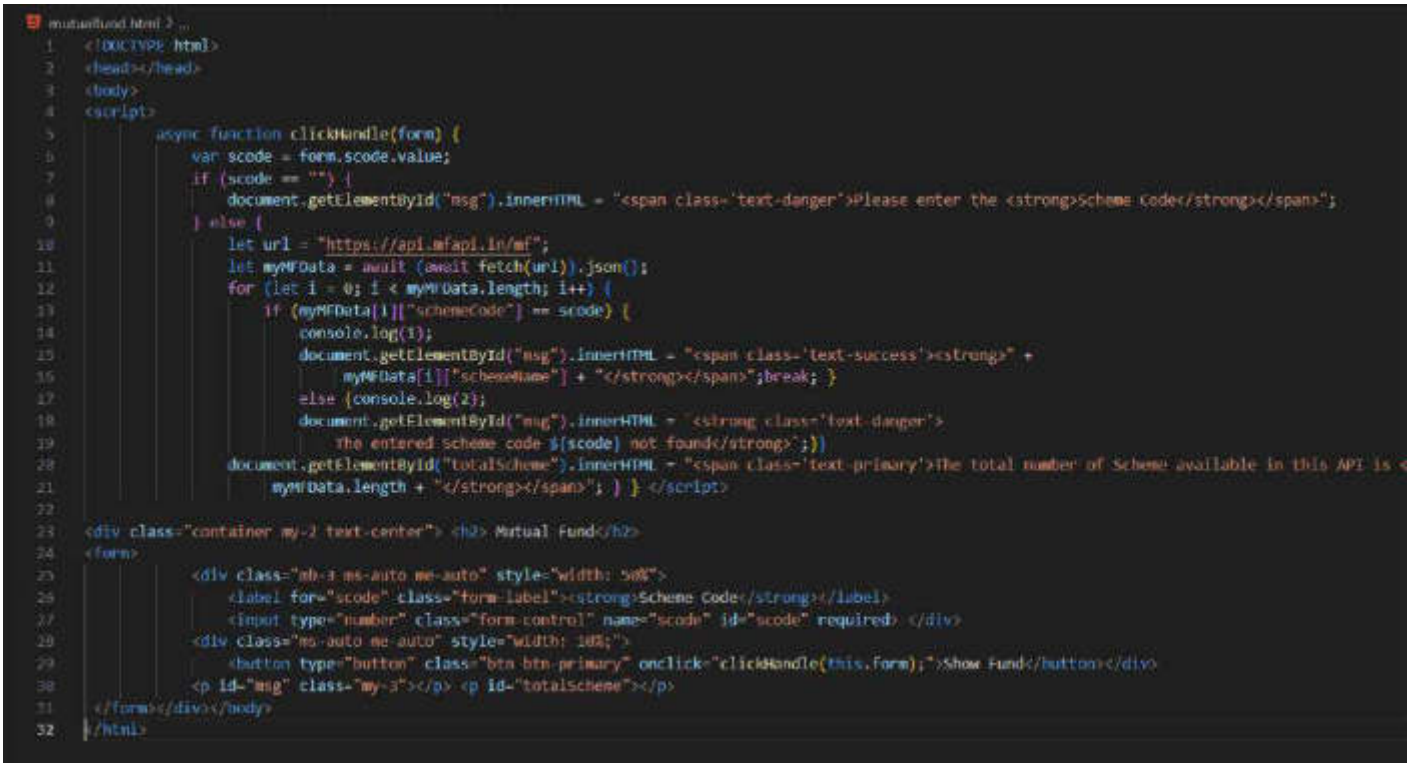


Fig 9.2 Datewise Covid Data Into Table Format

9.1.2 Task 9: Print the Total number of Schemes available from API of Mutual Fund.

Code :



```
<!DOCTYPE html>
<head></head>
<body>
<script>
        async function clickHandle(form) {
            var scode = form.scode.value;
            if (scode == "") {
                document.getElementById("msg").innerHTML = "<span class='text-danger'>Please enter the <strong>Scheme Code</strong></span>";
            } else {
                let url = "https://api.mfapi.in/mf";
                let myMFData = await (await fetch(url)).json();
                for (let i = 0; i < myMFData.length; i++) {
                    if (myMFData[i]["schemeCode"] == scode) {
                        console.log(1);
                        document.getElementById("msg").innerHTML = "<span class='text-success'><strong>" +
                            myMFData[i]["schemeName"] + "</strong></span>";break; }
                        else {console.log(2);
                        document.getElementById("msg").innerHTML = `<strong class='text-danger'>
                            The entered scheme code ${scode} not found</strong>`;}}
                document.getElementById("totalScheme").innerHTML = "<span class='text-primary'>The total number of Scheme available in this API is <
                    myMFData.length + "</strong></span>"; } } </script>

<div class="container my-2 text-center"> <h2> Mutual Fund</h2>
<form>
            <div class="mb-3 ms-auto me-auto" style="width: 50%">
                <label for="scode" class="form-label"><strong>Scheme Code</strong></label>
                <input type="number" class="form-control" name="scode" id="scode" required> </div>
            <div class="ms-auto me auto" style="width: 10%;">
                <button type="button" class="btn btn-primary" onclick="clickHandle(this.form);">Show Fund</button></div>
            <p id="msg" class="my-3"></p> <p id="totalScheme"></p>
 </form></div></body>
</html>
```

Fig 9.3 Fetch The Data From Mutual Fund API

Output :

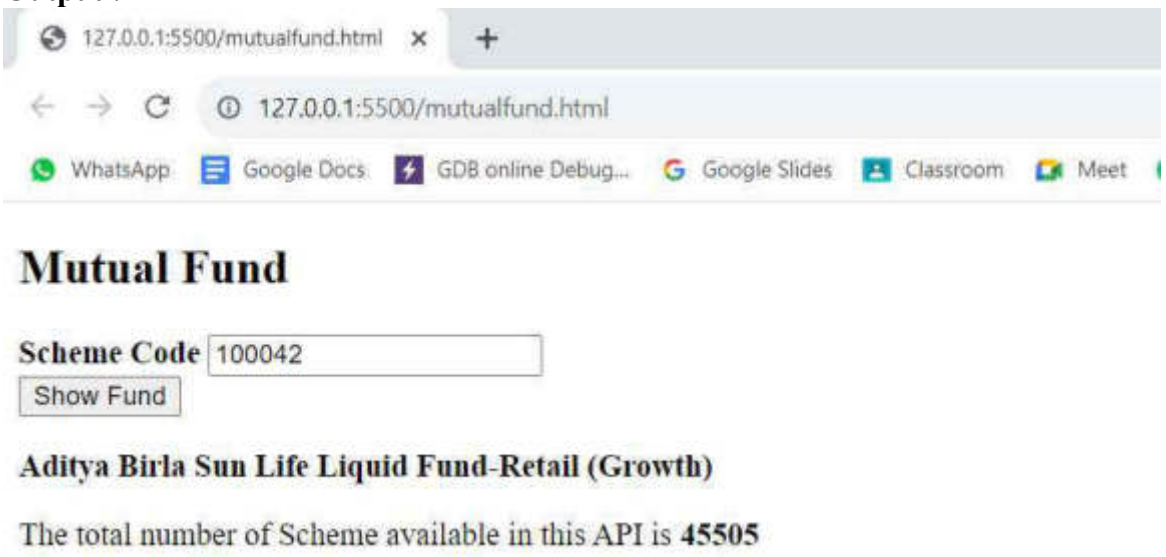


Fig 9.4 Show Available Scheme From API

9.2 ASSIGNMENT 2: Develop one web page in React with professional card layouts of react bootstrap using API.

App Name: BHARAT NEWS

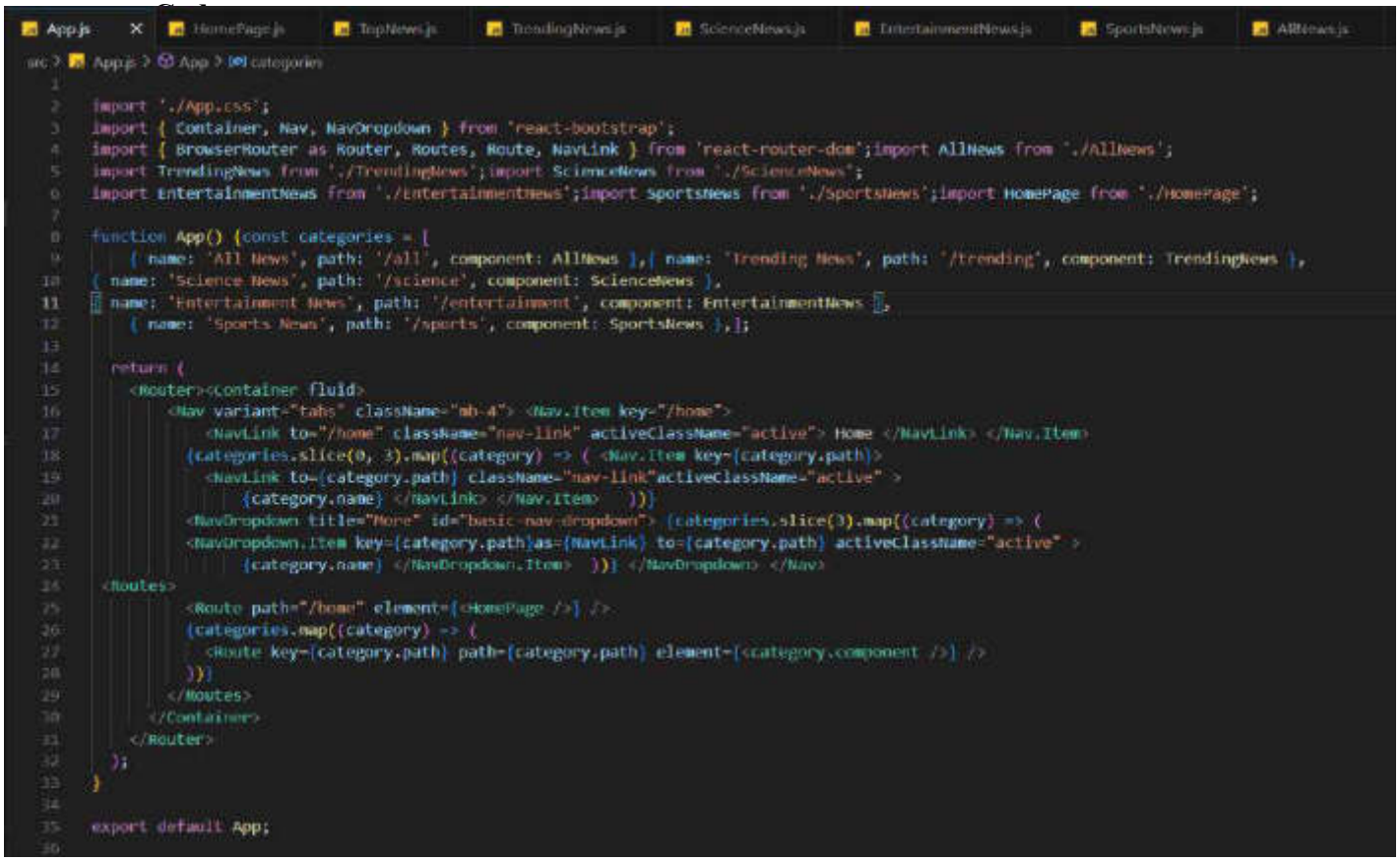


Fig 9.5 App.js Component

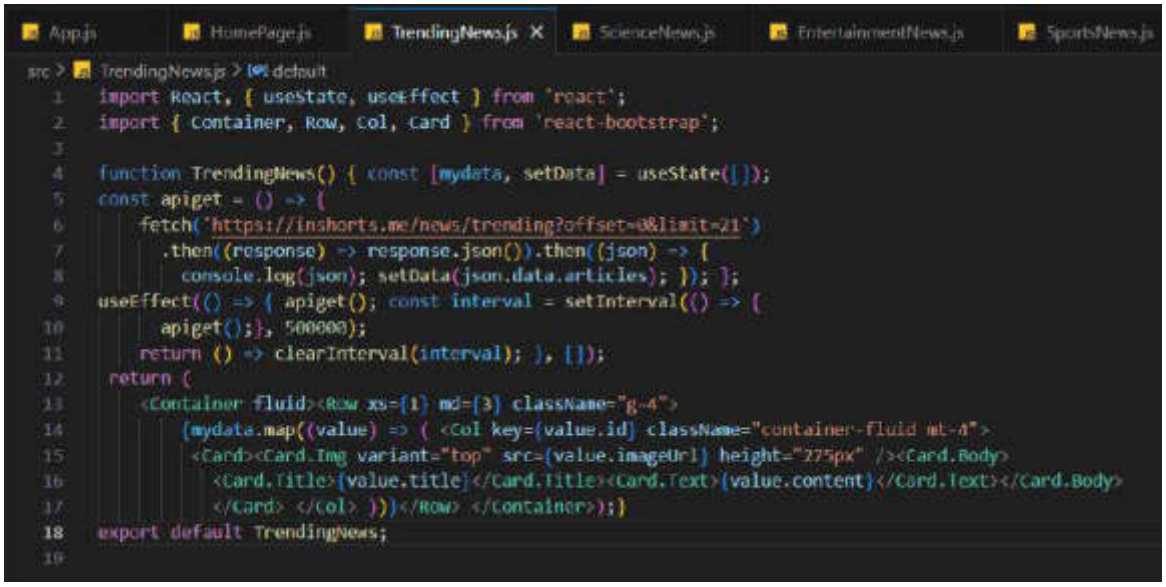


Fig 9.6 TrendingNews.js Component

```jsx
import React from 'react';
import './HomePage.css';

function HomePage() {
  return (
    <div className="home-page">
      <header className="header">
        <h1>BHARAT NEWS </h1>
        <p>Your Source for Up-to-date News</p>
        <p className="subtext">Stay Informed. Stay Updated.</p>


      </header>
      <div className="home-page-content">
        <h2>Welcome to the BHARAT NEWS </h2>
        <p>
          Stay updated with the latest news from various categories such as All News, Top News,
          Trending News, Science News, Entertainment News, and Sports News.
        </p>
        <p>
          Explore each category to find the latest headlines and stay informed about what's happening
          around the world.
        </p>
      </div>
      <footer className="footer">
        <p>&copy; 2023 BHARAT NEWS . All rights reserved.</p>
      </footer>
    </div>
  );
}

export default HomePage;
```

Fig 9.7 HomePage.js Component

- Similarly, ScinceNews, EntertainmentNews, And SportsNews components were created.

Output :

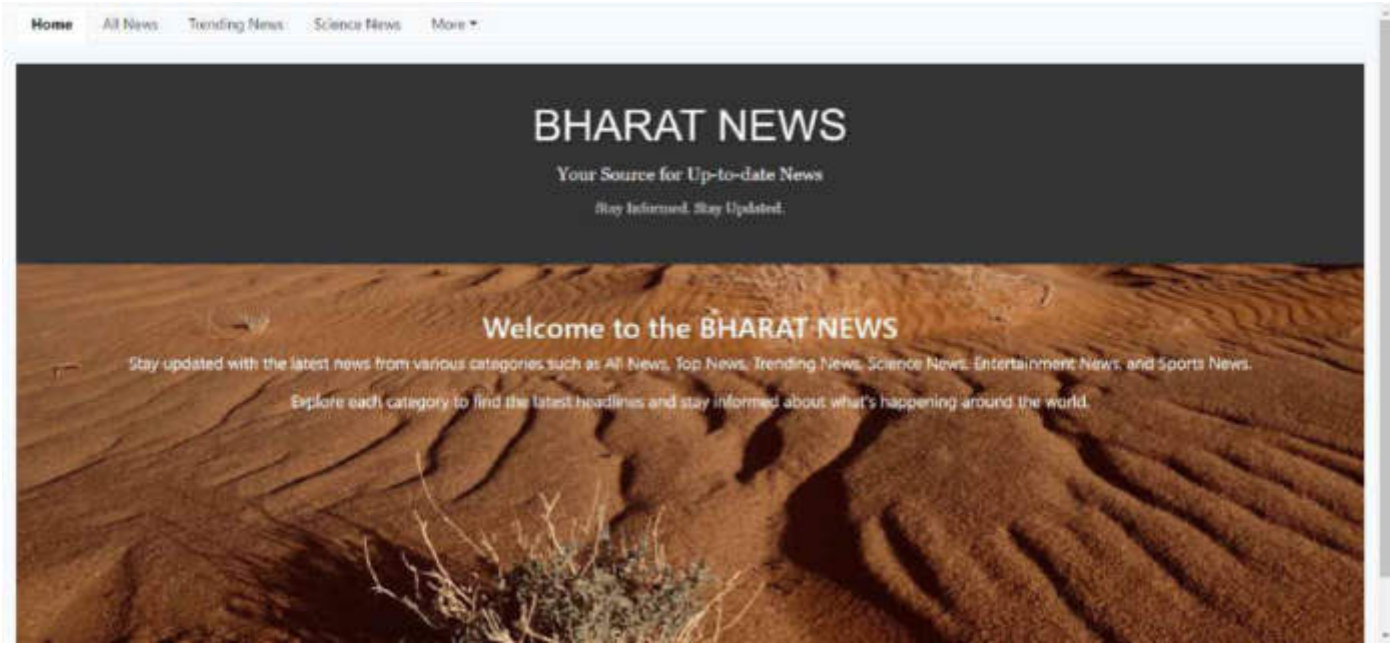


Fig 9.8 Home

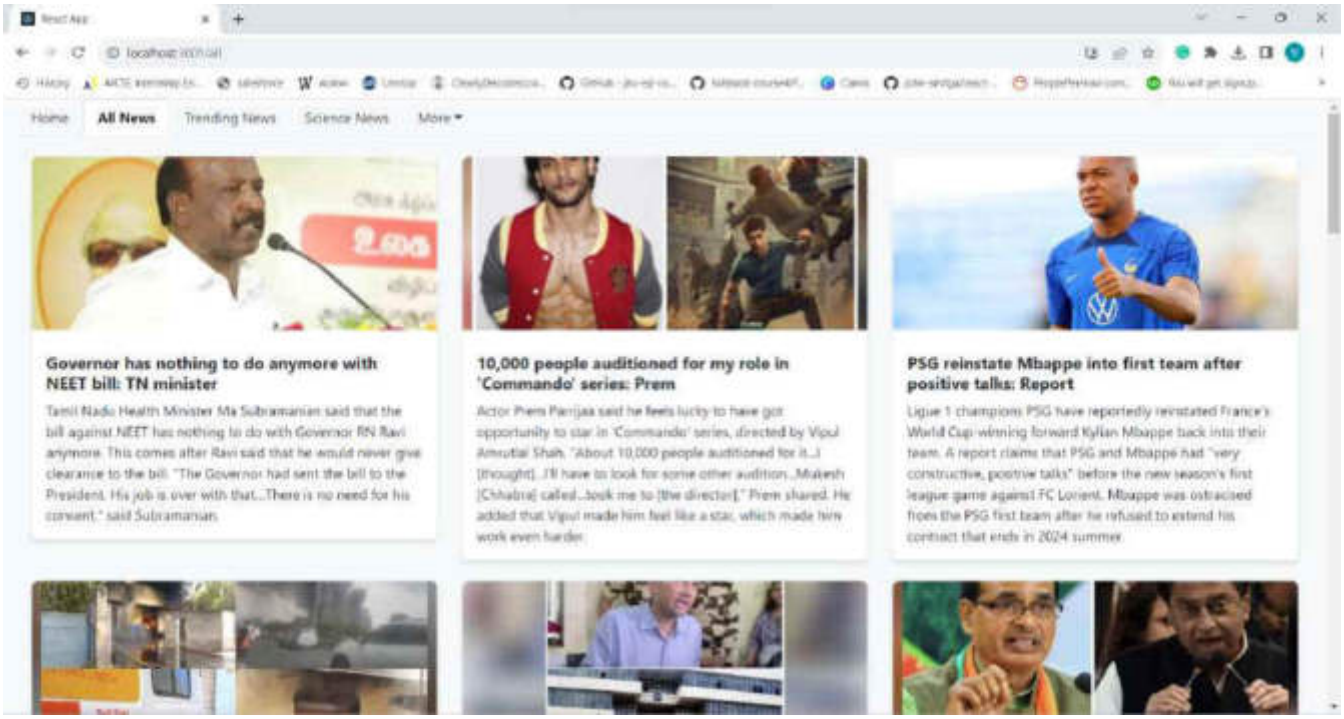


Fig 9.9 All News

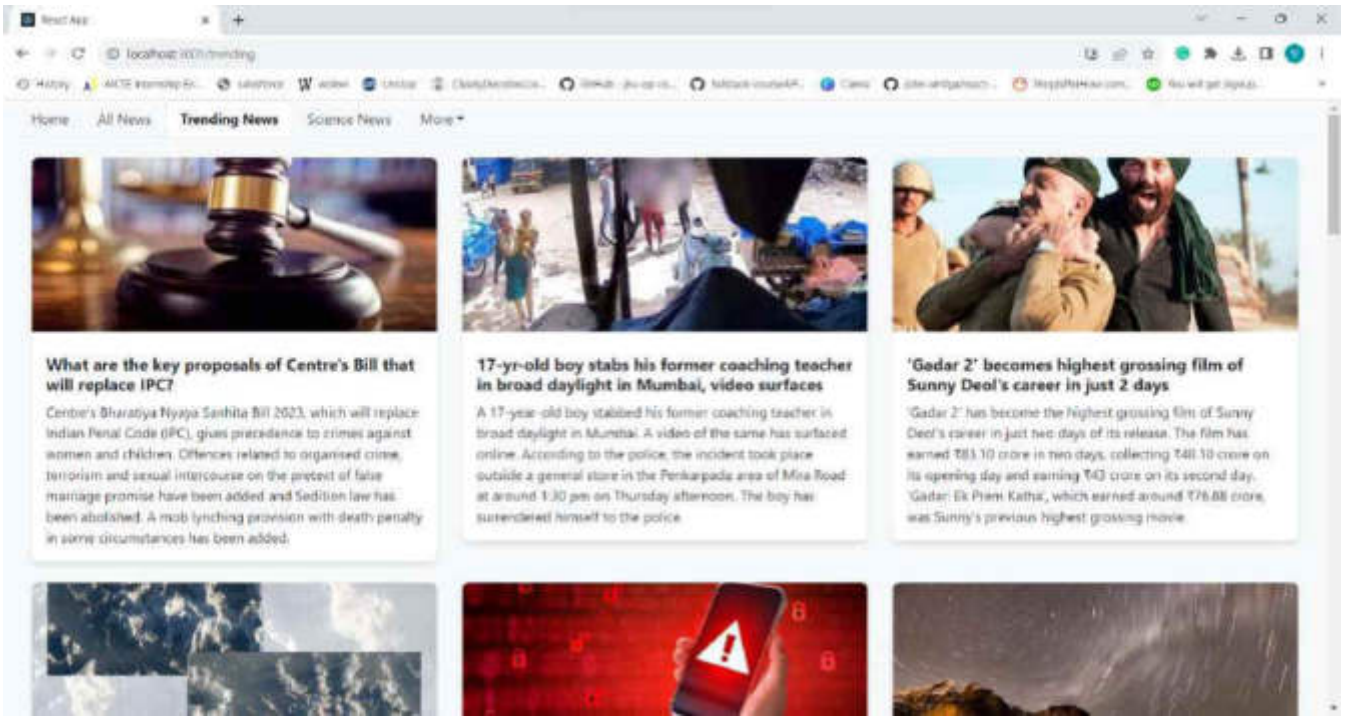


Fig 9.10 Trending News

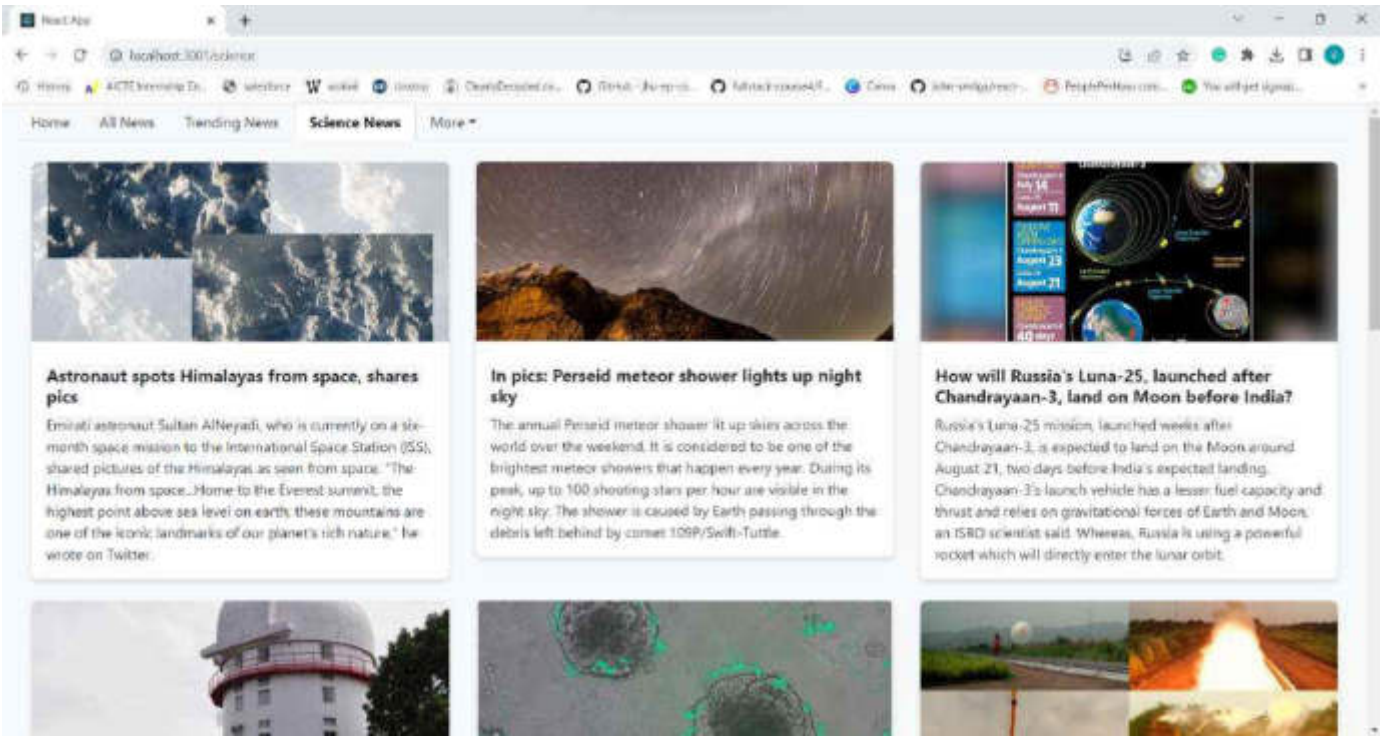


Fig 9.11 Science News

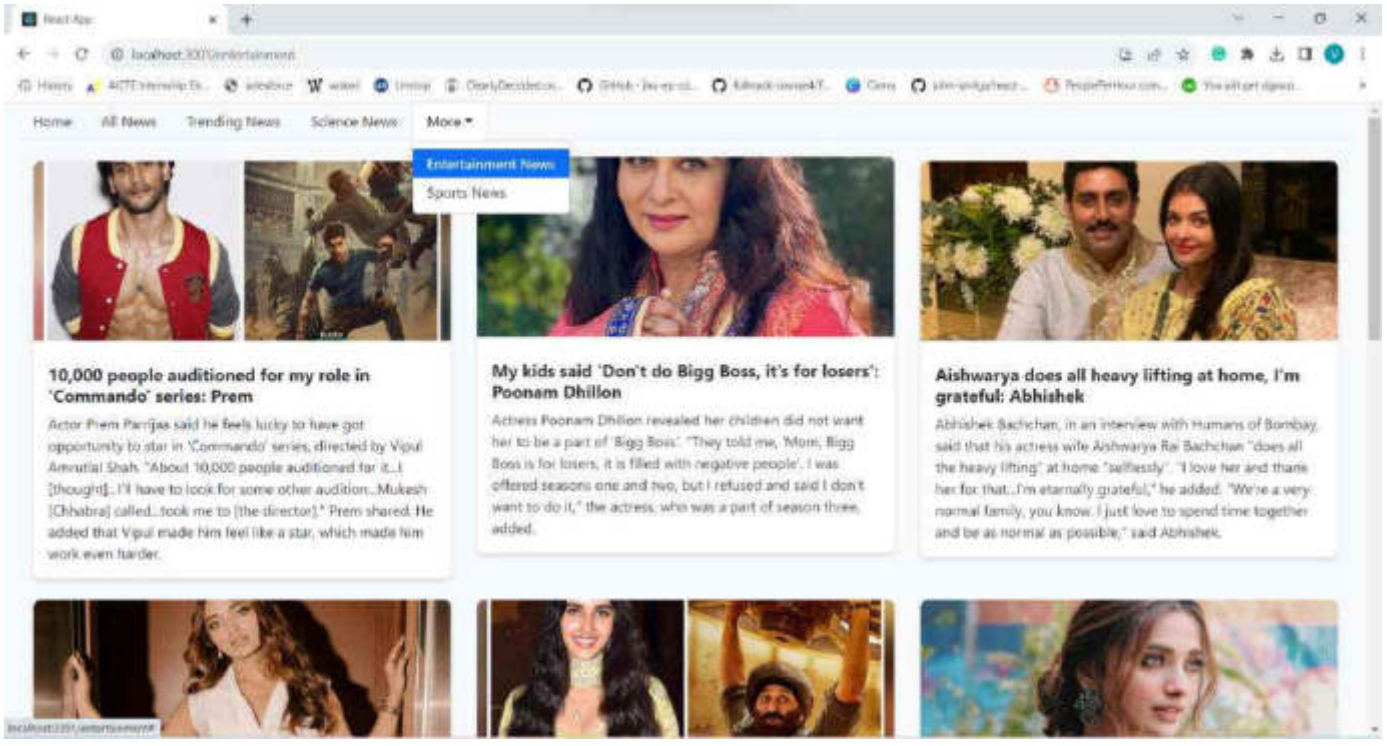


Fig 9.12 Entertainment News

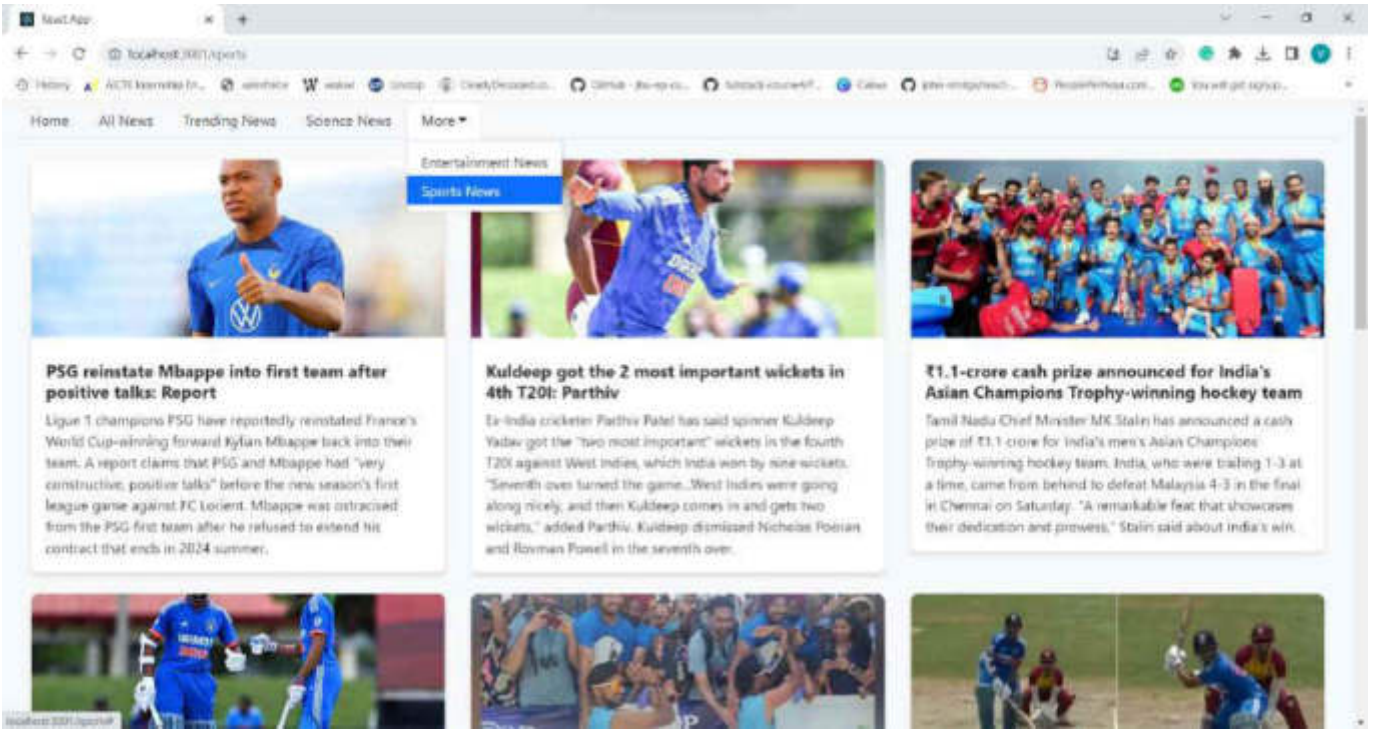


Fig 9.13 Sports News

INTERNSHIP AT WEBITO INFOTECH

AN INTERNSHIP REPORT

Submitted by

Deep Rameshbhai Bhutka

200390116017

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July-August, 2023

S.P.B. PATEL
ENGINEERING COLLEGE
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GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at WEBITO Infotech** has been carried out by **Deep Rameshbhai Bhutka** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, **7th Semester** of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Akshay Kansara
Internal Guide

Prof. Akshay Kansara
Head of Department

Company Certificate



Fig 1. Internship completion certificate

S.P.B. PATEL
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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

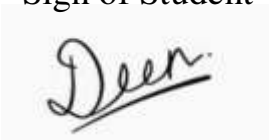
DECLARATION

We hereby declare that the Internship report submitted along with the Internship entitled **Internship at WEBITO Infotech** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad is a bonafide record of original project work carried out by me under the supervision of **Prof. Akshay Kansara** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student

Deep Rameshbhai Bhutka

Sign of Student



ACKNOWLEDGMENT

I extend my sincere gratitude to **WEBITO Infotech** for providing me with the invaluable opportunity to undertake a **15-day summer internship** in the realm of mobile application development using Flutter. This experience has been instrumental in enhancing my practical knowledge and skills in the field.

I would like to express my heartfelt appreciation to **Mr. Kewal Bhalala** and **Mr. Brijesh Goyani** for their unwavering support and guidance throughout my internship journey. Their mentorship and insights have been instrumental in shaping my understanding of mobile app development.

The opportunity to translate classroom learning into practical applications by developing an actual mobile app has been both enlightening and rewarding. The experience of conceiving, designing, and implementing the app has provided me with a profound understanding of the software development lifecycle.

I am truly thankful for the knowledge and exposure I have gained during my time at WEBITO Infotech, which I believe will serve as a solid foundation for my future endeavors in the world of technology.

Once again, thank you for the opportunity and support.

Sincerely,

Deep Bhutka

Abstract

During my enriching 15-day internship at WEBITO Infotech, an innovative IT service company headquartered in Surat, I had to collaborate with the Designing and Development phase. WEBITO Infotech, with its multifaceted divisions spanning Designing, Development, Human Resources, Finance, and more, provided me with an immersive learning experience. In the Design department. Additionally, my journey extended to the Development department, where I had the opportunity to work hand-in-hand with skilled developers. This phase of my internship introduced me to the dynamic way of Flutter, a good framework for mobile application development. Through this engagement, I acquired new ideas and new concepts, which I enthusiastically integrated into my own project.My internship involved creating a fully functional mobile application. A comprehensive exploration of the app development life cycle, gaining insights from design inception to the final deployment process. This journey is a achievement of a significant milestone: deploying the application and designing part. This accomplishment of the entire app development my skills and confidence in both design and development domains.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE

Webito Infotech Pvt. Ltd. is one of the most trusted Software development companies today. With a futuristic vision, few people had begun the company quite humbly in 2020 with a little capital and a couple of employees for web designing as a primary service. What they all had was untiring energy and allegiance toward the work. In a year, the company witnessed roaring success and growth in both the workforce of over 15 employees and a wide range of services such as Mobile Application Development, Desktop application development, Cloud Solutions, Game Development, ERP applications, and almost everything under the hood of computing and communication technology.

Webito infotech enthusiasm will lead us to become a top IT company in India & USA for delivering various industry-led mobility solutions in web and mobile application development domains leveraging futuristic technologies like the Internet of Things (IoT), AI-ML, AR-VR, Voice assistants, and Voice Skills, DevOps & Cloud computing, etc.

The company grew leaps and bounds with over 30 (and counting…) successful customized web applications and solutions empowering businesses around the world to harness the force of technology to enrich human lives and increase business efficiency. We take immense pleasure to say that 70% of our business comes from existing clients.

1.2 MISSION AND VISION OF WEBITO INFOTECH

1.2.1 Mission

Webito commit to make the term ‘offshore’ synonymous with ‘quality’. We are constantly refining our outsourcing model to offer better deals to our clients. Webito expanding portfolio of services enables us to deliver end-to-end solutions, while our growing technical expertise makes it possible for us to tackle even highly complex projects. By building our presence in different parts of the world, nurturing talent, streamlining our management processes, and staying committed to continuous improvement, we find ways in which to deliver quality solutions at affordable rates. The open-minded professionals working with us match and exceed the client’s expectations. Webito is known for delivering high-quality, cost-effective, and productive solutions to help our client’s businesses grow. Webito understand that our success depends on our customers’ success.

1.2.1 Vision

For any business, customers are always at the center. Being a leading web and mobile app development company, our definition goes beyond our direct customers. Webito always starts from where you are with your ideas and we think from YOUR end customer's perspectives, and their pain areas and devise a solution that solves core problems to benefit your business. Communication is the Key. We tend to over-communicate at times. Although sounds overwhelming, eventually it works wonders for our client business. When our development team collaborates with our clients sitting a thousand miles away, it's apparent that we stay in touch with platforms and mediums that allow effectiveness, transparency, and accuracy. With over two decades of experience in the offshore IT software development industry, we have a great set of internal frameworks with best-in-class infrastructure that enables us to deliver solutions with superior quality, at all times. All these years, we have learned how to prevent failures and replicate success. We don't just brag about quality. Webito defines and delivers it in time.

1.3 PROJECT OVERVIEW

Introducing the Catalog app, This is a user-friendly mobile application designed to provide a convenient platform for users to explore, search for, and purchase any electronic products. The app aims to enhance the shopping experience for every peoples individuals and those who are a purchase a electronic products.

This Catalog app can be quite beneficial, as it provides users with easy access to information about various electronic items and allows them to make purchases conveniently.

- Key Features:
    - User Registration
    - Product Listings
    - Product Details
    - Shopping Cart

Chapter 2. PROCESS OF APPLICATION DEVELOPMENT

2.1 APPLICATION UI DESIGNING PHASE

2.1.1 Tool's

- Figma - Figma played a pivotal role in shopping the entire application's user interface, encompassing a spectrum of screens adorned with a distinctive color palette. Figma is use for creating design, prototyping and implementation Elevating the user experience I seamlessly integrated select third-party images and captivating animations.

2.1.3 Overview

- In designing that I am making total 4 screen and choose for three to four primary colors. These screens encompass the Login Page, Home Page, Home Detail Page and Add to Cart Page. Each screen plays a crucial and unique role within the application, contributing to its overall functionality and enhancing the user experience. Designing a Catalog app using flutter involves creating an intuitive and user-friendly interface that allows users to purchase electronic products easily.

2.1.4 Result of Designing Phase

- This UI compilation proved invaluable during the subsequent development process, facilitating the extraction of crucial design elements such as sizes, text styles, and various assets. I am playing a crucial role during the designing phase of app development, ensuring that the design vision is technically feasible, implementable, and aligns with best practices. Also perform role for navigation, state management and components.

2.2 APPLICATION DEVELOPMENT PHASE

2.2.1 Used Technology

I built the catalog app using the following technologies:

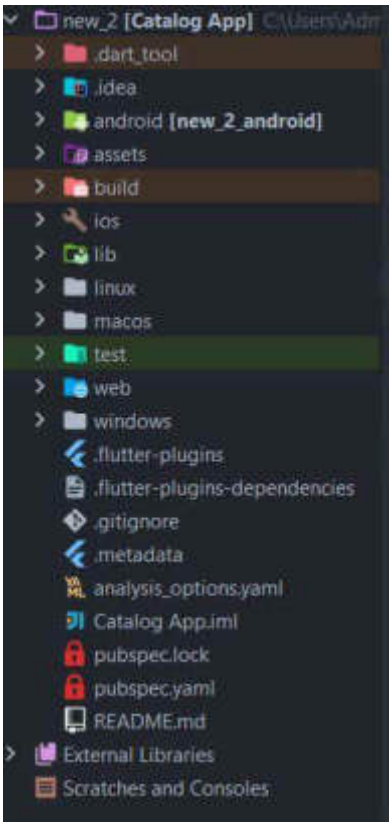
- Flutter: Flutter is an open-source framework developed and supported by Google. Frontend and full-stack developers use Flutter to build an application's user interface (UI) for multiple platforms with a single codebase.

- Dart: Dart is a general-purpose programming language that can be used for various applications, including web development, server-side programming,

and mobile app development. Flutter is a framework of the dart.

2.2.2 File Structure

To organize my whole application code for better understanding, increase productivity, and under the table by another developer, I structure my code in the below file format structure.



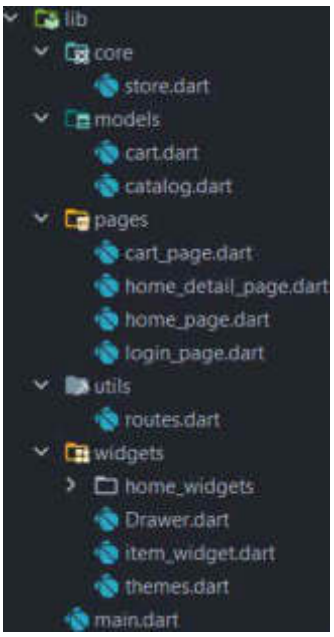


Fig 2.2 File Structure-I

Fig 2.3 File Structure-II

2.2.2.1 pubspec.yaml file

when integrating third-party dependencies or packages from pub.dart, all of these additions are cataloged within the pubspec.yaml file. Moreover, this same pubspec.yaml file serves as the repository for various assets, including fonts, icons, and images.



Fig 2.4 Dependencies pubspec.yaml file



Fig 2.5 Image assets in pubspec.yaml file

2.2.3 Assets Structure

Assets are like the building blocks that make our app visually appealing. They include images, icons, files, and more. For this project, I gathered images & Files and placed them in a folder called "Assets." This way, everything we need for the app's look is neatly organized in one place, making it easy to find and use during design and development.

Here is my asset’s structure:



Fig 2.7 Assets structure

2.2.4 Process Overview

- Once all the files were in place and the project was primed, I initiated the coding process, starting with the login page screen. This page contains the customer basic login related info. Here, I translated the designed UI into functional reality using Flutter.
- Different widgets of Flutter have been used in the home page and shown the list of electronic items. Different items are defined to its own properties like image, name, price and description.
- If click the individual items then next page shown for the more info about the items.
- here I am use for floating button for purchasing the items, which has animated to look more responsive to user.
- Next page is cart page that displays the user selected items list and also available on remove button features. Remove button That user who wants to remove the items can remove it.

2.3 APPLICATION DEPLOYMENT PHASE

2.3.1 Deployment Process Overview

- Following the completion of app development and thorough functionality testing, I moved on to the next phase of the application development cycle: deployment. As a preparatory step for releasing the app.
- I merge the all the widgets which I have implemented individually and made a single app Where users can easily buy different items from a single platform.

2.3.2 Commands for making .apk file and .adb file

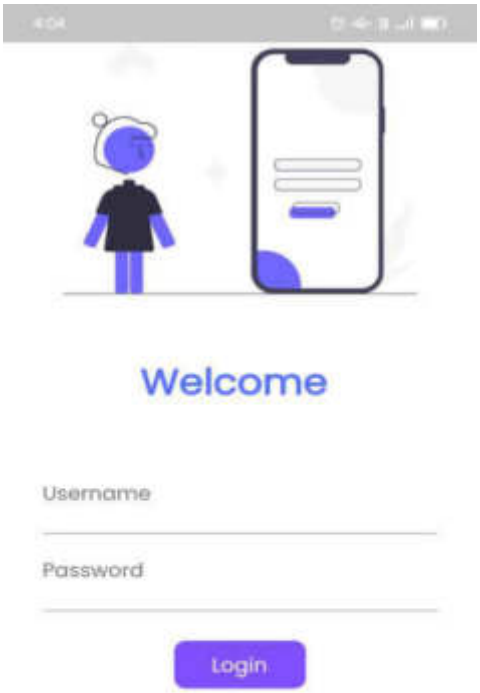
I utilized the following command to create two distinct files that enable me to successfully publish my app on the Play Store:

For .apk file `flutter build apk --split-per-abi`

For app bundle (.aab) file `flutter build appbundle`

Chapter 3. PROTOTYPE OF APPLICATION

I included a collection of screenshots showcasing how my app looks and functions.



3.1 Login Page screen

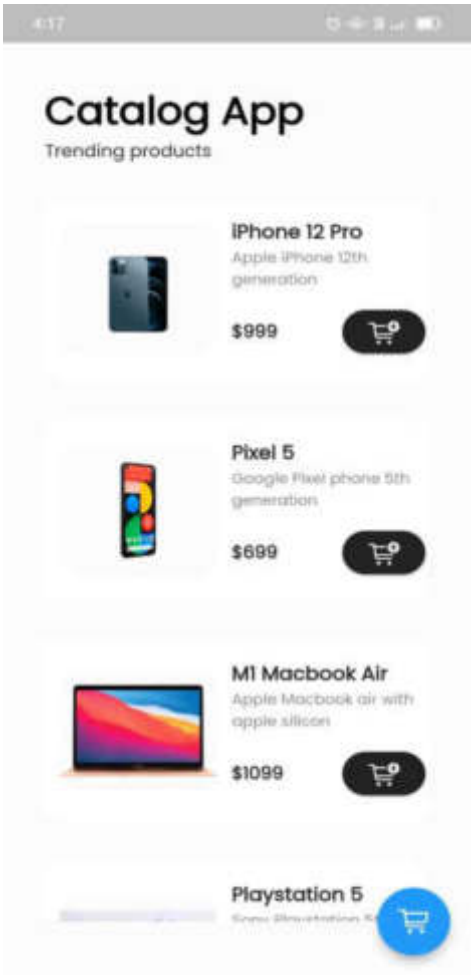


Fig 3.2 Home screen - I

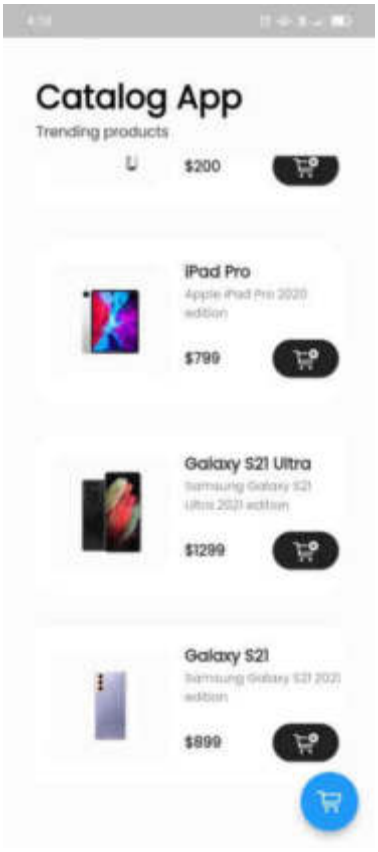


Fig 3.3 Home screen - II

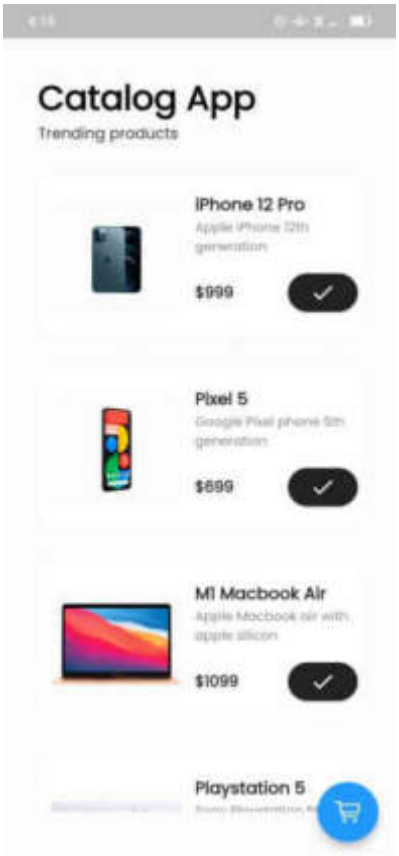


Fig 3.4 Home screen select item



Fig 3.5 Items More Detail screen



Fig 3.7 Add to Cart screen

References

[1] Deployment Documentation:
https://docs.flutter.dev/deployment/android

[2] Third-party flutter dependency and package installation site:
https://pub.dev/

[3] Flutter learning:
https://www.udemy.com/course/flutter-dart-the-complete-flutter-app-development-course/
https://youtube.com/playlist?list=PLR2qQy0Zxs_UdqAcaipPR3CG1Ly57UlhV

[4] Webito Infotech company website:
https://webitoinfotech.com/

[5] Catalog item references:

https://www.apple.com/in/

Appendix

Annexure 1: Offer letter



WEBITO Infotech
OUR PASSION , YOUR BUSINESS

303-305 Golden Square, besides D-mart,
Mota Varachha,
Surat, Gujarat - 394101
India.
social@webitoinfotech.com
webitoinfotech.com

TO WHOMSOEVER IT MAY CONCERN

To,

Mr. **Deep Bhutka**

We are pleased to inform your acceptance of an internship position as a Trainee in **Flutter App Development** Your Internship Period Will Be from **27th July 2023 to 10th August 2023**. In addition to your duties outlined in the interview, you will report to your supervisor, Brijesh Goyani.

As an intern, you are not the company's employee and therefore, will not receive health and compensation benefits. But you will get a **LOR (Letter of Recommendation)** and **Certificate (Experience Letter).** You understand that participating in the internship program is not an offer of employment.

During your internship, you will have access to the company's clients and confidential information. You agree that you will keep all this information and client information strictly confidential and will not share this information with anyone outside the company and not use it for your benefit.

Congratulations.

Best Regards,

Brijesh Goyani
(Director)
WEBITO INFOTECH PVT. LTD.

Fig I. Offer letter

INTERNSHIP AT TWS MEDIA PVT. LTD

AN INTERNSHIP REPORT

Submitted by

Sathwara Shreyansh Nareshbhai

200390116019

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at TWS MEDIA** has been carried out by **Sathwara Shreyansh Nareshbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. First Name Last Name

Internal Guide

Sign

Prof. FirstName Last Name

Head of Department

CERTIFICATE OF COMPLETION



TWS media

INTERNSHIP COMPLETION LETTER

10 AUGUST 2023

This is to certify that

Mr/Ms. SATHWARA SHREYANSH NARESHBHAI
Enrollment No: 200390116019
College: Saffrony institute of technology

We are pleased to inform you that you have successfully completed your 15-day internship program at TWS MEDIA. During your time with us, you have shown a great deal of enthusiasm, dedication, and willingness to learn. We are confident that the skills and knowledge you have gained during your internship will be valuable assets as you continue to pursue your career goals.

We wish you all the best in your future endeavors and hope that you will keep in touch with us. If you have any questions or if there is anything we can do to support your career development, please do not hesitate to reach out to us.

Jay Sathwara
Managing Director

TWS MEDIA PRIVATE LIMITED
A-316, 3RD FLOOR, SAKAR-7, 380009 AHMEDABAD-Ahmedabad
www.tws.media | contact@tws.media





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at TWS MEDIA** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Full name of Student _____

COMPANY PROFILE

TWS Media Private Limited is an IT company based in India that provides a range of services, including website and mobile app development and digital marketing. The company was founded in 2019 and has since worked with a variety of clients across industries.

In addition to its development services, TWS Media also offers digital marketing services, including search engine optimization (SEO), social media marketing, and pay-per-click (PPC) advertising. The company's goal is to help clients improve their online presence and reach their target audience through effective digital marketing strategies.

Overall, TWS Media is a full-service IT company that offers a range of services to help clients succeed in the digital age. With its expertise in web and mobile app development, and digital marketing, the company is well-positioned to help businesses of all sizes achieve their goals and grow their online presence.

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Week 1

27 JULY 2023

- **JavaScript**

JavaScript is a versatile and widely-used programming language primarily used for web development. It enables dynamic and interactive web pages by allowing developers to manipulate HTML and CSS on the fly. With its client-side execution, JavaScript empowers user interactions, form validation, animations, and more. It has a vast ecosystem of libraries and frameworks like React and Node.js, making it essential for both frontend and backend development.

- **JavaScript Console Api**

The JavaScript Console API provides a powerful tool for developers to interact with and debug code within web browsers. It offers methods like console.log() to display messages and variables in the browser's developer console, aiding in real-time debugging. More advanced functions like console.error() and console.warn() help identify and rectify issues in code. Additionally, the Console API assists in measuring performance with console.time() and console.timeEnd() for precise optimization of web applications.

- **JavaScript variables**

JavaScript variables are containers that store data, such as numbers, strings, or objects, for use in a program. They are declared using keywords like var, let, or const. var has global scope, while let and const offer block-scoped variables, with let being mutable and const being immutable. Variables enable dynamic data manipulation and are a fundamental concept in JavaScript programming, facilitating data storage and manipulation in a flexible manner.

- **Data types in JavaScript**

1. Primitive Types: These comprise numbers (integers and floats), strings (text), booleans (true/false), null (intentional absence), and undefined (uninitialized).
2. Objects: Complex structures encompassing arrays (ordered lists), functions (executable code), and custom-defined objects.
3. Symbol: Immutable and unique values used as property keys, ensuring distinction.
4. BigInt: Facilitates handling large integers with precision beyond regular number limits.

JS notes.js > ...

```
// 1. Ways to print in JavaScript
// console.log("Hello World");
// alert("me");
// document.write("this is document write")

// 2. Javascript console API
// console.log("Hello World", 4 + 6, "Another log");
// console.warn("this is warning");
// console.error("This is an error");

// 3. JavaScript Variables
// What are Variables? - Containers to store data values
var number1 = 34;
var number2 = 56;
// console.log(number1 + number2);

// 4. Data types in JavaScript
// Numbers
var num1 = 455;
var num2 = 56.76;

// String
var str1 = "This is a string";
var str2 = 'This is also a string';

// Objects
var marks = {
    ravi: 34,
    shubham: 78,
    harry: 99.977
}
// console.log(marks);

// Booleans
var a = true;
var b = false;
// console.log(a, b);
```

Week 1

28 JULY 2023

- **Operators in JavaScript**

1. Arithmetic Operators: These handle basic math operations like addition (+), subtraction (-), multiplication (*), division (/), and modulus (%) for remainder calculation.
2. Comparison Operators: Used to compare values, including equality (==, === for strict equality), inequality (!=, !==), greater than (>), less than (<), etc.
3. Logical Operators: Logical operations such as AND (&&), OR (||), and NOT (!) are used to combine or negate conditions.
4. Assignment Operators: Assign values, such as =, +=, -= for adding or subtracting and assigning.
5. Conditional (Ternary) Operator: Offers a concise way to write conditional statements, like condition? value_if_true : value_if_false.
6. Type Operators: For checking data types, instanceof and typeof operators are used.
7. Bitwise Operators: Manipulate individual bits of values, useful in low-level operations.

notes.js

```
// Operators in JavaScript
// Arithmetic Operators
var a = 100;
var b = 10;
// console.log("The value of a + b is ", a+b);
// console.log("The value of a - b is ", a-b);
// console.log("The value of a * b is ", a*b);
// console.log("The value of a / b is ", a/b);
// Assignment Operators
var c = b;
// c += 2;
// c -= 2; // c = c - 2;
// c *= 2;
// c /= 2;
// console.log(c);
// Comparison Operators
var x = 34;
var y = 56;
// console.log(x == y);
// console.log(x >= y);
// console.log(x <= y);
// console.log(x > y);
// console.log(x < y);

// Logical Operators
// Logical and
// console.log(true && true)
// console.log(true && false)
// console.log(false && true)
// console.log(false && false)

// Logical or
// console.log(true || true)
// console.log(true || false)
// console.log(false || true)
// console.log(false || false)
```

Week 1

31 JULY 2023

- **Function in JavaScript**

A JavaScript function is a block of code designed to perform a specific task:

1. Declaration: Functions can be declared using the function keyword, given a name and parameters in parentheses, encapsulating a set of instructions.
2. Invocation: Functions are invoked or called by their name, passing arguments that the function can work with.
3. Return: They can optionally return a value using the return statement, allowing computed results to be utilized elsewhere.
4. Reusability: Functions promote code reusability, modularization, and encapsulation, contributing to organized and efficient programming.

- **Conditionals in JavaScript**

Very often when you write code, you want to perform different actions for different decisions.

1. if Statement: Used to execute code if a specified condition is true, allowing for branching based on the outcome.
2. else Statement: Paired with if, it executes an alternative code block when the initial condition is false.
3. else if Statement: Enables multiple conditions to be tested sequentially, providing different code paths based on various cases.
4. switch Statement: Offers a structured way to evaluate a single expression against multiple possible values, executing corresponding code blocks.

notes.js > ...

```
// Function in JavaScript
function avg(a, b) {
    c = (a + b) / 2;
    return c;
}
// DRY = Do not repeat yourself
c1 = avg(4, 6);
c2 = avg(14, 16);
// console.log(c1, c2);

// Conditionals in JavaScript
/*
var age = 41;
// Single if statement
if(age > 18){
    console.log('You can drink rasna water');
}
// if - else statement
// if(age > 18){
//     console.log('You can drink rasna water');
// }
// else{
//     console.log('You cannot drink rasna water');
// }

age = 25;
// if-else Ladder
if(age > 32){
    console.log("You are not a kid");
}
else if(age >26){
    console.log("Bachhe nahi rahe");
}
else if(age >22){
    console.log("Yes Bachhe nahi rahe");
}
else if(age >18){
```

notes.js > ...

```
*/

var arr = [1, 2, 3, 4, 5, 6, 7];
// console.log(arr);
// for(var i=0;i<arr.length;i++){
//     if(i==2){
//         // break;
//         continue;
//     }
//     console.log(arr[i])
// }

// arr.forEach(function(element){
//     console.log(element);
// })
// const ac = 0;
// ac++;
// ac = ac +1;
// let j = 0;
// while(j<arr.length){
//     console.log(arr[j]);
//     j ++;
// }

// do{
//     console.log(arr[j]);
//     j++;
// } while (j < arr.length);

let myArr = ["Fan", "Camera", 34, null, true];
// Array Methods
// console.log(myArr.length);
// myArr.pop();
// myArr.push("harry")
// myArr.shift()
// const newLen = myArr.unshift("Harry")
// console.log(newLen);
```

Week 1

1 August 2023

- **String Methods in JavaScript**

1. .length: Returns the length of a string, counting characters.
2. .charAt(): Retrieves the character at a specific index within the string.
3. .concat(): Combines multiple strings into one.
4. .toUpperCase() / .toLowerCase(): Converts a string's characters to uppercase or lowercase.
5. .trim(): Removes whitespace from the beginning and end of a string.
6. .indexOf() / .lastIndexOf(): Searches for a substring and returns its index.
7. .substring() / .slice(): Extracts a portion of the string based on start and end indices.
8. .replace(): Replaces a specified substring with another.
9. .split(): Breaks a string into an array of substrings based on a specified separator.
10. .startsWith() / .endsWith(): Checks if a string starts or ends with a specific substring.

- **Events in JavaScript**

1. Event Binding: Elements like buttons or links can be "bound" to specific actions using event listeners, like addEventListener(), to trigger JavaScript code when events occur.
2. Event Types: Events include user interactions (e.g., clicks, key presses), document changes (e.g., loading, resizing), and more.
3. Event Handling: Event listeners define functions to execute when events occur, enabling dynamic responses to user actions.
4. Event Object: When an event occurs, an event object is created, containing information about the event, such as the target element and event type

```
// String Methods in JavaScript
let myLovelyString = "Harry is a good boy good good Harry";
// console.log(myLovelyString.length)
// console.log(myLovelyString.indexOf("good"))
// console.log(myLovelyString.lastIndexOf("good"))

// console.log(myLovelyString.slice(1,4))
d = myLovelyString.replace("Harry", "Rohan");
// d = d.replace("good", "bad");
// console.log(d, myLovelyString)

let myDate = new Date();
// console.log(myDate.getTime());
// console.log(myDate.getFullYear());
// console.log(myDate.getDay());
// console.log(myDate.getMinutes());
// console.log(myDate.getHours());

// DOM Manipulation
let elem = document.getElementById('click');
// console.log(elem);

let elemClass = document.getElementsByClassName("container")
// console.log(elemClass);
// elemClass[0].style.background = "yellow";
elemClass[0].classList.add("bg-primary")
elemClass[0].classList.add("text-success")
// console.log(elem.innerHTML);
// console.log(elem.innerText);

// console.log(elemClass[0].innerHTML);
// console.log(elemClass[0].innerText);
tn = document.getElementsByTagName('div')
// console.log(tn)
createdElement = document.createElement('p');
createdElement.innerText = "This is a created para";
tn[0].appendChild(createdElement);
```

```
createdElement2 = document.createElement('b');
createdElement2.innerText = "This is a created bold";
tn[0].replaceChild(createdElement2, createdElement);
// removeChild(element); ---> removes an element

// Selecting using Query
// sel = document.querySelector('.container')
// console.log(sel)
// sel = document.querySelectorAll('.container')
// console.log(sel)

// function clicked(){
//     console.log('The button was clicked')
// }
// window.onload = function(){
//     console.log('The document was loaded')

// }
// Events in JavaScript
// firstContainer.addEventListener('click', function(){
//     document.querySelectorAll('.container')[1].innerHTML = "<b> We have clicked</b>"
//     console.log("Clicked on Container")
// })

// firstContainer.addEventListener('mouseover', function(){
//     console.log("Mouse on Container")
// })

// firstContainer.addEventListener('mouseout', function(){
//     console.log("Mouse out of Container");
// })

// let prevHTML = document.querySelectorAll('.container')[1].innerHTML;
// firstContainer.addEventListener('mouseup', function(){
//     document.querySelectorAll('.container')[1].innerHTML = prevHTML;
//     console.log("Mouse up when clicked on Container");
```

```
// Arrow Functions
// function summ(a, b){
//     return a+b;
// }
summ = (a,b)=>{
    return a+b;
}

logKaro = ()=>{
    document.querySelectorAll('.container')[1].innerHTML = "<b> Set interval fired</b>"
    console.log("I am your log")
}
// SetTimeout and setinterval
// clr = setTimeout(logKaro, 5000);
// clr = setInterval(logKaro, 2000);
// use clearInterval(clr)/clearTimeout(clr) to cancel setInterval/setTimeout

// JavaScript localStorage
// localStorage.setItem('name', 'harry')
// localStorage
// localStorage.getItem('name')
// localStorage.removeItem('name')
// localStorage.clear();

// Json
// obj = {name: "harry", length: 1, a: {this: 'tha"t'}}
// jso = JSON.stringify(obj);
// console.log(typeof jso)
// console.log(jso)
// parsed = JSON.parse(`{"name":"harry","length":1,"a":{"this":"that"}}`)
// console.log(parsed);

// Template literals - Backticks
a = 34;
console.log(`this is my ${a}`)
```

Week 1

2 August 2023

- **Tailwind introduction**

i. Utility-First: It offers a comprehensive set of utility classes that enable rapid development by applying styles directly in HTML, avoiding the need for custom CSS.
ii. Responsive Design: Tailwind provides responsive design utilities, making it easier to create adaptive layouts for different screen sizes.
iii. Customization: Developers can configure and extend Tailwind's default styles using a configuration file, allowing for a tailored design system.
iv. Modular and Scalable: Its modular structure promotes consistent design patterns and efficient development, while its extensive class options cater to a wide range of design needs.

- **Why Use?**

Tailwind is used because it offers a utility-first approach to CSS, making styling and design faster and more consistent by directly applying classes in HTML. It facilitates responsive design with built-in breakpoints and simplifies customization through a configuration file. Its modular nature and comprehensive set of utility classes lead to efficient development and easier maintenance of scalable projects.

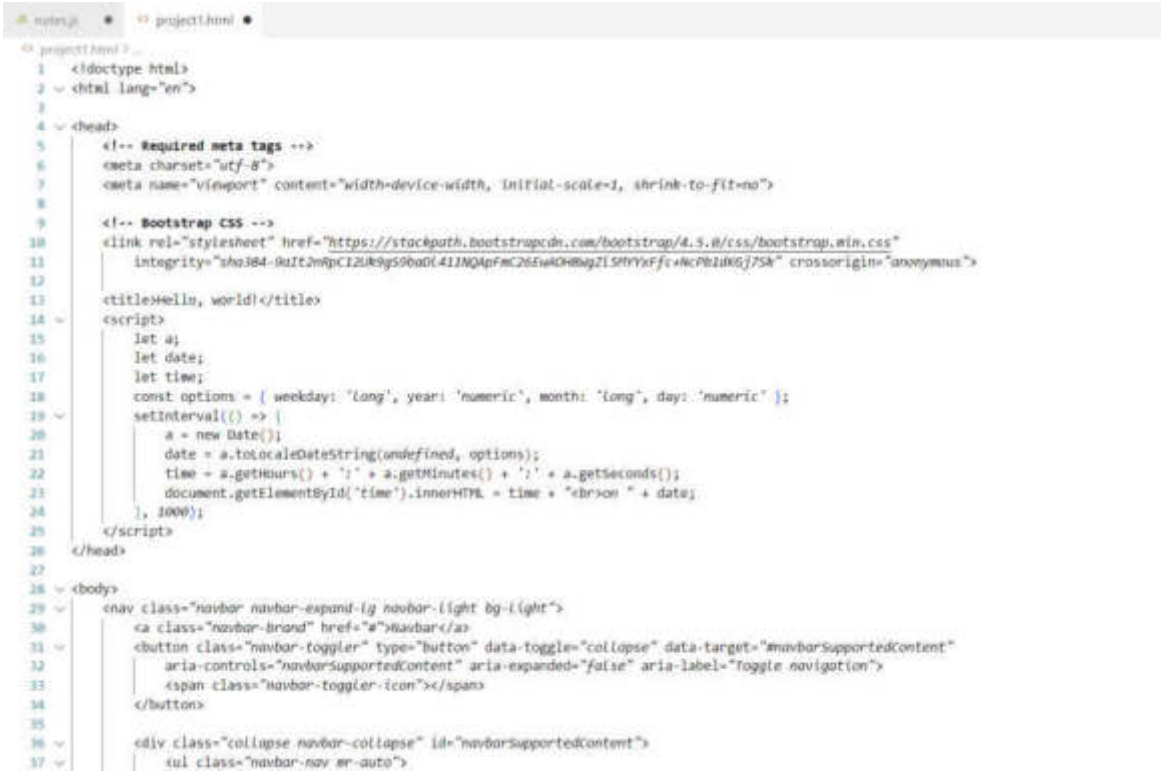
- **Setup**

Use the Play CDN to try Tailwind right in the browser without any build step.Add the Play CDN script tag to the <head> of your HTML file, and start using Tailwind’s utility classes to style your content.

1. Installation: Use npm or yarn to install Tailwind CSS as a project dependency.
2. Configuration: Generate a tailwind.config.js file to customize settings and design choices.
3. Stylesheet: Create a CSS file to include Tailwind's classes and your custom styles.
4. Build Process: Integrate Tailwind into your build process (e.g., Webpack) to generate a final optimized CSS file for production.

Project:1

Live Clock



```
<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
        integrity="sha384-9aIt2nRpC12Uk9gS9baDl411NQApFmC26EwAOH8WgZl5MYYxFfc+NcPb1dKGj7Sk" crossorigin="anonymous">

    <title>Hello, world!</title>
    <script>
        let a;
        let date;
        let time;
        const options = { weekday: 'long', year: 'numeric', month: 'long', day: 'numeric' };
        setInterval(() => {
            a = new Date();
            date = a.toLocaleDateString(undefined, options);
            time = a.getHours() + ':' + a.getMinutes() + ':' + a.getSeconds();
            document.getElementById('time').innerHTML = time + "<br>on " + date;
        }, 1000);
    </script>
</head>

<body>
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
        <a class="navbar-brand" href="#">Navbar</a>
        <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupportedContent"
            aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>
        </button>

        <div class="collapse navbar-collapse" id="navbarSupportedContent">
            <ul class="navbar-nav mr-auto">
```

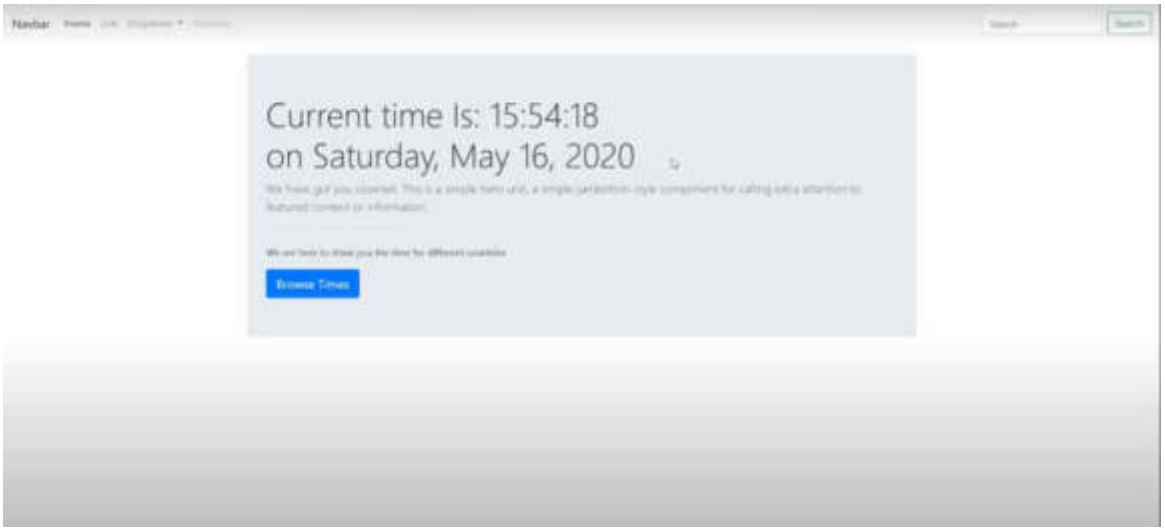
```
            </li>
          </ul>
          <form class="form-inline my-2 my-lg-0">
            <input class="form-control mr-sm-2" type="search" placeholder="Search" aria-label="Search">
            <button class="btn btn-outline-success my-2 my-sm-0" type="submit">Search</button>
          </form>
        </div>
    </nav>


    <div class="container my-4">
        <div class="jumbotron">
            <h1 class="display-4">Current time is: <span id="time"></span></h1>
            <p class="lead">We have got you covered. This is a simple hero unit, a simple jumbotron-style component for
                calling extra attention to featured content or information.</p>
            <hr class="my-4">
            <p>We are here to show you the time for different countries</p>
            <a class="btn btn-primary btn-lg" href="#" role="button">Browse Times</a>
        </div>
    </div>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
        integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI"
        crossorigin="anonymous"></script>
</body>

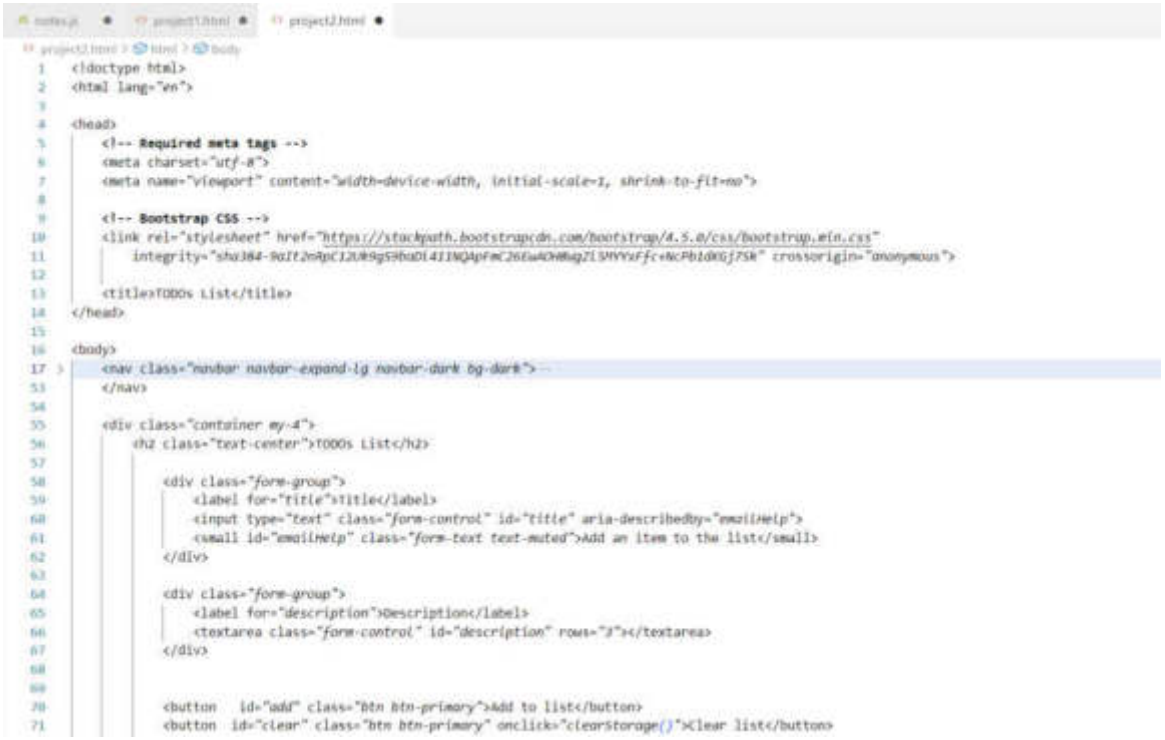
</html>
```

Output:



Project:2

To Do List



```
<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
        integrity="sha384-9aIt2nRpC12Uk9gS9baDl411NQApFmC26EwAOH8WgZl5MYYxFfc+NcPb1dKGj7Sk" crossorigin="anonymous">

    <title>TODOs List</title>
</head>

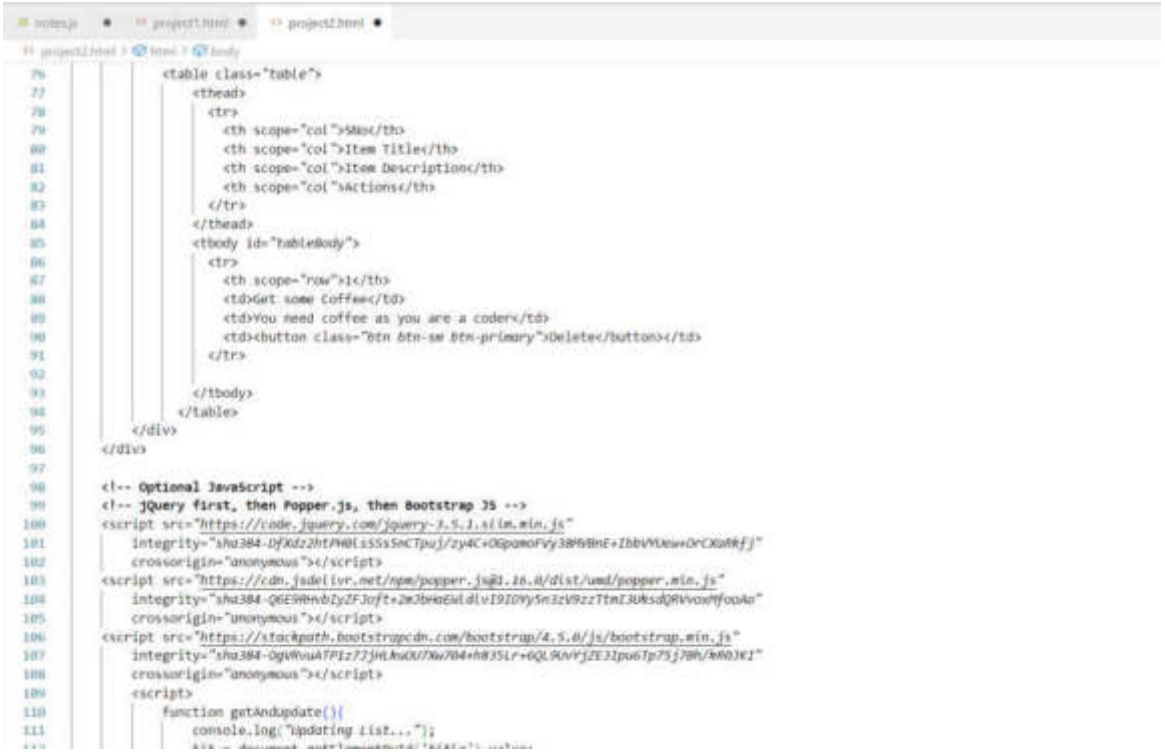
<body>
    <nav class="navbar navbar-expand-lg navbar-dark bg-dark">...
    </nav>

    <div class="container my-4">
        <h2 class="text-center">TODOs List</h2>

            <div class="form-group">
                <label for="title">Title</label>
                <input type="text" class="form-control" id="title" aria-describedby="emailHelp">
                <small id="emailHelp" class="form-text text-muted">Add an item to the list</small>
            </div>

            <div class="form-group">
                <label for="description">Description</label>
                <textarea class="form-control" id="description" rows="3"></textarea>
            </div>


            <button   id="add" class="btn btn-primary">Add to list</button>
            <button  id="clear" class="btn btn-primary" onclick="clearStorage()">Clear list</button>
```



```
            <table class="table">
                <thead>
                  <tr>
                    <th scope="col">Sno</th>
                    <th scope="col">Item Title</th>
                    <th scope="col">Item Description</th>
                    <th scope="col">Actions</th>
                  </tr>
                </thead>
                <tbody id="tableBody">
                  <tr>
                    <th scope="row">1</th>
                    <td>Get some Coffee</td>
                    <td>You need coffee as you are a coder</td>
                    <td><button class="btn btn-sm btn-primary">Delete</button></td>
                  </tr>

                </tbody>
              </table>
        </div>
    </div>

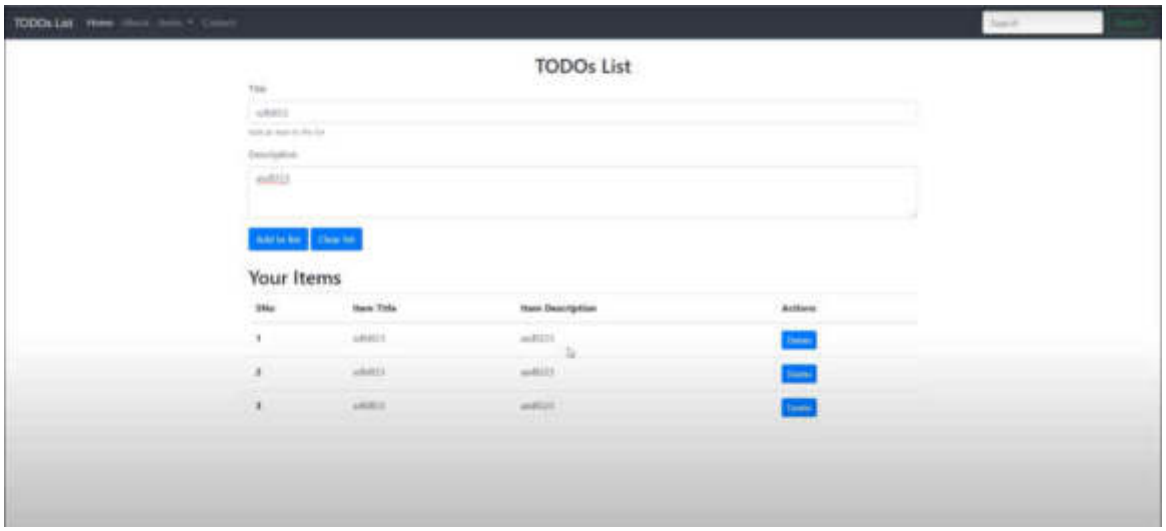
    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
        integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI"
        crossorigin="anonymous"></script>
        <script>
            function getAndupdate(){
                console.log("Updating list...");
```

```
            <table class="table">
                <thead>
                  <tr>
                    <th scope="col">SNo</th>
                    <th scope="col">Item Title</th>
                    <th scope="col">Item Description</th>
                    <th scope="col">Actions</th>
                  </tr>
                </thead>
                <tbody id="tableBody">
                  <tr>
                    <th scope="row">1</th>
                    <td>Get some Coffee</td>
                    <td>You need coffee as you are a coder</td>
                    <td><button class="btn btn-sm btn-primary">Delete</button></td>
                  </tr>

                </tbody>
              </table>
        </div>
    </div>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
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        integrity="sha384-DfXdz2htPH0lsSSsNCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI"
        crossorigin="anonymous"></script>
        <script>
            function getAndupdate(){
                console.log("Updating list...");
```

Output:



Week 2

3 August 2023

- **Font size**

Utilities for controlling the font weight of an element.

- **Margin**

Utilities for controlling an element's margin.

m-0 margin: 0px;

mx-0 margin-left: 0px;

margin-right: 0px;

my-0 margin-top: 0px;

margin-bottom: 0px;

ms-0 margin-inline-start: 0px;

me-0 margin-inline-end: 0px;

mt-0 margin-top: 0px;

- **Square bracket notation**

```
<div class="before:content-['Hello_World']">
  <!-- ... -->
</div>
```

Week 2

4 August 2023

- **Responsive design**

sm 640px

md 768px

lg 1024px

xl 1280px

2xl 1536px

- **Hover**

Using utilities to style elements on hover, focus, and more.

<button class="bg-sky-500 hover:bg-sky-700 ...">

Save changes

</button>

- **Apply directives**

Directives are custom Tailwind-specific at-rules you can use in your CSS that offer special functionality for Tailwind CSS projects.

Week 2

7 August 2023

- **apply layer and directive**

@apply - Use @apply to inline any existing utility classes into your own custom CSS.

@layer - Use the @layer directive to tell Tailwind which “bucket” a set of custom styles belong to.

- **Customization**

Customizing the default theme for your project.

The theme section of your tailwind.config.js file is where you define your project’s color palette, type scale, fonts, breakpoints, border radius values, and more.

- **Deploying website to production**

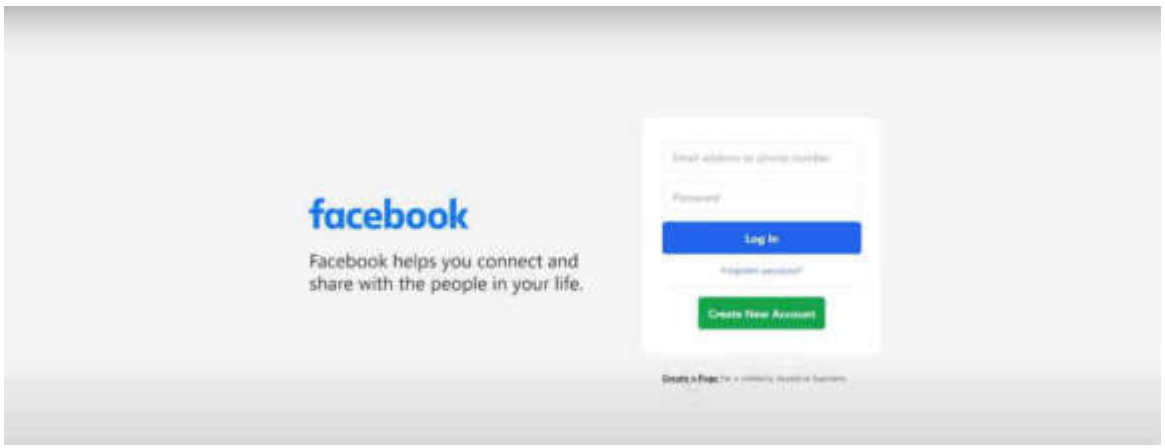
Getting the most performance out of Tailwind CSS projects.

Tailwind CSS is incredibly performance focused and aims to produce the smallest CSS file possible by only generating the CSS you are actually using in your project.

Week 2

8 August 2023

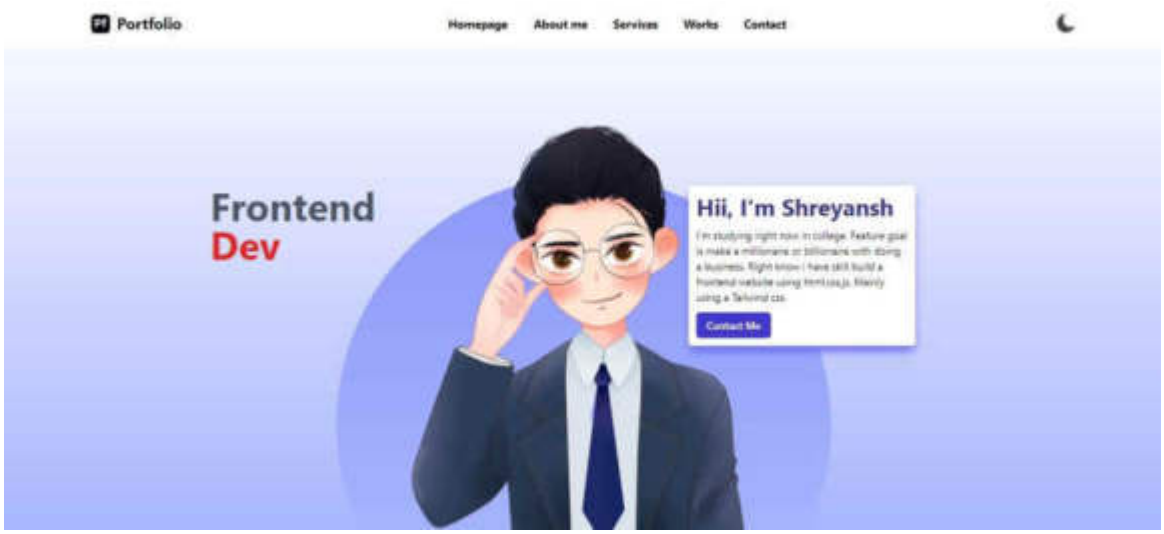
Project:1 Facebook Login Page

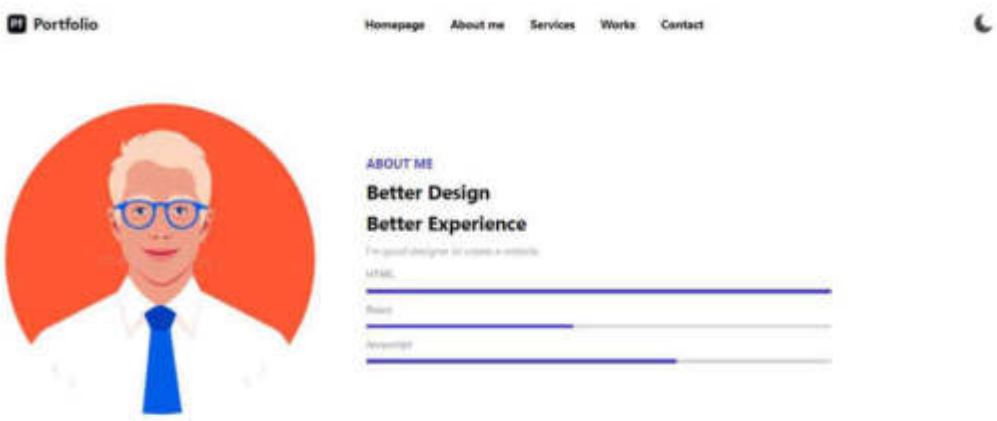


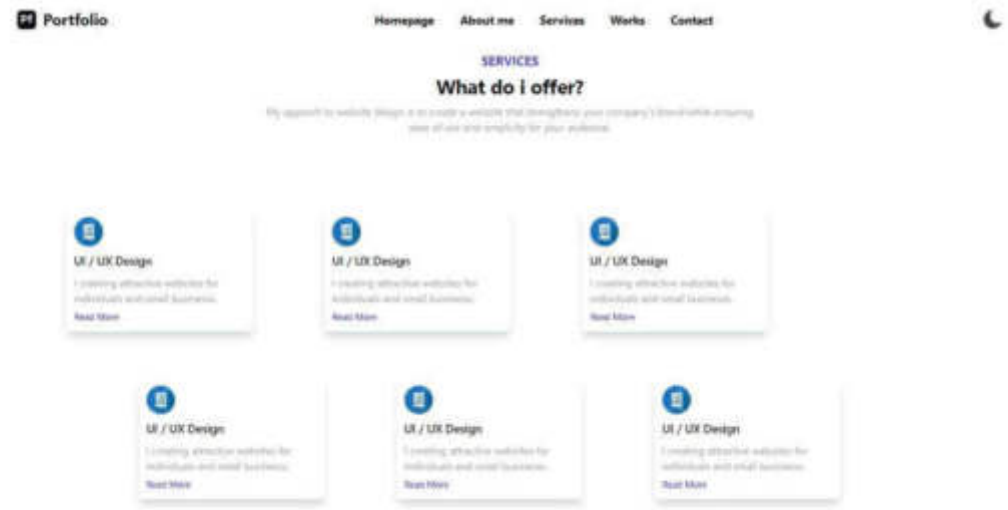
Week 2

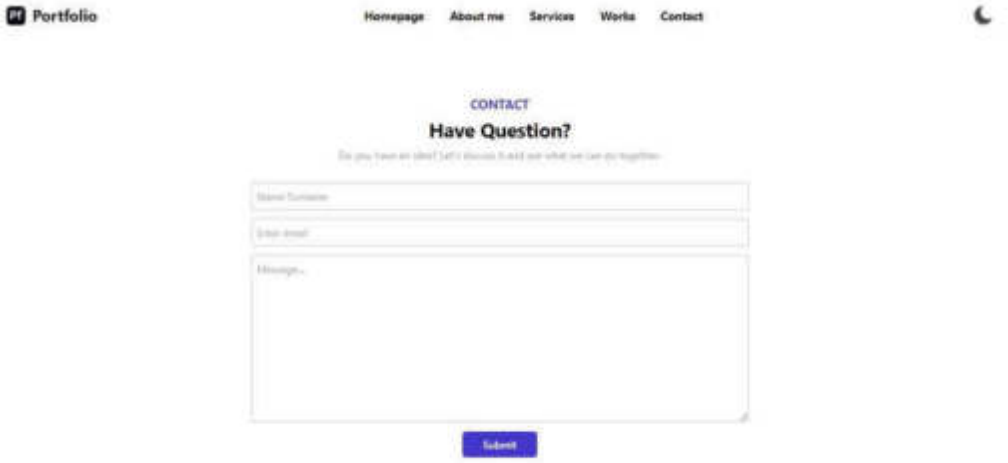
9 August 2023

Project:2 Portfolio






Portfolio
Homepage
About me
Services
Works
Contact
SERVICES
What do i offer?
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design


Portfolio
Homepage
About me
Services
Works
Contact
CONTACT
Have Question?
Submit

Week 2

10 August 2023

- **Conclusion:**

These past 15 days of internship have been an enriching and dynamic experience. I am delighted to have had the opportunity to work with TWS MEDIA and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved.

Throughout these 15 days, I've had the privilege of working alongside experienced professionals who have generously shared their knowledge and insights. I've gained exposure to Data analyst tools, which has significantly expanded my skill set.

During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.

In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and am committed to making the most of this internship experience. Thank you for this incredible opportunity.

INTERNSHIP AT ONGC

AN INTERNSHIP REPORT

Submitted by

JAYMIL R. RAJVANSHI

200390116020

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at ONGC** has been carried out by **Jaymil R. Rajvanshi** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Ekta Joshi

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

ओएनजीसी

ONGC

ऑयल एण्ड नेचुरल गैस कॉरपोरेशन लिमिटेड
Oil and Natural Gas Corporation Limited

मेहसाना परिसम्पत्ति / Mehsana Asset
केडीएम भवन, पालवासना, मेहसाना - ३८४ ००३ / KDM Bhavan, Palavasana, Mehsana - 384 003
दूरभाष : (०२७६२) २६२००० फैक्स : (०२७६२) २२५७०५ / Phone : (02762) 262000 Fax : (02762) 225705

TO WHOM IT MAY CONCERN

This is to certify that Mr./Ms. Rajvanshi Jaymil R. , a student of B.E. (IT) of S.P.B. Patel Engineering College, Linch, has completed internship at ONGC Mehsana Asset in Infocom Services. The duration of the internship was from 27.07.2023 to 10.08.2023.

We hope his time spent at ONGC Mehsana Asset was fruitful. We wish him all the success in his future.

Date: 23.08.2023

OIL AND NATURAL GAS CORPORATION LTD. MEHSANA

(Amit Maheshwari)
HR Executive
Training & Apprentice Cell

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at ONGC** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Akshay Kansara** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Jaymil R. Rajvanshi**	Rajvanshi

ACKNOWLEDGMENT

I would like to express my sincere gratitude and appreciation to the entire team at Oil and Natural Gas Corporation (ONGC) for providing me with the opportunity to undergo a rewarding 15-day internship in the field of Information Technology. I extend my heartfelt thanks to my mentor, Mr. Shrikant sir, for his invaluable guidance and dedicated efforts in imparting his knowledge of the Laravel programming language. His support and mentorship played a pivotal role in enhancing my understanding and skills in web development. I am also thankful to the entire IT department for their warm welcome, constant encouragement, and the collaborative learning environment they provided throughout my internship journey. The experience gained during this internship has undoubtedly contributed to my personal and professional growth, and I am truly grateful for the insights and practical exposure that I have gained.

Abstract

This report contains the work done by the author during his internship at ***ONGC***. It shows the work I did in the company during my internship period. In the report, the author discusses the process of manufacturing and steps of assembly of the machines. The author also discusses the structure of the company, all the departments and their work . It also explains what the author learned during this internship period.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Maharatna ONGC is the largest crude oil and natural gas Company in India, contributing around 71 per cent to Indian domestic production. Crude oil is the raw material used by downstream companies like IOC, BPCL, HPCL and MRPL (Last two are subsidiaries of ONGC) to produce petroleum products like Petrol, Diesel, Kerosene, Naphtha, and Cooking Gas LPG.

ONGC has a unique distinction of being a company with in-house service capabilities in all areas of Exploration and Production of oil & gas and related oil-field services. Winner of the Best Employer award, this public sector enterprise has a dedicated team of around 27,000 professionals who toil round the clock in challenging locations.

ONGC Videsh Limited, a Miniratna Schedule "A" Central Public Sector Enterprise (CPSE) of the Government of India under the administrative control of the Ministry of Petroleum & Natural Gas, is the wholly owned subsidiary and overseas arm of Oil and Natural Gas Corporation Limited (ONGC), the flagship national oil company (NOC) of India. The primary business of ONGC Videsh is to prospect for oil and gas acreages outside India, including exploration, development and production of oil and gas. ONGC Videsh owns Participating Interests in 35 oil and gas assets in 15 countries and produced about 30.3% of oil and 23.7% of oil and natural gas of India's domestic production. In terms of reserves and production, ONGC Videsh is the second largest petroleum company of India, next only to its parent ONGC.

ONGC subsidiary Mangalore Refinery and Petrochemicals Limited (MRPL) is a schedule 'A' Miniratna, Central Public Sector Enterprise (CPSE) under the Ministry of Petroleum & Natural Gas. The 15.0MMTPA (Million Metric Ton per annum) Refinery has got a versatile design with complex secondary processing units and a high flexibility to process Crudes of various API, delivering a variety of quality products. MRPL, with its parent company Oil and Natural Gas Corporation Limited (ONGC), owns and operates ONGC Mangalore Petrochemicals Limited (OMPL), a petrochemical unit capable of producing 0.905 MMTPA of Para Xylene and 0.273 MMTPA of Benzene.

ONGC subsidiary HPCL is a Maharatna CPSE. HPCL has the second largest share of product pipelines in India with a pipeline network of more than 3370 kms for transportation of petroleum products and a vast marketing network consisting of 14 Zonal offices in major cities and 133 Regional Offices facilitated by a Supply & Distribution infrastructure comprising Terminals, Pipeline networks, Aviation Service Stations, LPG Bottling Plants, Inland Relay Depots & Retail Outlets, Lube and LPG Distributorships. Consistent excellent performance has been made possible by a highly motivated workforce of over 9,500 employees working all over India at its various refining and marketing locations.

1.2 MISSION AND VISION OF THE COMPANY:

Vision

To be a global leader in integrated energy business through sustainable growth, knowledge excellence and exemplary governance practices.

Mission

World Class

- Dedicated to excellence by leveraging competitive advantages in R&D and technology with involved people.
- Imbibe high standards of business ethics and organizational values.
- Abiding commitment to safety, health and environment to enrich quality of community life.
- Foster a culture of trust, openness and mutual concern to make working a stimulating and challenging experience for our people.
- Strive for customer delight through quality products and services.

Integrated In Energy Business

- Focus on domestic and international oil and gas exploration and production business opportunities.
- Provide value linkages in other sectors of energy business.
- Create growth opportunities and maximize shareholder value.

Dominant Indian Leadership

- Retain a dominant position in the Indian petroleum sector and enhance India's energy availability.

Carbon Neutrality

- Strive to reduce CO2 emissions across the activity chain with the objective of achieving carbon neutrality.

Chapter 2: Juniper Switch
Week 1 (27/07/2023 , 28/07/2023)

2.1 Basics of Network:

In the initial two days, I observed different switches and gained in-depth knowledge about L2 and L3 switches, comprehending their operational mechanisms and data transmission processes. Furthermore, we extensively covered various cable connections, exploring their interconnections and functionalities. Notably, during this period, we had the opportunity to observe the Juniper L3 switch in action.

- **L1 Switch (Physical Layer):** Connects devices within a network and manages the physical connections, like plugging devices into sockets.
- **L2 Switch (Data Link Layer):** Uses MAC addresses to forward data within a local network, like directing traffic within a single neighborhood.
- **L3 Switch (Network Layer):** Routes data between different networks using IP addresses, like guiding traffic between different cities or regions.

2.2 juniper L3 switch:



Fig:2.1 Juniper L3 switch

Juniper Networks is a well-known networking equipment manufacturer that produces a wide range of networking devices, including routers, switches, and security appliances. Juniper's L3 (Layer 3) switches are designed to operate at the network layer of the OSI model, enabling them to perform routing functions and make forwarding decisions based on IP addresses.

Juniper L3 switches, like many other networking devices, consist of several key components that work together to provide routing and switching capabilities. While the specific components may vary based on the model and series of the Juniper L3 switch, here are some common parts typically found in Juniper L3 switches:

1. Processor (CPU): The processor is the brain of the switch, responsible for executing control plane functions, handling routing protocols, and managing the switch's overall operation.

2. Memory: Various types of memory are used in a Juniper L3 switch, including RAM (Random Access Memory) for temporary data storage and caching, and flash memory for storing the operating system and configuration files.

3. Switching Fabric: The switching fabric is a high-speed internal bus or architecture that allows data packets to be switched and forwarded between different ports and interfaces.

4. Network Interfaces: These are the physical ports on the switch that connect to devices, servers, routers, and other networking equipment. They can include Ethernet ports of different speeds (e.g., 1Gbps, 10Gbps, 40Gbps, 100Gbps) and may support various types of connectors (e.g., RJ-45, SFP, QSFP).

5. Routing Engine: The routing engine handles control plane functions, including running routing protocols, maintaining routing tables, and making routing decisions.

6. ASICs (Application-Specific Integrated Circuits): ASICs are specialized hardware components designed to accelerate specific networking functions. In an L3 switch, ASICs may be used to perform packet forwarding, routing lookups, and other processing tasks, improving performance and efficiency.

7. Power Supply Units (PSUs): These components provide electrical power to the switch. High-end switches may have redundant power supply units for increased reliability.

8. Cooling System: Juniper L3 switches are equipped with fans and cooling mechanisms to maintain optimal operating temperatures and prevent overheating.

9. Management Interfaces: These interfaces allow network administrators to configure, monitor, and manage the switch. They can include console ports, Ethernet management ports, and out-of-band management options.

10. Operating System (Junos): Juniper L3 switches run the Junos operating system, which provides the software framework for routing, switching, security, and management features.

11. CLI (Command Line Interface) and Management Software: Network administrators use the CLI and management software to configure the switch, monitor its performance, and troubleshoot issues.

12. Redundancy Features: High-end Juniper L3 switches often include redundancy features such as Virtual Chassis or Virtual Chassis Fabric, which allow multiple switches to operate as a single logical unit, enhancing fault tolerance and availability.

working of juniper L3 switch :

1. Routing Intelligence: A Juniper L3 switch starts by knowing where different parts of the network are located. It compiles a list of paths (routing table) that tells it the best ways to reach different destinations.
2. Packet Checkpoint: When data arrives, the switch checks its "address label" (destination IP) to figure out where it should go.
3. Smart Decision: Using its routing table, the L3 switch decides the quickest path for the data. Imagine choosing the fastest route on a map.
4. Physical Address: If the data needs to go to another "neighborhood" (subnet), the switch finds the recipient's "house number" (MAC address) through a quick lookup (ARP).
5. Packet Packing: The switch carefully wraps the data in a new package with the correct "neighborhood address" (MAC). It's like putting the data in the right envelope.
6. Onward Journey: The switch then sends the newly packaged data on its way, following the optimal path it selected earlier.
7. VLAN Magic: If there are different "parts of town" (VLANs), the L3 switch can help the data travel between them, like building virtual bridges.
8. Traffic Control: The switch can act like a traffic cop, using rules (ACLs) to allow or stop data based on instructions.
9. Priority Treatment: To keep things fair, the switch can also give important data a "green light" (QoS), ensuring it gets through quickly.

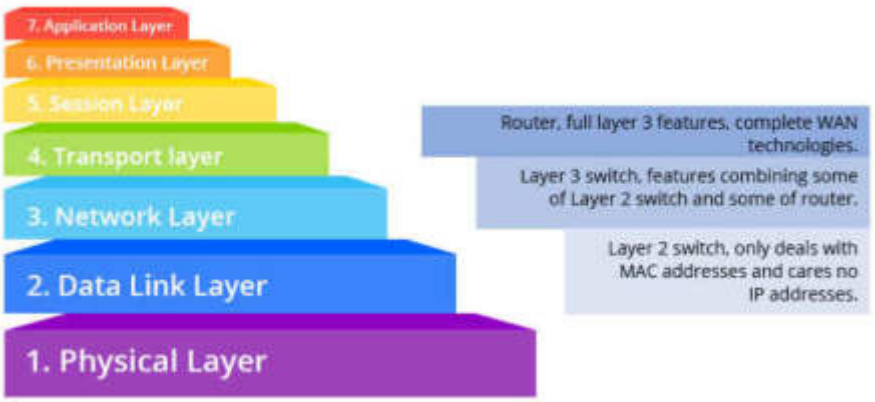


Fig:2.2 OSI Layer

Chapter 3: Ubuntu & php
Week 2 (31/07/2023 To 04/08/2023)

3.1 Learning of Language

- We started our work with a new OS which is Ubuntu, Ubuntu is a Linux-based operating system. I installed Ubuntu on my laptop, and set up everything inside ubuntu. I Install all necessary tools like vscode inside ubuntu.



Fig:3.1 Ubuntu



Fig:3.2 php

- We learn the basics of php, because our main task is to update the website(dpr), store data in the database, fetching data from database and maintain all the dpr(Daily Production Report) of ONGC. and all the dpr we have to update using laravel language which is the framework of php.

- php:- PHP is a widely-used scripting language designed for web development and server-side programming. It boasts a user-friendly syntax that simplifies creating dynamic and interactive web applications. PHP operates seamlessly with HTML, allowing developers to embed PHP code directly within web pages. It supports variables, enabling the storage of data, and employs data types such as integers, strings, and arrays. Control structures like loops and conditional statements facilitate decision-making and iterative processes.

  One of PHP's standout features is its robust support for database interaction. It can effortlessly connect to various databases, enabling the storage and retrieval of data. Functions and libraries are integral to PHP, offering pre-built code snippets for common tasks. Moreover, PHP's object-oriented capabilities empower developers to structure code logically and reuse components. The language also facilitates seamless file manipulation, making it easy to read, write, and modify files. In essence, PHP serves as a versatile tool for crafting dynamic web applications, boasting features like form handling, session management, and secure authentication mechanisms.

- now we learn about **laravel** framework:



Fig:3.3 Laravel

Laravel is a sophisticated and widely-used PHP web framework renowned for its elegant design and developer-friendly features. Operating on the Model-View-Controller (MVC) architectural pattern, Laravel facilitates the organization of code into distinct components: Models, responsible for data handling and interaction with databases; Views, managing the presentation layer; and Controllers, governing application logic and user interactions.

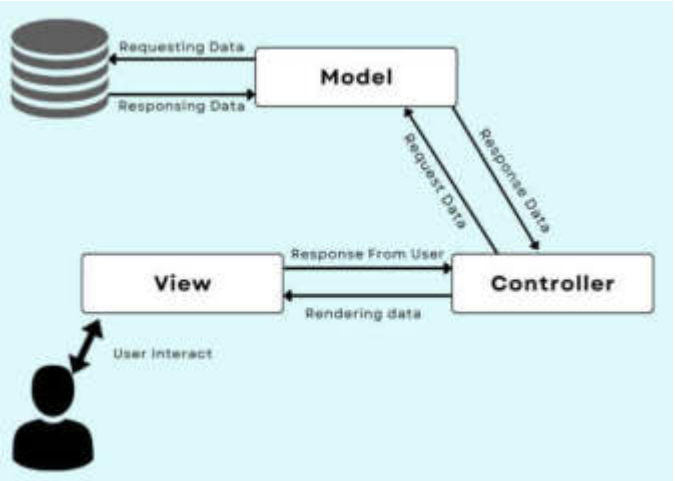


Fig:3.4 MVC Architecture

Beyond its architectural prowess, Laravel comes equipped with a multitude of built-in tools and functionalities that expedite web development. Its routing system provides a straightforward way to define endpoints and handle HTTP requests, while the Blade templating engine offers expressive and reusable views. Laravel's authentication and security mechanisms ensure the safeguarding of user data, while the Eloquent ORM simplifies database interactions through an intuitive, object-oriented syntax.

Furthermore, Laravel's extensive ecosystem is enriched by Composer, a package manager that allows seamless integration of third-party libraries. Its vibrant community continually contributes to the framework's growth and evolution, offering a wealth of resources, tutorials, and forums. Overall, Laravel empowers developers to create feature-rich and

maintainable web applications efficiently, making it a preferred choice within the realm of modern web development.



Fig:3.5 phpMyAdmin

- We are working with a **phpmyadmin** tool for managing and administering MySQL or MariaDB databases. Developed in PHP, phpMyAdmin provides a web-based interface that enables users to perform a wide range of database-related tasks, including creating, modifying, and deleting databases, tables, and records, as well as executing SQL queries, importing and exporting data, and managing user privileges. Its intuitive interface makes it accessible to both beginners and experienced database administrators, facilitating efficient database management without requiring extensive knowledge of command-line tools.

3.2 WATER CONTENT OF WELL HEAD SAMPLES (DPR):

login1.blade.php:

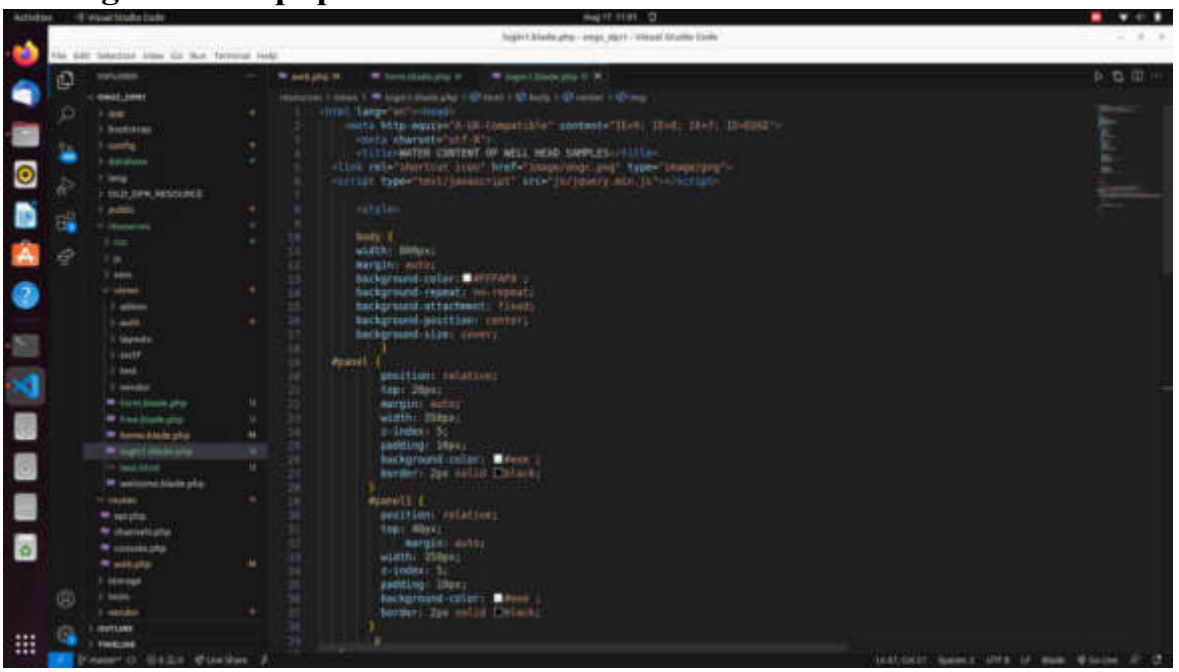


Fig:3.6 login1 Page

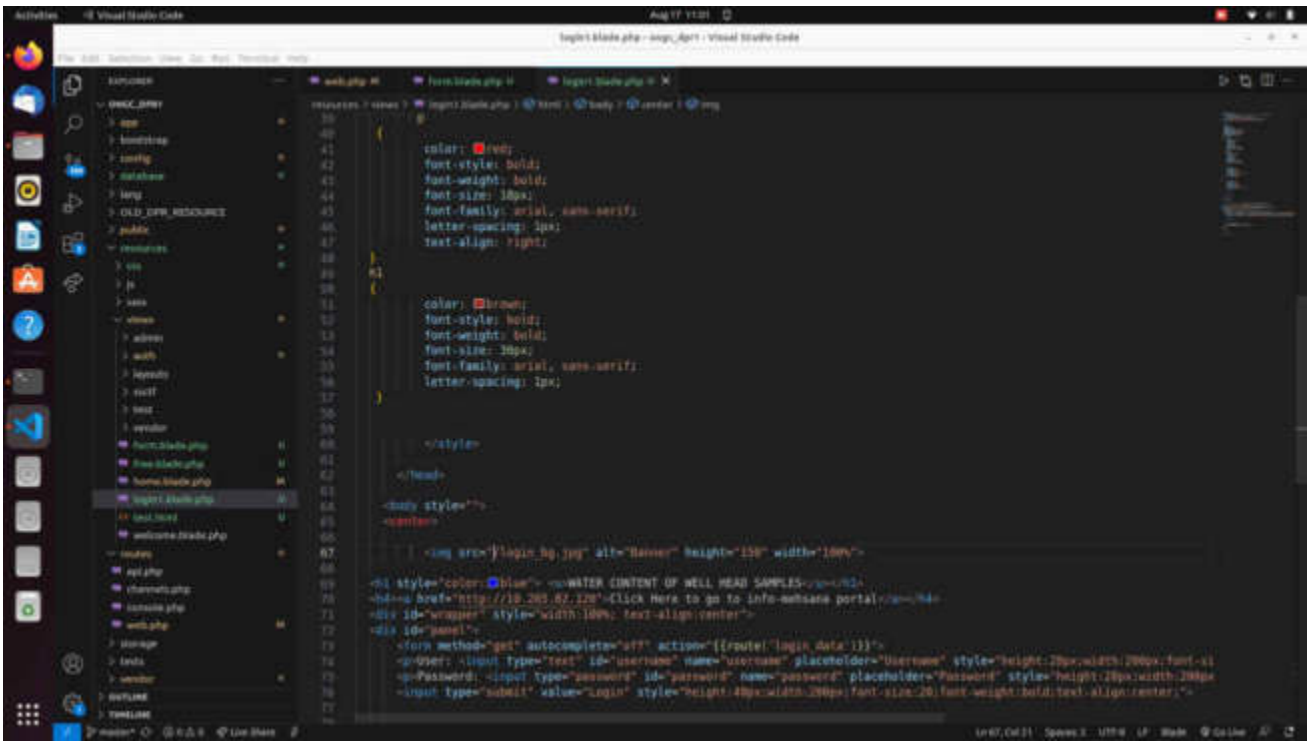


Fig:3.7 login1 Page

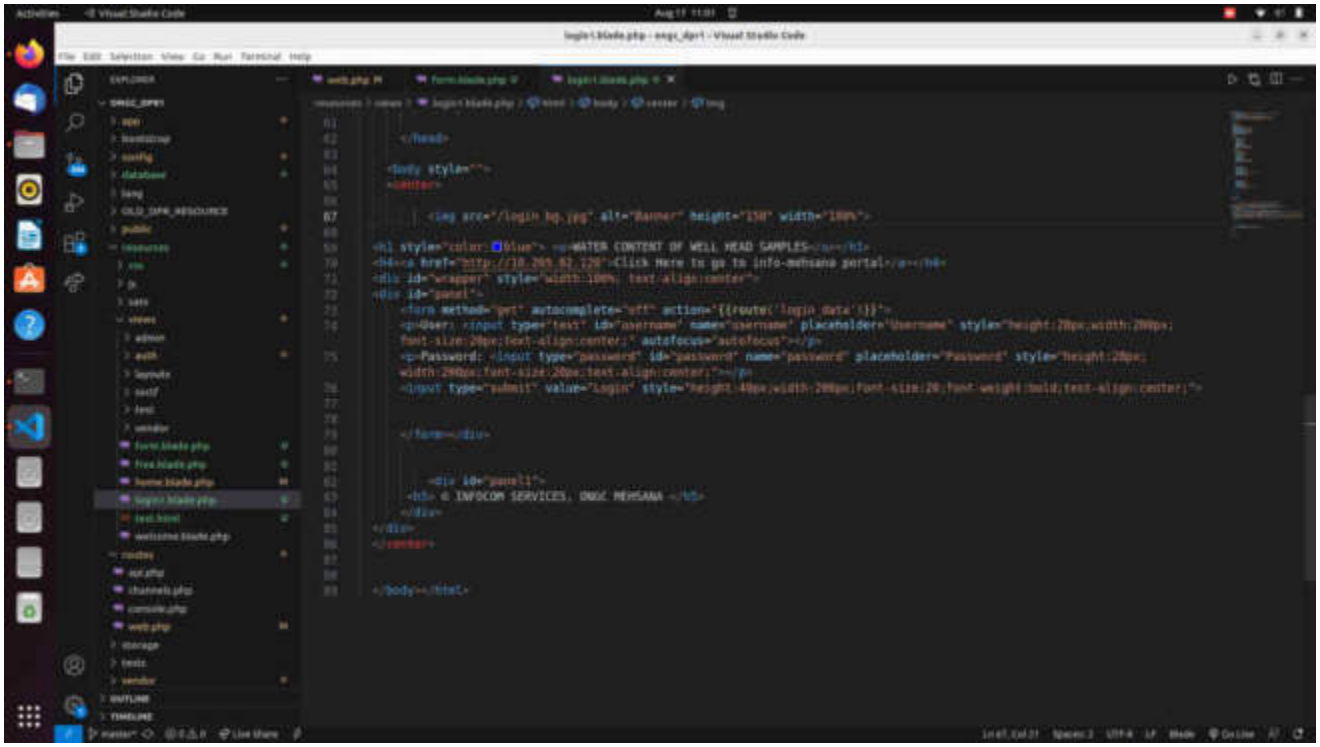


Fig:3.8 login1 Page

form.blade.php:

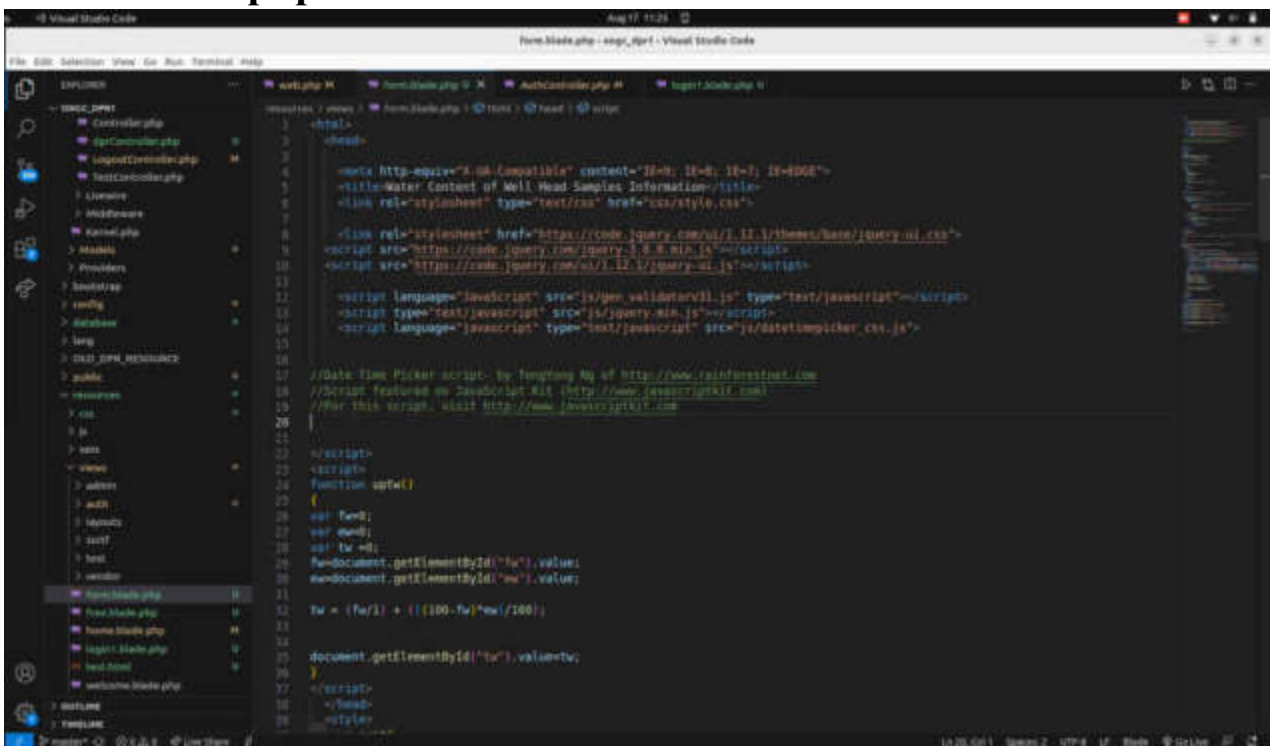


Fig:3.9 form Page

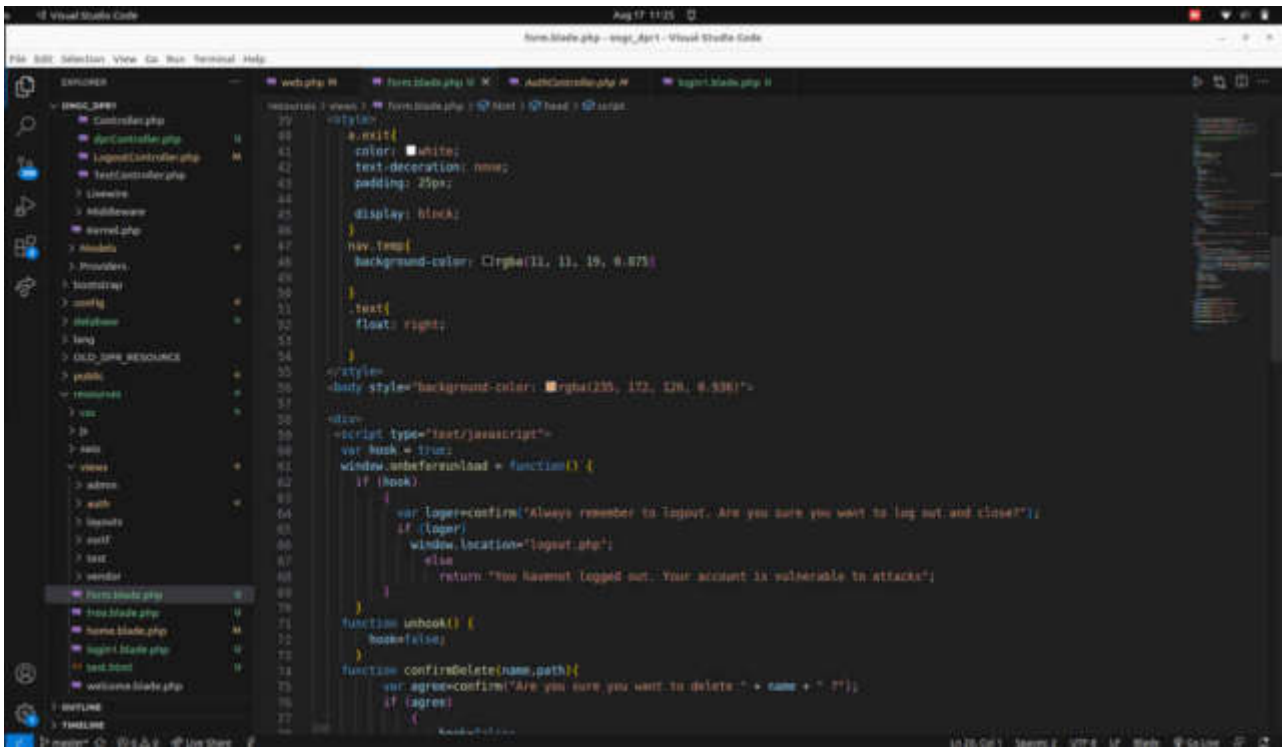


Fig:3.10 form Page

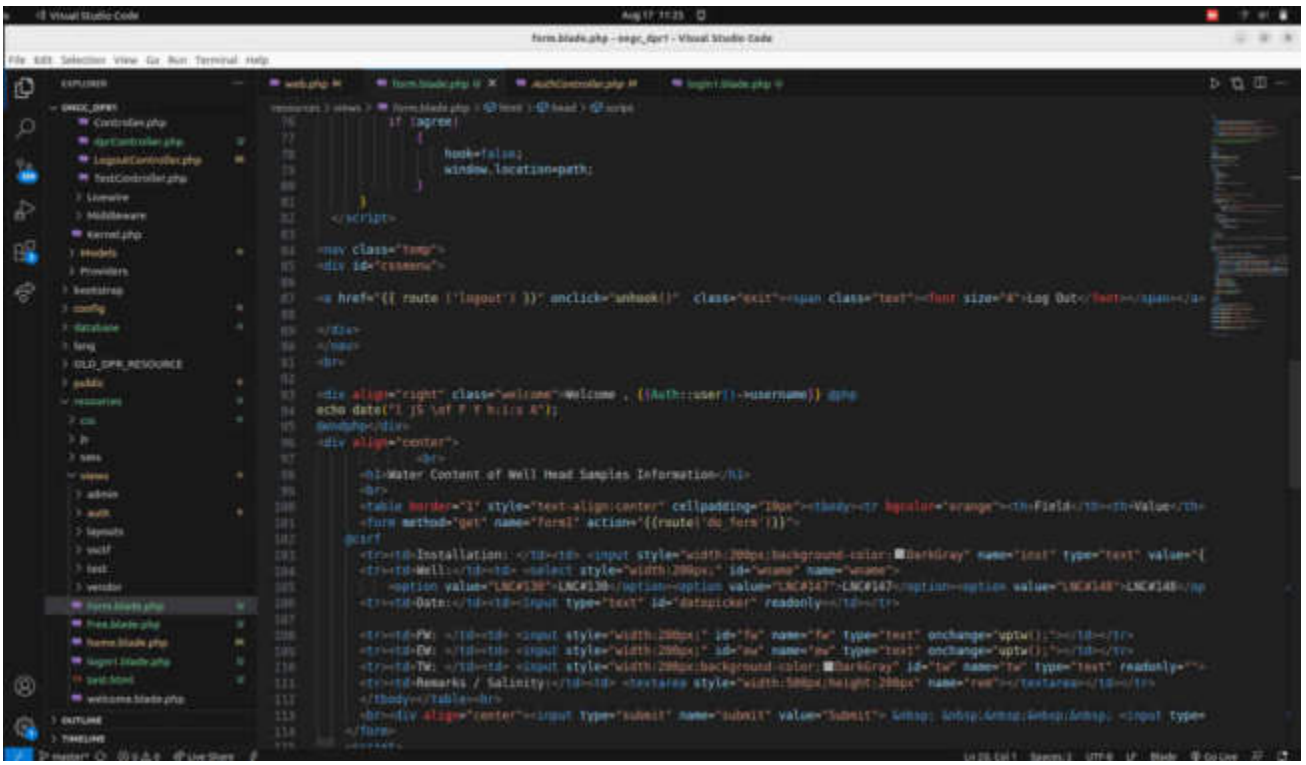


Fig:3.11 form Page

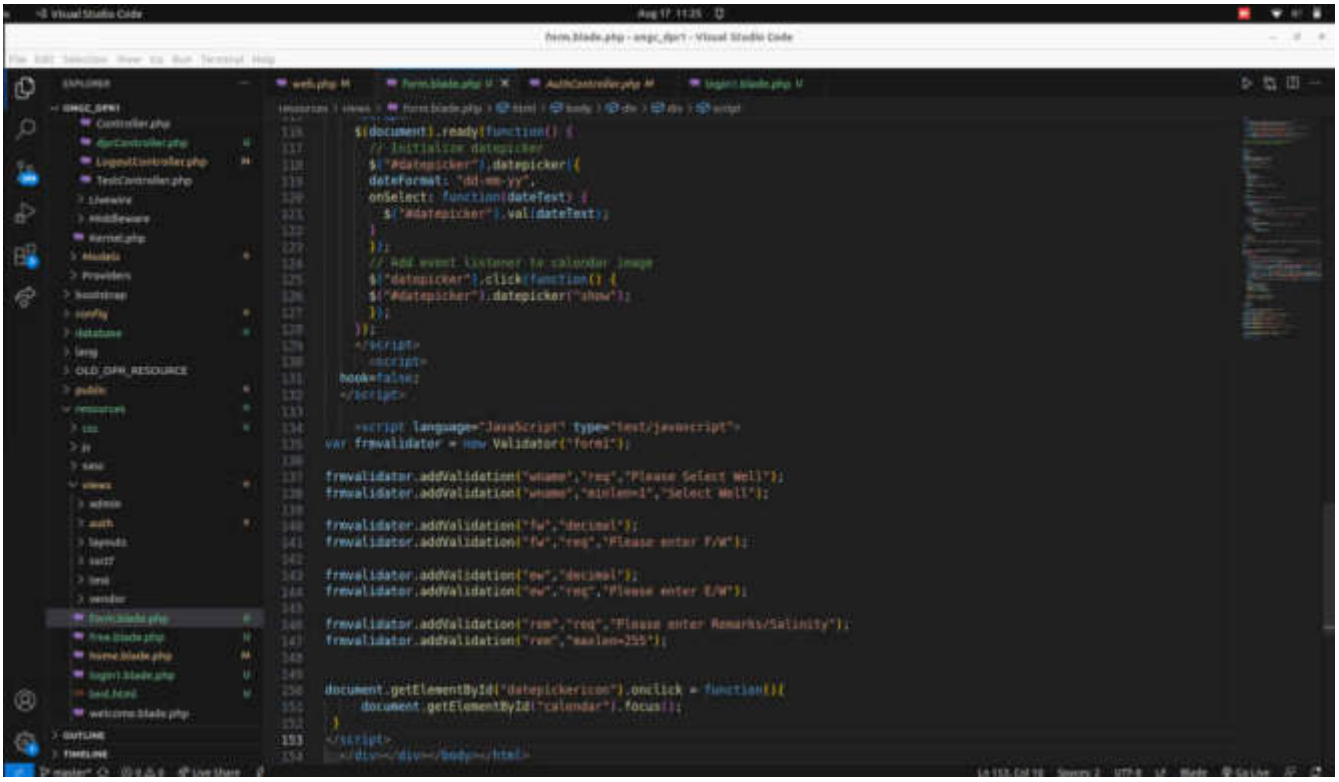


Fig:3.12 form Page

web.php:

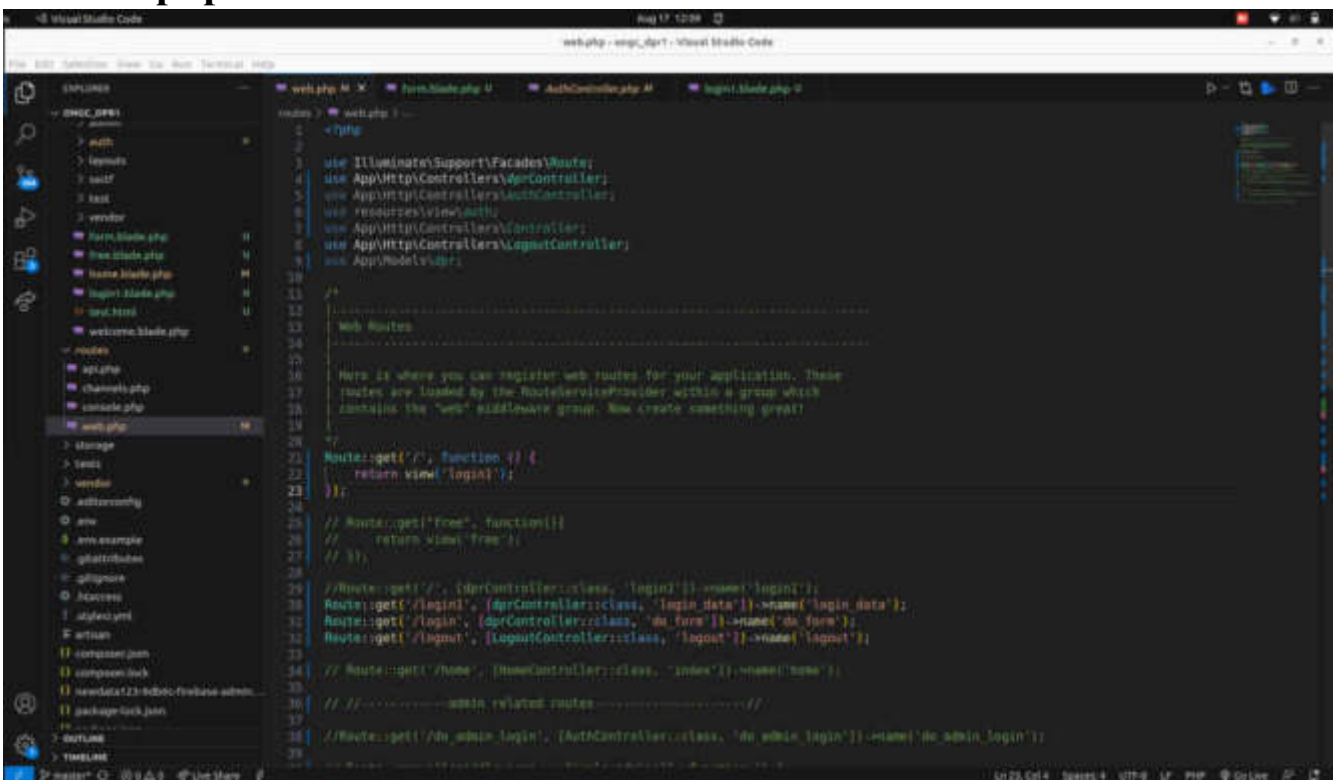


Fig:3.13 Web Page

dprController.php:

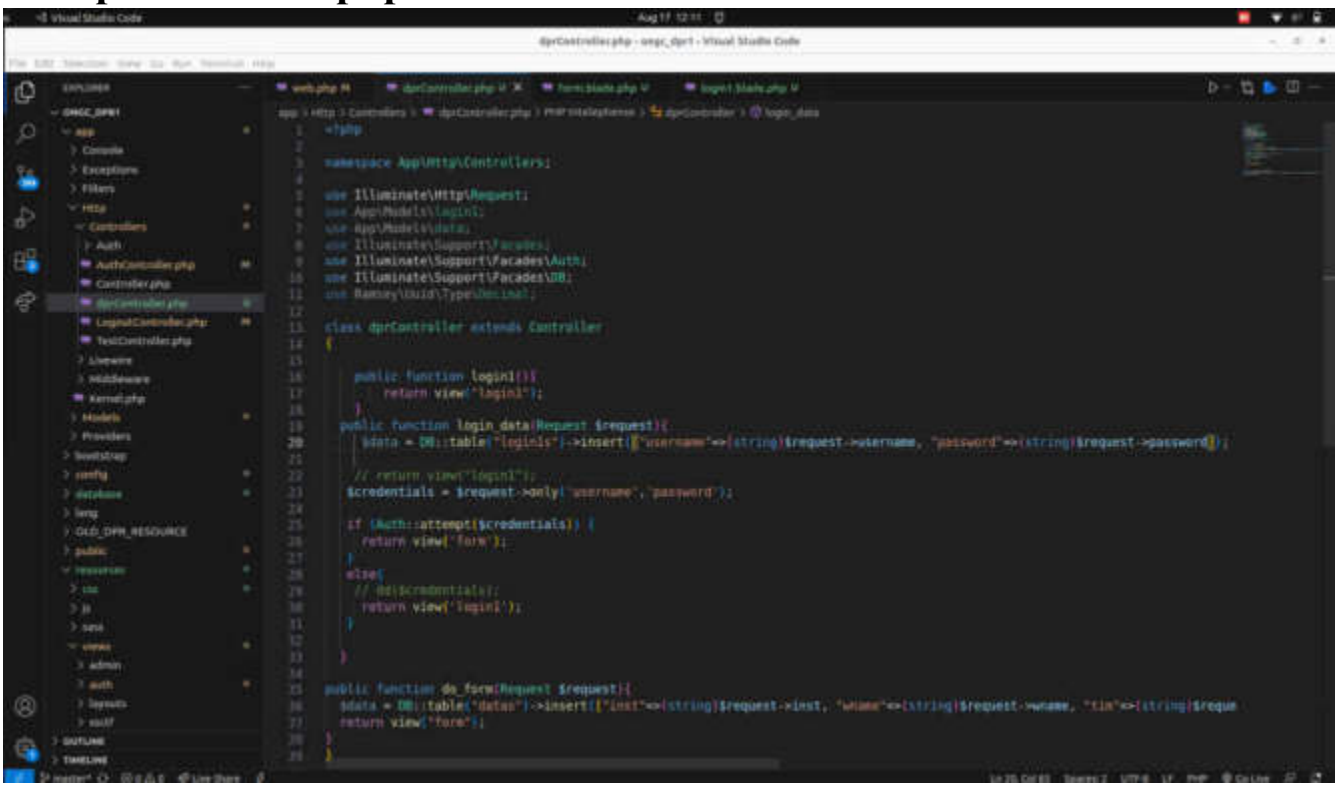


Fig:3.14 dprController Page

logoutController.php:

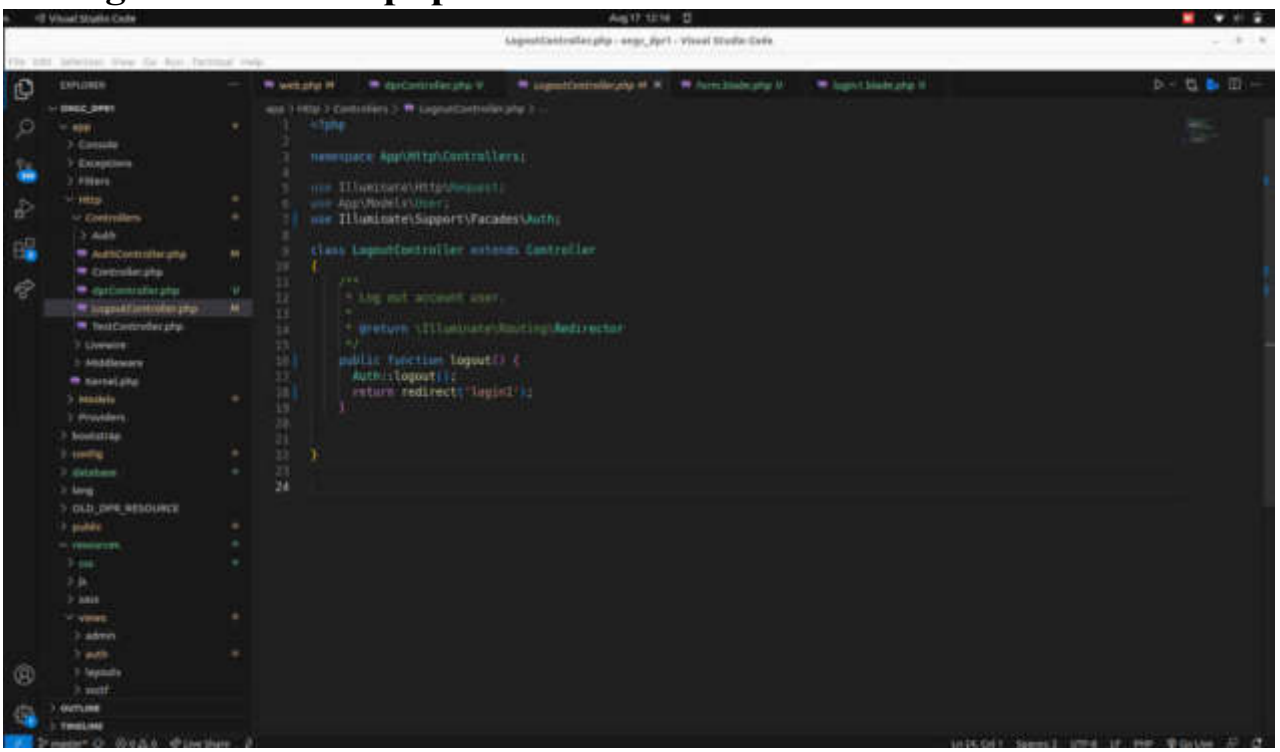


Fig:3.15 logoutController Page

phpMyAdmin:

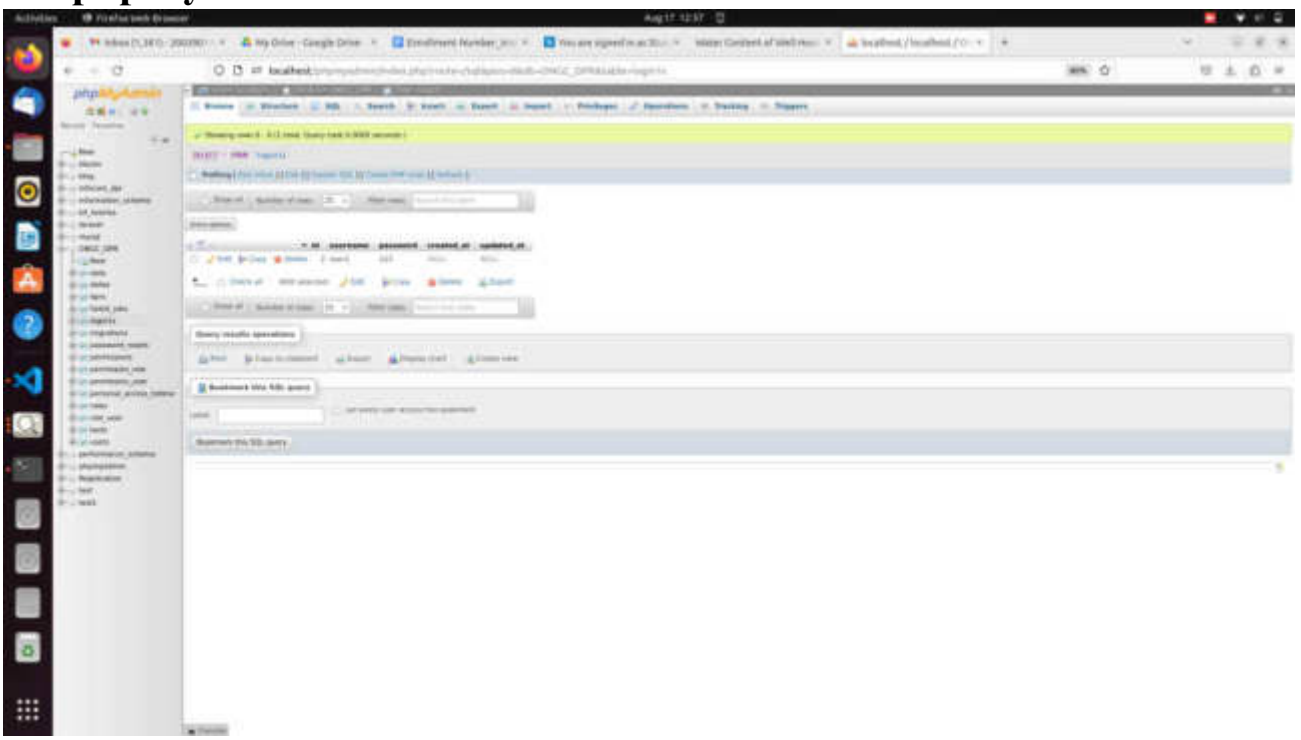


Fig:3.16 login data page

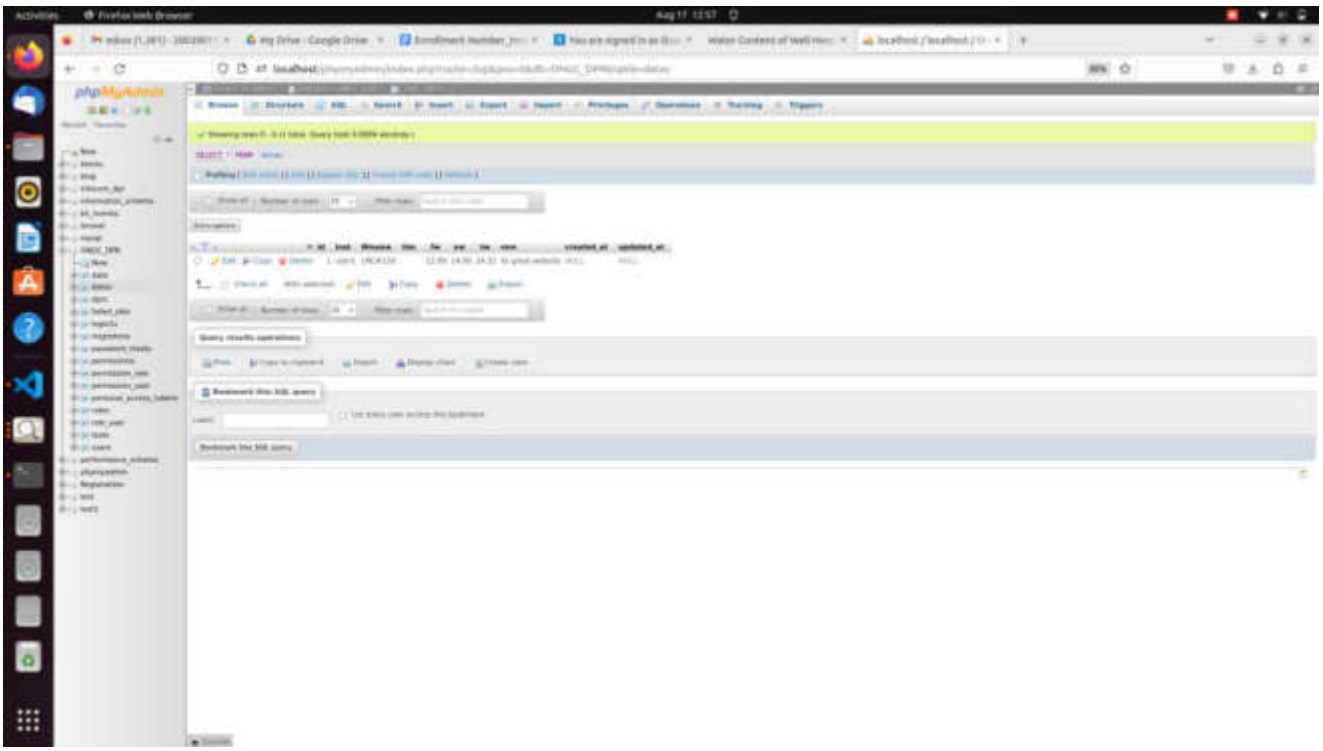


Fig:3.17 form data page

Chapter 4: DPR
Week 3 (07/08/2023 To 10/08/2023)

4.1 INFO MEHSANA DPR :

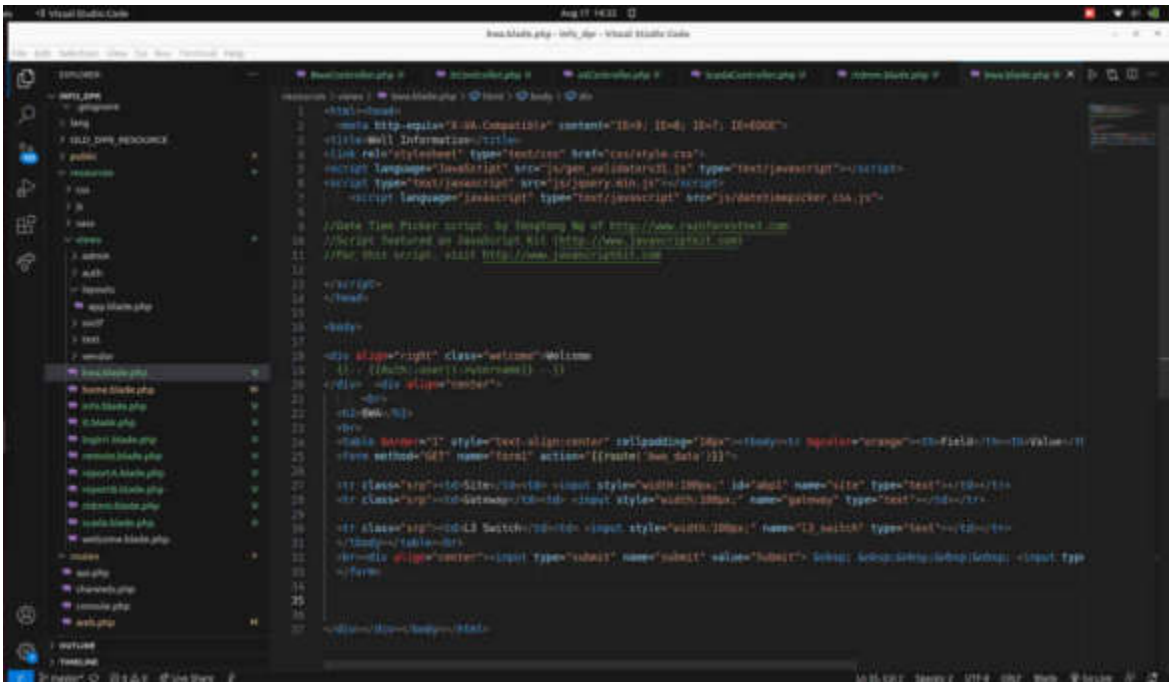


Fig:4.1 Bwa Login page

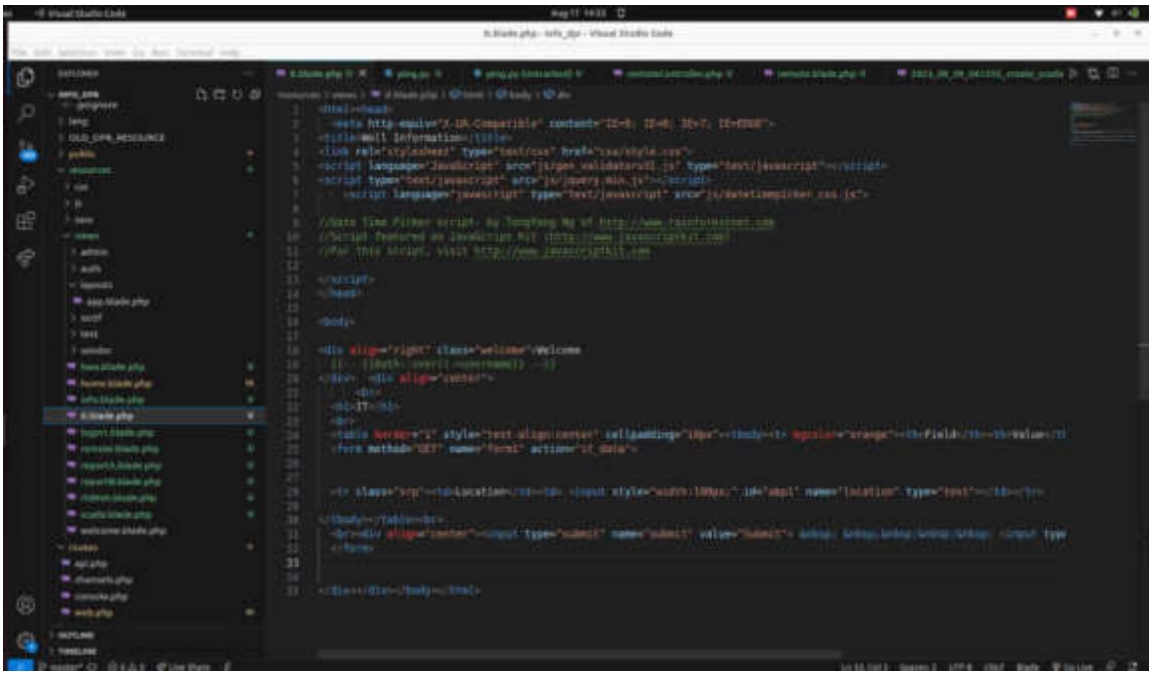


Fig:4.2 ItLogin page

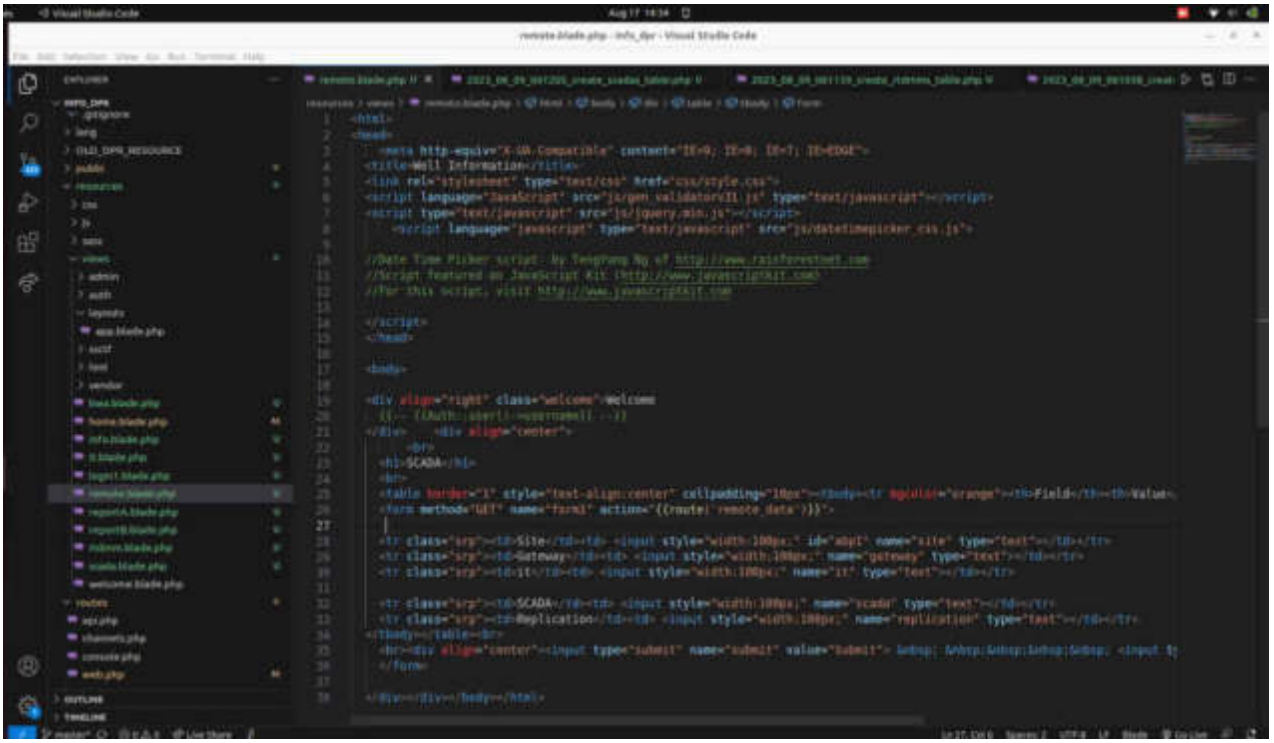


Fig:4.3 Remote Login page

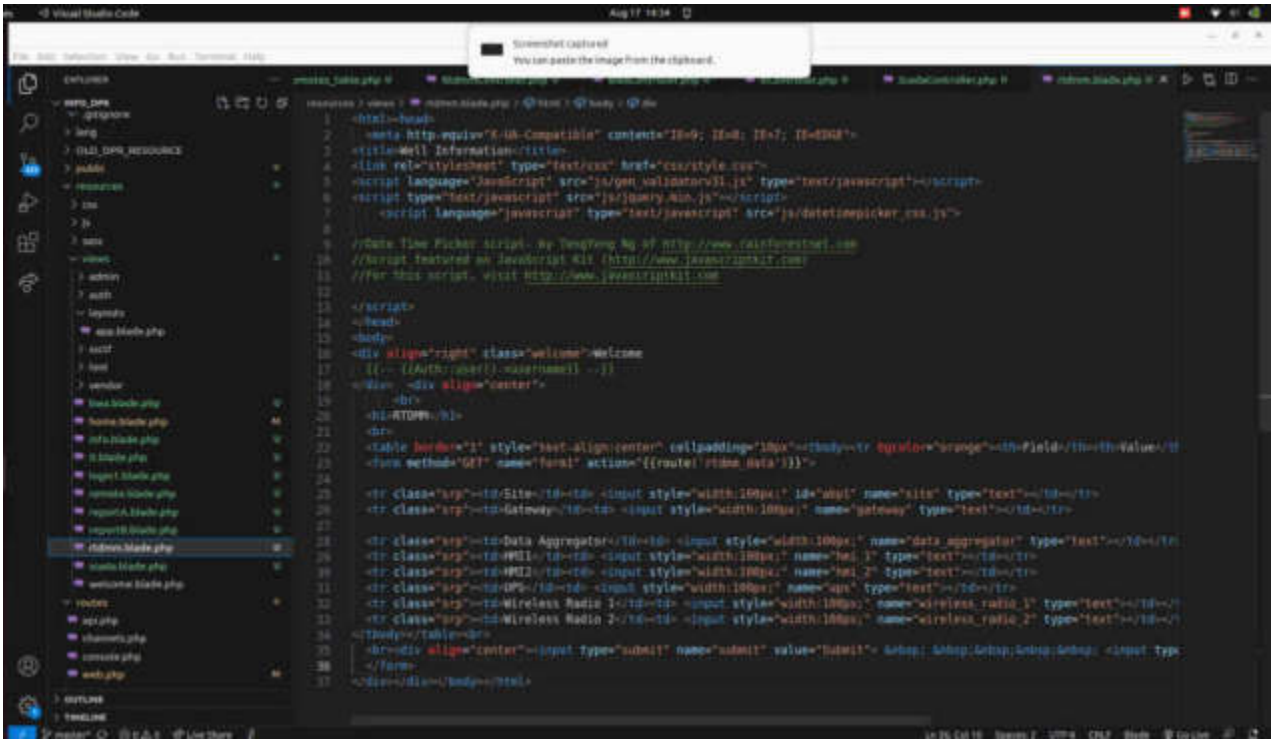


Fig:4.4 Rtdmm Login page

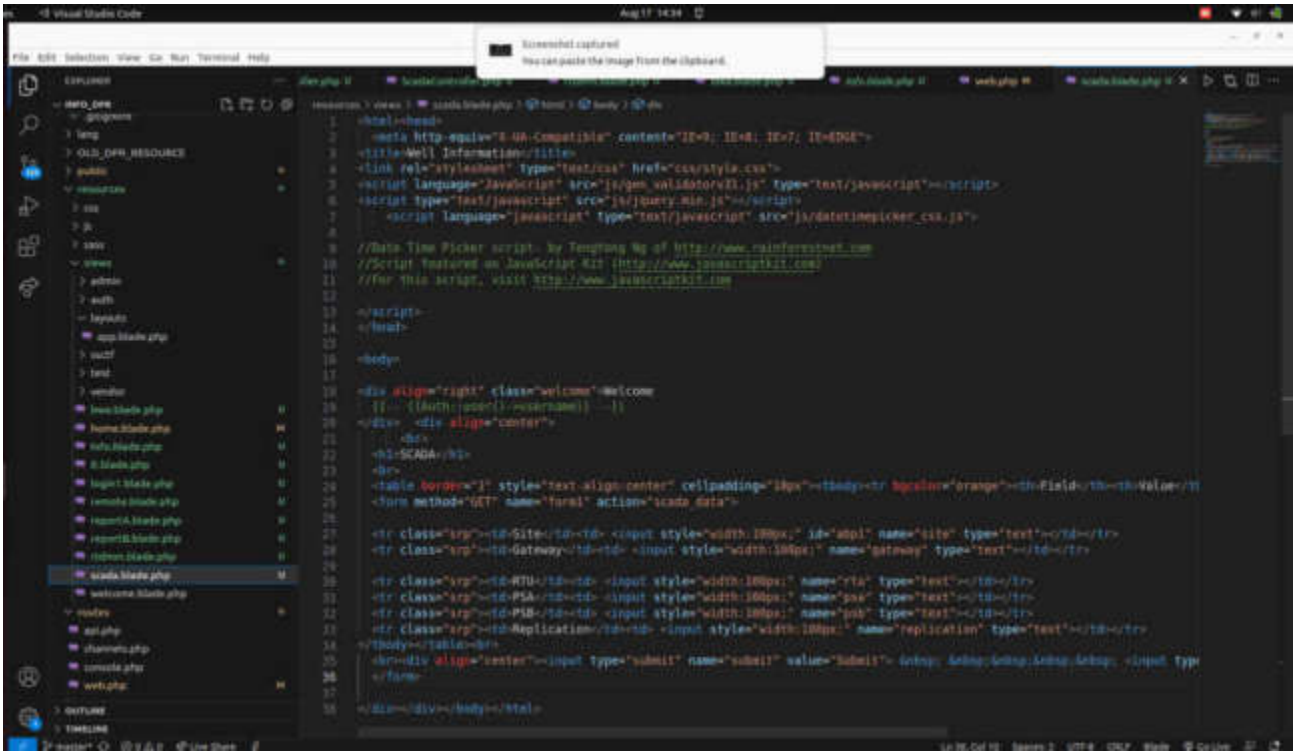


Fig:4.5 Scada Login page

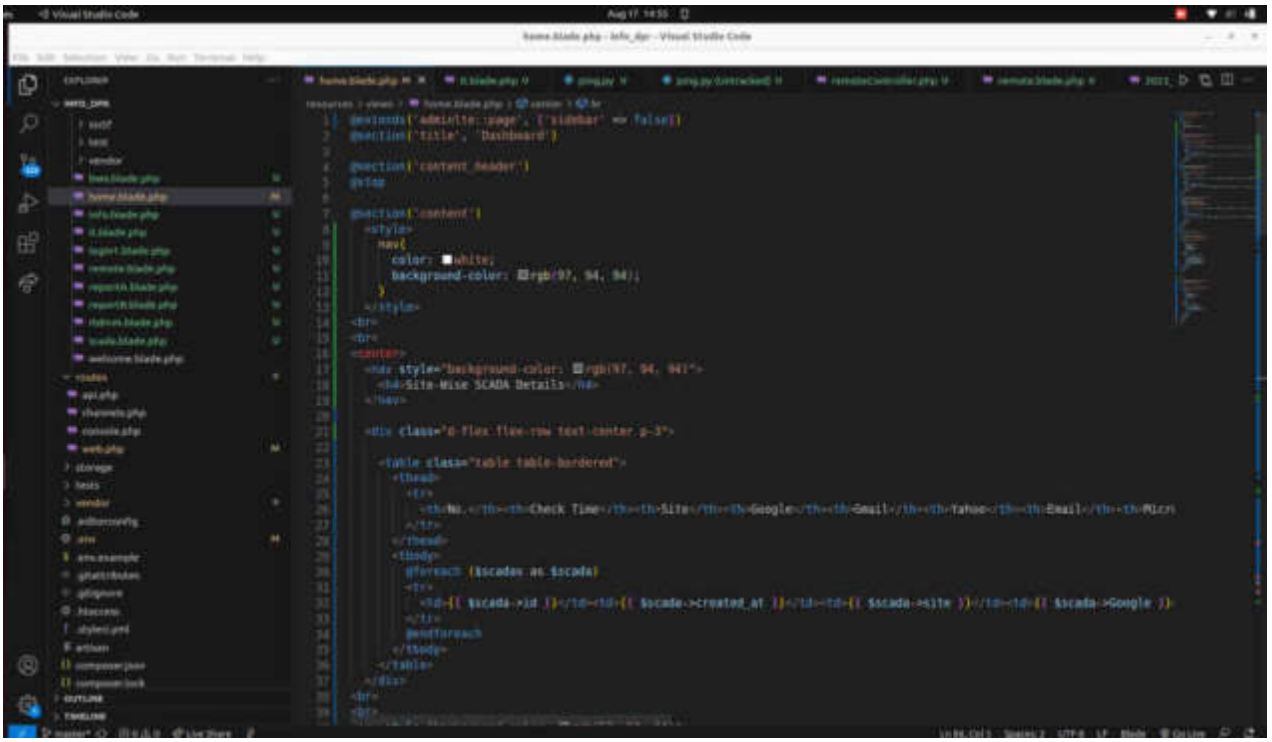


Fig:4.6 home page

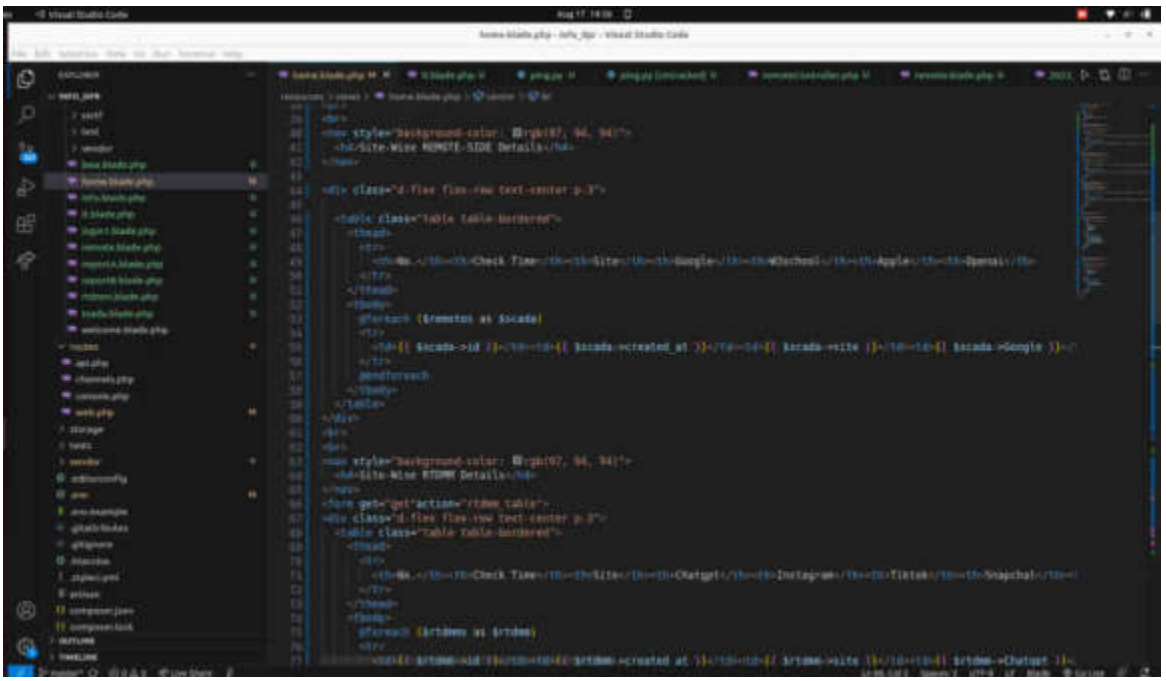


Fig:4.7 home page

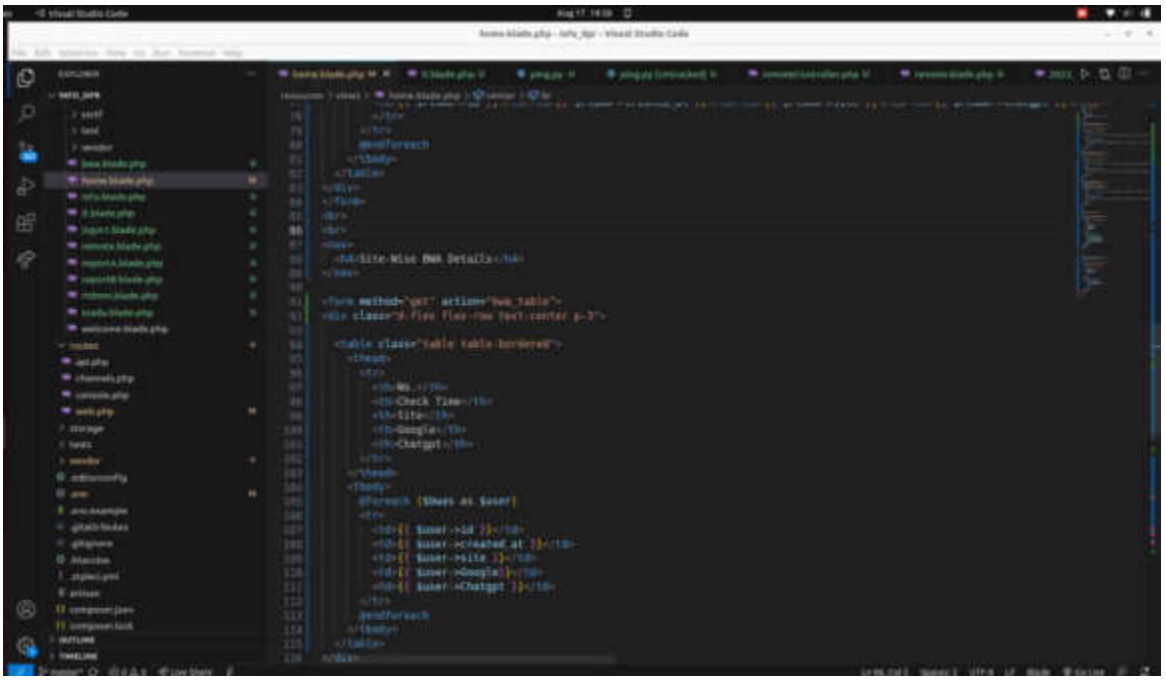


Fig:4.8 home page

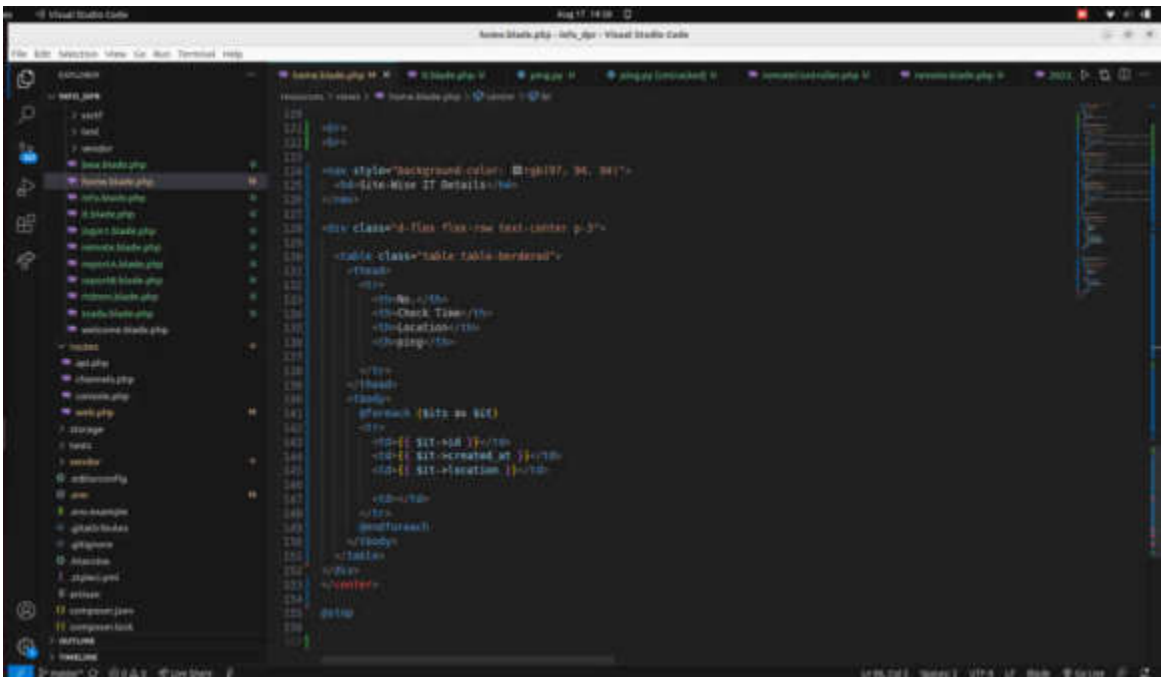


Fig:4.9 home page

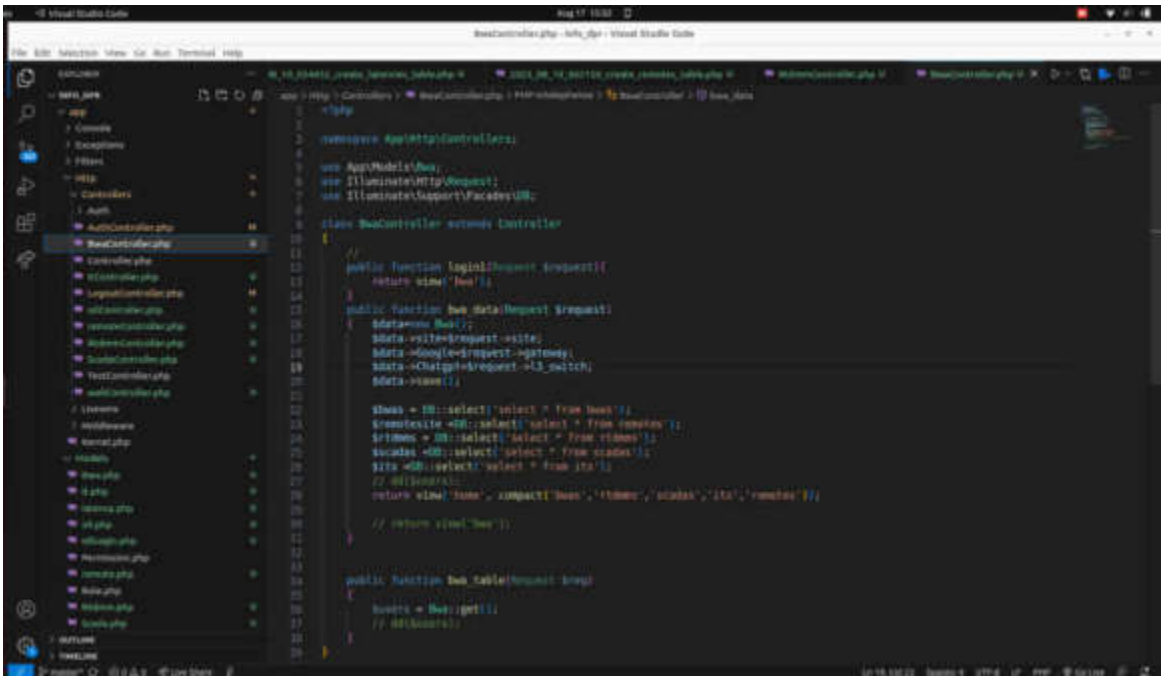


Fig:4.10 bwaController Page

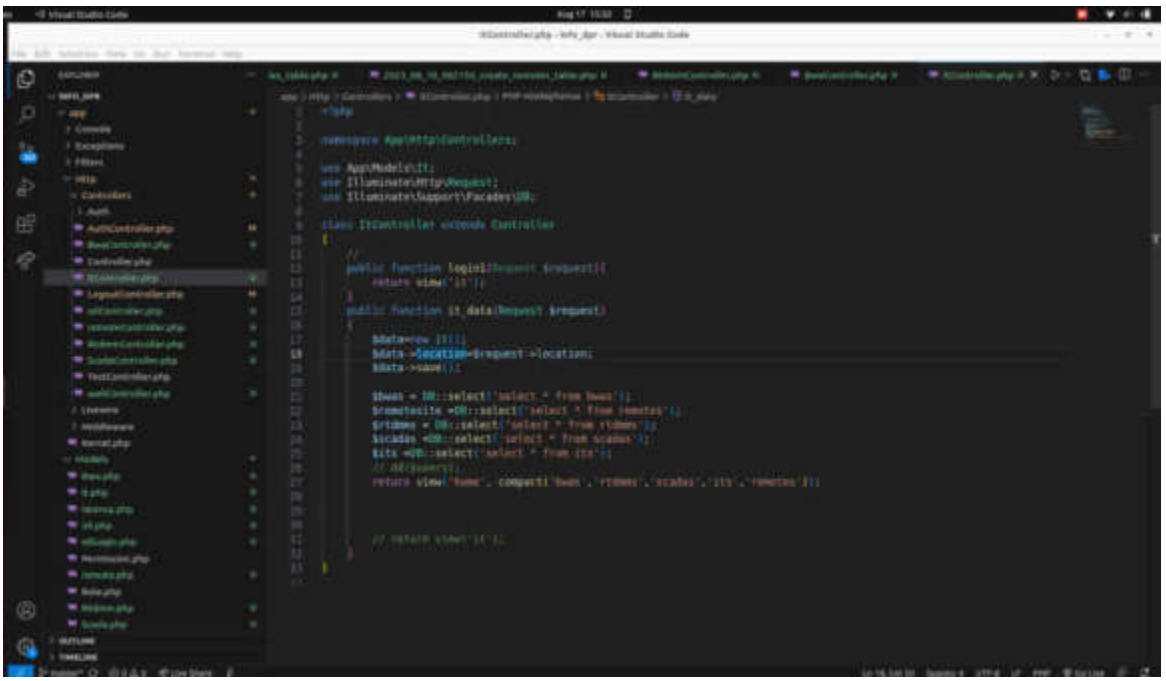


Fig:4.11 ItController Page

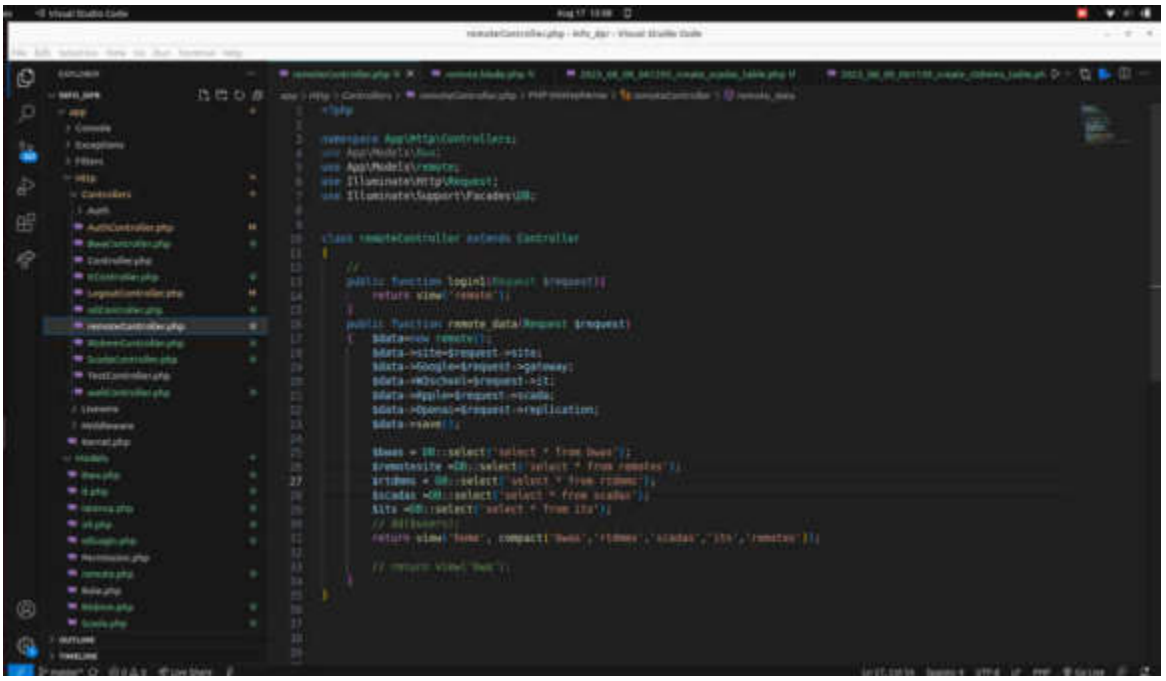


Fig:4.12 RemoteController Page

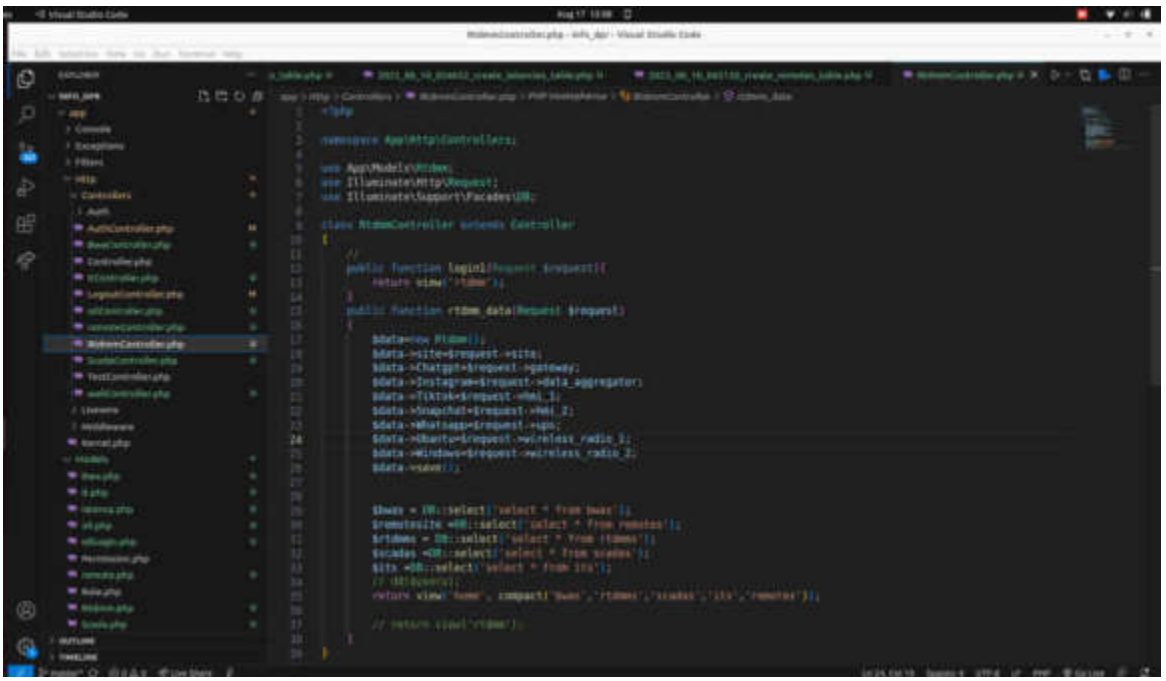


Fig:4.13 RtdmmController Page

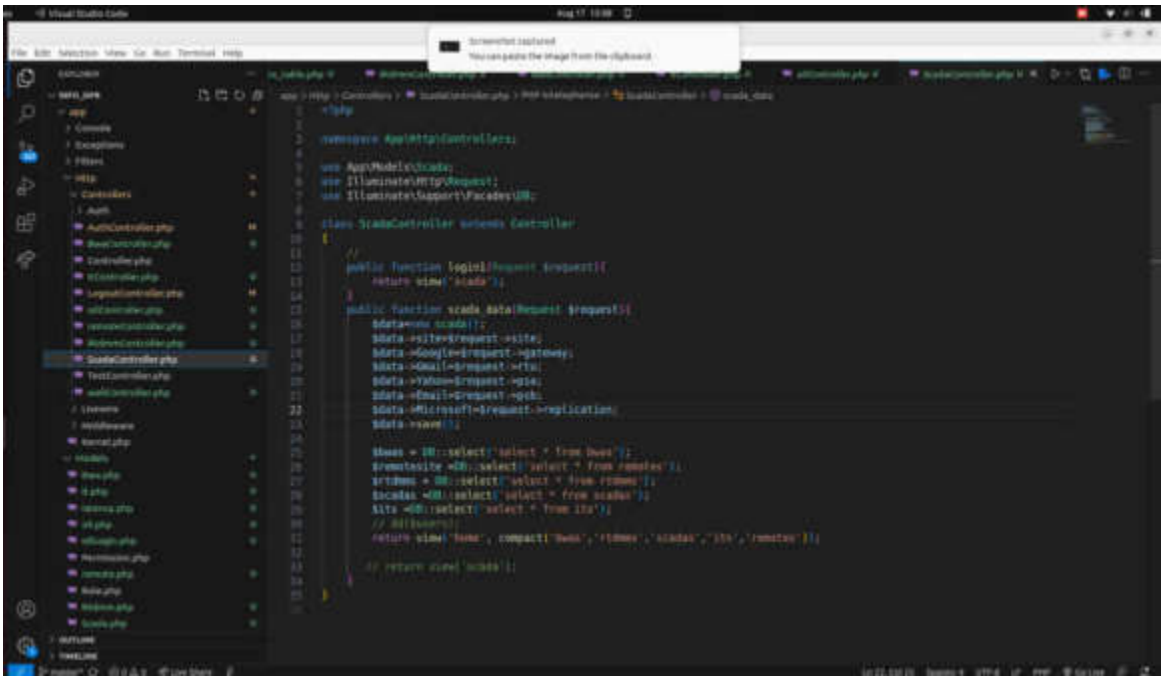


Fig:4.14 ScadaController Page

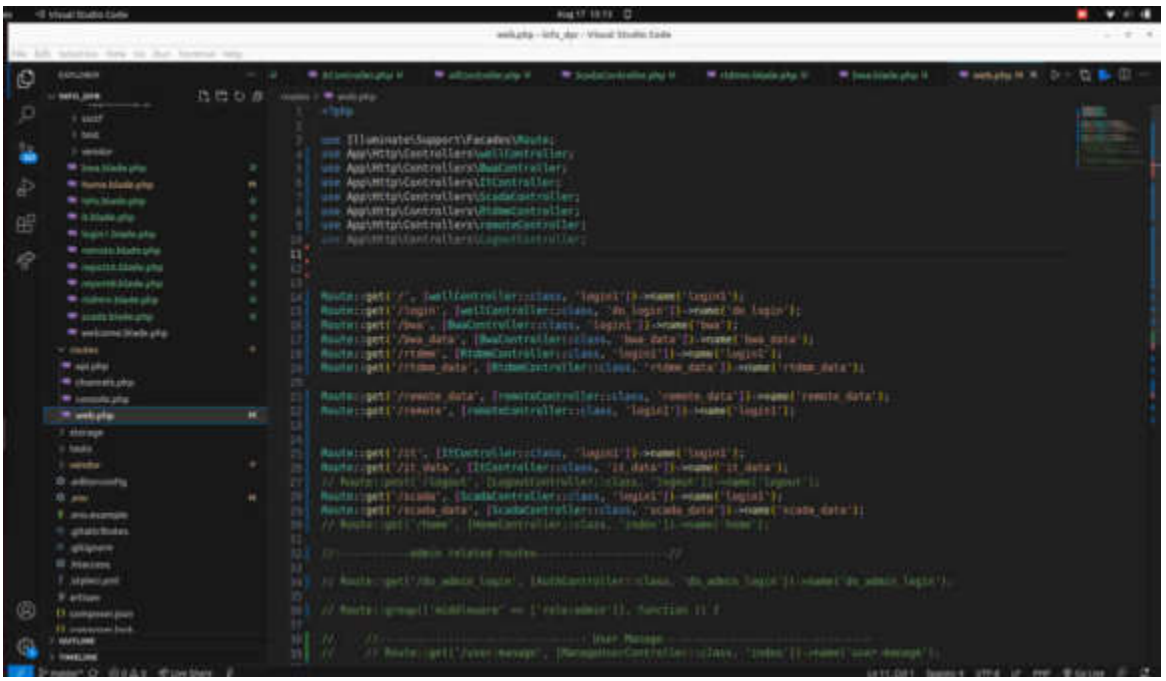
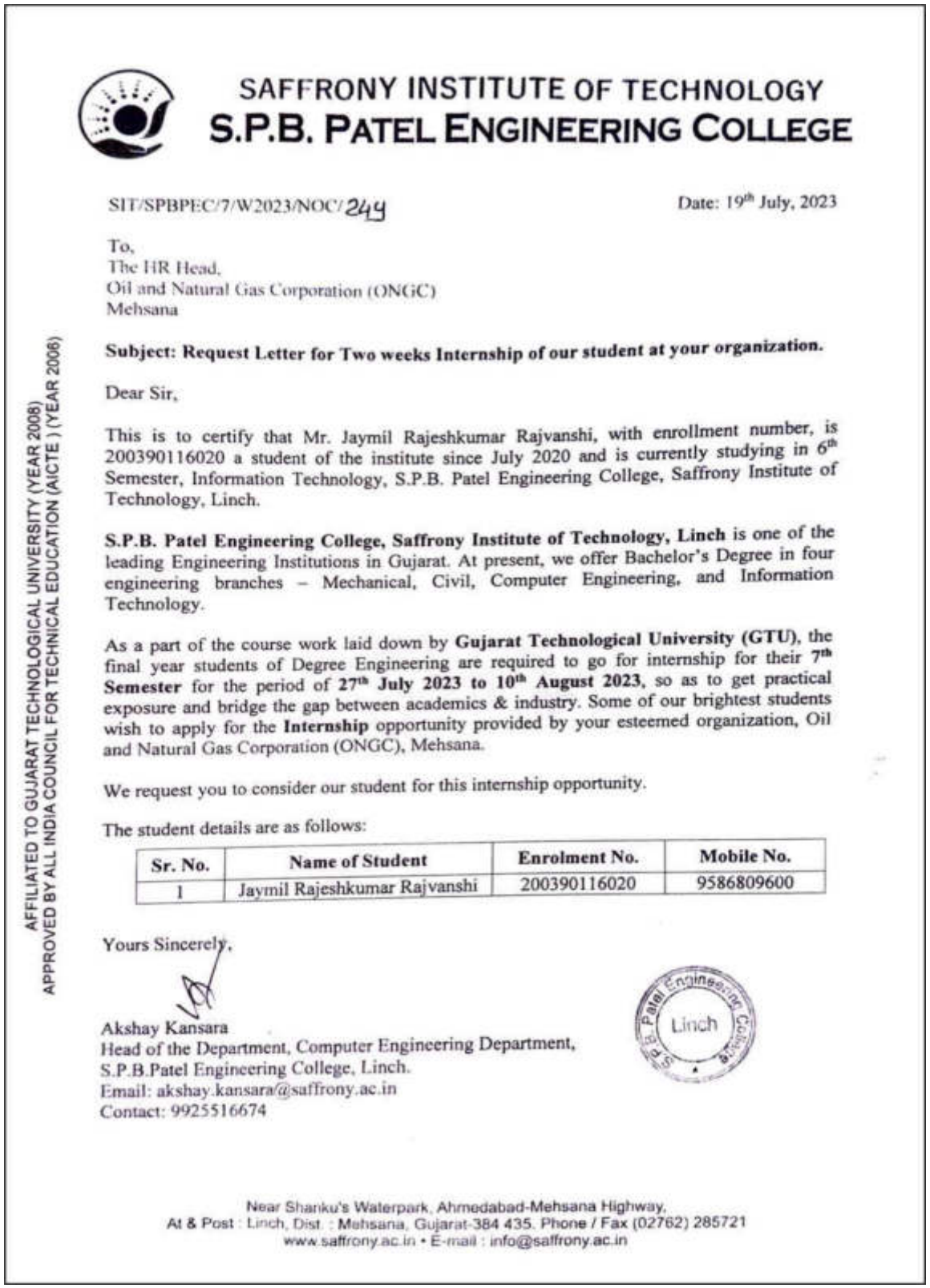


Fig:4.15 Web Page

Appendix



SAFFRONY INSTITUTE OF TECHNOLOGY
S.P.B. PATEL ENGINEERING COLLEGE

AFFILIATED TO GUJARAT TECHNOLOGICAL UNIVERSITY (YEAR 2008)
APPROVED BY ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE) (YEAR 2006)

SIT/SPBPEC/7/W2023/NOC/244

Date: 19th July, 2023

To,
The HR Head,
Oil and Natural Gas Corporation (ONGC)
Mehsana

Subject: Request Letter for Two weeks Internship of our student at your organization.

Dear Sir,

This is to certify that Mr. Jaymil Rajeshkumar Rajvanshi, with enrollment number, is 200390116020 a student of the institute since July 2020 and is currently studying in 6th Semester, Information Technology, S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch.

S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch is one of the leading Engineering Institutions in Gujarat. At present, we offer Bachelor's Degree in four engineering branches – Mechanical, Civil, Computer Engineering, and Information Technology.

As a part of the course work laid down by **Gujarat Technological University (GTU)**, the final year students of Degree Engineering are required to go for internship for their **7th Semester** for the period of **27th July 2023 to 10th August 2023**, so as to get practical exposure and bridge the gap between academics & industry. Some of our brightest students wish to apply for the **Internship** opportunity provided by your esteemed organization, Oil and Natural Gas Corporation (ONGC), Mehsana.

We request you to consider our student for this internship opportunity.

The student details are as follows:

Sr. No.	Name of Student	Enrolment No.	Mobile No.
1	Jaymil Rajeshkumar Rajvanshi	200390116020	9586809600

Yours Sincerely,

Akshay Kansara
Head of the Department, Computer Engineering Department,
S.P.B.Patel Engineering College, Linch.
Email: akshay.kansara@saffrony.ac.in
Contact: 9925516674

S.P.B. Patel Engineering College Linch

Near Shanku's Waterpark, Ahmedabad-Mehsana Highway,
At & Post : Linch, Dist. : Mehsana, Gujarat-384 435. Phone / Fax (02762) 285721
www.saffrony.ac.in • E-mail : info@saffrony.ac.in

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD.

AN INTERNSHIP REPORT

Submitted by

DEVARSH JAYESHKUMAR PATEL

200390116021

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July-August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ IT SERVICES PVT. LTD.** has been carried out by **DEVARSH JAYESHKUMAR PATEL** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023.

Sign	Sign
Prof. First Name Last Name	Prof. Akshay Kansara
Internal Guide	Head of Department

COMPLETION CERTIFICATE

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116021
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Devarsh Jayeshkumar Patel .

In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework

We wish Devarsh Jayeshkumar Patel all the best for future endeavors.



Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

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Ahmedabad, Gujarat 380009





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ IT SERVICES PVT. LTD.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Devarsh Jayeshkumar Patel**	_____

ACKNOWLEDGMENT

I would like to take this opportunity to express my sincere gratitude for the successful completion of my 15-day internship. The realization of this project hinged upon the collective efforts of numerous individuals, and I am deeply appreciative of their contributions. I extend my heartfelt thanks to the leadership team at Infolabz IT Services Pvt Ltd. for granting me the opportunity to undertake this internship within their organization. My utmost appreciation goes to Mr. Chintan Nagrecha and Ms. Twinkle Shah, esteemed members of the Infolabz team, whose unwavering support, valuable insights, and guidance were instrumental to the project's success. I would also like to acknowledge the internship coordinator of the Department of IT for their invaluable assistance in facilitating the completion of this internship. It is with great honor that I submit this report, recognizing the significant roles each individual played in its realization.

Abstract

This report contains the work done by the author during his internship at ***INFOLABZ IT SERVICES PVT. LTD.*** It shows the work I did in the company during my internship period. In the report, the author discusses Web Development using Python (Django Framework). The author also discusses the structure of the company, all the departments and their work . It also explains what the author learned during this internship period.

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Chapter 1. Introduction

1.1 Company Profile:

Established in 2016, our parent IT company, Infolabz IT Services Pvt. Ltd., has managed to make its own position in the IT sector. We are involved in web development, app development, progressive web application development, IOT solutions, graphics and design, digital marketing, domain and hosting services, SMS services, etc.

In the span of seven years, we have managed to deliver all projects on time and with the utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers, who are always willing to take on new challenges and look forward to learning new things, are the heart of this company.

1.2 Mission And Vision Of The Company:

Our objective is to sustain exponential growth in the IT industry. Our mission is to deliver the best with top-notch quality every quarter, and our vision is to develop a product with a unique concept that could be used by millions of people.

Chapter 2. Django Setup and Basics

2.1 Introduction to Django:

Django, a high-level Python web framework, empowers developers to craft dynamic and robust web applications with utmost efficiency. In this chapter, we will embark on a journey to set up the foundation of our Django development environment, laying the groundwork for the creation of remarkable web projects. Through a comprehensive exploration of Django environment setup, Python installation, virtual environment creation, and project initialization, we will unlock the gateway to seamless web development.

2.2 Django Environment Setup:

Before we delve into the world of Django, it is imperative to establish a pristine environment that ensures smooth and isolated development. The first step involves installing Python, the programming language that serves as the backbone of Django. With Python at our disposal, we proceed to create a virtual environment—a self-contained workspace that encapsulates dependencies and safeguards against conflicts. This isolation guarantees that our Django project remains insulated from external influences, promoting modularity and maintainability.

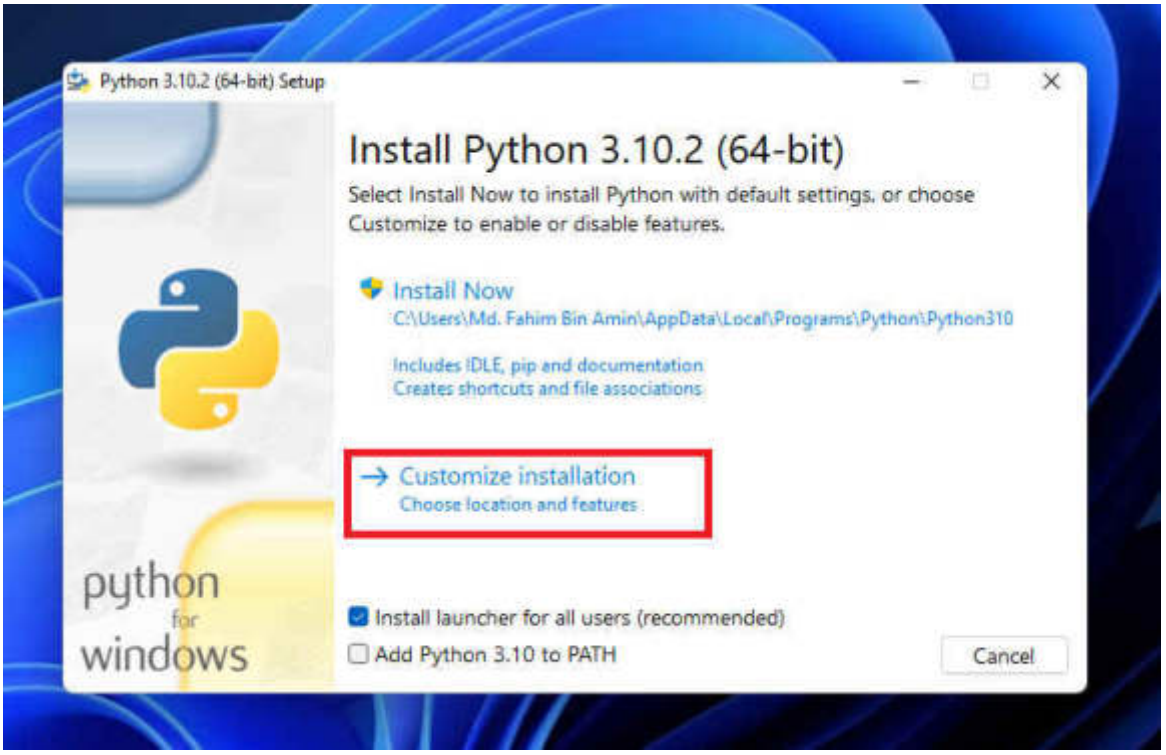


Fig 2.1 Python Installation

2.3 Installing Python and Creating a Virtual Environment:

Installing Python can be accomplished by downloading the latest version from the official Python website and following the installation prompts. Once Python is installed, we wield the power of Python's package manager, pip, to establish our virtual environment. Through a simple command, we breathe life into a dedicated workspace, immune to the interference of external packages and libraries.

2.4 Installing Django and Required Dependencies:

With our virtual environment prepared, we move forward to install Django, the heart of our web framework. A straightforward pip command unleashes Django's capabilities within our confined workspace. Additionally, this step allows us to harmoniously integrate other essential dependencies, priming our environment for efficient Django development.

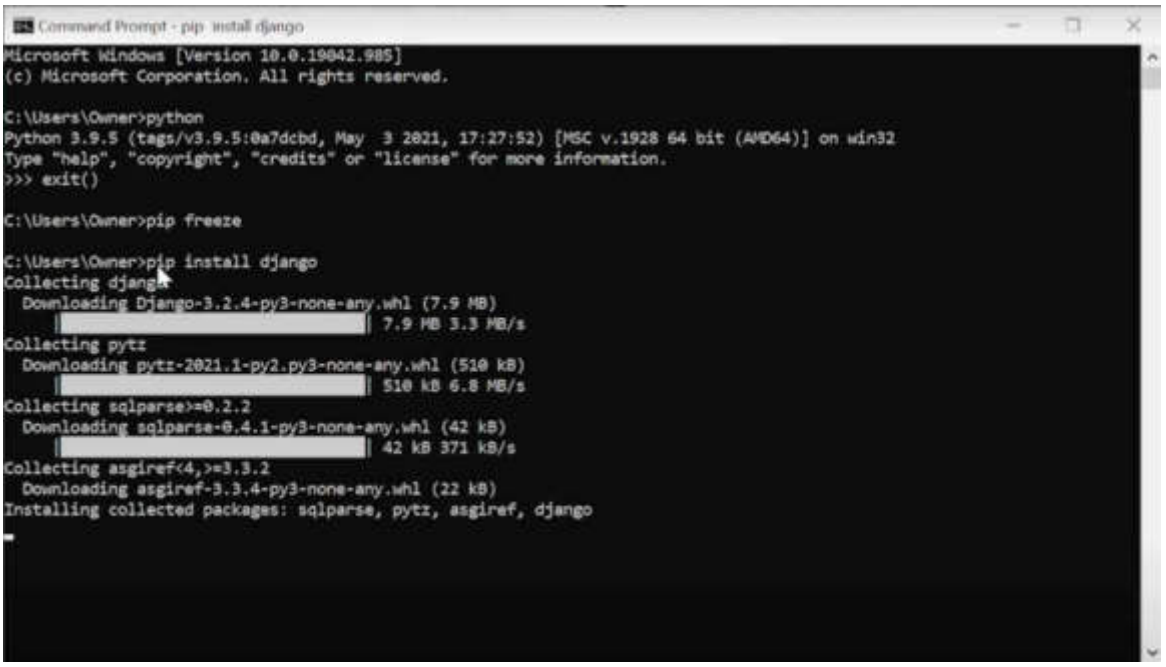


Fig 2.2 Django Installation

2.5 New Django Project:

A tour within our newly created project reveals its intricate structure. The project directory encapsulates settings, URLs, and other crucial configurations. Navigating through this structure, we commence the process of molding our web application into reality. The settings file becomes a canvas where database connections, application integrations, and other project-specific settings are artistically defined.

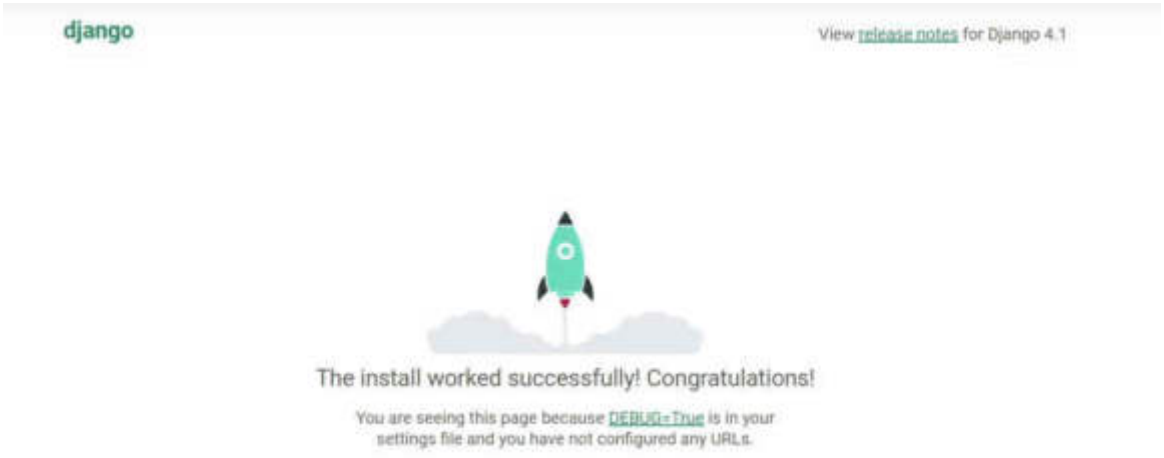


Fig 2.3 Project Creation

2.6 Creating a Superuser Account:

To create a superuser account, follow these steps:

Open your terminal or command prompt.

Navigate to the root directory of your Django project.

Enter the following command:

python manage.py createsuperuser

You will be prompted to provide a username, email address, and password for the superuser.

Once you've entered the required information, the superuser account will be created, and you'll receive a confirmation message.

```
PS C:\Users\R AND S\Desktop\Travel> cd travel
PS C:\Users\R AND S\Desktop\Travel\travel> python manage.py createsuperuser
Username (leave blank to use 'rands'): srishti
Email address: example@gmail.com
Password:
Password (again):
Superuser created successfully.
PS C:\Users\R AND S\Desktop\Travel\travel>
```

Fig 2.4 Creating a Superuser

2.7 Assigning Administrative Privileges:

After creating a superuser account, it's important to assign appropriate administrative privileges. Django's admin panel allows you to control which parts of the application the superuser can access and modify.

Log in to the Django admin panel using the superuser credentials you created.
Navigate to the "Users" section or a relevant administrative section.

Select the superuser account from the list of users.

Adjust the user's permissions by selecting/deselecting checkboxes related to specific functionalities (e.g., add, change, delete).

Save the changes to update the superuser's permissions.

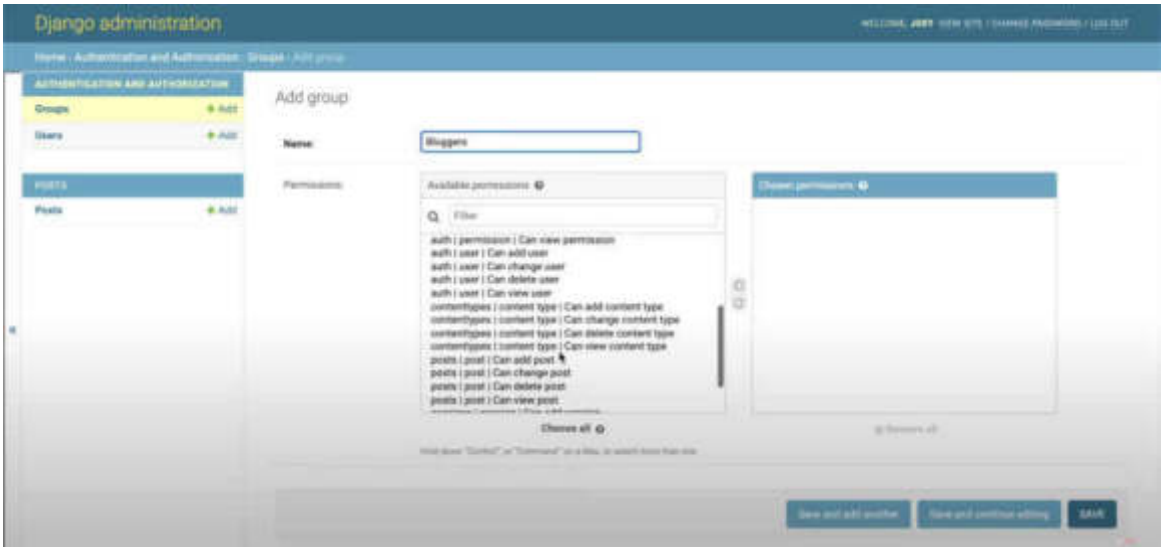


Fig 2.5 Assigning Administrative Privileges

Chapter 3. Database Management and Model Implementation

In this chapter, we will explore the foundational aspects of database management and model implementation in Django. We will begin by introducing the SQLite Database Browser, a tool that facilitates the examination and manipulation of SQLite databases. Subsequently, we will create our first database model, perform CRUD (Create, Read, Update, Delete) operations on it, and delve into the concept of multiple database tables with different fields. Additionally, we will explore the concept of foreign keys and a crucial element of relational databases.

3.1 SQLite Database Browser :

The SQLite Database Browser is a graphical user interface (GUI) tool that allows you to manage SQLite databases. It provides an intuitive way to view, edit, and manipulate the contents of an SQLite database.

Download and install the SQLite Database Browser tool.

Open the tool and load your Django project's SQLite database file.

Explore the database's tables, views, and relationships using the GUI.

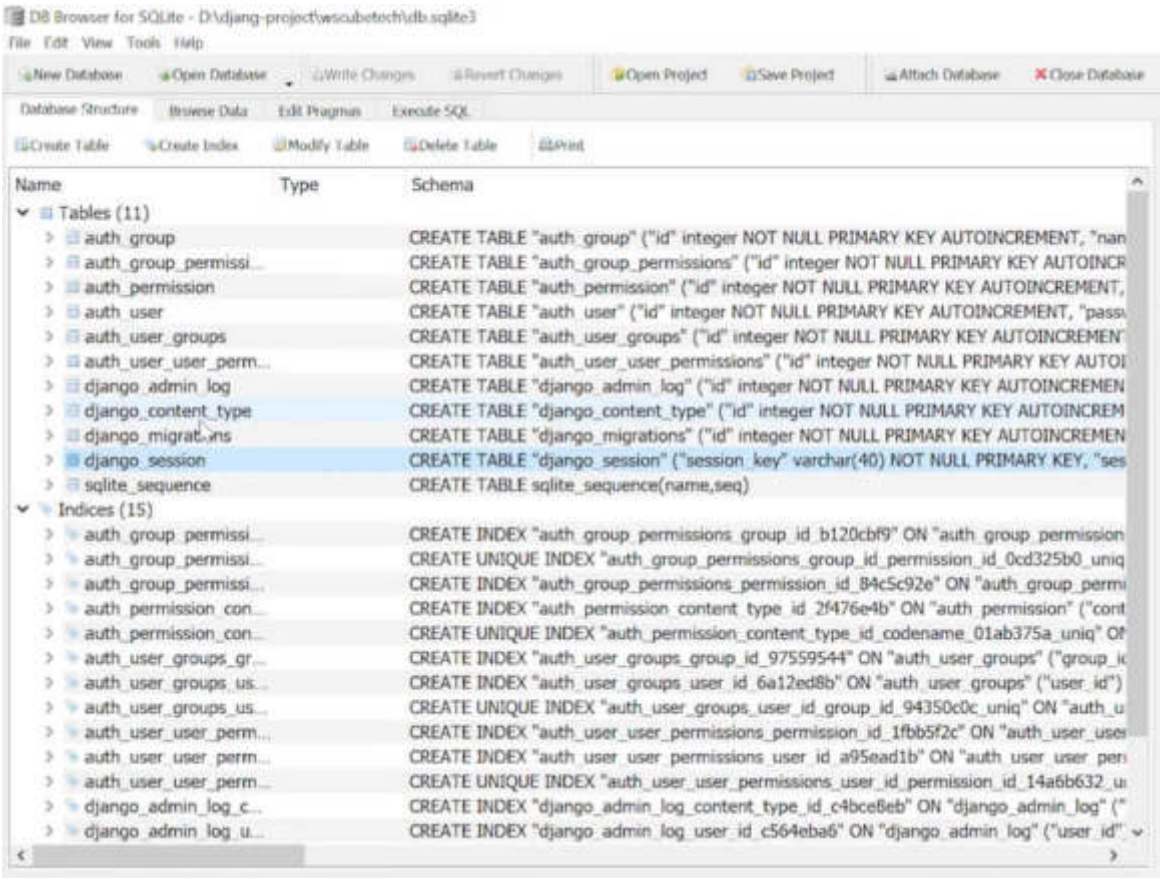


Fig 3.1 SQLite Database

3.2 First Model: Database Table: Insert, Update & Delete:

Let's begin by creating our first database model and performing CRUD operations on it.

Define a model in your Django application's models.py file.

Run migrations to create the corresponding database table.

Use Django's admin panel to insert, update, and delete records from the model.

3.3 Foreign Key Concept

Foreign keys establish relationships between different database tables. They are fundamental for maintaining data integrity and supporting data associations.

Define a model with a foreign key field that references another model.

Observe how Django manages the relationship between tables.

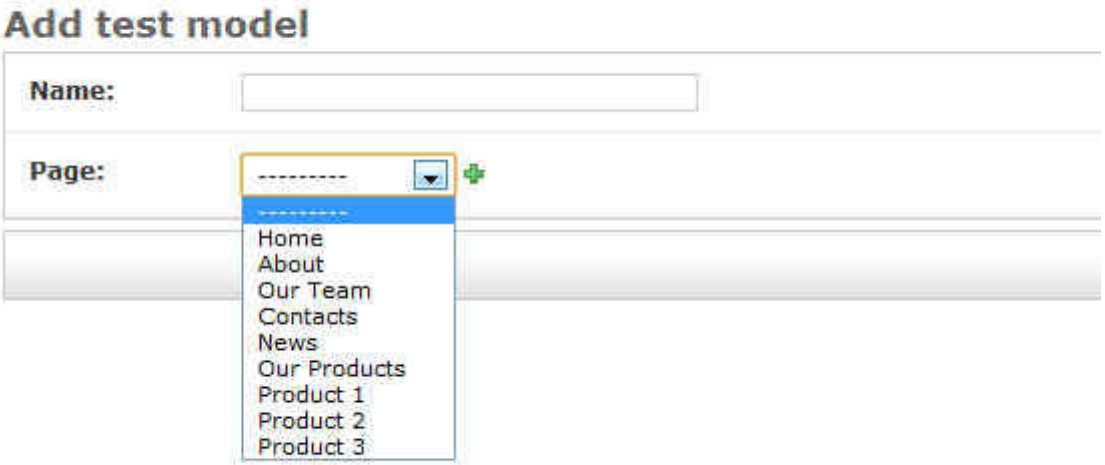


Fig 3.2 Foreign Key

Chapter 4. Web Development with Django Framework

In this chapter, we will delve into the world of web development using the Django framework. We'll cover essential aspects such as loading HTML pages, implementing page routing, integrating the static folder for CSS, JS, and images, exploring the Bootstrap framework for responsive design, and understanding the concept of dictionaries in Python.

4.1 Loading HTML Pages in Django

Django's templating engine allows you to create dynamic HTML pages by embedding placeholders for dynamic content. Here's how you can load HTML pages in Django:

Create a templates folder within your Django app directory.

Inside the templates folder, create an HTML file for your page. For example, my_page.html.

Utilize Django's template language by adding template tags like {{ variable }} to insert dynamic content.

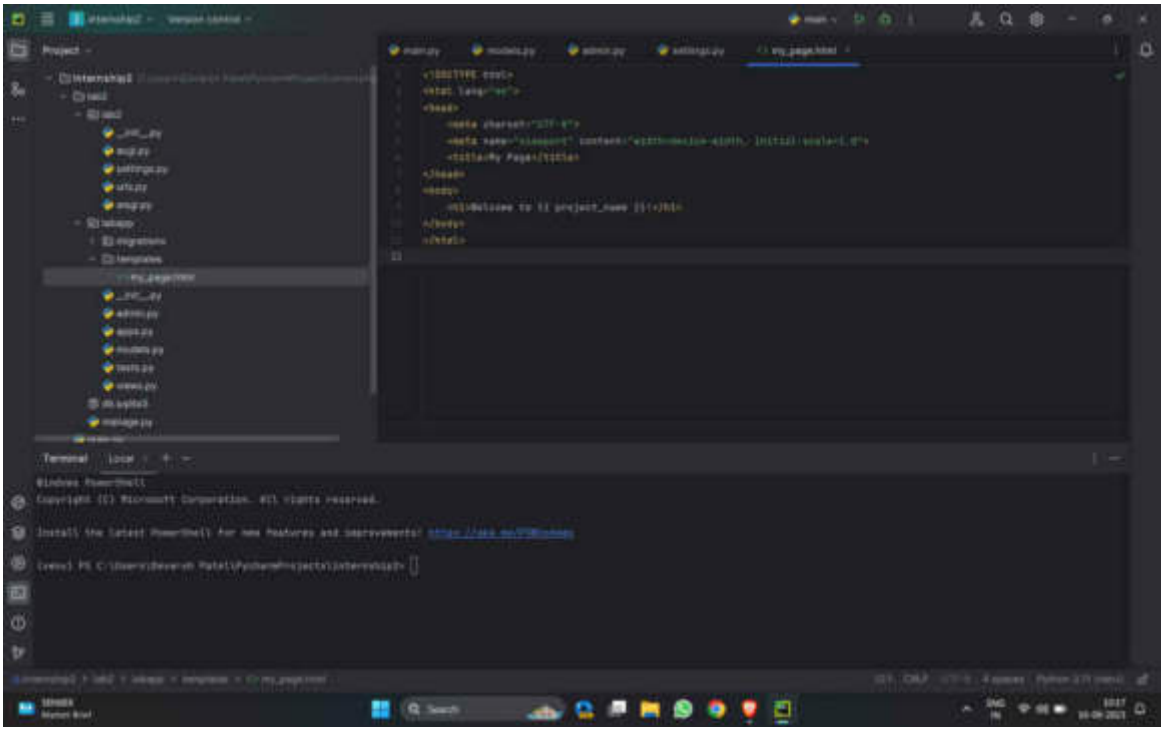


Fig 4.1 Loading HTML Pages in Django

4.2 Page Routing in Django

Routing maps URLs to specific views or functions in Django. Here's how you can implement page routing:

Open your app's urls.py file.

Import the necessary modules (e.g., path, include).

Define URL patterns using the path function, associating URLs with corresponding view functions.

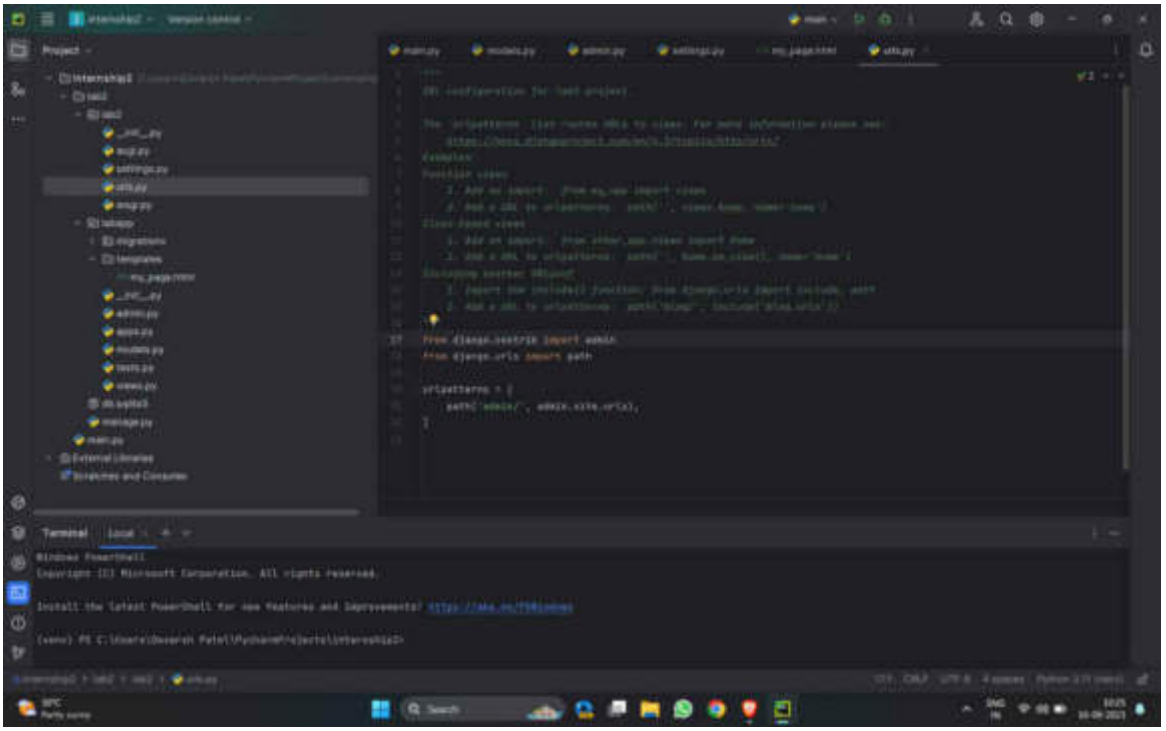


Fig 4.2 Page Routing in Django

4.3 Implementation of Static Folder (CSS, JS & Images) in Django

Including static assets like CSS, JS, and images is crucial for enhancing the appearance and functionality of your web application:

Create a static folder within your app's directory.

Inside the static folder, organize subfolders for CSS, JS, and images.

Link static files in your HTML templates using the {% static %} template tag.

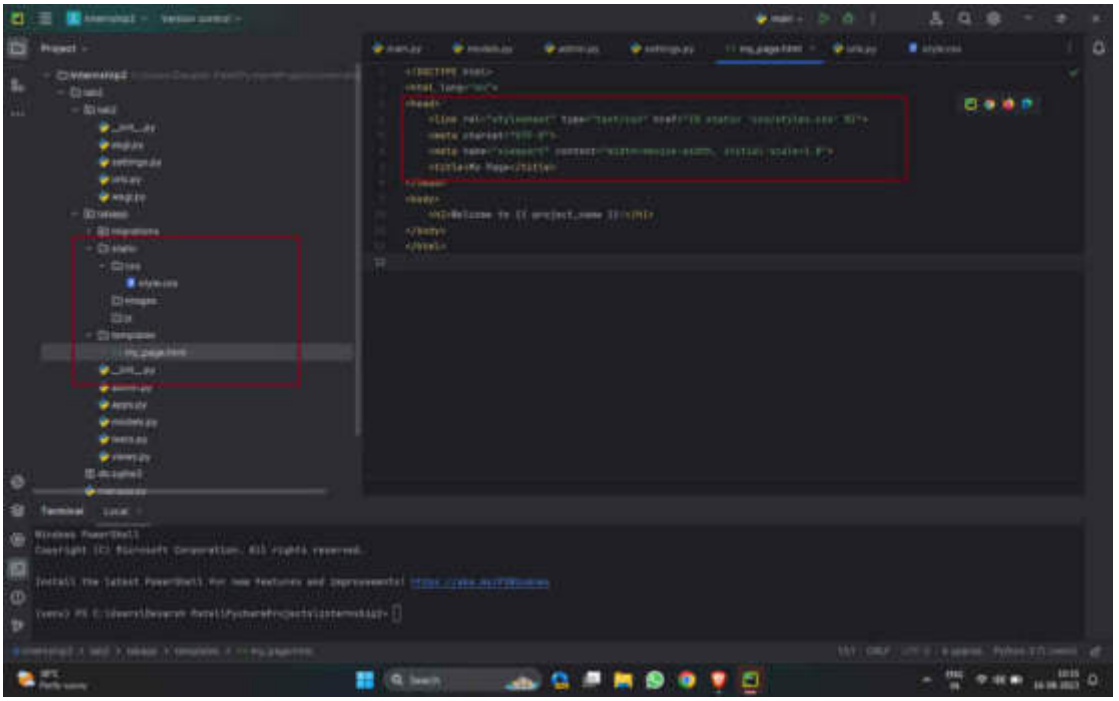


Fig 4.3 Implementation of Static Folder

4.4 Bootstrap

Bootstrap is a popular front-end framework that simplifies the process of creating responsive and visually appealing web pages.

Include Bootstrap CSS and JS files in your project.

Utilize Bootstrap classes to style HTML elements and create responsive layouts.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <link rel="stylesheet" type="text/css" href="{% static 'css/styles.css' %}">
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My Page</title>
</head>
<body>
<div class="container">
        <div class="row">
            <div class="col-md-6">
                <h1>Welcome to My Website</h1>
                <p>This is a Bootstrap-styled paragraph.</p>
            </div>
            <div class="col-md-6">
                <img src="{% static 'images/logo.png' %}" alt="Logo">
            </div>
        </div>
    </div></body>
</html>
```

Fig 4.4 Page Routing in Django

4.5 Dictionary

In Python, a dictionary is a data structure that stores key-value pairs.

Create dictionaries using the {key: value} syntax.

Access and manipulate dictionary values using keys.

Iterate through dictionaries to process key-value pairs.

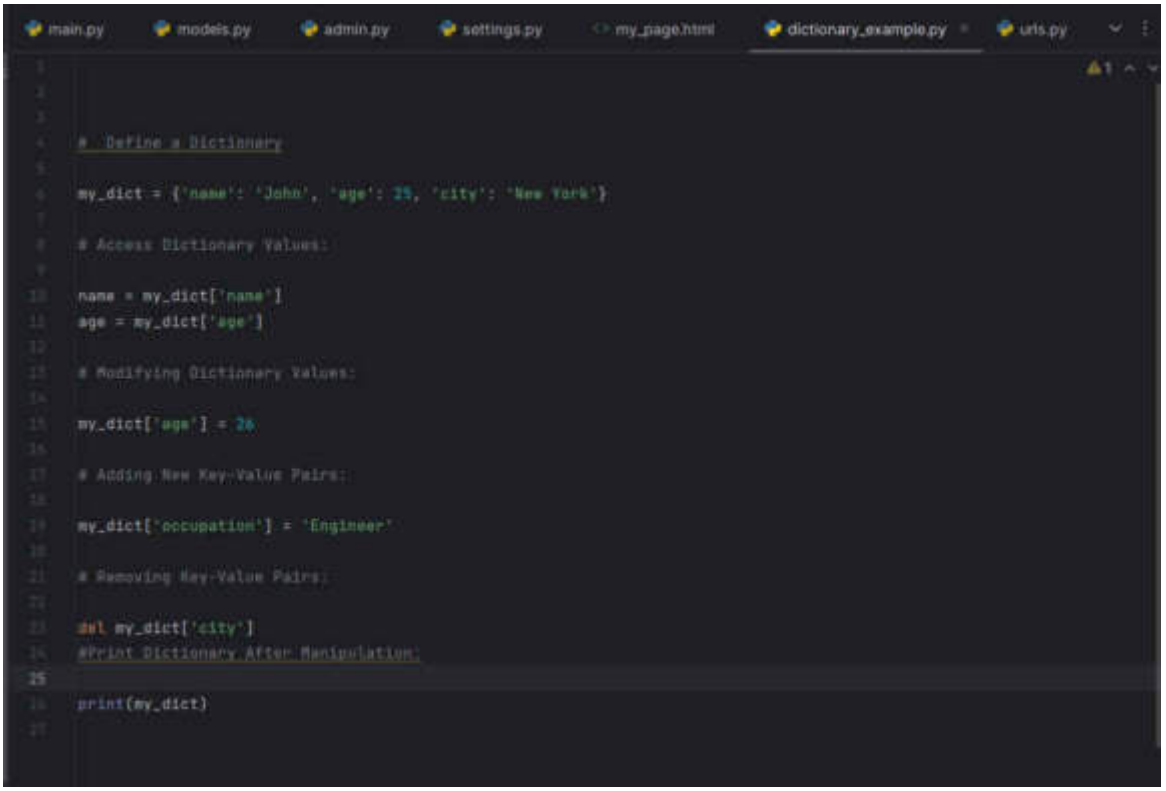


Fig 4.5 Dictionary

Chapter 5. API Integration

In this chapter, we will explore the fascinating realm of API integration, a cornerstone of modern web development. We will begin by unraveling the concept of Application Programming Interfaces (APIs), which serve as bridges enabling communication between different software systems. We will delve into the Requests package, an essential tool for making HTTP requests to APIs and fetching data. Furthermore, we will draw upon our knowledge gained during the internship, which introduced us to noteworthy APIs such as Covid, Bitcoin, and ISRO. Armed with this understanding, we will proceed to master the art of integrating APIs into webpages using the Django framework. As a culmination of our efforts, we will embark on a final project that involves the creation of a real-time news website, demonstrating the practical application of API integration in a tangible web development endeavor.

5.1 Concept of APIs

Application Programming Interfaces (APIs) are the digital bridges that empower software systems to communicate and interact seamlessly. APIs define a set of rules and protocols that enable different applications to exchange data and functionality without revealing the underlying complexities. APIs have revolutionized the technology landscape by fostering interoperability, scalability, and innovation. They encapsulate specific functionalities and expose them for external use, allowing developers to tap into a vast array of services, ranging from social media integration to data retrieval. As we venture into the world of API integration, we recognize that APIs serve as conduits, enriching our web applications with dynamic and real-time data, thereby enhancing user experiences and opening new avenues of creativity.

5.2 Requests Package

The Requests package stands as a beacon in the realm of API integration, offering a simple yet potent toolkit for making HTTP requests and handling responses. Through this package, we gain the ability to interact with APIs, sending requests for data and receiving structured responses. Leveraging its intuitive syntax, we can craft requests tailored to specific endpoints, include parameters, headers, and authentication credentials, and process the received data for consumption within our applications. The Requests package serves as the bridge connecting our code to the vast universe of APIs, empowering us to harness their capabilities and seamlessly integrate external data sources into our projects.

5.3 Knowledge about APIs: Covid, Bitcoin, ISRO, etc.

During our internship journey, we were introduced to a diverse spectrum of APIs that unveiled the possibilities of real-time data integration. In a focused session, we explored notable APIs such as Covid, Bitcoin, and ISRO. The Covid API equipped us with current pandemic statistics, allowing us to display vital information to users. The Bitcoin API unraveled the cryptocurrency market's dynamics, enabling us to incorporate live pricing data into our applications. Furthermore, the ISRO API provided a gateway to the realm of space exploration, granting us access to astronomical data. Armed with this knowledge, we embark on the journey of applying these APIs to create meaningful and impactful web experiences.

5.4 API Integration in Web Pages using Django Framework

Our arsenal of knowledge and tools culminates in the integration of APIs into webpages using the Django framework. Guided by the principles of web development, we learn to orchestrate the retrieval of data from APIs and seamlessly render it within our HTML templates. The Django framework streamlines this integration through its views and template tags, facilitating the display of dynamic content to end-users. Armed with an understanding of API endpoints, request methods, and response formats, we venture into the realm of practical implementation. As we harmonize APIs with our webpages, we witness the transformation of static websites into dynamic portals that respond to real-time events, engage users with live data, and unlock the potential for boundless innovation.

Chapter 6. Glimpses of the project

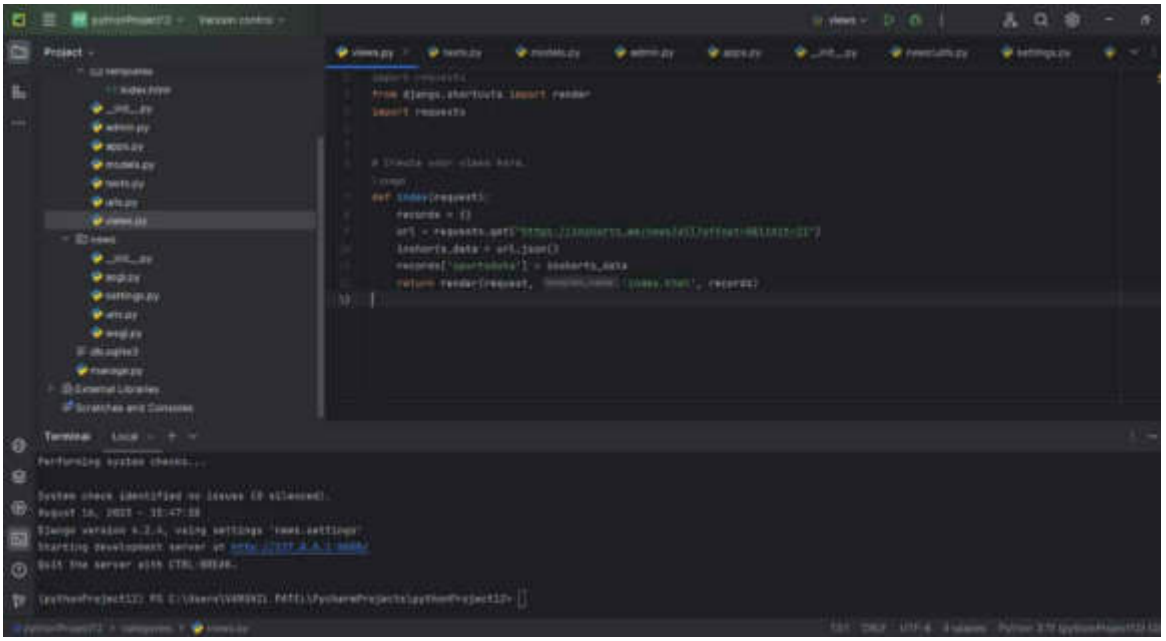


Fig 6.1 views.py

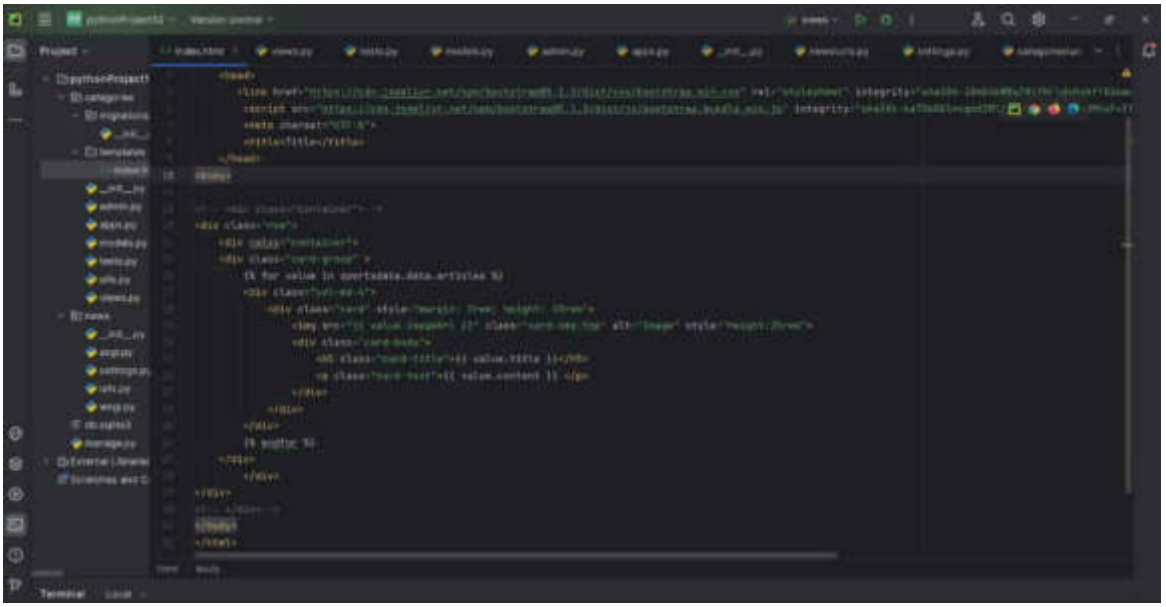


Fig 6.2 index.html

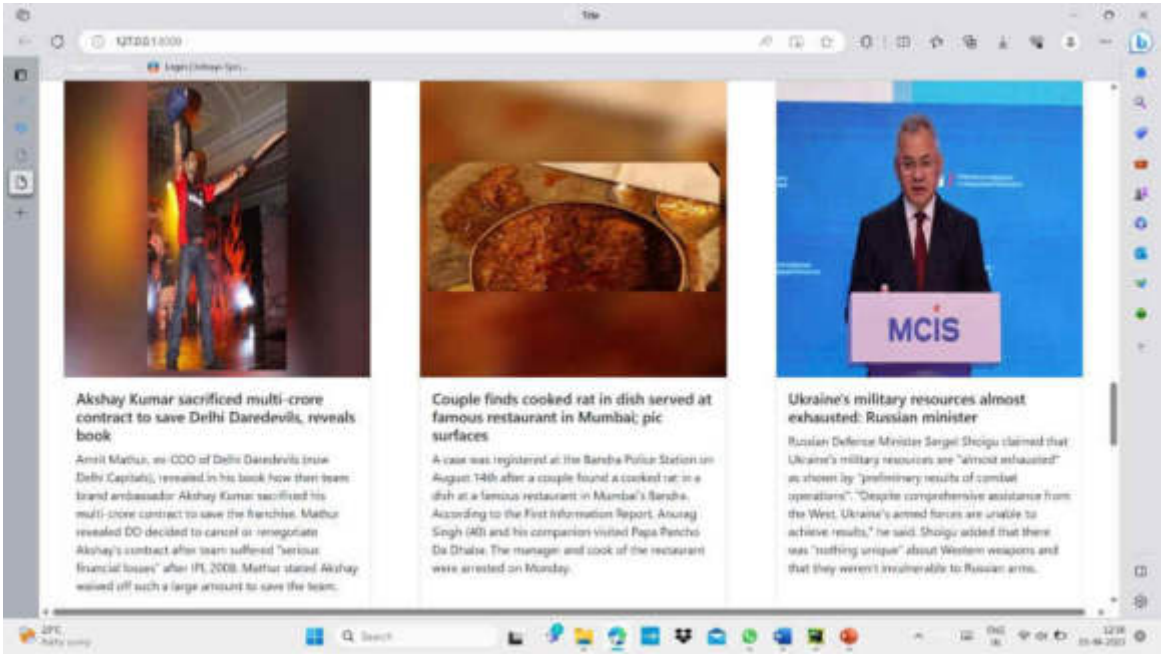


Fig 6.2 Home Page Integrated with API

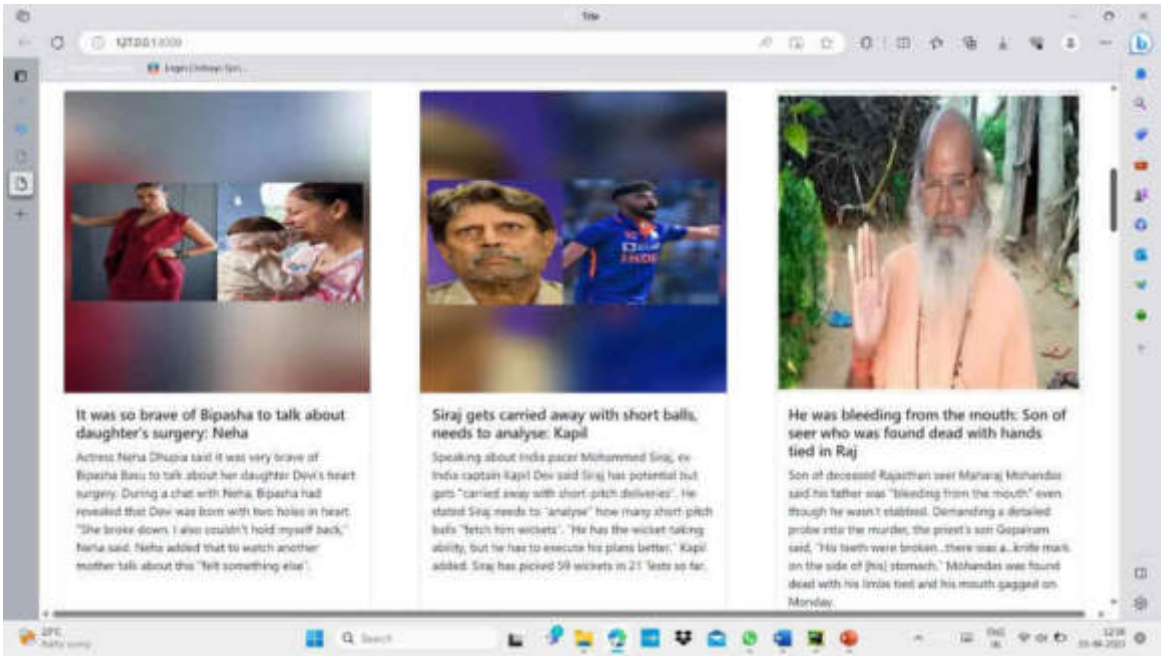


Fig 6.3 2nd Page

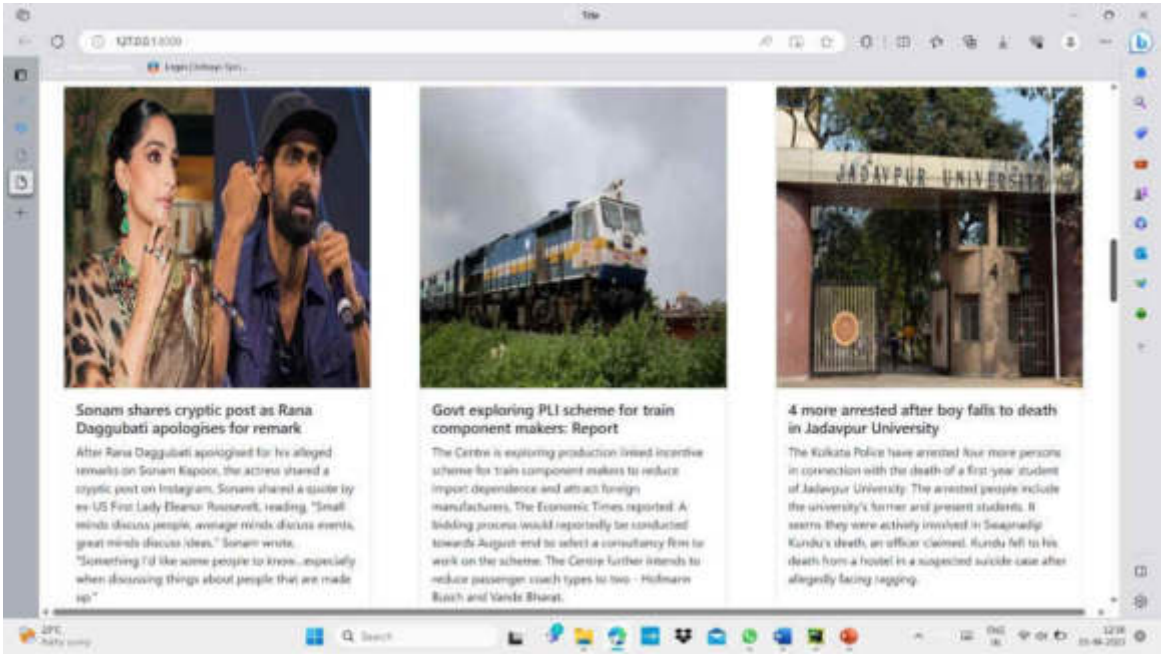


Fig 6.4 3rd Page

INTERNSHIP AT INFOLABZ IT SERVICES PVT LTD

AN INTERNSHIP REPORT

Submitted by

Gajjar Abhay ManojKumar

200390116022

In partial fulfillment of the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

July 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at** *INFOLABZ IT SERVICES PVT LTD* has been carried out by **Gajjar Abhay ManojKumar** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. First Name Last Name

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116022
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Gajjar Abhay Manojkumar.

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Gajjar Abhay Manojkumar all the best for future endeavors.



Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ IT SERVICES PVT LTD** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Gajjar Abhay ManojKumar**	_____

Offer Latter

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

Date: 15-07-2023

Subject: Regarding Summer Internship at INFOLABZ IT SERVICES PVT. LTD.
Internship Domain: Dynamic Web Page Designing Using React

Dear Gajjar Abhay Manojkumar,

In reference to your application we would like to congratulate you on being selected for internship with InfoLabz IT Services Pvt. Ltd. based at Ahmedabad. Your internship is scheduled to start from 27 July 2023 for a period of 15 days.

During this internship, the concentration will be on helping you understand logical concepts with their practicality and implications to help you connect your classroom knowledge to industry standards. Your internship will include orientation and focus primarily on learning and developing new skills and gaining a deeper understanding of concepts through hands-on application of the knowledge.

We will be happy to guide you to learn new skills which are extremely helpful in professional standard.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

Abstract

During my internship, I focused on gaining hands-on experience in creating dynamic web pages using React and live APIs. I became proficient in navigating HTTP request-response mechanics and using ES6 concepts to seamlessly retrieve real-time data. My knowledge of essential JavaScript concepts expanded, covering arrow functions, variable manipulation via forms, function implementation, user interaction through prompts, and effective object handling, including data printing. This experience deepened my appreciation for React's potential in web development and emphasized the significance of APIs for dynamic content. By merging theoretical learning with practical application, I developed a comprehensive understanding of contemporary web development practices. This abstract encapsulates the valuable insights and skills I acquired during the internship, equipping me to confidently venture into the world of modern web development in future pursuits.

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Scanned attendance sheet if any
Any supporting documents in a scanned copy

Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporated with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services, etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers who are always willing to take on new challenges and looking forward to learning new things, are the heart of this company.

Our objective is to sustain exponential growth in the IT industry. Our mission is to deliver the best with top-notch quality every quarter and our vision is to develop a product with one of its kind concept which could be used by millions of people.

Chapter 2. WEEK:1 - DAY:1

2.1 TOPICS:

2.1.1 Introduction to Js :

JavaScript, often abbreviated as Js, is a versatile and widely-used programming language primarily employed in web development. It plays a pivotal role in enhancing the interactivity and dynamic behavior of websites. Js allows developers to create responsive and user-friendly web applications by enabling real-time updates, user interactions, and dynamic content presentation.

2.1.2 Introduction to ES6 :

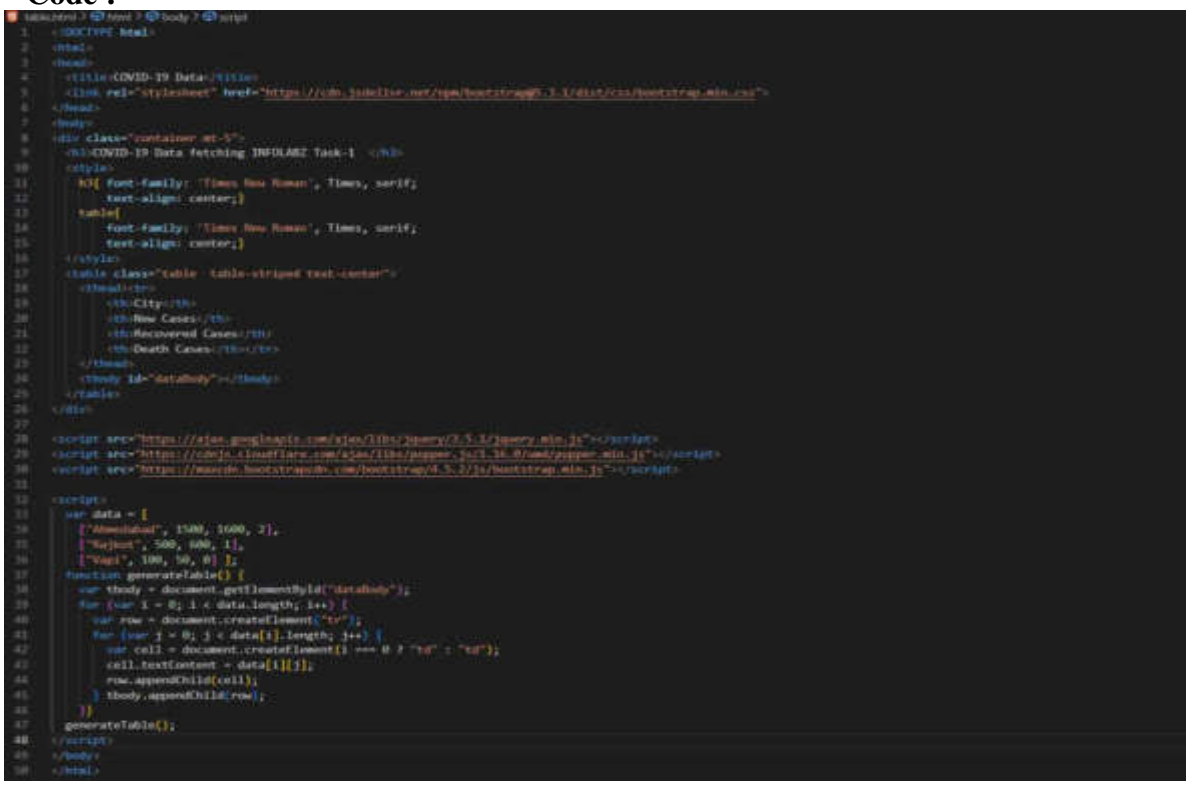
ES6, also known as ECMAScript 2015, is a major update to the JavaScript language that brought about significant enhancements and new features. It was introduced to address the growing complexity of web applications and to provide developers with more efficient and expressive tools for coding.

2.1.3 Javascript Objects :

In JavaScript, objects are fundamental data structures that allow you to group related data and functionality together. Objects provide a way to represent real-world entities, concepts, or components in your code. They play a crucial role in organizing and manipulating data, making them a central concept in JavaScript programming.

2.2 Task: COVID-19 Data fetching INFOLABZ Task-1

Code :



Output :

COVID-19 Data fetching INFOLABZ Task-1

City	New Cases	Recovered Cases	Death Cases
Ahmedabad	1500	1600	2
Rajkot	500	600	1
Vapi	100	50	0

Chapter 3. WEEK:1 - DAY:2

3.1 TOPICS:

3.1.1 JS Functions & Arrow Functions:

Before, using a user-defined function in JavaScript we have to create one. We can use the above syntax to create a function in JavaScript. A function definition is sometimes also termed a function declaration or function statement. Below are the rules for creating a function in JavaScript

Arrow function {()=>} is concise way of writing Javascript functions in shorter way. **Arrow functions** were introduced in the ES6 version. They make our code more structured and readable.
Arrow functions are anonymous functions i.e. functions without a name and are not bound by an identifier. Arrow functions do not return any value and can be declared without the function keyword. They are also called **Lambda Functions**.

3.1.2 Async Function:

It simply allows us to write **promises-based** code as if it was synchronous and it checks that we are not breaking the execution thread. It operates asynchronously via the event loop. Async functions will always return a value. It makes sure that a promise is returned and if it is not returned then JavaScript automatically wraps it in a promise which is resolved with its value.

3.1.3 BitCoin API

Code :



Output :

{"time":{"updated":"Aug 14, 2023 10:08:00 UTC","updatedISO":"2023-08-14T10:08:00+00:00","updateduk":"Aug 14, 2023 at 11:08 BST"},"disclaimer":"This data was produced from the CoinDesk Bitcoin Price Index (USD). Non-USD currency data converted using hourly conversion rate from openexchangerates.org","chartName":"Bitcoin","bpi":{"USD":
{"code":"USD","symbol":"$","rate":"29,400.9732","description":"United States Dollar","rate_float":29400.9732},"GBP":
{"code":"GBP","symbol":"£","rate":"24,567.2188","description":"British Pound Sterling","rate_float":24567.2188},"EUR":
{"code":"EUR","symbol":"€","rate":"28,640.8404","description":"Euro","rate_float":28640.8404}}}

29,400.9732

3.2 Task-2 Fetch the Data From the Covid-19 API and Print it in the Table.

Code :

```
import React, { useEffect, useState } from 'react';
import './FetchData.css';
const API = "https://data.covid19india.org/data.json";

function FetchData() {

  const [Users, setUsers] = useState([]);
  const fetchusers = async (url) => {
    try {
      const res = await fetch(url);
      const data = await res.json();
      for (let key in data) {
        if (key === "cases_time_series") {
          console.log(data[key])
          setUsers(data[key])
        }
      }
    } catch (e) {
      console.error(e)
    }
  }
  useEffect(() => {
    fetchusers(API);
  }, [])


  return (
    <div>
      <table border="2px" className='content-table' align='center'>

        <tr className='hero'>
          <td>date</td>
          <td>dailyconfirmed</td>
          <td>dailyrecovered</td>
        </tr>
        {Users.map((Users) => {
          return (
            <tr>
              <td>{Users.date}</td>
              <td>{Users.dailyconfirmed}</td>
              <td>{Users.dailyrecovered}</td>
            </tr>
          )
        })}
      </table>
    </div>
  )
```

Output :

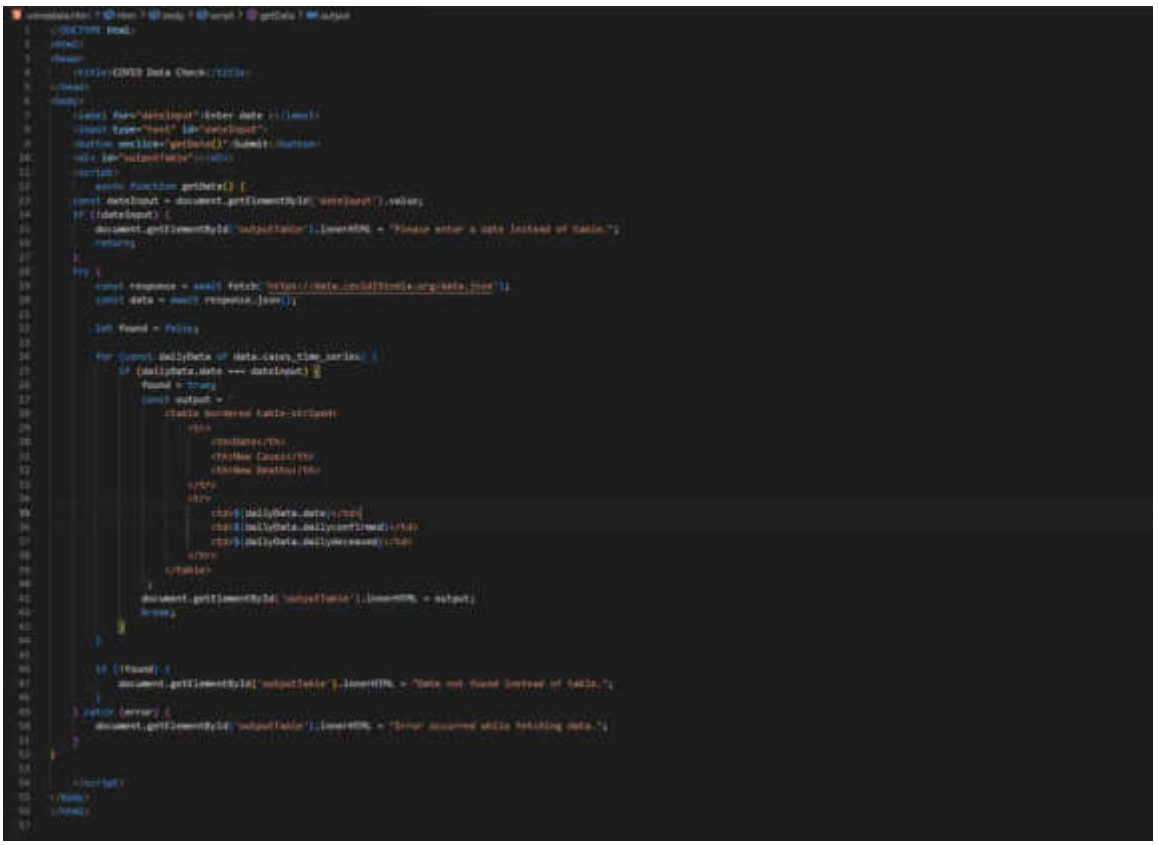
DATE	DAILYCONFIRMED	DAILYRECOVERED
30 January 2020	1	0
31 January 2020	0	0
1 February 2020	0	0
2 February 2020	1	0
3 February 2020	1	0
4 February 2020	0	0
5 February 2020	0	0
6 February 2020	0	0
7 February 2020	0	0
8 February 2020	0	0
9 February 2020	0	0
10 February 2020	0	0
11 February 2020	0	0
12 February 2020	0	0
13 February 2020	0	1
14 February 2020	0	0

Chapter 4. WEEK:1 - DAY:3

4.1 TOPICS:

4.1.1 Covid API Data fetching and mapping :

Code :



Output :

Enter date : 25 February 2020 Submit

Date	New Cases	New Deaths
25 February 2020	0	0

4.1.2 JS Pop-Up Boxes

JavaScript pop-up boxes are interactive dialog boxes that allow developers to communicate with users, gather information, and confirm actions. These boxes are a way to display messages, prompts, and confirmations directly on a web page. They enhance user interaction and provide a simple means of obtaining input or delivering notifications without requiring a separate page or complex user interface components.

Here are the three main types of JavaScript pop-up boxes:

Alert Box:
An alert box presents a simple message to the user. It contains only an "OK" button for dismissing the message. Alert boxes are commonly used to provide notifications, alerts, or brief messages that require the user's attention.

Prompt Box:
A prompt box displays a message along with an input field where users can enter information. It allows developers to request specific data from users, such as their name or an input value. Users can then type their responses and submit them.

Confirm Box:
A confirm box displays a message along with "OK" and "Cancel" buttons. It prompts users to confirm or cancel an action. Confirm boxes are often used to ask for user confirmation before proceeding with a potentially irreversible action.

4.1.3 Form to Variable

Converting user input from an HTML form into JavaScript variables allows you to process and manipulate the data within your scripts. By capturing form values and storing them in variables, you can perform calculations, validation, or other operations on the collected information.

4.2 Task 3 Get the Input From the User and Print the Data in the Form of Table.

Code :



Output :

User Information Form

Name: abhay
Surname: gajjar
Email: abhaymgajjar@gmail.com
Address: kalol
Gender: Male Female Other
City: kalol
Submit

User Information Table

Field	Value
name	abhay
surname	gajjar
email	abhaymgajjar@gmail.com
address	kalol
gender	male
city	delhi

Chapter 5. WEEK:1 - DAY:4

5.1 TOPICS:

5.1.1 JS Arrays :

Arrays are fundamental data structures in JavaScript that allow you to store and manage multiple values under a single variable name. Arrays are useful for grouping related data, and they provide a way to access and manipulate elements using their index positions.

5.1.2 Javascript Form to Table :

Converting user-provided data from an HTML form into a table using JavaScript involves structured organization for enhanced presentation and comparison. This approach facilitates comprehension of collected data.

To achieve this, an HTML form is created to gather user input via diverse elements like text boxes, radio buttons, checkboxes, and select fields. Upon form submission or a specific action, a JavaScript function is activated. This function retrieves user input values from these form elements.

A table is generated within the HTML document, acting as a visual container for the assembled data. This table incorporates a header row that labels individual columns, signifying distinct data attributes.

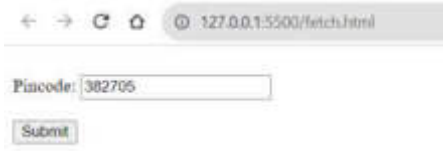
The JavaScript function dynamically produces new rows inside the table and introduces cells to contain the gathered data. Extracted data from the form's input elements is then inserted into these cells. This data population process is iterative, permitting each new submission to add a fresh row to the table.

5.2 Task 4 Fetch Data From API Get the User Value and Print in the form of a Table.

Code :

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <h1>Task 4 Form To Table</h1>
</head>
<body>
    <script>
        async function load(form) {
            var pin = form.pincode.value;
            let url = `https://api.postalpincode.in/pincode/${pin}`;
            let myobject = await (await fetch(url)).json();
            if (pin == "") {
                document.write("Field can not be Empty, Please enter a valid Pincode.");
            }
            else {
                document.write("<table border='1'>");
                document.write("<tr><th>Places are</th></tr>")
                for (var i = 0; i < myobject[0]["PostOffice"].length; i++) {
                    if (pin == myobject[0]["PostOffice"][i]["Pincode"]) {
                        document.write("<tr><td>" + myobject[0]["PostOffice"][i]["Name"] + "</td></tr>");
                    }
                    else if(myobject[0]["PostOffice"] == null){
                        document.write("There are no such places of this Pincode </font>" + pin);
                    }
                }
                document.write("</table>");
            }
        }
        //load();
    </script>
    <form><br>
        Pincode : <input type="number" name="pincode" pattern="[0-9]" maxlength="6"> <br><br>
        <input type="submit" onclick="load(this.form); return false;">
    </form>
    <br>
</body>
</html>
```

Output :



Places are
Ahmedabad
Dariapur (Ahmedabad)
District Court (Ahmedabad)
Gandhi Road (Ahmedabad)
Gheekanta Road
Jamalpur (Ahmedabad)
Kalupur Chakla
Khadia
Khanpur (Ahmedabad)
Lal Darwaja
Manek Chowk
Municipal Corporation
Raikhad
Raipur (Ahmedabad)

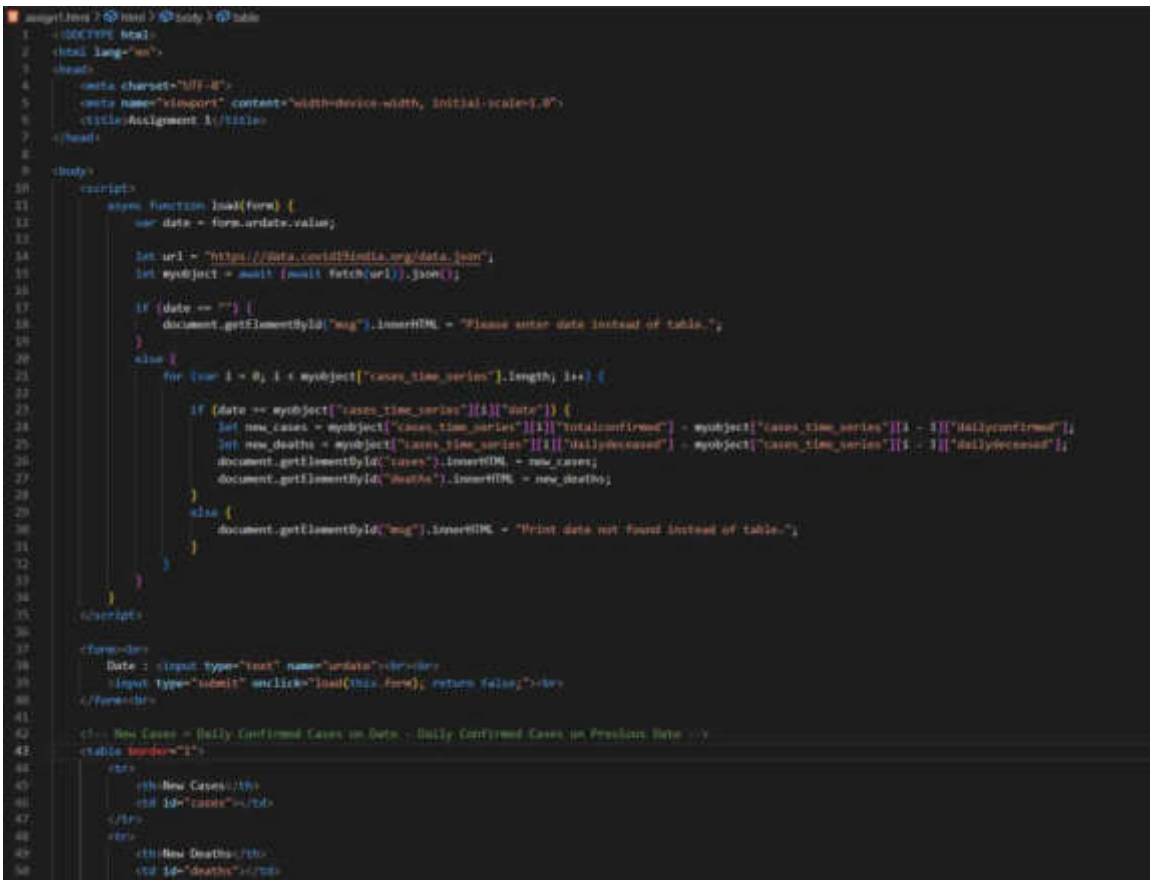
Chapter 6. WEEK:1 - DAY:5

6.1 Assignment :

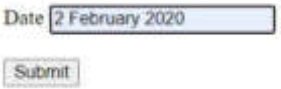
6.1.1 Covid Data Search :

Allow the user to input the date in the text box. On click of submit, It should display the number of new cases and deaths that occurred on that day. If the Field is blank print the message: Please enter date instead of table. If the Date is not matched: print date not found instead of a table.

Code :







6.1.2 Mutual Fund API :

Print the total number of schemes available in this API. Allow the user to input scheme code in the text box. Search scheme code from this API and print scheme name. - If blank print message: Please enter scheme code, If not found print message: Scheme not found

Code :

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Assignment of Mutual Fund</title>
</head>
<body>
    <script>
        async function load(form) {
            let url = "https://api.mfapi.in/mf";
            let myobject = await (await fetch(url)).json();
            var data = form.scheme.value;
            document.getElementById("msg").innerHTML = "Total number of schemes are: " + myobject.length;
            if (data == "") {
                document.getElementById("msg1").innerHTML = "Please enter scheme code.";
            }
            else {
                for (var i = 0; i < myobject.length; i++) {
                    if (data == myobject[i]["schemeCode"]) {
                        document.getElementById("msg1").innerHTML = myobject[i]["schemeName"];
                        break;
                    }
                    else {
                        document.getElementById("msg1").innerHTML = "Scheme not found";
                    }
                }
            }
        }
    </script>
    <form>
        <br>
        Enter Scheme Code : <input type="number" name="scheme"><br><br>
        <input type="submit" onclick="load(this.form); return false;"><br>
    </form><br>
    <p id="msg"></p>
    <p id="msg1"></p>
</body>
</html>
```

Output:



Chapter 7. WEEK:2 - DAY:1

7.1 TOPICS :

7.1.1 React Environment setup(Node JS installation) :

Download Node.js:
Visit the official Node.js website at https://nodejs.org and download the LTS (Long Term Support) version for your operating system (Windows, macOS, or Linux).

Install Node.js:
Run the downloaded installer and follow the installation instructions. This will also install npm, which is used to manage packages and dependencies.

Verify Installation:
Open a command prompt or terminal and run the following commands to verify that Node.js and npm are correctly installed:

7.1.2 Creating First React App:

Create React App:

Open your text-editer terminal and run the command

```
npx create-react-app my-react-app
```

cd my-react-app
Start the Development Server:

Run the following command to start the development server and open your app in the default browser:

Npm run start

Explore Your App:
Open your browser and go to http://localhost:3000

Modify the App:
Open the src/App.js file in your code editor. You can make changes to the JSX code to see how it affects the app's appearance. As you become more comfortable with React, you can create components, manage state, and add interactivity.

7.1.3 Functional Components and Class Components :

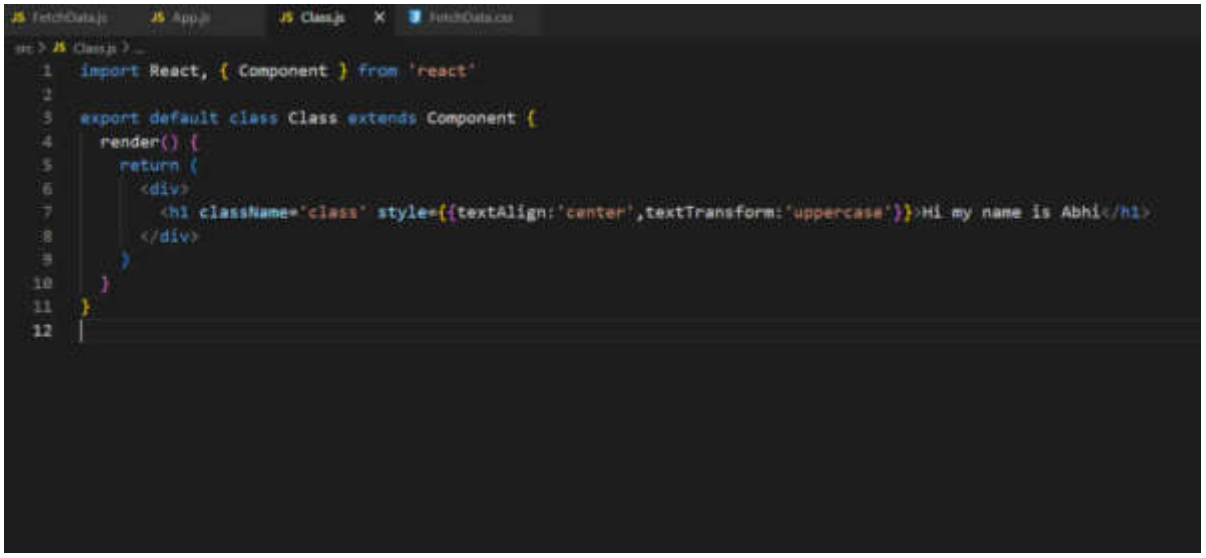
ReactJS Functional components are some of the more common components that will come across while working in React. These are simply JavaScript functions. We can create a functional component in React by writing a JavaScript function. These functions may or may not receive data as parameters. In the functional Components, the return value is the JSX code to render to the DOM tree.

Class Components in React:

React **class components** are the bread and butter of most modern web apps built in ReactJS. These components are simple classes (made up of multiple functions that add functionality to the application). All **class components** are child classes for the Component class of ReactJS.

7.2 Task 6 React Class Components.

Code :



Output :



Chapter 8. WEEK:2 - DAY:2

8.1 TOPICS:

8.1.1 Variable Data Map:

Data Source:
You have an array of data, such as a list of items, fetched from an API, or received as props.

Mapping with .map():
You use the .map() function on the array of data to create a new array of React components. Each element of the new array represents a component that will be rendered based on the data.

Component Generation:
Within the .map() function, you define how to transform each item of the data array into a React component. This could involve passing data as props to a component, setting keys for efficient rendering, and performing any necessary calculations or logic.

Rendering:
The new array of React components generated by the .map() function can be directly rendered within your JSX. As you render each component, it will have access to the data you've provided, and you can customize its appearance and behavior accordingly.

8.1.2 Object Map:

Object Source:
You have an object with properties and corresponding values. This could be an object fetched from an API, received as props, or defined locally.

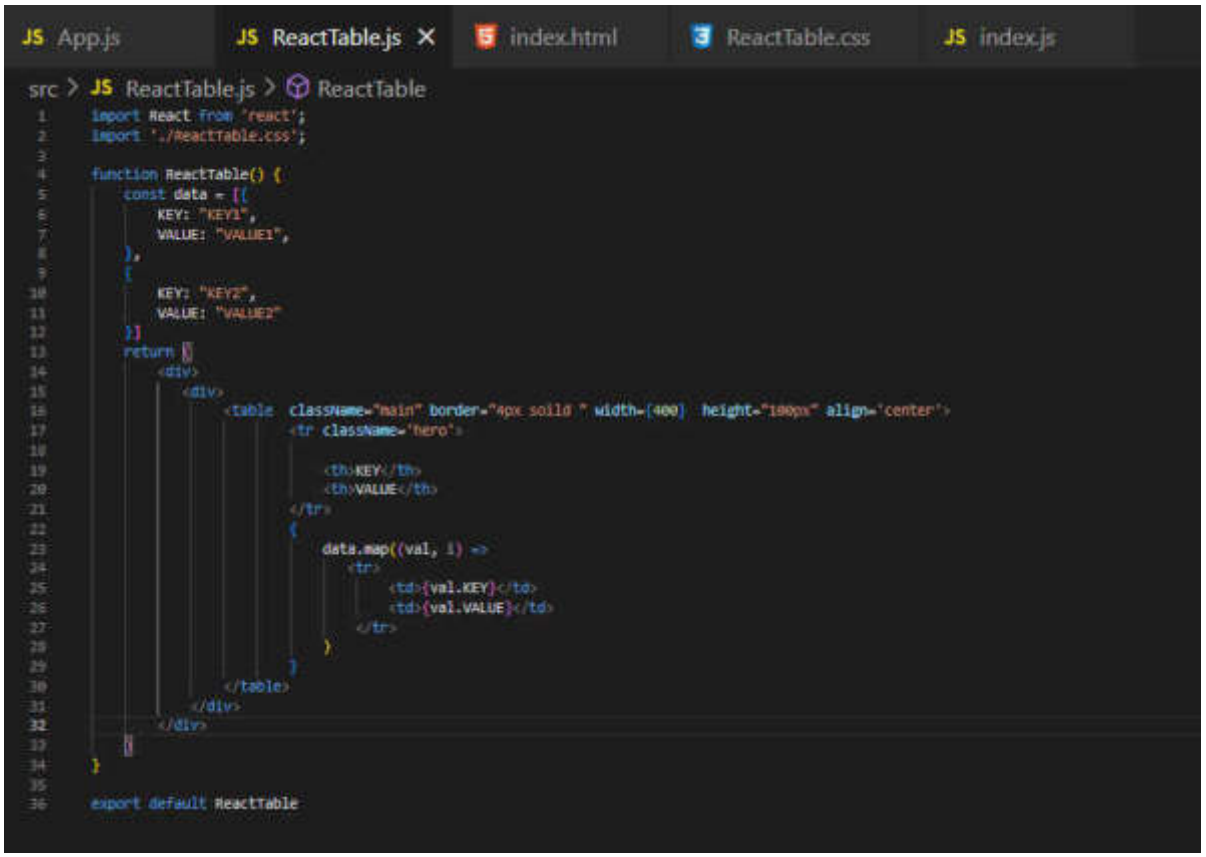
Mapping with Object. keys() or Object.entries():
To iterate over the properties of an object, you can use the Object. keys() or Object.entries() methods. Object. keys() returns an array of the object's keys, and Object. entries() returns an array of key-value pairs.

Component Generation:
Within the mapping process, you define how to transform each property or key-value pair of the object into a React component. This could involve passing data as props to a component, setting keys for efficient rendering, and performing any necessary calculations or logic.

Rendering:
The components generated during the object mapping can be directly rendered within your JSX. As you render each component, it will have access to the data you've provided, and you can customize its appearance and behavior accordingly.

8.2 Task 7 Map the Object Data and Print in the Form of Table.

Code:



Output :

KEY	VALUE
KEY1	VALUE1
KEY2	VALUE2

Chapter 9. WEEK:2 - DAY:3

9.1 TOPICS:

9.1.1 React Props:

In React, "props" (short for "properties") are a mechanism for passing data from a parent component to a child component. Props allow you to provide dynamic values or configuration to components, enabling you to customize their behavior and appearance. Props are immutable, meaning they cannot be modified within the component that receives them.

Passing Data:
Props are used to pass data from a parent component to a child component. This data can be in the form of simple values (strings, numbers, booleans) or more complex objects.

Usage in Child Components:
In a child component, you can access the props passed down to it using the props object. Each property passed as a prop becomes a key in the props object.

Customization and Reusability:
Props allow you to customize the behavior and appearance of components without altering their internal logic. This promotes reusability since a component can be used in different contexts with different props.

Functional Components:
In functional components, props are passed as a parameter to the function. You can directly access them like any other function argument.

Class Components:
In class components, props are accessed using this.props.

Dynamic Rendering:
Props are often used to dynamically render content. Components can use props to display different data or UI elements based on what's passed to them.

9.1.2 React Bootstrap:

React Bootstrap is a popular open-source front-end framework that combines the power of React, a JavaScript library for building user interfaces, with the styling and components provided by Bootstrap, a widely used CSS framework. React Bootstrap

allows developers to create responsive and visually appealing web applications quickly and efficiently.

9.2 Task 8 Use React Bootstrap and get 9 Cards with Titles and Text.

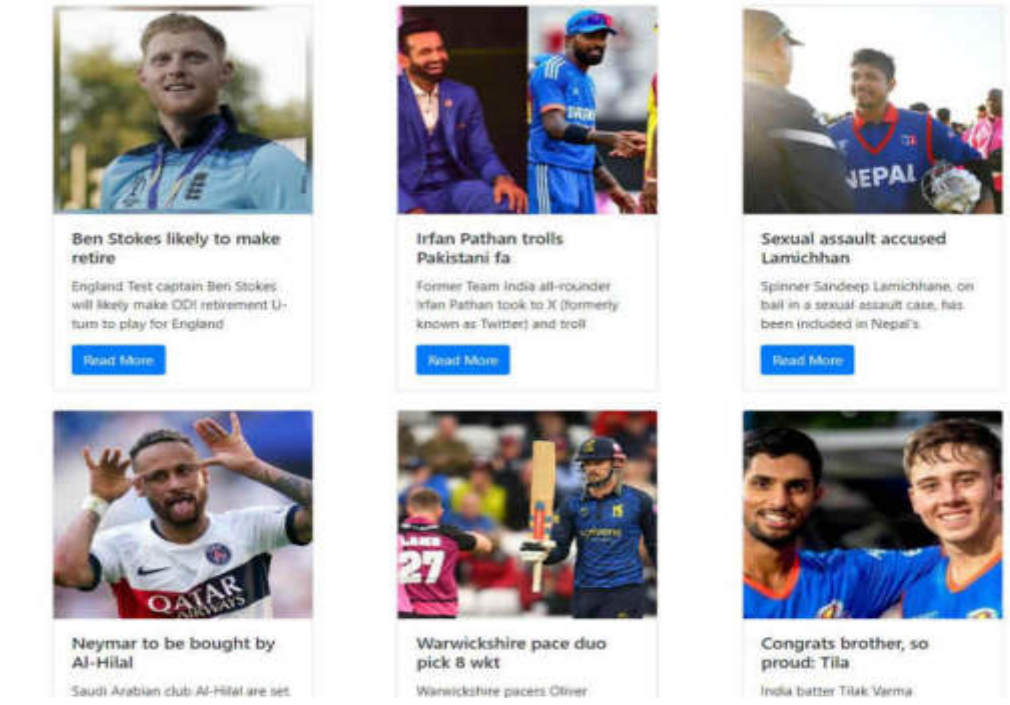
Code:

```
    </nav>
    <div className=' container mt-3'>
      <div className="row mt-3">
        {
          mydata.map(
            (value) => {
              return (
                <>
                  <div className="col-md-4 mt-4">
                    <div class="card" style={{ width: '18rem' }}>
                      <img src={value.imageUrl} class="card-img-top" alt="..." />
                      <div class="card-body">
                        <h5 class="card-title">{value.title.slice(0, 32)}</h5>
                        <p class="card-text">{value.content.slice(0, 90)}</p>
                        <a href="#" class="btn btn-primary">Read More</a>

                      </div>
                    </div>
                  </div>
                </>
              )
            }
          )
        }
      </div>
    </div>

div>
);
```

Output :



Chapter 10. WEEK:2 - DAY:4

10.1 TOPICS:

10.1.1 React Hooks: UseEffect and UseState:

React Hooks are functions that allow you to use state and lifecycle features in functional components without the need for class components. They were introduced in React 16.8 as a way to simplify and enhance the development of functional components.

useState:
The useState hook allows functional components to manage state by adding state variables to them. It returns a pair of values: the current state value and a function to update it. This hook eliminates the need to use the this.setState method in class components.

useEffect Hook:
The useEffect hook in React is used to perform side effects within functional components. It is similar to lifecycle methods in class components such as componentDidMount, componentDidUpdate, and componentWillUnmount. It takes two arguments: a function representing the effect to be performed and an array of dependencies that determine when the effect should run.

10.1.2 API data fetch with react:

Code:

```
import "./App.css";
import React, { useState, useEffect } from "react";

function App() {
  const [mydata, setdata] = useState([]);

  const apiget = () => {
    fetch("https://inshortsapi.vercel.app/news?category=sports")
      .then((response) => response.json())
      .then((json) => {
        console.log(json);
        setdata(json.data)
      })
  }
  useEffect(() => {
    apiget();
    const interval = setInterval(() => { apiget(); }, 50000)
    return () => clearInterval(interval);
  })
  return (
    <div>
      <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
      <a class="navbar-brand" href="#">Home</a>
<button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupportedContent" aria-controls="navbarSuppor
  <span class="navbar-toggler-icon"></span>
</button>

<div class="collapse navbar-collapse" id="navbarSupportedContent">
  <ul class="navbar-nav mr-auto">
    <li class="nav-item active">
      <a class="nav-link" href="#">Gaeral<span class="sr-only">(current)</span></a>
    </li>
    <li class="nav-item active">
      <a class="nav-link" href="#">Business <span class="sr-only">(current)</span></a>
    </li>
    <li class="nav-item active">
      <a class="nav-link" href="#">Sport <span class="sr-only">(current)</span></a>
    </li>
    <li class="nav-item active">
      <a class="nav-link" href="#">Space <span class="sr-only">(current)</span></a>
    </li>
    <li class="nav-item active">
      <a class="nav-link" href="#">Health <span class="sr-only">(current)</span></a>
```

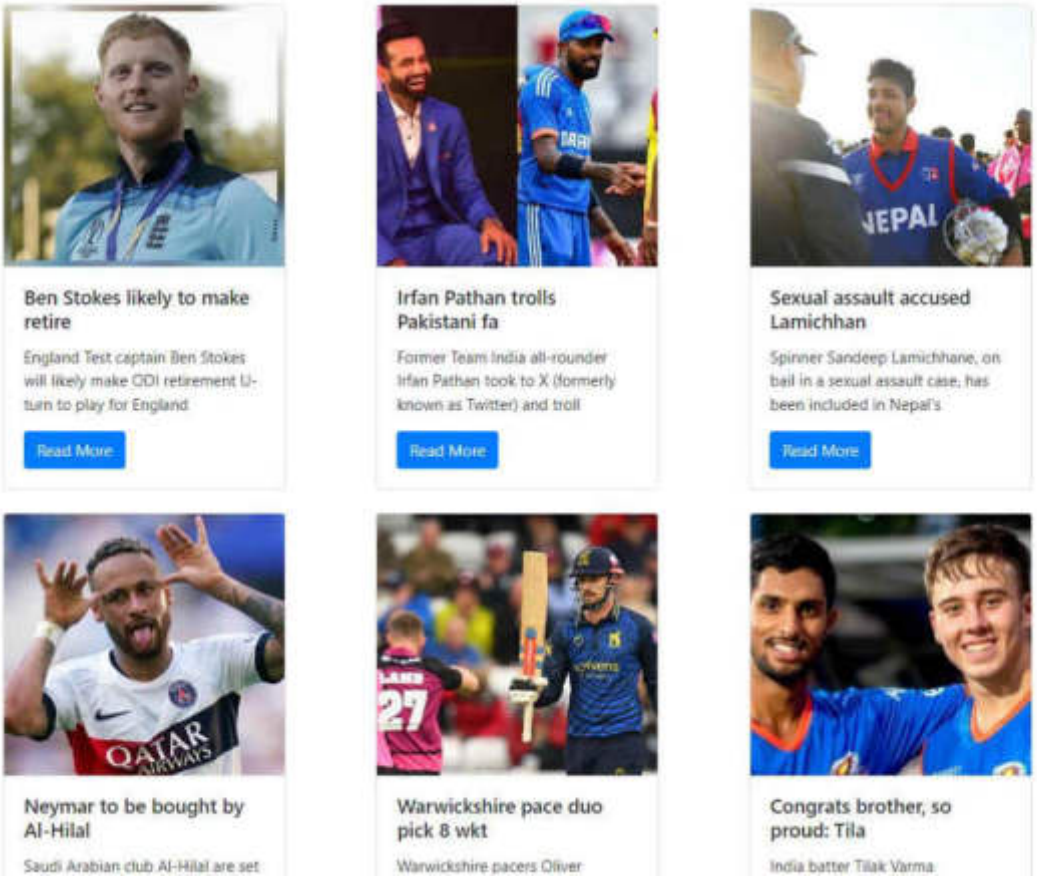
```
</ul>
</div>

</nav>
<div className=' container mt-3'>
  <div className="row mt-3">
    {
      mydata.map(
        (value) => {
          return (
            <>
              <div className="col-md-4 mt-4">
                <div class="card" style={{ width: '18rem' }}>
                  <img src={value.imageUrl} class="card-img-top" alt="..." />
                  <div class="card-body">
                    <h5 class="card-title">{value.title.slice(0, 32)}</h5>
                    <p class="card-text">{value.content.slice(0, 90)}</p>
                    <a href="#" class="btn btn-primary">Read More</a>

                  </div>
                </div>
              </div>
            </>
          )
        }
      )
    }
  </div>
</div>

iv>
;
```

Output:



10.2 Task 9 Apply CSS in the Above fetched Api Component.

Code:

index.html | App.js | logo.svg | App.css | Sampleout.json

src > App.css > body::-webkit-scrollbar-thumb

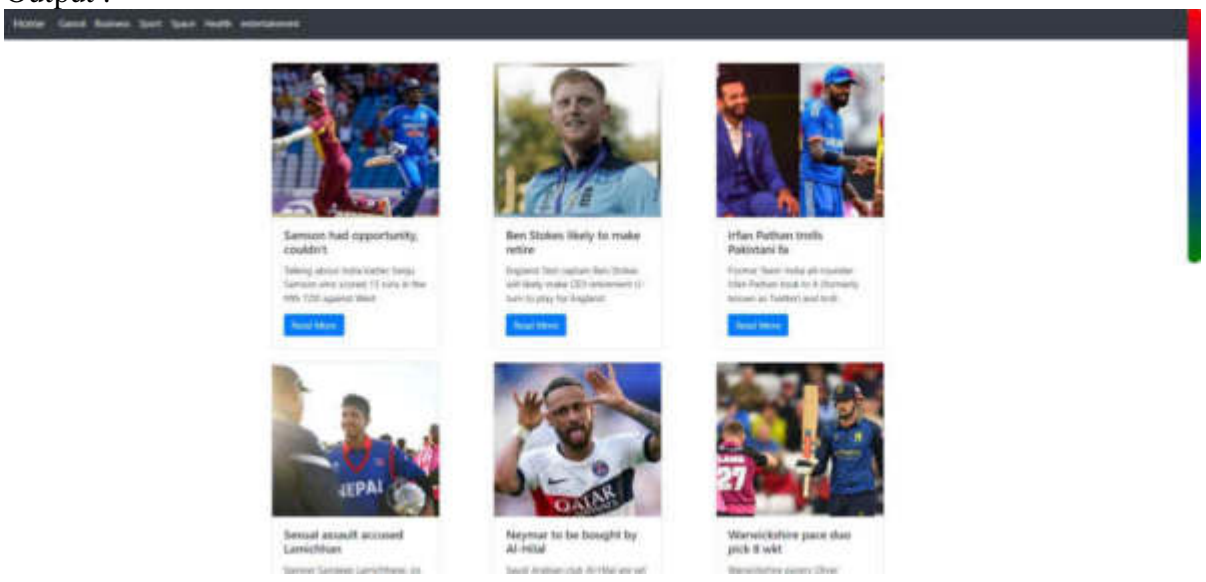
```
.card-img-top{
  width: 100%;
  height: 13vw;
  object-fit: cover;
}

body::-webkit-scrollbar{
  background-color: transparent;;


}
body::-webkit-scrollbar-thumb{
  background:linear-gradient(red,blue,green);
  border-radius: 10px;

}
```

Output :

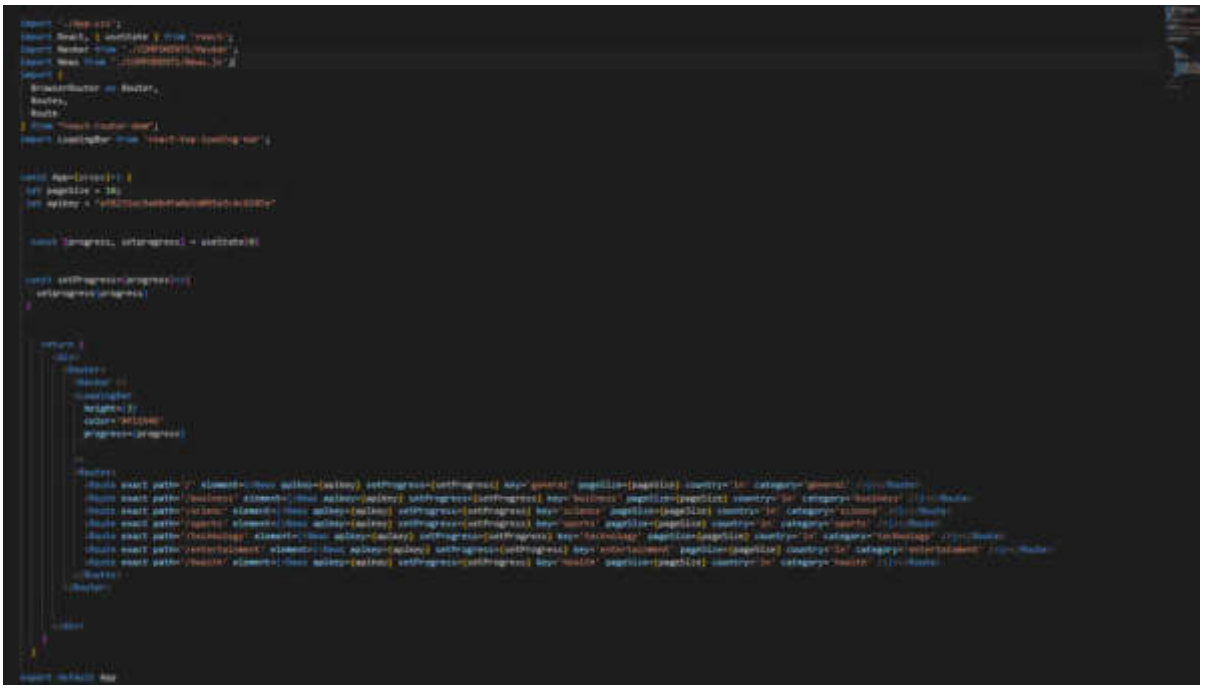


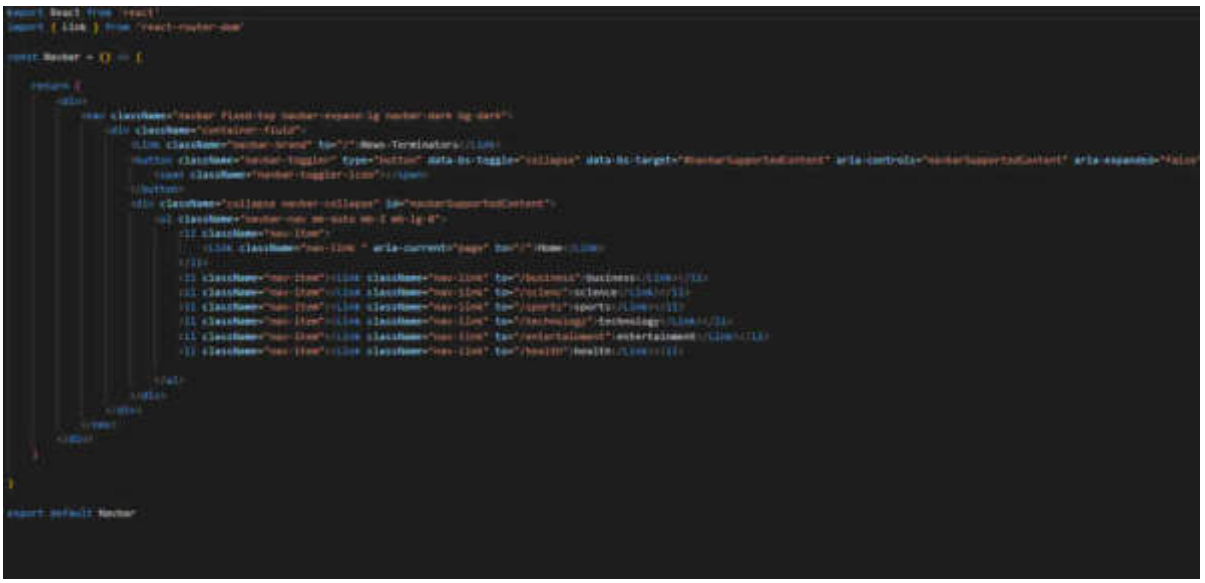
Chapter 11. WEEK:2 - DAY:5

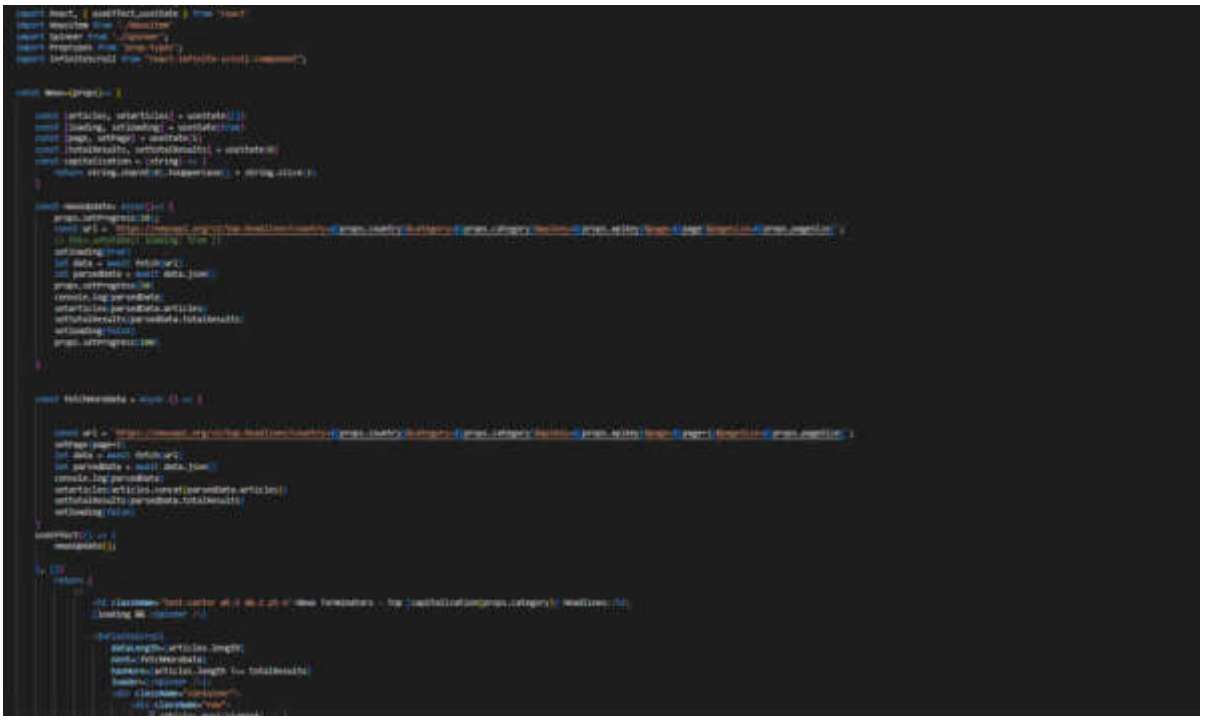
11.1 ASSIGNMENT

API BASED REAL TIME NEWS WEB APPLICATION

Code:







```jsx
import React from 'react'
import './Newsitem.css'

const Newsitems =(props)=> {

        let { title, description, imageUrl, newsUrl, author, date,source } = props;
        return (
            <div>
                <div class="card my-3" >
                    <div class="d-flex justify-content-end position-absolute top-0 end-0">
                    <span class="badge rounded-pill bg-danger">
                        {source} <span class="visually-hidden">unread messages</span>
                    </span>
                    </div>

                    <img src={imageUrl} class="card-img-top" alt="..." />
                    <div class="card-body">
                        <h5 class="card-title">{title}</h5>
                        <p class="card-text">{description}</p>
                        <p class="card-text"><small class="text-muted">By {author} on {date}</small></p>
                        <a href={newsUrl}  rel="noreferrer" target='_blank' class="btn btn-sm btn-primary">Read more</a>
                    </div>
                </div>
            </div>
        )
}

export default Newsitems
```

src > COMPONENTS > JS Spinner.js > ...

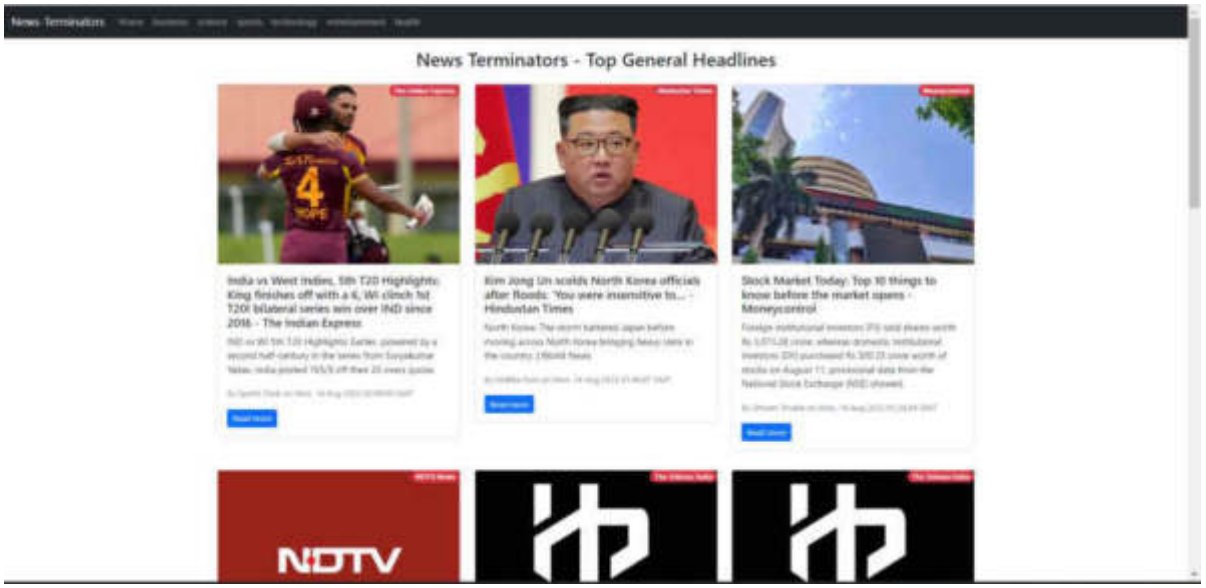
```jsx
import React from 'react'
import spinner from './7vQl.gif'

const Spinner=()=> {

        return (
            <div class='text-center'>
                <img class='my-2' src={spinner} alt="" />
            </div>
        )

}
export default Spinner
```

Output:


News Terminators
News Terminators - Top General Headlines
India vs West Indies, 5th T20 Highlights: King finishes off with a 6, WI clinch hat T20I bilateral series win over IND since 2016 - The Indian Express
Kim Jong Un scolds North Korea officials after floods: 'You were insensitive to... - Hindustan Times
Stock Market Today: Top 10 things to know before the market opens - Moneycontrol
NDTV


News Terminators - Top Entertainment Headlines

News Terminators - Top Sports Headlines



India vs West Indies, 5th T20 Highlights: King finishes off with a 6, WI clinch 1st T20I bilateral series win over IND since 2016 - The Indian Express

IND vs WI 5th T20 Highlights: Earlier, powered by a second half-century in the series from Suryakumar Yadav, India posted 165/8 off their 20 overs quota.

By Sports Desk on Mon, 14 Aug 2023 02:09:00 GMT

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Neymar set to leave PSG, Mbappe to extend contract - Hindustan Times

Neymar is expected to leave PSG, but won't be joining FC Barcelona, according to transfer expert Fabrizio Romano. | Football News

By HT Sports Desk on Mon, 14 Aug 2023 00:54:32 GMT

Read more



'Losing is good sometimes...': Hardik after India's shock T20I series defeat vs WI - Hindustan Times

Hardik Pandya shared an honest admission after India suffered a shock T20I series defeat to West Indies. | Cricket

By HT Sports Desk on Mon, 14 Aug 2023 00:42:24 GMT

Read more



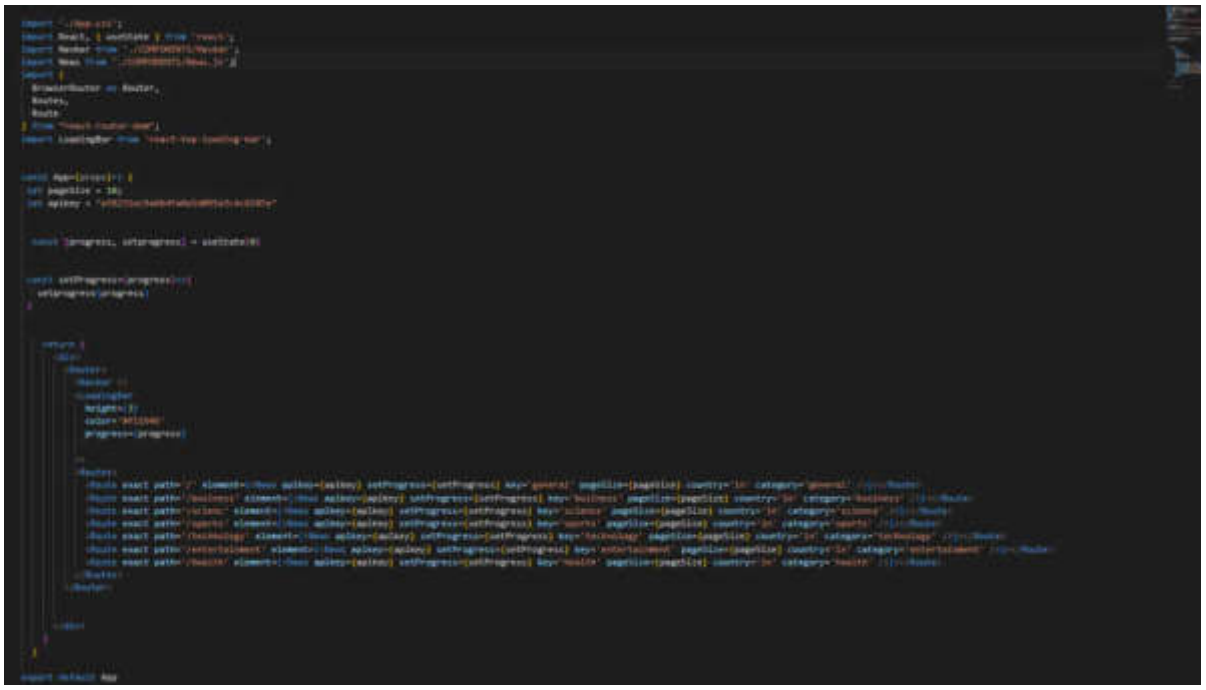


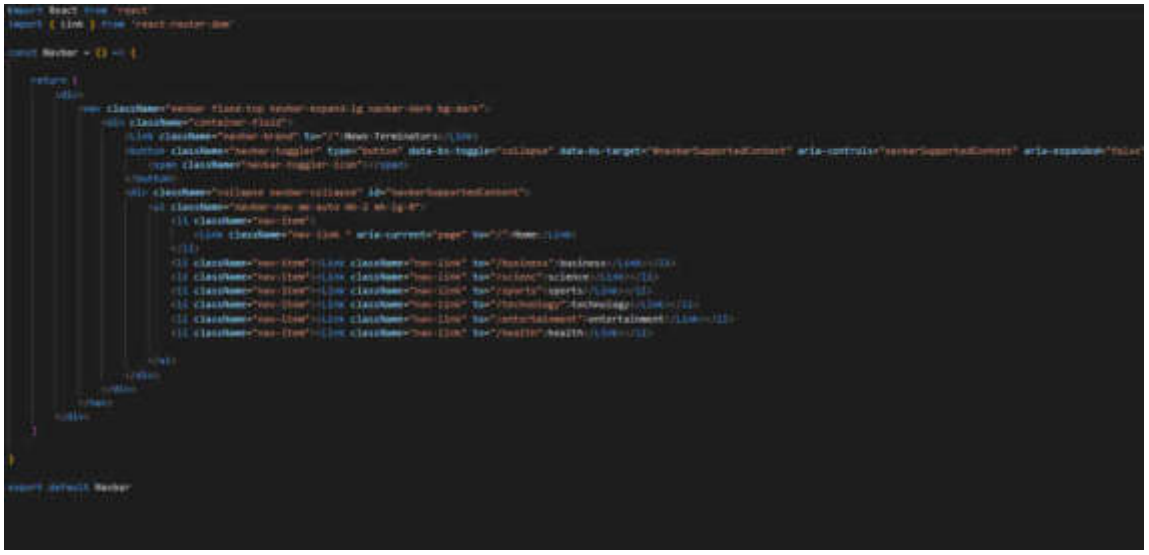


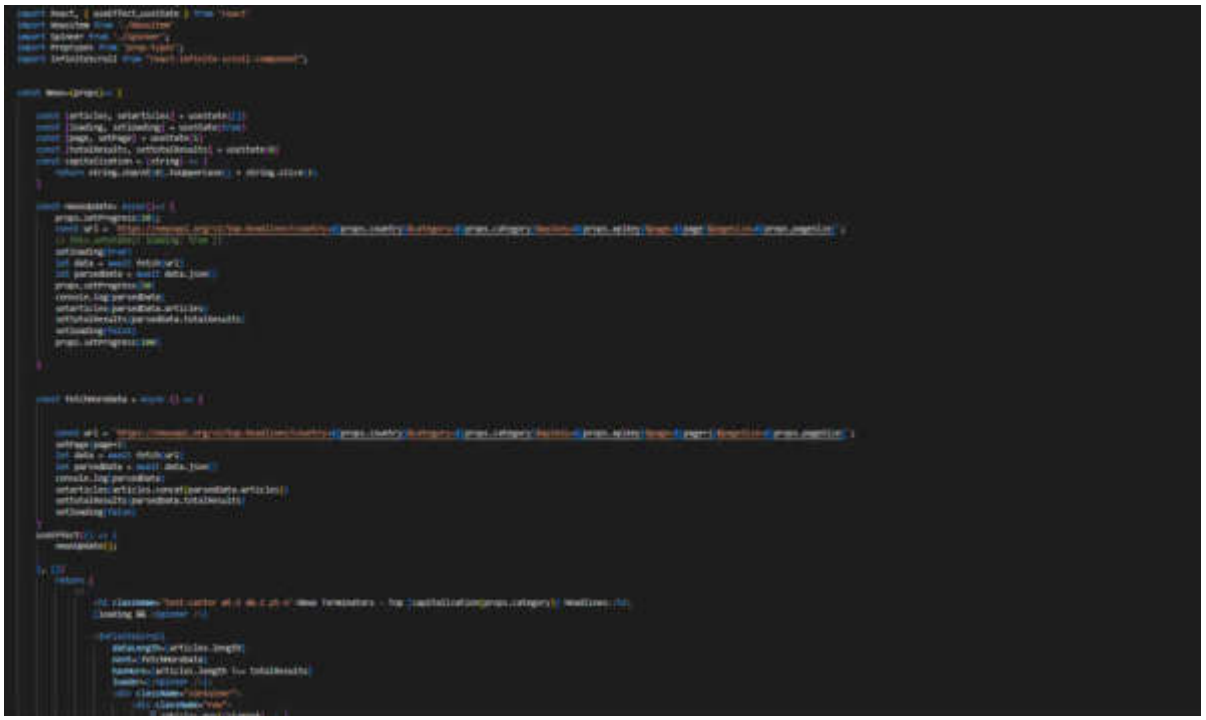
Chapter 12. PROJECT & CONCLUSION

12.1 Introduction of the Project: Real Time API Handling with React

In this project, we harnessed React's capabilities to build a dynamic news application thatseamlessly integrates real-time data updates from an external API. Leveraging React'sfunctional components, state management hooks, and React Bootstrap's pre-designedcomponents, we created an intuitive user interface for news consumption.By strategically employing the useState and useEffect hooks, we achieved real-time datafetching and continuous updates, ensuring our users stay informed with the latest newsarticles. The application's architecture, powered by reusable components and card layouts,facilitated efficient data management and elegant article presentation







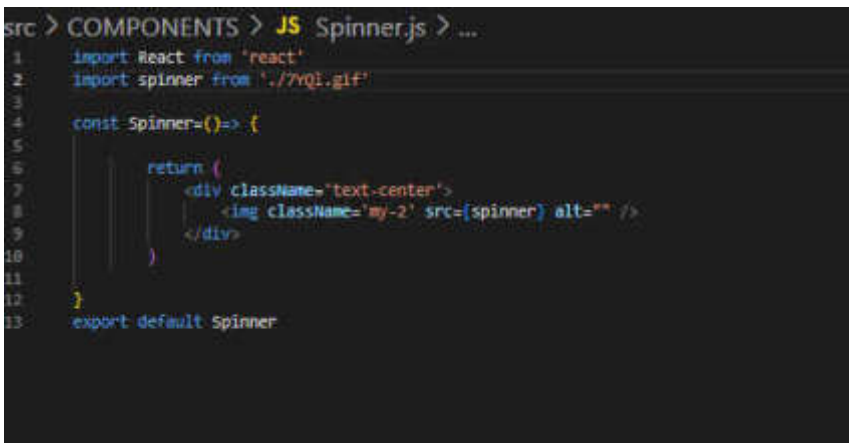
```jsx
import React from 'react'
import './Newsitem.css'

const Newsitems =(props)=> {

        let { title, description, imageUrl, newsUrl, author, date,source } = props;
        return (
            <div>
                <div class="card my-3" >
                    <div class="d-flex justify-content-end position-absolute top-0 end-0">
                    <span class="badge rounded-pill bg-danger">
                        {source} <span class="visually-hidden">unread messages</span>
                    </span>
                    </div>

                    <img src={imageUrl} class="card-img-top" alt="..." />
                    <div class="card-body">
                        <h5 class="card-title">{title}</h5>
                        <p class="card-text">{description}</p>
                        <p class="card-text"><small class="text-muted">By {author} on {date}</small></p>
                        <a href={newsUrl}  rel="noreferrer" target="_blank" class="btn btn-sm btn-primary">Read more</a>
                    </div>
                </div>
            </div>
        )
}

export default Newsitems
```



```jsx
import React from 'react'
import spinner from './7YQI.gif'

const Spinner=()=> {

        return (
            <div class='text-center'>
                <img class='my-2' src={spinner} alt="" />
            </div>
        )

}
export default Spinner
```

News Terminators - Top Sports Headlines



India vs West Indies, 5th T20 Highlights: King finishes off with a 6, WI clinch 1st T20I bilateral series win over IND since 2016 - The Indian Express

IND vs WI 5th T20 Highlights: Earlier, powered by a second half-century in the series from Suryakumar Yadav, India posted 165/8 off their 20 overs quota.

By Sports Desk on Mon, 14 Aug 2023 [illegible] GMT

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Neymar set to leave PSG, Mbappe to extend contract - Hindustan Times

Neymar is expected to leave PSG, but won't be joining FC Barcelona, according to transfer expert Fabrizio Romano. | Football News

By HT Sports Desk on Mon, 14 Aug 2023 [illegible] GMT

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'Losing is good sometimes...': Hardik after India's shock T20I series defeat vs WI - Hindustan Times

Hardik Pandya shared an honest admission after India suffered a shock T20I series defeat to West Indies. | Cricket

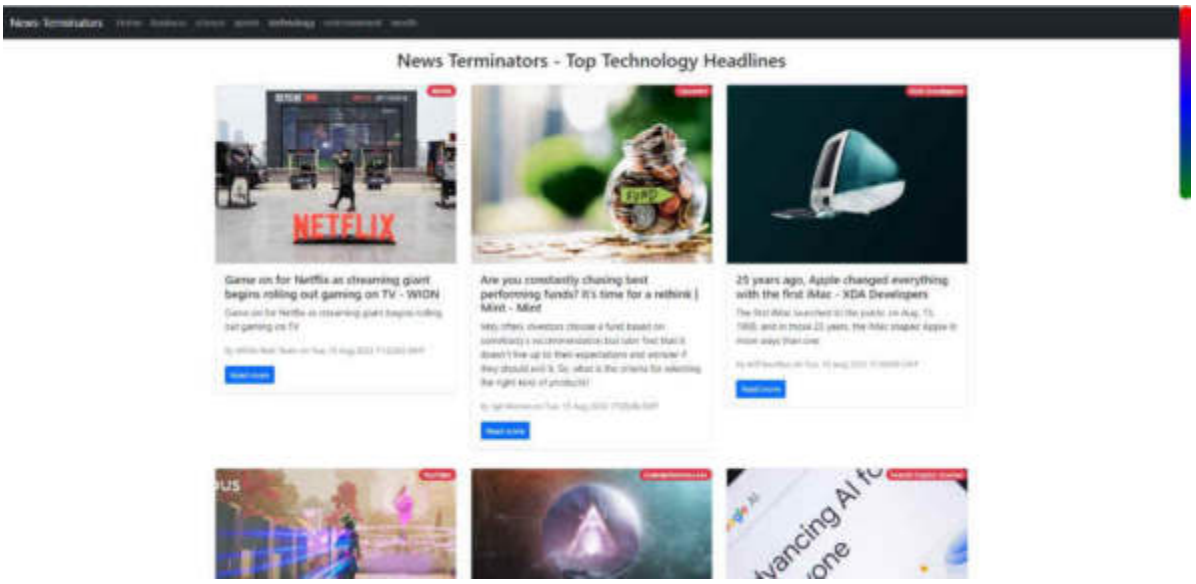
By HT Sports Desk on Mon, 14 Aug 2023 [illegible] GMT

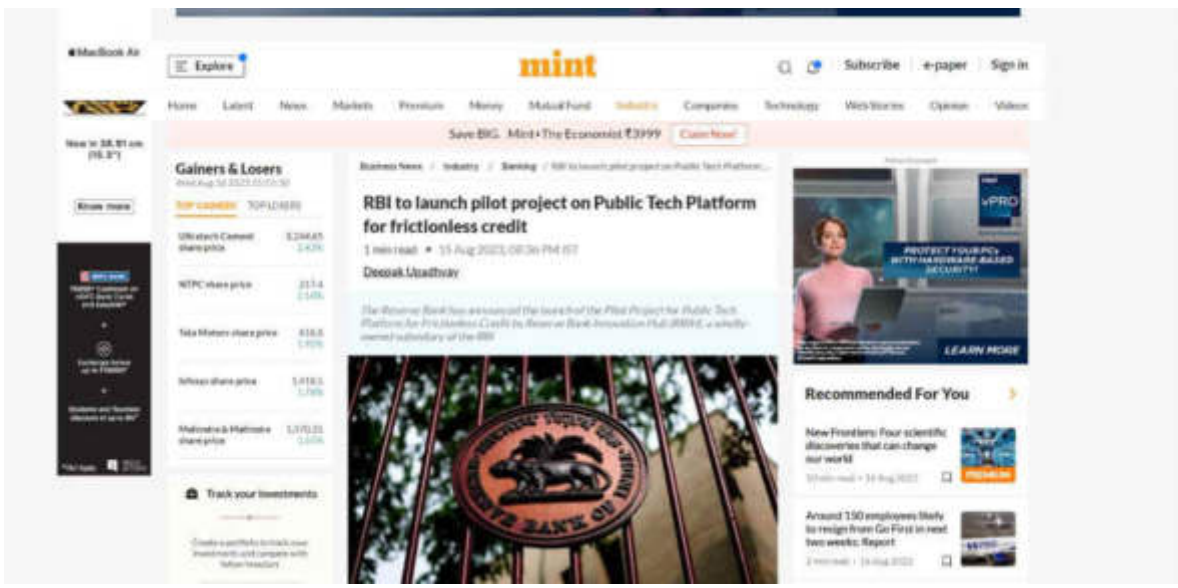
Read more











INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD.

AN INTERNSHIP REPORT

Submitted by

Vaishnav Bhargavkumar Vishnuprasad

200390116023

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2023

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ IT SERVICES** has been carried out by **VAISHNAV BHARGAVKUMAR VISHNUPRASAD** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Ekta Joshi

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116023
Semester: 7th, Information Technology
S.p.b Patel Engineering College

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Vaishnav Bhargavkumar Vishnuprasad.

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Vaishnav Bhargavkumar Vishnuprasad all the best for future endeavors.



Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

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S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ IT SERVICES** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Vaishnav Bhargavkumar Vishnuprasad**	_____

ACKNOWLEDGMENT

I wish to express my sincere gratitude to our External guide Mr. Chintan Nagrecha for continuously guiding me at the company and answering all my doubts with patience. I would also like to thank Company Employees for helping me through my internship by giving me the necessary suggestions and advice along with their valuable co-ordination in completing this internship.

I also thank to my parents, friends and all the members of the family for their precious support and encouragement which they had provided in completion of my work. In addition to that, I would also like to mention the company personals who gave me the permission to use and experience the valuable resources required forth internship.

Also, I appreciate the guidance given by the Company director and Developer at Infolabz Mr. Chintan Nagrecha as well as the panels especially for the internship that has advised me and gave guidance at every moment of the internship. Thus, in conclusion to the above said, I once again thank the staff members of Infolabz It Services Pvt. Ltd. for their valuable support in completion of the project.

Thank you All,

Bhargavkumar Vaishnav
(200390116023)

Abstract

The primary objective of the internship was to acquire practical experience in the development of dynamic web pages using React and live APIs. Over the course of the internship, I successfully navigated the intricacies of the HTTP request-response mechanism, adeptly employing ES6 concepts to seamlessly retrieve real-time data. This experience facilitated a comprehensive grasp of essential JavaScript principles, encompassing the utilization of arrow functions, manipulation of variables via form interfaces, implementation of functions, interaction with user prompts, and proficient handling of objects, including their data representation.The practical exposure garnered during this internship significantly enriched my understanding of React's potential in advancing web page development and underscored the pivotal role played by APIs in facilitating dynamic content. The integration of theoretical knowledge with hands-on implementation culminated in a well-rounded proficiency in contemporary web development methodologies. This abstract serves as a comprehensive record of the invaluable insights and competencies I cultivated throughout the internship, equipping me with the assurance to adeptly navigate the realm of modern web development in my future endeavors.

COMPANY PROFILE

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced andhard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concept which could be used by millions of people.

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WEEK 1

27 JULY 2023:

- INTRODUCTION TO JS:

JavaScript is a high-level, versatile, and widely-used programming language primarily used for creating interactive and dynamic content on websites. It allows developers to add functionality to web pages, enhance user experience, and manipulate web page elements in real-time. JavaScript is executed directly in web browsers, making it a crucial component of web development alongside HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets).

Key features and aspects of JavaScript include:

1. Client-Side Scripting
2. Dynamic Web Content
3. Event Handling
4. DOM Manipulation
5. Cross-Browser Compatibility
6. Extensibility
7. Asynchronous Programming
8. Server-Side Usage
9. Versatility

JavaScript should not be confused with Java, despite the similarity in names. They are distinct programming languages with different syntax, purposes, and ecosystems. JavaScript is integral to modern web development and has played a significant role in shaping the interactive and dynamic web experiences we encounter daily.

- INTRODUCTION TO ES6:

ES6, short for ECMAScript 2015 (often referred to as ES6 or ECMAScript 6th Edition), is a major update to the JavaScript language specification that was standardized by the Ecma International organization. It introduced several new features and improvements to the language, enhancing its capabilities, readability, and developer productivity. ES6 was a significant step forward in JavaScript evolution and laid the foundation for subsequent versions of the language.

ECMAScript 2015 (ES6) is a major update to JavaScript, introducing new features and improvements:

1. Arrow Functions: Concise function syntax with context-captured this.
2. let and const: Block-scoped variables and constants.
3. Template Literals: Multiline strings with embedded expressions.
4. Destructuring: Easier extraction of values from objects and arrays.
5. Spread and Rest Operators: Spread elements into arrays or functions, and collect function arguments into arrays.
6. Classes: Object-oriented programming using class syntax.
7. Promises: Better handling of asynchronous operations.
8. Modules: Standardized system for organized code and dependencies

ES6 made JavaScript more modern, expressive, and developer-friendly, paving the way for subsequent language enhancements.

- **OBJECTS:**

```
- <!DOCTYPE html>
- <html lang="en">
- <head>
-     <meta charset="UTF-8">
-     <meta name="viewport" content="width=device-width, initial-scale=1.0">
-     <title>Document</title>
- </head>
- <body>
-     <script>
-         var mydata = {};
-         document.write(mydata);
-         document.write("<br>");
-
-         var mydata1 = {"gujarat": "ahmedabad"};
-         document.write( mydata1["gujarat"]+"<br>");
-
-         var mydata2 = {"ahmedabad":100,"palanpur": 50};
-         document.write(mydata2["palanpur"]+"<br>");
-
-         var mydata3 ={"ahmedabad":100, "palanpur":[150,25,1],
  "baroda":75};
-         //print 25
-         document.write(mydata3["palanpur"][1]+"<br>");
-
-         var mydata4 = {"ahmedabad":[{"date":"25 jul 2023","cases":210},
-                                     {"date":"26 jul 2023","cases":220},
-                                     {"date":"27 jul 2023","cases": 230}],
-                        "surat":[150,200,1],
-                        "vadodara":75};
-         //print 220
-         document.write(mydata4["ahmedabad"][1]["cases"]);
-     </script>
- </body>
- </html>
```

- **OUTPUT:**



28 JULY 2023

- **JS Functions**

```
- <!DOCTYPE html>
- <html lang="en">
- <head>
-     <meta charset="UTF-8">
-     <meta name="viewport" content="width=device-width, initial-scale=1.0">
-     <title>Document</title>
- </head>
- <body>
-     <script>
-         //function with no argument and no return value
-         function one(){
-             document.write("function one called<br>");
-         }
-         one();
-
-         //function with argument with no return value
-         function two(a,b){
-             document.write("addition oof "+a+" and "+b+" is
  "+(a+b)+"<br>");
-         }
-         two(10,20);
-
-         //function without argument but return value
-         function three(){
-             return "hello<br>";
-         }
-         var x = three();
-         document.write(x);
-
-         //function with argument and return value both
-         function four(i,j){
-             return "substraction of "+i+" and "+j+" is "+(i-j);
```

```
        }
        var y = four(10,20);
        document.write(y);
    </script>
</body>
</html>
```

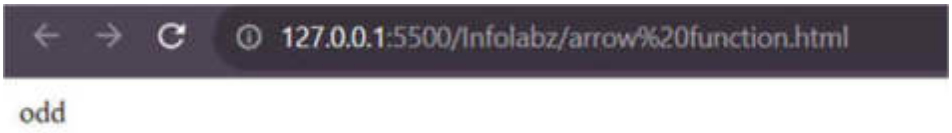
OUTPUT :



- **Arrow Functions**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        var eo =(no) => {
            if (no%2==0){
                document.write("even");
            }
            else{
                document.write("odd");
            }
        }
        eo(12351)
    </script>
</body>
</html>
```

- **OUTPUT:**



- **Async Function:**

Asynchronous programming is crucial for handling operations that take time to complete, such as network requests or file I/O, without blocking the main execution thread. Async functions, also introduced in ES6, simplify asynchronous code by using the async keyword to define a function that returns a Promise.

Inside an async function, the await keyword is used to pause execution until a Promise is resolved or rejected.

- **BitCoin API:**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        async function load(){
            let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
            let myobject = await (await fetch(url)).json();
            document.write(myobject["bpi"]["USD"]["rate"]);
        }
        load();
    </script>
</body>
</html>
```

- **OUTPUT:**



31 JULY 2023:

- **Covid API – Data fetching and mapping**

```
<!DOCTYPE html>
    <head></head>
    <body>
        <script>
            async function load(){
                let url = "https://data.covid19india.org/data.json";
                let myobject = await (await fetch(url)).json();
                var days=0;
                document.write(myobject["cases_time_series"][0]["date"]+"<
br>");
                document.write("Total Number of Days :
"+myobject["cases_time_series"].length);
                document.write("<table border='1' width='100%'>");
                for(var i=0;i<myobject["cases_time_series"].length;i++){
                    if(myobject["cases_time_series"][i]["dailyconfirmed"]>
=100000){
                        document.write("<tr
style='color:red'><td>"+myobject["cases_time_series"][i]["date"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dail
yconfirmed"]+
                            "</td><td>"+myobject["cases_time_series"][i]["
dailydeceased"]+
                                "</td><td>"+myobject["cases_time_series"][
i]["dailyrecovered"]+
                                    "</td></tr>");
                        days = days+1;
                    }
                    else{
                        document.write("<tr><td>"+myobject["cases_time_ser
ies"][i]["date"]+
```

```
-                           "</td><td>"+myobject["cases_time_series"][i]["dail
   yconfirmed"]+
-                               "</td><td>"+myobject["cases_time_series"][i]["
   dailydeceased"]+
-                                   "</td><td>"+myobject["cases_time_series"][
   i]["dailyrecovered"]+
-                                       "</td></tr>");
-                       }
-
-                   }
-                   document.write("</table>");
-                   document.write("Total number of days with more than 1 lac
   cases :"+days);
-               }
-               load();
-           </script>
-
-       </body>
-   </html>
```

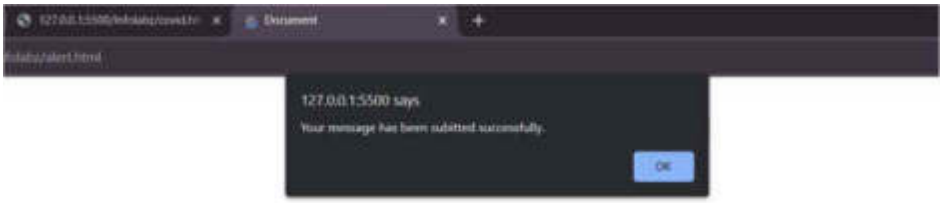
- **OUTPUT:**



- **USER INPUT 1 : JS Pop Up Boxes**
  Alert box:

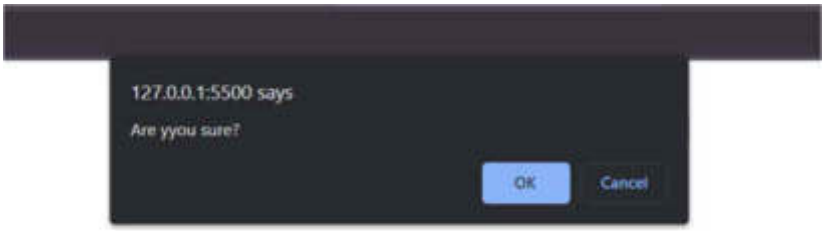
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        alert("Your message has been subitted successfully.");
```

```
    </script>
</body>
</html>
```



- **Confirmbox :**

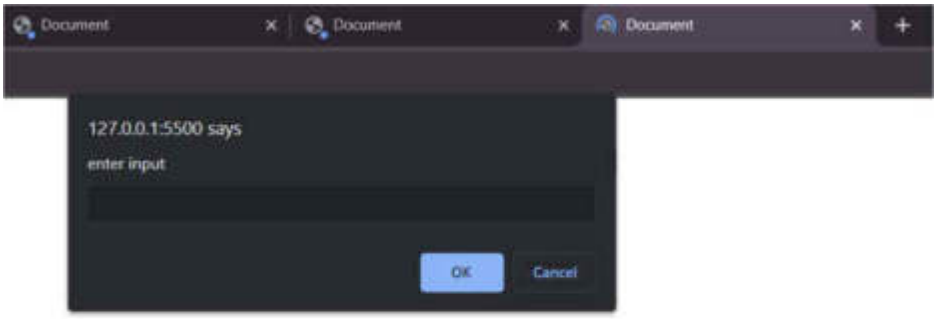
```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Document</title>
</head>
<body>
    <script>
        var a = confirm("Are yyou sure?");
        if(a==true){
            alert("your response has been recorded");
        }
        else if(a==false){
            alert("response is revoked!!");
        }
    </script>
</body>
</html>
```



- **Prompt box :**

```
<!DOCTYPE html>
```

```
- <html lang="en">
- <head>
-     <meta charset="UTF-8">
-     <meta name="viewport" content="width=device-width, initial-scale=1.0">
-     <title>Document</title>
- </head>
- <body>
-     <script>
-         var a = prompt("enter input");
-         if(a==nul){
-             alert("booking is cancelled");
-         }
-         else if (a==""){
-             alert("you enterd nothing");
-         }
-         else{
-             alert("processed for "+a+" response");
-         }
-     </script>
- </body>
- </html>
```



- USER INPUT 2 : Form to Variable

```
- <!DOCTYPE html>
- <html lang="en">
- <head>
-     <meta charset="UTF-8">
-     <meta name="viewport" content="width=device-width, initial-scale=1.0">
-     <title>Document</title>
- </head>
- <body>
```

```
-       <script>
-           function check(form){
-               var name = form.uname.value;
-               var surname = form.usurname.value;
-               //alert("uname is "+name+" user surname is "+surname);
-               document.getElementById("msg").innerHTML = "username is
    "+name+" surname is "+surname;
-           }
-       </script>
-       <form>
-           Name : <input type="text" name="uname"><br>
-           surname : <input type="text" name="usurname"><br>
-           <input type="submit" onclick="check(this.form);return false;">
-       </form>
-       <mark id="msg"></mark>
-   </body>
-   </html>
```

- **Output:**



---

1 August 2023:

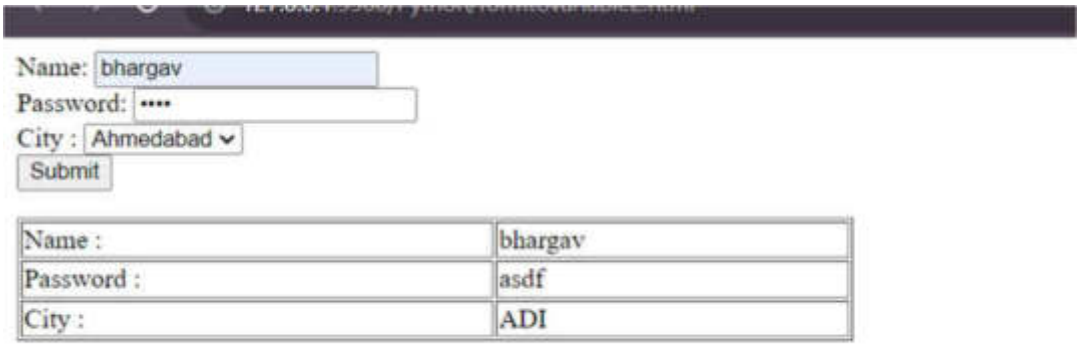
- Form to table

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
```

```
    <script>
        function showdata(form){
            var name = form.uname.value;
            var password = form.upassword.value;
            var city = form.city.value;

            if(name=="" || password=="" || city==""){
                document.getElementById("msg").innerHTML = "Field can not be
blank";
            }
            else{
                document.getElementById("msg").innerHTML = "<table border='1'
width='500px'><tr><td> Name: </td><td>"
                    +name+"</td></tr><tr><td>Password : </td><td>"+password+
                        "</td></tr><tr><td>City :
</td><td>"+city+"</td></tr></table>";
            }
        }
    </script>
    <form>
        Name: <input type="text" name="uname"><br>
        Password: <input type="password" name="upassword"><br>
        City: <select name="ucity">
            <option value="ADI">Ahmedabad</option>
            <option value="RJT">Rajkot</option>
            <option value="ST">Surat</option>
            </select><br>
            <input type="submit" onclick="showdata(this.form); return false;">
    </form>
    <p id="msg"></p>
</body>
</html>
```

- Output:



- JS Array:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        function login(form){
            var useremail = form.uemail.value;
            var userpassword = form.upassword.value;
            if(useremail=="" || userpassword== ""){
                if(useremail=="" && userpassword !=""){
                    document.getElementById("msg").innerHTML = "Email Field can
not be blank";
                }
                else if (useremail!="" && userpassword==""){
                    document.getElementById("msg").innerHTML = "Password Fill
cannot be blank!";
                }
                else{
                    document.getElementById("msg").innerHTML = "Both fileds are
required";
                }
            }
            else{
                for(var i=0;i<emails.length;i++){
                    if(useremail==emails[i] && userpassword== password [i]){
                        document.getElementById("msg").innerHTML = "<font style=
'color:green'>Login Successful</font>";
                        break;
                    }
                    else{
                    document.getElementById("msg").innerHTML = "<font style=
'color:red'>Invalid username or password</font>";
                    }
                }
            }
        }
    </script>
    <form>
        Email : <input type="email" name="uemail"><br>
```

```
        Password : <input type="submit" onclick="login(this.form); return
false;">
    </form>
    <p id="msg"></p>
    </body>
</html>
```

- Output:



2 August 2023
(Task assignment)

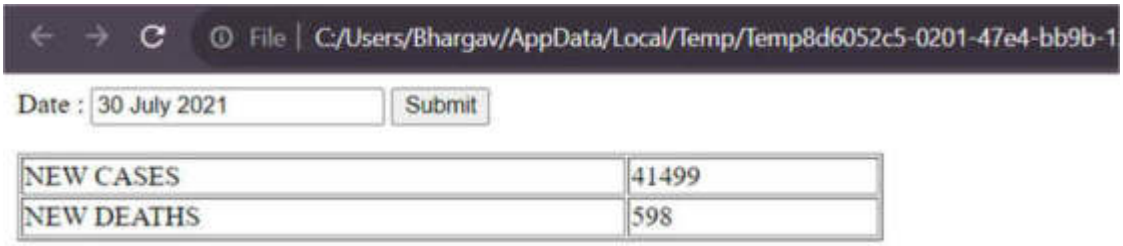
Covid data search :

```
<!DOCTYPE html>
    <head></head>
    <body>
    <script>
        function check(form){
            var uname = form.dt.value;

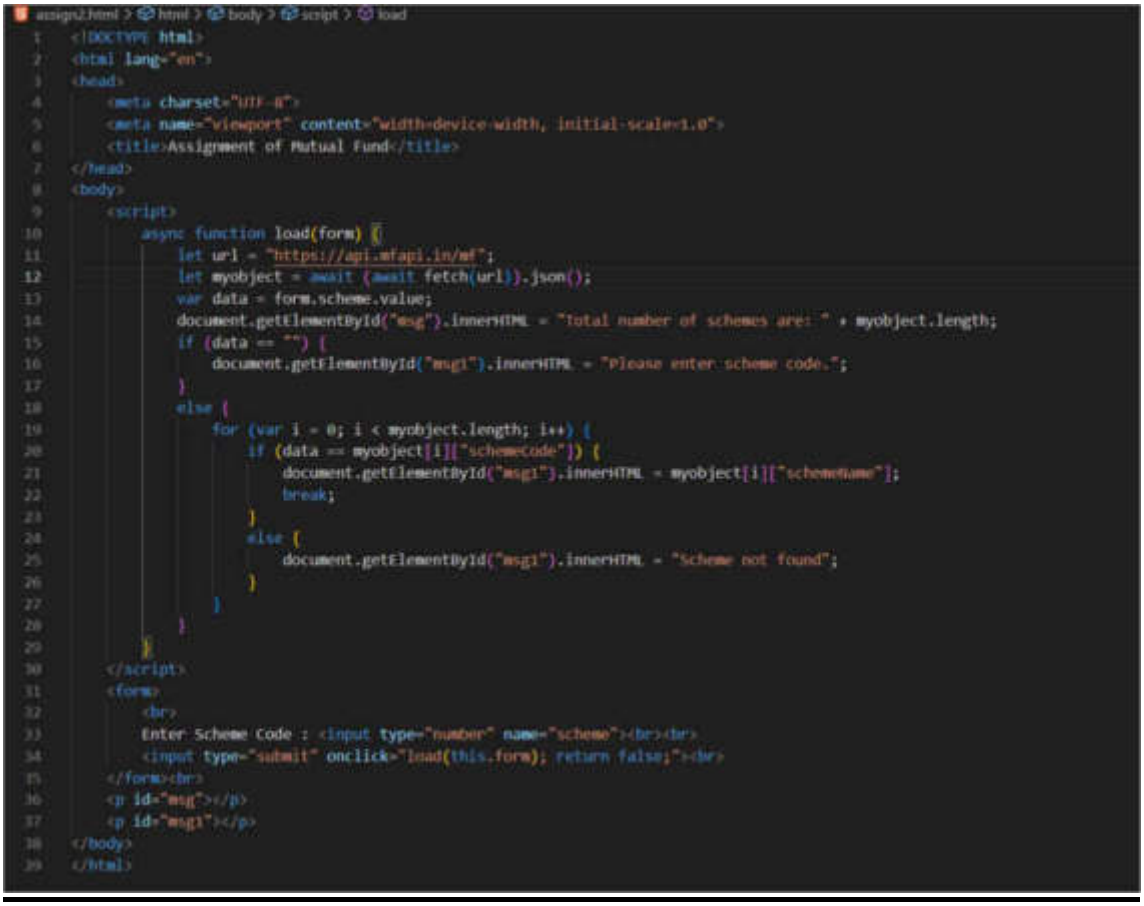
            async function load(){
                let url = "https://data.covid19india.org/data.json";
                let obj = await (await fetch(url)).json();
                for(var i=0;i<obj["cases_time_series"].length;i++){
                    if(uname==obj["cases_time_series"][i]["date"]){
                        document.getElementById("msg").innerHTML = "<table
border='1' width='500px'><tr><td>NEW CASES</td><td>"
                            +obj["cases_time_series"][i]["dailyconfirmed"]+"</td>
</tr><tr><td>NEW DEATHS</td><td>"
                                +obj["cases_time_series"][i]["dailydeceased"]+"</
td></tr></table>";
                            break;
                        }
                    }
                }
                load();
            }
        </script>
```

```
        <form>
            Date : <input type="text" name="dt">
            <input type="submit" onclick="check(this.form); return false;" />
        </form>
        <p id="msg"></p>
    </body>
</html>
```

Output:

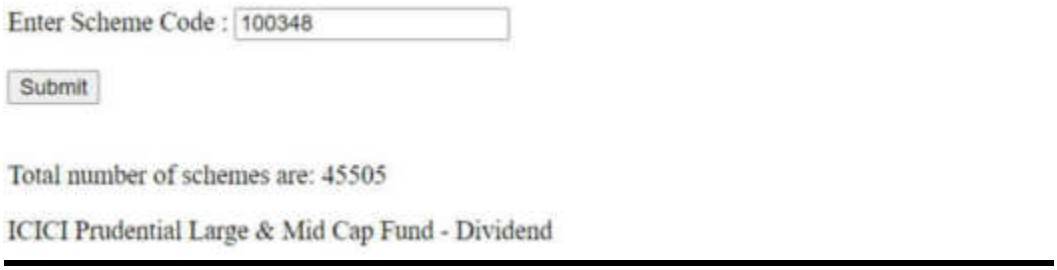


- **Mutual Fund API**



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Assignment of Mutual Fund</title>
</head>
<body>
    <script>
        async function load(form) {
            let url = "https://api.mfapi.in/mf";
            let myobject = await (await fetch(url)).json();
            var data = form.scheme.value;
            document.getElementById("msg").innerHTML = "Total number of schemes are: " + myobject.length;
            if (data == "") {
                document.getElementById("msg1").innerHTML = "Please enter scheme code.";
            }
            else {
                for (var i = 0; i < myobject.length; i++) {
                    if (data == myobject[i]["schemeCode"]) {
                        document.getElementById("msg1").innerHTML = myobject[i]["schemeName"];
                        break;
                    }
                    else {
                        document.getElementById("msg1").innerHTML = "Scheme not found";
                    }
                }
            }
        }
    </script>
    <form>
        <br>
        Enter Scheme Code : <input type="number" name="scheme"><br><br>
        <input type="submit" onclick="load(this.form); return false;"><br>
    </form><br>
    <p id="msg"></p>
    <p id="msg1"></p>
</body>
</html>
```

- **Output**



03 AUGUST 2023

- **First React App**

Create React App:

Open your terminal and run the following command to create a new React app using npx create-react-app my-first-react-app

Replace my-first-react-app with your preferred app name.

Navigate to the App Directory:
Move to the newly created app directory:

cd my-first-react-app
Start the Development Server: 20

Run the following command to start the development server and open your app in the default browser:

npm start

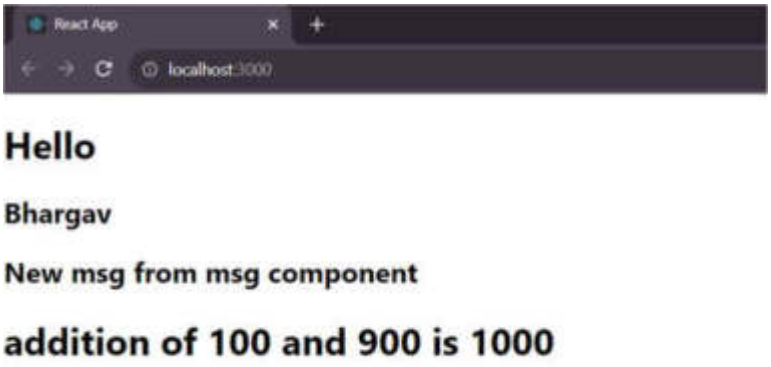
This command launches the app in development mode and automatically reloads the page whenever you make changes.

Explore Your App:
Open your browser and go to http://localhost:3000 to see your first React app in action.

You'll find a sample page that you can modify as you learn more about React.

Modify the App:
Open the src/App.js file in your code editor. You can make changes to the JSX code to see how it affects the app's appearance. As you become more comfortable with React, you can create components, manage state, and add interactivity.

- **Output:**



- **Functional Components**

In a functional component, you define the component using a function and pass in the props object as an argument. You then return the JSX that represents the UI you want to render. Functional components are typically used for presentational purposes, where the component's main responsibility is to render data and UI elements.

- **Class Components:**

In a class component, you define the component by creating a class that extends React Component. You can define the state using this State object and update it using the setState method.

Class components also provide access to lifecycle methods like componentDidMount, componentDidUpdate, and componentWillUnmount.

04 AUGUST 2023

- **Variable Data Map**

```
- import logo from './logo.svg';
- import './App.css';
-
- function App() {
-   return (
-     <div className="App">
-     <h1>OBJECT DATA MAP</h1>
-     </div>
-   );
- }
- const data = {"KEY1": "VALUE1","KEY2":"VALUE2"};
- function Datashow(){
-   return(
-     <div>
-       {
-         Object.keys(data).map(
-           (items,i) => {
-             return <h1>{items} and {data[items]}</h1>
-           }
-         )
-       }
-     </div>
-   );
- }
- const isrodata =
  {"spacecrafts":[{"id":1,"name":"Aryabhata"},{"id":2,"name":"Bhaskara-
  I"},{"id":3,"name":"Rohini Technology Payload
  (RTP)"},{"id":4,"name":"Rohini Satellite RS-1"},{"id":5,"name":"Rohini
  Satellite RS-D1"},{"id":6,"name":"APPLE"},{"id":7,"name":"Bhaskara-
  II"},{"id":8,"name":"INSAT-1A"},{"id":9,"name":"Rohini Satellite RS-
  D2"},{"id":10,"name":"INSAT-1B"},{"id":11,"name":"SROSS-
  1"},{"id":12,"name":"IRS-1A"},{"id":13,"name":"SROSS-
  2"},{"id":14,"name":"INSAT-1C"},{"id":15,"name":"INSAT-
  1D"},{"id":16,"name":"IRS-1B"},{"id":17,"name":"SROSS-
  C"},{"id":18,"name":"INSAT-2A"},{"id":19,"name":"INSAT-
  2B"},{"id":20,"name":"IRS-1E"},{"id":21,"name":"SROSS-
  C2"},{"id":22,"name":"IRS-P2"},{"id":23,"name":"INSAT-
  2C"},{"id":24,"name":"IRS-1C"},{"id":25,"name":"IRS-
  P3"},{"id":26,"name":"INSAT-2D"},{"id":27,"name":"IRS-
  1D"},{"id":28,"name":"INSAT-2E"},{"id":29,"name":"Oceansat(IRS-
  P4)"},{"id":30,"name":"INSAT-3B"},{"id":31,"name":"GSAT-
```

```
1"},{"id":32,"name":"The Technology Experiment Satellite
(TES)"},{"id":33,"name":"INSAT-3C"},{"id":34,"name":"KALPANA-
1"},{"id":35,"name":"INSAT-3A"},{"id":36,"name":"GSAT-
2"},{"id":37,"name":"INSAT-3E"},{"id":38,"name":"IRS-P6 / RESOURCESAT-
1"},{"id":39,"name":"EDUSAT"},{"id":40,"name":"HAMSAT"},{"id":41,"name":"C
ARTOSAT-1"},{"id":42,"name":"INSAT-4A"},{"id":43,"name":"INSAT-
4C"},{"id":44,"name":"SRE-1"},{"id":45,"name":"CARTOSAT-
2"},{"id":46,"name":"INSAT-4B"},{"id":47,"name":"INSAT-
4CR"},{"id":48,"name":"CARTOSAT – 2A"},{"id":49,"name":"IMS-
1"},{"id":50,"name":"Chandrayaan-1"},{"id":51,"name":"RISAT-
2"},{"id":52,"name":"Oceansat-2"},{"id":53,"name":"GSAT-
4"},{"id":54,"name":"CARTOSAT-2B"},{"id":55,"name":"GSAT-
5P"},{"id":56,"name":"YOUTHSAT"},{"id":57,"name":"RESOURCESAT-
2"},{"id":58,"name":"GSAT-8"},{"id":59,"name":"GSAT-
12"},{"id":60,"name":"Megha-Tropiques"},{"id":61,"name":"RISAT-
1"},{"id":62,"name":"GSAT-
10"},{"id":63,"name":"SARAL"},{"id":64,"name":"IRNSS-
1A"},{"id":65,"name":"INSAT-3D"},{"id":66,"name":"GSAT-
7"},{"id":67,"name":"Mars Orbiter Mission
Spacecraft"},{"id":68,"name":"GSAT-14"},{"id":69,"name":"IRNSS-
1B"},{"id":70,"name":"IRNSS-1C"},{"id":71,"name":"GSAT-
16"},{"id":72,"name":"Crew module Atmospheric Re-entry Experiment
(CARE)"},{"id":73,"name":"IRNSS-1D"},{"id":74,"name":"GSAT-
6"},{"id":75,"name":"Astrosat"},{"id":76,"name":"GSAT-
15"},{"id":77,"name":"IRNSS-1E"},{"id":78,"name":"IRNSS-
1F"},{"id":79,"name":"IRNSS-1G"},{"id":80,"name":"CARTOSAT-2 Series
Satellite"},{"id":81,"name":"INSAT-3DR"},{"id":82,"name":"SCATSAT-
1"},{"id":83,"name":"GSAT-18"},{"id":84,"name":"RESOURCESAT-
2A"},{"id":85,"name":"INS-1B"},{"id":86,"name":"INS-
1A"},{"id":87,"name":"Cartosat -2 Series
Satellite"},{"id":88,"name":"GSAT-9"},{"id":89,"name":"GSAT-
19"},{"id":90,"name":"Cartosat-2 Series Satellite"},{"id":91,"name":"GSAT-
17"},{"id":92,"name":"IRNSS-1H"},{"id":93,"name":"INS-
1C"},{"id":94,"name":"Cartosat-2 Series
Satellite"},{"id":95,"name":"Microsat"},{"id":96,"name":"GSAT-
6A"},{"id":97,"name":"IRNSS-1I"},{"id":98,"name":"GSAT-
29"},{"id":99,"name":"HysIS"},{"id":100,"name":"GSAT-11
Mission"},{"id":101,"name":"GSAT-7A"},{"id":102,"name":"Microsat-
R"},{"id":103,"name":"GSAT-
31"},{"id":104,"name":"EMISAT"},{"id":105,"name":"RISAT-
2B"},{"id":106,"name":"Chandrayaan2"},{"id":107,"name":"Cartosat-
3"},{"id":108,"name":"RISAT-2BR1"},{"id":109,"name":"GSAT-
30"},{"id":110,"name":"EOS-01"},{"id":111,"name":"CMS-
01"},{"id":112,"name":"EOS-03"}]}
```

```
- function IsroTable(){
-   return(
-     <div>
-       {
-         isrodata.spacecrafts.map(
-           (value)=>{
-             return <h1>{value.id} and {value.name}</h1>
-           }
-         )
-       }
-     </div>
-   );
- }
-
- export default App;
-
```

- **Object Map**

```
- import logo from './logo.svg';
- import './App.css';
-
- function App() {
-   return (
-     <div className="App">
-       <header className="App-header">
-         <img src={logo} className="App-logo" alt="logo" />
-         <p>
-           First Program of React Java ScripT -Bhargava
-         </p>
-         <a
-           className="App-link"
-           href="https://reactjs.org"
-           target="_blank"
-           rel="noopener noreferrer"
-         >
-           Learn React
-         </a>
-       </header>
-     </div>
-   );
- }
```

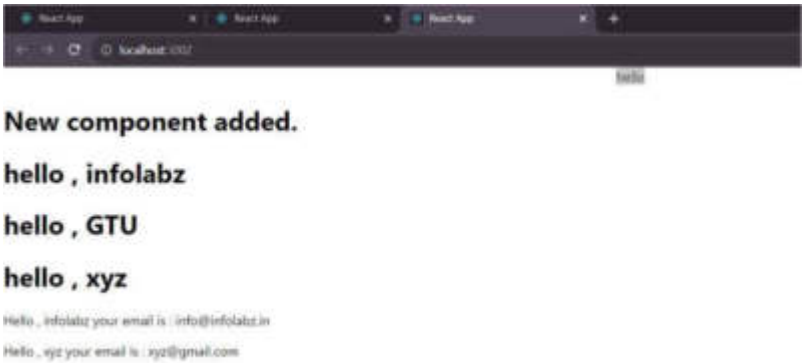
```
-
-  export default App;
-
```

07 AUGUST 2023

- **React Props**

```
-  import logo from './logo.svg';
-  import './App.css';
-  import Details,{Multipledata} from './propscomponents';
-
-  function App() {
-    return (
-      <div className="App">
-        <h>hello</h>
-      </div>
-    );
-  }
-
-  function New(){
-    return(
-      <div>
-        <h1>New component added.</h1>
-        <Details name="infolabz" />
-        <Details name="GTU" />
-        <Details name="xyz" />
-        <Multipledata  name="infolabz" email="info@infolabz.in" />
-        <Multipledata name="xyz" email="xyz@gmail.com"/>
-      </div>
-    );
-  }
-
-  export default App;
-  export {New};
```

- **Output:**



New component added.

hello , infolabz

hello , GTU

hello , xyz

Hello , infolabz your email is : info@infolabz.in

Hello , xyz your email is : xyz@gmail.com

- React Bootstrap

```
- import logo from './logo.svg';
- import './App.css';
- import 'bootstrap/dist/css/bootstrap.min.css';
- import { Button,Table } from 'react-bootstrap';
-
- function App() {
-   return (
-     <div className="App">
-       <p>Hi</p>
-     </div>
-   );
- }
-
- function Btn(){
-   return(
-     <div>
-       <Button variant="primary">Click</Button>
-     </div>
-   );
- }
-
- function Tablecomp(){
-   return(
-     <div>
-       <Table striped bordered hover>
-       <thead>
-         <tr>
-           <th>#</th>
```

```
            <th>First Name</th>
            <th>Last Name</th>
            <th>Username</th>
          </tr>
        </thead>
        <tbody>
          <tr>
            <td>1</td>
            <td>bhargav</td>
            <td>vaishnav</td>
            <td>bkvsnv</td>
          </tr>
          <tr>
            <td>2</td>
            <td>chetan</td>
            <td>joshi</td>
            <td>joshistch</td>
          </tr>
          <tr>
            <td>3</td>
            <td colSpan={2}></td>
            <td>@twitter</td>
          </tr>
        </tbody>
      </Table>
      </div>
    );
  }
  export default App;
  export {Btn,Tablecomp};
```

- **Output:**



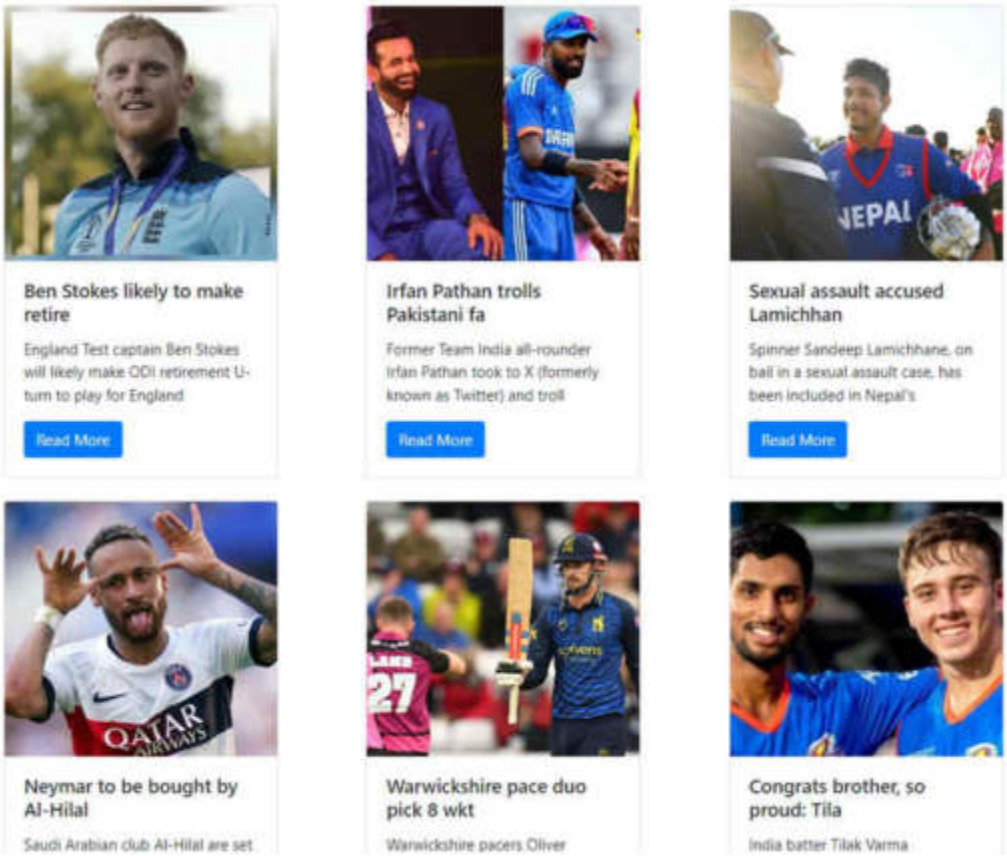
8 August 2023

- ## Use effects & use state

React Hooks are functions that allow you to use state and lifecycle features in functional components without the need for class components. They were introduced in React 16.8 as a way to simplify and enhance the development of functional components.

useState:
The useState hook allows functional components to manage state by adding state variables to them. It returns a pair of values: the current state value and a function to update it. This hook eliminates the need to use the this.setState method in class components.

useEffect Hook:
The useEffect hook in React is used to perform side effects within functional components. It is similar to lifecycle methods in class components such as componentDidMount, componentDidUpdate, and componentWillUnmount. It takes two arguments: a function representing the effect to be performed and an array of dependencies that determine when the effect should run.



9 August 2023

(Task Assignment)

- **News based API React App:**

```
import logo from './logo.svg';
import './App.css';
import { Container,Row,Col,Card,Table } from 'react-bootstrap';
import 'bootstrap/dist/css/bootstrap.min.css';
import React,{useState,useEffect} from 'react';

function App() {

  const [mydata,setData] = useState([]);

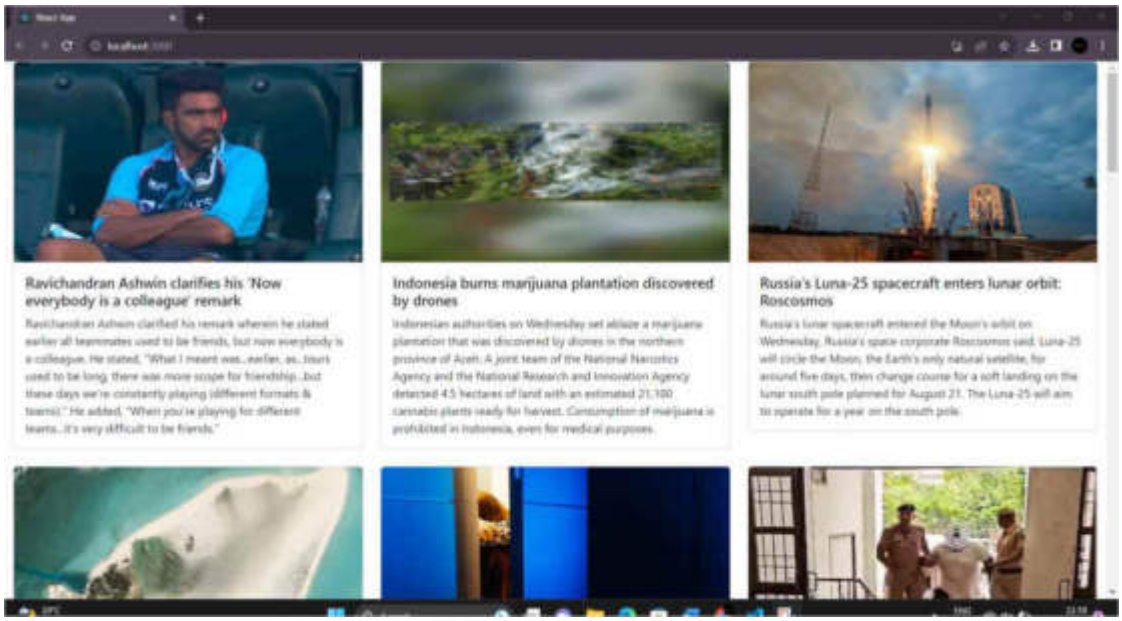
  const apiget = () => {
    fetch('https://inshorts.me/news/all?offset=0&limit=21')
    .then((response)=>response.json())
    .then((json)=>{
      console.log(json);
      setData(json.data.articles)
    }
    );
  };
  useEffect(()=>{
    apiget();
    const interval = setInterval(()=>{apiget();},500000);
    return ()=> clearInterval(interval);
  },[]);

  return (
    <Container fluid>
      <Row xs={1} md={3} className="g-4">
        {
          mydata.map(
            (value)=>{
              return(
                <>
                    <Col className="container-fluid mt-4">
        <Card>
            <Card.Img variant="top" src={value.imageUrl}  height="275px"/>
            <Card.Body>
              <Card.Title>{value.title}</Card.Title>
              <Card.Text>
```

```
                {value.content}
              </Card.Text>
            </Card.Body>
          </Card>
        </Col>
                </>
              )
            }
        )
        }
      </Row>
    </Container>
  );
}

export default App;
```

-Output:



10 august 2023

- Conclusion

In this project, we harnessed React's capabilities to build a dynamic news application thatseamlessly integrates real-time data updates from an external API. Leveraging React'sfunctional components, state management hooks, and React Bootstrap's pre-designedcomponents, we created an intuitive user interface for news consumption.By strategically employing the useState and useEffect hooks, we achieved real-time datafetching and continuous updates, ensuring our users stay informed with the latest newsarticles. The application's architecture, powered by reusable components and card layouts,facilitated efficient data management and elegant article presentation.

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD

AN INTERNSHIP REPORT

Submitted by

PATEL JAY YOGESHBHAI

200390116024

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **JAY YOGESHBHAI PATEL** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. First Name Last Name

Internal Guide

Sign

Prof. FirstName Last Name

Head of Department

CERTIFICATE OF COMPLETION

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116024
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Patel Jay Yogeshbhai.

In this internship tenure, we have covered the fundamentals of Data Analytics and Machine Learning. In the data analytics part, we have worked on API data and covered the basics of analysis using pandas and data visualization using matplotlib. In machine learning, we have implemented elementary regression models.

We wish Patel Jay Yogeshbhai all the best for future endeavors.



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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student — Sign of Student

Full name of Student — _____

COMPANY PROFILE

Established in 2016, incorporated with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services, etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers who are always willing to take on new challenges and looking forward to learning new things, are the heart of this company.

Our objective is to sustain with exponential growth in the IT industry. Our mission is to deliver the best with top-notch quality every quarter and our vision is to develop a product with one of its kind concept which could be used by millions of peopl

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Week 1

27 JULY 2023

- **Basics of Data Analytics, Type of Data:**

Data analytics is the process of examining, cleaning, transforming, and interpreting data to extract meaningful insights and support decision-making. It involves various techniques and methods to analyze data in order to identify patterns, trends, correlations, and other valuable information. Data analytics can be broadly categorized into descriptive, diagnostic, predictive, and prescriptive analytics.

When it comes to the types of data used in data analytics, they can be classified into several categories based on their characteristics: structure data and unstructured data

- **Dictionary:**

  In Python, a dictionary is a built-in data type that stores key-value pairs. It's also known as an associative array or a hash map in other programming languages. Dictionaries are mutable, unordered collections, meaning the order of elements is not guaranteed, and they allow for fast retrieval of values based on their associated keys

```
# Creating a dictionary
student = {
"name": "John",
"age": 20,
"major": "Computer Science"
}
```

- **Concept of API:**

  The concept of an API (Application Programming Interface) revolves around providing a set of rules, protocols, and tools that allow different software applications to communicate and interact with each other. APIs enable developers to build software that can utilize the functionality of other software components, services, or platforms without needing to understand the underlying implementation details. APIs abstract the complexity and provide a standardized way for programs to interact

Python is commonly used to interact with web-based APIs using libraries like requests. Web APIs expose endpoints that allow you to retrieve or manipulate dfrom remote servers, often using HTTP or HTTPS.

Example :

```
import requests
response = requests.get("https://api.example.com/data")
data = response.json()
print(data)
```

- **Requests Package:**

  The requests package in Python is a widely used library that simplifies making HTTP requests and interacting with web services. It provides an intuitive and Pythonic way to handle various aspects of HTTP communication, such as sending requests, receiving responses, handling headers, and managing cookies. The requests library is often used for tasks like fetching data from web APIs, submitting forms, or interacting with web pages.



```
In [6]: #BITCOIN API

        import requests

        url = requests.get("https://api.coindesk.com/v1/bpi/currentprice.json")
        mydata = url.json()

        print(mydata)
        print(type(mydata))

        #print all the keys
        for i in mydata:
            print(i)

        #print live price in USD
        print(mydata["bpi"]["USD"]["rate"])

{'time': {'updated': 'Aug 13, 2023 06:00:00 UTC', 'updatedISO': '2023-08-13T06:00:00+00:00', 'updateduk': 'Aug 13, 2023 at 07:0
0 BST'}, 'disclaimer': 'This data was produced from the CoinDesk Bitcoin Price Index (USD). Non-USD currency data converted usi
ng hourly conversion rate from openexchangerates.org', 'chartName': 'Bitcoin', 'bpi': {'USD': {'code': 'USD', 'symbol': '&#3
6;', 'rate': '29,435.7292', 'description': 'United States Dollar', 'rate_float': 29435.7292}, 'GBP': {'code': 'GBP', 'symbol':
'&pound;', 'rate': '24,596.2599', 'description': 'British Pound Sterling', 'rate_float': 24596.2599}, 'EUR': {'code': 'EUR', 's
ymbol': '&euro;', 'rate': '28,674.6979', 'description': 'Euro', 'rate_float': 28674.6979}}}
<class 'dict'>
time
disclaimer
chartName
bpi
29,435.7292
```

Week 1

28 JULY 2023

- **API Handling :** Covid API, ISRO API, Bitcoin API, Mutual Fund

  Covid API: There are various APIs that provide COVID-19 related data, such as cases, deaths, recoveries, and vaccination statistics. One popular source is the COVID-19 Data API provided by Johns Hopkins University. You can use the requests library to make requests to the API and process the received data.



```
In [2]: #1: The highest number of daily confirmed cases

        import requests

        url = requests.get("https://data.covid19india.org/data.json")
        mydata = url.json()

        # Extract daily confirmed cases from the data
        cases = [int(i["dailyconfirmed"]) for i in mydata['cases_time_series']]

        highest_cases = max(cases)

        print("The highest number of daily confirmed cases is:", highest_cases)

        The highest number of daily confirmed cases is: 414280

In [3]: # 2: The highest number of daily confirmed cases

        import requests

        url  = requests.get("https://data.covid19india.org/data.json")
        mydata = url.json()

        max_cases = 0
        max_date = ""
```

Fig 1.2 Covid API Example

ISRO API:The Indian Space Research Organisation (ISRO) provides APIs to access information about their missions, satellites, and other space-related data. The exact endpoints and details may vary, so it's important to refer to ISRO's official API documentation.



Fig 1.2 ISRO API Example

API Search: To search for APIs programmatically using Python, you can leverage the capabilities of the requests library to query API directories and retrieve information about available APIs. Below, I'll provide you with an example of how to search for APIs using the ProgrammableWeb API directory as an example:



```
In [2]: #1: The highest number of daily confirmed cases

        import requests

        url = requests.get("https://data.covid19india.org/data.json")
        mydata = url.json()

        # Extract daily confirmed cases from the data
        cases = [int(i["dailyconfirmed"]) for i in mydata["cases_time_series"]]

        highest_cases = max(cases)

        print("The highest number of daily confirmed cases is:", highest_cases)

        The highest number of daily confirmed cases is: 414280

In [3]: # 2: The highest number of daily confirmed cases

        import requests

        url  = requests.get("https://data.covid19india.org/data.json")
        mydata = url.json()

        max_cases = 0
        max_date = ""
```

Fig 1.3 API search Example

Week 1

31 JULY 2023

- **Data Visualization using MatPlotLib**
  Matplotlib is a popular Python library for creating various types of data visualizations, such as line charts, bar charts, scatter plots, histograms, and more. It provides a flexible and powerful way to visualize data and is widely used for exploratory data analysis and presentation of results.

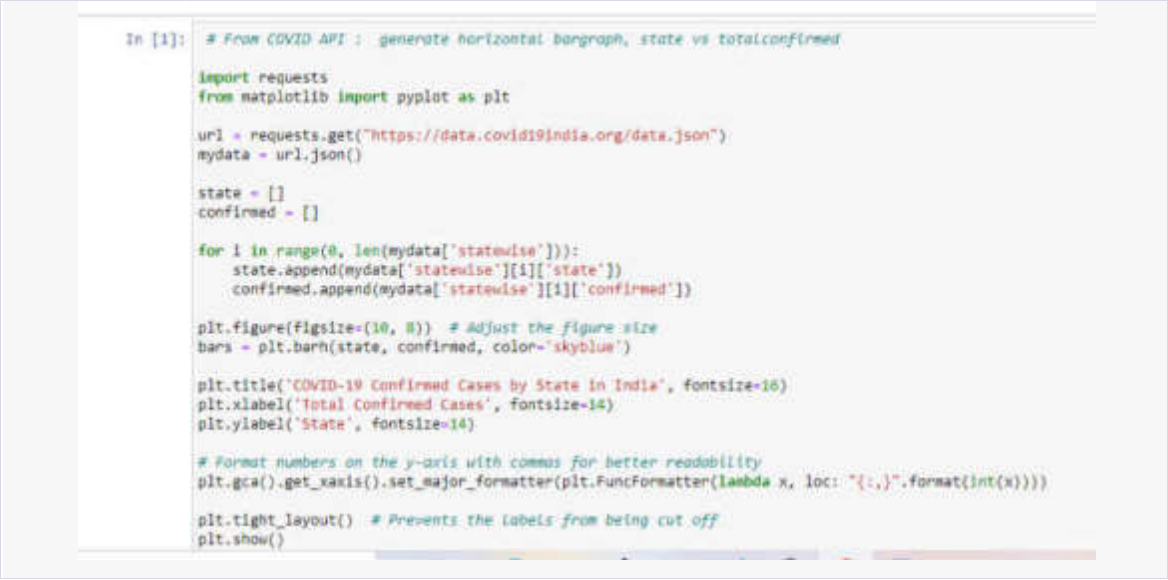
  Support for Various Plot Types: Matplotlib supports a wide range of plot types, including line plots, scatter plots, bar charts, histograms, pie charts, 3D plots, and more.

  Customization: Users can extensively customize visual elements such as colors, markers, line styles, titles, axes labels, legends, and more to create polished and informative visualizations.

  Multiple Backends: Matplotlib can generate plots in various formats, including PNG, PDF, SVG, and interactive formats for web applications. It also supports rendering plots in different GUI environments.

  Integration with NumPy: Matplotlib works seamlessly with NumPy arrays, making it easy to visualize data from numerical computations.

  Subplots and Layouts: Matplotlib allows you to create multiple plots within a single figure using subplots. You can customize the arrangement and layout of subplots.



```
In [1]: # From COVID API :  generate horizontal bargraph, state vs totalconfirmed

import requests
from matplotlib import pyplot as plt

url = requests.get("https://data.covid19india.org/data.json")
mydata = url.json()

state = []
confirmed = []

for i in range(0, len(mydata['statewise'])):
    state.append(mydata['statewise'][i]['state'])
    confirmed.append(mydata['statewise'][i]['confirmed'])

plt.figure(figsize=(10, 8))  # Adjust the figure size
bars = plt.barh(state, confirmed, color='skyblue')

plt.title('COVID-19 Confirmed Cases by State in India', fontsize=16)
plt.xlabel('Total Confirmed Cases', fontsize=14)
plt.ylabel('State', fontsize=14)

# Format numbers on the y-axis with commas for better readability
plt.gca().get_xaxis().set_major_formatter(plt.FuncFormatter(lambda x, loc: "{:,}".format(int(x))))

plt.tight_layout()  # Prevents the labels from being cut off
plt.show()
```

OUTPUT :

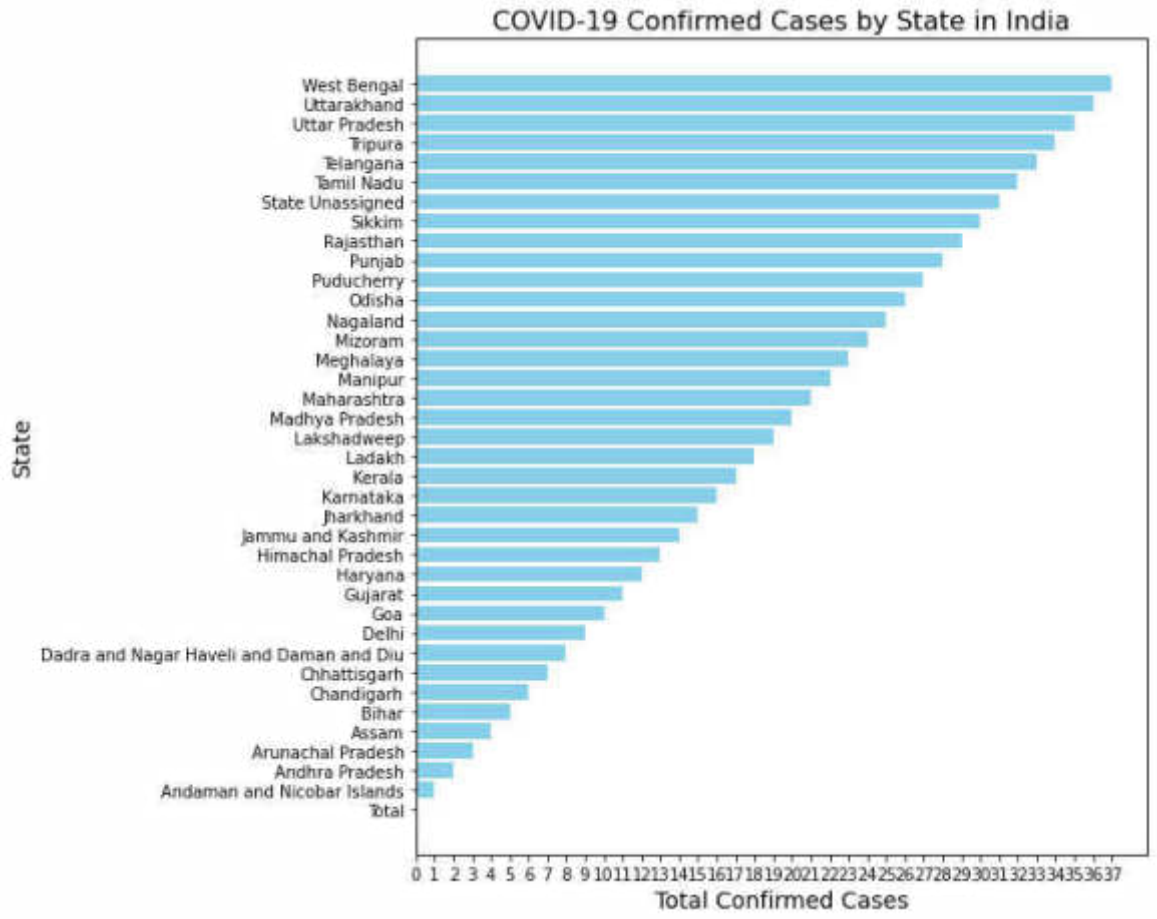


Fig 1.4 Data visualization Example

Week 1

1 August 2023

- **Data Visualization :**

Data visualization in Python involves using various libraries and tools to create graphical representations of data to better understand patterns, relationships, and trends. Python offers several powerful libraries for data visualization, and two of the most commonly used ones are Matplotlib and Seaborn

- **API Data Visualization :**

API data visualization involves fetching data from APIs (Application Programming Interfaces) and then using visualization libraries to create graphical representations that provide insights into the data. This process allows you to dynamically retrieve and display information from external sources, which is particularly useful for displaying real-time or frequently updated data. Here's a general outline of how to perform API data visualization

Choose an API:

Select an API that provides the data you want to visualize. This could be data related to weather, stock prices, social media posts, COVID-19 statistics, or any other domain-specific information.

Retrieve Data from the API:

Use a library like requests in Python to send HTTP requests to the API's endpoints and retrieve the data. This may involve sending parameters to specify the type of data you're interested in.

Process Data:

Once you receive the data from the API, process it into a format suitable for visualization. This might involve transforming the data, aggregating it, or extracting relevant fields.

Choose a Visualization Library:

Select a suitable data visualization library such as Matplotlib, Seaborn, Plotly, or any other library that fits your needs and provides the type of visualizations you want to create.

Create Visualizations:

Use the chosen library to create the desired visualizations. Depending on the nature of the data, you might create line charts, bar charts, pie charts, maps, heatmaps, or other types of plots.

Display the Visualizations:

Show the visualizations on your preferred platform. This could be in a Jupyter Notebook, a web application, a desktop application, or any other environment that supports the chosen visualization library.

Week 1

2 August 2023

- **Assignment 1 :**

API :: https://inshortsapi.vercel.app/news?category=all

1) How many main keys are there in this API? Extract and print all keys.

2) How many news are available in this API?

3) Print all news in bellow format.

1. News content , Author: AUTHOR NAME, DATE: Date of news

2. News content , Author: AUTHOR NAME, DATE: Date of news

3. News content , Author: AUTHOR NAME, DATE: Date of news

In [2]:
```
# print all the keys

import requests

url = requests.get("https://inshortsapi.vercel.app/news?category=all")
mydata = url.json()

count = 0
for i in mydata:
    print(i)
    count+=1

print('Total main keys are: ', count)
```

```
category
data
success
Total main keys are:  3
```

In [3]:
```
# print all news
import requests

url = requests.get("https://inshortsapi.vercel.app/news?category=all")
mydata = url.json()

count=0
for j in range(0, len(mydata["data"])):
    count = count + 1

print("Total Count =",count)

for i in range(0, len(mydata["data"])):
    print("News content:", mydata["data"][i]["content"],
          ", Author:", mydata["data"][i]["author"],
          ", Date:", mydata["data"][i]["date"])
```

```
Total Count = 9
News content: Sonia Sharifi, a 17-year-old girl whose picture with her hands in the air went viral amid anti-hijab protests in Iran, has said that she was abducted and tortured by the authorities for a second time. She said that she was dragged from her car and blindfolded, before they beat her up. She also shared a picture of her head wound. , Author: Arshiya Chopra , Date: Sunday, 13 August, 2023
News content: The domain name of microblogging platform X has begun shifting from 'twitter.com' to 'x.com' on iOS, The Verge reported. The web link and Android app are still redirecting users to the old domain. Billionaire Elon Musk rebranded Twitter as X last month. Thereafter, names of associate products like Twitter Blue subscription and TweetDeck became X Blue subscription and XPro, respectively. , Author: Nidhi Sinha , Date: Sunday, 13 August, 2023
```

- **API Data Visualization :**

API :: https://isro.vercel.app/api/spacecrafts

1) Print all main keys and total number of main keys as well.

2) Print all spacecrafts names as per below output format

3) Allow user to enter name of spacecraft. Print spacecraft is found or spacecraft not found

In [4]:
```
# Print all the keys

import requests

url = requests.get("https://isro.vercel.app/api/spacecrafts")
mydata = url.json()

count = 0
for i in mydata:
    print(i)
    count+=1

print('Total main keys are: ', count)
```

```
spacecrafts
Total main keys are:  1
```

In [6]:
```
#Allow user to enter name of spacecraft. Print spacecraft is found or spacecraft not found

import requests

url = requests.get("https://isro.vercel.app/api/spacecrafts")
mydata = url.json()

Uname = input("Enter spacecraft name: ")

for i in range(0, len(mydata["spacecrafts"])):
    if Uname == mydata["spacecrafts"][i]["name"]:
        print("Spacecraft found - ", str(mydata["spacecrafts"][i]["id"]), ":", mydata["spacecrafts"][i]["name"])
        break
else:
    print(str(Uname), '- Spacecraft not found"')
```

```
Enter spacecraft name: SRE-1
Spacecraft found -  44 : SRE-1
```

```
In [7]: import requests
        import numpy as np
        from matplotlib import pyplot as plt

        url = requests.get("https://isro.vercel.app/api/spacecrafts")
        mydata = url.json()

        url = requests.get("https://isro.vercel.app/api/customer_satellites")
        data = url.json()

        count = len(mydata["spacecrafts"])
        print("Domestic:", count)

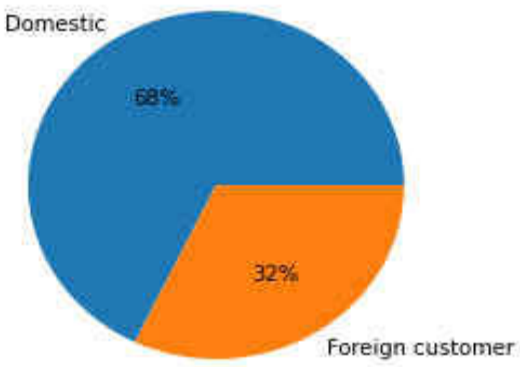
        num = len(data["customer_satellites"])
        print("Foreign customer:", num)

        y = np.array([count, num])
        mylabels = ["Domestic", "Foreign customer"]

        plt.pie(y, labels = mylabels, autopct='%1.0f%%')
        plt.show()

        Domestic: 112
        Foreign customer: 53
```

OUTPUT:



Dynamic API: PINCODE :

API: https://api.postalpincode.in/pincode/380001

- Allow user to insert pincode

- Print name of all areas which comes under that pincode

- Pincode entered by user shell be merged in below url's xxxxxx part.

- URL: https://api.postalpincode.in/pincode/XXXXXX

In [10]:
```
import requests

url = requests.get(f"https://api.postalpincode.in/pincode/")
mydata = url.json()

pincode = input()
areas = mydata[0]["PostOffice"][0]["Name"]
print(pincode + ' - ' + areas)


import requests

url = requests.get("https://api.postalpincode.in/pincode/"+pincode)
data = url.json()

pincode = input("Enter Pincode: ")

print("Pincode: " + pincode)
print("URL: https://api.postalpincode.in/pincode/"+pincode)

for i in range(len(data[0]["PostOffice"])):
    if pincode == data[0]["PostOffice"][i]["Pincode"]:
        print(data[0]["PostOffice"][i]["Name"])
```

```
382721
```

Week 2

3 August 2023

- **Pandas: Data Frame**

Pandas is a powerful Python library for data manipulation and analysis. One of its core components is the DataFrame, which is a two-dimensional labeled data structure similar to a table in a relational database or a spreadsheet. DataFrames provide a flexible and efficient way to work with structured data, and they are widely used in data analysis and data science tasks.

Here's an overview of how to work with DataFrames in Pandas:

Installation: If you haven't already, you can install Pandas using the following command.

pip install pandas

Importing Pandas: To use Pandas, import the library as follows:

import pandas as pd

Creating DataFrames:

You can create a DataFrame from various data sources, including dictionaries, lists, NumPy arrays, and external files (CSV, Excel, databases, etc.).

Creating a DataFrame from a dictionary

```
data = {'Name': ['Alice', 'Bob', 'Charlie'],'Age': [25, 30, 22]}

df = pd.DataFrame(data)
```

```
In [1]: import pandas as pd

file1data = pd.read_excel("Downloads/RESULT1.xlsx")
file2data = pd.read_excel("Downloads/RESULT2.xlsx")
alldata = pd.concat([file1data, file2data])

def fun(percentage):
    if 80 <= percentage <= 100:
        return 'SCHOLAR'
    elif 50 <= percentage <= 79:
        return 'AVERAGE'
    else:
        return 'WEAK'

alldata['CATEGORY'] = alldata['PERCENTAGE'].apply(fun)
print(alldata)

alldata.to_csv('result.csv')
```

```
   SRNO BRANCH    NAME  TOTAL  PERCENTAGE  PASSFAIL CATEGORY
0     1     CE  RAMESH    210          70         1  AVERAGE
1     2     CE  SURESH    150          50         1  AVERAGE
2     3     IT  MAHESH    225          75         1  AVERAGE
3     4     IT  NARESH    180          60         1  AVERAGE
4     5     CE  JAYESH     90          30         0     WEAK
0     1     EC   RATAN    150          50         1  AVERAGE
1     2     CE   JATAN    270          90         1  SCHOLAR
2     3     IT  KATHAN    285          95         1  SCHOLAR
3     4     EC   NAYAN    195          65         1  AVERAGE
```

- **Pandas: Excel, API to CSV:**

Reading Excel Files and API Data using Pandas, and Saving to CSV:

Reading Excel Files:

You can use the pd.read_excel() function to read data from an Excel file and create a DataFrame.

import pandas as pd

Reading data from an Excel file

excel_file_path = 'data.xlsx'

df_excel = pd.read_excel(excel_file_path)

Fetching Data from an API:

Use the requests library to fetch data from an API and then create a DataFrame.

```
import requests

import pandas as pd

api_url = 'https://api.example.com/data'

response = requests.get(api_url)

data = response.json()

df_api = pd.DataFrame(data)
```

Saving to CSV:

After obtaining your DataFrame, you can save it to a CSV file using the to_csv() method.

```
# Saving the Excel data to a CSV file

csv_output_path = 'data.csv'

df_excel.to_csv(csv_output_path, index=False)


# Saving the API data to a CSV file

api_csv_output_path = 'api_data.csv'

df_api.to_csv(api_csv_output_path, index=False)
```

- **XLRD:** xlrd is a Python library used for reading data from Excel files in the older .xls format (Excel 97-2003). It provides a convenient way to extract data from Excel spreadsheets and work with it in Python programs. However, it's important to note that xlrd only supports reading Excel files and doesn't support creating or modifying Excel files.

Week 2

4 August 2023

- **Introduction to Machine Learning :**

Machine Learning (ML) is a subset of artificial intelligence (AI) that focuses on developing algorithms and models that enable computers to learn and make decisions from data without being explicitly programmed. In other words, it's about creating systems that can learn and improve from experience.

Types of Machine Learning:

Machine learning can be categorized into three main types:

Supervised Learning: In this type, the algorithm learns from labeled data, meaning it's provided with input-output pairs. The goal is to learn a mapping function that can predict outputs for new inputs.

Unsupervised Learning: Here, the algorithm is given unlabeled data and tasked with finding patterns, structures, or relationships in the data. Clustering and dimensionality reduction are common tasks in unsupervised learning.

Reinforcement Learning: This type involves training an agent to interact with an environment and learn by receiving feedback in the form of rewards or penalties. The agent learns optimal actions to maximize cumulative rewards.

- **Linear Model: Mathematics:**

Linear Regression is one of the fundamental and widely used techniques in machine learning and statistics for modeling the relationship between a dependent variable and one or more independent variables. It's a type of supervised learning algorithm used for regression tasks, where the goal is to predict a continuous output value.

In simple linear regression, you have a single independent variable (feature) and a single dependent variable. The goal is to find the best-fitting linear line (a straight line) that minimizes the squared differences between the predicted values and the actual values.

The equation of a simple linear regression model can be represented as:

y = mx + b

where:

y is the dependent variable (target)

x is the independent variable (feature)

m is the slope of the line

b is the y-intercept

- **Linear Model Implementation:**

```
In [11]: # From the actual dataset create Linear Regression model

import pandas as pd
from matplotlib import pyplot as plt
from sklearn import linear_model

df = pd.read_csv('Downloads\Salary_Data.csv')
print(df)

# y = b0 + (b1*x)

plt.scatter(df.YearsExperience, df.Salary, color="r")
plt.plot(df.YearsExperience, df.Salary, color="b")
plt.xlabel('YearsExperience')  # YearsExperience = Independent = x
plt.ylabel('Salary')  # Salary = Dependent = y
plt.show()

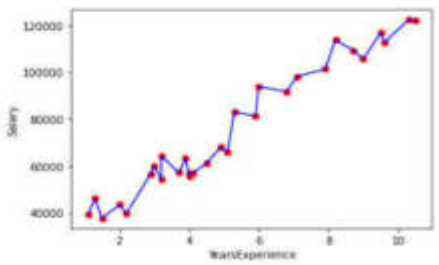
reg = linear_model.LinearRegression()  # Process model
reg.fit(df[['YearsExperience']], df[['Salary']])  # Train model

print("Salary (y):", reg.predict([[5]]))  # x = 5 (YearsExperience)

print("Coefficient (b1):", reg.coef_)
print("Intercept (b0):", reg.intercept_)
```

```
    YearsExperience  Salary
0               1.1   39343
1               1.3   46205
```

```
26              9.5  116969
27              9.6  112635
28             10.3  122391
29             10.5  121872
```




```
Salary (y): [[73042.01180594]]
Coefficient (b1): [[9449.96232146]]
Intercept (b0): [25792.20019867]
```

Week 2

7 August 2023

- **Multiple Linear Model: Mathematics :**

n multiple linear regression, you have multiple independent variables. The goal is to find the best-fitting hyperplane that minimizes the squared differences between the predicted values and the actual values.

The equation of a multiple linear regression model can be represented as:

$y = b0 + b1*x1 + b2*x2 + ... + bn*xn$

where:

y is the dependent variable (target)

x1, x2, ..., xn are the independent variables (features)

b0, b1, b2, ..., bn are the coefficient

- **Multiple Linear Model Implementation :**

```
In [2]: import pandas as pd
        from sklearn import linear_model

        df = pd.read_csv('Downloads/50_Startups.csv')
        print(df)

        reg = linear_model.LinearRegression()  # Process model
        reg.fit(df[['R&D Spend','Administration','Marketing Spend']], df.Profit)  # Train model
        print("Profit :", reg.predict([[120000,90000,220000]]))
        X = df.iloc[:, :-1]    # independent varible
        y = df.iloc[:, -1]     # dependent variable

        X.head()
```

	R&D Spend	Administration	Marketing Spend	State	Profit
0	165349.20	136897.80	471784.10	New York	192261.83
1	162597.70	151377.59	443898.53	California	191792.06
2	153441.51	101145.55	407934.54	Florida	191050.39
3	144372.41	118671.85	383199.62	New York	182901.99
4	142107.34	91391.77	366168.42	Florida	166187.94
5	131876.90	99814.71	362861.36	New York	156991.12
6	134615.46	147198.87	127716.82	California	156122.51
7	130298.13	145530.06	323876.68	Florida	155752.60
8	120542.52	148718.95	311613.29	New York	152211.77
9	123334.88	108679.17	304981.62	California	149759.96
10	101913.08	110594.11	229160.95	Florida	146121.95
11	100671.96	91790.61	249744.55	California	144259.40

```
36   28663.76        127056.21        201126.82      Florida   90708.19
37   44069.95         51283.14        197029.42   California   89949.14
38   20229.59         65947.93        185265.10     New York   81229.06
39   38558.51         82982.09        174999.30   California   81005.76
40   28754.33        118546.05        172795.67   California   78239.91
41   27892.92         84710.77        164470.71      Florida   77798.83
42   23640.93         96189.63        148001.11   California   71498.49
43   15505.73        127382.30         35534.17     New York   69758.98
44   22177.74        154806.14         28334.72   California   65200.33
45    1000.23        124153.04          1903.93     New York   64926.08
46    1315.46        115816.21        297114.46      Florida   49490.75
47       0.00        135426.92             0.00   California   42559.73
48     542.05         51743.15             0.00     New York   35673.41
49       0.00        116983.80         45173.06   California   14681.40
Profit : [150384.73608041]
```

Out[2]:

	R&D Spend	Administration	Marketing Spend	State
0	165349.20	136897.80	471784.10	New York
1	162597.70	151377.59	443898.53	California
2	153441.51	101145.55	407934.54	Florida
3	144372.41	118671.85	383199.62	New York
4	142107.34	91391.77	366168.42	Florida

Week 2

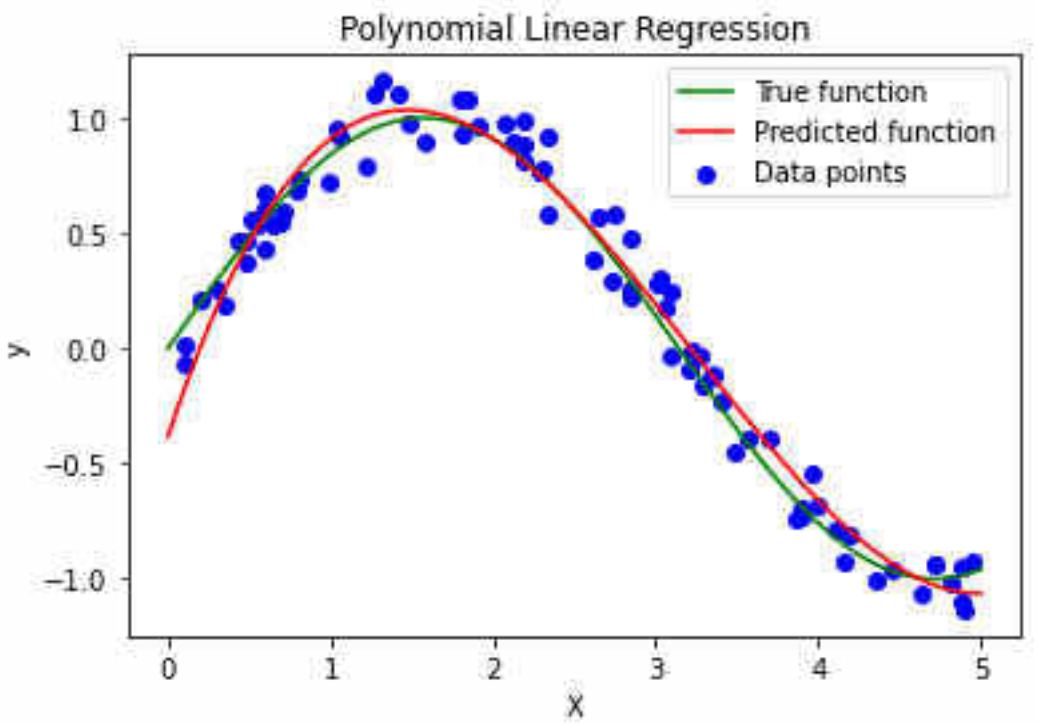
8 August 2023

- **Polynomial Linear Regression Model Implementation:**

Polynomial Linear Regression is an extension of the traditional Linear Regression model where the relationship between the independent variable and the dependent variable is modeled as an nth-degree polynomial. This allows the model to capture non-linear relationships in the data.

In [4]:
```
import numpy as np
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import PolynomialFeatures
# Generate synthetic data
np.random.seed(0)
X = np.sort(5 * np.random.rand(80, 1), axis=0)
y = np.sin(X).ravel() + np.random.normal(0, 0.1, X.shape[0])
#Split the data into training and testing sets.
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=0)
degree = 3  # Degree of the polynomial
poly = PolynomialFeatures(degree=degree)
X_train_poly = poly.fit_transform(X_train)
X_test_poly = poly.transform(X_test)
#Train a Polynomial Linear Regression Model:
model = LinearRegression()
model.fit(X_train_poly, y_train)
#Predictions and Evaluation:
y_pred = model.predict(X_test_poly)
# Calculate the Mean Squared Error (MSE)
mse = np.mean((y_pred - y_test) ** 2)
print(f"Mean Squared Error: {mse:.4f}")
X_range = np.linspace(0, 5, 100)[:, np.newaxis]
X_range_poly = poly.transform(X_range)
y_range_pred = model.predict(X_range_poly)
```

```
plt.scatter(X, y, color='blue', label='Data points')
plt.plot(X_range, np.sin(X_range), color='green', label='True function')
plt.plot(X_range, y_range_pred, color='red', label='Predicted function')
plt.xlabel('X')
plt.ylabel('y')
plt.legend()
plt.title('Polynomial Linear Regression')
plt.show()
```



Week 2

9 August 2023

- **Assignment 2 :**

For OPEN CV :

● Write script to Open Camera.

● Write script to Open Camera in gray scale mode (black and white)

● Write script to Capture image on click of key “c” while camera is open.

```
import cv2

cap = cv2.VideoCapture(0)  # 0 represents the default camera

while True:
    ret, frame = cap.read()
    cv2.imshow('Camera Feed', frame)

    if cv2.waitKey(1) & 0xFF == ord('q'):
        break
```

```
cap.release()
cv2.destroyAllWindows()
```

```
import cv2

cap = cv2.VideoCapture(0)  # 0 represents the default camera

while True:
    ret, frame = cap.read()
    gray_frame = cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
    cv2.imshow('Gray Scale Camera Feed', gray_frame)

    if cv2.waitKey(1) & 0xFF == ord('q'):
        break

cap.release()
cv2.destroyAllWindows()
```

```
import cv2

cap = cv2.VideoCapture(0)  # 0 represents the default camera

while True:
    ret, frame = cap.read()
    cv2.imshow('Camera Feed', frame)

    key = cv2.waitKey(1)
    if key & 0xFF == ord('q'):
        break
    elif key & 0xFF == ord('c'):
        cv2.imwrite('captured_image.jpg', frame)
        print("Image captured!")

cap.release()
cv2.destroyAllWindows()
```

```
Image captured!
```

Week 2

10 August 2023

- **Conclusion :**

  These past 15 days of internship have been an enriching and dynamic experience. I am delighted to have had the opportunity to work with INFOLABZ and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved.

  Throughout these 15 days, I've had the privilege of working alongside experienced professionals who have generously shared their knowledge and insights. I've gained exposure to Data analyst tools, which has significantly expanded my skill set.

  During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.

  In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and am committed to making the most of this internship experience. Thank you for this incredible opportunity.

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD

AN INTERNSHIP REPORT

Submitted by

Patel Varshilkumar Dilipbhai

200390116025

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Mechanical Engineering

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Varshilkumar Dilipbhai Patel** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information & Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign

Prof. First Name Last Name

Internal Guide

Sign

Prof. FirstName Last Name

Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116025
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Patel Varshilkumar Dilipbhai.

In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework

We wish Patel Varshilkumar Dilipbhai all the best for future endeavors.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

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ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information & Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Patel Varshilkumar Dilipbhai**	_____

ACKNOWLEDGMENT

I wish to express my sincere gratitude to our External guide Mr. Chetan nagrecha for continuously guiding me at the company and answering all my doubts with patience. I would also like to thank Infolabz Developers for helping me through my internship by giving me the necessary suggestions and advice along with their valuable co-ordination in completining this internship.

I also thank my parents, friends and all the members of the family for their precious support and encouragement which they had provided in completion of my work. In addition to that, I would also like to mention the company personals who gave me the permission to use and experience the valuable resources required forth internship.

Also, I appreciate the guidance given by the developer at Infolabz Mr.Chetan nagrecha as well as the panels especially for the internship that has advised me and gave guidance at every moment of the internship. Thus, in conclusion to the above said, I once again thank the staff members of Infolabz It Services Pvt. Ltd. for their valuable support in completion of the project.

Thank you all.

Varshil Patel
(200390116025)

Abstract

This report contains the work done by the author during his internship at **INFOLABZ IT SERVICES PVT. LTD.** It shows the work I did in the company during my internship period. In the report, In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework.

COMPANY PROFILE

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced andhard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concept which could be used by millions of people.

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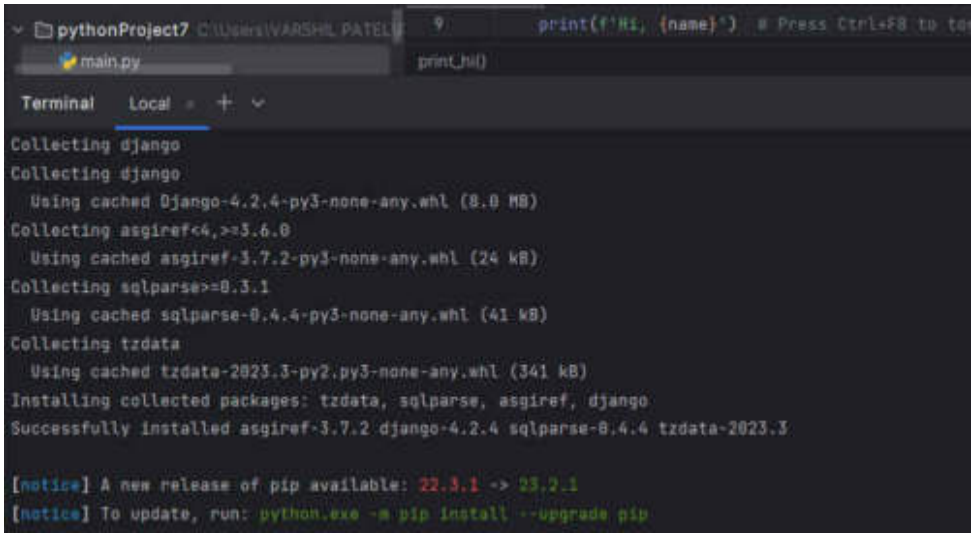
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	• Page Routing in Django	
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	• Project and Conlusion	

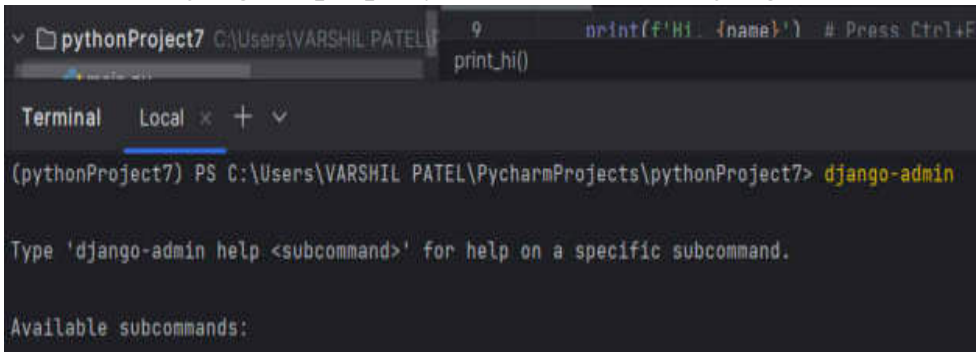
Week-1

- Day-1(27/07/2023)
    - Django Environment setyp :

1) Install DJANGO -pip install django



2) To check django is properly installed or not -django-admin



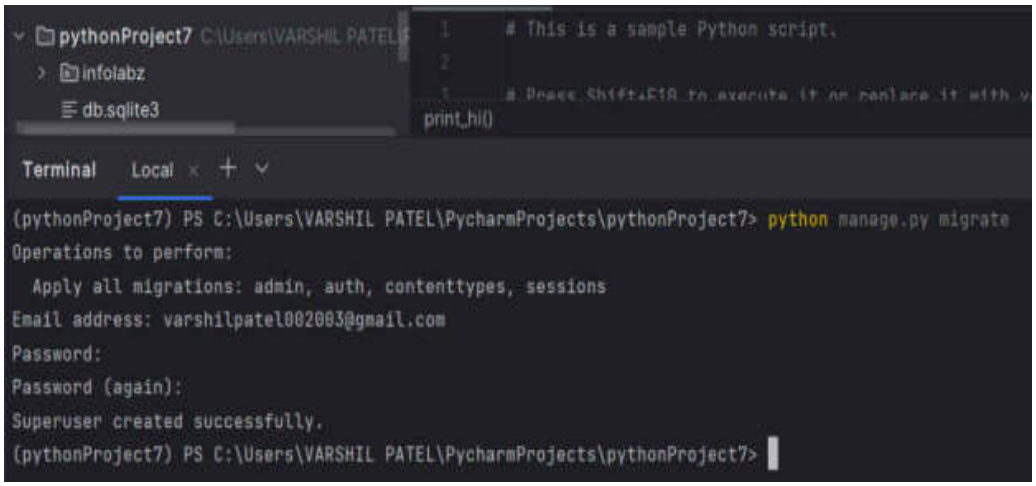
- Django project creation

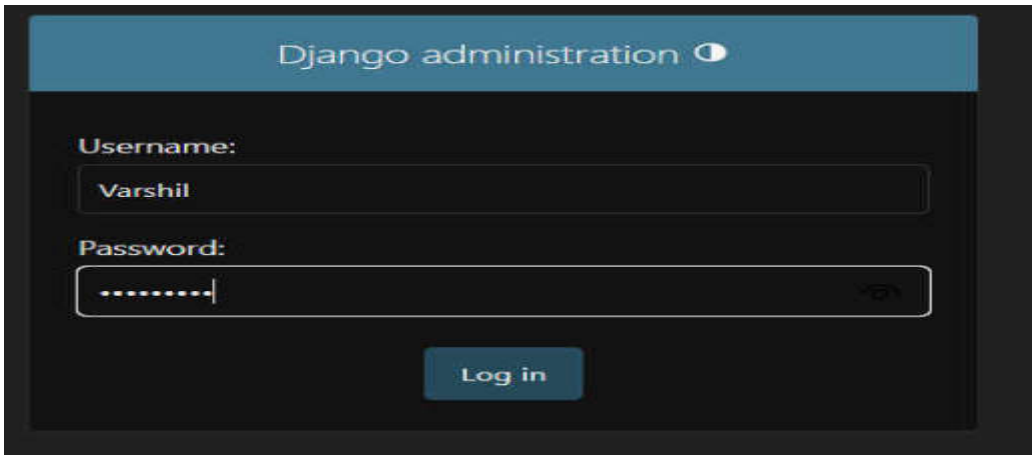
Create a project -django-admin startproject (projectname) .

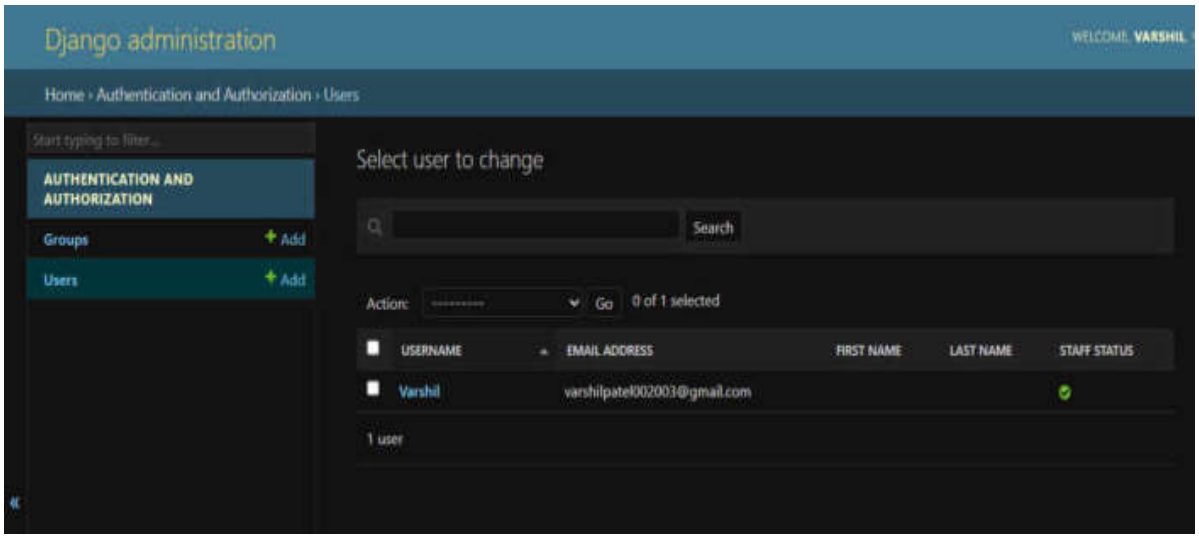


- Django super user

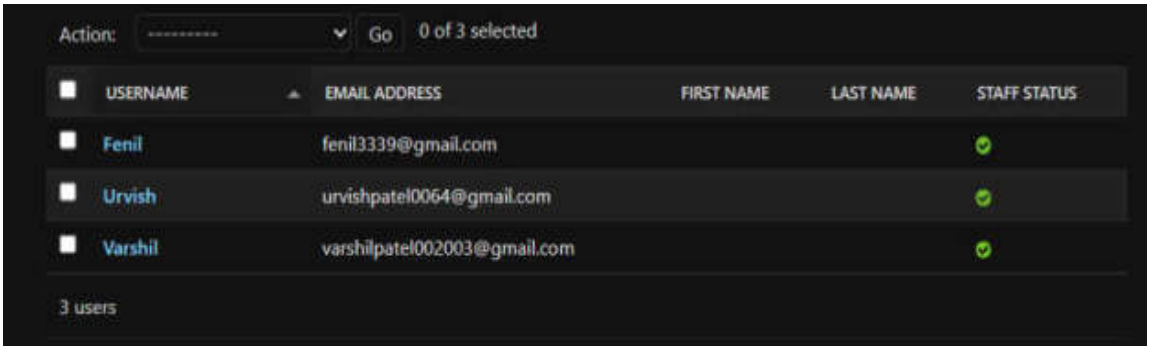
python manage.py createsuperuser

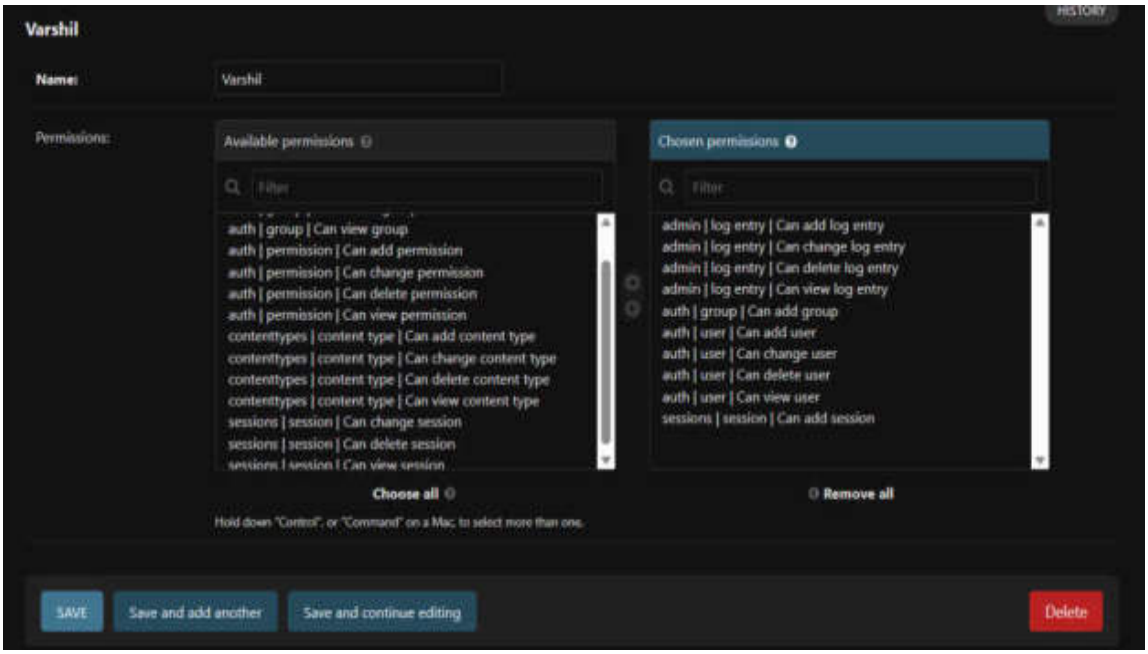


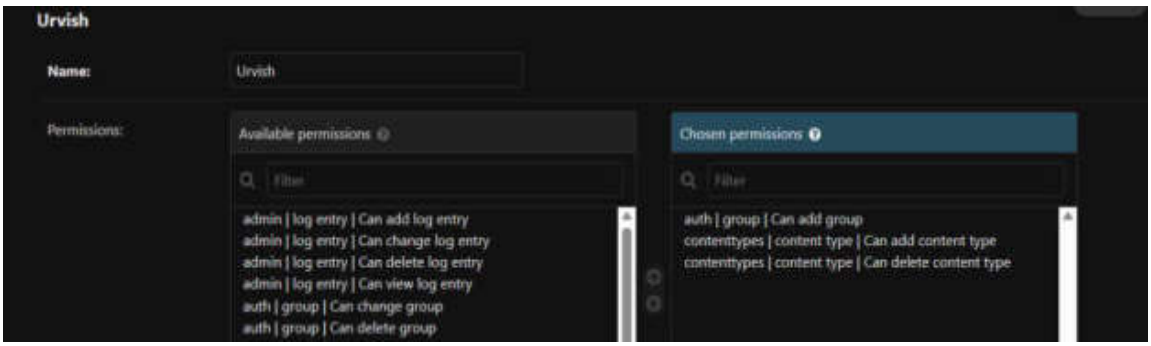




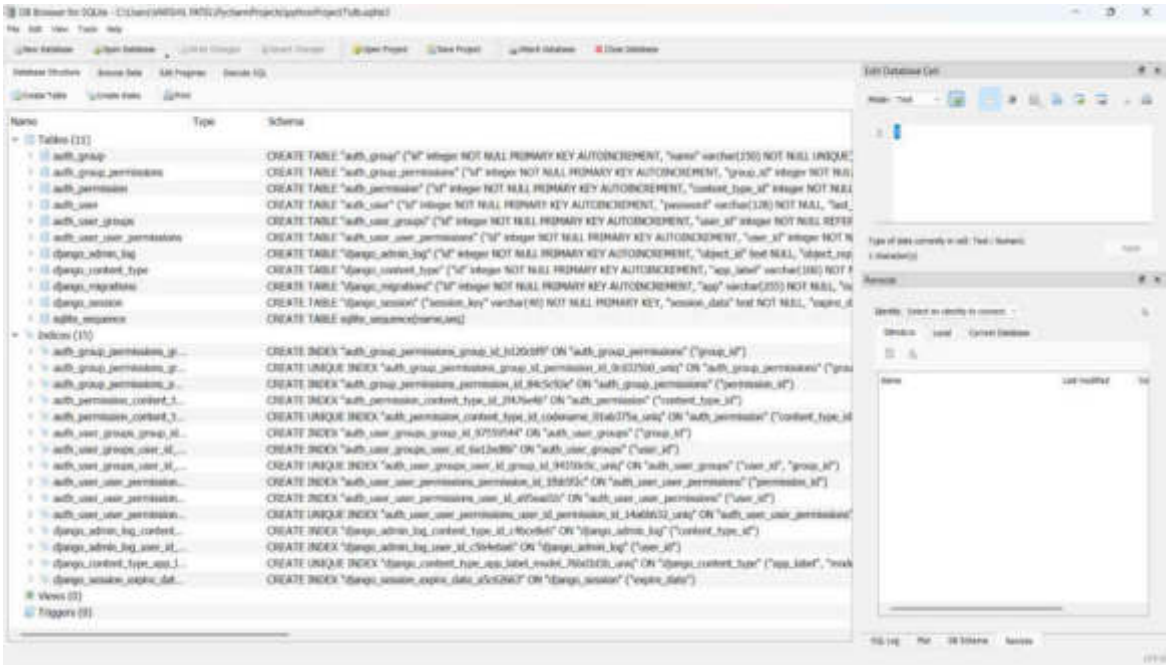
- Day-2(28/07/2023)
    - Superuser permissions

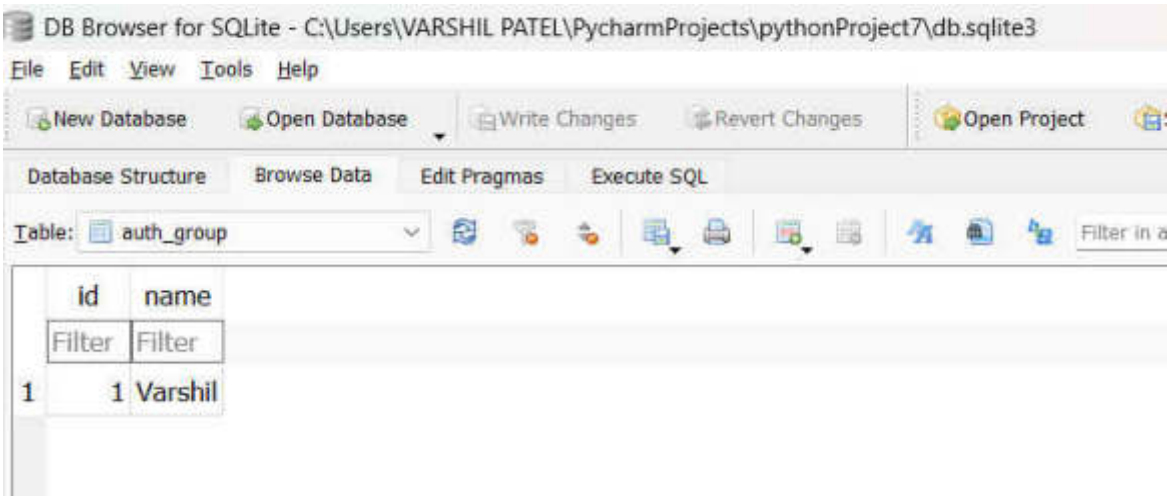




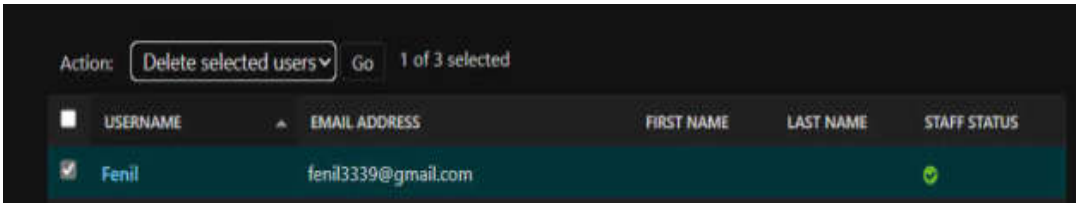


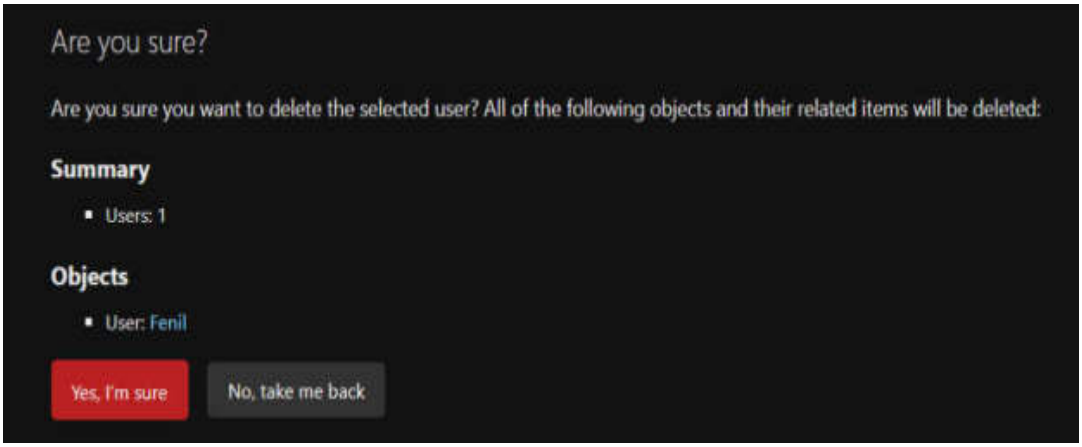
- SQLite Database Browser



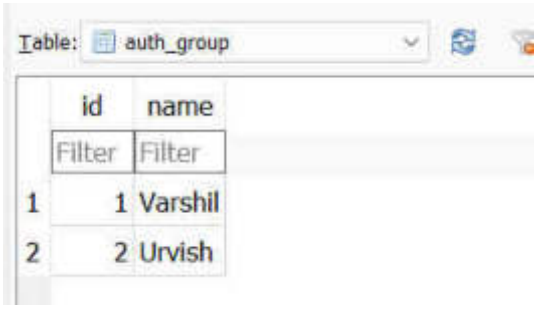


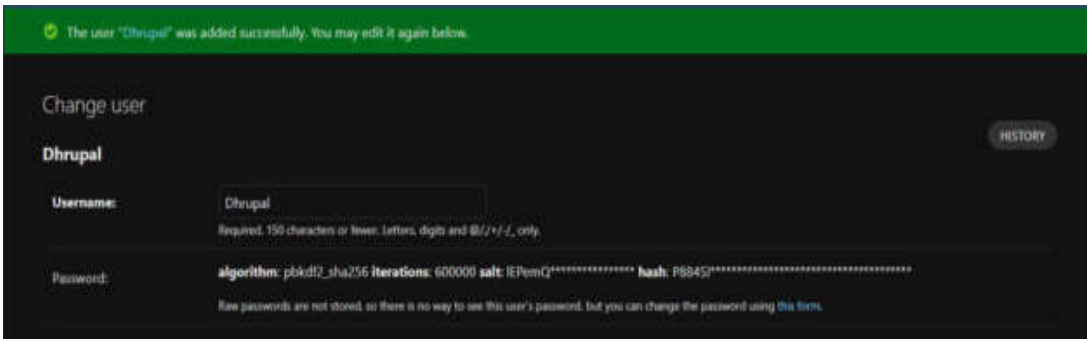
- First Model : Database Table : Insert Update & Delete





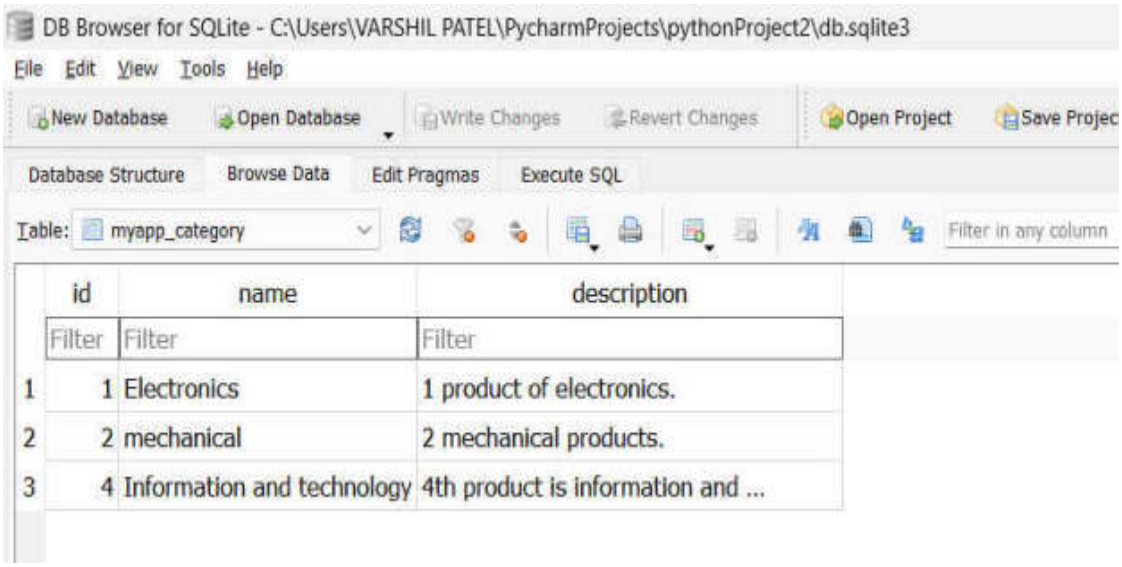




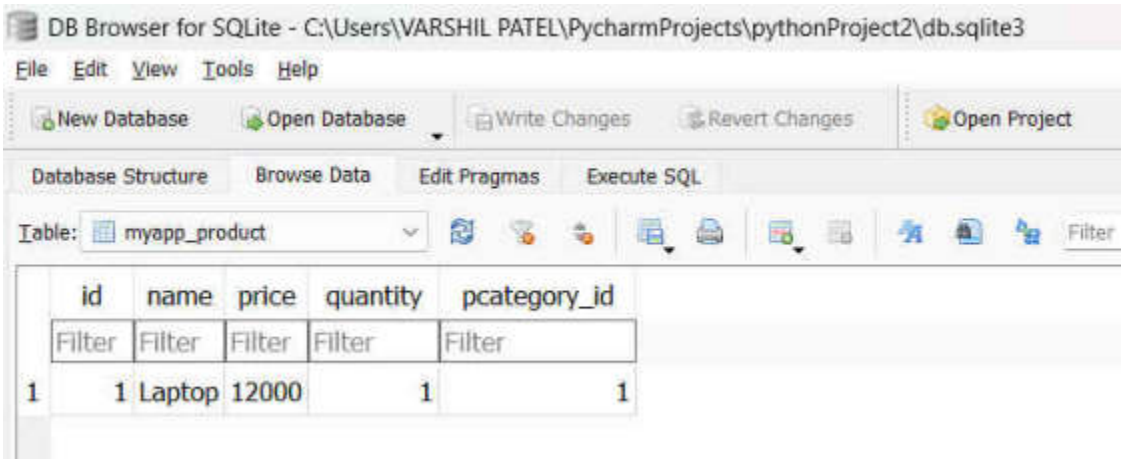


- Day-3(31/072023)
  - Multiple Database Tables with different Fields

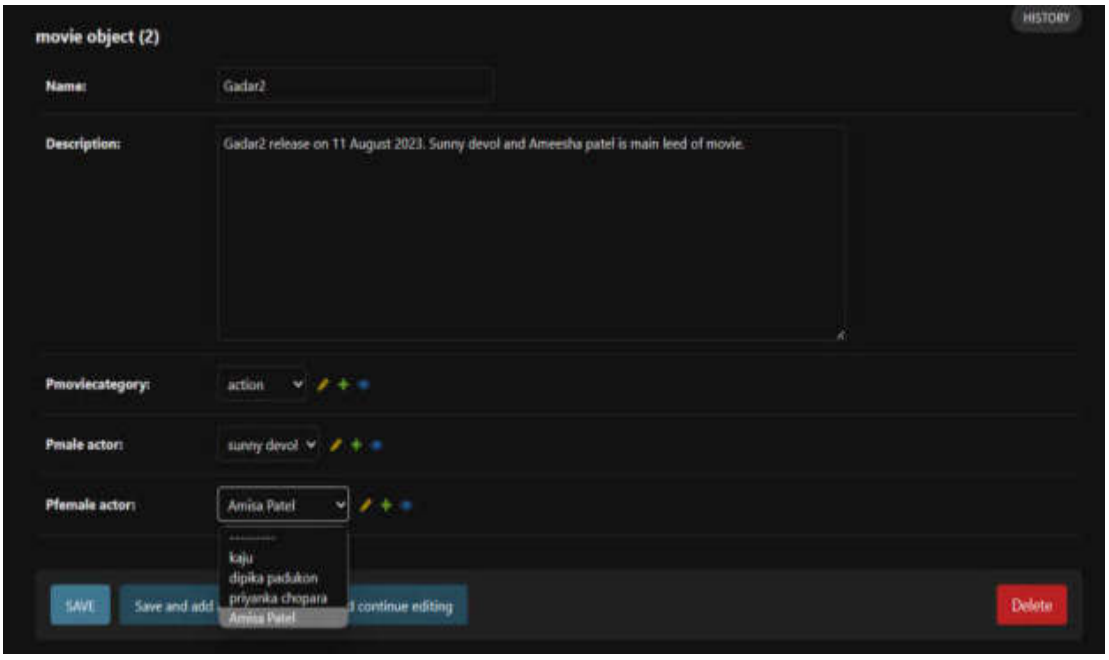
```
class category(models.Model):
    name = models.CharField(max_length=50)
    description = models.TextField()
```




```
class product(models.Model):
    name = models.CharField(max_length=50)
    pcategory = models.ForeignKey(category, on_delete=models.CASCADE)
    price = models.IntegerField()
    quantity = models.IntegerField()
```

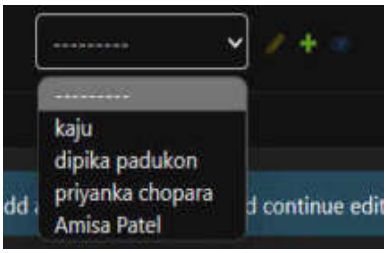


- Day-4(01/08/2023)
    - Foreign Key Concept











- Day-5(02/08/2023)
  - Assignment project task
  - Admin Panel Project : Backend Bank Customer DB development
  -

Models.py

```
from django.db import models


# Create your models here.
class role(models.Model):
    Id = models.AutoField(primary_key=True)
    UserTypeName = models.CharField(max_length=30)

    def __str__(self):
        return self.UserTypeName


STATUS_CHOICE = [
    ('0', 'Active'),
    ('1', 'Inactive')
]


class user_detail(models.Model):
    UserName = models.CharField(max_length=30)
    UserPassword = models.CharField(max_length=20)
    UserEmail = models.EmailField()
    UserPhone = models.IntegerField(max_length=10)
    UserType = models.ForeignKey(role, on_delete=models.CASCADE)
    UserStatus = models.CharField(choices=STATUS_CHOICE, max_length=20)

    def __str__(self):
        return self.UserName


MONTH_CHOICES = [
    ('1', 'Jan'),
    ('2', 'Feb'),
    ('3', 'Mar'),
    ('4', 'Apr'),
    ('5', 'May'),
    ('6', 'Jun'),
    ('7', 'Jul'),
    ('8', 'Aug'),
    ('9', 'Sept'),
    ('10', 'Oct'),
    ('11', 'Nov'),
    ('12', 'Dec')
]
YEAR_CHOICES = [
```

```
    ('1', '2022'),
    ('2', '2023'),
    ('3', '2024'),
    ('4', '2025'),
    ('5', '2026'),
    ('6', '2027'),
    ('7', '2028'),
    ('8', '2029'),
    ('9', '2030'),
]


class bank_Detail(models.Model):
    UserId = models.ForeignKey(user_detail, on_delete=models.CASCADE)
    BankName = models.CharField(max_length=50)
    cardNo = models.IntegerField()
    EndMonth = models.CharField(choices=MONTH_CHOICES, max_length=20)
    EndYear = models.CharField(choices=YEAR_CHOICES, max_length=20)


class country(models.Model):
    CountryName = models.CharField(max_length=50)

    def __str__(self):
        return self.CountryName


class state(models.Model):
    CountryId = models.ForeignKey(country, on_delete=models.CASCADE)
    StateName = models.CharField(max_length=30)

    def __str__(self):
        return self.StateName


class city(models.Model):
    StateId = models.ForeignKey(state, on_delete=models.CASCADE)
    CityName = models.CharField(max_length=30)

    def __str__(self):
        return self.CityName


class user_address(models.Model):
    UserId = models.ForeignKey(user_detail, on_delete=models.CASCADE)
    BuildingName = models.CharField(max_length=25)
    StreetName = models.CharField(max_length=15)
    CityName = models.ForeignKey(city, on_delete=models.CASCADE)
    Pincode = models.IntegerField()
```

admin.py

```
from django.contrib import admin
from newapp.models import role
from newapp.models import user_detail
from newapp.models import bank_Detail
from newapp.models import country
from newapp.models import state
from newapp.models import city
from newapp.models import user_address

# Register your models here.


class showrole(admin.ModelAdmin):
    list_display = ['UserTypeName']


admin.site.register(role, showrole)


class showuser_detail(admin.ModelAdmin):
    list_display = ['UserName', 'UserPassword', 'UserEmail', 'UserPhone', 'UserType', 'UserStatus']


admin.site.register(user_detail, showuser_detail)


class showbank_Detail(admin.ModelAdmin):
    list_display = ['UserId', 'BankName', 'cardNo', 'EndMonth', 'EndYear']


admin.site.register(bank_Detail, showbank_Detail)


class showcountry(admin.ModelAdmin):
    list_display = ['CountryName']


admin.site.register(country, showcountry)


class showstate(admin.ModelAdmin):
    list_display = ['CountryId', 'StateName']


admin.site.register(state, showstate)

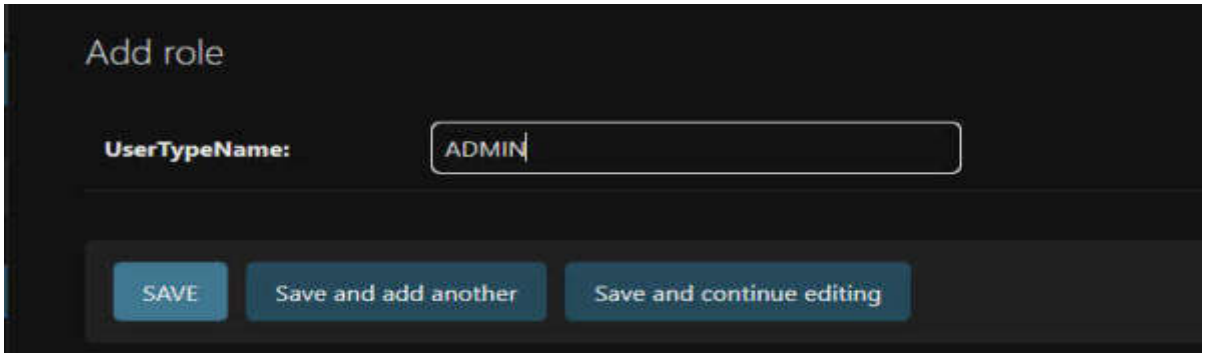

class showcity(admin.ModelAdmin):
    list_display = ['StateId', 'CityName']

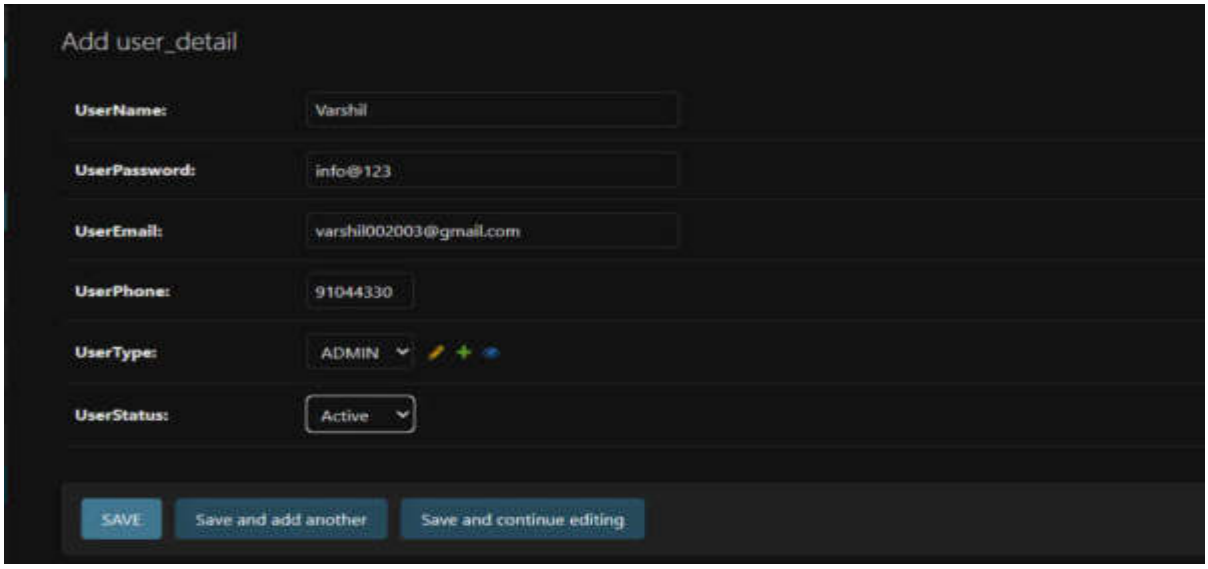

admin.site.register(city, showcity)
```

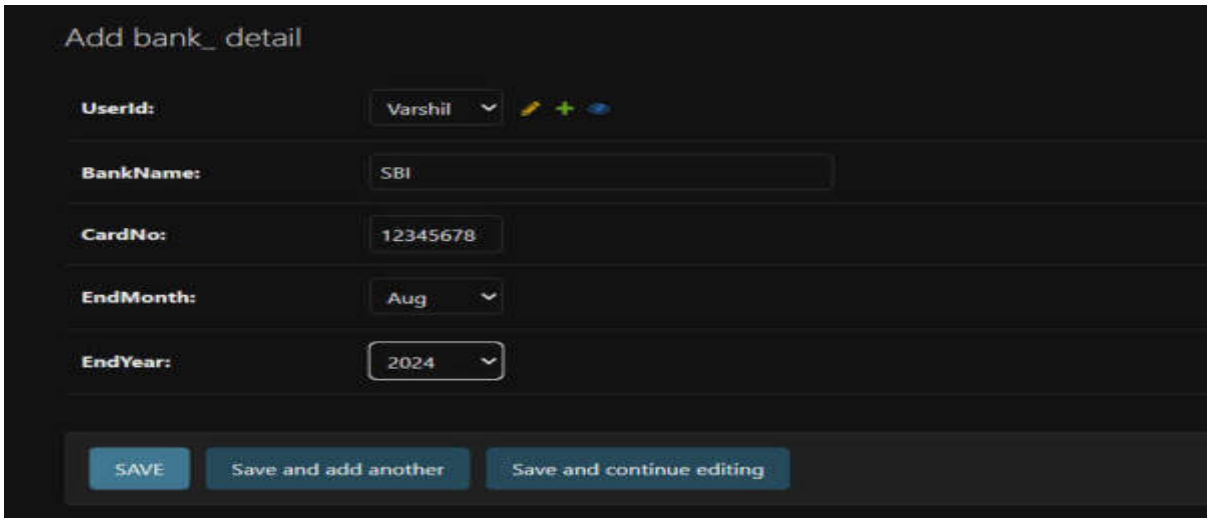
```
class showuser_address(admin.ModelAdmin):
    list_display = ['UserId', 'BuildingName', 'StreetName', 'CityName', 'Pincode']

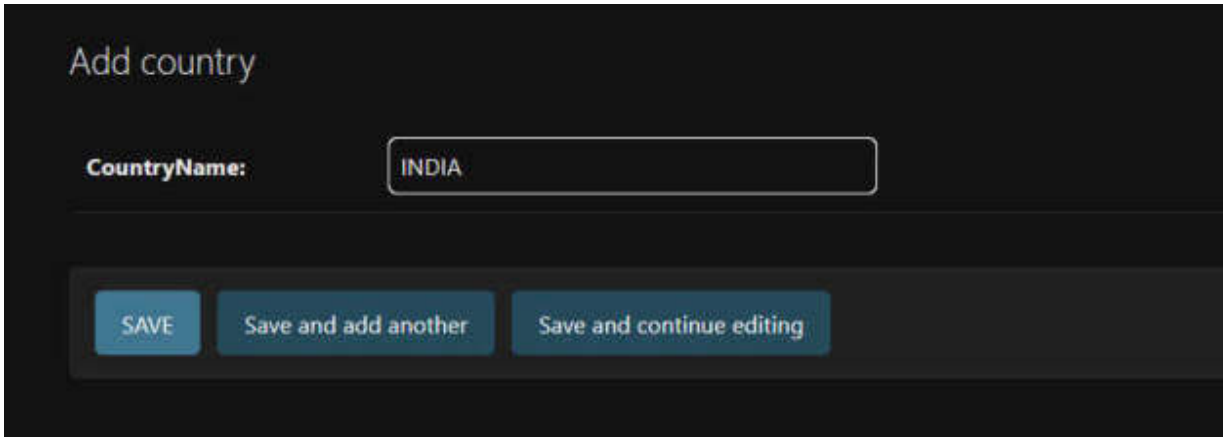

admin.site.register(user_address, showuser_address)
```

output:

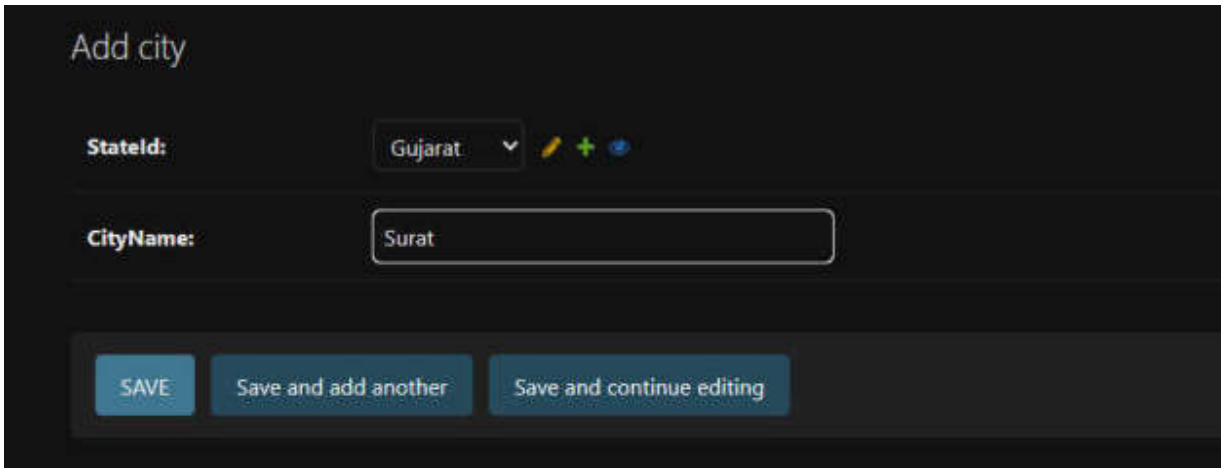


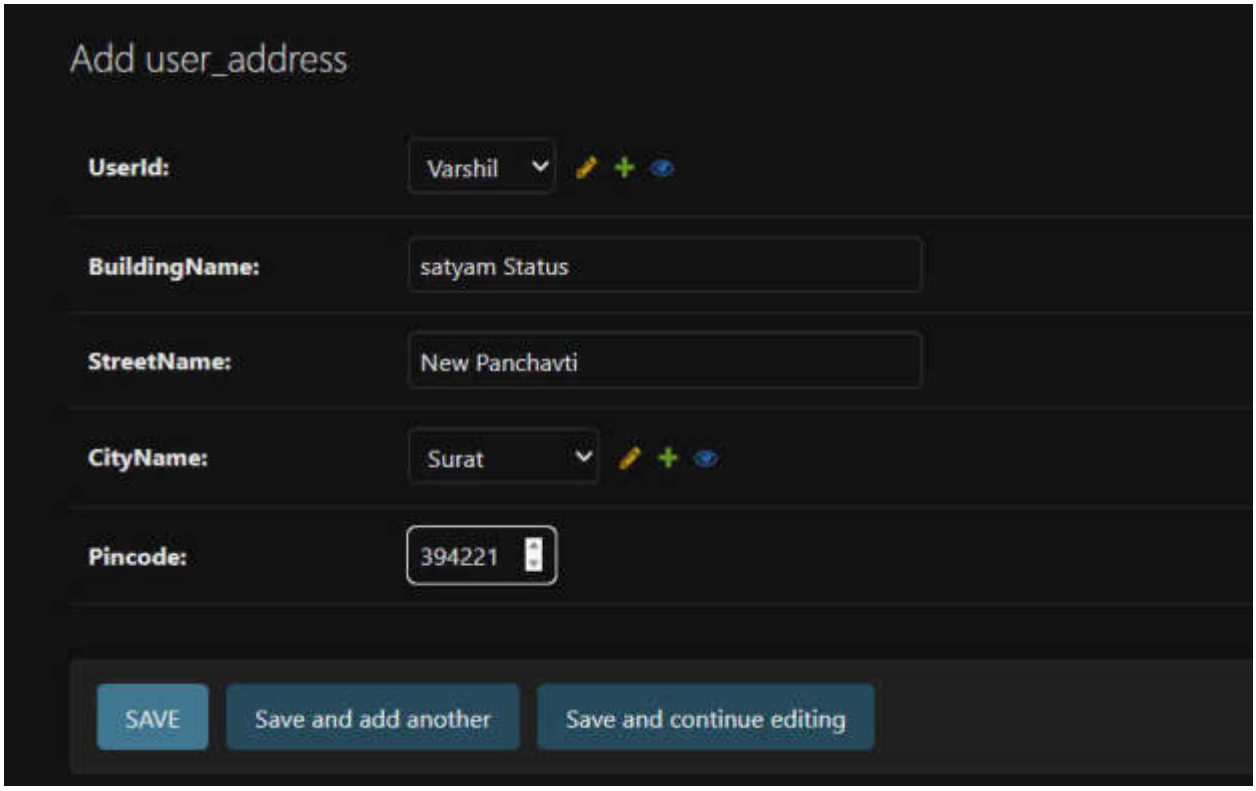


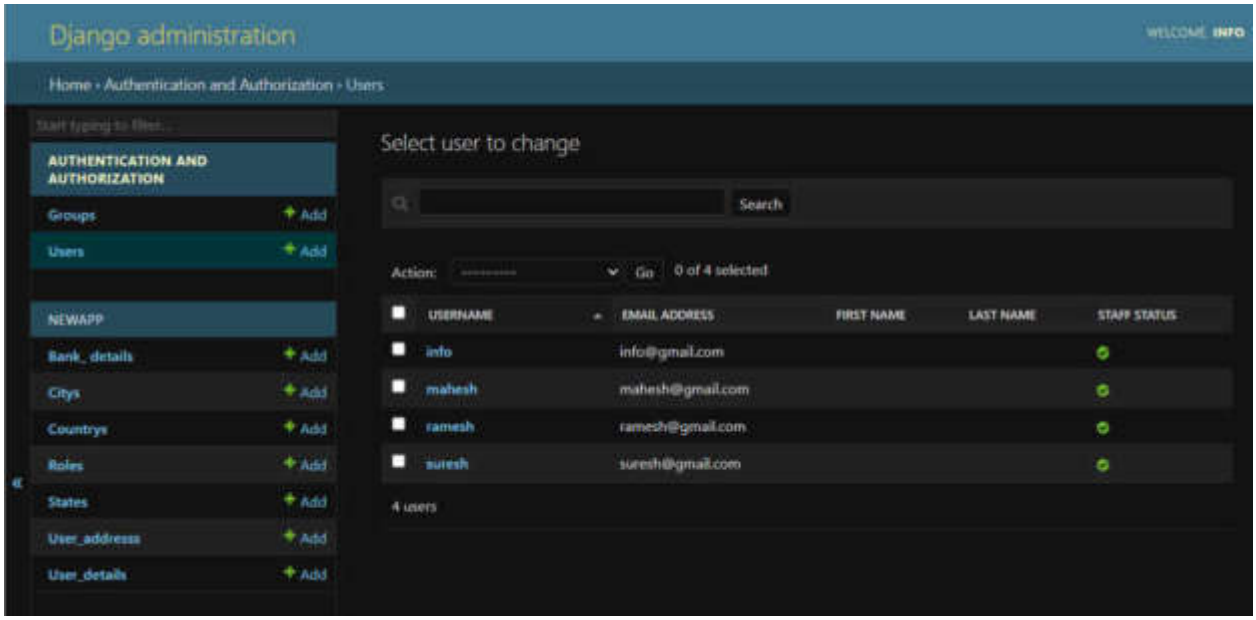



Add country
CountryName:
INDIA
SAVE
Save and add another
Save and continue editing


Add state
CountryId:
INDIA
StateName:
Gujarat
SAVE
Save and add another
Save and continue editing


Add city
StateId:
Gujarat
CityName:
Surat
SAVE
Save and add another
Save and continue editing


Add user_address
UserId:
Varshil
BuildingName:
satyam Status
StreetName:
New Panchavti
CityName:
Surat
Pincode:
394221
SAVE
Save and add another
Save and continue editing


Django administration
WELCOME, INFO
Home › Authentication and Authorization › Users
AUTHENTICATION AND AUTHORIZATION
Groups
Users
NEWAPP
Bank_details
Citys
Countrys
Roles
States
User_address
User_details
Add
Select user to change
Search
Action:
Go
0 of 4 selected
USERNAME
EMAIL ADDRESS
FIRST NAME
LAST NAME
STAFF STATUS
info
info@gmail.com
mahesh
mahesh@gmail.com
ramesh
ramesh@gmail.com
suresh
suresh@gmail.com
4 users

Week-2

- Day-1(03/03/2023)
  - Loading HTML Page in Django
  - Page Routing in Django

View.py

```
from django.shortcuts import render

# Create your views here.

def index(request):
    return render(request, 'index.html')


def about(request):
    return render(request, 'about.html')


def services(request):
    return render(request, 'services.html')


def portfolio(request):
    return render(request, 'portfolio.html')


def contact(request):
    return render(request, 'contact.html')
```

newapp\urls.py

```
from django.urls import path
from . import views

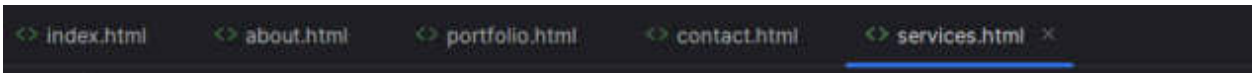
urlpatterns = [
    path('', views.index, name="indexfile"),
    path('aboutus', views.about, name="aboutusfile"),
    path('services', views.services, name="servicesfile"),
    path('portfolio', views.portfolio, name="portfoliofile"),
    path('contactus', views.contact, name="contactusfile")

]
```

infolabz/urls.py

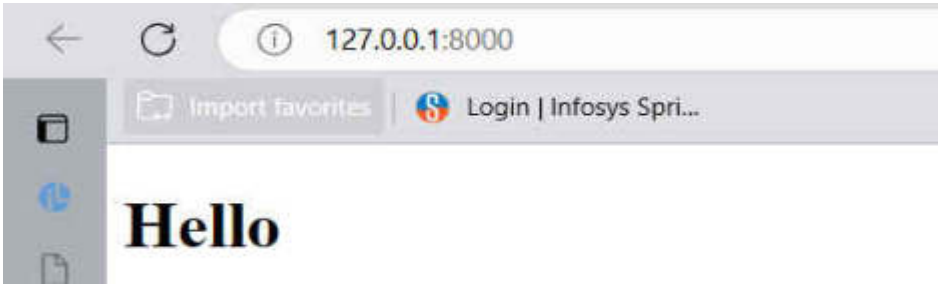
```
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('newapp.urls'))
]
```



index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Hello </h1>
</body>
</html>
```



about.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>

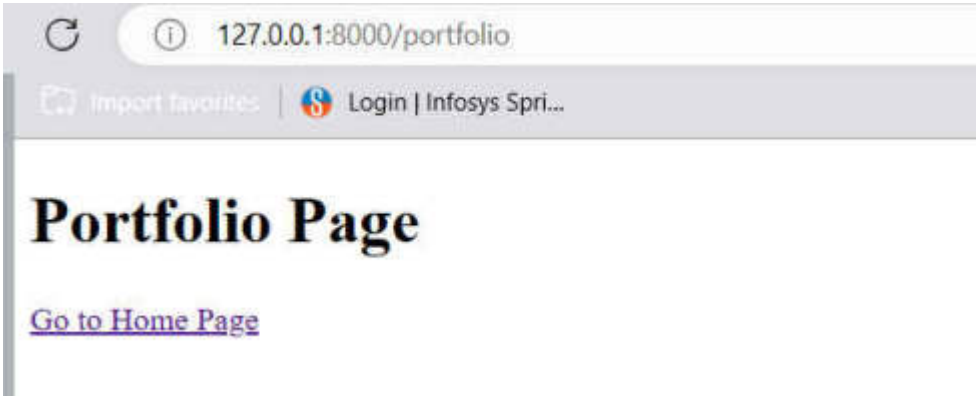
</head>
<body>
   <h1> About us page </h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
   <table border="2"  class="table table-dark">
      <tr>
         <th> Header 1 </th>
         <th> Header 2 </th>
         <th> Header 3 </th>
         <th> Header 4 </th>
         <th> Header 5 </th>
      </tr>
      <tr>
         <td> data1 </td>
         <td> data2 </td>
         <td> data3 </td>
         <td> data4 </td>
         <td> data5 </td>
      </tr>
       <tr>
```

```
        <td> data1.1 </td>
        <td> data2.1 </td>
        <td> data3.1 </td>
        <td> data4.1 </td>
        <td> data5.1 </td>
      </tr>
       <tr>
        <td> data1.2 </td>
        <td> data2.2 </td>
        <td> data3.2 </td>
        <td> data4.2 </td>
        <td> data5.2 </td>
      </tr>
   </table>
</body>
</html>
```



Portfolio.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Portfolio Page</h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```



Contact.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
      <h1> Contact Us page </h1>
      <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```

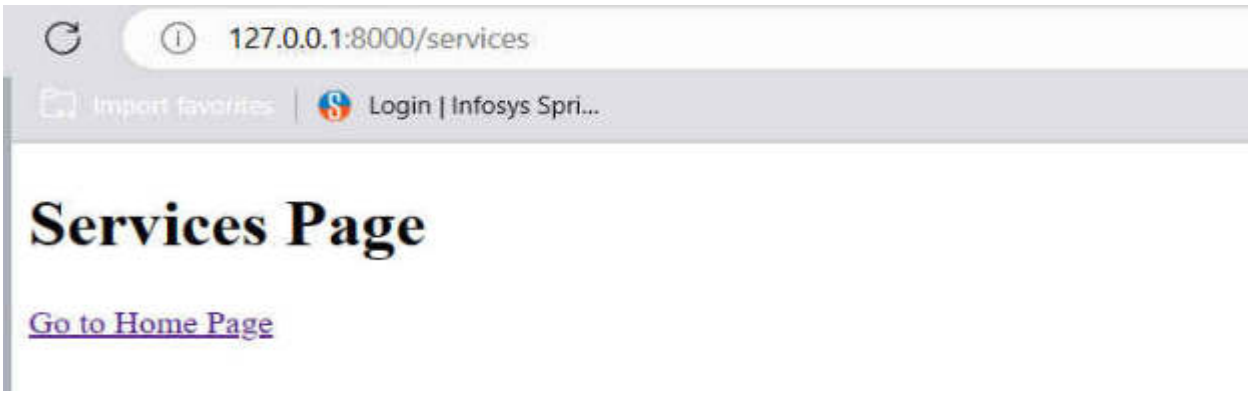


Contact Us page

Go to Home Page

Services.html

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Title</title>
</head>
<body>
   <h1> Services Page </h1>
   <a href="{% url 'indexfile' %}"> Go to Home Page</a>
</body>
</html>
```



Services Page

Go to Home Page

- Day-2(04/08/2023)
  - Implementation of Static folder (CSS, JS & IMAGES) in Djnago
  - Bootstrap

Static folder

- Css

  style.css

```
h1{
color:red;
}
```

- Images

  varshil.JPG

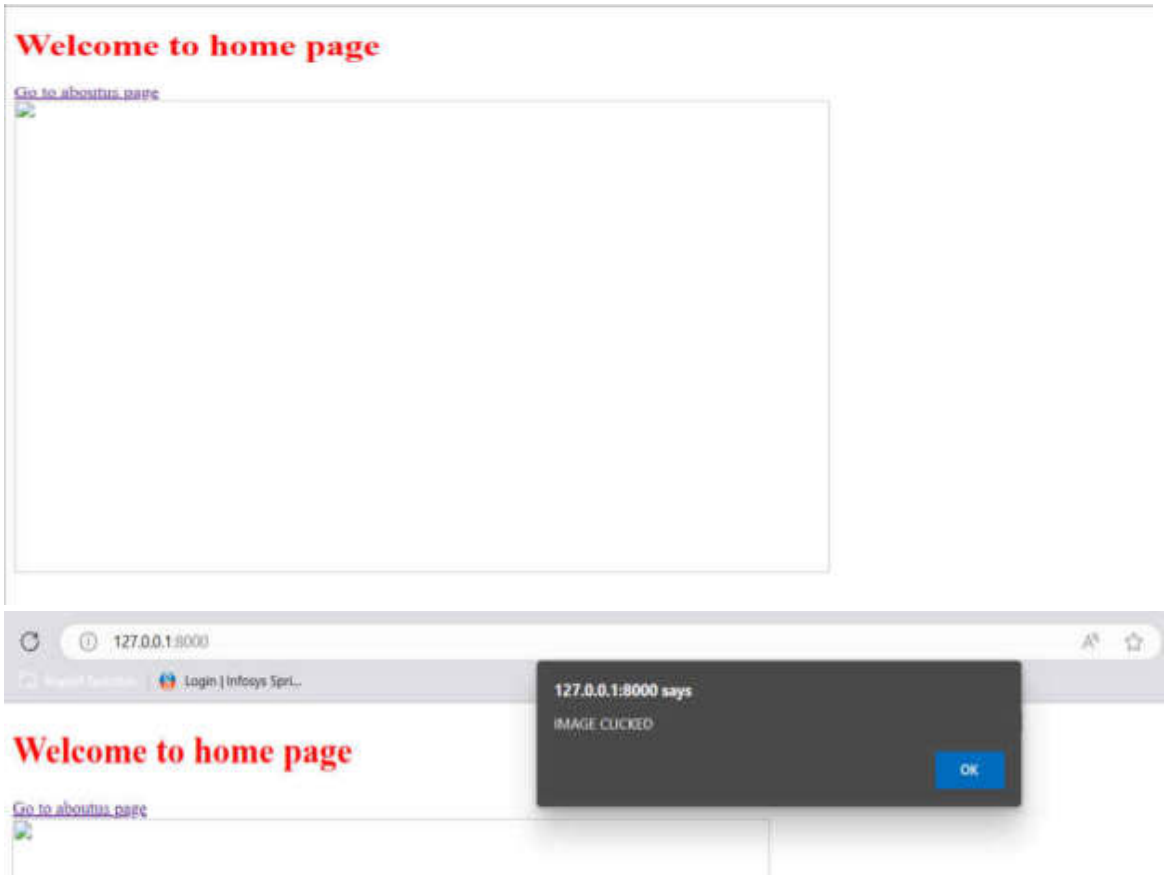


- js

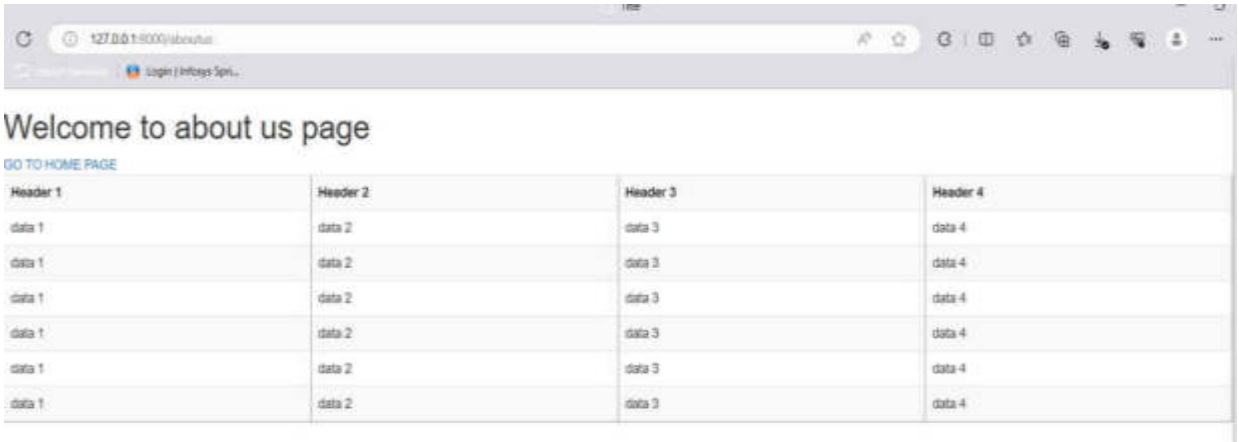
  demo.js

```
function viewmsg(){
    alert("IMAGE CLICKED");
}
```

index.html



About.html



- Bootstrap

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>

<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
```

- new\urls.py

```
from django.urls import path
from . import views

urlpatterns = [
    path('', views.index, name="indexfile"),
    path('aboutus', views.about, name="aboutusfile")
]
```

- infolabz\urls.py

```
from django.contrib import admin
from django.urls import path,include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('new.urls'))
]
```

- views.py

```
from django.shortcuts import render


# Create your views here.
def index(request):
    return render(request, 'index.html')


def about(request):
    return render(request, 'about.html')
```

- Day-3(07/08/2023)
  - Dictionary
  - Concept of APIs
  - Requests Package
  - API : Covid, Bitcoin, ISRO etc

dictionary.py

```
mydata = {"Ahmedabad": 100, "Surat": 200, "Rajkot": 300}
print(mydata["Rajkot"])
mydata1 = {"Ahmedabad": 100, "Surat": [200, 250, 1], "Rajkot": 300}
print(mydata1["Surat"][1])

mydata2 = {"Ahmedabad": [{"date": "5 Aug 2023", "cases": 15},
                         {"date": "6 Aug 2023", "cases": 25},
                         {"date": "7 Aug 2023", "cases": 35}],
           "Surat": [200, 250, 1],
           "Rajkot": 300}
print(mydata2["Ahmedabad"][1]["date"])
print(mydata.keys())
```



➢ Django provides a powerful framework for building APIs through various tools and libraries. The most commonly used package for building APIs in Django is Django REST framework (DRF). DRF provides a set of utilities and classes that simplify the process of creating RESTful APIs.

Basic Terminologies :

1) Serializers: Serializers in DRF allow you to convert complex data types, such as Django models, into native Python data types, which can then be rendered into JSON or other content types. They also provide

deserialization, allowing parsed data to be converted back into complex types, after first validating the incoming data. Serializers play a vital role in handling the translation between the database and the API.

2) Views: In DRF, views are classes that define the logic for handling different HTTP methods (GET, POST, PUT, DELETE, etc.) on different endpoints. These views work similarly to regular Django views but are tailored for API interactions. DRF provides a variety of built-in view classes that simplify tasks such as retrieving, creating, updating, and deleting data.

3) URL Routing: Just like in regular Django projects, you use URL routing to map URLs to specific views. DRF provides its own set of URL routing mechanisms that allow you to define the API endpoints and associate them with corresponding view classes.

4) Authentication and Permissions: DRF provides authentication and permission classes that allow you to control access to your API endpoints. You can implement various authentication methods such as token-based authentication, session authentication, or OAuth, and define permission levels like read-only, read-write, or custom permissions.

5) Pagination: APIs often deal with large datasets, so DRF includes pagination classes that help manage the amount of data returned by an API endpoint. This prevents overwhelming the client with too much data at once.

6) ViewSets and Routers: DRF includes the concept of ViewSets, which combines the logic for multiple HTTP methods related to a single resource into a single class. Routers help in automatically generating the URL patterns for these ViewSets, reducing the need for manual URL configuration.

7) Authentication: DRF supports various authentication mechanisms out of the box, including token-based authentication, session authentication, and

basic authentication. This ensures that only authorized users can access your API endpoints.

8) Serialization of Data: DRF allows you to define serializers that handle the conversion between complex data types (such as Django models) and native Python data types (like dictionaries) that can be easily converted to JSON or other formats.

- Requests Package:

1) Install Requests:
   - pip install requests

2) Import Requests:
   - import requests

3) Sending HTTP Requests:
   - import requests

```
url = "https://api.example.com/data"
response = requests.get(url)
print(response.status_code)
print(response.text)
```

- API : Covid, Bitcoin, ISRO etc:

  - covid.py

```
import requests
url = requests.get("https://data.covid19india.org/data.json")
mydata = url.json()
print(mydata.keys())
print(mydata["cases_time_series"][0]["date"])
print(len(mydata["cases_time_series"]))
```



- bitcoin.py

```
import requests

url = requests.get("https://api.coindesk.com/v1/bpi/currentprice.json")
mydata = url.json()

print(type(mydata))
print(mydata["bpi"]["USD"]["rate"])
print(mydata.keys())
```



- Day-4(08/08/2023)
    - API Integration in Webpages using Django Framework

➢ The culmination of our arsenal of skills and resources is the Django framework-based integration of APIs into websites. We learn to manage the retrieval of data from APIs and smoothly render it within our HTML templates under the guidance of the web development principles. Through its views and template tags, the Django framework streamlines this connection and makes it easier for users to see dynamic content. We enter the world of practical implementation armed with knowledge of API endpoints, request techniques, and response types. We see the evolution of static websites into dynamic portals that react to real-time events, engage visitors with real-time data, and unleash the possibility for limitless innovation as we integrate APIs with our webpages.

- Day-5([09/08/2023]&[10/08/2023])
  - Assignment project task
  - Project : Real time news website using inshorts API
  - Project and Conlusion

1) Start new project as a news :
   django-admin startproject news .

2) Start new app categories
   django-admin startapp categories

3) News/settings.py

```
'categories.apps.CategoriesConfig'
```

4) Categories/urls.py

```
from django.urls import path
from . import views

urlpatterns = [
    path('', views.index, name="headlines")
]
```

5) news/urls.py

```
from django.contrib import admin
from django.urls import path, include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('categories.urls'))
]
```

6) views.py

```
from django.shortcuts import render
import requests
```

```
# Create your views here.
def index(request):
    records = {}
    url = requests.get("https://inshorts.me/news/all?offset=0&limit=21")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, 'index.html', records)
```

7) templates/index.html

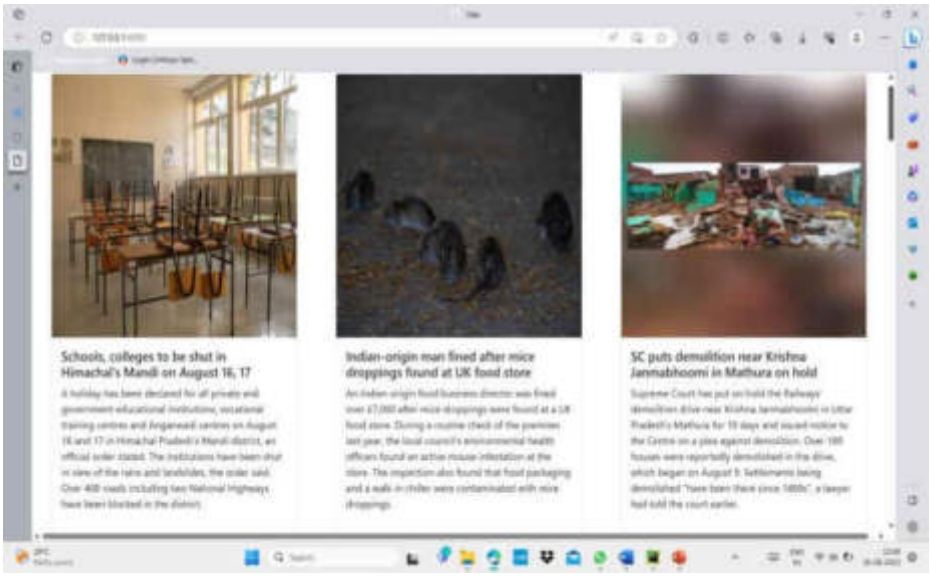
```
<!DOCTYPE html>

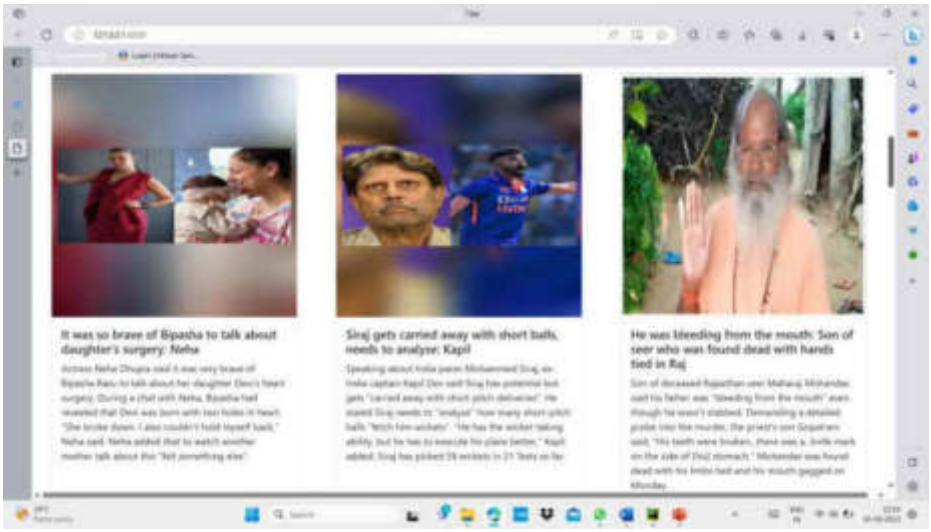
<html lang="en">
    <head>
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
1BmE4kWBq78iYhFldvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3" crossorigin="anonymous">
        <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js" integrity="sha384-
ka7Sk0Gln4gmd2MlQnikT1wXgYsOg+OMhuP+IlRH9sENBO0LRn5q+8nbTov4+1p" crossorigin="anonymous"></script>
        <meta charset="UTF-8">
        <title>Title</title>
    </head>
<body>

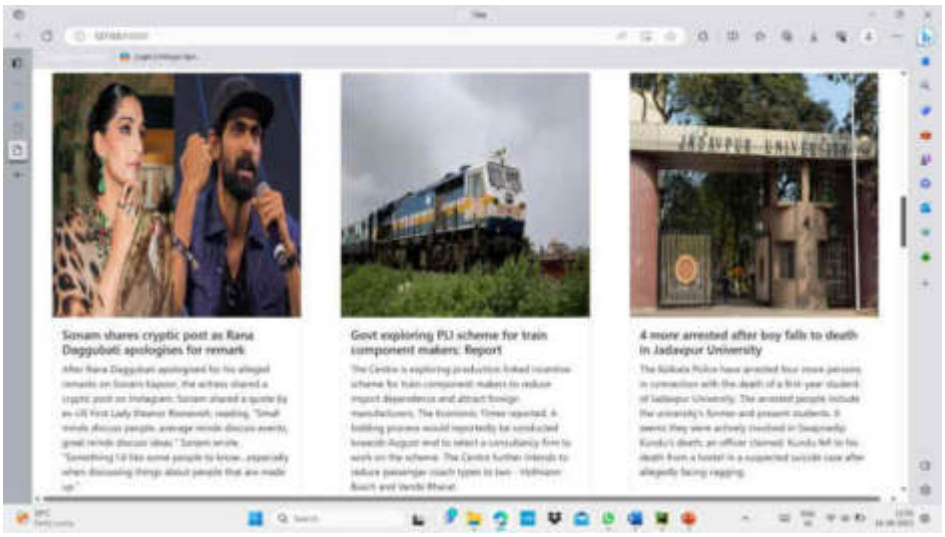
<!-- <div class="container">-->
<div class="row">
    <div calss="container">
    <div class="card-group" >
        {% for value in sportsdata.data.articles %}
        <div class="col-md-4">
            <div class="card" style="margin: 2rem; height: 45rem">
                <img src="{{ value.imageUrl }}" class="card-img-top" alt="Image"
style="height:25rem">
                <div class="card-body">
                    <h5 class="card-title">{{ value.title }}</h5>
```

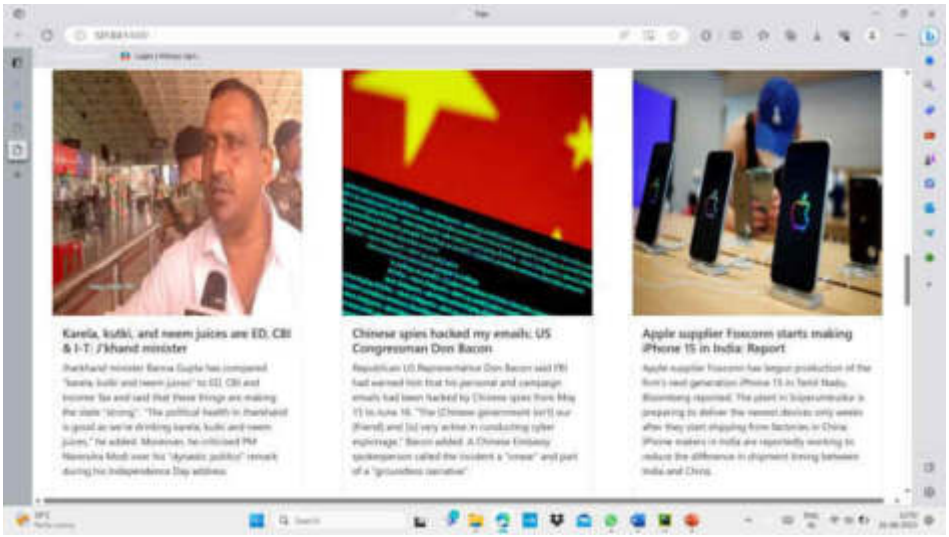
```
                <p class="card-text">{{ value.content }} </p>
              </div>
            </div>
          </div>
          {% endfor %}
      </div>
        </div>
</div>
<!-- </div>-->
</body>
</html>
```

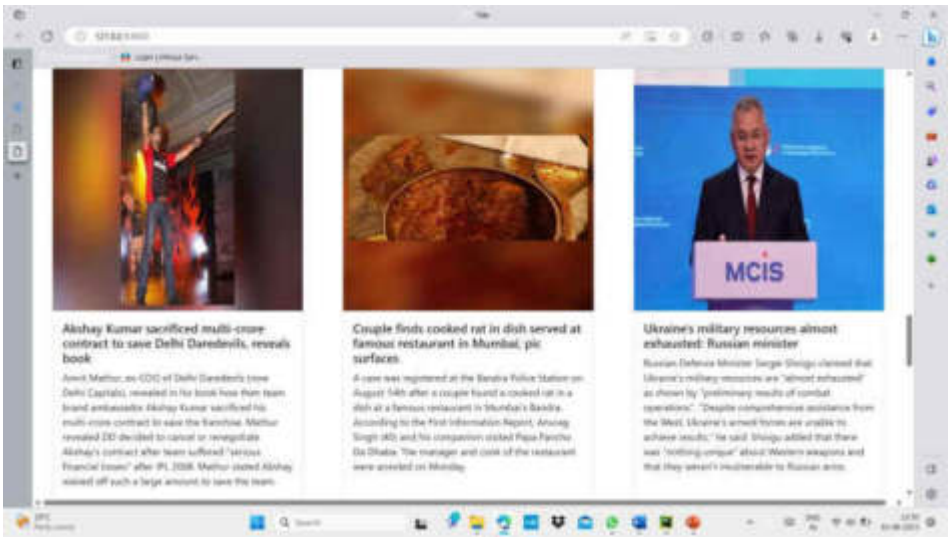
Output :

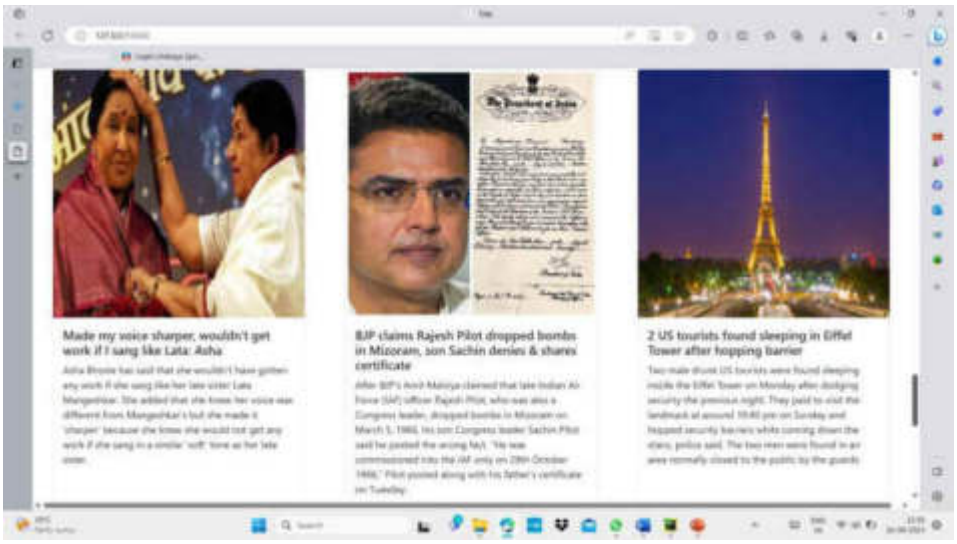


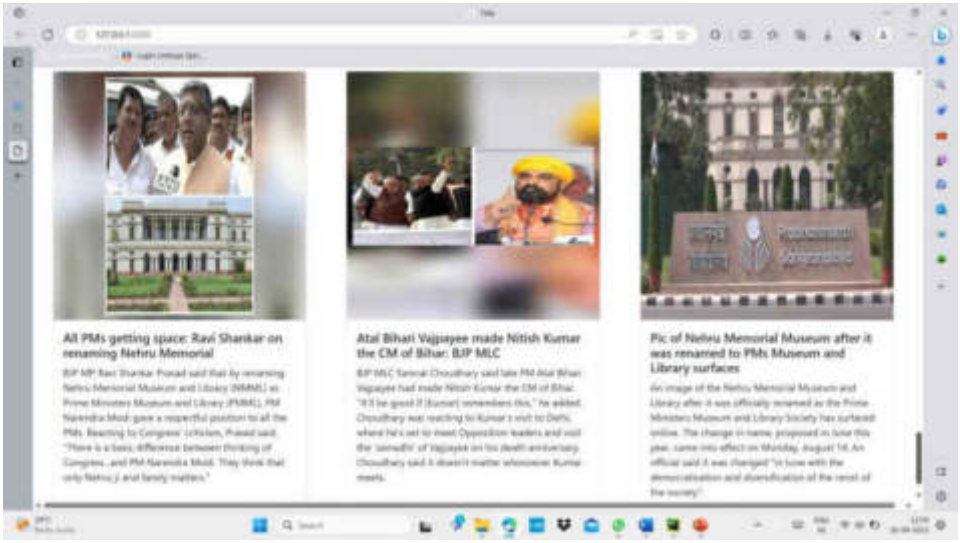



Sonam shares cryptic post as Rana Daggubati apologises for remark
Govt exploring PLI scheme for train component makers: Report
4 more arrested after boy falls to death in Jadavpur University


Karela, kutki, and neem juices are ED, CBI & I-T: J'khand minister
Chinese spies hacked my emails: US Congressman Don Bacon
Apple supplier Foxconn starts making iPhone 15 in India: Report


Akshay Kumar sacrificed multi-crore contract to save Delhi Daredevils, reveals book
Couple finds cooked rat in dish served at famous restaurant in Mumbai, pic surfaces
Ukraine's military resources almost exhausted: Russian minister
MCIS


Made my voice sharper, wouldn't get work if I sang like Lata: Asha
BJP claims Rajesh Pilot dropped bombs in Mizoram, son Sachin denies & shares certificate
2 US tourists found sleeping in Eiffel Tower after hopping barrier


All PMs getting space: Ravi Shankar on renaming Nehru Memorial
Atal Bihari Vajpayee made Nitish Kumar the CM of Bihar: BJP MLC
Pic of Nehru Memorial Museum after it was renamed to PMs Museum and Library surfaces

INTERNSHIP AT TWS MEDIA PVT. LTD

AN INTERNSHIP REPORT

Submitted by

Patel Prince Bhikhabhai

200390116026

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at TWS MEDIA** has been carried out by **Patel Prince Bhikhabhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof.
Internal Guide

Sign

Prof. Akshay Kansara
Head of Department

CERTIFICATE OF COMPLETION



TWS media

INTERNSHIP COMPLETION LETTER

10 AUGUST 2023

This is to certify that

Mr/Ms.Patel Prince Bhikhabhai
Enrollment No: 200390116026
College: Saffrony institute of technology

We are pleased to inform you that you have successfully completed your 15-day internship program at TWS MEDIA. During your time with us, you have shown a great deal of enthusiasm, dedication, and willingness to learn. We are confident that the skills and knowledge you have gained during your internship will be valuable assets as you continue to pursue your career goals.

We wish you all the best in your future endeavors and hope that you will keep in touch with us. If you have any questions or if there is anything we can do to support your career development, please do not hesitate to reach out to us.

Jay Sathwara
Managing Director

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S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at TWS MEDIA** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
Prince Patel	_____

COMPANY PROFILE

TWS Media Private Limited is an IT company based in India that provides a range of services, including website and mobile app development and digital marketing. The company was founded in 2019 and has since worked with a variety of clients across industries.

In addition to its development services, TWS Media also offers digital marketing services, including search engine optimization (SEO), social media marketing, and pay-per-click (PPC) advertising. The company's goal is to help clients improve their online presence and reach their target audience through effective digital marketing strategies.

Overall, TWS Media is a full-service IT company that offers a range of services to help clients succeed in the digital age. With its expertise in web and mobile app development, and digital marketing, the company is well-positioned to help businesses of all sizes achieve their goals and grow their online presence.

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Week 1

27 JULY 2023

- **JavaScript**

JavaScript is a versatile and widely-used programming language primarily used for web development. It enables dynamic and interactive web pages by allowing developers to manipulate HTML and CSS on the fly. With its client-side execution, JavaScript empowers user interactions, form validation, animations, and more. It has a vast ecosystem of libraries and frameworks like React and Node.js, making it essential for both frontend and backend development.

- **JavaScript Console Api**

The JavaScript Console API provides a powerful tool for developers to interact with and debug code within web browsers. It offers methods like console.log() to display messages and variables in the browser's developer console, aiding in real-time debugging. More advanced functions like console.error() and console.warn() help identify and rectify issues in code. Additionally, the Console API assists in measuring performance with console.time() and console.timeEnd() for precise optimization of web applications.

- **JavaScript variables**

JavaScript variables are containers that store data, such as numbers, strings, or objects, for use in a program. They are declared using keywords like var, let, or const. var has global scope, while let and const offer block-scoped variables, with let being mutable and const being immutable. Variables enable dynamic data manipulation and are a fundamental concept in JavaScript programming, facilitating data storage and manipulation in a flexible manner.

- **Data types in JavaScript**

1. Primitive Types: These comprise numbers (integers and floats), strings (text), booleans (true/false), null (intentional absence), and undefined (uninitialized).
2. Objects: Complex structures encompassing arrays (ordered lists), functions (executable code), and custom-defined objects.
3. Symbol: Immutable and unique values used as property keys, ensuring distinction.
4. BigInt: Facilitates handling large integers with precision beyond regular number limits.

JS notes.js > ...

```
// 1. Ways to print in JavaScript
// console.log("Hello World");
// alert("me");
// document.write("this is document write")

// 2. Javascript console API
// console.log("Hello World", 4 + 6, "Another log");
// console.warn("this is warning");
// console.error("This is an error");

// 3. JavaScript Variables
// What are Variables? - Containers to store data values
var number1 = 34;
var number2 = 56;
// console.log(number1 + number2);

// 4. Data types in JavaScript
// Numbers
var num1 = 455;
var num2 = 56.76;

// String
var str1 = "This is a string";
var str2 = 'This is also a string';

// Objects
var marks = {
    ravi: 34,
    shubham: 78,
    harry: 99.977
}
// console.log(marks);

// Booleans
var a = true;
var b = false;
// console.log(a, b);
```

Week 1

28 JULY 2023

- **Operators in JavaScript**

1. Arithmetic Operators: These handle basic math operations like addition (+), subtraction (-), multiplication (*), division (/), and modulus (%) for remainder calculation.
2. Comparison Operators: Used to compare values, including equality (==, === for strict equality), inequality (!=, !==), greater than (>), less than (<), etc.
3. Logical Operators: Logical operations such as AND (&&), OR (||), and NOT (!) are used to combine or negate conditions.
4. Assignment Operators: Assign values, such as =, +=, -= for adding or subtracting and assigning.
5. Conditional (Ternary) Operator: Offers a concise way to write conditional statements, like condition? value_if_true : value_if_false.
6. Type Operators: For checking data types, instanceof and typeof operators are used.
7. Bitwise Operators: Manipulate individual bits of values, useful in low-level operations.

notes.js

```
// Operators in JavaScript
// Arithmetic Operators
var a = 100;
var b = 10;
// console.log("The value of a + b is ", a+b);
// console.log("The value of a - b is ", a-b);
// console.log("The value of a * b is ", a*b);
// console.log("The value of a / b is ", a/b);
// Assignment Operators
var c = b;
// c += 2;
// c -= 2; // c = c - 2;
// c *= 2;
// c /= 2;
// console.log(c);
// Comparison Operators
var x = 34;
var y = 56;
// console.log(x == y);
// console.log(x >= y);
// console.log(x <= y);
// console.log(x > y);
// console.log(x < y);

// Logical Operators
// Logical and
// console.log(true && true)
// console.log(true && false)
// console.log(false && true)
// console.log(false && false)

// Logical or
// console.log(true || true)
// console.log(true || false)
// console.log(false || true)
// console.log(false || false)
```

Week 1

31 JULY 2023

- **Function in JavaScript**

A JavaScript function is a block of code designed to perform a specific task:

1. Declaration: Functions can be declared using the function keyword, given a name and parameters in parentheses, encapsulating a set of instructions.
2. Invocation: Functions are invoked or called by their name, passing arguments that the function can work with.
3. Return: They can optionally return a value using the return statement, allowing computed results to be utilized elsewhere.
4. Reusability: Functions promote code reusability, modularization, and encapsulation, contributing to organized and efficient programming.

- **Conditionals in JavaScript**

Very often when you write code, you want to perform different actions for different decisions.

1. if Statement: Used to execute code if a specified condition is true, allowing for branching based on the outcome.
2. else Statement: Paired with if, it executes an alternative code block when the initial condition is false.
3. else if Statement: Enables multiple conditions to be tested sequentially, providing different code paths based on various cases.
4. switch Statement: Offers a structured way to evaluate a single expression against multiple possible values, executing corresponding code blocks.

notes.js > ...

```
// Function in JavaScript
function avg(a, b) {
    c = (a + b) / 2;
    return c;
}
// DRY = Do not repeat yourself
c1 = avg(4, 6);
c2 = avg(14, 16);
// console.log(c1, c2);

// Conditionals in JavaScript
/*
var age = 41;
// Single if statement
if(age > 18){
    console.log('You can drink rasna water');
}
// if - else statement
// if(age > 18){
//     console.log('You can drink rasna water');
// }
// else{
//     console.log('You cannot drink rasna water');
// }

age = 25;
// if-else Ladder
if(age > 32){
    console.log("You are not a kid");
}
else if(age >26){
    console.log("Bachhe nahi rahe");
}
else if(age >22){
    console.log("Yes Bachhe nahi rahe");
}
else if(age >18){
```

notes.js > ...

```
*/

var arr = [1, 2, 3, 4, 5, 6, 7];
// console.log(arr);
// for(var i=0;i<arr.length;i++){
//     if(i==2){
//         // break;
//         continue;
//     }
//     console.log(arr[i])
// }

// arr.forEach(function(element){
//     console.log(element);
// })
// const ac = 0;
// ac++;
// ac = ac +1;
// let j = 0;
// while(j<arr.length){
//     console.log(arr[j]);
//     j ++;
// }

// do{
//     console.log(arr[j]);
//     j++;
// } while (j < arr.length);

let myArr = ["Fan", "Camera", 34, null, true];
// Array Methods
// console.log(myArr.length);
// myArr.pop();
// myArr.push("harry")
// myArr.shift()
// const newLen = myArr.unshift("Harry")
// console.log(newLen);
```

Week 1

1 August 2023

- **String Methods in JavaScript**

1. .length: Returns the length of a string, counting characters.
2. .charAt(): Retrieves the character at a specific index within the string.
3. .concat(): Combines multiple strings into one.
4. .toUpperCase() / .toLowerCase(): Converts a string's characters to uppercase or lowercase.
5. .trim(): Removes whitespace from the beginning and end of a string.
6. .indexOf() / .lastIndexOf(): Searches for a substring and returns its index.
7. .substring() / .slice(): Extracts a portion of the string based on start and end indices.
8. .replace(): Replaces a specified substring with another.
9. .split(): Breaks a string into an array of substrings based on a specified separator.
10. .startsWith() / .endsWith(): Checks if a string starts or ends with a specific substring.

- **Events in JavaScript**

1. Event Binding: Elements like buttons or links can be "bound" to specific actions using event listeners, like addEventListener(), to trigger JavaScript code when events occur.
2. Event Types: Events include user interactions (e.g., clicks, key presses), document changes (e.g., loading, resizing), and more.
3. Event Handling: Event listeners define functions to execute when events occur, enabling dynamic responses to user actions.
4. Event Object: When an event occurs, an event object is created, containing information about the event, such as the target element and event type

notes.js > ...

```
// String Methods in JavaScript
let myLovelyString = "Harry is a good boy good good Harry";
// console.log(myLovelyString.length)
// console.log(myLovelyString.indexOf("good"))
// console.log(myLovelyString.lastIndexOf("good"))

// console.log(myLovelyString.slice(1,4))
d = myLovelyString.replace("Harry", "Rohan");
// d = d.replace("good", "bad");
// console.log(d, myLovelyString)

let myDate = new Date();
// console.log(myDate.getTime());
// console.log(myDate.getFullYear());
// console.log(myDate.getDay());
// console.log(myDate.getMinutes());
// console.log(myDate.getHours());

// DOM Manipulation
let elem = document.getElementById('click');
// console.log(elem);

let elemClass = document.getElementsByClassName("container")
// console.log(elemClass);
// elemClass[0].style.background = "yellow";
elemClass[0].classList.add("bg-primary")
elemClass[0].classList.add("text-success")
// console.log(elem.innerHTML);
// console.log(elem.innerText);

// console.log(elemClass[0].innerHTML);
// console.log(elemClass[0].innerText);
tn = document.getElementsByTagName('div')
// console.log(tn)
createdElement = document.createElement('p');
createdElement.innerText = "This is a created para";
tn[0].appendChild(createdElement);
```

notes.js > ...

```
createdElement2 = document.createElement('b');
createdElement2.innerText = "This is a created bold";
tn[0].replaceChild(createdElement2, createdElement);
// removeChild(element); ---> removes an element

// Selecting using Query
// sel = document.querySelector('.container')
// console.log(sel)
// sel = document.querySelectorAll('.container')
// console.log(sel)

// function clicked(){
//     console.log('The button was clicked')
// }
// window.onload = function(){
//     console.log('The document was loaded')

// }
// Events in JavaScript
// firstContainer.addEventListener('click', function(){
//     document.querySelectorAll('.container')[1].innerHTML = "<b> We have clicked</b>"
//     console.log("Clicked on Container")
// })

// firstContainer.addEventListener('mouseover', function(){
//     console.log("Mouse on Container")
// })

// firstContainer.addEventListener('mouseout', function(){
//     console.log("Mouse out of Container");
// })

// let prevHTML = document.querySelectorAll('.container')[1].innerHTML;
// firstContainer.addEventListener('mouseup', function(){
//     document.querySelectorAll('.container')[1].innerHTML = prevHTML;
//     console.log("Mouse up when clicked on Container");
```

```
// Arrow Functions
// function summ(a, b){
//     return a+b;
// }
summ = (a,b)=>{
    return a+b;
}

logKaro = ()=>{
    document.querySelectorAll('.container')[1].innerHTML = "<b> Set interval fired</b>"
    console.log("I am your log")
}
// SetTimeout and setinterval
// clr = setTimeout(logKaro, 5000);
// clr = setInterval(logKaro, 2000);
// use clearInterval(clr)/clearTimeout(clr) to cancel setInterval/setTimeout

// JavaScript localStorage
// localStorage.setItem('name', 'harry')
// localStorage
// localStorage.getItem('name')
// localStorage.removeItem('name')
// localStorage.clear();

// Json
// obj = {name: "harry", length: 1, a: {this: 'tha"t'}}
// jso = JSON.stringify(obj);
// console.log(typeof jso)
// console.log(jso)
// parsed = JSON.parse(`{"name":"harry","length":1,"a":{"this":"that"}}`)
// console.log(parsed);

// Template literals - Backticks
a = 34;
console.log(`this is my ${a}`)
```

Week 1

2 August 2023

- **Tailwind introduction**

i. Utility-First: It offers a comprehensive set of utility classes that enable rapid development by applying styles directly in HTML, avoiding the need for custom CSS.
ii. Responsive Design: Tailwind provides responsive design utilities, making it easier to create adaptive layouts for different screen sizes.
iii. Customization: Developers can configure and extend Tailwind's default styles using a configuration file, allowing for a tailored design system.
iv. Modular and Scalable: Its modular structure promotes consistent design patterns and efficient development, while its extensive class options cater to a wide range of design needs.

- **Why Use?**

Tailwind is used because it offers a utility-first approach to CSS, making styling and design faster and more consistent by directly applying classes in HTML. It facilitates responsive design with built-in breakpoints and simplifies customization through a configuration file. Its modular nature and comprehensive set of utility classes lead to efficient development and easier maintenance of scalable projects.

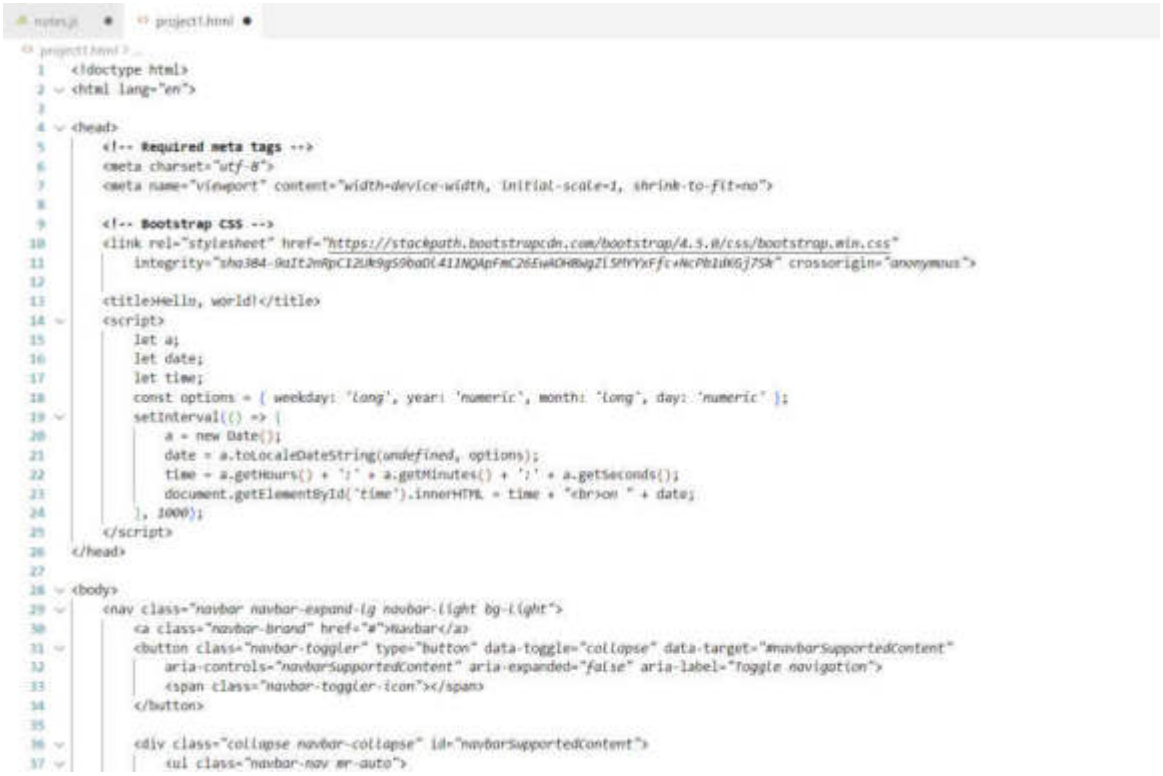
- **Setup**

Use the Play CDN to try Tailwind right in the browser without any build step.Add the Play CDN script tag to the <head> of your HTML file, and start using Tailwind’s utility classes to style your content.

1. Installation: Use npm or yarn to install Tailwind CSS as a project dependency.
2. Configuration: Generate a tailwind.config.js file to customize settings and design choices.
3. Stylesheet: Create a CSS file to include Tailwind's classes and your custom styles.
4. Build Process: Integrate Tailwind into your build process (e.g., Webpack) to generate a final optimized CSS file for production.

Project:1

Live Clock



```
<!doctype html>
<html lang="en">

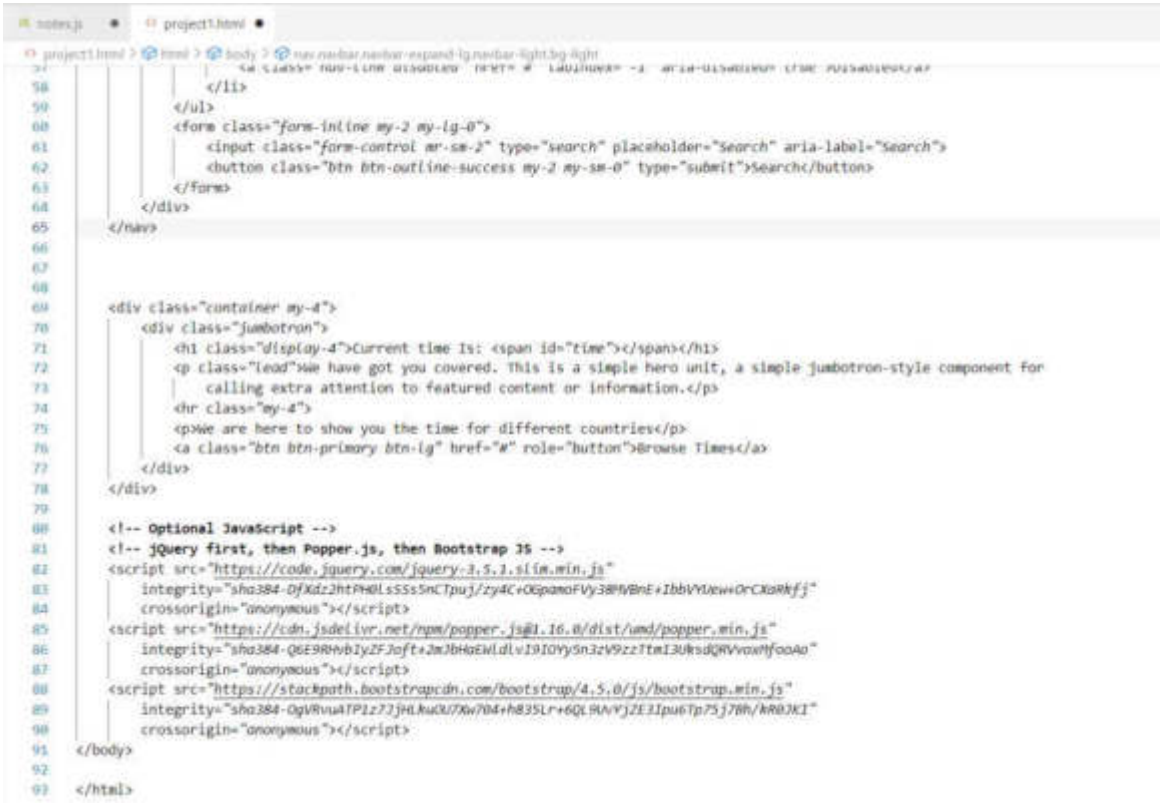
<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
        integrity="sha384-9aIt2nRpC12Uk9gS9baDl411NQApFmC26EwAOH8WgZl5MYYxFfc+NcPb1dKGj7Sk" crossorigin="anonymous">

    <title>Hello, world!</title>
    <script>
        let a;
        let date;
        let time;
        const options = { weekday: 'long', year: 'numeric', month: 'long', day: 'numeric' };
        setInterval(() => {
            a = new Date();
            date = a.toLocaleDateString(undefined, options);
            time = a.getHours() + ':' + a.getMinutes() + ':' + a.getSeconds();
            document.getElementById('time').innerHTML = time + "<br>on " + date;
        }, 1000);
    </script>
</head>

<body>
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
        <a class="navbar-brand" href="#">Navbar</a>
        <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupportedContent"
            aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>
        </button>

        <div class="collapse navbar-collapse" id="navbarSupportedContent">
            <ul class="navbar-nav mr-auto">
```



```
                </li>
            </ul>
            <form class="form-inline my-2 my-lg-0">
                <input class="form-control mr-sm-2" type="search" placeholder="Search" aria-label="Search">
                <button class="btn btn-outline-success my-2 my-sm-0" type="submit">Search</button>
            </form>
        </div>
    </nav>

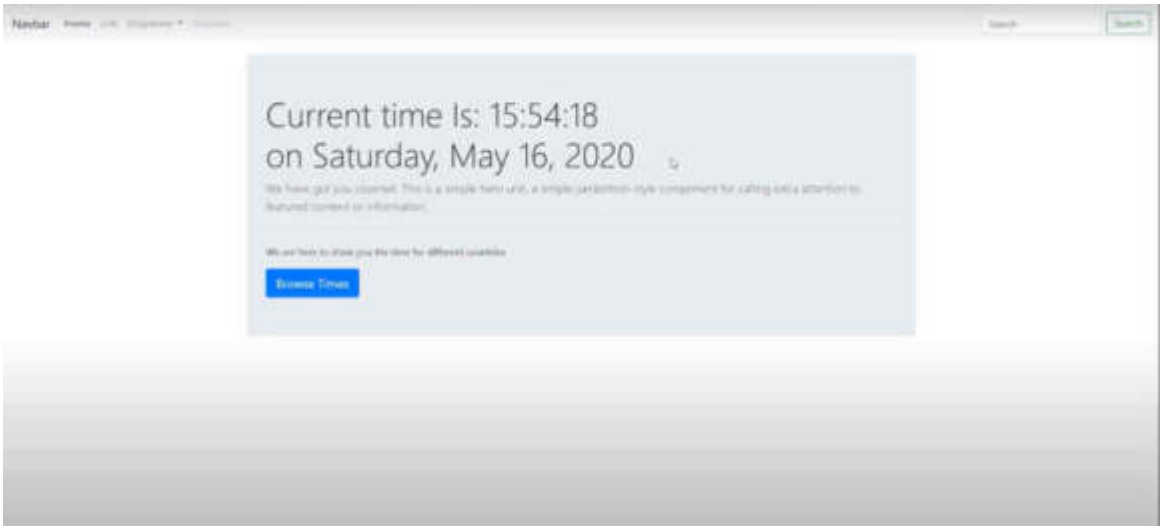


    <div class="container my-4">
        <div class="jumbotron">
            <h1 class="display-4">Current time is: <span id="time"></span></h1>
            <p class="lead">We have got you covered. This is a simple hero unit, a simple jumbotron-style component for
                calling extra attention to featured content or information.</p>
            <hr class="my-4">
            <p>We are here to show you the time for different countries</p>
            <a class="btn btn-primary btn-lg" href="#" role="button">Browse Times</a>
        </div>
    </div>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
        integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI"
        crossorigin="anonymous"></script>
</body>

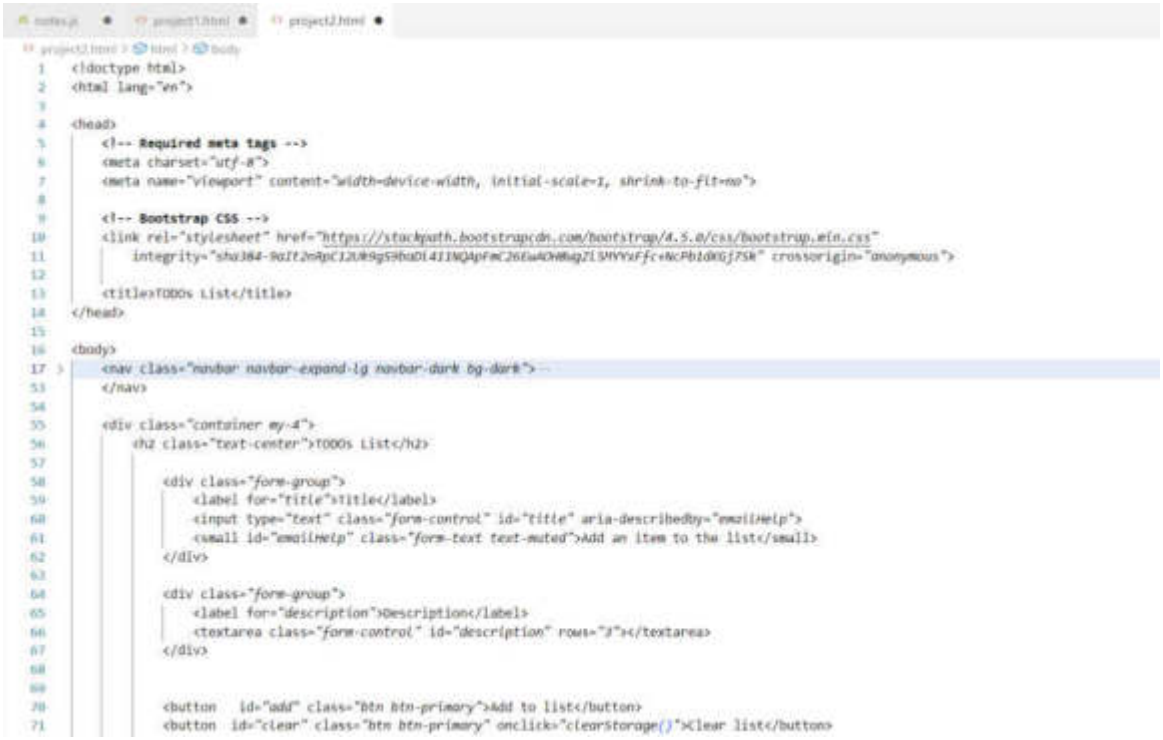
</html>
```

Output:



Project:2

To Do List



```
<!doctype html>
<html lang="en">

<head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
        integrity="sha384-9aIt2nRpC12Uk9gS9baDl411NQApFmC26EwAOH8WgZl5MYYxFfc+NcPb1dKGj7Sk" crossorigin="anonymous">

    <title>TODOs List</title>
</head>

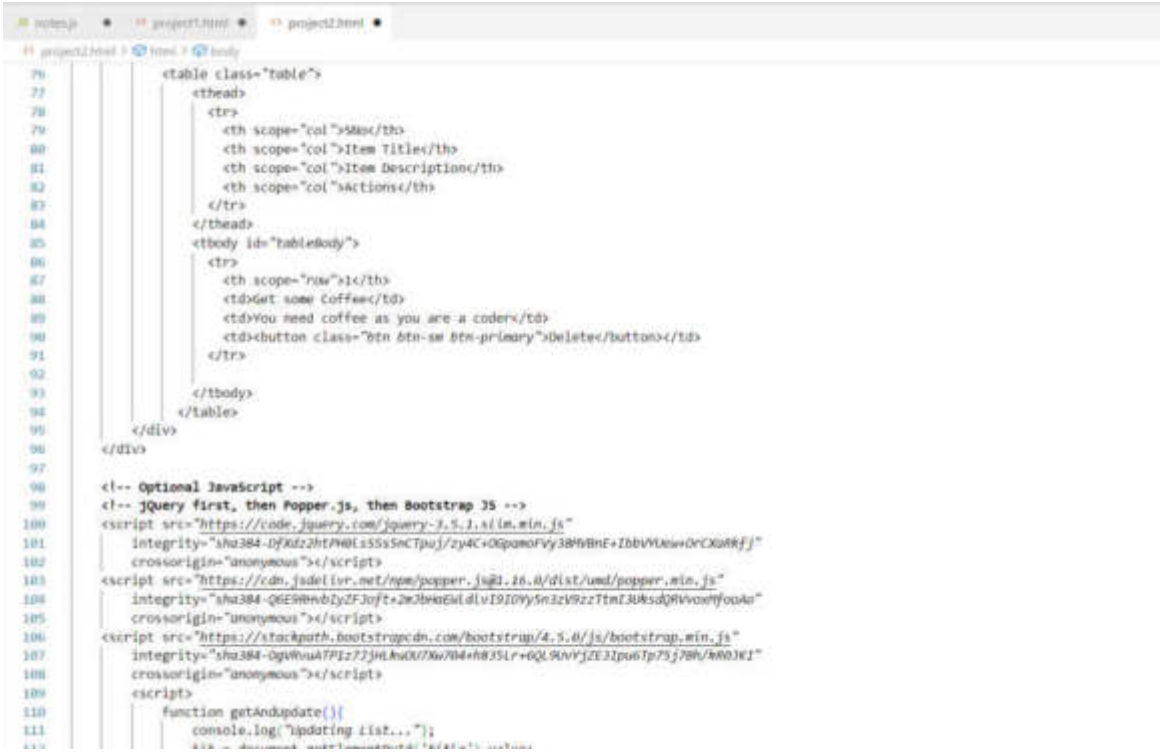
<body>
    <nav class="navbar navbar-expand-lg navbar-dark bg-dark">...
    </nav>

    <div class="container my-4">
        <h2 class="text-center">TODOs List</h2>

            <div class="form-group">
                <label for="title">Title</label>
                <input type="text" class="form-control" id="title" aria-describedby="emailHelp">
                <small id="emailHelp" class="form-text text-muted">Add an item to the list</small>
            </div>

            <div class="form-group">
                <label for="description">Description</label>
                <textarea class="form-control" id="description" rows="3"></textarea>
            </div>


            <button   id="add" class="btn btn-primary">Add to list</button>
            <button  id="clear" class="btn btn-primary" onclick="clearStorage()">Clear list</button>
```



```
            <table class="table">
                <thead>
                  <tr>
                    <th scope="col">Sno</th>
                    <th scope="col">Item Title</th>
                    <th scope="col">Item Description</th>
                    <th scope="col">Actions</th>
                  </tr>
                </thead>
                <tbody id="tableBody">
                  <tr>
                    <th scope="row">1</th>
                    <td>Get some Coffee</td>
                    <td>You need coffee as you are a coder</td>
                    <td><button class="btn btn-sm btn-primary">Delete</button></td>
                  </tr>

                </tbody>
              </table>
        </div>
    </div>

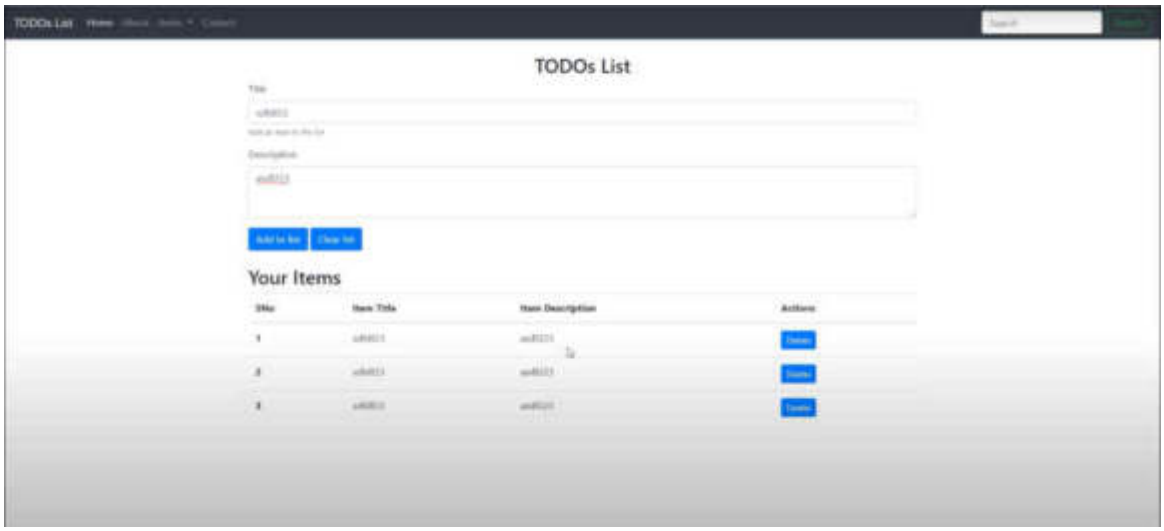
    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
        integrity="sha384-DfXdz2htPH0lsSSsSnCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipuq7pr0BfXMNOJEI"
        crossorigin="anonymous"></script>
        <script>
            function getAndupdate(){
                console.log("Updating list...");
```

```
            <table class="table">
                <thead>
                  <tr>
                    <th scope="col">SNo</th>
                    <th scope="col">Item Title</th>
                    <th scope="col">Item Description</th>
                    <th scope="col">Actions</th>
                  </tr>
                </thead>
                <tbody id="tableBody">
                  <tr>
                    <th scope="row">1</th>
                    <td>Get some Coffee</td>
                    <td>You need coffee as you are a coder</td>
                    <td><button class="btn btn-sm btn-primary">Delete</button></td>
                  </tr>

                </tbody>
              </table>
        </div>
    </div>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"
        integrity="sha384-DfXdz2htPH0lsSSsSnCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
        crossorigin="anonymous"></script>
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js"
        integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaEWldlvI9IOYy5n3zV9zzTtmI3UksdQRVvoxMfooAo"
        crossorigin="anonymous"></script>
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js"
        integrity="sha384-OgVRvuATP1z7JjHLkuOU7Xw704+h835Lr+6QL9UvYjZE3Ipu6Tp75j7Bh/kR0JKI"
        crossorigin="anonymous"></script>
        <script>
            function getAndupdate(){
                console.log("Updating list...");
```

Output:



Week 2

3 August 2023

- **Font size**

Utilities for controlling the font weight of an element.

- **Margin**

Utilities for controlling an element's margin.

m-0 margin: 0px;

mx-0 margin-left: 0px;

margin-right: 0px;

my-0 margin-top: 0px;

margin-bottom: 0px;

ms-0 margin-inline-start: 0px;

me-0 margin-inline-end: 0px;

mt-0 margin-top: 0px;

- **Square bracket notation**

```
<div class="before:content-['Hello_World']">
  <!-- ... -->
</div>
```

Week 2

4 August 2023

- **Responsive design**

sm 640px

md 768px

lg 1024px

xl 1280px

2xl 1536px

- **Hover**

Using utilities to style elements on hover, focus, and more.

<button class="bg-sky-500 hover:bg-sky-700 ...">

Save changes

</button>

- **Apply directives**

Directives are custom Tailwind-specific at-rules you can use in your CSS that offer special functionality for Tailwind CSS projects.

Week 2

7 August 2023

- **apply layer and directive**

@apply - Use @apply to inline any existing utility classes into your own custom CSS.

@layer - Use the @layer directive to tell Tailwind which “bucket” a set of custom styles belong to.

- **Customization**

Customizing the default theme for your project.

The theme section of your tailwind.config.js file is where you define your project’s color palette, type scale, fonts, breakpoints, border radius values, and more.

- **Deploying website to production**

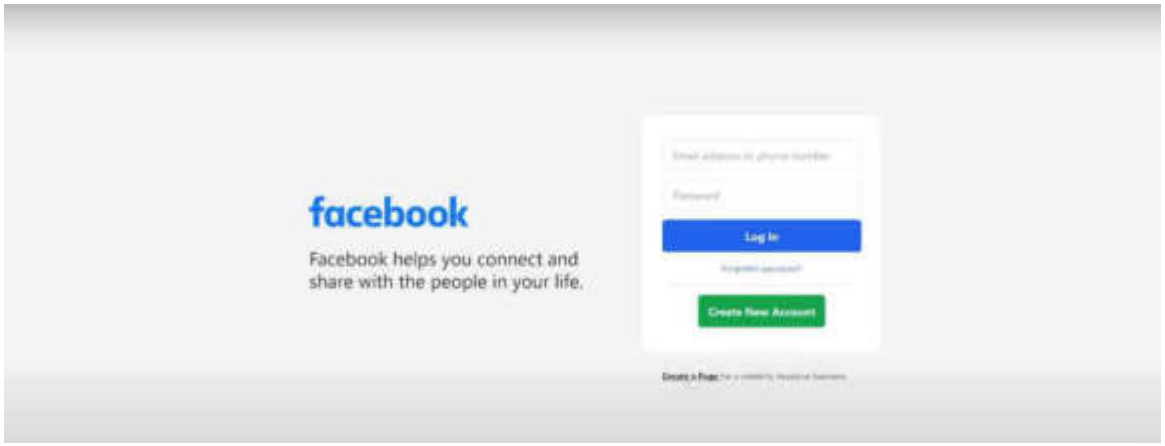
Getting the most performance out of Tailwind CSS projects.

Tailwind CSS is incredibly performance focused and aims to produce the smallest CSS file possible by only generating the CSS you are actually using in your project.

Week 2

8 August 2023

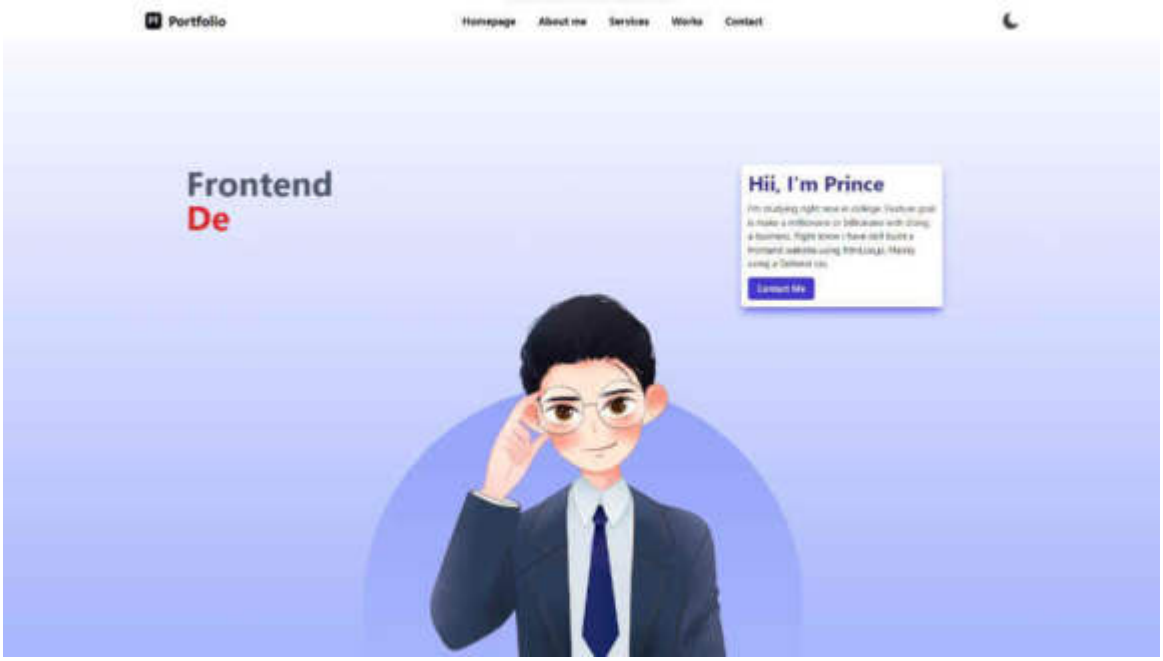
Project:1 Facebook Login Page

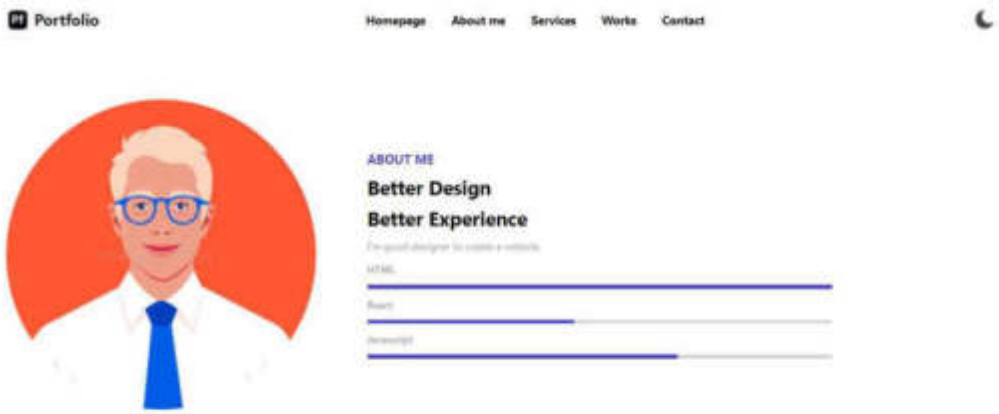


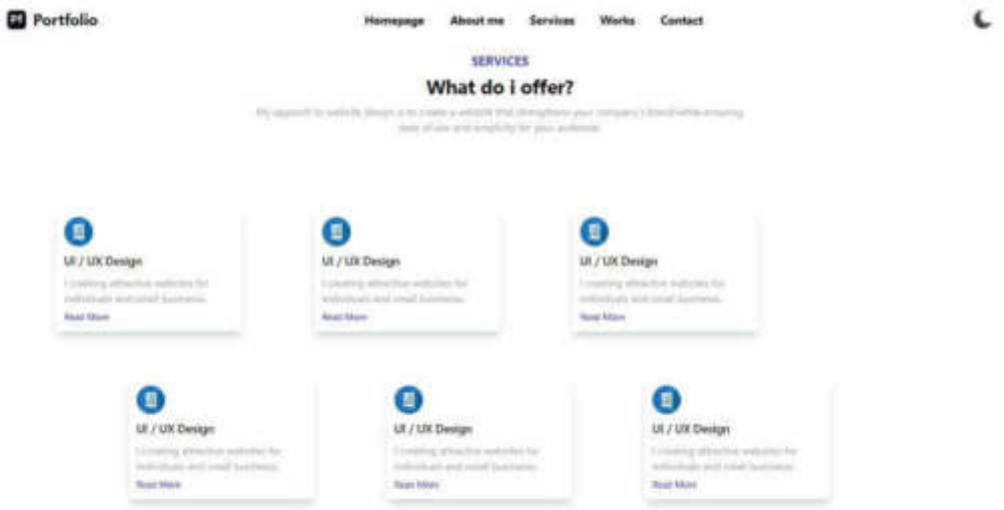
Week 2

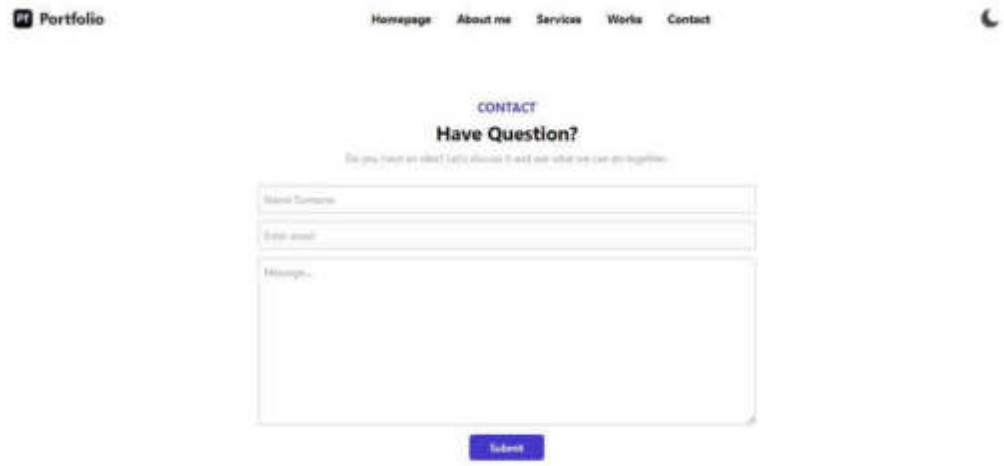
9 August 2023

Project:2 Portfolio






Portfolio
Homepage
About me
Services
Works
Contact
SERVICES
What do i offer?
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design
UI / UX Design


Portfolio
Homepage
About me
Services
Works
Contact
CONTACT
Have Question?
Submit

Week 2

10 August 2023

- **Conclusion:**

These past 15 days of internship have been an enriching and dynamic experience. I am delighted to have had the opportunity to work with TWS MEDIA and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved.

Throughout these 15 days, I've had the privilege of working alongside experienced professionals who have generously shared their knowledge and insights. I've gained exposure to Data analyst tools, which has significantly expanded my skill set.

During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.

In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and am committed to making the most of this internship experience. Thank you for this incredible opportunity.

INTERNSHIP AT CREART SOLUTIONS PVT LTD.

AN INTERNSHIP REPORT

Submitted by

SMIT PATEL

200390116027

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information & Technology Engineering

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CreArt Solutions PVT LTD.** has been carried out by **Smit Patel** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information & Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign	Sign
Prof. Ekta Joshi	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate

INTERNSHIP JOINING LETTER

CREART

Date: 27th July 2023

This is to certify that

Mr/Ms. SMIT PATEL
Enrollment No : 200390116027
College : S.P.B.PATEL SAFFRONY INSTITUTE OF TECHNOLOGY

has been selected for the 15 day's of summer intership from **27th July 2023** to **10th August 2023** at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

INTERNSHIP COMPLETION LETTER

CREART

Date: 10th August 2023

This is to certify that

Mr/Ms. SMIT PATEL
Enrollment No : 200390116027
College : S.P.B.PATEL SAFFRONY INSTITUTE OF TECHNOLOGY

has successfully completed the 15 day's of summer intership from **27th July 2023** to **10th August 2023** at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours



Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana
Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Company/Industry CreArt Solutions PVT LTD.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information & Technology Engineering** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision/reviewer of **Prof. Alkesh Kaba/ Prof. Ekta Joshi** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Patel Smit Pravinbhai**	_____

Abstract

This report contains the work done by the author during his internship at ***CreArt Solutions LTD PVT.*** It shows the work I did in the during my internship period. In the report, The project "Notice Hub" is a web application designed to streamline the communication between administrators and students within an educational institution. Built using Python and the Django framework. The application utilizes the Django framework's built-in features for user authentication, database management, and web rendering. Python programming is used to implement the logic behind user interactions, data retrieval, and rendering dynamic content.

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Chapter 1. INTRODUCTION ABOUT COMPANY

1.1 COMPANY PROFILE:

CreArt is a privately owned venture of IT Solutions, Digital Marketing, Software Solutions and SEO services formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

Creart Solutions Private Limited is a Private incorporated on 05 March 2021. It is classified as Non-govt company and is registered at Registrar of Companies, Ahmedabad. It is involved in Other computer related activities [for example maintenance of websites of other firms/ creation of multimedia presentations for other firms etc.]

Krishna Mohan Satyanarayan Gupta is director of Creart Solutions Private Limited.

Creart Solutions Private Limited's Corporate Identification Number is (CIN) U72900GJ2021OPC120904 and its registration number is 120904.Its Email address is Kms.vos@gmail.com and its registered address is 2ND FLOOR-2, HERITAGE HORIZON, NR. SAMUDRA COMPLEX, C. G.ROAD, NAVRANGPURA AHMEDABAD

1.2 MISSION AND VISION OF THE COMPANY:

MISSION: CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. We strongly believe in delivering the best services to the clients till their satisfaction. Main objective of CreArt is to provide professional, qualitative, innovative and accessible services in every possible form.

VISION: CreArt is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

Chapter 2. INTRODUCTION ABOUT PROJECT

2.1 Introduction to Topic:

2.1.1 Introduction about project:

The project "Notice Hub" is a web application designed to seamless communication between administrators and user, students within an educational institution. To built using Python and the Django framework, the application provides a platform for administrators to publish important notices, such as fee updates, circulars, and upcoming activities. Students can conveniently access and view these notices through the user-friendly web interface.

The primary functionalities of the application include an admin panel and a student dashboard. In the admin panel, authorized administrators can log in and post various types of notices, categorizing them as fees, circulars, or activities. Each notice can include relevant details and attachments. The system ensures that only authorized personnel have access to the admin panel to maintain security and control over the content.

On the student side, a user-friendly dashboard allows students to log in and view the notices that have been posted by the administrators. The dashboard provides a clear and organized display of notices, making it easy for students to stay informed about important updates. The notices can be sorted by category, date, or other relevant criteria, enhancing the user experience.

Chapter 3. LEARNING ABOUT PYTHON

3.1 Introduction basic Python:

Python is a widely used general-purpose, high level programming language. It was designed with an emphasis on code readability, and its syntax allows programmers to express their concepts in fewer lines of code. It is used for web development at server-side. It is also used for software development, mathematics, system scripting.

Python has a many versions are available like as Python 2, Python 3, etc. Most recently used the version of Python 3. Python will be written in a text editor. It is possible to write Python in an Integrated Development Environment, such as PyCharm, Sublime text or Eclipse. But we are using the Sublime text editor.

3.2 Basic Example Of Python:

Code :

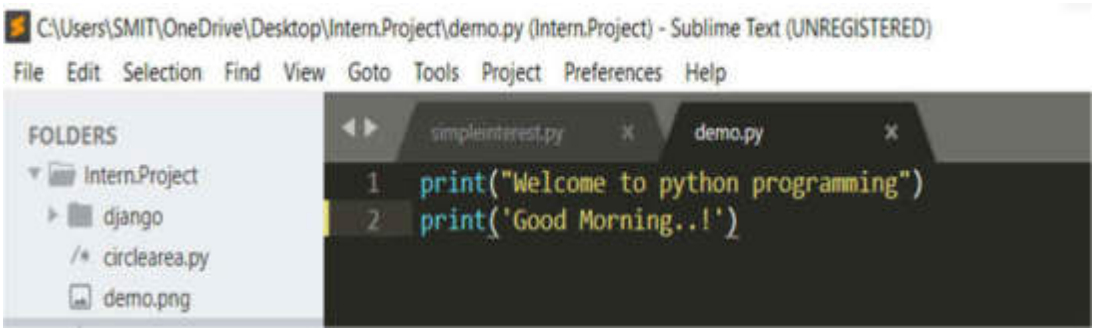


Figure 3.2.1: Example of python program

Output:

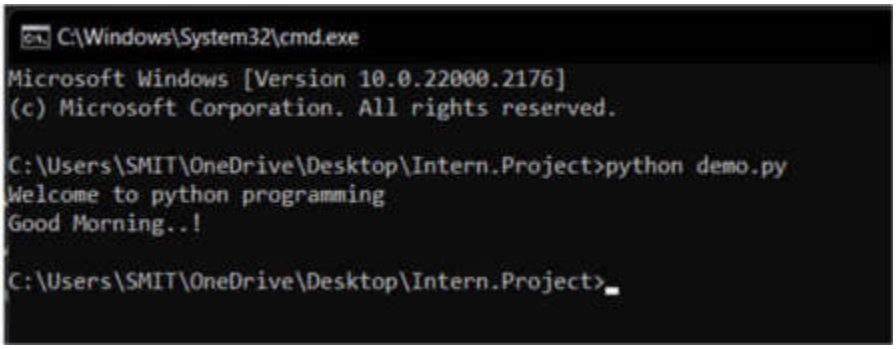


Figure 3.2.2: Output of python program

3.3 Basic of Python Variables:

Python Variable is containers that store values. Python is not “statically typed”. We do not need to declare variables before using them or declare their type. A variable is created the moment we first assign a value to it. A Python variable is a name given to a memory location. It is the basic unit of storage in a program.

Python Variables Name condition:

A variable can have a short name (like x and y) or a more descriptive name (age, carname, total_volume).

Rules for Python variables:

- A variable name must start with a letter or the underscore character
- A variable name cannot start with a number
- A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _)
- Variable names are case-sensitive (age, Age and AGE are three different variables)
- A variable name cannot be any of the Python keywords.

3.4 Examples of Python Variables:

Code:

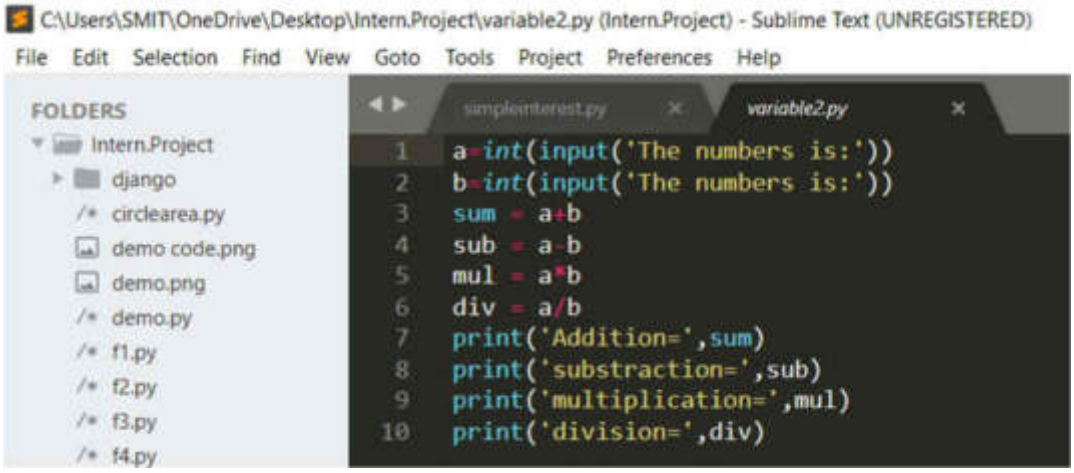


Figure 3.4.1: Python variable program

Output:

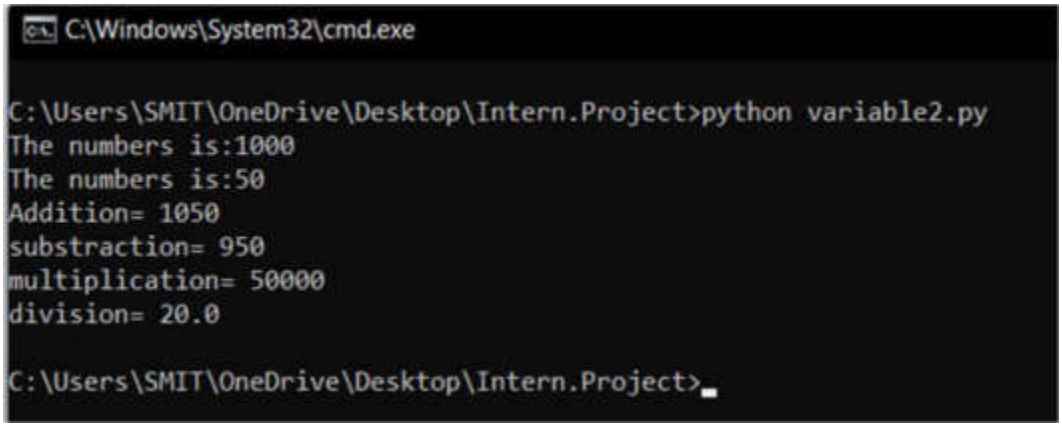


Figure 3.4.2: Output of python variable program

Chapter 4. EXAMPLES OF PYTHON

4.1 Swapping Logic Using Python:

Code(method:1):

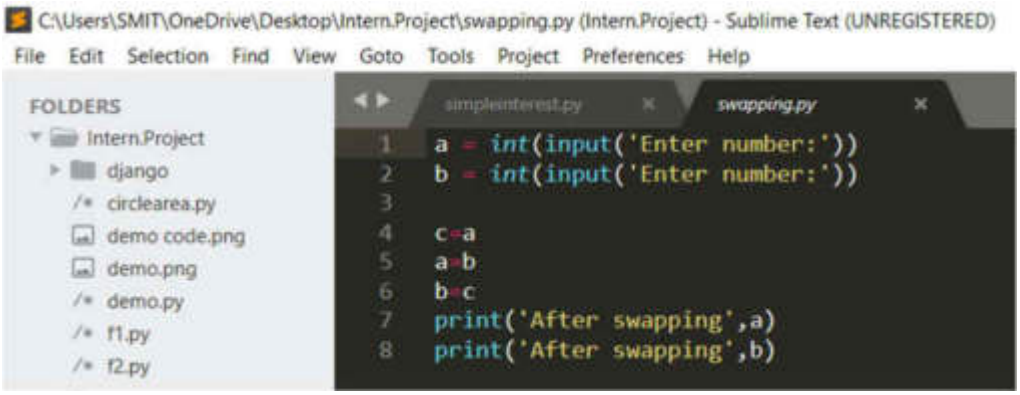


Figure 4.1.1: Swapping using three variables

Output:

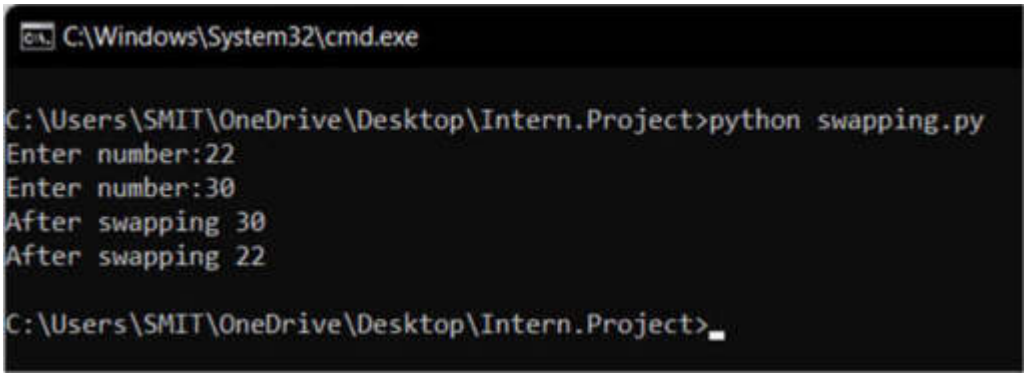


Figure 4.1.2: Output of swapping using three variables

Code(method:2):

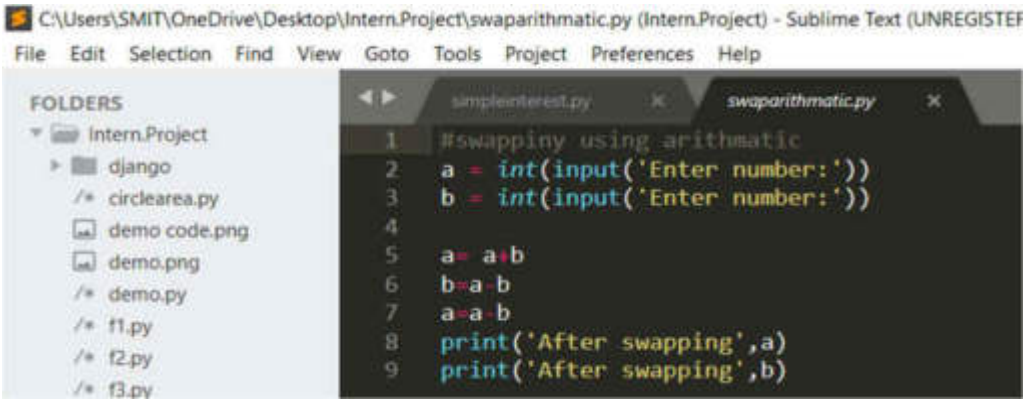


Figure 4.1.3: Swapping using two variables

Output:

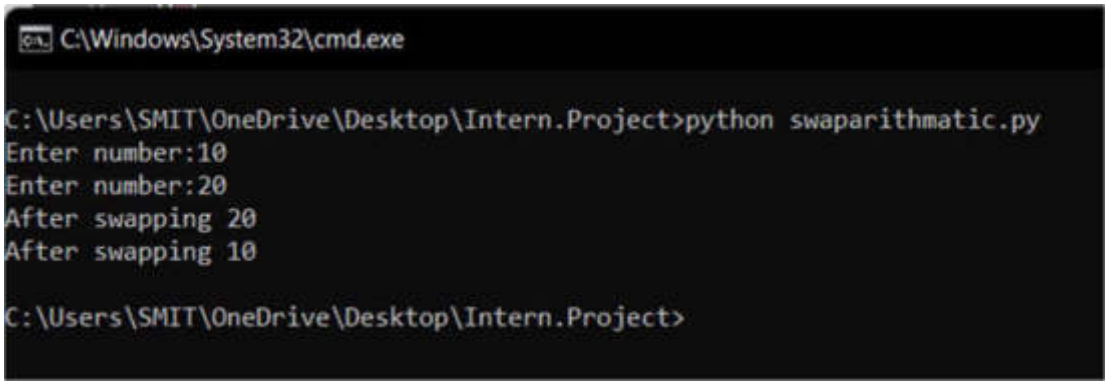


Figure 4.1.4: Output of swapping using two variables

Chapter 5. LOGIC BASED EXAMPLES

5.1 Logic Base Examples of Python: Triangle area, pentagon area:

Code:

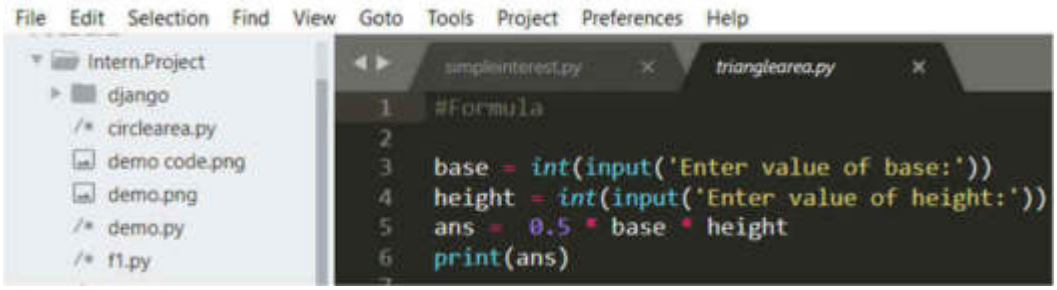


Figure 5.1.1: Triangle area

Output:

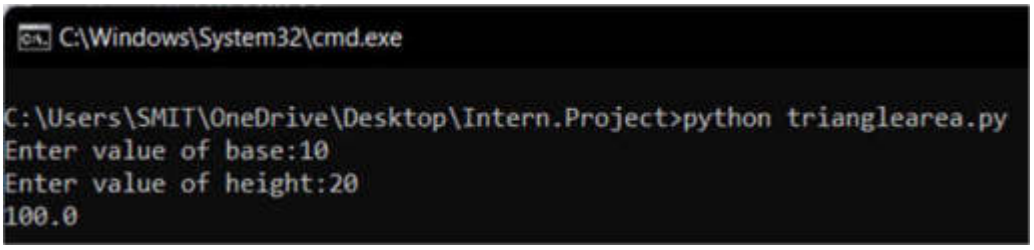


Figure 5.1.2: Output of triangle area

Code:

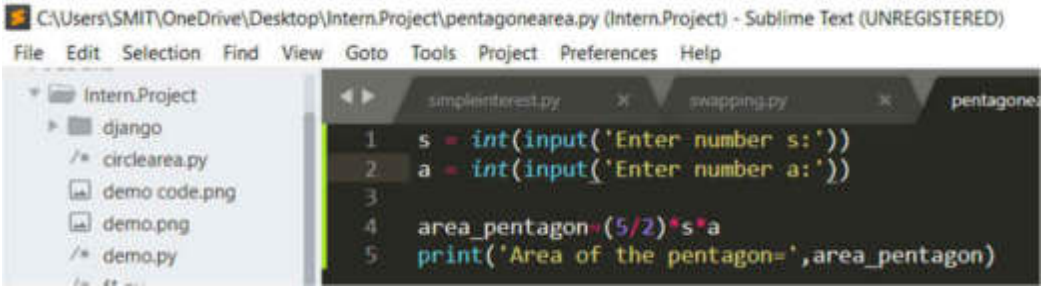


Figure 5.1.3: Pentagon area

Output:

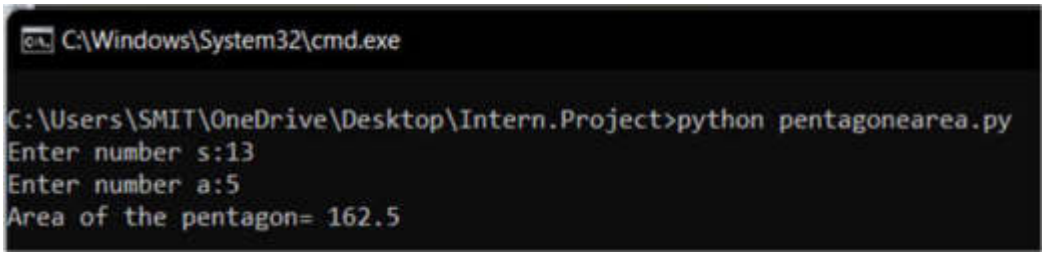


Figure 5.1.4: Pentagon area

Chapter 6. PYTHON FUMCTION

6.1 Python Function Creation & Use:

Python Functions is a block of statements that return the specific task. The idea is to put some commonly or repeatedly done tasks together and make a function so that instead of writing the same code again and again for different inputs, we can do the function calls to reuse code contained in it over and over again.

6.2 Example of Python Function:

Code:

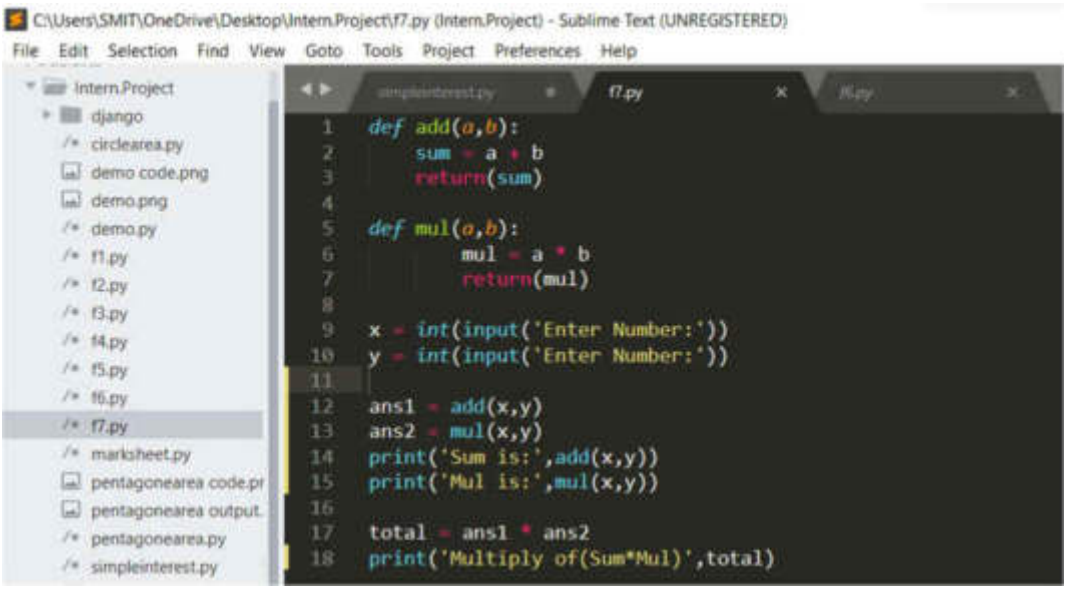


Figure 6.2.1: Python function program

Output:

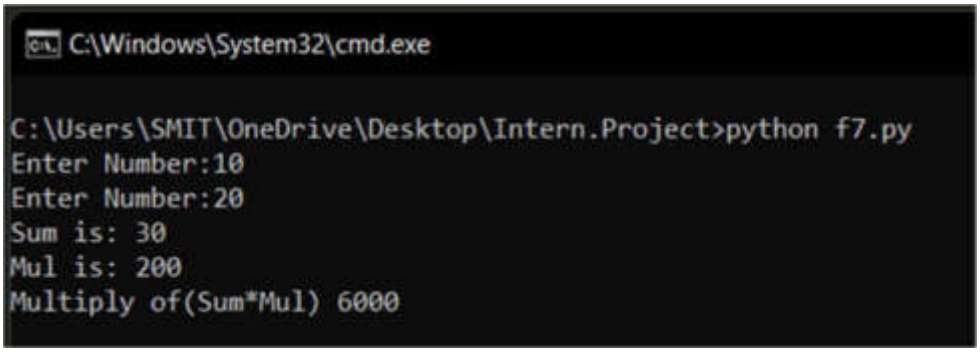


Figure 6.2.2: Output of python function program

Chapter 7. LEARNING ABOUT DJANGO

7.1. Introduction basic Django:

Django is a Python framework that makes it easier to create web sites using Python. Django takes care of the difficult stuff so that you can concentrate on building your web applications. Django emphasizes reusability of components, also referred to as DRY (Don't Repeat Yourself), and comes with ready-to-use features like login system, database connection and CRUD operations (Create Read Update Delete).

7.2 Virtual Environment & Django installation:

- A virtual environment, as its name implies, provides the possibility of creating a virtual and isolated environment for test and production of different projects. For creating virtual environment variable to follow in the command prompt, remember to navigate to where you want to create your project:

  cmd: py -m venv VE

- Then you have to activate the environment, by typing this command:

  cmd: VE\Scripts\activate

- Django is installed using pip, with this command:

  cmd: File Name>pip install Django

- The creation of the project to use the command:

  cmd: File Name>Django-admin startproject noticehub

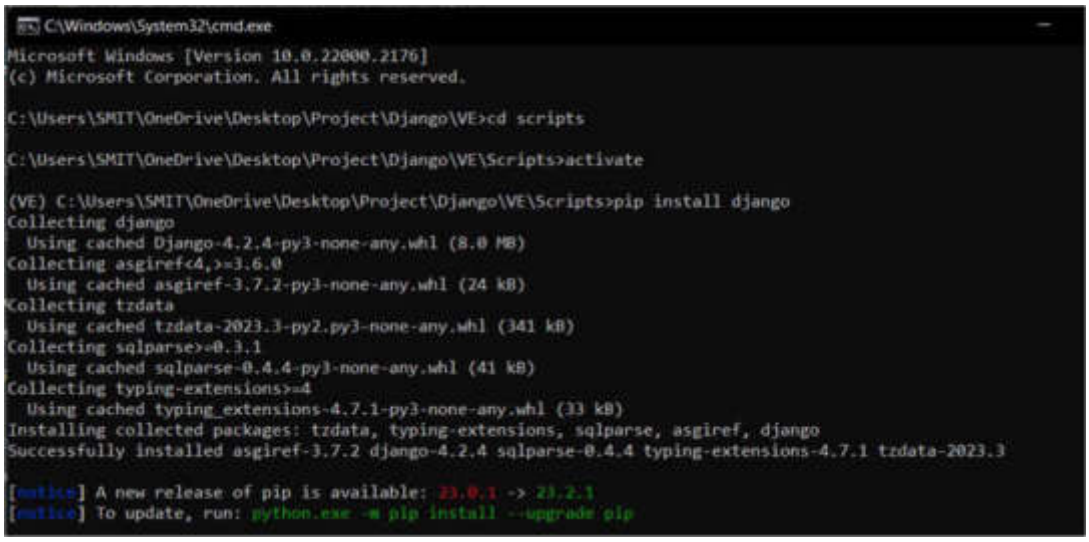


Figure 7.2.1: Django Installation

Chapter 8. DATABASE OF MYSQL

8.1 Database of MySQL:

We need to connect Django to a Microsoft SQL Server. In addition, we have some more requirements to the way we implement the connectivity:

- Connect Django to Microsoft SQL Server and XAMPP SQL Database
- Keep database tables organized into a single database schema
- Be able to easily configure the database settings
- Be able to change the database engine (e.g. locally work with SQLite, on production work with XAMPP SQL Database)

- To install MySQL:

  cmd: pip install mysqlclient

```
(VE) C:\Users\SMIT\OneDrive\Desktop\Project\Django\noticehub>pip install mysqlclient
Collecting mysqlclient
  Using cached mysqlclient-2.2.0-cp310-cp310-win_amd64.whl (199 kB)
Installing collected packages: mysqlclient
Successfully installed mysqlclient-2.2.0

[notice] A new release of pip is available: 23.0.1 -> 23.2.1
[notice] To update, run: python.exe -m pip install --upgrade pip
```

Figure 8.1.1: MySQL connection

- Then after to set up the XAMPP server for the database management.

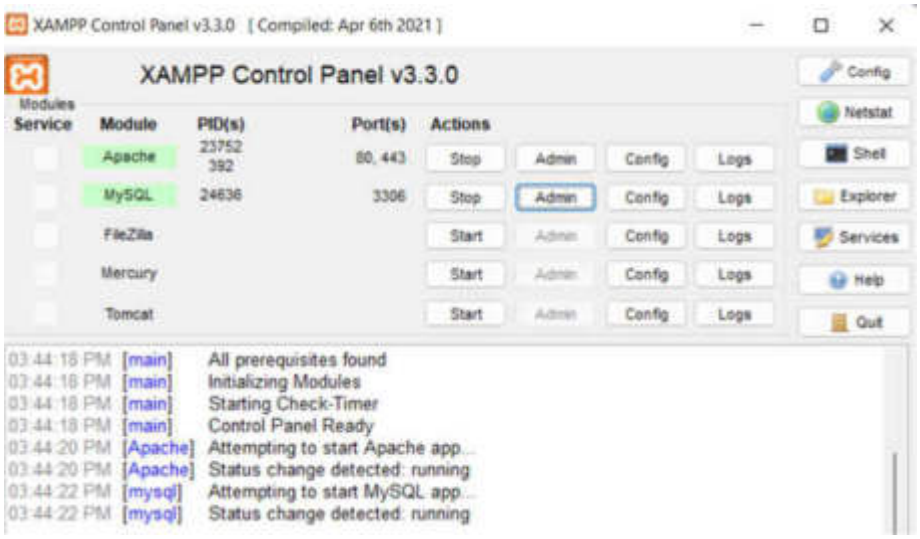


Figure 8.1.2: XAMPP server

8.2 XAMPP Data:

- XAMPP server in which creating the database for the admin registration and that are migrate to use of below command to show all the entries of the database.

  cmd: python manage.py migrate

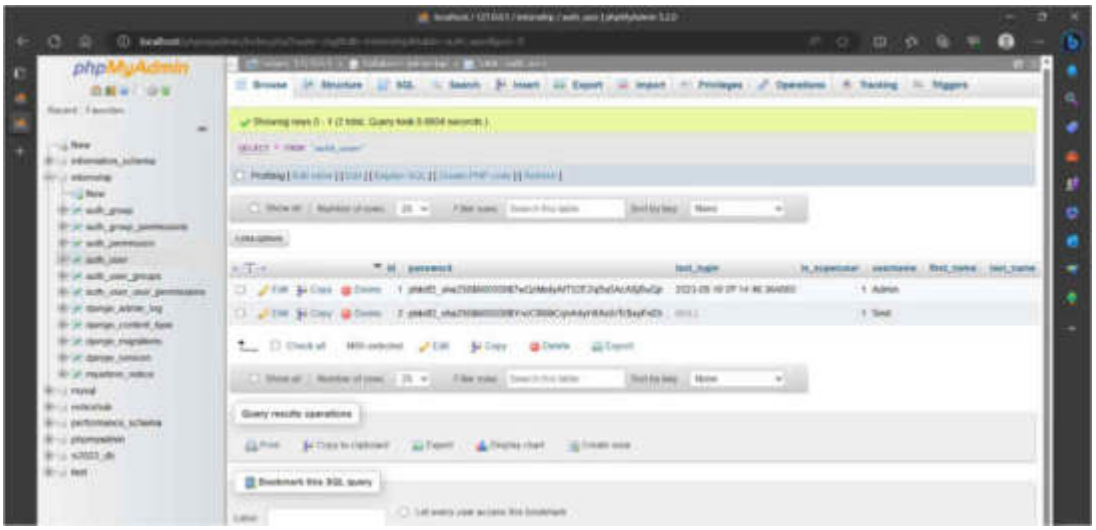


Figure 8.2.1: XAMPP database

Chapter 9. PYTHON TEXT EDITOR (SUBLIME TEXT)

9.1 Super User Creation:

Open your project folder in the sublime text and create the super user for the project of the noticehub. Noticehub project in to use 'Myadmin' superuser.

- Creating of superuser:
  cmd: python manage.py superuser

- Then to run the project:
  cmd: python manage.py runserver

9.2 Create App:

- An app is a web application that has a specific meaning in your project, like a home page, a contact form, or a members database. In this project we will create an app that allows us to list and register members in a database. Noticehub project in create two app one is 'myadmin' and second is 'user'.

  cmd: python manage.py myadmin
  python manage.py user

9.3 Model for myadmin app:

The model provides data from the database. In Django, the data is delivered as an Object Relational Mapping (ORM), which is a technique designed to make it easier to work with databases. The most common way to extract data from a database is SQL. One problem with SQL is that you have to have a pretty good understanding of the database structure to be able to work with it. Django, with ORM, makes it easier to communicate with the database, without having to write complex SQL statements. The models are usually located in a file called 'models.py'.

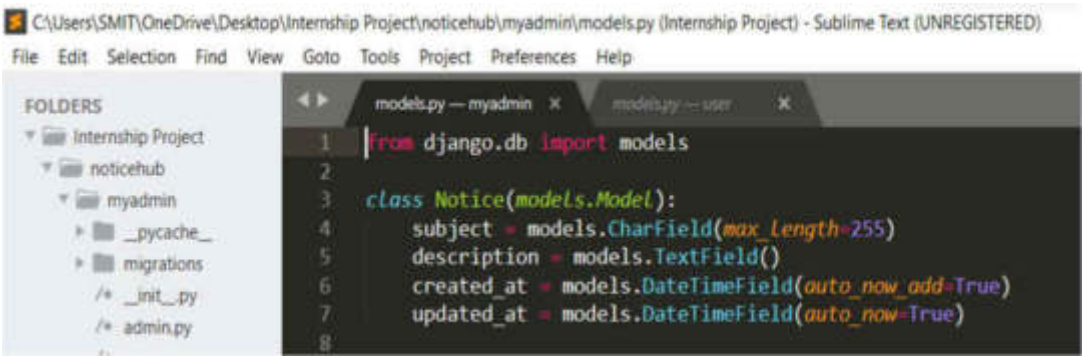


Figure 9.3.1: model.py--myadmin

9.4 Admin for myadmin app:

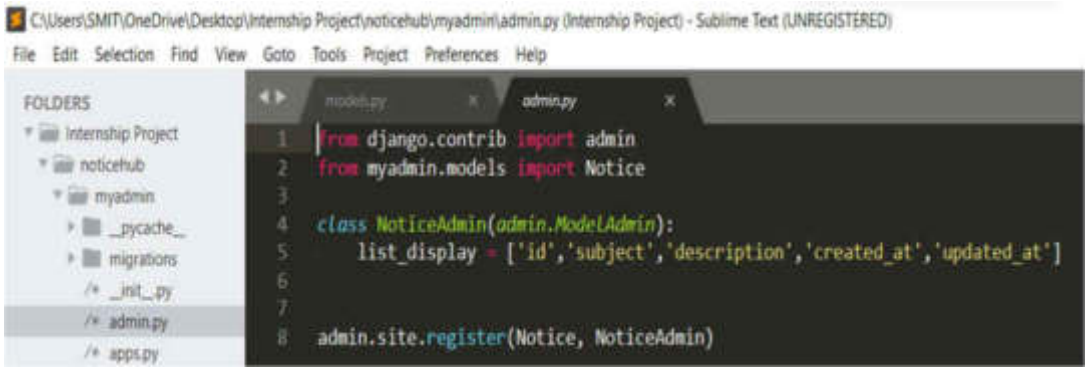


Figure 9.4.1: admin.py

9.5 Views for user app:

Django views are Python functions that takes http requests and returns http response, like HTML documents. A web page that uses Django is full of views with different tasks and missions. Views are usually put in a file called views.py located on your app's folder.

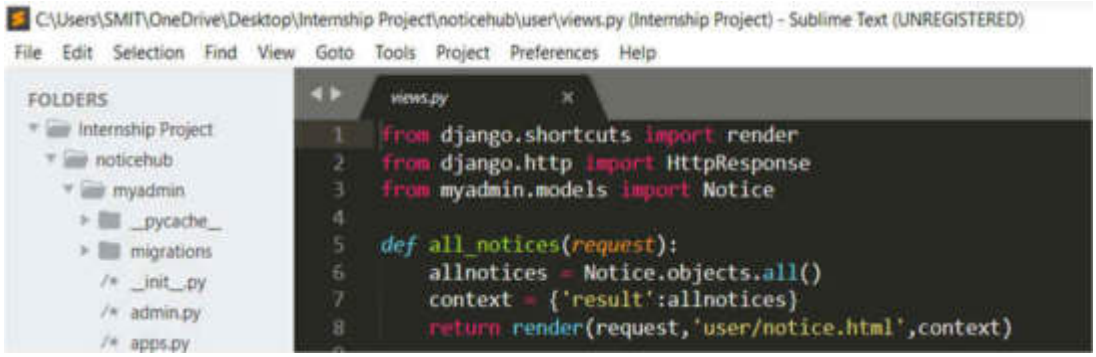


Figure 9.5.1: view.py

9.6 URLs for user app:

Django also provides a way to navigate around the different pages in a website.
When a user requests a URL, Django decides which *view* it will send it to.
This is done in a file called 'urls.py'.

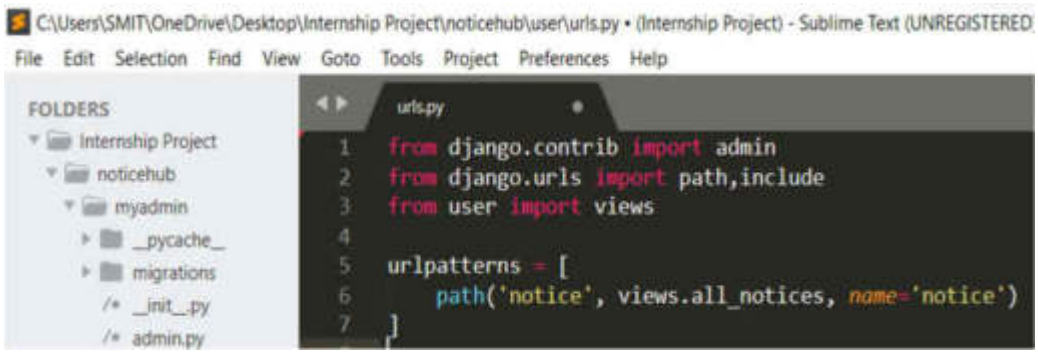


Figure 9.6: urls.py

Chapter 10. DJANGO WITH (HTML & CSS)

10.1 Templates for html files:

Templates are often .html files, with HTML code describing the layout of a web page, but it can also be in other file formats to present other results, but we will concentrate on .html files. Django uses standard HTML to describe the layout. The templates of an application is located in a folder named ‘templates’.

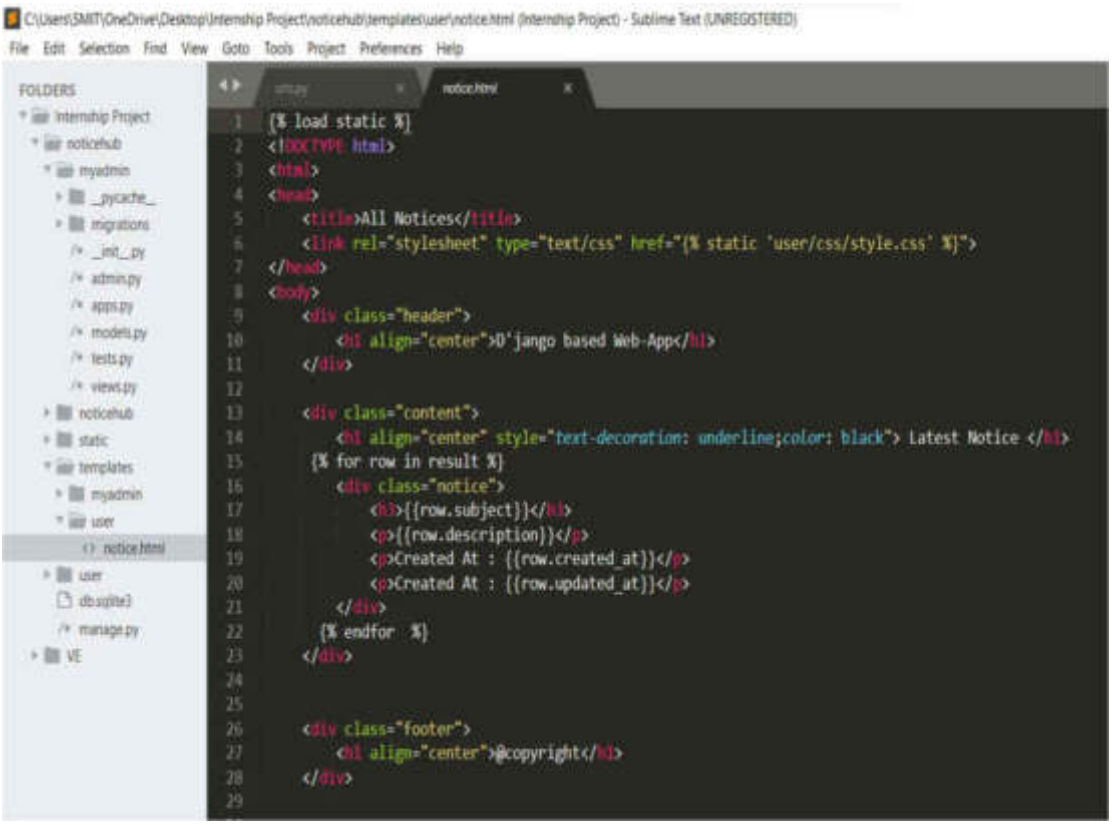


Figure 10.1.1: Templates--html file

10.2 Static for CSS files:

When building web applications, you probably want to add some static files like images or CSS files. Start by creating a folder named static in your project, the same place where you created the templates folder. The name of the folder has to be ‘static’.

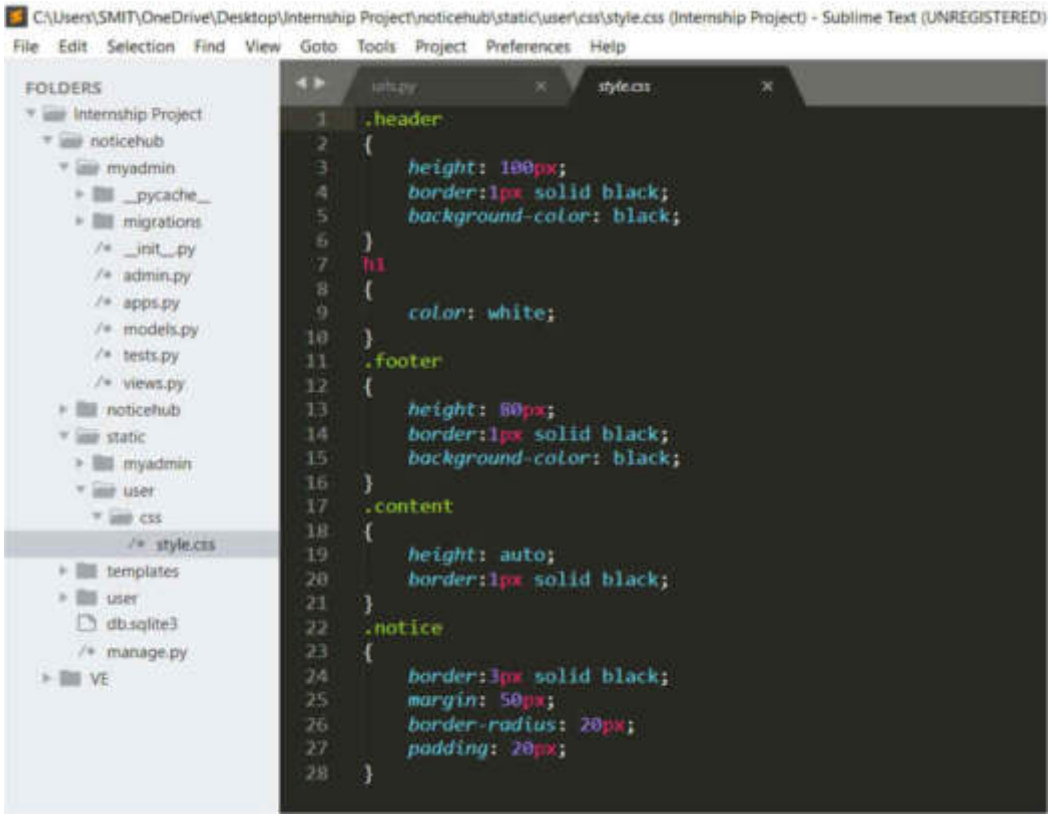


Figure 10.2.1: Static--CSS files

Chapter 11. WEB APP NOTICEHUB

11.1: Noticehub admin panel:

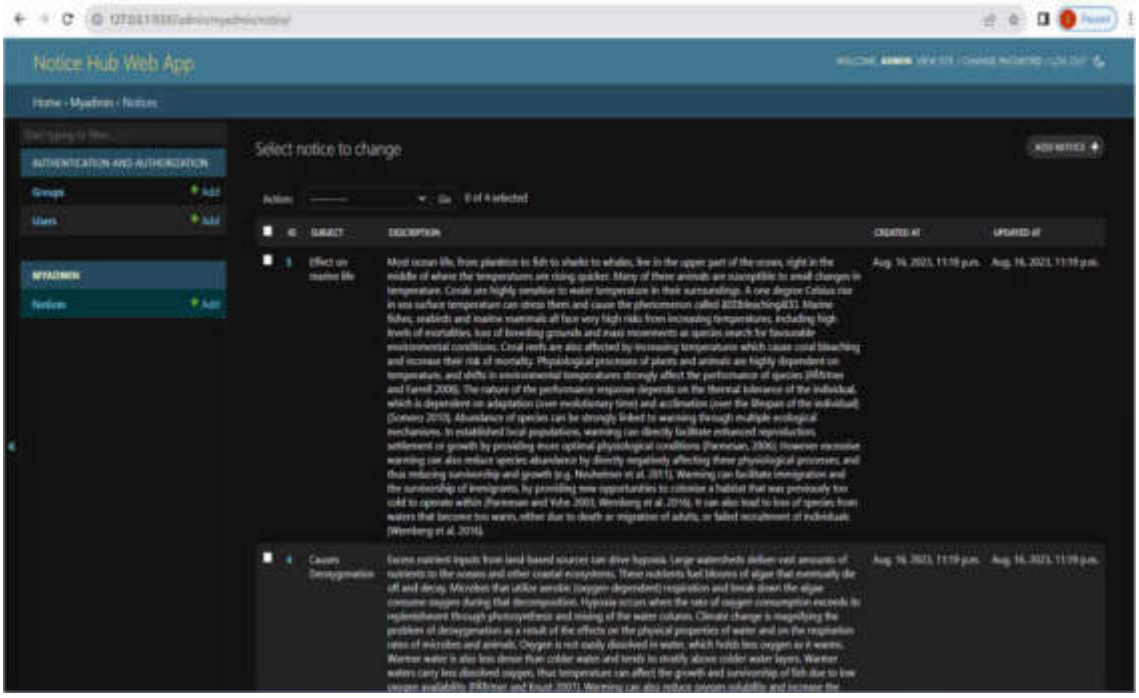


Figure 10.1: Admin panel

11.2: Noticehub user panel:

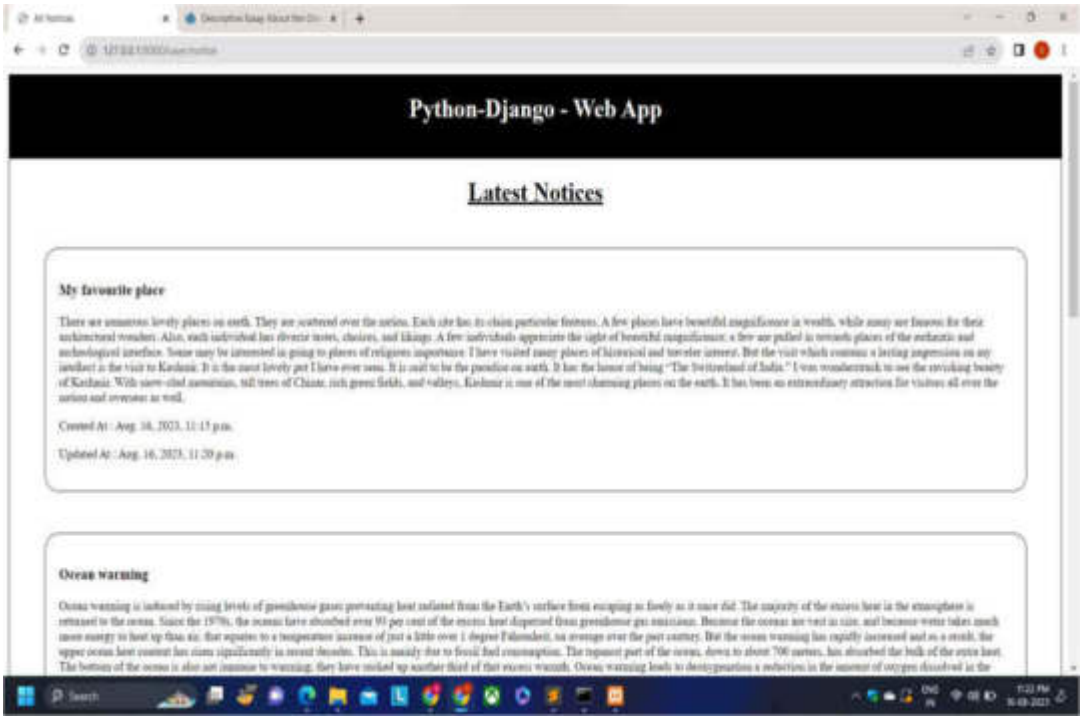


Figure 10.2: User panel

INTERNSHIP AT DIVINE INSTITUTE

AN INTERNSHIP REPORT

Submitted by

Binal Jayantbhai Patel

200390116028

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at Divine Institute** has been carried out by **Binal Jayantbhai Patel** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Signature	Signature
Prof. Ekta Joshi	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate



S.P.B. PATEL
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GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / ~~Project~~ report submitted along with the Internship / ~~Project~~ entitled **Internship at Divine Institute** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Ekta Joshi** & **Akshay Kansara (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student — Sign of Student



Binal Jayantbhai Patel

ACKNOWLEDGMENT

I would like to express my profound gratitude to Mr. Jagdish Shingala of Divine Institute for providing me with the invaluable opportunity to intern under his expert guidance. The knowledge, insights, and experiences I gained during these 15 days have immensely contributed to my academic and professional growth.

I am equally grateful to my college internal guide and the Head of Department for their unceasing support and encouragement throughout this endeavor. Their faith in my capabilities and their facilitation of this internship opportunity made it possible for me to gain firsthand experience in the field.

Lastly, I extend my appreciation to the entire team at Divine Institute for welcoming me with open arms, enriching my learning experience, and fostering an environment of growth and development. This journey has been truly enlightening, and the memories and skills I've acquired will undoubtedly stay with me throughout my career.

Abstract

This report contains the work done by the author during his internship at ***Divine Institute***. It shows the work I did in the company during my internship period. In the report, the author discusses the process of manufacturing and steps of assembly of the machines. The author also discusses the structure of the company, all the departments and their work. It also explains what the author learned during this internship period.

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List of Abbreviations

HTML	Hypertext Markup Language
JS	JavaScript
CSS	Cascading Stylesheet
HTML	Hypertext Markup Language.
DHTML	Dynamic HTML.
DOM	Document Object Model.
CSS	Cascading Style Sheets.
XML	Xtensible Markup Language.
URL	Uniform Resource Locator.
FTP	File Transfer Protocol.
HTTP	HyperText Transfer Protocol.
MongoDB	Database System of Mongo
SQL	Standard Query Language

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Internship Overview

During my intensive 15-day summer internship, I embarked on a journey to fortify my web development skills, rapidly constructing several projects that increased in complexity as I progressed. Here's a technical breakdown of my learnings:

- ***Day 1 - Calculator***: Developed a functional calculator, grasping the fundamentals of HTML, CSS, and JavaScript. This project helped me understand DOM manipulation and event handling, which are crucial in creating interactive web applications.
- ***Day 2 - Bulb On/Off using JS***: Further explored JavaScript's ability to dynamically alter web content. I worked with the DOM to switch the display states of images, simulating the on/off mechanism of a bulb.
- ***Day 3 - Digital Clock using JS***: Delved deeper into JavaScript, understanding the Date object and its methods. Implemented real-time updates using setInterval, creating a live clock interface.
- ***Day 4 - Animation on Scroll***: Introduced to advanced CSS animations and JavaScript event listeners. I employed techniques to detect viewport position and trigger animations, enhancing the user experience by providing visual feedback as users scroll.
- ***Days 5 & 6 - Landing Page using React.js***: Transitioned to using React.js, a popular front-end library. Designed a modern landing page, learning about React components, states, props, and JSX. Additionally, got acquainted with React Router for navigation.
- ***Days 7, 8 & 9 - To-Do List using React.js***: Progressed with React.js by creating a dynamic To-Do List application. Integrated skills like maintaining component state, handling user input, and implementing CRUD (Create, Read, Update, Delete) operations.
- ***Days 10-15 - VSCode Theme Portfolio using React***: Undertook a more ambitious project to end the internship, designing a VSCode theme portfolio. Here, I mastered advanced React techniques, explored Context API for state management, utilized SCSS for styling, and integrated external libraries for enhanced functionalities. This project also introduced me to the principles of theme design and the intricacies of creating a cohesive and user-friendly interface.

Project Title:	Day(s) spent to build project
Calculator (JS)	1
Bulb On/Off (JS)	1
Digital Clock (JS)	1
Animation On Scroll (CSS & JS)	1
Landing Page (React.js)	2
To-Do List (React.js)	3
VScode Theme Portfolio (React.js)	6

Chapter 1. Calculator

1.1 Calculator Description:

The calculator developed using JavaScript is a digital tool designed to perform mathematical operations. It harnesses the power and flexibility of JavaScript, a widely-used programming language that runs in web browsers, to deliver instant and accurate calculations.

Features:

- ***User Interface***: The calculator features a clean and intuitive interface, making it easy for users to input numbers and select mathematical operations.
- ***Core Functions***: Like traditional calculators, it provides basic arithmetic functions such as addition, subtraction, multiplication, and division. Depending on the complexity, it may also support advanced operations like square root, exponentiation, and more.
- ***Instant Results***: Built with JavaScript, the calculator processes user input in real-time, offering instant feedback and results without the need for page reloads.
- ***Cross-Platform Compatibility***: Given JavaScript's native support in most modern web browsers, the calculator is accessible and functional across multiple devices and platforms, from desktops to mobile devices.
- ***Error Handling***: The calculator incorporates mechanisms to handle invalid inputs or operations, guiding users with appropriate error messages and ensuring a seamless experience.

Applications:

This JavaScript-based calculator is perfect for web applications, educational platforms, or any site where users might need quick mathematical computations. Its lightweight nature ensures that it doesn't significantly affect page load times, delivering an efficient tool for users.

1.1.1 Calc Logic:

```
let screen= document.getElementById('screen');
buttons = document.querySelectorAll('button');
let screenvalue = '';
for(item of buttons){
    item.addEventListener('click', (e)=>{
        buttonText = e.target.innerText;
        console.log('Button text is', buttonText);
        if(buttonText=='x'){
            buttonText ='*';
            screenvalue += buttonText;
            screen.value = screenvalue;
        }
        else if (buttonText =='C'){
            screenvalue = "";
            screen.value = screenvalue;
        }
        else if (buttonText =='='){
            screen.value = eval(screenvalue);
        }
        else{
            screenvalue += buttonText;
            screen.value = screenvalue;
        }


    })
}
```

Fig 1.1: Calc Logic

Output:

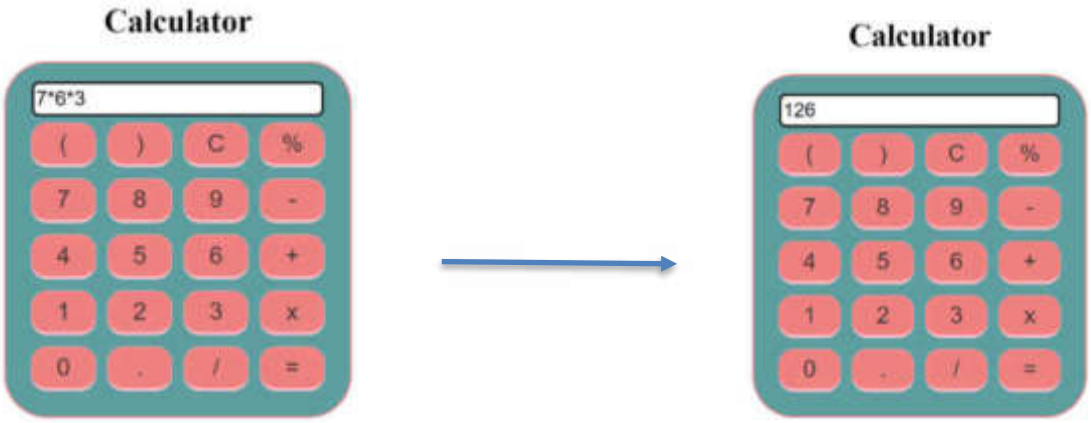


Fig 1.2: Calc Output

Chapter 2. Bulb On-off Using JavaScript

2.1 Bulb Description:

The "Bulb On-Off" project is an interactive web application designed to simulate the operation of a light bulb using JavaScript. At its core, the application presents a graphical representation of a bulb on a web interface, accompanied by a toggle button.

When users click the button, the bulb's state changes — if it was off, it turns on, illuminating the bulb graphic, and if it was on, it turns off, darkening the graphic. This visual transition is achieved using JavaScript to manipulate the web page's Document Object Model (DOM), swapping out images or altering CSS properties to represent the bulb's on and off states.

Beyond the primary functionality, the application can be enhanced with features like dimming controls, color-changing abilities, or even integration with real-life smart bulb APIs. The project serves as a practical introduction to event-driven programming, DOM manipulation, and user interface design in the realm of web development.

2.1.1 Bulb Logic:

```
<script>
    function bulboo()
    {
    document.getElementById("bulb").src="bulb-on.png";
    document.getElementById("bulbstatus").element.innerHTML = "Bulb is On Now!";
    }

    function bulboff()
    {
    document.getElementById("bulb").src="bulb-off.png";
    }
</script>
```

Fig 2.1: Bulb Logic

Output:

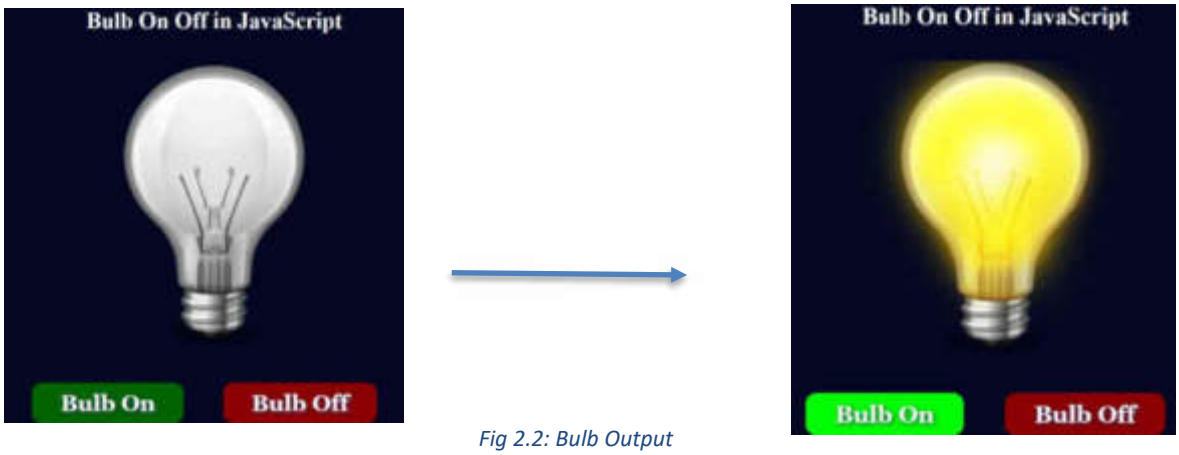


Fig 2.2: Bulb Output

Chapter 3. Digital Clock

3.1 Clock Description:

The Digital Clock built with JavaScript is a dynamic time-displaying tool designed for online platforms. Harnessing the capabilities of JavaScript, this clock updates in real-time, presenting the current hours, minutes, and often seconds to the user with precision. It sources the current system time from the user's device and, utilizing the JavaScript *Date* object, extracts the relevant time details.

Through periodic refreshing mechanisms, usually achieved with methods like *setInterval*, the clock ensures constant synchronization with the actual time, updating every second or as frequently as desired. Integrated with HTML and CSS, it offers a visually pleasing interface, customizable to fit diverse design needs.

Whether used on a website's homepage, in applications, or as a standalone widget, this Digital Clock provides a blend of functionality and aesthetics, delivering the current time at a glance while enhancing user experience on digital platforms.

3.1.1 Clock Logic:

```
setInterval(showTime , 1000);
function showTime() {
    let date = new Date();
    let h = date.getHours();
    let m = date.getMinutes();
    let s = date.getSeconds();
    let period = "AM";
    if(h == 0){
        h = 12;
    }
    if(h > 12){
        h -= 12;
        session = "PM";
    }
    h = (h < 10) ? "0" + h : h;
    m = (m < 10) ? "0" + m : m;
    s = (s < 10) ? "0" + s : s;
    let time = h + ":" + m + ":" + s + " " + period;

    document.getElementById("displayclock").innerText = time;
    document.getElementById("displayclock").textContent = time;

}
showTime();
```

Fig 3.1: Clock Logic

Output:



Fig 3.2: Clock Output

Chapter 4. Animation on Scroll

4.1 Animation Description:

Animation on scroll, often abbreviated as AOS, refers to the dynamic visual effects triggered when a user scrolls through a webpage. Leveraging JavaScript, developers can create immersive and engaging user experiences by unveiling content, graphics, or any other web element in a visually captivating manner as the user navigates through the page. The animations can vary from simple fades, slides, zooms, to more complex choreographed movements.

Under the hood, JavaScript listens for scroll events on the browser window and then checks the position of specific elements relative to the viewport. When these elements come into view (or reach a predetermined position), a class or style is applied to them, which in turn activates the animation.

4.1.1 Scroll Logic:

```
const boxes = document.querySelectorAll('.bbox');
window.addEventListener('scroll', checkBoxes);
checkBoxes();

function checkBoxes(){
    const triggerBottom = window.innerHeight / 5 * 3;
    boxes.forEach(box => {
        const boxTop = box.getBoundingClientRect().top;
        if (boxTop < triggerBottom)
        {
            box.classlist.add('show');
            console.log('11111', )
        }
        else{
            box.classlist.remove('show');
            console.log('22222', )
        }
        })
}
```

Fig 4.1: Scroll Logic

Output:

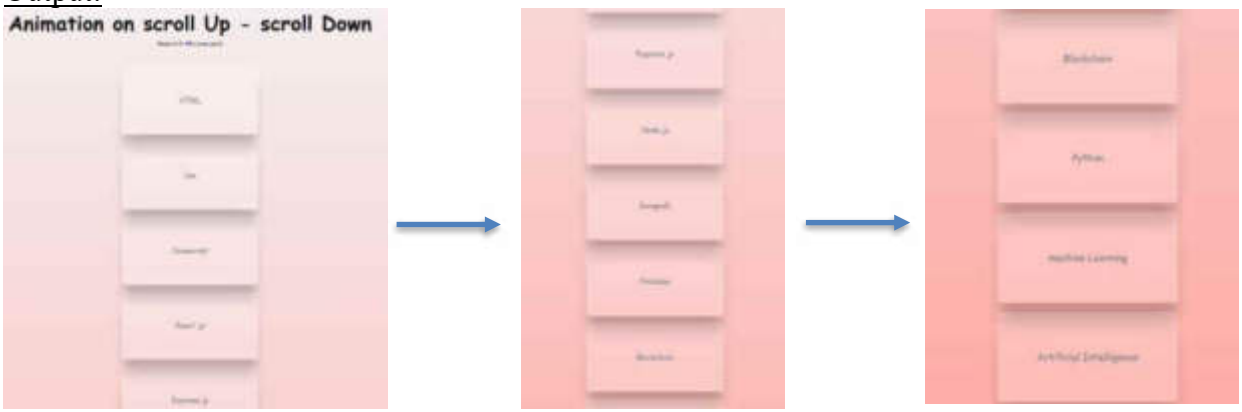


Fig 4.2: Scroll Output

Chapter 5. Landing Page

5.1 Restaurant Food Order Website Description:

Our landing page, designed exclusively for [Restaurant Name], offers an inviting and intuitive digital entrance for food aficionados. Crafted meticulously with HTML, the structural foundation ensures a seamless browsing experience, capturing the essence of our restaurant's ambiance. This is enhanced by the artful styling brought about by CSS, which infuses the page with vibrant colors, elegant fonts, and responsive layouts, adapting smoothly to various devices and screen sizes.

But the true interactive magic is breathed into the page by JavaScript. As you navigate, dynamic elements spring to life: the tantalizing dish carousel that changes images, the real-time availability checker for our most popular dishes, and a swift one-click reservation or order system. The integration of these three web technologies ensures not just visual appeal but also functionality, ensuring that food lovers can explore, choose, and order their favorite dishes with absolute ease.

Every aspect of the landing page, from the rich imagery of our best dishes to the streamlined order process, aims to encapsulate the culinary journey we promise, making it just a click away.

5.1.1 Page Logic:

```
let menu = document.querySelector('#menu-bar');
let navbar = document.querySelector('.navbar');

menu.onclick = () =>{

  menu.classList.toggle('fa-times');
  navbar.classList.toggle('active');

}

window.onscroll = () =>{

  menu.classList.remove('fa-times');
  navbar.classList.remove('active');

  if(window.scrollY > 60){
    document.querySelector('#scroll-top').classList.add('active');
  }else{
    document.querySelector('#scroll-top').classList.remove('active');
  }

}

function loader(){
  document.querySelector('.loader-container').classList.add('fade-out');
}

function fadeOut(){
  setInterval(loader, 3000);
}

window.onload = fadeOut();
```

Output:

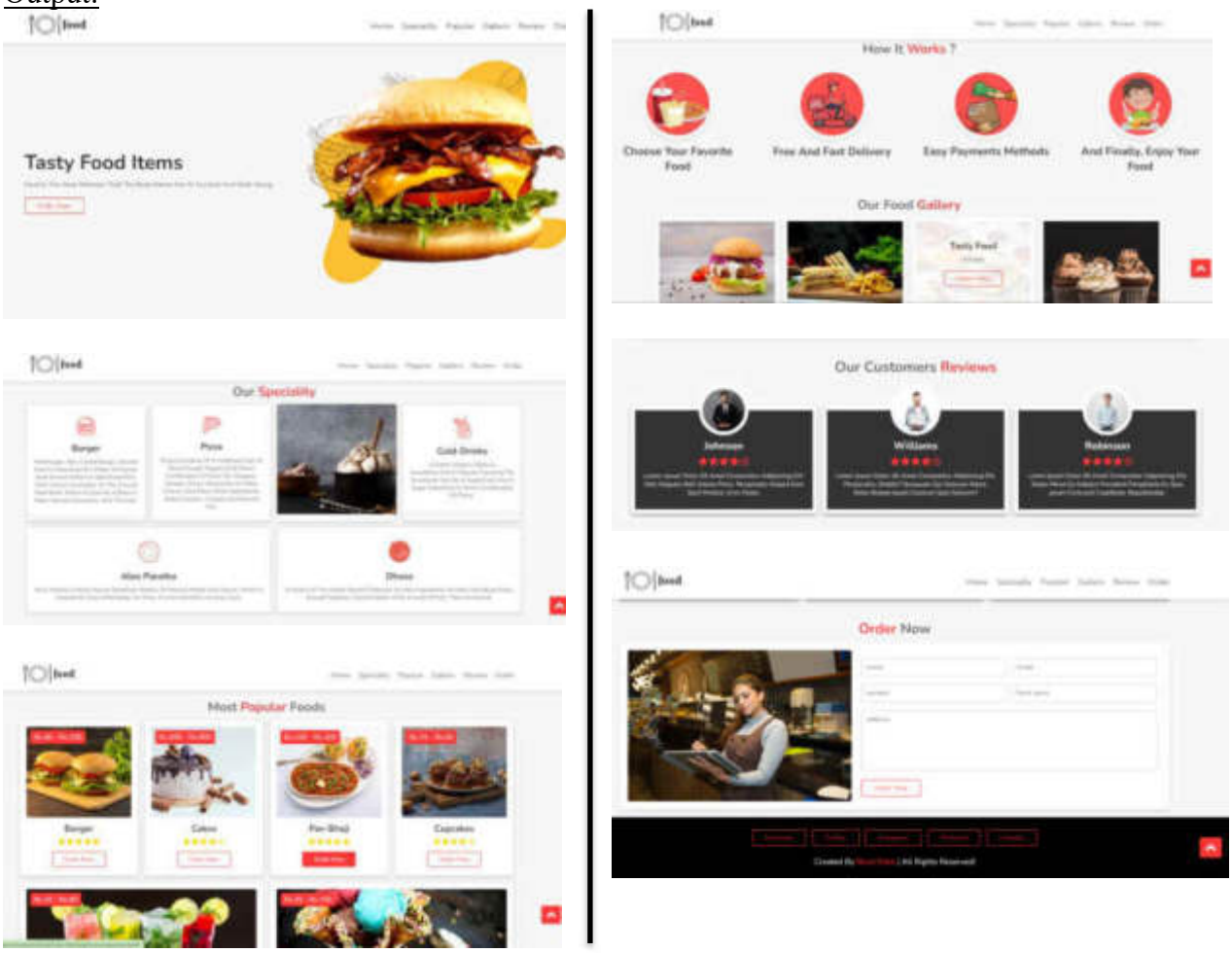


Fig 5.1: Landing Page Output

Chapter 6. To-Do List Using React.js

6.1 List Description:

Our To-Do List application, developed using React.js, provides a seamless and interactive platform for users to manage their daily tasks efficiently. Leveraging the component-based architecture of React, the application offers a responsive user interface with an intuitive design that adjusts dynamically to the addition or removal of tasks.

Key Features:

- Interactive UI: With a minimalist and clean design, users can easily add, delete, or mark tasks as completed. The real-time responsiveness, powered by React's virtual DOM, ensures that every action is updated instantly.
- Task Prioritization: Users can prioritize tasks, allowing them to focus on urgent or high-importance items first.
- Search and Filter: Quickly locate tasks using the built-in search functionality, or filter tasks based on their completion status.
- Persistent Storage: Integration with local storage or cloud databases ensures that tasks remain saved even after the browser is closed or refreshed.
- Drag-and-Drop Reordering: The drag-and-drop feature provides an intuitive way to rearrange tasks based on user preferences or changing priorities.
- Cross-Platform Compatibility: Built with a mobile-first approach, the application is accessible across various devices, ensuring that users can manage their tasks on the go.

React.js, known for its efficiency and flexibility, has empowered this application to be both fast and lightweight. Users benefit from the component modularity, ensuring quick load times and a smooth user experience. Whether you're a student, a professional, or just someone trying to organize their day, our To-Do List application is a reliable companion for efficient task management.

6.1.1 React Logic:

```jsx
import React, { useState, useEffect } from "react";
import "./style.css";

// get the localStorage data back
const getLocalData = () => {
  const lists = localStorage.getItem("mytodolist");

  if (lists) {
    return JSON.parse(lists);
  } else {
    return [];
  }
};

const Todo = () => {
  const [inputdata, setInputData] = useState("");
  const [items, setItems] = useState(getLocalData());
  const [isEditItem, setIsEditItem] = useState("");
  const [toggleButton, setToggleButton] = useState(false);

  // add the items function
  const addItem = () => {
    if (!inputdata) {
      alert("plz fill the data");
    } else if (inputdata && toggleButton) {
      setItems(
        items.map((curElem) => {
          if (curElem.id === isEditItem) {
            return { ...curElem, name: inputdata };
          }
          return curElem;
        })
      );

      setInputData("");
      setIsEditItem(null);
      setToggleButton(false);
    } else {
      const myNewInputData = {
        id: new Date().getTime().toString(),
        name: inputdata,
      };
      setItems([...items, myNewInputData]);
      setInputData("");
    }
  };
```

```jsx
//edit the items
const editItem = (index) => {
  const item_todo_edited = items.find((curElem) => {
    return curElem.id === index;
  });
  setInputData(item_todo_edited.name);
  setIsEditItem(index);
  setToggleButton(true);
};

// how to delete items section
const deleteItem = (index) => {
  const updatedItems = items.filter((curElem) => {
    return curElem.id !== index;
  });
  setItems(updatedItems);
};

// remove all the elements
const removeAll = () => {
  setItems([]);
};

// adding localStorage
useEffect(() => {
  localStorage.setItem("mytodolist", JSON.stringify(items));
}, [items]);
```

Fig 6.1: Page Logic

Output:

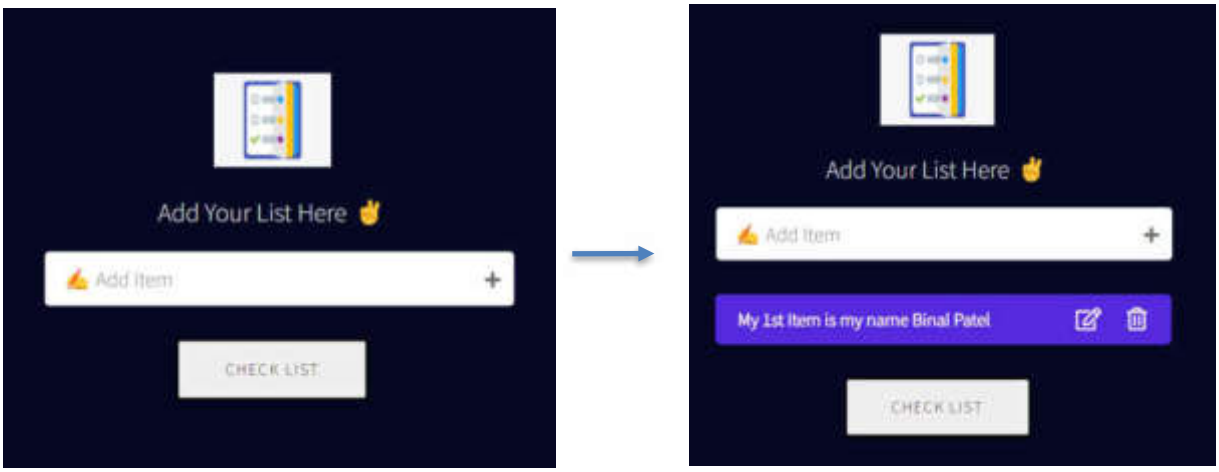


Fig 6.2: List Output

Chapter 7. VScode Theme Portfolio Using React.js

6.1 Website Description:

The "VSCode Theme Portfolio" is an exquisite collection of carefully crafted themes tailored for Visual Studio Code, the widely-acclaimed source-code editor developed by Microsoft. Each theme in this portfolio has been meticulously designed to enhance readability, reduce visual fatigue, and provide a unique coding ambiance, catering to the diverse aesthetic preferences of developers.

Beyond mere color schemes, the themes encapsulate varying moods and tones, ranging from the serene coolness of midnight blues to the fiery passion of sunset oranges. Whether you're a nocturnal coder seeking a dark mode that's easy on the eyes or a day-time developer looking for a bright and vibrant canvas, this portfolio offers a theme to match your rhythm.

Enhancements in syntax highlighting ensure that different code structures, from variables to functions, stand out distinctly. This not only beautifies the code but also aids in quicker debugging and review processes.

In addition, the themes are optimized to be compatible with a plethora of programming languages, frameworks, and extensions available in VSCode. This ensures that no matter your tech stack, there's a theme that will resonate with you, making your coding sessions more productive and enjoyable.

Whether you're a seasoned developer or just starting your coding journey, the "VSCode Theme Portfolio" is a testament to the blend of art and technology, promising to elevate your coding experience in Visual Studio Code.

6.1.1 React Folder Structure:

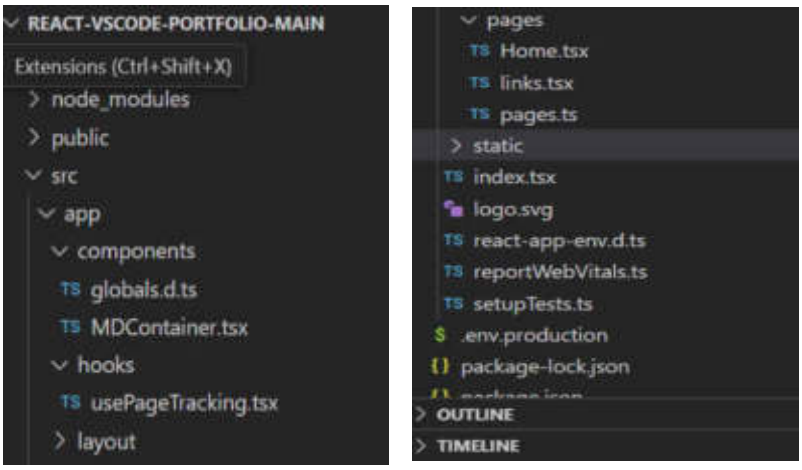


Fig 7.1: React Folder Structure

Output:

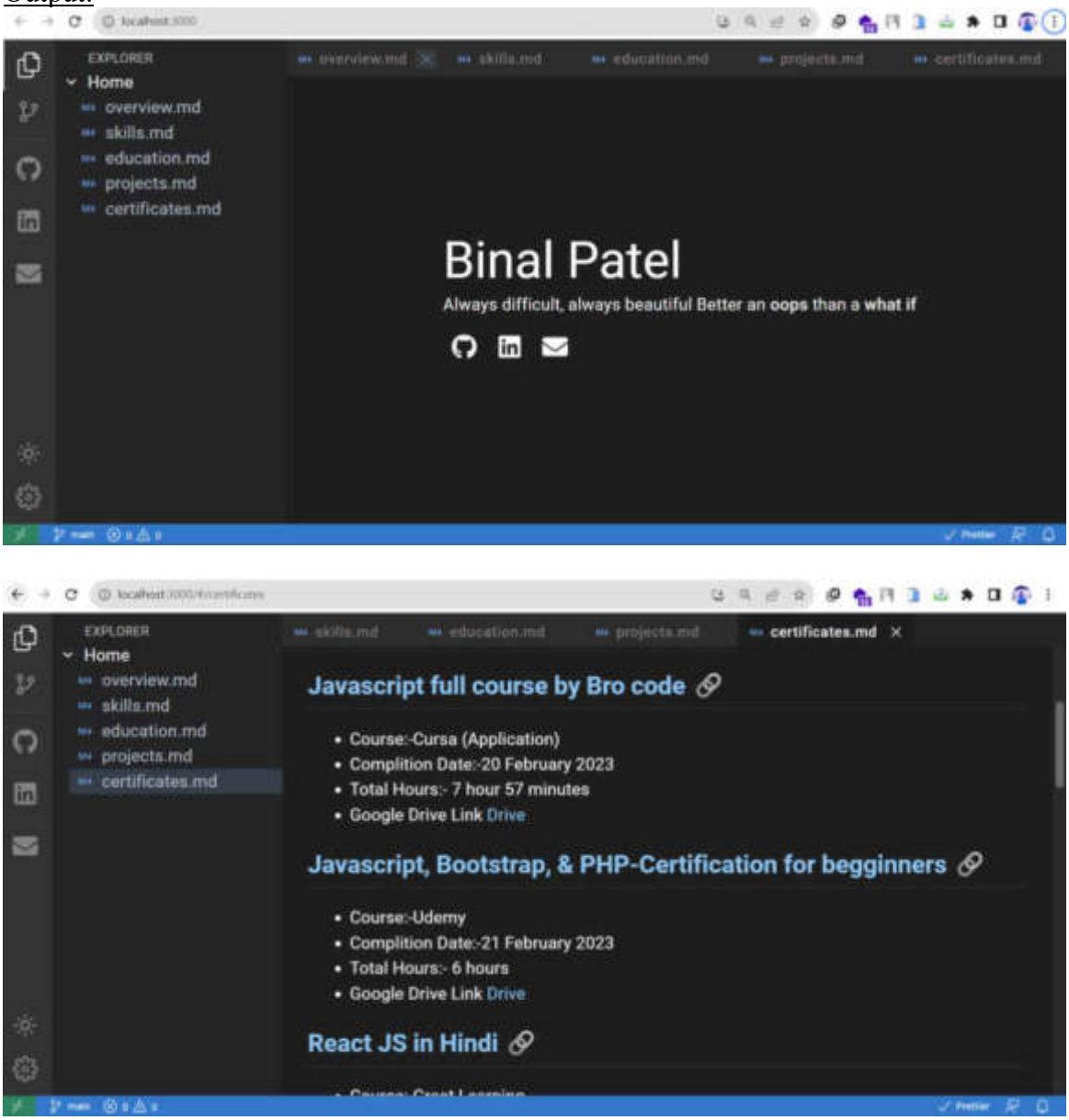


Fig 7.2: Portfolio Output

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INTERNSHIP AT INFOLABZ

AN INTERNSHIP REPORT

Submitted by

Patel Riddham Rajeshbhai

200390116029

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Patel Riddham Rajeshbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technoloy, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116029
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Riddham Rajeshbhai Patel.

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Riddham Rajeshbhai Patel all the best for future endeavors.



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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at InfoLabz** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technoloy** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Patel Riddham Rajeshbhai**	_____

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I extend my heartfelt gratitude to those who have contributed to the successful completion of my internship. My sincere appreciation goes to **Mr.CHINTAN NAGRECHA** for their invaluable guidance, expertise, andmentorship, which have profoundly shaped my understanding of **ReactJS**. I am also thankful to the **InfoLabz** team for their warm welcome, and **S.P.B. Patel Engineering College** for facilitating this opportunity. I'm honored to have undertaken this enriching internship, and I am deeply grateful for the experiences and lessons it has provided.

Abstract

During my 15-day internship at Infolabz Company, I was immersed in a captivating project focused on developing a dynamic news application that retrieves real-time data from news APIs. This immersive experience provided me with a comprehensive grasp of pivotal concepts, including ES6 arrow functions, asynchronous programming, user input handling, and data visualization. Throughout the internship, I delved deep into the intricacies of modern JavaScript, honing my proficiency in leveraging ES6 features like arrow functions for succinct coding and effectively utilizing async functions to manage asynchronous operations. Additionally, I refined my ability to craft user-friendly interfaces that ensure smooth interactions and efficient data management. Beyond its practical exposure to API integration, the project also afforded me insights into thecomplexities of real-time data retrieval, processing, and presentation. This experience not only enhanced my technical skills but also reinforced my capacity for innovative problem-solving. In essence, my tenure at Infolabz has been an illuminating journey of transformation. Through hands-on application, I have not only mastered essential programming concepts but also elevated my aptitude for creating user-centric applications. This report stands as a testament to the comprehensive growth and heightened expertise I attained during this enriching internship.

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Chapter 1 : INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced andhard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concept which could be used by millions of people.

Chapter 2 : JS AND ES6 CONCEPTS

2.1 INTRODUCTION TO JS:-

- JavaScript, abbreviated as JS, is a dynamic and versatile programming language integral to modern web development, enabling interactive and engaging user experiences by seamlessly interacting with HTML and CSS. Developed by Netscape in the mid-1990s, JS has evolved into a fundamental tool for creating real-time interactions, dynamic content updates, and responsive elements within web browsers. Beyond its browser-based functions, the rise of server-side frameworks like Node.js has extended JavaScript's reach to backend development,making it a ubiquitous language across the full software stack. This introduction offers a foundational glimpse into JavaScript's core concepts, syntax, and far-reaching capabilities, making it an essential asset for both newcomers and experienced developers aiming to build dynamic web applications..

2.2 INTRODUCTION TO ES6:-

- ECMAScript 6, or ES6, represents a significant evolution of JavaScript, introducing a range of powerful features and syntax enhancements that enhance code readability and functionality. With innovations like block-scoped variables, arrow functions, classes, and async/await, ES6 simplifies complex tasks and provides an intuitive approach to handling asynchronous operations. Beyond its language advancements, ES6 has become the cornerstone of modern web development, influencing subsequent ECMAScript versions and serving as a vital toolkit for creating robust and scalable applications. This introduction to ES6 offers insights into its key features and practical applications, providing a foundation for crafting efficient and cutting-edge JavaScript code, whether you're a seasoned developer or new to programming.

2.3 OBJECTS:-

- JavaScript objects serve as containers for organizing interconnected data using key-value pairs. Crafted using `{}`, they have the versatility to encompass diverse data types, encompassing functions and even other objects. Objects enable systematic data and method organization, enabling property addition, alteration, and access through dot notation or square brackets. Moreover, objects can serve astemplates, constructing akin objects via constructors or classes. Their pivotal role lies in facilitating intricate data and functionalities management within JavaScript applications.

2.4 TASK 1 : PRINT THE DATA FROM JSON API INTO TABLE

Code:

table.html > html > body > script > cases > "Chennai"

```
<!DOCTYPE html>
<html><head><style>
    table {
        font-family: Arial, sans-serif;border-collapse: collapse;width: 80%; margin: 20px auto;}
th, td {
        border: 1px solid #dddddd;
        text-align: left;
        padding: 8px;}
th {
        background-color: #f2f2f2; }
tr:nth-child(even) {
        background-color: #f2f2f2;}
</style></head>
<body><script>
  var cases = {"Mumbai":[2500,600,12],"Pune":[700,200,10],"Chennai":[1100,20,7]};

    document.write("<h3>Cases Data:</h3>");
     document.write("<table>");
     document.write("<tr><th>City</th><th>New Cases</th><th>Recovered Cases</th><th>Death Cases</th></tr>");
     for(var i in cases){
       document.write("<tr><td>" + i + "</td><td>" + cases[i][0] + "</td><td>" + cases[i][1] + "</td><td>" +
       cases[i][2] + "</td></tr>");
     }
     document.write("</table>");

</script>
</body>
</html>
```

Fig 2.1 JSON API Data To Table

Output:

Cases Data:

City	New Cases	Recovered Cases	Death Cases
Mumbai	2500	600	12
Pune	700	200	10
Chennai	1100	20	7

Fig 2.2 Output Of JSON API Data To Table

Chapter 3 : JS FUNCTIONS

3.1 JS FUNCTIONS & ARROW FUNCTIONS:-

- JavaScript functions are reusable blocks of code designed to perform specific tasks. They encapsulate a set of instructions that can be invoked by calling the function's name, along with any required arguments. Functions enhance codemodularity and maintainability, as they allow you to break down complex tasks into smaller, manageable units. They can accept inputs, process data, and produce outputs, making them a fundamental building block of JavaScript programming.
- Arrow functions, introduced in ES6, provide a concise and expressive way to create functions. They offer a more streamlined syntax, often requiring fewer linesof code compared to traditional function expressions. Arrow functions automatically inherit the surrounding context (i.e., the value of `this`), which can simplify code in certain scenarios. While arrow functions are a powerful tool for writing more elegant code, it's important to note that they may not be suitable for all use cases, particularly when more advanced function behavior or dynamic context handling is required.

3.2 ASYNC FUNCTION :

- An async function in JavaScript is a specialized type of function introduced in ES2017 that allows for the management of asynchronous operations in a more organized and readable manner. By using the `async` keyword before the function declaration, it enables the function to implicitly return a Promise, simplifying asynchronous code flow. Within an async function, the `await` keyword can be used to pause the function's execution until a Promise is resolved, making it easierto handle asynchronous actions like fetching data from a server or performing time-consuming computations. This streamlined approach to handling asynchronous tasks enhances code clarity and maintainability, facilitating thedevelopment of more efficient and responsive applications.

3.3 TASK 2: FETCH LIVE DATA FROM BITCOIN API.

Code:

bitcoin.html

```
<!DOCTYPE html>
    <head>

    </head>
    <body>
        <script>
            async function load(){
                let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
                let myobject =  await (await fetch(url)).json();
                document.write(myobject["bpi"]["USD"]["rate"]);
            }
            load();
        </script>
    </body>
</html>
```

Fig 3.1 Fetch Data From API

Output:

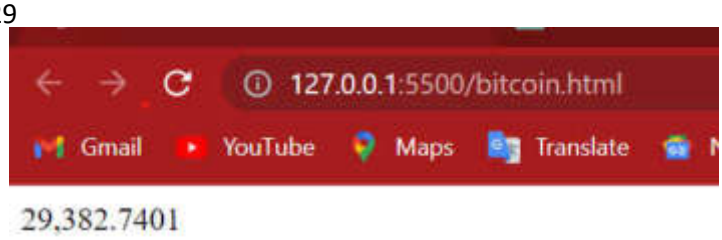


Fig 3.2 Live Rate Of BitCoin

Chapter 4 : JS INPUT METHODS

4.1 COVID API – DATA FETCHING AND MAPPING:-

Code:

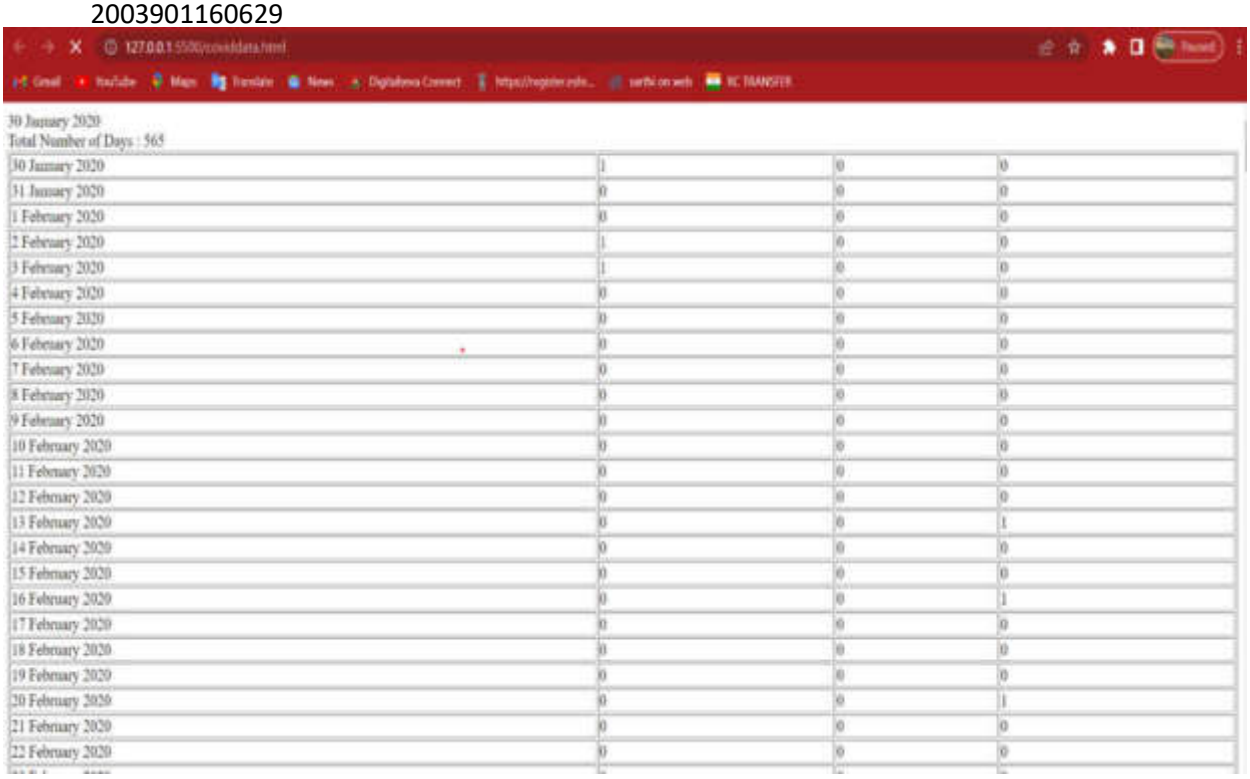
```
<!DOCTYPE html>
    <head></head>
    <body>
        <script>
            async function load(){
                let url = "https://data.covid19india.org/data.json";
                let myobject = await (await fetch(url)).json();
                var days=0;
                document.write(myobject["cases_time_series"][0]["date"]+"<br>");
                document.write("Total Number of Days : "+myobject["cases_time_series"].length);
                document.write("<table border='1' width='100%'>");
                for(var i=0;i<myobject["cases_time_series"].length;i++){
                    if(myobject["cases_time_series"][i]["dailyconfirmed"]>=100000){
                        document.write("<tr style='color:red'><td>"+myobject["cases_time_series"][i]["date"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                                "</td><td>"+myobject["cases_time_series"][i]["dailyrecovered"]+
                                    "</td></tr>");
                        days = days+1;
                    }
                    else{
                        document.write("<tr><td>"+myobject["cases_time_series"][i]["date"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                                "</td><td>"+myobject["cases_time_series"][i]["dailyrecovered"]+
                                    "</td></tr>");
                    }

                }
                document.write("</table>");
                document.write("Total number of days with more than 1 lac cases :"+days);
            }
            load();
        </script>

    </body>
</html>
```

Fig 4.1 Code Of Covid-19 API Data

Output:



30 January 2020
Total Number of Days : 565

30 January 2020	1	0	0
31 January 2020	0	0	0
1 February 2020	0	0	0
2 February 2020	1	0	0
3 February 2020	1	0	0
4 February 2020	0	0	0
5 February 2020	0	0	0
6 February 2020	0	0	0
7 February 2020	0	0	0
8 February 2020	0	0	0
9 February 2020	0	0	0
10 February 2020	0	0	0
11 February 2020	0	0	0
12 February 2020	0	0	0
13 February 2020	0	0	1
14 February 2020	0	0	0
15 February 2020	0	0	0
16 February 2020	0	0	1
17 February 2020	0	0	0
18 February 2020	0	0	0
19 February 2020	0	0	0
20 February 2020	0	0	1
21 February 2020	0	0	0
22 February 2020	0	0	0

Fig 4.2 Output Of Covid-19 API Data To Table

4.2 JS POP UP BOXES:-

JavaScript provides three types of pop-up boxes:
1. Alert: Displays a message with an OK button for notifications.
   Syntax: alert("Message");
2. Confirm: Displays a message with OK and Cancel buttons for user confirmation.

   Syntax: const result = confirm("Confirm?");
3. Prompt: Displays a message with an input field for gathering user input.
   Syntax: const input = prompt("Enter something:");

These pop-up boxes are simple but can disrupt user experience and are less customizable. Modern alternatives like CSS frameworks or custom modals are often preferred for better user interaction.

4.3 USER INPUT : FORM TO VARIABLE:-

Code:

formtovariable.html

```
<!DOCTYPE html>
<head>

</head>
<body>
    <scr function check(form: any): void
    function check(form){
        var name = form.uname.value;
        var surname = form.usurname.value;
        // alert("uesr name is "+name+" user surname is "+surname);
        document.getElementById("msg").innerHTML = " username is "+name+" surname is "+surname;
    }

    </script>
    <form>
        Name : <input type="text" name="uname"><br>
        surname : <input type="text" name="usurname"><br>
        <input type="submit" onclick="check(this.form); return false;">
    </form>
    <mark id="msg"></mark>
</body>
</html>
```

Fig 4.3 Form To Variable

Output:



Fig 4.4 Output Of Form To Variable

4.4 TASK 4 :- GET THE INPUT FROM THE USER AND PRINT THE DATA IN THE FORM OF TABLE.

Code:

```
<!DOCTYPE html>
    <head>

    </head>
    <body>
        <script>
            function showdata(form){
                var name = form.uname.value;
                var password = form.upassword.value;
                var city = form.ucity.value;

                if(name=="" || password=="" || city==""){
                    document.getElementById("msg").innerHTML = "Fields can not be blank";
                }
                else{
                document.getElementById("msg").innerHTML = "<table border='1' width='500px'><tr><td>Name : </td><td>"
                    +name+"</td></tr><tr><td>Password : </td><td>"+password+
                        "</td></tr><tr><td>City : </td><td>"+city+"</td></tr></table>";
                }

            }
        </script>
        <form>
            Name: <input type="text" name="uname"><br>
            Password: <input type="password" name="upassword"><br>
            City : <select name="ucity">
                <option value="ADI">Ahmedabad</option>
                <option value="RJT">Rajkot</option>
                <option value="ST">Surat</option>
            </select><br>
            <input type="submit" onclick="showdata(this.form); return false;">
        </form>
        <p id="msg"></p>
    </body>
</html>
```

Fig 4.5 Form To Table

Output:

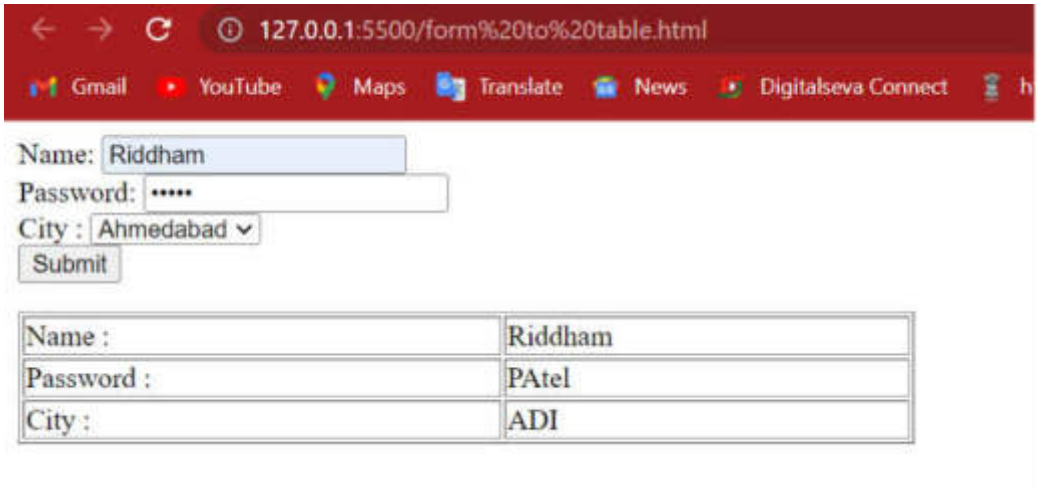


Fig 4.6 Output Of Form To Table

Chapter 5 : JS ARRAYS

5.1 INTRODUCTION TO ARRAYS :-

- JavaScript arrays are versatile and dynamic data structures used to store collections of values, which can include various data types such as numbers, strings, objects, and even other arrays. Arrays are defined using square brackets and can hold elements in a sequential order. Each element is assigned an index starting from zero, enabling efficient access and manipulation of data. Arrays offera range of built-in methods for adding, removing, and manipulating elements, making them essential tools for tasks like data processing, iteration, and storage ofrelated information. Their flexibility and functionality make arrays fundamental components in JavaScript, enabling developers to efficiently manage and operate on sets of data within their programs.

Code :

```
array.html > body > script
    <body>
        <script>

            var emails = ["a@c.com","i@k.com","x@z.com"];
            var passwords = ["abc123","ijk123","xyz123"];

            function login(form){
                var useremail = form.uemail.value;
                var userpasswrod = form.upassword.value;

                if(useremail=="" || userpasswrod==""){
                    if(useremail=="" && userpasswrod !=""){
                        document.getElementById("msg").innerHTML = "Email Field can not be blank";
                    }
                    else if(useremail!="" && userpasswrod==""){
                        document.getElementById("msg").innerHTML = "Password Field can not be blank";
                    }
                    else{
                        document.getElementById("msg").innerHTML = "Both fields are required.";
                    }
                }
                else{
                    for(var i=0;i<emails.length;i++){
                        if(useremail==emails[i] && userpasswrod== passwords[i]){
                            document.getElementById("msg").innerHTML = "<font style='color:green'>Login Successful</font>";
                            break;
                        }
                        else{
                            document.getElementById("msg").innerHTML = "<font style='color:red'>Invalid username or password</
                        }
                    }
                )
            }
        </script>
        <form>
            Email : <input type="email" name="uemail"><br>
            Password : <input type="password" name="upassword"><br>
            <input type="submit" onclick="login(this.form); return false;">
        </form>
        <p id="msg"></p>
    </body>
</html>
```

Fig 5.1 Authentication Using Array

Output：

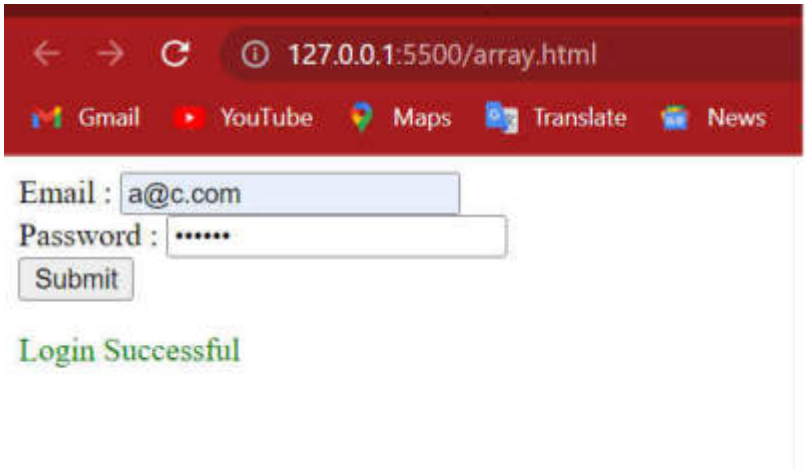


Fig 5.2 Output Of Authentication Using Array

5.2 FORM TO TABLE :-

5.2.1 Task 5 : Fetch Data from API and Get the User value print in the form of Table.

Code:

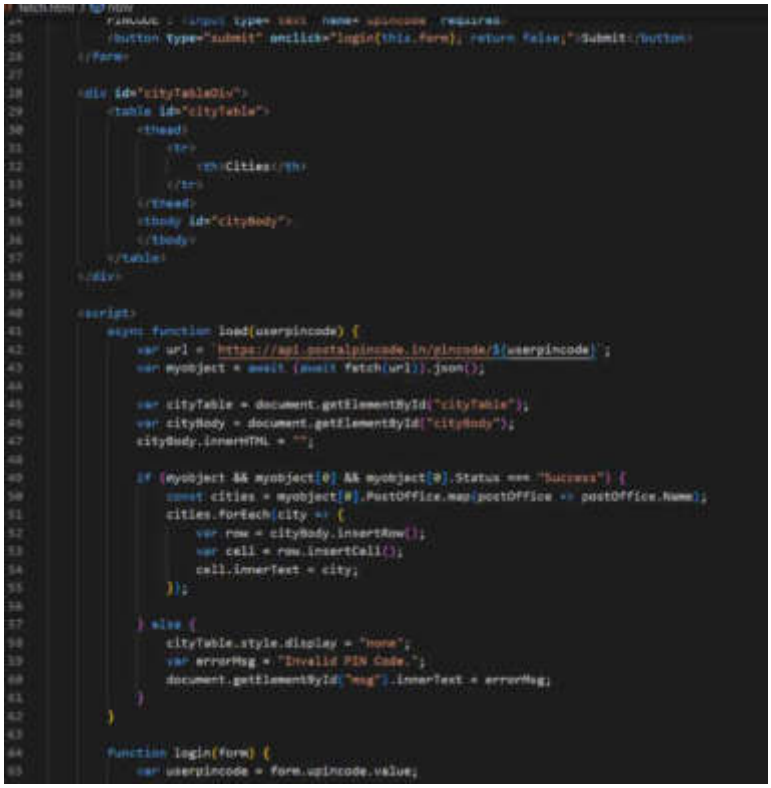


Fig 5.3 Form To Table

Output:



Fig 5.4 Cities Names From Respected PINCODE

Chapter 6 : BASICS OF REACT

6.1 INTRODUCTION TO REACT :-

- React is an open-source JavaScript library that simplifies the process of building user interfaces for web applications. Developed by Facebook, React allows developers to create reusable UI components that efficiently update and render based on changes in data. It employs a virtual DOM (Document Object Model) to optimize performance by minimizing direct interactions with the actual DOM, resulting in faster rendering and a more responsive user experience. React's component-based architecture and declarative syntax enable developers to build complex, interactive, and maintainable applications, making it a cornerstone of modern web development.

6.2 INTRODUCTION TO NODE.JS :

- Node.js is a server-side runtime environment built on the V8 JavaScript engine. It allows developers to execute JavaScript code on the server, enabling the creation of scalable and high-performance applications. Node.js facilitates non-blocking, event-driven architecture, making it ideal for handling asynchronous operations like network requests and file I/O. It offers a vast ecosystem of modules and packages through npm (Node Package Manager), streamlining development by providing ready-to-use tools for various tasks. Node.js has revolutionized server-side programming, allowing developers to use a single language (JavaScript) for both front-end and back-end development, ultimately enhancing efficiency and fostering seamless communication between client and server components.

6.3 FIRST REACT APP :

Code :

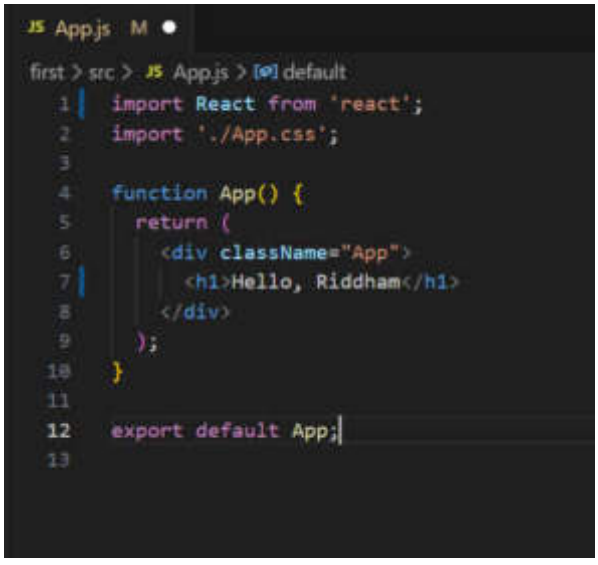


Fig 6.1 App.js Component

Output

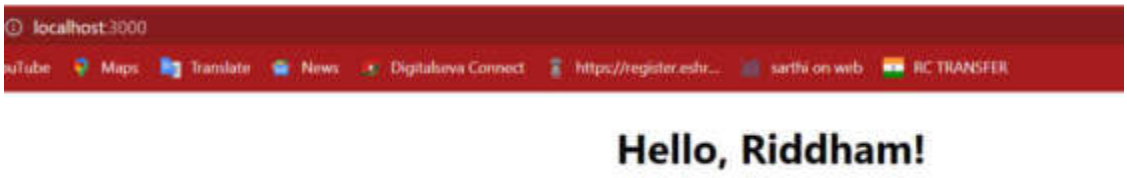


Fig 6.3 First React App

6.3.1 Functional Components :

- The first and recommended component type in React is functional components. A functional component is basically a JavaScript/ES6 function that returns a React element (JSX). According to React's official docs, the function below is a valid functional component:

```
function Welcome(props) {
  return <h1>Hello, {props.name}</h1>;
}
```

Fig 6.4 Functional Component

6.3.2 Class Components :

- The second type of component is the class component. Class components are ES6 classes that return JSX. Below, you see our same Welcome function, this time as a class component:

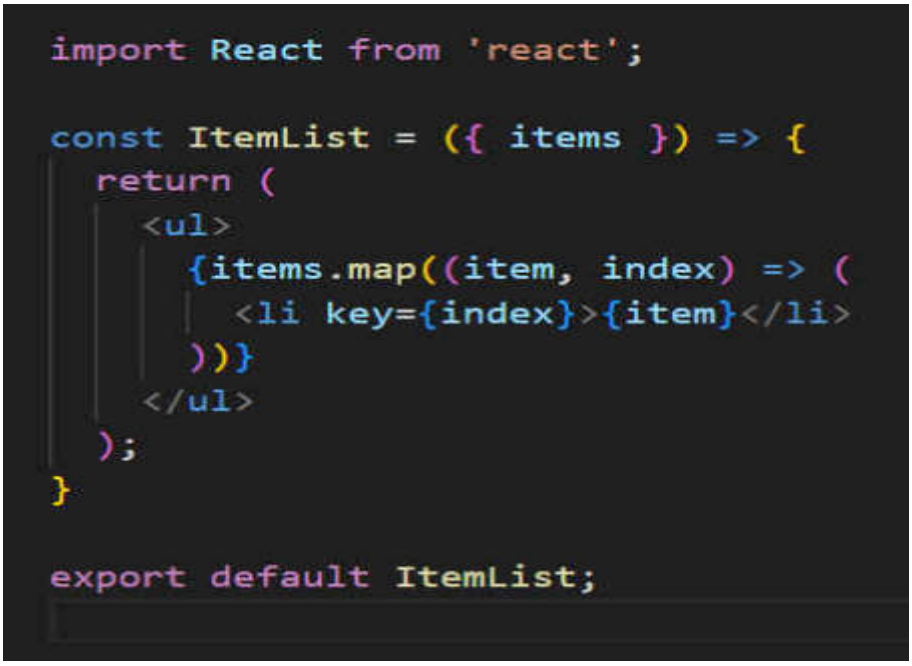
```
class Welcome extends React.Component {
  render() {
    return <h1>Hello, {this.props.name}</h1>;
  }
}
```

Fig 6.5 Class Component

Chapter 7 : MAP IN REACT

7.1 INTRODUCTION TO MAP :-

- In React, the `map()` function is a powerful method used to iterate through an array of data and create a new array of transformed elements. Commonly employed for rendering dynamic content, `map()` applies a provided function to each item in the array, enabling the creation of JSX elements or components based on the data. This facilitates the efficient generation of lists, tables, or any dynamic content structure by mapping data to their corresponding UI representations. Overall, `map()` is a fundamental tool for rendering dynamic content in React applications, enhancing code modularity and enabling the seamless display of data-driven user interfaces.



```
import React from 'react';

const ItemList = ({ items }) => {
  return (
    <ul>
      {items.map((item, index) => (
        <li key={index}>{item}</li>
      ))}
    </ul>
  );
}

export default ItemList;
```

Fig 7.1 Structure Of Map()

7.2 VARIABLE DATA MAP :

- In React, the concept of "variable data mapping" refers to dynamically rendering components or elements based on data stored in a variable, typically an array. This involves using methods like the `map()` function to iterate through the data and generate corresponding UI representations. By mapping variable data to components or elements, developers can create dynamic and flexible user interfaces that adapt to changes in the data. This approach enhances code reusability and modularity, allowing for efficient display of lists, grids, or other structured content while maintaining a clear separation between data and presentation in React applications.

```
const alldata = [5,10,15,20,25];
function Display() {
  return (
    <div>
      {
        alldata.map(
          (data) => {
            return <h1>{data}</h1>
          }
        )

      }
    </div>
  );
}

export default App;
export {Newcomp,Display};
```

Fig 7.2 Variable Data Map

7.3 OBJECT MAP :

7.3.1 Task 6 : Map the Object data and print in the form of Table.

Code :

```
import React from 'react';
import './App.css';

const spacecraftData = [
  { id: 1, name: 'Spacecraft 1', mission: 'Mars Rover', year: 2020 },
  { id: 2, name: 'Spacecraft 2', mission: 'Jupiter Probe', year: 2022 },
  { id: 3, name: 'Spacecraft 3', mission: 'Saturn Orbiter', year: 2019 },
  // Add more spacecraft data here
];

function App() {
  return (
    <div className="App">
      <h1>Spacecraft Table</h1>
      <table>
        <thead>
          <tr>
            <th>ID</th>
            <th>Name</th>
            <th>Mission</th>
            <th>Year</th>
          </tr>
        </thead>
        <tbody>
          {spacecraftData.map((spacecraft) => (
            <tr key={spacecraft.id}>
              <td>{spacecraft.id}</td>
              <td>{spacecraft.name}</td>
              <td>{spacecraft.mission}</td>
              <td>{spacecraft.year}</td>
            </tr>
          ))}
        </tbody>
      </table>
    </div>
  );
}

export default App;
```

Fig 7.3 Object Map

Output :



Fig 7.4 SpaceCrafts Data From Object To Table

Chapter 8 : PROPS AND HOOKS

8.1 INTRODUCTION OF PROPS :

- In React, "props" (short for properties) are a fundamental concept used for passing data from a parent component to its child components. They allow for the communication and sharing of information between different parts of a React application. Props are read-only and provide a way to configure and customize child components by supplying them with specific values or functions. This enables the creation of dynamic and reusable components that can efficiently display data, respond to user interactions, and maintain a clear separation of concerns within the component hierarchy, contributing to the modularity and maintainability of React applications.

Code :

reactprops > src > App.js > New

```
1   import logo from './logo.svg';
2   import './App.css';
3   import Details,{Multipledata} from './propscomponents';
4
5   function App() {
6     return (
7       <div className="App">
8         <h>Heyy Riddham</h>
9       </div>
10    );
11  }
12
13  function New(){
14    return(
15      <div>
16        <h1>New component added.</h1>
17        <Details name="Riddham" />
18        <Details name="GTU" />
19        <Details name="Kadi" />
20        <Multipledata  name="Riddham" email="pridham12345@gmail.com" />
21          </div>
22    );
23  }
24
25  export default App;
26  export {New};
```

Fig 8.1 App,js Component

Output :

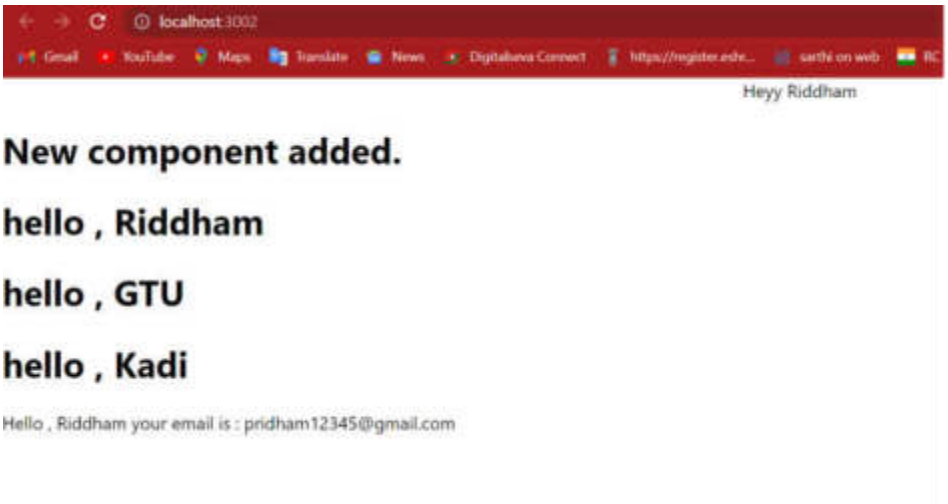


Fig 8.3 Output After Passing Props

8.2 INTRODUCTION OF HOOKS:

- Hooks are a groundbreaking addition to React that empowers developers to incorporate state and lifecycle functionalities into functional components, eliminating the need for class components in many cases. Introduced in React 16.8, Hooks facilitate the management of local component state, side effects, and context usage within functional components, thereby promoting a more concise and readable code structure. By providing functions like `**useState**` and `**useEffect**`, Hooks enable developers to integrate state management and lifecycle behaviors directly into functional components, streamlining development and enhancing code reusability. This innovation marks a pivotal shift in React development, enabling more modular and easily maintainable applications while preserving the flexibility and performance for which React is renowned.

8.3 REACT BOOTSTRAP :

- React Bootstrap is a front-end framework that seamlessly integrates the power of Bootstrap, a popular CSS framework, with the flexibility and component-based architecture of React. By combining these technologies, React Bootstrap empowers developers to build responsive, visually appealing, and interactive user interfaces with ease. It provides a collection of pre-designed, customizable components such as navigation bars, buttons, modals, and forms, eliminating the need to write complex CSS and JavaScript from scratch. React Bootstrap simplifies the process of creating modern web applications by offering a comprehensive set of UI components that adhere to best practices, while also enabling seamless integration with existing React projects for enhanced efficiency and consistency in design and functionality.

8.4 TASK 7: USING HOOKS AND REACT BOOTSTRAP CREATE A APP WITH CARDS.

Code :

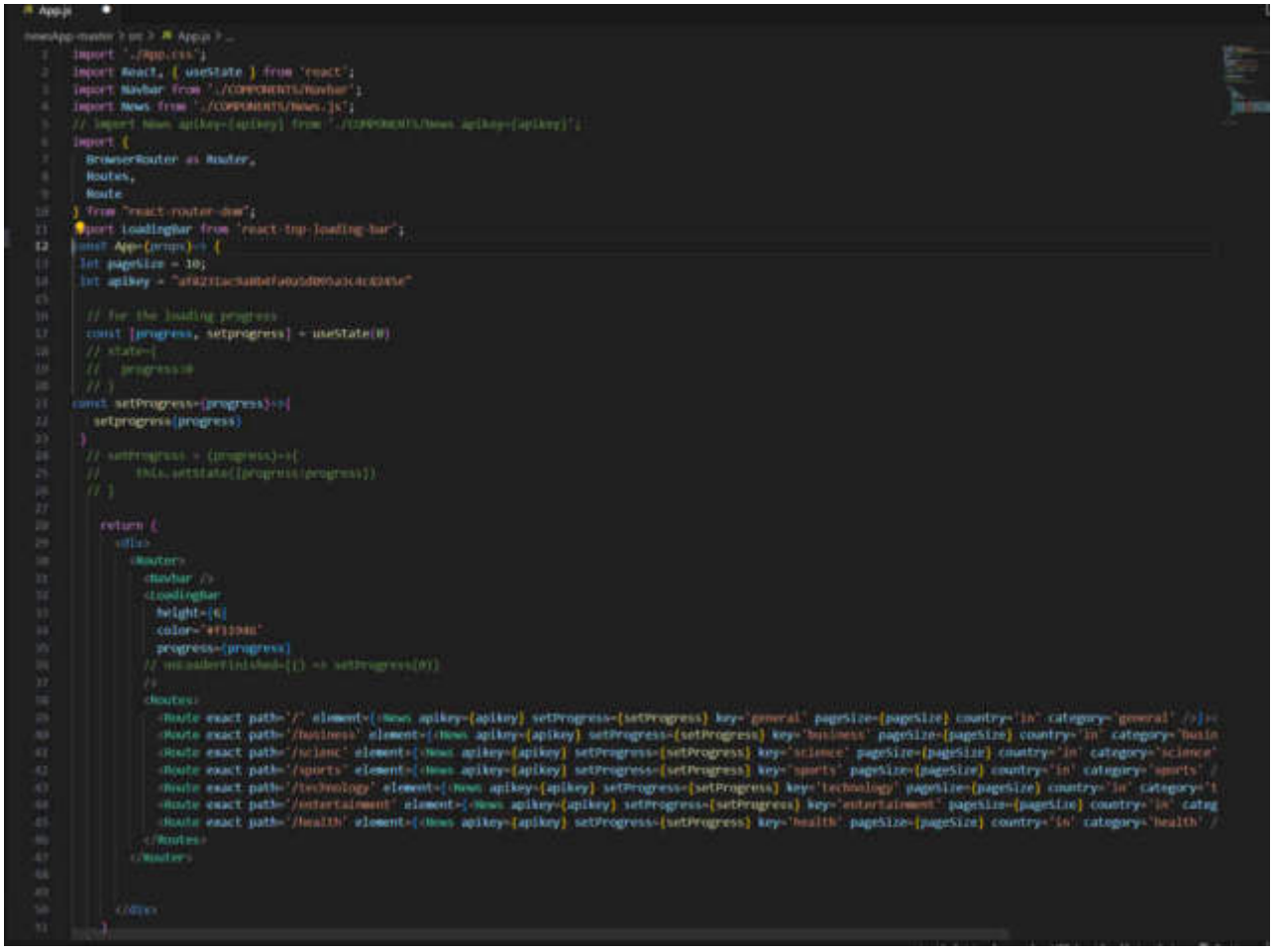


Fig 8.4 useState And useEffect Hooks

Output:

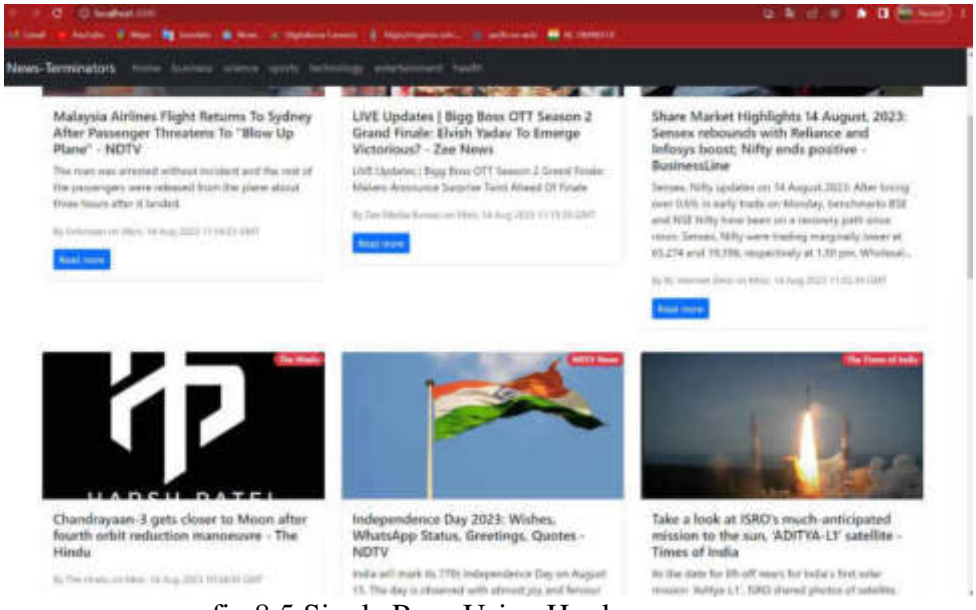


fig 8.5 Single Page Using Hooks

Chapter 9 : ASSIGNMENTS

9.1 ASSIGNMENT 1 :

9.1.1 Task 8 : Datewise Covid data search from API and Print into Table Format.

Code :

```
covidsearch.html
covidsearch.html > body > script > check > load
<html>
<head></head>
<body>
<script>
    function check(form){
        var uname = form.dt.value;

        async function load(){
            let url = "https://data.covid19india.org/data.json";
            let obj = await (await fetch(url)).json();
            for(var i=0;i<obj["cases_time_series"].length;i++){
                if(uname==obj["cases_time_series"][i]["date"]){
                    document.getElementById("msg").innerHTML = "<table border='1' width='500px'><tr><td>NEW CASES</td><td>"
                        +obj["cases_time_series"][i]["dailyconfirmed"]+"</td></tr><tr><td>NEW DEATHS</td><td>"
                            +obj["cases_time_series"][i]["dailydeceased"]+"</td></tr></table>";
                    break;
                }
            }
        }
        load();
    }
</script>
<form>
    Date : <input type="text" name="dt">
    <input type="submit" onclick="check(this.form); return false;" />
</form>
<p id="msg"></p>
</body>
</html>
```

Fig 9.1 Covid Data Fetch From API

Output :



Fig 9.2 Datewise Covid Data Into Table Format

9.1.2 Task 9: Print the Total number of Schemes available from API of Mutual Fund.

Code :

```
mutualfund.html
mutualfund.html > body > script > clickHandle
<!DOCTYPE html>
<head></head>
<body>
<script>
        async function clickHandle(form) {
            var scode = form.scode.value;
            if (scode == "") {
                document.getElementById("msg").innerHTML = "<span class='text-danger'>Please enter the <strong>Scheme Code</st
            } else {
                let url = "https://api.mfapi.in/mf";
                let myMFData = await (await fetch(url)).json();
                for (let i = 0; i < myMFData.length; i++) {
                    if (myMFData[i]["schemeCode"] == scode) {
                        console.log(1);
                        document.getElementById("msg").innerHTML = "<span class='text-success'><strong>" +
                            myMFData[i]["schemeName"] + "</strong></span>";break; }
                        else {console.log(2);
                        document.getElementById("msg").innerHTML = `<strong class='text-danger'>
                            The entered Scheme code ${scode} not found</strong>`;})
                document.getElementById("totalScheme").innerHTML = "<span class='text-primary'>The total number of Scheme avai
                    myMFData.length + "</strong></span>"; } } </script>

<div class="container my-2 text-center"> <h2> Mutual Fund</h2>
<form>
            <div class="mb-3 ms-auto me-auto" style="width: 50%">
                <label for="scode" class="form-label"><strong>Scheme Code</strong></label>
                <input type="number" class="form-control" name="scode" id="scode" required> </div>
            <div class="ms-auto me-auto" style="width: 10%;">
                <button type="button" class="btn btn-primary" onclick="clickHandle(this.form);">Show Fund</button></div>
            <p id="msg" class="my-3"></p> <p id="totalScheme"></p>
 </form></div></body>
</html>
```

Fig 9.3 Fetch The Data From Mutual Fund API

Output :

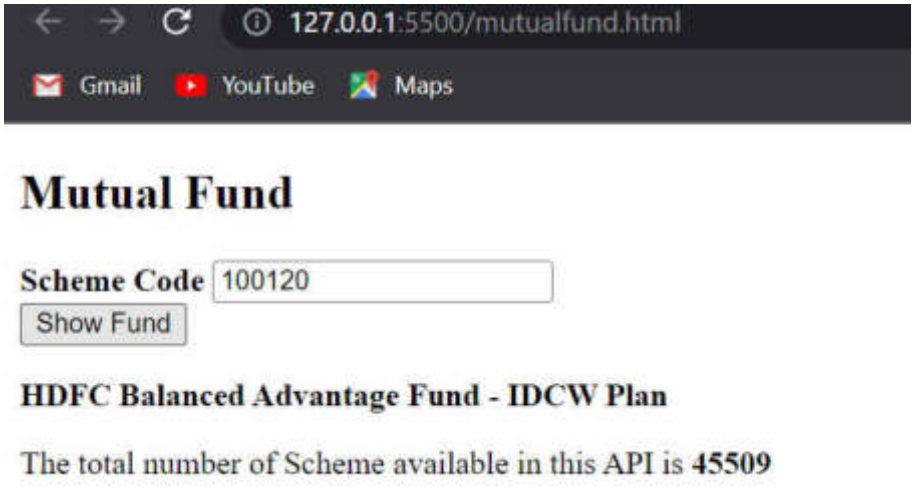


Fig 9.4 Show Available Scheme From API

9.2 ASSIGNMENT 2 : Develop one web page in react with professional card layouts of react bootstrap using API.

App Name : News Terminators

Code :

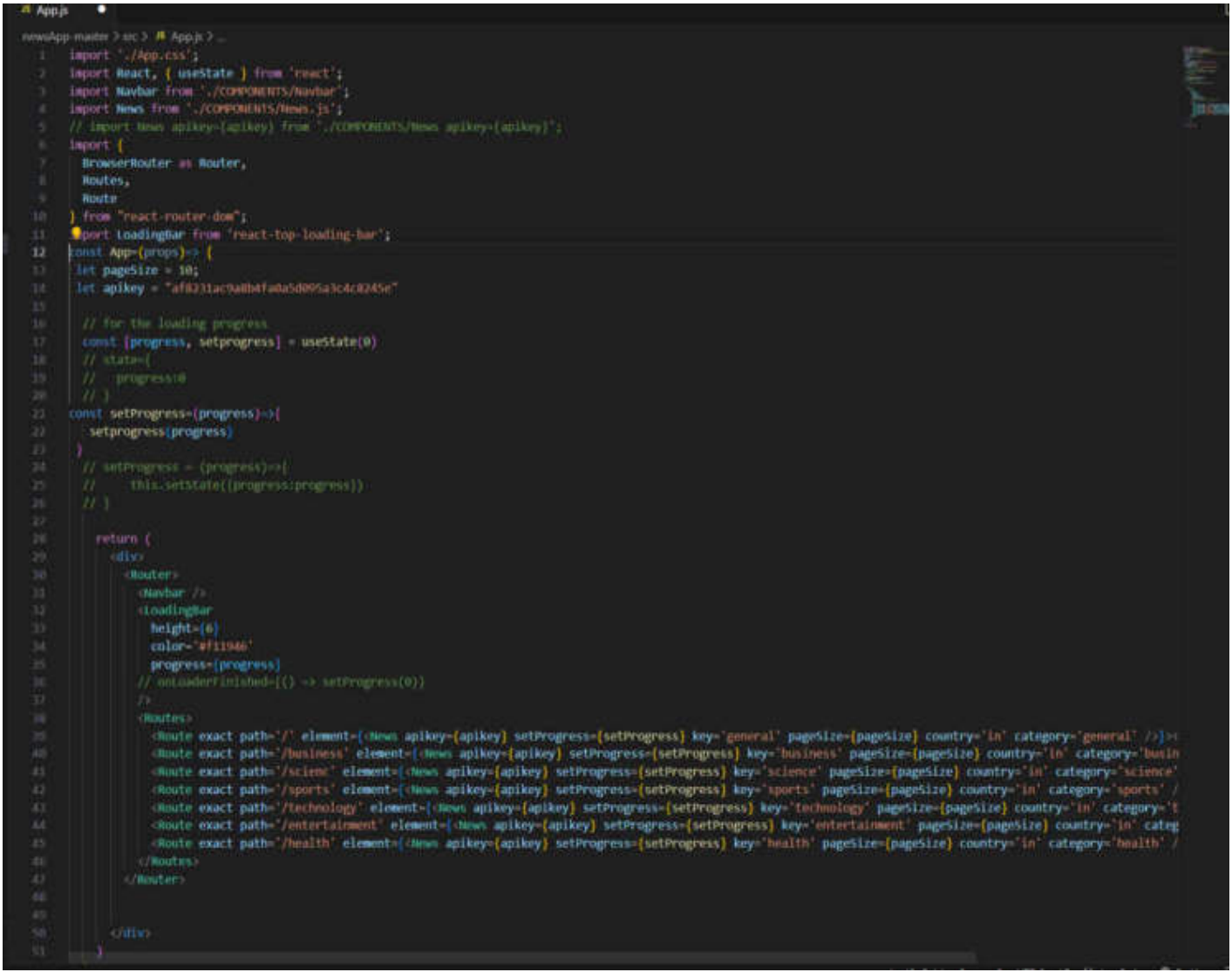
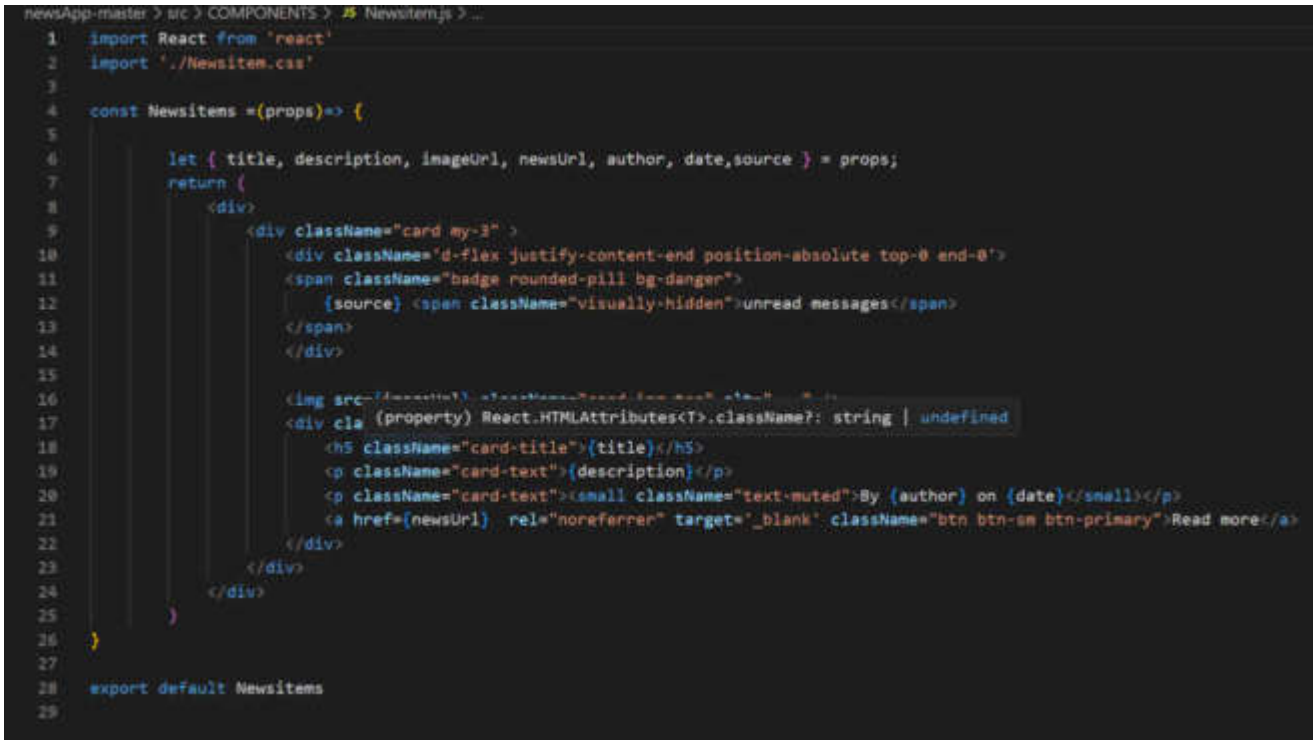


Fig 9.5 app.js Component



```
newsApp-master > src > COMPONENTS > JS Newsitem.js > ...
1   import React from 'react'
2   import './Newsitem.css'
3
4   const Newsitems =(props)=> {
5
6           let { title, description, imageUrl, newsUrl, author, date,source } = props;
7           return (
8               <div>
9                   <div className="card my-3" >
10                      <div classNam='d-flex justify-content-end position-absolute top-0 end-0'>
11                      <span className="badge rounded-pill bg-danger">
12                          {source} <span className="visually-hidden">unread messages</span>
13                      </span>
14                      </div>
15
16                      <img src=
17                      <div cla (property) React.HTMLAttributes<T>.className?: string | undefined
18                          <h5 className="card-title">{title}</h5>
19                          <p className="card-text">{description}</p>
20                          <p className="card-text"><small className="text-muted">By {author} on {date}</small></p>
21                          <a href={newsUrl}  rel="noreferrer" target='_blank' className="btn btn-sm btn-primary">Read more</a>
22                      </div>
23                  </div>
24              </div>
25          )
26  }
27
28  export default Newsitems
29
```

Fig 9.6 newsitem.js Component

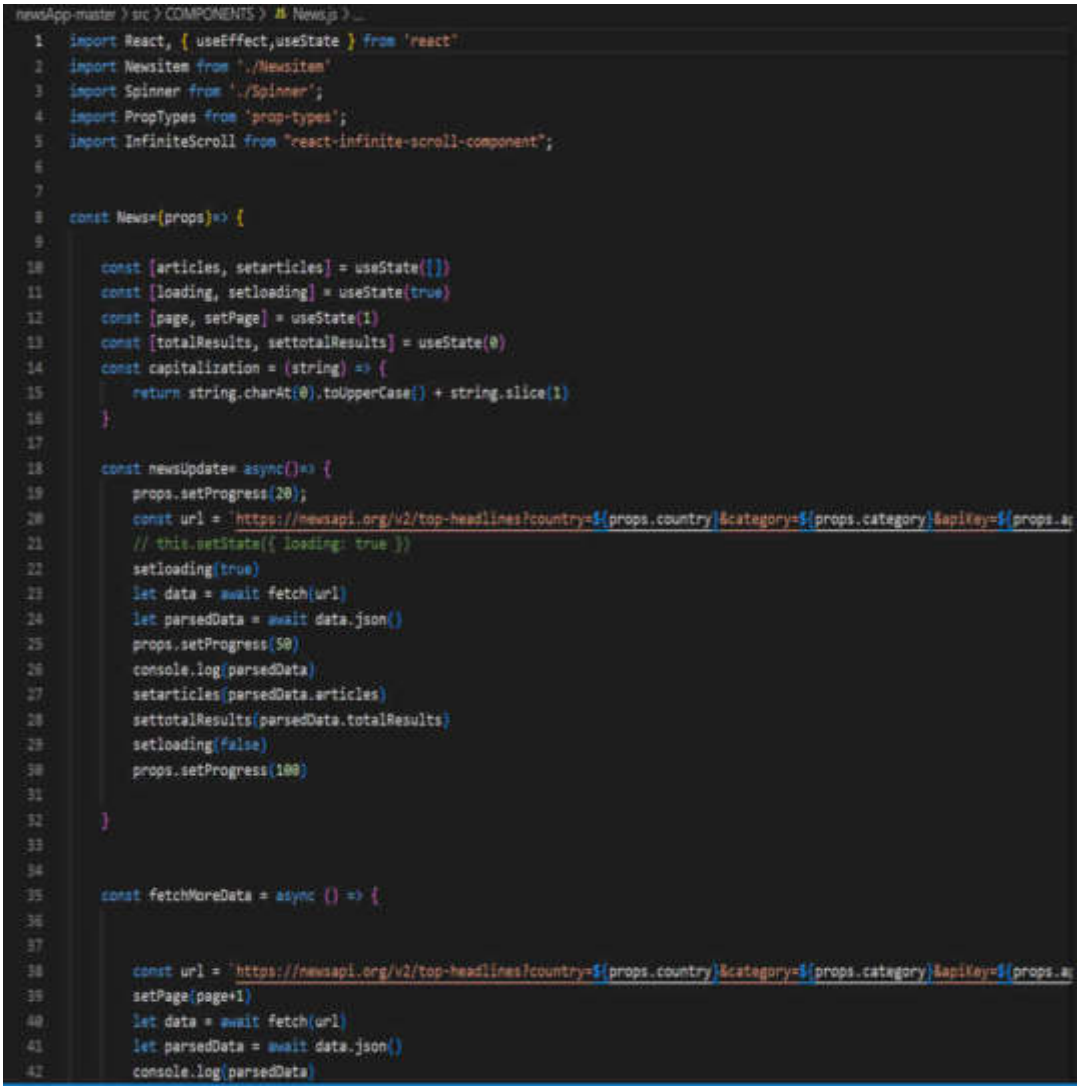


Fig 9.7 news.js Component

Output :

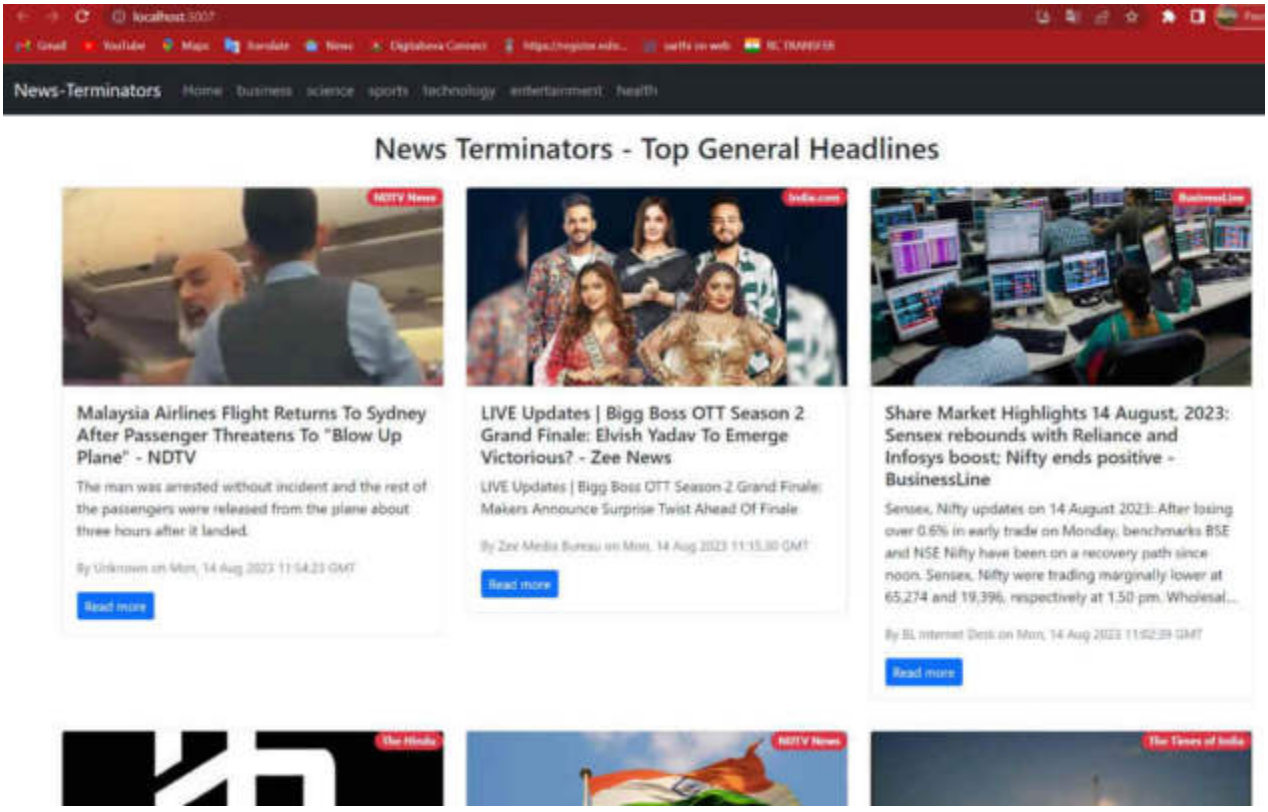


Fig 9.8 Top General Headlines

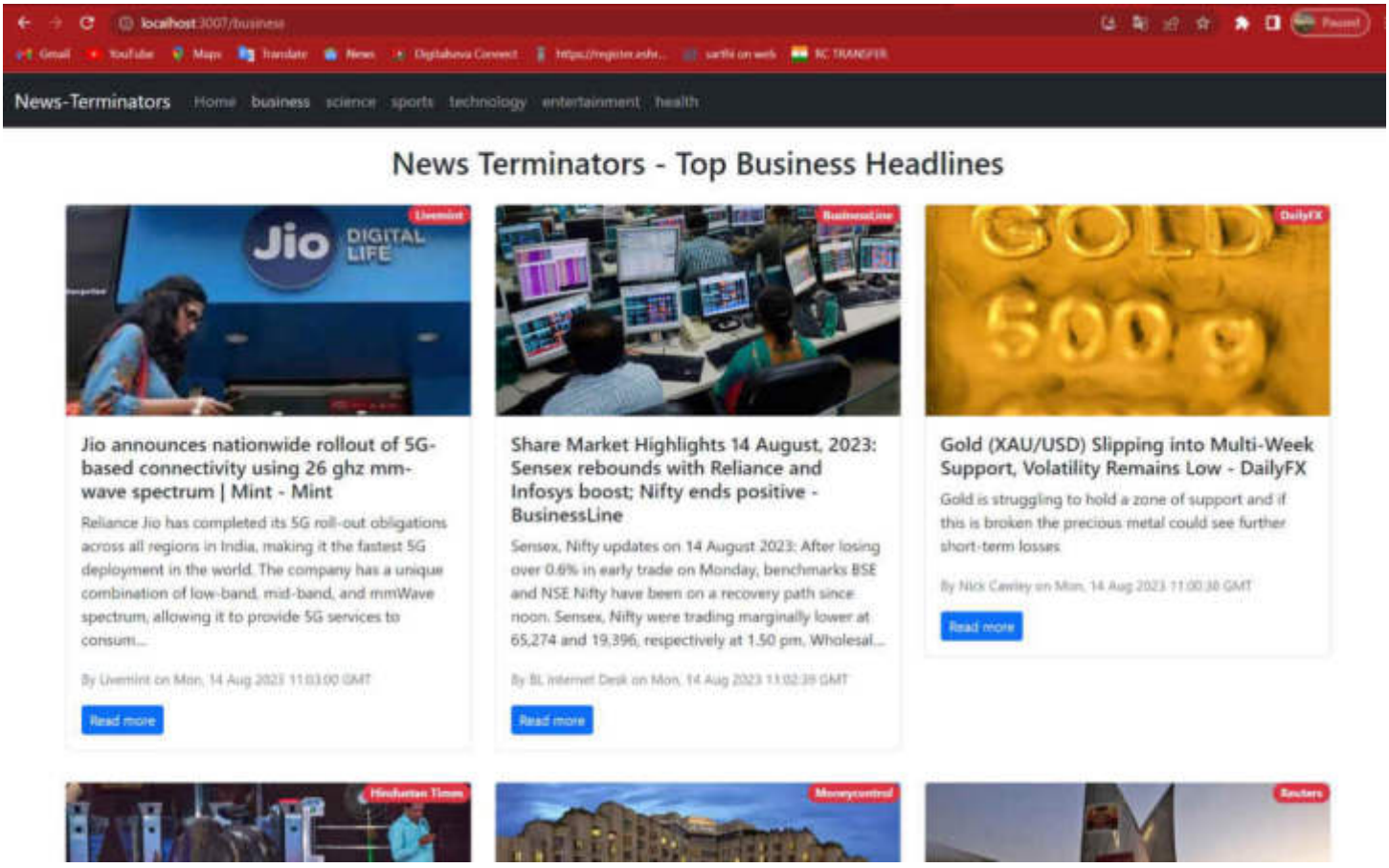


Fig 9.9 Business Headlines

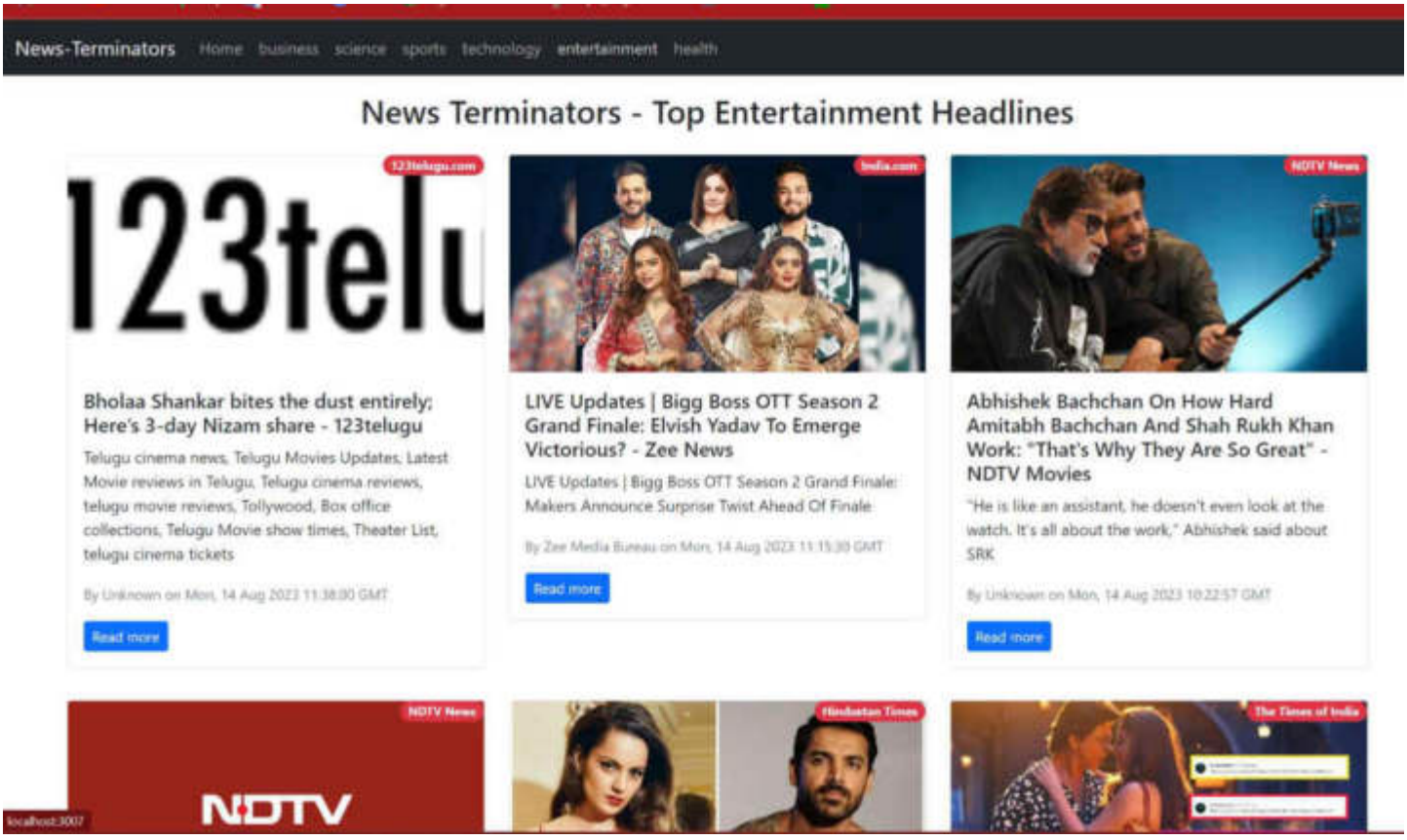


Fig 9.10 Entertainment Headlines

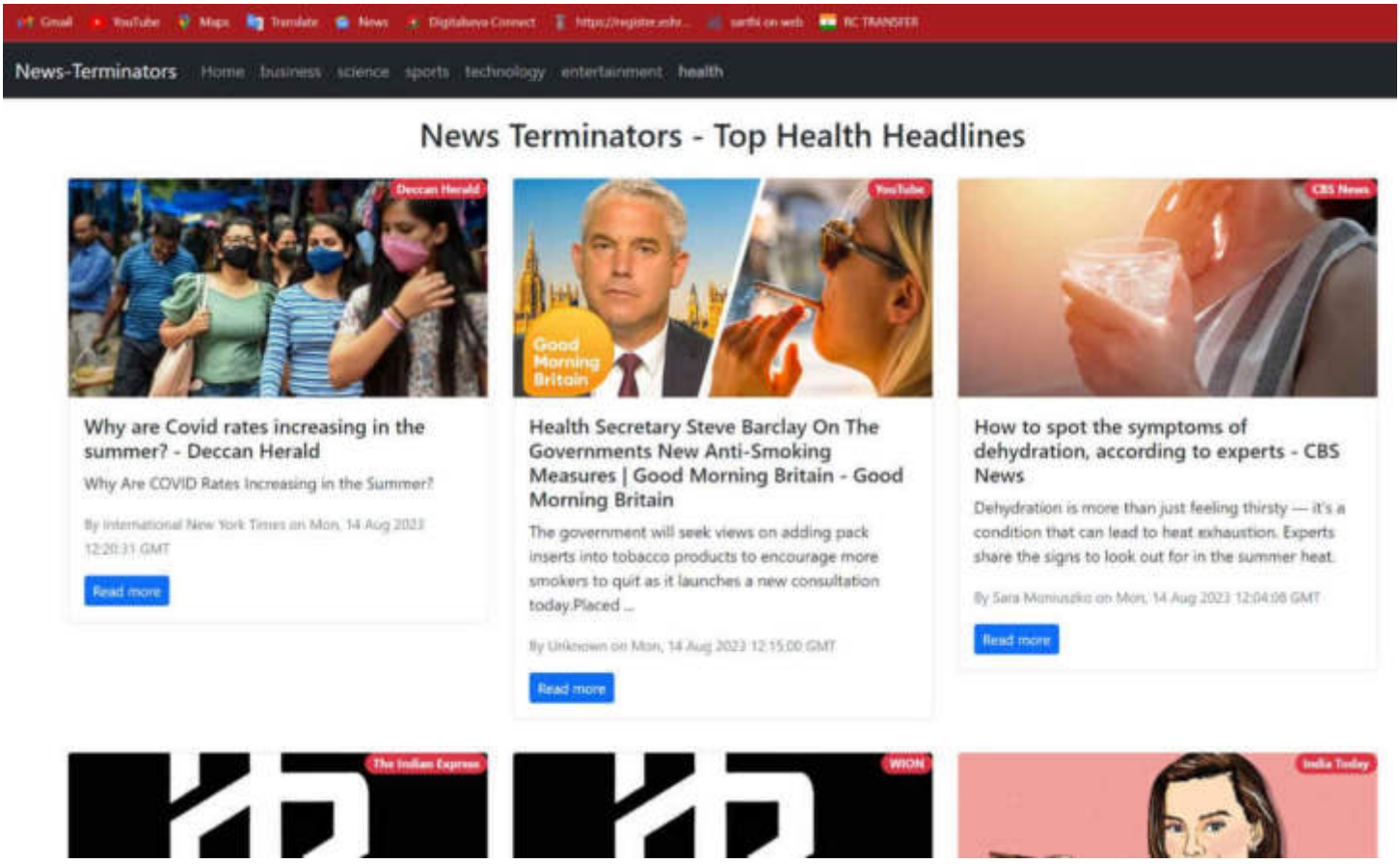


Fig 9.11 Health Headlines

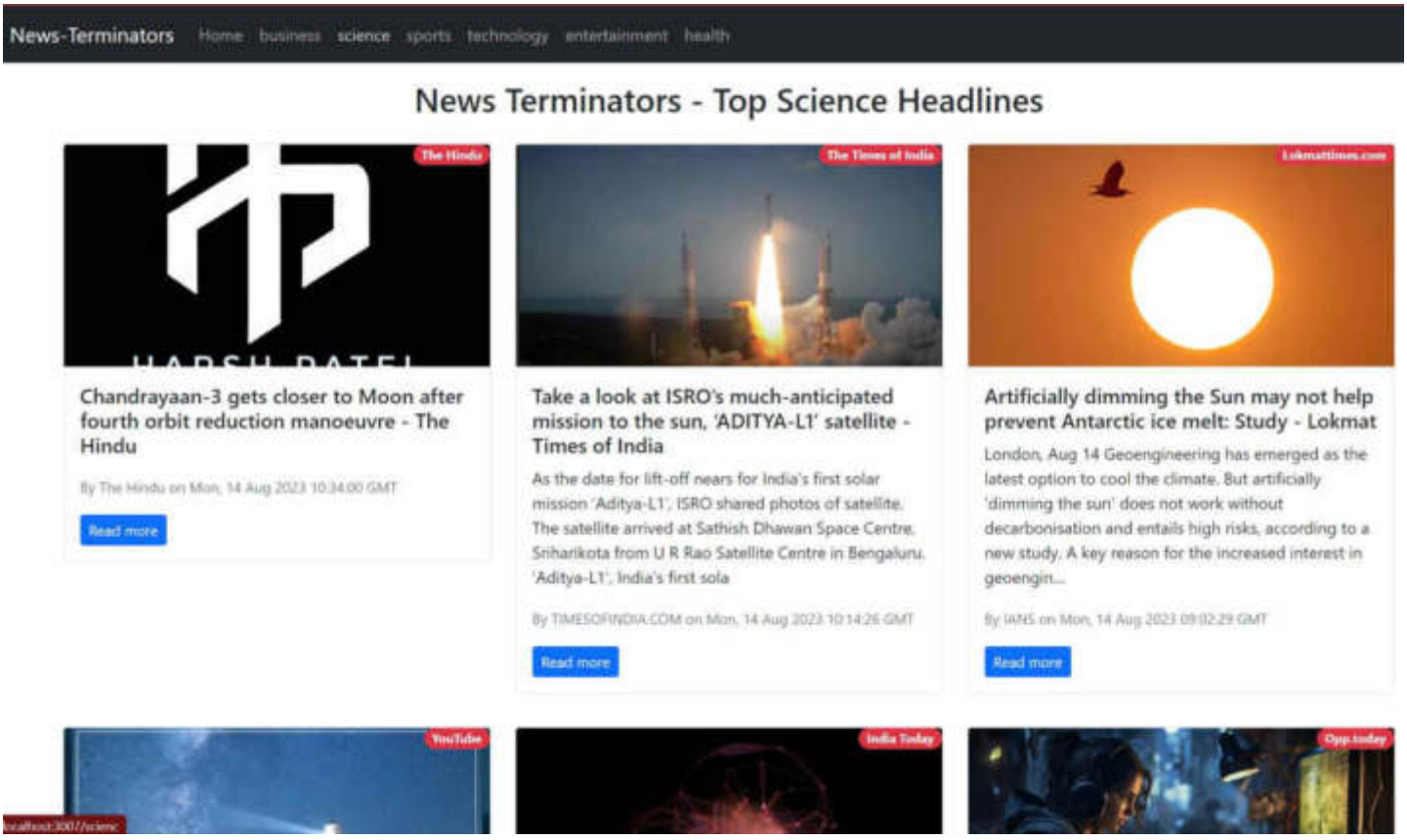


Fig 9.12 Science Headlines

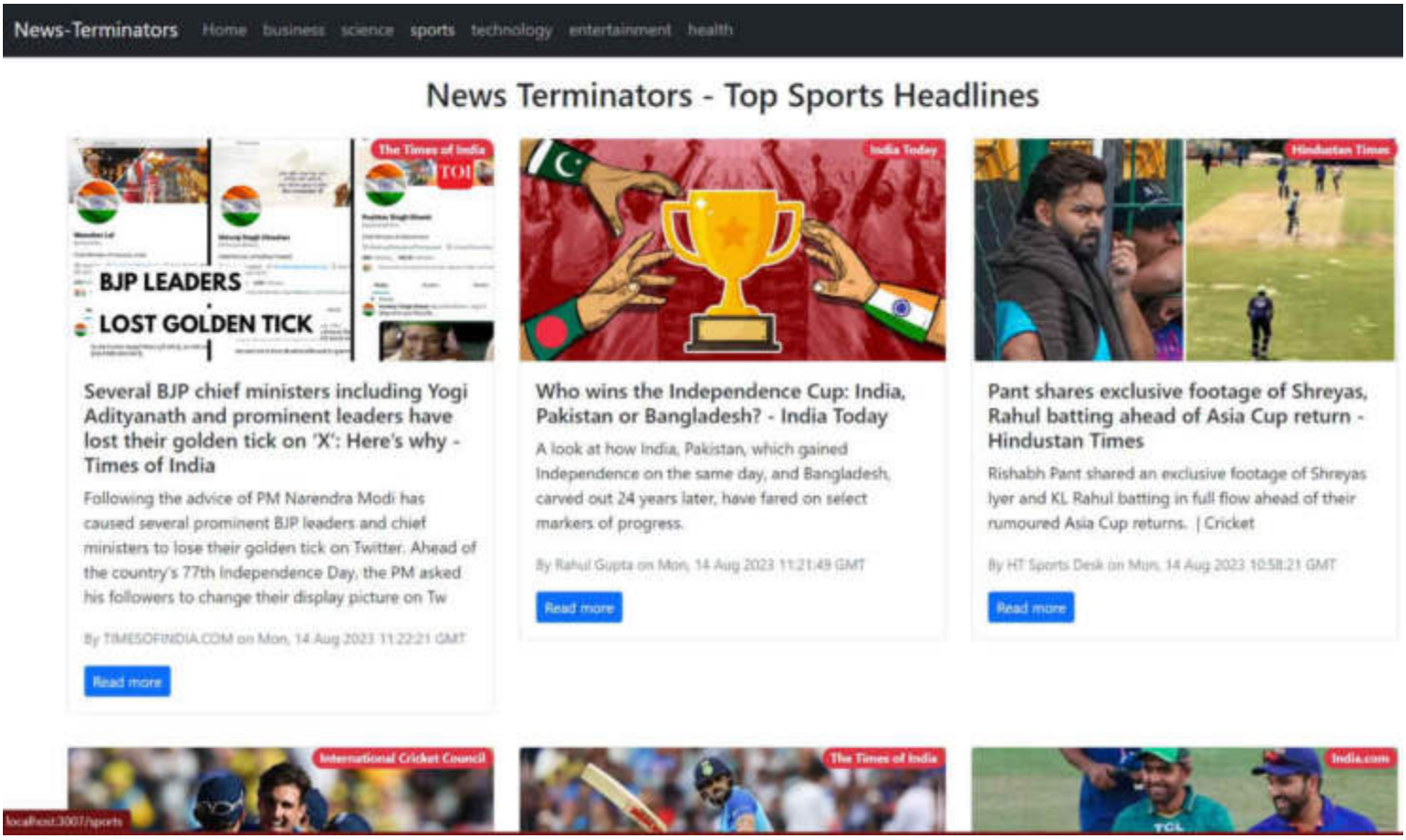


Fig 9.13 Sport Headlines

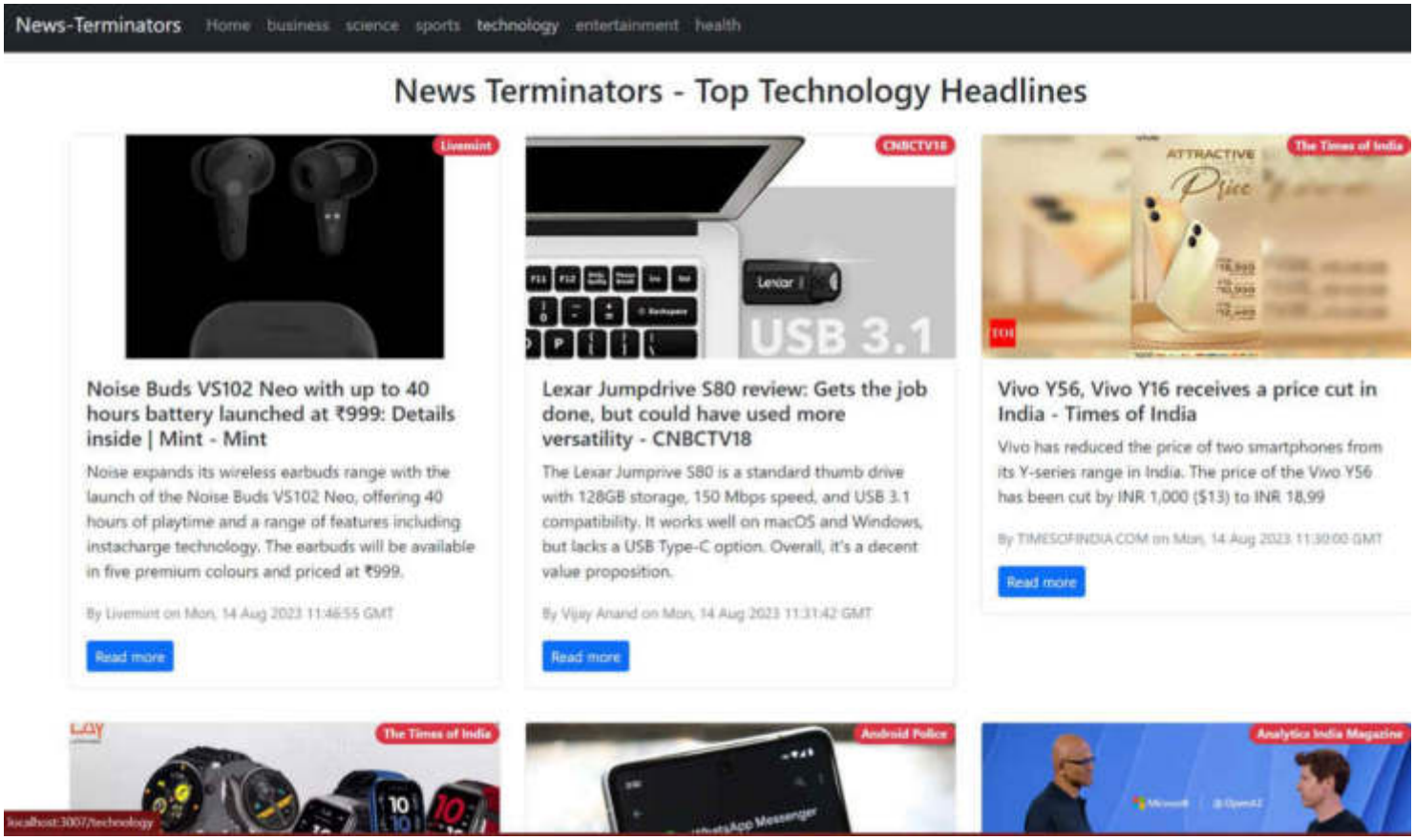


Fig 9.14 Technology Headlines

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD

AN INTERNSHIP

REPORT ON

DYNAMIC WEB PAGE DESIGNING USING REACT JS

Submitted by

PATEL RUTVI BHARATBHAI

200390116030

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled Internship at **INFOLABZ IT SERVICES PVT. LTD** has been carried out by **Patel Rutvi Bharatbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Akshay Kansara

Head of Department

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

CONFIRMATION LETTER

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

Date: 15-07-2023

Subject: Regarding Summer Internship at INFOLABZ IT SERVICES PVT. LTD.
Internship Domain: Dynamic Web Page Designing Using React

Dear Patel Rutvi Bharatbhai ,

In reference to your application we would like to congratulate you on being selected for internship with InfoLabz IT Services Pvt. Ltd. based at Ahmedabad. Your internship is scheduled to start from 27 July 2023 for a period of 15 days.

During this internship, the concentration will be on helping you understand logical concepts with their practicality and implications to help you connect your classroom knowledge to industry standards. Your internship will include orientation and focus primarily on learning and developing new skills and gaining a deeper understanding of concepts through hands-on application of the knowledge.

We will be happy to guide you to learn new skills which are extremely helpful in professional standard.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

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+91 8141236662
info@infolabz.in
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405 Vraj Avenue, Above SAMS Pizza
Nr. Commerce Six Rd, Navrangpura,
Ahmedabad, Gujarat 380009

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

CERTIFICATE OF COMPLETION

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116030
Semester: 7th, Information Technology
S.p.b Patel Engineering Collage

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Patel Rutvi Bharatbhai .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Patel Rutvi Bharatbhai all the best for future endeavors.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

+91 8866662662
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Ahmedabad, Gujarat 380009





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ IT SERVICES PVT. LTD** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad. I hereby warrant that the work I have presented does not breach any existing copyright acts.

Name of the Student

Patel Rutvi Bharatbhai

ACKNOWLEDGMENT

I would like to express my sincere gratitude to Mr. Chintan Nagrecha, Director of Infolabz IT Services Pvt Ltd, and Ms. Zarna Shah, HR at Infolabz IT Services Pvt Ltd, for providing me with the opportunity to participate in the React JS internship program.

Their guidance and support throughout the internship have been invaluable. Mr. Nagrecha's expertise and vision in the field of IT services have been truly inspiring, and I have learned a great deal under his leadership. Ms. Shah's assistance in facilitating the internship and her dedication to creating a positive learning environment have been instrumental in making this experience productive and rewarding.

I am grateful for the chance to work with a company that values professional development and provides hands-on experience in a dynamic industry. This internship has not only enhanced my technical skills in React JS but has also given me insights into the practical aspects of the IT business.

Abstract

In this internship we are going to work on dynamic webpage designing. React is javascript web framework which is very popular and one of the most important part of full stack web development. Application Programming Interface (API) is one of the most important data source. In this internship we will going to work on some live APIs to create real time dynamic web page. In order to fetch some live data we will use some concepts of http (request - response mechanism) and ES6.

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Chapter 1. INTRODUCTION ABOUT COMPANY

1.1 COMPANY PROFILE:

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and our vision is to develop a product with one of its kind concept which could be used by millions of people.

Chapter 2 Introduction about JS

2.1 Introduction to JS

JavaScript is a light-weight object-oriented programming language which is used by several websites for scripting the webpages. It is an interpreted, full-fledged programming language that enables dynamic interactivity on websites when applied to an HTML document. It was introduced in the year 1995 for adding programs to the webpages in the Netscape Navigator browser. Since then, it has been adopted by all other graphical web browsers. With JavaScript, users can build modern web applications to interact directly without reloading the page every time. The traditional website uses js to provide several forms of interactivity and simplicity.

There are following features of JavaScript:

1. All popular web browsers support JavaScript as they provide built-in execution environments.
2. JavaScript follows the syntax and structure of the C programming language. Thus, it is a structured programming language.
3. JavaScript is a weakly typed language, where certain types are implicitly cast (depending on the operation).
4. JavaScript is an object-oriented programming language that uses prototypes rather than using classes for inheritance.
5. It is a light-weighted and interpreted language.
6. It is a case-sensitive language.
7. JavaScript is supportable in several operating systems including, Windows, macOS, etc.
8. It provides good control to the users over the web browsers.

2.2 Introduction to ES6

ES6 or ECMAScript 2015 is the 6th version of the ECMAScript programming language. ECMAScript is the standardization of Javascript which was released in 2015 and subsequently renamed as ECMAScript 2015.

ES6 is a scripting language specification which is standardized by ECMAScript International. It is used by the applications to enable client-side scripting. This specification is affected by programming languages like Self, Perl, Python, Java, etc. This specification governs some languages such as JavaScript, ActionScript, and Jscript. ECMAScript is generally used for client-side scripting, and it is also used for writing server applications and services by using Node.js.

ES6 make the code more modern and readable. By using ES6 features, we write less and do more, so the term 'Write less, do more' suits ES6. ES6 introduces many great features such as scope variable, arrow functions, template strings, class destructions, modules.

- Arrow Functions: Arrow functions provide a more concise syntax for defining anonymous functions. They also capture the surrounding this value, making it easier to work with in certain situations.

- Template Literals: Template literals allow for multiline strings and string interpolation, making it simpler to concatenate variables and expressions within strings.

- Classes: ES6 introduced class syntax for creating constructor functions and prototypes, making object-oriented programming in JavaScript more familiar and concise.

- Modules: ES6 introduced a standardized module system, allowing developers to organize their code into reusable and encapsulated modules. This helps in managing large codebases more effectively.

- Promises: Promises provide a cleaner way to handle asynchronous operations compared to callbacks. They simplify chaining and error handling in asynchronous code.

2.3 Objects

JavaScript is an object-based language. Everything is an object in JavaScript. An object is a collection of key-value pairs, where each key is a unique string (or symbol) that acts as an identifier, and each value can be of any data type, including other objects. Objects are a fundamental building block in JavaScript.

```
</head>
<body>
    <script>
        var mydata = {};
        document.write(mydata);
        document.write("<br>");
        var mydata1 = {"gujarat":"ahmedabad"};
        document.write(mydata1["gujarat"]);
        var mydata2 ={ "ahmedabad":100,"surat":150, "vadodara":75};
        document.write(mydata2["vadodara"] + "<br>");

        var mydata3={"ahmedabad":100 ,"surat":[150,200,1],"vadodara":75};
        //print 200
        document.write(mydata3["surat"][1]+"<br>");

        var mydata4={"ahmedabad":[{"date":"25 july 2023" ,"cases":210},
                                  {"date":"26 july 2023","cases":220},
                                 {"date":"27 july 2023","cases":230}],
                    "surat": [150,200,1],
                    "vadodara":75};
        //print 220
        document.write(mydata4["ahmedabad"][1]["cases"]);

    </script>
</body>
```

Figure 2.3.1 : Example of Object Creation

Output:

```
[object Object]
ahmedabad75
200
220
```

Figure 2.3.2 : Output of Object Creation

Chapter 3 Learning about Functions

3.1 JS Functions

- JavaScript functions are used to perform operations. We can call JavaScript function many times to reuse the code.

```
<body>
    <script>

        //function with no argument, no return value
        function one(){
            documrnt.write("function one called<br>");
        }
        one();

        //function with argument ,no return value
        function two(a,b){
            document.write("addition of "+a+" and "+b+" is " +(a+b)+"<br>");
        }
        two(100,100)

        //function with no argument but it return a value
        function three(){
            return "hello<br>";
        }
        var x = three();
        document.write(x);

        //function with argument and return value both
        function four(i,j){
            return"Subtraction of "+i+" and "+j+" is " +(i-j);
        }
        var y = four(100,100);
        document.write(y);
    </script>
</body>
```

Figure 3.1.1 : Example of Different Functions

Output:

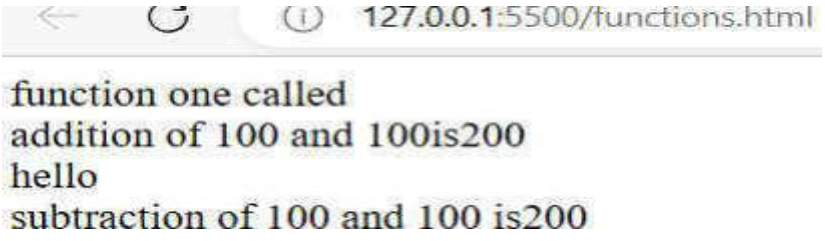


Figure 3.1.2 : Output of Functions

3.2 Arrow Functions

- Arrow function {()=>} is concise way of writing Javascript functions in shorter way. Arrow functions were introduced in the ES6 version. They make our code more structured and readable.

```
<body>
    <script>
        // function with no argument,no return value
        var one=()=>{
            document.write("function one called<br>");
        }
        one();

        // function with argument,no return value
        var two=(a,b)=>{
            document.write("addition of "+a+"and "+b+"is "+(a+b)+"<br>");
        }
        two(100,100);
        // function with no argument,return value
        var three=()=>{
            return "hello<br>";
        }
        var x=three();
        document.write(x);

        // function with argument,return value
        var four=(i,j)=>{
            return "subtraction of"+i+"and"+j+"is"+(i-j);
        }
        var y=four(100,100);
        document.write(y)
    </script>
</body>
```

Figure 3.2.1 : Program of Arrow Function

Output:

```
function one called
addition of 100and 100is 200
hello
subtraction of100and100is0
```

Figure 3.2.2 : Output of Program

3.3 Async Function

Async: It simply allows us to write promises-based code as if it was synchronous and it checks that we are not breaking the execution thread. It operates asynchronously via the event loop. Async functions will always return a value. It makes sure that a promise is returned and if it is not returned then JavaScript automatically wraps it in a promise which is resolved with its value.

Await: Await function is used to wait for the promise. It could be used within the async block only. It makes the code wait until the promise returns a result. It only makes the async block wait.

3.4 BitCoin API

```
<!DOCTYPE html>
<head>

</head>
<body>
    <script>
        async function load(){
            let url="https://api.coindesk.com/v1/bpi/currentprice.json";
            let myobject = await (await fetch(url)).json();
            document.write(myobject["bpi"]["USD"]["rate"]);
        }
        load();
    </script>
</body>
</html>
```

Figure 3.4.1 : Program of Bitcoin API

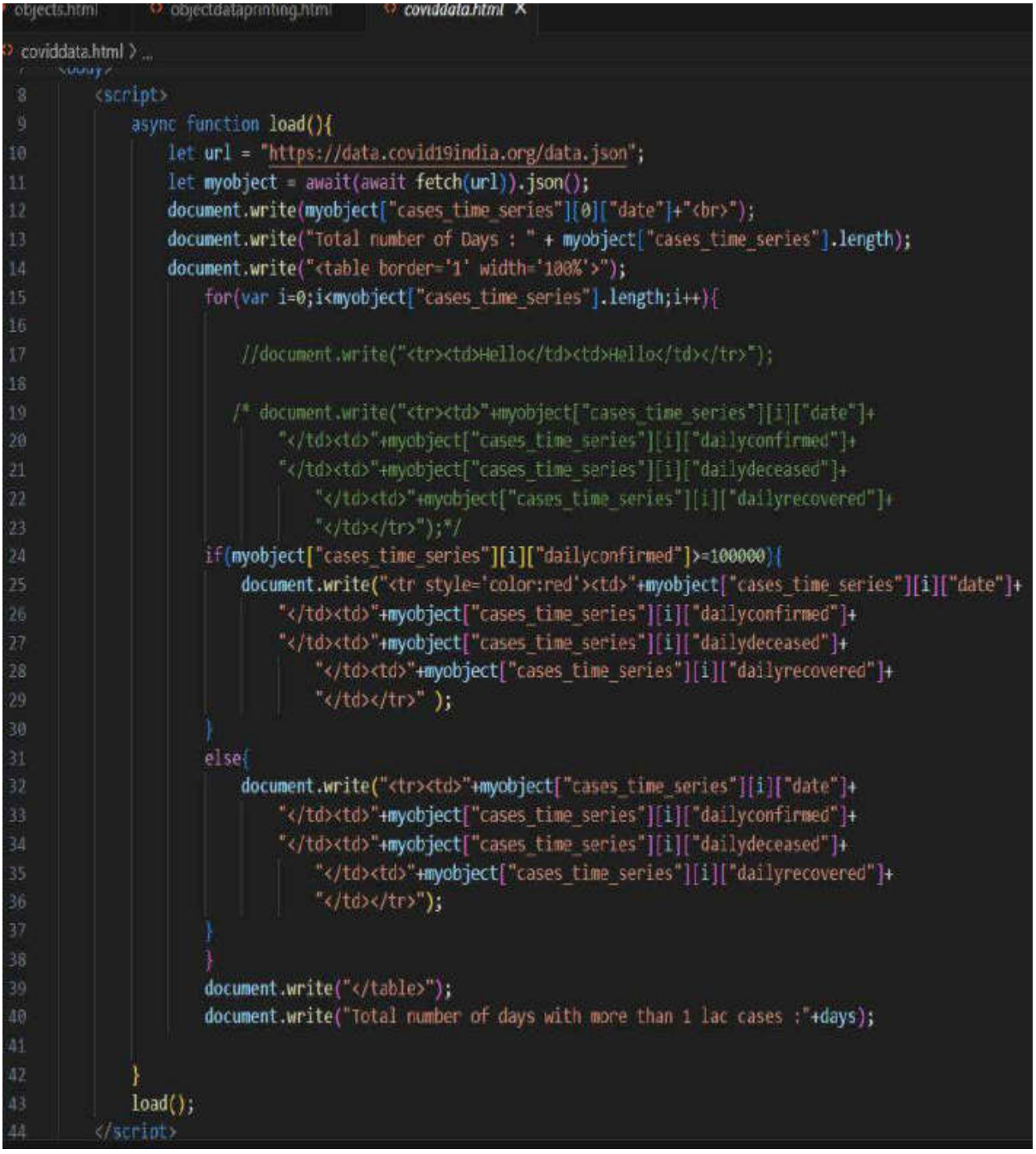
Output:



Figure 3.4.2 : Output of Program

Chapter 4 Examples of User Input

4.1 Covid API – Data fetching and mapping



```
coviddata.html > ...
    <script>
        async function load(){
            let url = "https://data.covid19india.org/data.json";
            let myobject = await(await fetch(url)).json();
            document.write(myobject["cases_time_series"][0]["date"]+"<br>");
            document.write("Total number of Days : " + myobject["cases_time_series"].length);
            document.write("<table border='1' width='100%'>");
                for(var i=0;i<myobject["cases_time_series"].length;i++){

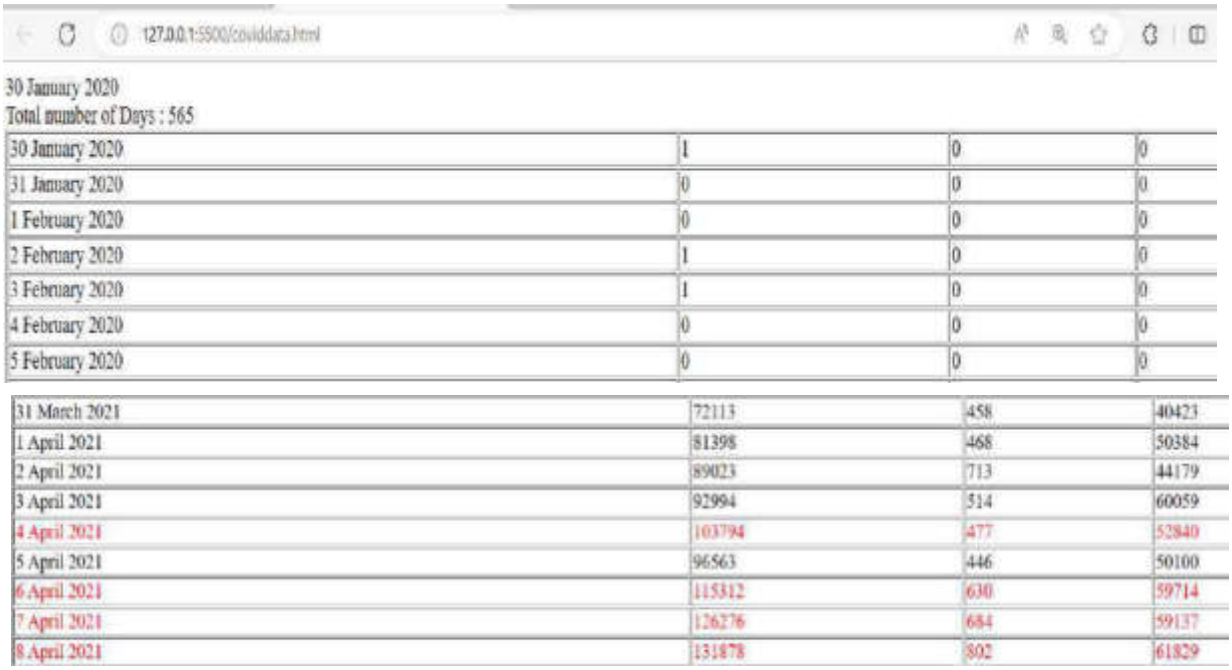
                    //document.write("<tr><td>Hello</td><td>Hello</td></tr>");

                    /* document.write("<tr><td>"+myobject["cases_time_series"][i]["date"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailyrecovered"]+
                            "</td></tr>");*/
                if(myobject["cases_time_series"][i]["dailyconfirmed"]>=100000){
                    document.write("<tr style='color:red'><td>"+myobject["cases_time_series"][i]["date"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailyrecovered"]+
                            "</td></tr>" );
                }
                else{
                    document.write("<tr><td>"+myobject["cases_time_series"][i]["date"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailyrecovered"]+
                            "</td></tr>");
                }
                }
                document.write("</table>");
                document.write("Total number of days with more than 1 lac cases :"+days);

        }
        load();
    </script>
```

Figure 4.1.1 : Program of Covid API – Data fetching and mapping

Output:



30 January 2020
Total number of Days : 565

30 January 2020	1	0	0
31 January 2020	0	0	0
1 February 2020	0	0	0
2 February 2020	1	0	0
3 February 2020	1	0	0
4 February 2020	0	0	0
5 February 2020	0	0	0

31 March 2021	72113	458	40423
1 April 2021	81398	468	50384
2 April 2021	89023	713	44179
3 April 2021	92994	514	60059
4 April 2021	103794	477	52840
5 April 2021	96563	446	50100
6 April 2021	115312	630	59714
7 April 2021	126276	684	59137
8 April 2021	131878	802	61829

Figure 4.1.2 : Output of Covid API – Data fetching and mapping

4.2 USER INPUT 1 : JS Pop Up Boxes

In Javascript, popup boxes are used to display the message or notification to the user. There are three types of pop-up boxes in JavaScript namely Alert Box, Confirm Box and Prompt Box.

Alert Box: It is used when a warning message is needed to be produced. When the alert box is displayed to the user, the user needs to press ok and proceed.

```
<!DOCTYPE html>

<head>

</head>
<body>
    <script>
        alert("your message has been submited successfully..!")
    </script>

</body>
</html>
```

Figure 4.2.1 : Program of Alert Box

Output:

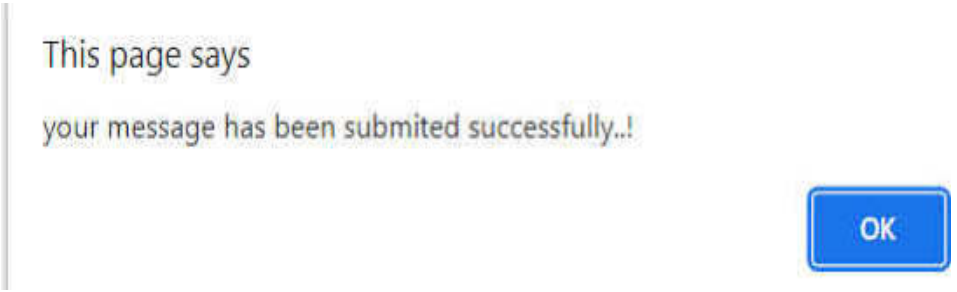


Figure 4.2.2 : Output of Alert Box

Prompt Box: It is a type of pop up box which is used to get the user input for further use. After entering the required details user have to click ok to proceed next stage else by pressing the cancel button user returns the null value.

```
<!DOCTYPE html>

<head>

</head>
<body>
    <script>
        var a = prompt("Enter numbers of tickets : ");
        if(a==null)
        {
            alert("Booking Cancelled");
        }
        else if(a=="")
        {
            alert("You entered nothing");
        }
        else{
            alert("proceed for "+a+"tickets");
        }
    </script>

</body>
</html>
```

Figure 4.2.3 : Program of Prompt Box

Output:

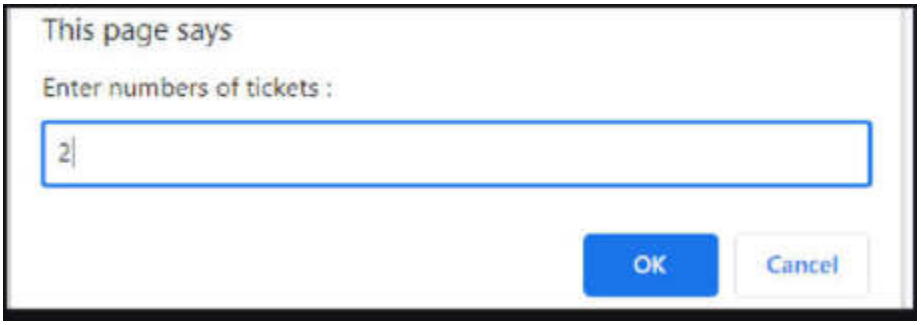


Figure 4.2.4 : Output of Prompt Box

Confirm Box: It is a type of pop-up box that is used to get authorization or permission from the user. The user has to press the ok or cancel button to proceed.

```
<!DOCTYPE html>

<head>

</head>
<body>
    <script>
        var a = confirm("Are you sure you want to book this tickets?");
        if(a==true)
        {
            alert("your Ticket has been booked");
        }
        else if(a==false)
        {
            alert("Ticket booking cancelled");
        }
    </script>

</body>
</html>
```

Figure 4.2.5 : Program of Confirm Box

Output:

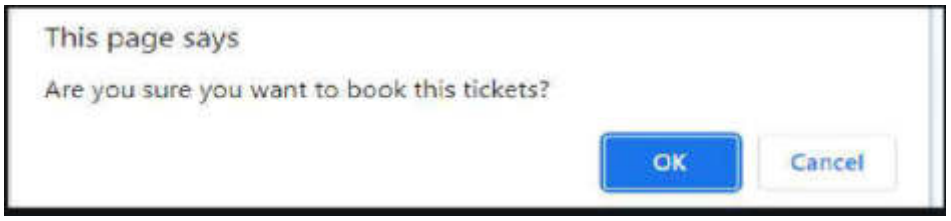


Figure 4.2.6 : Output of Confirm Box

4.3 USER INPUT 2 : Form to Variable

```
<!DOCTYPE html>

<head>

</head>
<body>
    <script>
        function check(form)
        {
            var name=form.uname.value;
            var surname=form.usurname.value;
            //alert("user name is "+name" user surname is +surname);
            document.getElementById("msg").innerHTML="username is "+name+" surname is "+surname;

        }
    </script>
    <form>
        Name : <input type="text" name="uname"><br>
        surname : <input type="text" name="usurname"><br>
        <input type="submit" onclick="check(this.form); return false;">
    </form>
    <mark id="msg"></mark>

</body>
</html>
```

Figure 4.3.1 : Program of Form to Variable

Output:

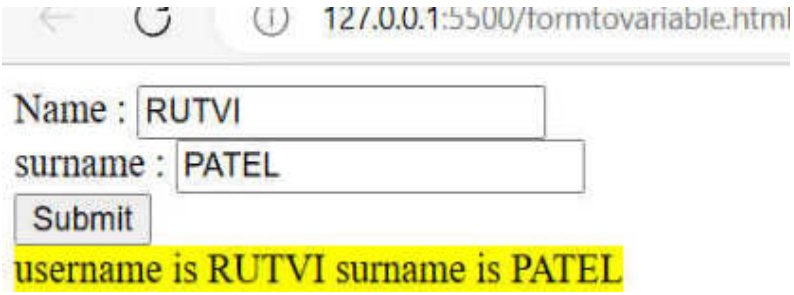


Figure 4.3.2: Output of Form to Variable

Chapter 5 Examples of form & Array

5.1 Form to Table :

```
<body>
    <script>
        function showdata(form){
            var name=form.uname.value;
            var password=form.upassword.value;
            var city=form.ucity.value;

            if(name==""||password==""||city==""){
                document.getElementById("msg").innerHTML="Field can not be balnk";
            }
            else{
            document.getElementById("msg").innerHTML="<table border='1' width='500px'><tr><td>Name:</td><td>"
                                                    +name+"</td></tr><tr><td>Password:</td><td>"
                                                    +password+"</td></tr><tr><td>City:</td><td>"
                                                    +city+"</td></tr></table>";
                }
        }
    </script>
    <form>
        Name:<input type="text" name="uname"><br>
        Password:<input type="password" name="upassword"><br>
        City:<select name="ucity">
            <option type="ADI">Ahemdabad</option>
            <option type="RJT">Rajkot</option>
            <option type="ST">Surat</option>
            </select><br>
            <input type="submit" onclick="showdata(this.form); return false;">
    </form>
    <p id="msg"></p>
</body>
```

Figure 5.1.1 : Program of Form to Table

Output:

Name: Rutvi
Password: ••••••••••
City: Ahemdabad
Submit

Name:	Rutvi
Password:	Pat25@ads
City:	Ahemdabad

Figure 5.1.2 : Output of Form to Table

5.2 JS Arrays :

JavaScript Array is a single variable that is used to store elements of different data types. JavaScript arrays are zero-indexed. The Javascript Arrays are not associative in nature. Arrays are used when we have a list of items. An array allows you to store several values with the same name and access them by using their index number.

```
<!DOCTYPE html>
<head>

</head>
<body>
    <script>

        var emails =["a@b.com" , "i@j.com" , "x@y.com" ];
        var password = ["abc123" , "ijk123" , "xyz123"];
        function login(form)
        {
            var useremail=form.uemail.value;
            var userpassword=form.upassword.value;

            if(useremail=="" || userpassword=="")
            {
                if(useremail=="" && userpassword !="")
                {
                    document.getElementById("msg").innerHTML = "Email Field can not be blank";
                }
                else if(useremail=="" && userpassword=="")
                {
                    document.getElementById("msg").innerHTML="password Field can not be blank";
                }
                else
                {
                    document.getElementById("msg").innerHTML = "Both fields are required";
                }
            }
```

Figure 5.2.1 : Example of Array Creation in JS

```
        else
        {
            for(var i=0;i<emails.length;i++)
            {
                if(useremail==emails[i] && userpassword==passwords[i])
                {
                    document.getElementById("msg").innerHTML = "<font style ='color:green'>Login successful</font>";
                    break;
                }
                else
                {
                    document.getElementById("msg").innerHTML = "<font style ='color:red'>Invalid Username or Passwor
                    break;
                }
            }
        }
    }
</script>
<form>
    Email : <input type ="email" name="uemail"><br>
    Password : <input type ="password" name="upassword"><br>

    <input type="submit" onclick="login(this.form); return false;">
</form>
<p id="msg"></p>
</body>
```

Figure 5.2.2 : Example of Array Creation in JS

Output:



Figure 5.2.3 : Output of Array Creation in JS

Chapter 6 Task Assignment

Task Assignment:

6.1 Covid Data Search

```
<!DOCTYPE html>
    <head></head>
    <body>
        <script>
            function check(form){
                var uname = form.dt.value;

                async function load(){
                    let url = "https://data.covid19india.org/data.json";
                    let obj = await (await fetch(url)).json();
                    for(var i=0;i<obj["cases_time_series"].length;i++){
                        if(uname==obj["cases_time_series"][i]["date"]){
                            document.getElementById("msg").innerHTML = "<table border='1' width='500px'>
                                <tr><td>NEW CASES</td><td>"+obj["cases_time_series"][i]["dailyconfirmed"]+"</td></tr>
                                <tr><td>NEW DEATHS</td><td>"+obj["cases_time_series"][i]["dailydeceased"]+"</td></tr>
                                </table>";
                            break;
                        }
                    }
                }
                load();
            }
        </script>
        <form>
            Date : <input type="text" name="dt">
            <input type="submit" onclick="check(this.form); return false;" />
        </form>
        <p id="msg"></p>
    </body>
</html>
```

Figure 6.1.1 : Program of Covid Data Search

Output:

Date : 1 February 2021 Submit

NEW CASES	8579
NEW DEATHS	94

Figure 6.1.2 : Output of Covid Data Search

6.2 Mutual Fund API

```
<!DOCTYPE html>
<html lang="en">

<head>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/css/bootstrap.min.css" rel="stylesheet"
        integrity="sha384-4bw+/aepP/YC94hEpVNVgiZdgIC5+VKNBQNGCHeKRQN+PtmoHDEXuppvnDJzQIu9" crossorigin="anonymous">
</head>

<body>

    <script>
        async function clickHandle(form) {
            var scode = form.scode.value;
            if (scode == "") {
                document.getElementById("msg").innerHTML = "<span class='text-danger'>Please enter the <strong>Scheme Code</
                strong>Sc</span>";
            } else {
                let url = "https://api.mfapi.in/mf";
                let myMFData = await (await fetch(url)).json();
                for (let j = 0; j < myMFData.length; j++) {
                    if (myMFData[j]["schemeCode"] == scode) {
                        console.log(1);
                        document.getElementById("msg").innerHTML = "<span class='text-success'><strong>" + myMFData[j]["schemeName"]
                        + "</strong></span>";
                        break;
                    } else {
                        console.log(2);
                        document.getElementById("msg").innerHTML = `<strong class='text-danger'>The entered Scheme code ${scode} not
                        found</strong>`;
                    }
                }
                document.getElementById("totalScheme").innerHTML = "<span class='text-primary'>The total number of Scheme available
                in this API is <strong>" + myMFData.length + "</strong></span>";
            }
        }
```

Figure 6.2.1 : Example of Mutual Fund API (Part-1)

```
    </script>

    <div class="container my-2 text-center">
        <h2>Assignment - 2 Mutual Fund - 02/08/2023</h2>
        <h5>Take the scheme code from the user and print scheme name</h5>

        <form>
            <div class="mb-3 ms-auto me-auto" style="width: 50%">
                <label for="scode" class="form-label"><strong>Scheme Code</strong></label>
                <input type="number" class="form-control" name="scode" id="scode" required>
            </div>
            <div class="ms-auto me-auto" style="width: 10%;">
                <button type="button" class="btn btn-primary" onclick="clickHandle(this.form);">Show Fund</button>
            </div>
            <p id="msg" class="my-3"></p>
            <p id="totalScheme"></p>
        </form>

    </div>
</body>

</html>
```

Figure 6.2.2 : Example of Mutual Fund API (Part - 2)

Output:

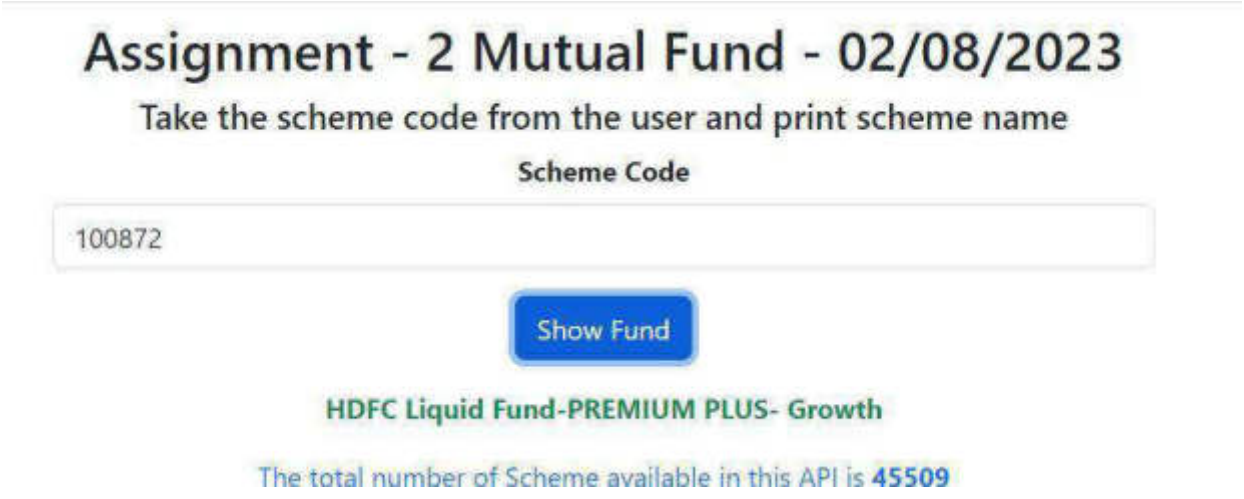


Figure 6.2.3 : Output of Mutual Fund API

Chapter 7 Introduction about reactjs

7.1 React Environment setup (Node JS installation)

To run any React application, we need to first setup a ReactJS Development Environment.

Pre-requisite: We must have NodeJS installed on our PC. So, the very first step will be to install NodeJS. Once we have set up NodeJS on our PC, the next thing we need to do is set up React Boilerplate.

Step 1: Navigate to the folder where you want to create the project and open it in terminal
Step 2: In the terminal of the application directory type the following command npx create-react-app <<Application_Name>>
Step 3: Navigate to the newly created folder using the command cd <<Application_Name>>
Step 4: A default application will be created with the following project structure and dependencies

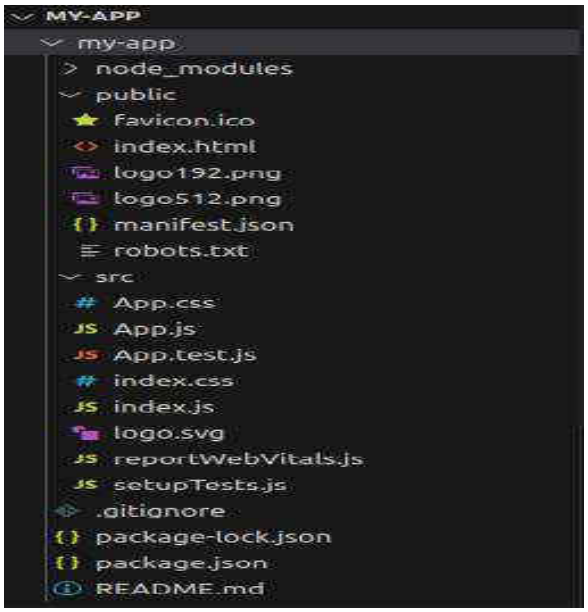


Figure 7.1.1 : React Project Structure

```
"dependencies":{
"@testing-library/jest-dom":
"^5.17.0", "@testing-library/react":
"^13.4.0",
"@testing-library/user-event":
"^13.5.0", "react": "^18.2.0",
"react-dom": "^18.2.0",
```

```
    "react-scripts":"5.0.1",
    "web-vitals": "^2.1.4"
}
```

Step 5: To run this application type the following command in terminal
npm start

Step 6: The following output will be displayed in the browser

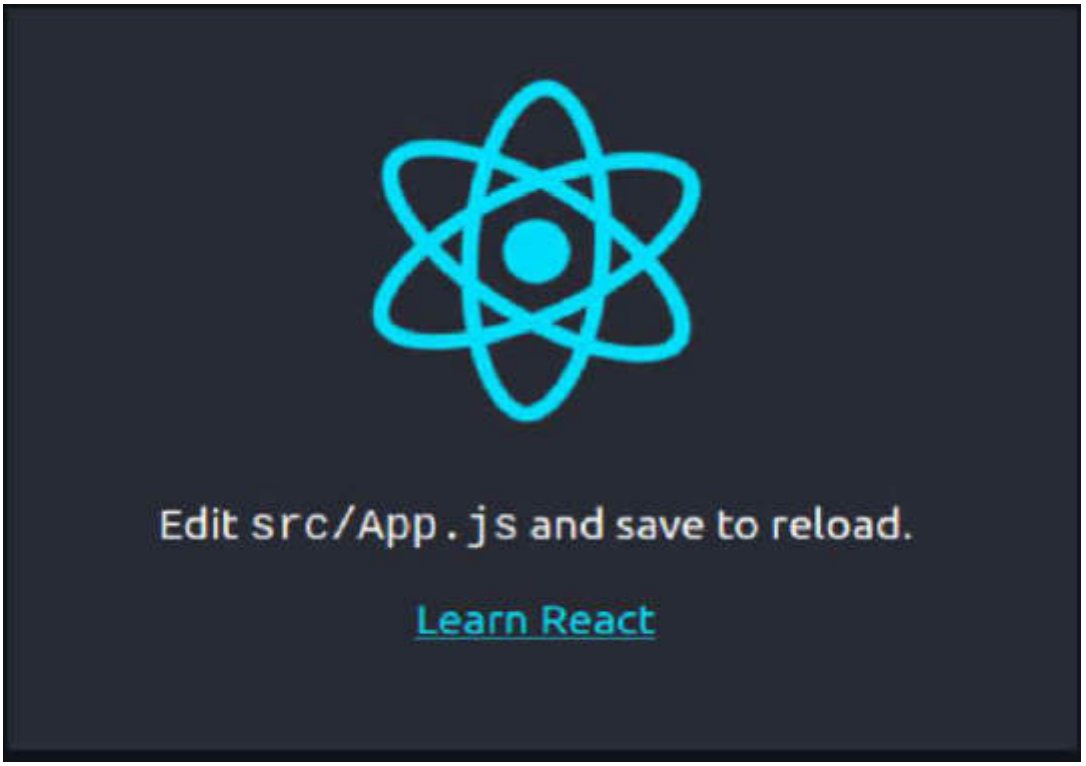


Figure 7.1.2: Output of Browser

7.2 Functional Components

ReactJS Functional components are some of the more common components that will come across while working in React. These are simply JavaScript functions. We can create a functional component in React by writing a JavaScript function. These functions may or may not receive data as parameters. In the functional Components, the return value is the JSX code to render the DOM tree.

```jsx
import logo from './logo.svg';
import './App.css';

function App() {
  return (
    <div>
      <h1>Hello</h1>
      <h2>Infolabz</h2>

    </div>
  );
}


function Add() {
  var a =100 , b=500;
  return (
    <div>

      <h2>Addition of{a} and {b} is {a+b} </h2>

    </div>
  );
}

export default App;
export {Msg,Add};
```

Figure 7.2.1: Program of Function Component in APP.JS

```jsx
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import App,{Add} from './App';
import reportWebVitals from './reportWebVitals';
import Mycomp, {Compone} from './customcomp';

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <App />
    <Add/>

    <Mycomp/>
    <Compone/>
  </React.StrictMode>
);

// If you want to start measuring performance in your app, pass a function
// to log results (for example: reportWebVitals(console.log))
// or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vitals
reportWebVitals();
```

Figure 7.2.2: Program of Function Component in NODE.JS

```
function Mycomp(){
    return(
        <div>
            <h1>First custom Component</h1>
        </div>
    );
}
function Compone(){
    return(
        <div>
            <h1>Second custom Component</h1>
        </div>
    );
}

export default Mycomp;
export {Compone};
```

Figure 7.2.3 : Program of Custom Component

Output:



Figure 7.2.4 : Output of Function Component

7.3 Class Components

React class components are the bread and butter of most modern web apps built in ReactJS. These components are simple classes (made up of multiple functions that add functionality to the application). All class components are child classes for the Component class of ReactJS.

```
class Car extends React.Component {
  constructor() {
    super();
    this.state = {color: "red"};
  }
  render() {
    return <h2>I am a {this.state.color} Car!</h2>;
  }
}
```

Figure 7.3.1: Example of Class Component

Output:

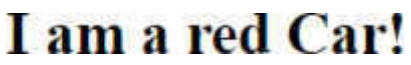


Figure 7.3.2: Output of Functional Component

Chapter 8 Learning about map in reactjs

8.1 Variable Data Map

```
import logo from './logo.svg';
import './App.css';

function App() {
  const newdata = "how are you?";
  return (
    <div>
      <h1>Data Variable</h1>
      <h1>{newdata}</h1>
      <h1>{data}</h1>
    </div>
  );
}

const data = "hi";
const newacc=[5,10,15,20,25];

function Newcomp() {

  return (
    <div>
      <h1>Hello</h1>
      <h2>{data}</h2>
      <h3>{newacc[0]}</h3>
    </div>
  );
}
```

Figure 8.1.1: Program of Variable Data Map - APP.JS

```
function Display() {

  return (
    <div>
      {
        newacc.map(
          (data)=>{
            return <h1>{data}</h1>
          }
        )
      }
    </div>
  );
}

export default App;
export {Newcomp,Display};
```

Figure 8.1.2: Program of Variable Data Map - APP.JS

```
import './index.css';
import App,{Newcomp,Display} from './App';
import reportWebVitals from './reportWebVitals';

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <App />
    <Newcomp/>
    <Display/>
  </React.StrictMode>
);

// If you want to start measuring performance in your app, pass a function
// to log results (for example: reportWebVitals(console.log))
// or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vitals
reportWebVitals();
```

Figure 8.1.3: Program of Variable Data Map - Node.JS

Output:



Figure 8.1.4 : Output of Variable Data Map

8.2 Object Map

```
import logo from './logo.svg';
import './App.css';

function App() {
  return (
    <div className="App">
      <h1>OBJECT DATA MAP</h1>
    </div>
  );
}
const data = {"KEY1": "VALUE1", "KEY2": "VALUE2"};
function Datashow(){
  return(
    <div>
      {
        Object.keys(data).map(
          (items,i) => {
            return <h1>{items} and {data[items]} </h1>
          }
        )
      }
    </div>
  );
}
```

Figure 8.2.1: Program of Object Mapping-APP.JS

```
const isrodata = {"spacecrafts":[{"id":1, "name": "Aryabhata"},{"id":2, "name": "Bhaskara-I"},{"id":3, "name": "Rohini Technology
Payload(RTP)"}]};

function Isrotable(){
  return(
    <div>
      {
        isrodata.spacecrafts.map(
          (value)=>{
            return <h1>{value.id} and {value.name}</h1>
          }
        )
      }
    </div>
  )
}
export default App;
export {Datashow,Isrotable};
```

Figure 8.2.2: Program of Object Mapping-APP.JS

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import App,{Datashow,Isrotable} from './App';
import reportWebVitals from './reportWebVitals';

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <App />
    <Datashow />
    <Isrotable />
  </React.StrictMode>
);

// If you want to start measuring performance in your app, pass a function
// to log results (for example: reportWebVitals(console.log))
// or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vitals
reportWebVitals();
```

Figure 8.2.3: Program of Object Mapping-Node.JS

Output:

OBJECT DATA MAP

KEY1 and VALUE1

KEY2 and VALUE2

1 and Aryabhata

2 and Bhaskara-I

3 and Rohini Technology Payload(RTP)

Figure 8.2.4: Output of Object Mapping

Chapter 9 React Props & Bootstrap

9.1 React Props

Props are arguments passed into React components.

```
import logo from './logo.svg';
import './App.css';
import Details,{Multipledata} from './propscomponents';

function App() {
  return (
    <div className="App">
      <h>hello</h>
    </div>
  );
}

function New(){
  return(
    <div>
      <h1>New component added.</h1>
      <Details name="infolabz" />
      <Details name="GTU" />
      <Details name="xyz" />
      <Multipledata  name="infolabz" email="info@infolabz.in" />
      <Multipledata name="xyz" email="xyz@gmail.com"/>
    </div>
  );
}

export default App;
export {New};
```

Figure 9.1.1: Example of React Props

Output:



Figure 9.1.2: Output of React Props

9.2 React Bootstrap

React-Bootstrap takes the CSS framework of Bootstrap and replaces any existing JavaScript with strictly React components.

```
import logo from './logo.svg';
import './App.css';
import 'bootstrap/dist/css/bootstrap.min.css';
import { Button,Table } from 'react-bootstrap';

function App() {
  return (
    <div className="App">
      <p>Hi</p>
    </div>
  );
}

function Btn(){
  return(
    <div>
      <Button variant="primary">Click</Button>
    </div>
  );
}

function Tablecomp(){
  return(
    <div>
      <Table striped bordered hover>
      <thead>
        <tr>
          <th>#</th>
          <th>First Name</th>
          <th>Last Name</th>
          <th>Username</th>
        </tr>
      </thead>
```

Figure 9.2.1: Example of React Bootstrap - APP.JS

```
        <tbody>
          <tr>
            <td>1</td>
            <td>Mark</td>
            <td>Otto</td>
            <td>@mdo</td>
          </tr>
          <tr>
            <td>2</td>
            <td>Jacob</td>
            <td>Thornton</td>
            <td>@fat</td>
          </tr>
          <tr>
            <td>3</td>
            <td colSpan={2}>Larry the Bird</td>
            <td>@twitter</td>
          </tr>
        </tbody>
      </Table>
      </div>
    );
}
export default App;
export {Btn,Tablecomp};
```

Figure 9.2.2 : Example of React Bootstrap - APP.JS

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import App,{Btn,Tablecomp} from './App';
import reportWebVitals from './reportWebVitals';

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <App />
    <Btn />
    <Tablecomp />
  </React.StrictMode>
);

// If you want to start measuring performance in your app, pass a function
// to log results (for example: reportWebVitals(console.log))
// or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vitals
reportWebVitals();
```

Figure 9.2.3 : Example of React Bootstrap - Node.JS

Output:



Figure 9.2.4: Output of React Bootstrap

Chapter 10 Learning about React Hooks

10.1 React Hooks : UseEffect and UseState

Hooks were added to React in version 16.8.

Hooks allow function components to have access to state and other React features. Because of this, class components are generally no longer needed.

useEffect Hook: The useEffect hook allows you to perform side effects in your functional components. It's used to manage side effects such as data fetching, DOM manipulation, and more. It accepts two arguments: a function containing the code you want to run, and an optional array of dependencies.

useState Hook: The useState hook is used in functional components to manage and update state. It provides a way to add stateful behavior to your components without the need to write a class. It takes an initial state value as an argument and returns an array with the current state value and a function to update that state.

10.2 API data fetch with react



Figure 10.2.1: Example of API data fetch - APP.JS

```
const [myData, setData] = useState([]);

const apiget = () => {
    fetch('https://inshortsapi.vercel.app/news?category=science')
    .then((response) => response.json())
    .then((json) => {
        console.log(json);
        setData(json.data)
    });
}

useEffect(() => {
    apiget();
    const interval = setInterval(()=>{apiget();}, 50000);
    return () => clearInterval(interval);
}, []);

return (
    <Container fluid>
        <h5 className="text-center my-3">Task - 9 Fetch the News from the API and Display it in the card format - 07/08/2023</h5>
        <Row className='mt-4 g-4' xs={1} md={3}>
```

Figure 10.2.2: Example of API data fetch - APP.JS

```
        <Row className='mt-4 g-4' xs={1} md={3}>
            {
                myData.map(
                    (value) => {
                        return (
                            <>
                            <Col>
                                <Card>
                                    <Card.Img variant="top" src={value.imageUrl} style={{height: 350}} />
                                    <Card.Body>
                                        <Card.Title>{value.title}</Card.Title>
                                        <Card.Text>
                                            {value.content}
                                        </Card.Text>
                                    </Card.Body>
                                    <Card.Footer>
                                        <small className="text-muted">{value.date} {value.time}</small>
                                    </Card.Footer>
                                </Card>
                                </Col>
                            </>
                        )
                    }
                )
            }

        </Row>

    </Container>
  )
}

export default Cards
```

Figure 10.2.3: Example of API data fetch - APP.JS

Output:

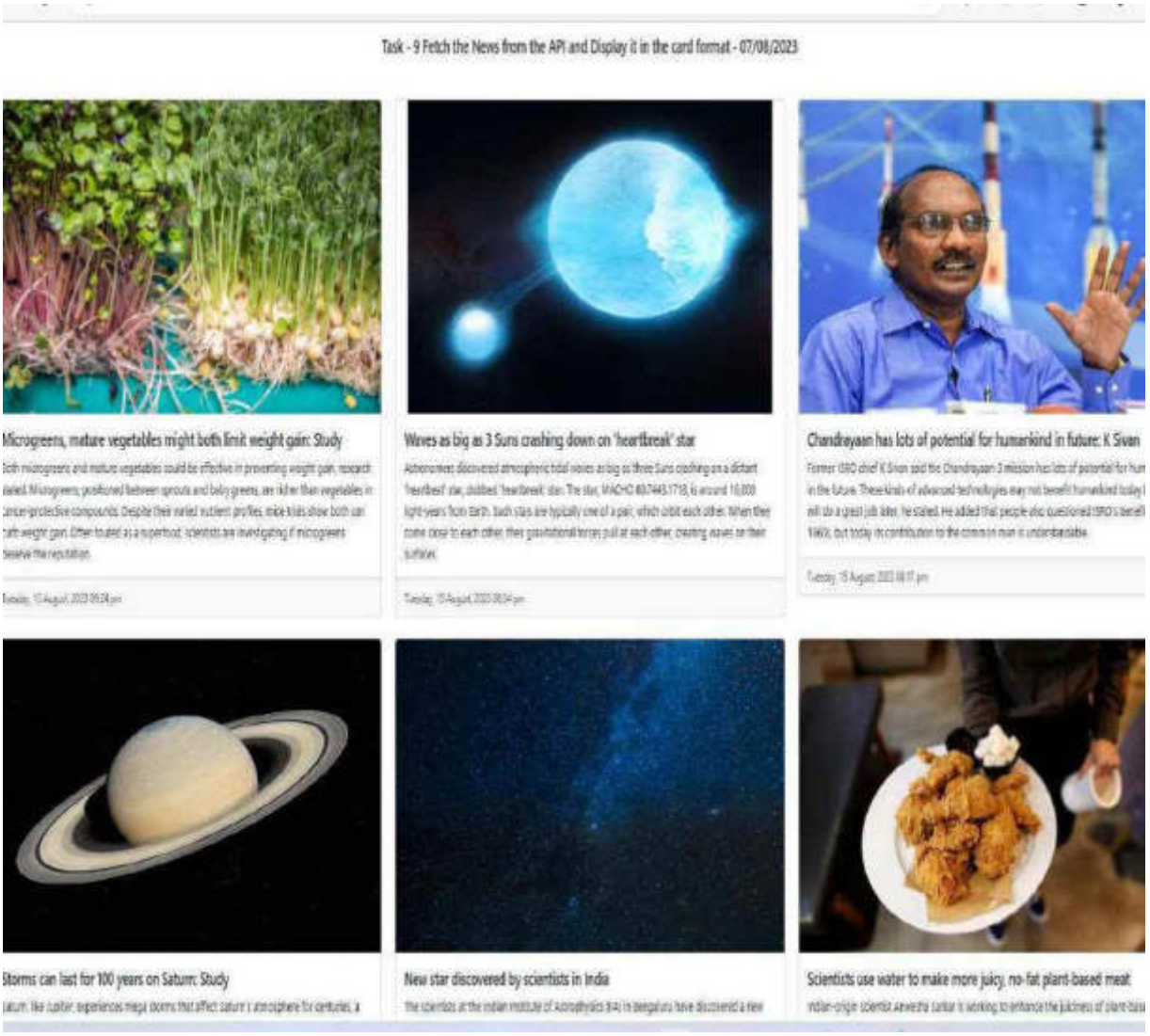


Figure 10.2.4: Output of API data fetch -API

Chapter 11 Assignment Task(Project)

11.1 API Based Real Time News WebApplication

```
import logo from './logo.svg';
import './App.css';
import { Container,Row,Col,Card,Table } from 'react-bootstrap';
import 'bootstrap/dist/css/bootstrap.min.css';
import React,{useState,useEffect} from 'react';

function App() {

  const [mydata,setData] = useState([]);

  const apiget = () => {
    fetch('https://inshorts.me/news/all?offset=0&limit=21')
    .then((response)=>response.json())
    .then((json)=>{
      console.log(json);
      setData(json.data.articles)
    }
    );
  };
  useEffect(()=>{
    apiget();
    const interval = setInterval(()=>{apiget();},500000);
    return ()=> clearInterval(interval);
  },[]);
```

Figure 11.1.1: Example of News Web Application - APP.JS

```
return (
  <Container fluid>
    <Row xs={1} md={3} className="g-4">
      {
        mydata.map(
          (value)=>{
            return(
              <>
                <Col className="container-fluid mt-4">
      <Card>
          <Card.Img variant="top" src={value.imageUrl}  height="275px"/>
          <Card.Body>
            <Card.Title>{value.title}</Card.Title>
            <Card.Text>
              {value.content}
            </Card.Text>
          </Card.Body>
        </Card>
      </Col>
              </>
            )
          }
      )
      }
    </Row>
  </Container>
);
}

export default App;
```

Figure 11.1.2: Example of News Web Application - APP.JS

Output:

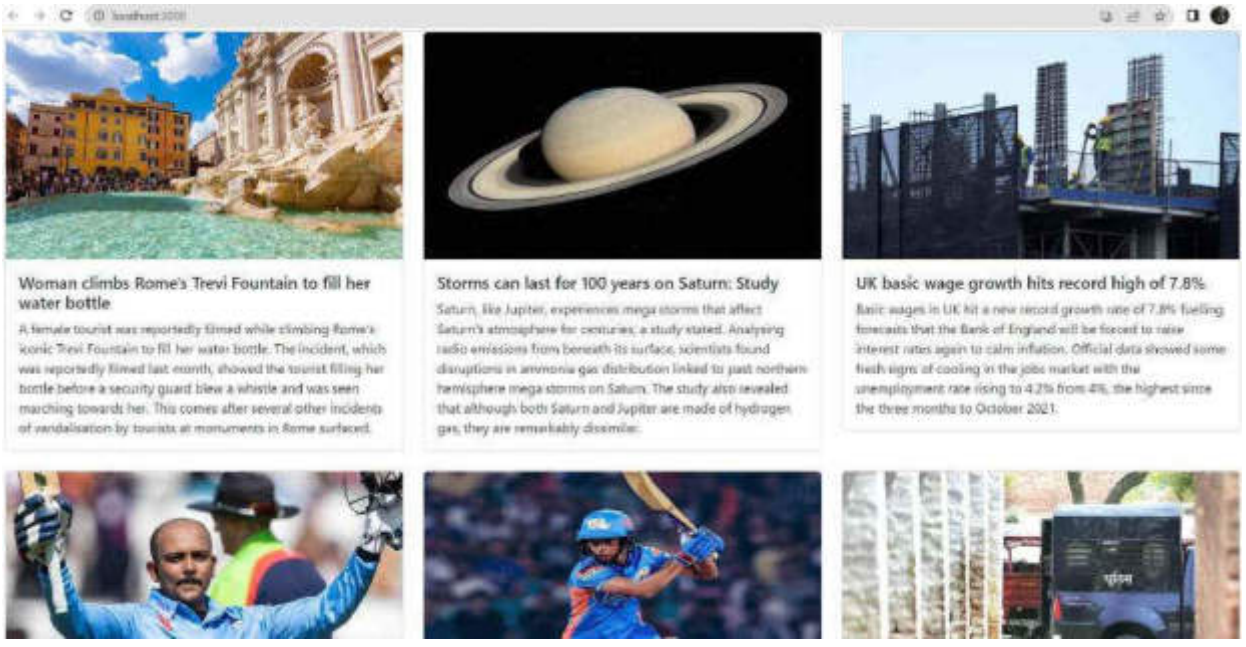


Figure 11.1.3: Output of News Web Application

11.2 Conclusion

These past 15-day internship experience has been an incredibly rewarding journey that has expanded my knowledge and skills in working with the React framework and integrating APIs into web applications.I am delighted to have had the opportunity to work with INFOLABZ and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved

The highlight of my internship was the successful development of an API-based React application. This project allowed me to apply my newly acquired knowledge to create a fully functional web application that not only showcases my technical proficiency but also demonstrates my ability to collaborate with APIs to provide a seamless and engaging user experience.

During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.

In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and am committed to making the most of this internship experience. Thank you for this incredible opportunity.

INTERNSHIP AT INFOLABZ IT SERVICES PVT LTD

AN INTERNSHIP REPORT

Submitted by

Panchal Yash Jashubhai

200390116031

In partial fulfilment of the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

August 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ IT SERVICES PVT LTD** has been carried out by **Panchal Yash Jashubhai** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Ekta Joshi

Internal Guide/Reviewer

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116031
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Yash Panchal .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Yash Panchal all the best for future endeavors.

Ms. Twinkle Shah
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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ IT SERVICES PVT LTD** submitted in partial fulfilment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad is a bonafide record of original project work carried out by me under the supervision of **Prof. Ekta Joshi** & **Mr. Chintan Nagrecha(External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Panchal Yash Jashubhai**	_____Yash _____

ACKNOWLEDGMENT

I extend my heartfelt gratitude to Infolabz IT Services Pvt. Ltd. for granting me a 15-day internship opportunity in the React domain. This experience significantly enriched my web development skills.

I am deeply appreciative of Chintan Nagrecha, Director at Infolabz, for his invaluable guidance and support throughout this journey. The hands-on training, project assistance, and exposure to API handling have tremendously augmented my practical knowledge.

Infolabz provided a conducive learning environment, and the expertise shared by mentors has been truly enlightening. I am thankful for the opportunity to translate theoretical concepts into practical applications, preparing me for the evolving tech landscape.

Thank you once again, Infolabz IT Services Pvt. Ltd., for nurturing my growth. I eagerly anticipate contributing to the tech industry with newfound proficiency.

Sincerely,

Panchal Yash Jashubhai

Abstract

The primary goal of the internship was a hands-on experience in creating dynamic web pages with React and live APIs. I learned to navigate the mechanics of HTTP's request-response, using ES6 concepts to retrieve real-time data seamlessly. My understanding expanded to encompass essential JavaScript concepts, including using arrow functions, manipulating variables through forms, implementing functions, engaging with user prompts, and effectively working with objects, including printing object data. This experience deepened my understanding of React's potential in webpage development and underscored the importance of APIs for dynamic content. By combining theoretical learning with practical implementation, I gained a well-rounded grasp of modern web development practices. This abstract serves as a record of the valuable insights and skills I gained during the internship, empowering me to confidently approach the realm of modern web development in my future endeavours.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporated with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in the IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & design, Digital Marketing, Domain and hosting services, SMS services, etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers who are always willing to take on new challenges and looking forward to learning new things, are the heart of this company.

Our objective is to sustain exponential growth in the IT industry. Our mission is to deliver the best with top-notch quality every quarter and our vision is to develop a product with one of its kind concept that could be used by millions of people.

1.2 MISSION AND VISION OF THE COMPANY:

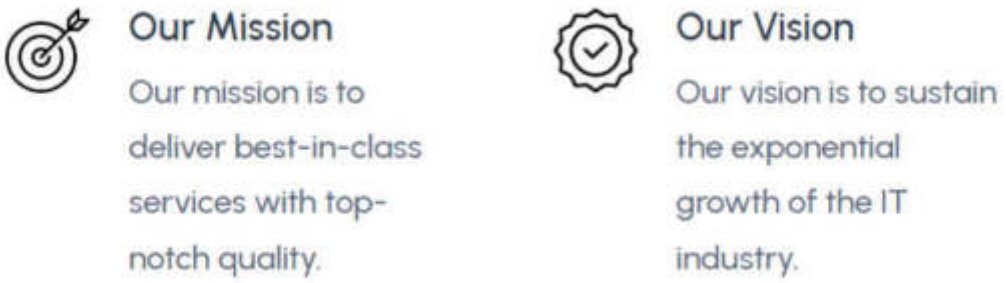


Fig 1.1 Mission and Vision

Chapter 2. WEEK:1 - DAY:1

2.1 TOPICS:

2.1.1 Introduction to Js :

JavaScript (JS) is a versatile and widely used programming language that plays a fundamental role in modern web development. Primarily as a client-side scripting language to enhance the interactivity and dynamism of web pages.JavaScript's capabilities have evolved, making it an integral part of both front-end and back-end web development. Initially designed to add simple interactions like validating forms or creating pop-up alerts,

2.1.2 Introduction to ES6 :

ECMAScript 6 (ES6), also known as ECMAScript 2015, is a significant update to the JavaScript programming language. It was introduced to address the growing complexity of web applications and to enhance the capabilities of JavaScript for modern development needs. ES6 introduces new syntax, features, and programming constructs that make code more readable, maintainable, and efficient.

2.1.3 Javascript Objects :

JavaScript objects are fundamental data structures that allow developers to organize and manipulate related data as a single unit. An object is a collection of key-value pairs, where each key serves as a unique identifier for a corresponding value. This key-value structure enables the representation of complex data and relationships in a coherent and organized manner.

2.2 Task: COVID-19 Data fetching INFOLABZ Task-1

Code :

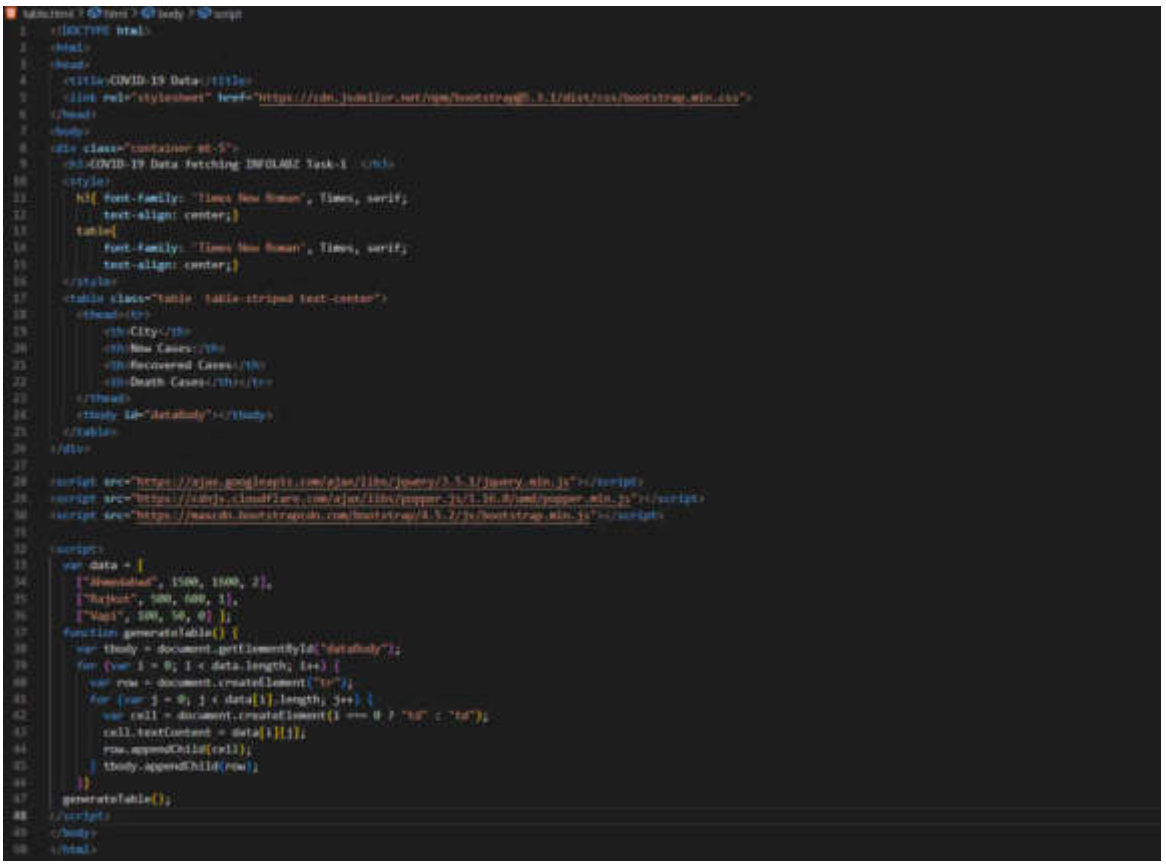


Fig 2.1 Task:1 Data fetching Code

Output :

COVID-19 Data fetching INFOLABZ Task-1

City	New Cases	Recovered Cases	Death Cases
Ahmedabad	1500	1600	2
Rajkot	500	600	1
Vapi	100	50	0

Fig 2.2 Task:1 Output

Chapter 3. WEEK:1 - DAY:2

3.1 TOPICS:

3.1.1 JS Functions & Arrow Functions:

A function is a block of code designed to perform a specific task. It can accept input parameters, execute a series of instructions, and return a result. Functions facilitate code organization, reduce redundancy, and promote reusability. The syntax for declaring a function involves specifying its name, parameters, and a block of code enclosed in curly braces.

Arrow functions, introduced in ECMAScript 6 (ES6), provide a concise and expressive way to define functions in JavaScript. Arrow functions are particularly well-suited for writing small, simple functions. It can enable developers to write more concise and readable code, especially for small functions and callbacks.

3.1.2 Async Function:

Asynchronous programming is crucial for handling operations that take time to complete, such as network requests or file I/O, without blocking the main execution thread. Async functions, also introduced in ES6, simplify asynchronous code by using the async keyword to define a function that returns a Promise. Inside an async function, the await keyword is used to pause execution until a Promise is resolved or rejected.

3.1.3 BitCoin API

Code :

bitcoin.html > body

```
<!DOCTYPE html>
<head>
    <h1>
    API Fetching of bitcoin file
    </h1>
</head>
    <body>
        <script>
            async function load(){
                let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
                let myobject = await (await fetch(url)).json();
                document.write(myobject["bpi"]["USD"]["rate"]);
            }
            load();
        </script>
    </body>
```

Fig 3.1 Bitcoin Data Fetching Code

Output :



Fig 3.2 API Output

3.2 Task-2 Fetch the Data From the Covid-19 API and Print it in the Table.

Code :

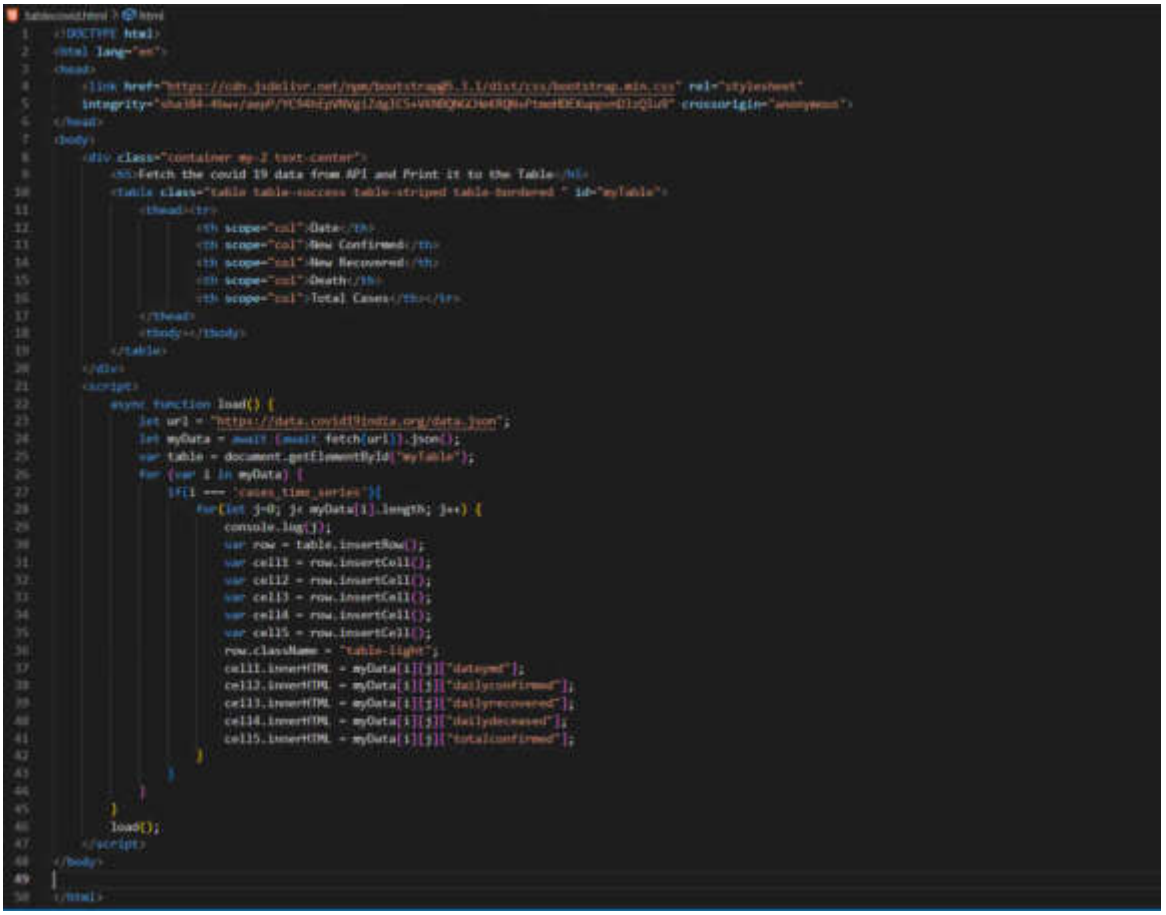


Fig 3.3 Task:2 Covid Data fetching Code

Output :

Fetch the covid 19 data from API and Print it to the Table

Date	New Confirmed	New Recovered	Death	Total Cases
2020-01-30	1	0	0	1
2020-01-31	0	0	0	1
2020-02-01	0	0	0	1
2020-02-02	1	0	0	2
2020-02-03	1	0	0	3
2020-02-04	0	0	0	3
2020-02-05	0	0	0	3
2020-02-06	0	0	0	3
2020-02-07	0	0	0	3
2020-02-08	0	0	0	3
2020-02-09	0	0	0	3
2020-02-10	0	0	0	3
2020-02-11	0	0	0	3
2020-02-12	0	0	0	3
2020-02-13	0	1	0	3
2020-02-14	0	0	0	3
2020-02-15	0	0	0	3
2020-02-16	0	1	0	3
2020-02-17	0	0	0	3

Fig 3.4 Task:2 Table Output

Chapter 4. WEEK:1 - DAY:3

4.1 TOPICS:

4.1.1 Covid API Data fetching and mapping :

Code :

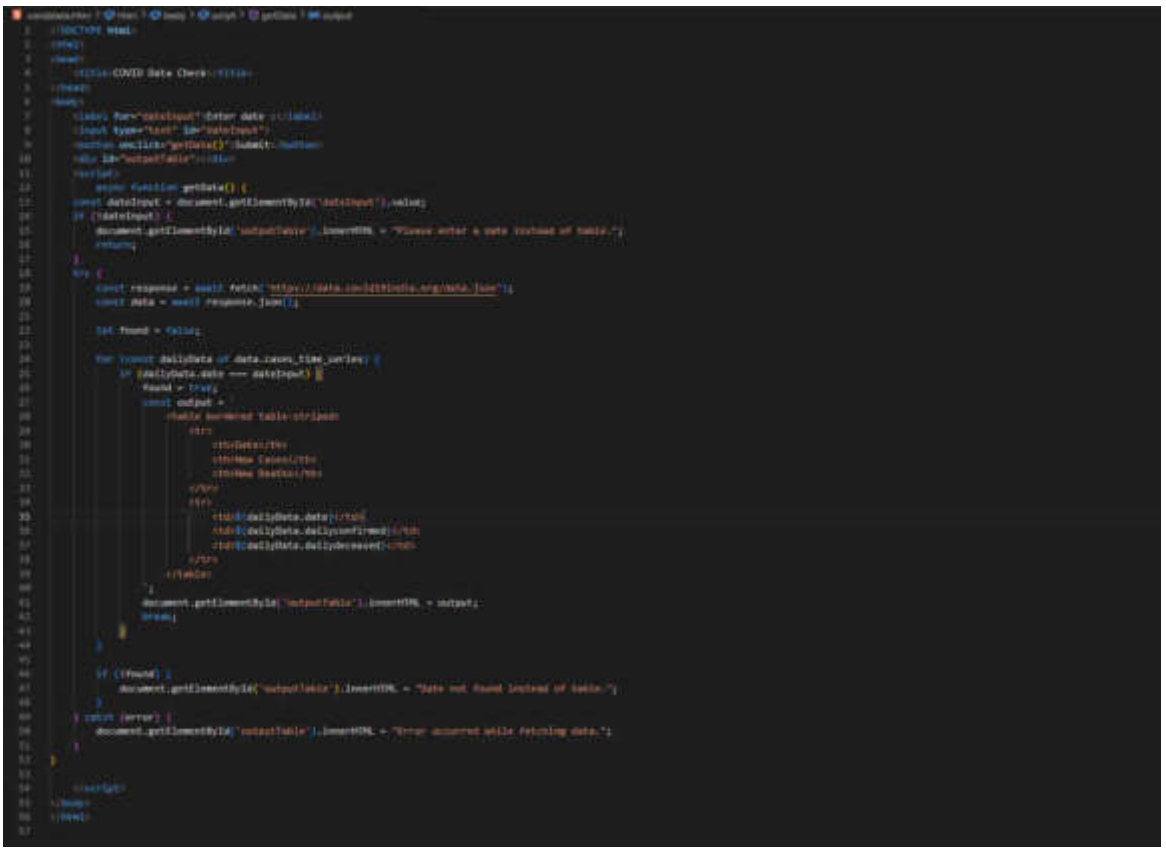


Fig 4.1 Covid Data Fetching and Mapping Code

Output :



Fig 4.2 Output

4.1.2 JS Pop-Up Boxes

JavaScript pop-up boxes are interactive dialog boxes that allow developers to communicate with users, gather information, and confirm actions. These boxes are a way

to display messages, prompts, and confirmations directly on a web page. They enhance user interaction and provide a simple means of obtaining input or delivering notifications without requiring a separate page or complex user interface components.

Here are the three main types of JavaScript pop-up boxes:

Alert Box:
An alert box presents a simple message to the user. It contains only an "OK" button for dismissing the message. Alert boxes are commonly used to provide notifications, alerts, or brief messages that require the user's attention.

Prompt Box:
A prompt box displays a message along with an input field where users can enter information. It allows developers to request specific data from users, such as their name or an input value. Users can then type their responses and submit them.

Confirm Box:
A confirm box displays a message along with "OK" and "Cancel" buttons. It prompts users to confirm or cancel an action. Confirm boxes are often used to ask for user confirmation before proceeding with a potentially irreversible action.

4.1.3 Form to Variable

Converting user input from an HTML form into JavaScript variables allows you to process and manipulate the data within your scripts. By capturing form values and storing them in variables, you can perform calculations, validation, or other operations on the collected information.

4.2 Task 3 Get the Input From the User and Print the Data in the Form of Table.

Code :

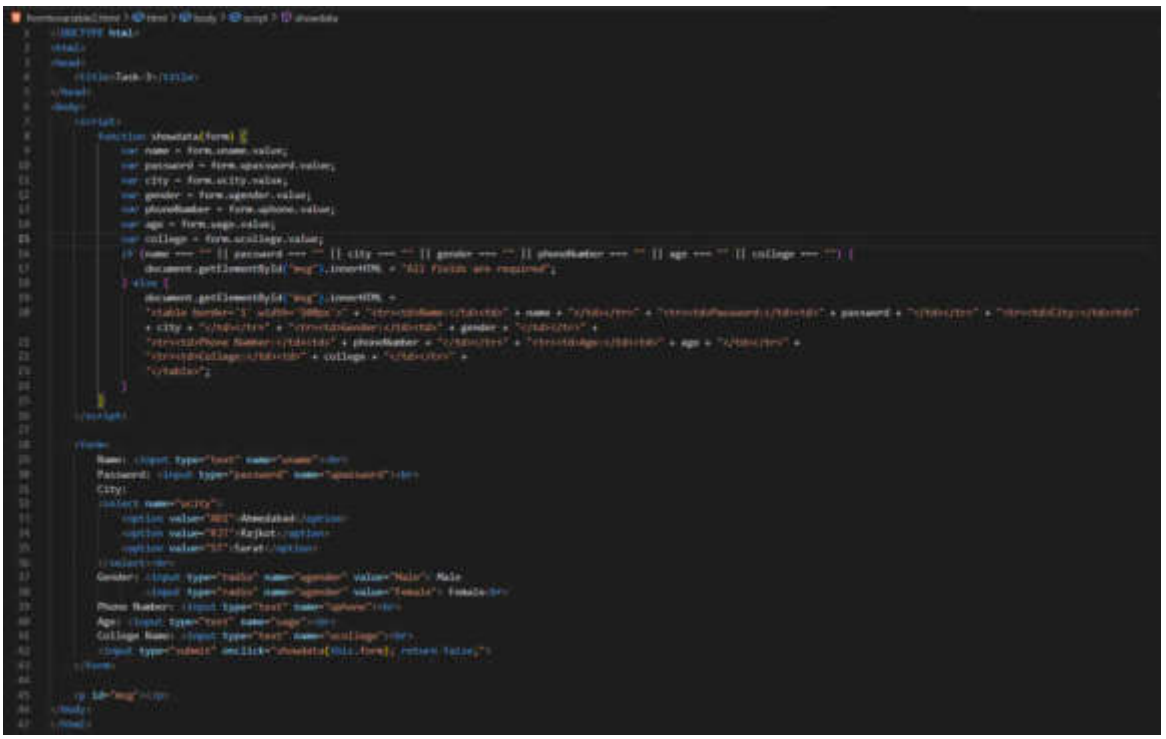
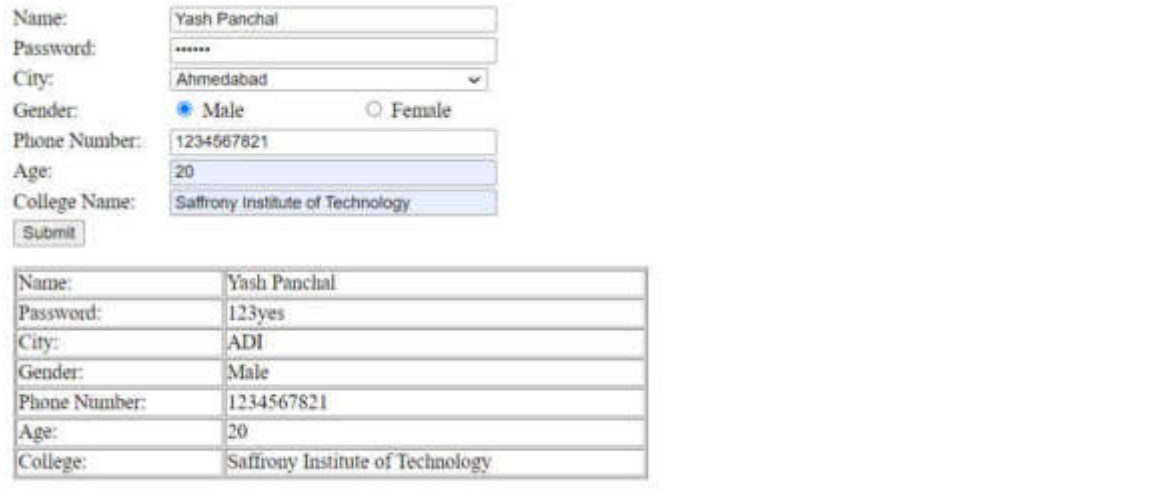


Fig 4.3 Task:3 Form Code

Output :



Name:	Yash Panchal
Password:	123yes
City:	ADI
Gender:	Male
Phone Number:	1234567821
Age:	20
College:	Saffrony Institute of Technology

Fig 4.4 Task:3 Output

Chapter 5. WEEK:1 - DAY:4

5.1 TOPICS:

5.1.1 JS Arrays :

Arrays are fundamental data structures in JavaScript that allow you to store and manage multiple values under a single variable name. Arrays are useful for grouping related data, and they provide a way to access and manipulate elements using their index positions.

5.1.2 Javascript Form to Table :

Converting user input from an HTML form into a table using JavaScript involves capturing and organizing information provided by the user in a structured tabular format. This process enhances the presentation of collected data and allows for easier comprehension and comparison.

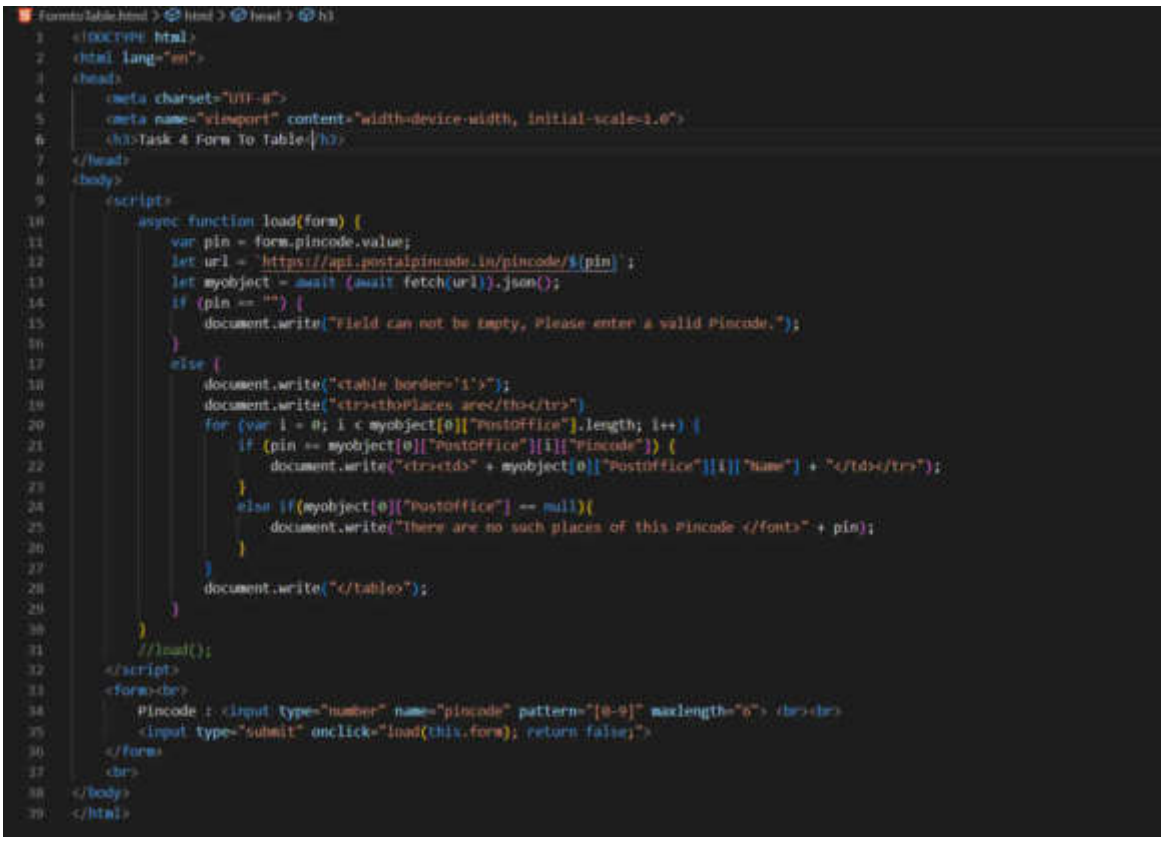
To achieve this, an HTML form is designed to capture user input through various input fields, such as text boxes, radio buttons, checkboxes, and select elements. Upon submission of the form or activation of a specific action, a JavaScript function is triggered. This function retrieves the values entered by the user in these input fields.

A table is created within the HTML document to serve as the display container for the collected data. This table includes a header row that labels each column, representing different attributes of the data.

The JavaScript function dynamically generates new rows within the table and inserts cells to hold the captured information. The retrieved data from the form input fields is then placed into these cells. This process of populating the table with data is iterative, allowing each new submission to append a new row to the table.

5.2 Task 4 Fetch Data From API Get the User Value and Print in the form of a Table.

Code :



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <h3>Task 4 Form To Table</h3>
</head>
<body>
    <script>
        async function load(form) {
            var pin = form.pincode.value;
            let url = `https://api.postalpincode.in/pincode/${pin}` ;
            let myobject = await (await fetch(url)).json();
            if (pin == "") {
                document.write("Field can not be empty, Please enter a valid Pincode.");
            }
            else {
                document.write("<table border='1'>");
                document.write("<tr><th>Places are</th></tr>")
                for (var i = 0; i < myobject[0]["PostOffice"].length; i++) {
                    if (pin == myobject[0]["PostOffice"][i]["Pincode"]) {
                        document.write("<tr><td>" + myobject[0]["PostOffice"][i]["Name"] + "</td></tr>");
                    }
                    else if(myobject[0]["PostOffice"] == null){
                        document.write("there are no such places of this Pincode </font>" + pin);
                    }
                }
                document.write("</table>");
            }
        }
        //load();
    </script>
    <form><br>
        Pincode : <input type="number" name="pincode" pattern="[0-9]" maxlength="6"> <br><br>
        <input type="submit" onclick="load(this.form); return false;">
    </form>
    <br>
</body>
</html>
```

Fig 5.1 Task:4 Form to Table Code

Output :

Task 4 Form To Table

Pincode : 380001

Submit

Places are
Ahmedabad
Dariapur (Ahmedabad)
District Court (Ahmedabad)
Gandhi Road (Ahmedabad)
Gheekanta Road
Jamalpur (Ahmedabad)
Kalupur Chakla
Khadia
Khanpur (Ahmedabad)
Lal Darwaja
Manek Chowk
Municipal Corporation
Raikhad
Raipur (Ahmedabad)

Fig 5.2 Task:4 Output

Chapter 6. WEEK:1 - DAY:5

6.1 Assignment :

6.1.1 Covid Data Search :

Allow the user to input the date in the text box. On click of submit, It should display the number of new cases and deaths that occurred on that day. If the Field is blank print the message: Please enter date instead of table. If the Date is not matched: print date not found instead of a table.

Code :

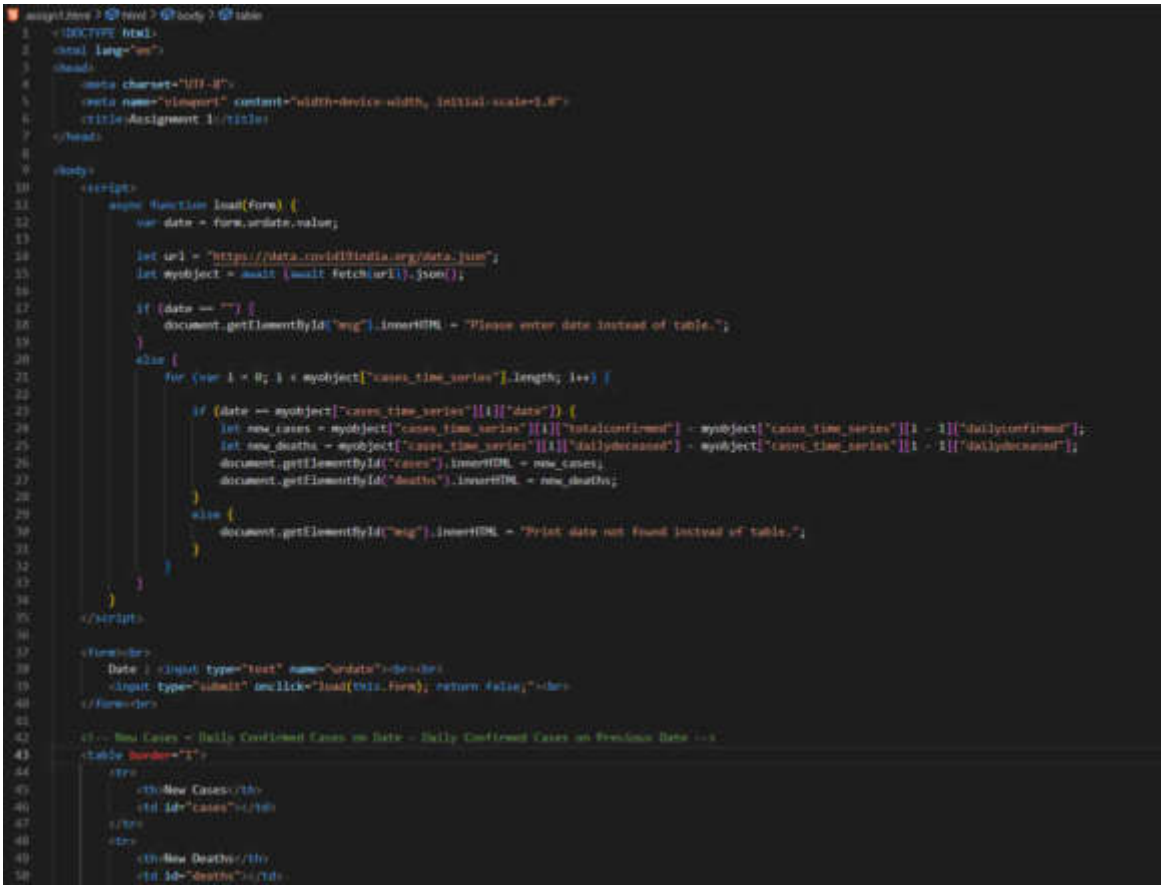


Fig 6.1 Data Search Code



Fig 6.2 Data search code

Output :

Date : 19 April 2020

Submit

New Cases	15934
New Deaths	3

Fig 6.3 Searched Data Output

6.1.2 Mutual Fund API :

Print the total number of schemes available in this API. Allow the user to input the scheme code in the text box. Search scheme code from this API and print scheme name. - If blank print message: Please enter scheme code, If not found print message: Scheme not found

Code :

```
assign2.html > html > body > script > load
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Assignment of Mutual Fund</title>
</head>
<body>
    <script>
        async function load(form) {
            let url = "https://api.mfapi.in/mf";
            let myobject = await (await fetch(url)).json();
            var data = form.scheme.value;
            document.getElementById("msg").innerHTML = "total number of schemes are: " + myobject.length;
            if (data == "") {
                document.getElementById("msg1").innerHTML = "Please enter scheme code.";
            }
            else {
                for (var i = 0; i < myobject.length; i++) {
                    if (data == myobject[i]["schemeCode"]) {
                        document.getElementById("msg1").innerHTML = myobject[i]["schemeName"];
                        break;
                    }
                    else {
                        document.getElementById("msg1").innerHTML = "Scheme not found";
                    }
                }
            }
        }
    </script>
    <form>
        <br>
        Enter Scheme Code : <input type="number" name="scheme"><br><br>
        <input type="submit" onclick="load(this.form); return false;"><br>
    </form><br>
    <p id="msg"></p>
    <p id="msg1"></p>
</body>
</html>
```

Fig 6.4 Mutual Fund API Code

Output:

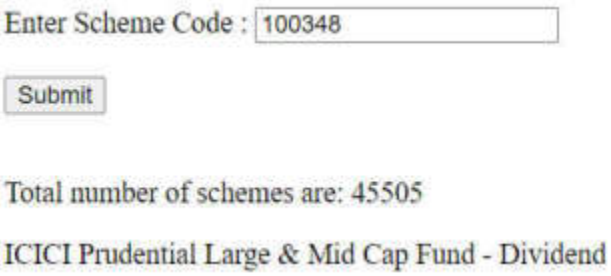


Fig 6.5 Schemes Output

Chapter 7. WEEK:2 - DAY:1

7.1 TOPICS:

7.1.1 React Environment setup(Node JS installation):

Download Node.js:
Visit the official Node.js website at https://nodejs.org and download the LTS (Long Term Support) version for your operating system (Windows, macOS, or Linux).

Install Node.js:
Run the downloaded installer and follow the installation instructions. This will also install npm, which is used to manage packages and dependencies.

Verify Installation:
Open a command prompt or terminal and run the following commands to verify that Node.js and npm are correctly installed:

node -v
npm -v

7.1.2 Creating First React App:

Create React App:

Open your terminal and run the following command to create a new React app using
npx create-react-app my-first-react-app

Replace my-first-react-app with your preferred app name.

Navigate to the App Directory:
Move to the newly created app directory:

cd my-first-react-app
Start the Development Server:

Run the following command to start the development server and open your app in the default browser:

npm start

This command launches the app in development mode and automatically reloads the page whenever you make changes.

Explore Your App:
Open your browser and go to http://localhost:3000 to see your first React app in action. You'll find a sample page that you can modify as you learn more about React.

Modify the App:
Open the src/App.js file in your code editor. You can make changes to the JSX code to see how it affects the app's appearance. As you become more comfortable with React, you can create components, manage state, and add interactivity.

7.1.3 Functional Components and Class Components:

In a functional component, you define the component using a function and pass in the props object as an argument. You then return the JSX that represents the UI you want to render. Functional components are typically used for presentational purposes, where the component's main responsibility is to render data and UI elements.

Class Components in React:

In a class component, you define the component by creating a class that extends React. Component. You can define the state using this. State object and update it using the setState method. Class components also provide access to lifecycle methods like componentDidMount, componentDidUpdate, and componentWillUnmount.

7.2 Task 6 React Class Components.

Code:

```
functionalcomp > src > JS App.js > Add
import logo from './logo.svg';
import './App.css';
import React, { Component } from 'react';

class App extends Component {
  render() {
    return (
      <div>
        <h1>Hello Mr. Yash Panchal</h1>
        <h1>Congratulations for getting selected for 15 Days internship at Infolabz Company. </h1>
      </div>
    );
  }
}
class Msg extends Component {
  render() {
    return (
      <div>
        <h1>Real Time API handling with React</h1>
      </div>
    );
  }
}
class Add extends Component {
  render() {
    var a = 100, b = 200;
    return (
      <div>
        <h1>Addition of {a} and {b} is {a + b} </h1>
        <h1>Subtracting {a} and {b} is {a - b}</h1>
      </div>
    );
  }
}
export default App;
export {Msg,Add};
```

Fig 7.1 Task:6 React Component Code

Output:

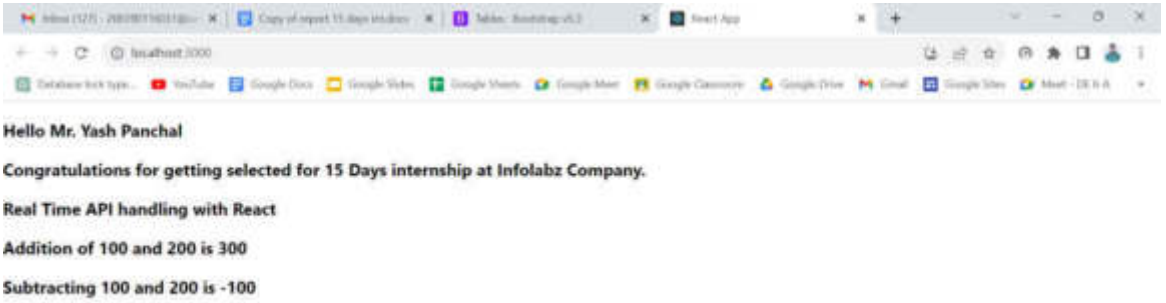


Fig 7.2 Component Output

Chapter 8. WEEK:2 - DAY:2

8.1 TOPICS:

8.1.1 Variable Data Map:

Data Source:
You have an array of data, such as a list of items, fetched from an API, or received as props.

Mapping with .map():
You use the .map() function on the array of data to create a new array of React components. Each element of the new array represents a component that will be rendered based on the data.

Component Generation:
Within the .map() function, you define how to transform each item of the data array into a React component. This could involve passing data as props to a component, setting keys for efficient rendering, and performing any necessary calculations or logic.

Rendering:
The new array of React components generated by the .map() function can be directly rendered within your JSX. As you render each component, it will have access to the data you've provided, and you can customize its appearance and behavior accordingly.

8.1.2 Object Map:

Object Source:
You have an object with properties and corresponding values. This could be an object fetched from an API, received as props, or defined locally.

Mapping with Object. keys() or Object.entries():
To iterate over the properties of an object, you can use the Object. keys() or Object.entries() methods. Object. keys() returns an array of the object's keys, and Object. entries() returns an array of key-value pairs.

Component Generation:
Within the mapping process, you define how to transform each property or key-value pair of the object into a React component. This could involve passing data as props to a component, setting keys for efficient rendering, and performing any necessary calculations or logic.

Rendering:
The components generated during the object mapping can be directly rendered within your JSX. As you render each component, it will have access to the data you've provided, and you can customize its appearance and behavior accordingly.

8.2 Task 7 Map the Object Data and Print in the Form of Table.

Code:

```
functionalcomp > src > JS App.js > ...
  import logo from './logo.svg';
  import './App.css';
  import React from 'react';

  function MApwithobjects() {
      return (
          <div className="App">
              <h1>Object Data App</h1>
          </div>
      );
  }
  const data = { "KEY1": "VALUE1", "KEY2": "VALUE2", "KEY3": "VALUE3"};
  function Tableshow() {
      return (
          <div>
              <table border="4" className="table">
                  <tr>
                      <th>Kyes</th>
                      <th>Values</th>
                  </tr>
                  <tbody border="1">
                      {Object.keys(data).map(
                          (items, i) => {
                              return (
                                  <tr className="table-primary">
                                      <td>{items}</td>
                                      <td>{data[items]}</td>
                                  </tr>
                              );
                          }
                      )}
                  </tbody>
              </table>
          </div>
      );
  }
  export default MApwithobjects;
  export {Tableshow};
```

Fig 8.1 Task:7 Map of object data Code

Output:

Object Data App

Kyes	Values
KEY1	VALUE1
KEY2	VALUE2
KEY3	VALUE3

Fig 8.2 Task:7 Output

Chapter 9. WEEK:2 - DAY:3

9.1 TOPICS:

9.1.1 React Props:

In React, "props" (short for "properties") are a mechanism for passing data from a parent component to a child component. Props allow you to provide dynamic values or configuration to components, enabling you to customize their behavior and appearance. Props are immutable, meaning they cannot be modified within the component that receives them.

Passing Data:
Props are used to pass data from a parent component to a child component. This data can be in the form of simple values (strings, numbers, booleans) or more complex objects.

Usage in Child Components:
In a child component, you can access the props passed down to it using the props object. Each property passed as a prop becomes a key in the props object.

Customization and Reusability:
Props allow you to customize the behavior and appearance of components without altering their internal logic. This promotes reusability since a component can be used in different contexts with different props.

Functional Components:
In functional components, props are passed as a parameter to the function. You can directly access them like any other function argument.

Class Components:
In class components, props are accessed using this.props.

Dynamic Rendering:
Props are often used to dynamically render content. Components can use props to display different data or UI elements based on what's passed to them.

9.1.2 React Bootstrap:

React Bootstrap is a popular open-source front-end framework that combines the power of React, a JavaScript library for building user interfaces, with the styling and components provided by Bootstrap, a widely used CSS framework. React Bootstrap

allows developers to create responsive and visually appealing web applications quickly and efficiently.

9.2 Task 8 Use React Bootstrap and get 9 Cards with Titles and Text.

Code:

cards-app > src > JS App.js > GridExample > map() callback

```
import React from 'react';
import 'bootstrap/dist/css/bootstrap.min.css';
import './App.css';
import Card from 'react-bootstrap/Card';
import Col from 'react-bootstrap/Col';
import Row from 'react-bootstrap/Row';

function GridExample() {
  return (
    <Row xs={1} md={3} className="g-4">
      {Array.from({ length: 9 }).map((_, idx) => (
        <Col key={idx}>
          <Card>
            <Card.Img variant="top" src="news-image.jpg" />
            <Card.Body>
              <Card.Title>Card title</Card.Title>
              <Card.Text>
                This is a longer card with supporting text below as a natural
                lead-in to additional content.
              </Card.Text>
            </Card.Body>
          </Card>
        </Col>
      ))}
    </Row>
  );
}
export default GridExample;
```

Fig 9.1 Task:8 Cards Code

Output:

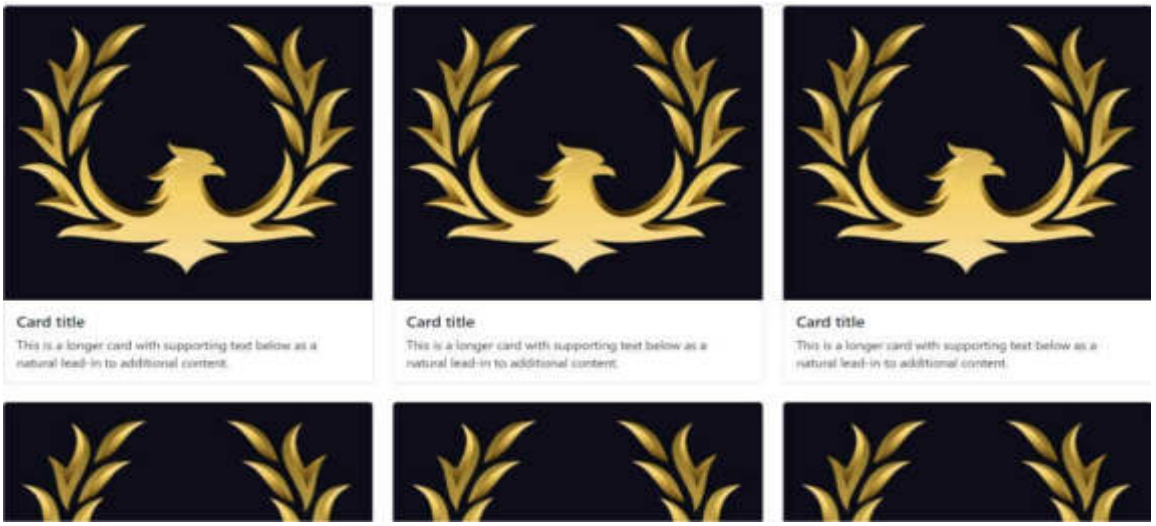


Fig 9.2 Task:8 Output

Chapter 10. WEEK:2 - DAY:4

10.1 TOPICS:

10.1.1 React Hooks: UseEffect and UseState:

React Hooks are functions that allow you to use state and lifecycle features in functional components without the need for class components. They were introduced in React 16.8 as a way to simplify and enhance the development of functional components.

useState:
The useState hook allows functional components to manage state by adding state variables to them. It returns a pair of values: the current state value and a function to update it. This hook eliminates the need to use the this.setState method in class components.

useEffect Hook:
The useEffect hook in React is used to perform side effects within functional components. It is similar to lifecycle methods in class components such as componentDidMount, componentDidUpdate, and componentWillUnmount. It takes two arguments: a function representing the effect to be performed and an array of dependencies that determine when the effect should run.

10.1.2 API data fetch with react:

Code:

cards-app > src > JS App.js > GridExample

```
import React, { useState, useEffect } from 'react';
import 'bootstrap/dist/css/bootstrap.min.css';
import Card from 'react-bootstrap/Card';
import Col from 'react-bootstrap/Col';
import Row from 'react-bootstrap/Row';

function GridExample() {
  const [mydata, setData] = useState([]);
  const apiget = () => {
    fetch('https://inshorts.me/news/all?offset=0&limit=21')
      .then((response) => response.json())
      .then((json) => {
        console.log(json);
        setData(json.data.articles);
      });
  };
  useEffect(() => {
```

Fig 10.1 API Data fetch React Code

```
17    useEffect(() => {
18      apiget();
19      const interval = setInterval(() => {
20        apiget();
21      }, 50000);
22      return () => clearInterval(interval);
23    }, []);
24    return (
25      <Row xs={1} md={3} className="g-4">
26        {mydata.map((value, idx) => (
27          <Col key={idx}>
28            <Card>
29              <Card.Img variant="top" src={value.imageUrl} />
30              <Card.Body>
31                <Card.Title>{value.title}</Card.Title>
32                <Card.Text>{value.content}</Card.Text>
33              </Card.Body>
34            </Card>
35          </Col>
36        ))}
37      </Row>
38    );
39  }
40  export default GridExample;
```

Fig 10.2 API Data fetch React Code

Output:

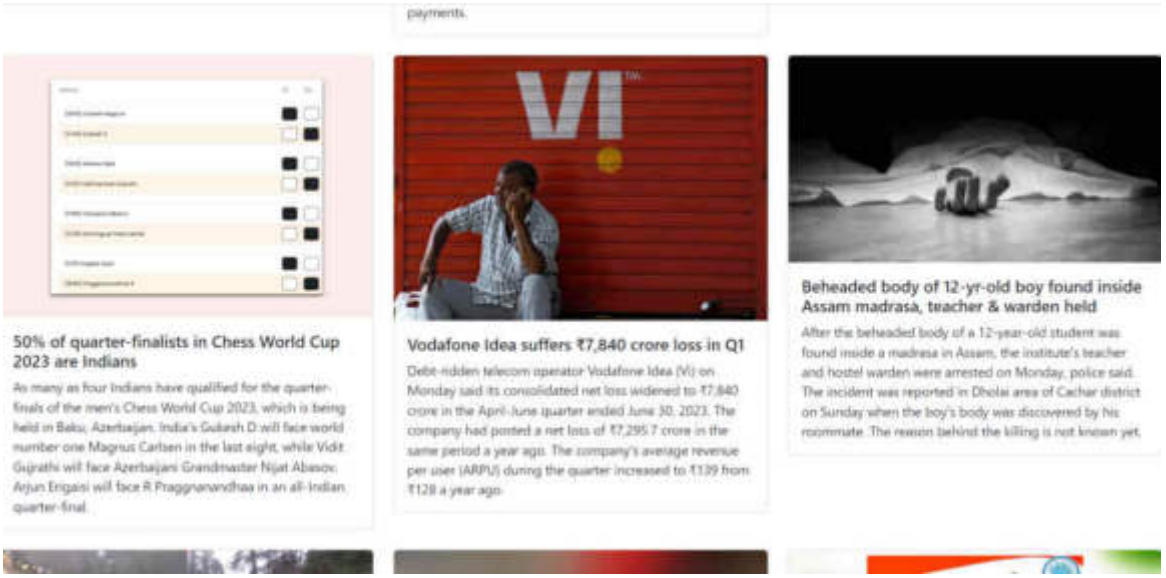
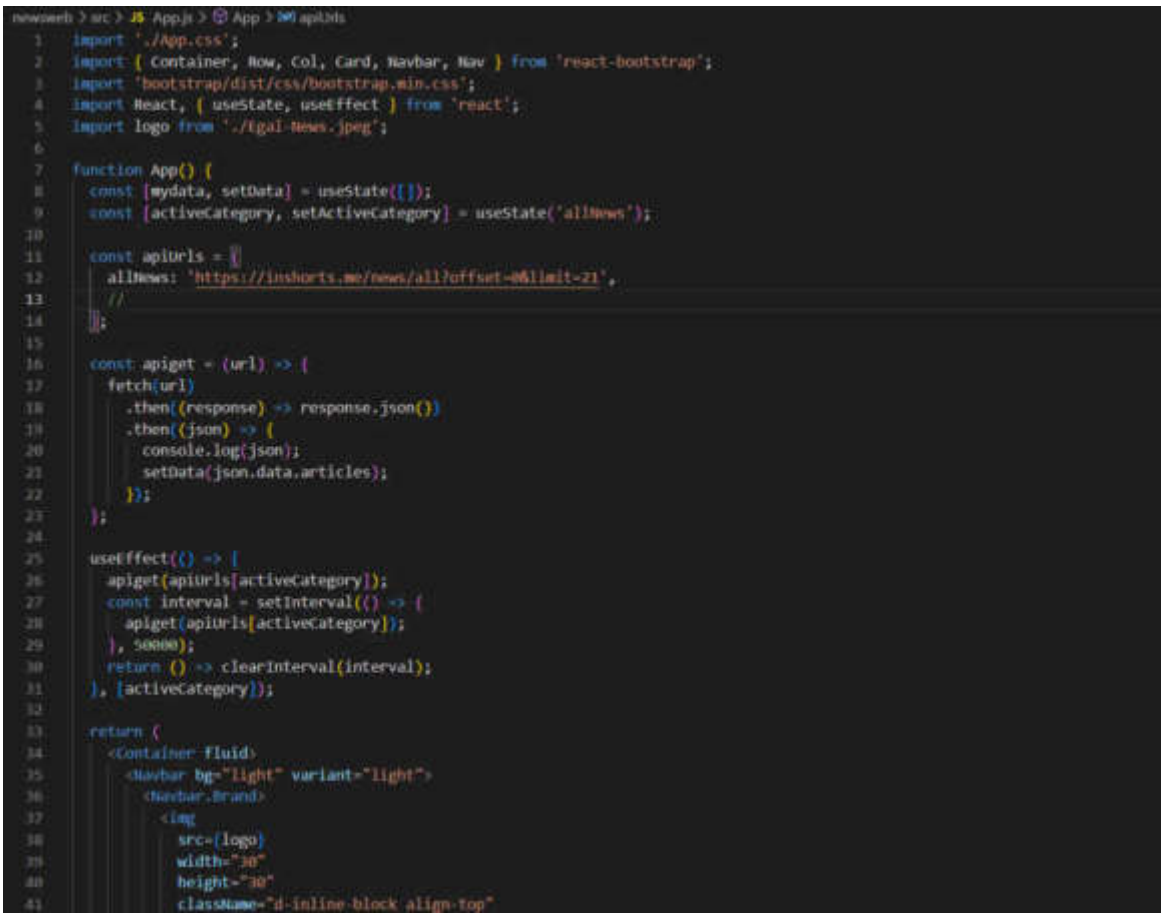


Fig 10.3 React Output

10.2 Task 9 Apply CSS in the Above fetched Api Component.

Code:



```
import './App.css';
import { Container, Row, Col, Card, Navbar, Nav } from 'react-bootstrap';
import 'bootstrap/dist/css/bootstrap.min.css';
import React, { useState, useEffect } from 'react';
import logo from './Egal-News.jpeg';

function App() {
  const [mydata, setData] = useState([]);
  const [activeCategory, setActiveCategory] = useState('allNews');

  const apiUrls = {
    allNews: 'https://inshorts.me/news/all?offset=0&limit=21',
    //
  };

  const apiget = (url) => {
    fetch(url)
      .then((response) => response.json())
      .then((json) => {
        console.log(json);
        setData(json.data.articles);
      });
  };

  useEffect(() => {
    apiget(apiUrls[activeCategory]);
    const interval = setInterval(() => {
      apiget(apiUrls[activeCategory]);
    }, 50000);
    return () => clearInterval(interval);
  }, [activeCategory]);

  return (
    <Container fluid>
      <Navbar bg="light" variant="light">
        <Navbar.Brand>
          <img
            src={logo}
            width="30"
            height="30"
            className="d-inline-block align-top"
```

Fig 10.4 Task 9 Code

```
.card {
  border: none;
  box-shadow: 0px 2px 4px rgba(0, 0, 0, 0.1);
  transition: transform 0.2s ease-in-out;
}

.card:hover {
  transform: translateY(-4px);
}

.card-title {
  font-size: 1.2rem;
  margin-bottom: 10px;
}

.card-text {
  color: #555;
}

.card img {
  max-height: 200px;
  object-fit: cover;
}
```

Fig 10.5 Task 9 CSS Code

Output:

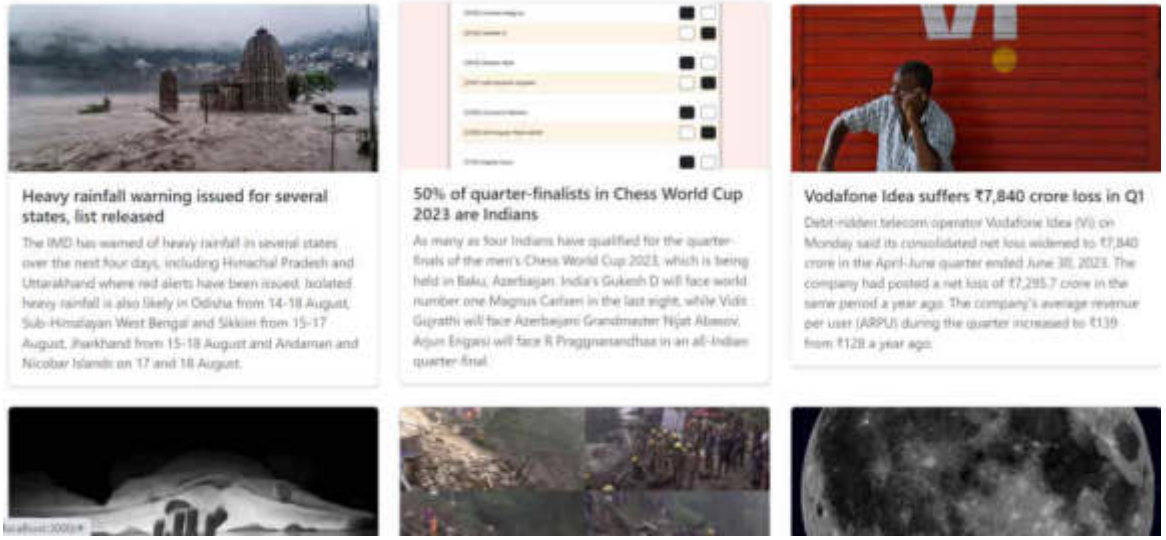


Fig 10.6 News with CSS Output

Chapter 11. WEEK:2 - DAY:5

11.1 ASSIGNMENT

API-BASED REAL-TIME NEWS WEB APPLICATION

Code:

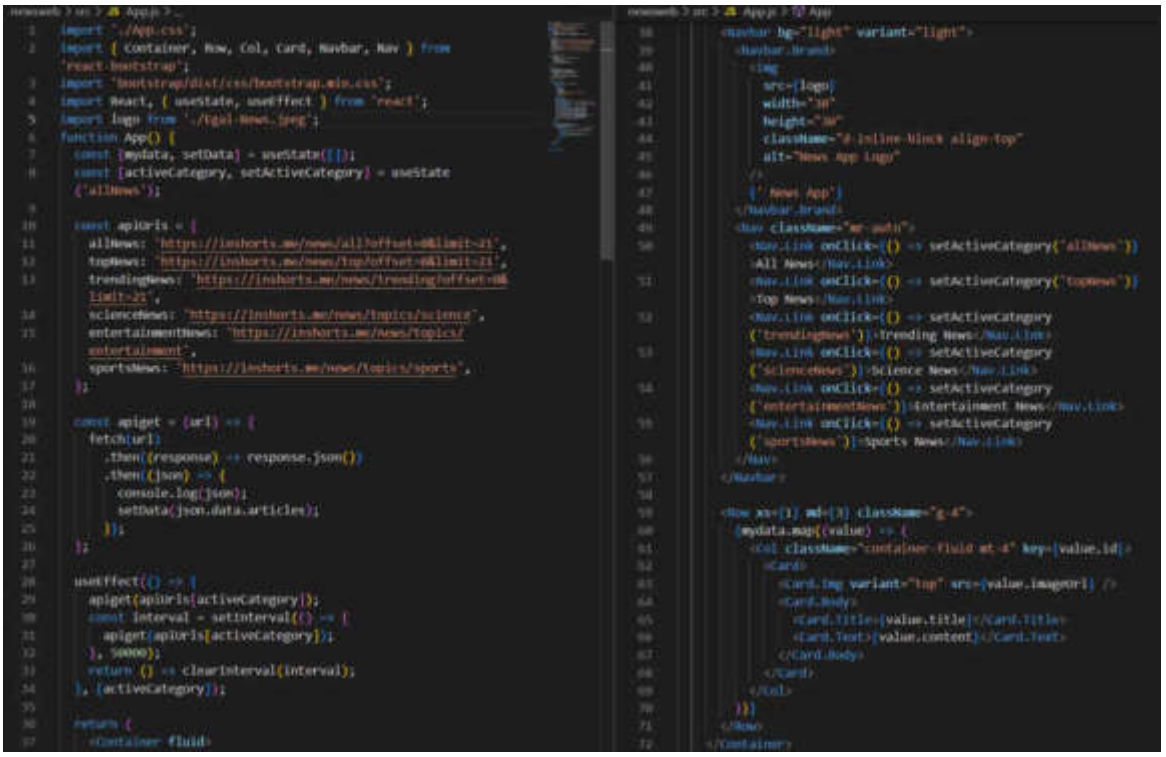


Fig 11.1 Assignment of Newa App Code

Output:

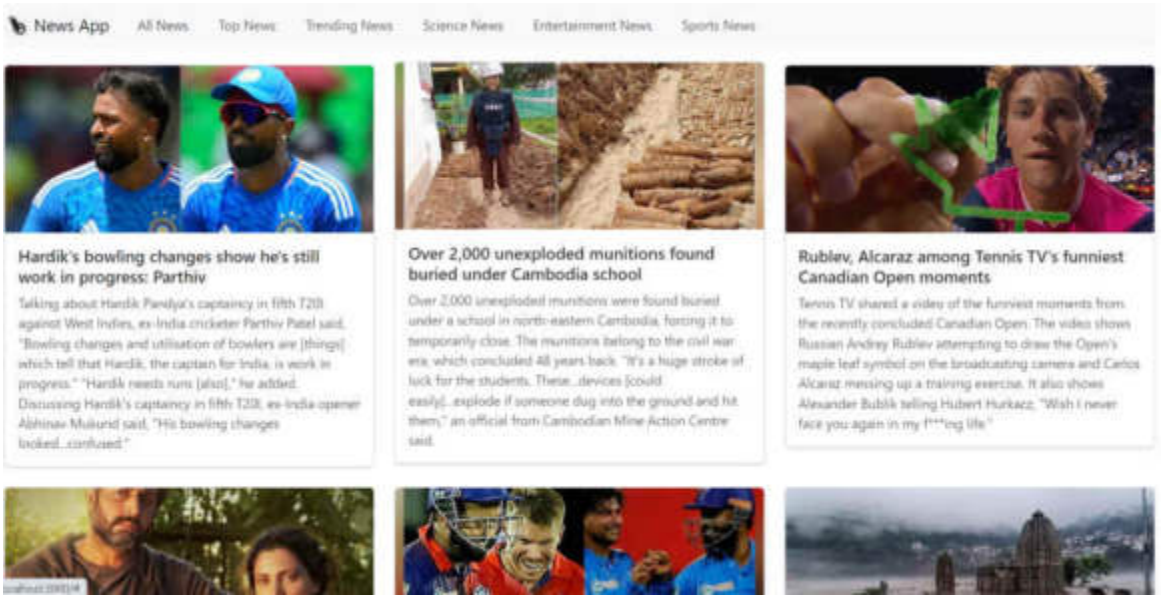


Fig 11.2 News App Output

Chapter 12. PROJECT & CONCLUSION

12.1 Introduction of the Project: Real-Time API Handling with React

In a React project, handling real-time data from an API involves fetching and updating data at regular intervals to keep the content fresh and up-to-date for users. The project can be structured with components that leverage React Hooks like useState and useEffect to achieve this dynamic behavior.

Code:

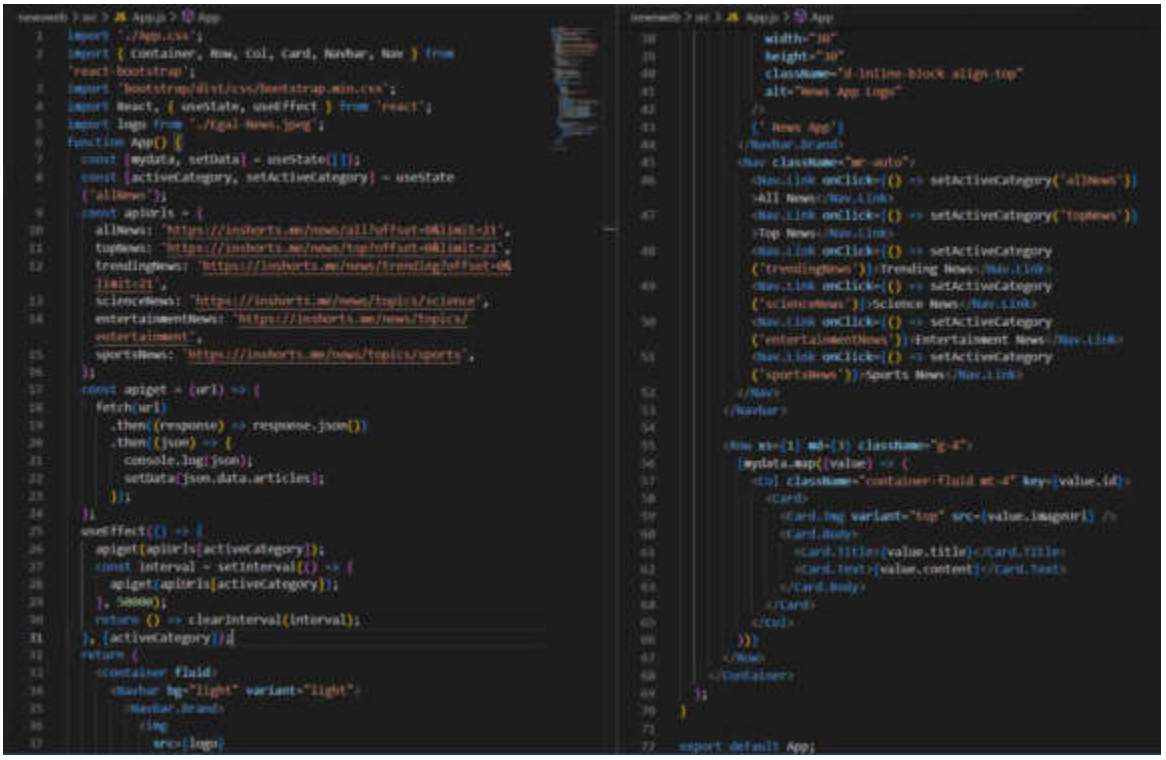


Fig 12.1 React Project Code

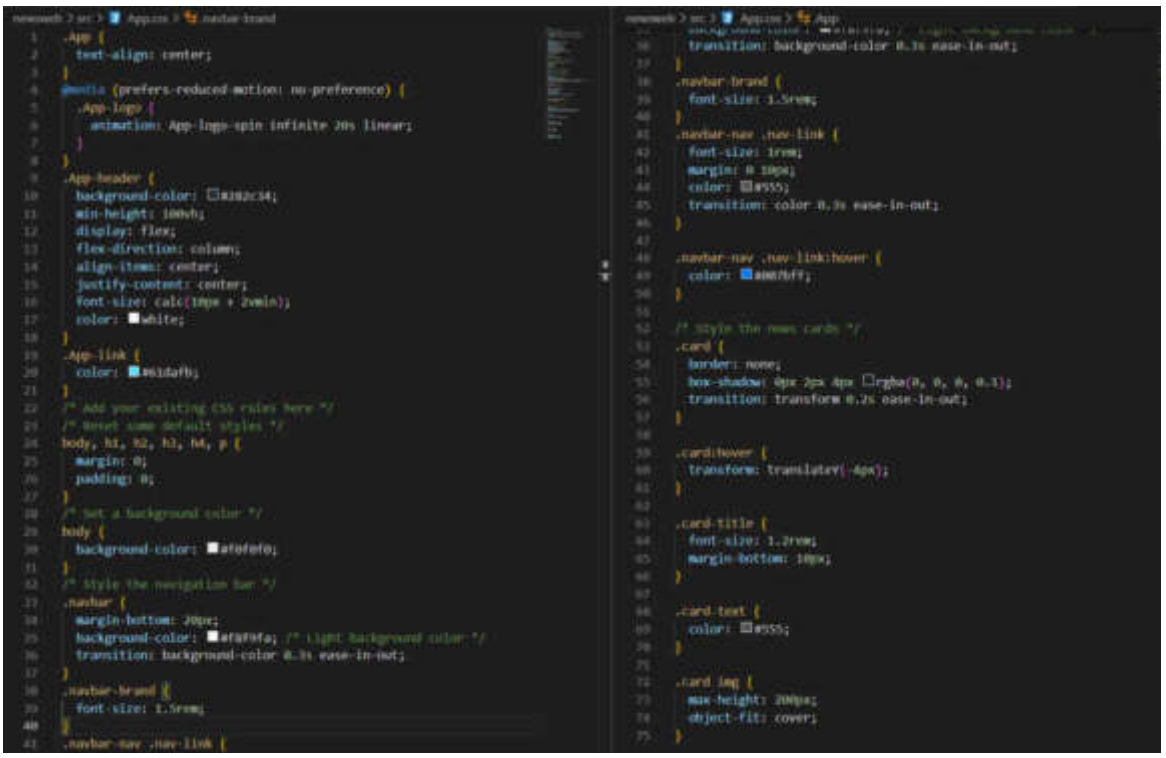


Fig 12.2 React Project CSS Code

Output:

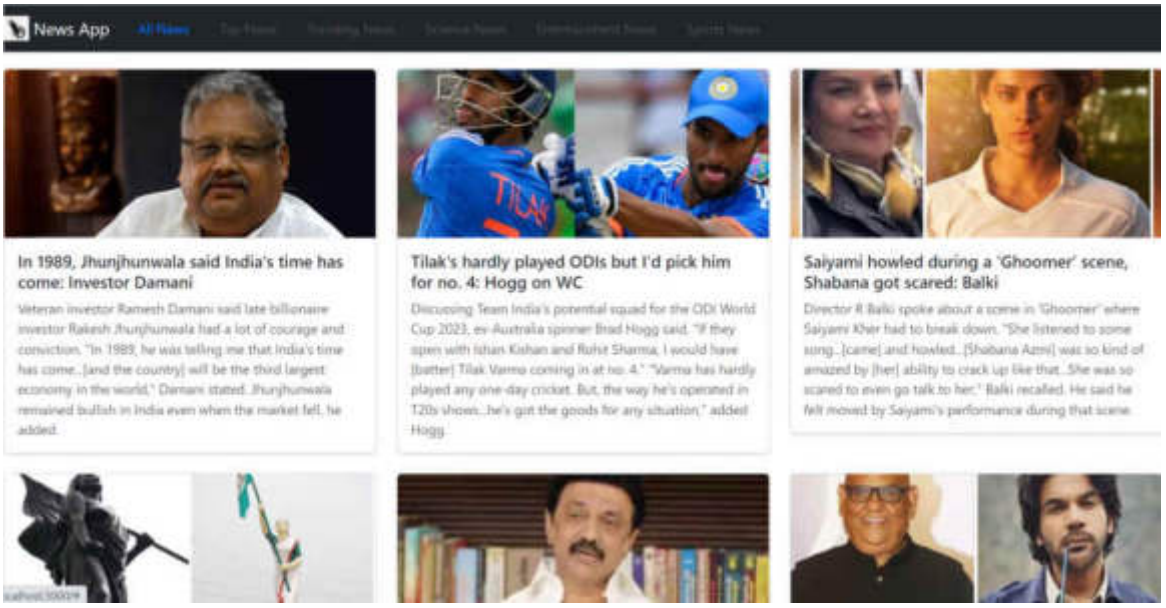


Fig 12.3 React Project All News Output

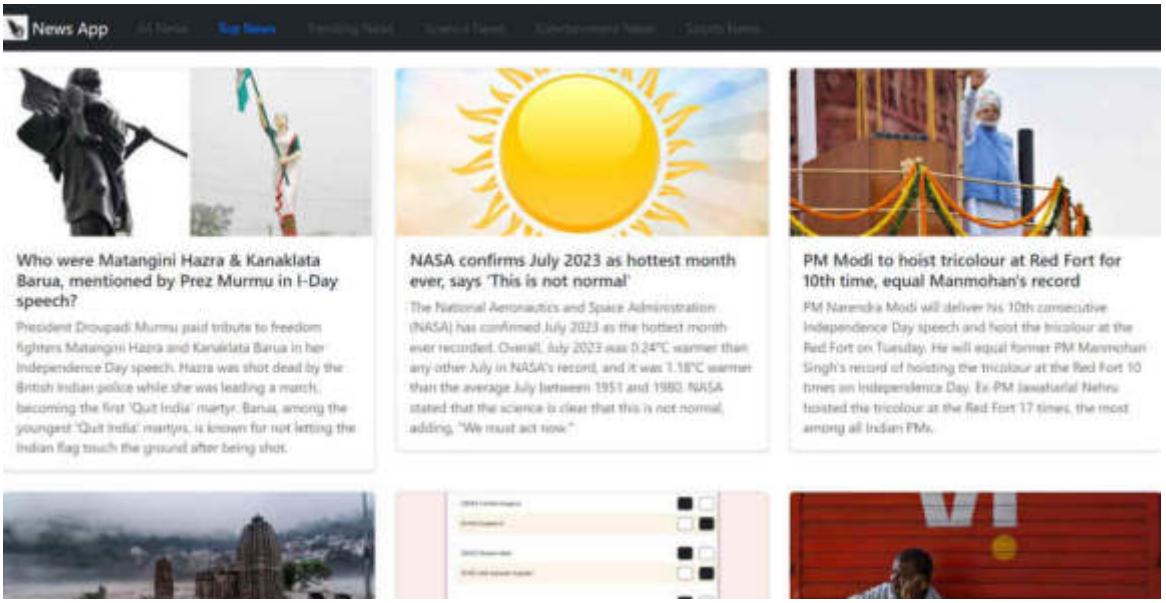


Fig 12.4 React Project Top News Output

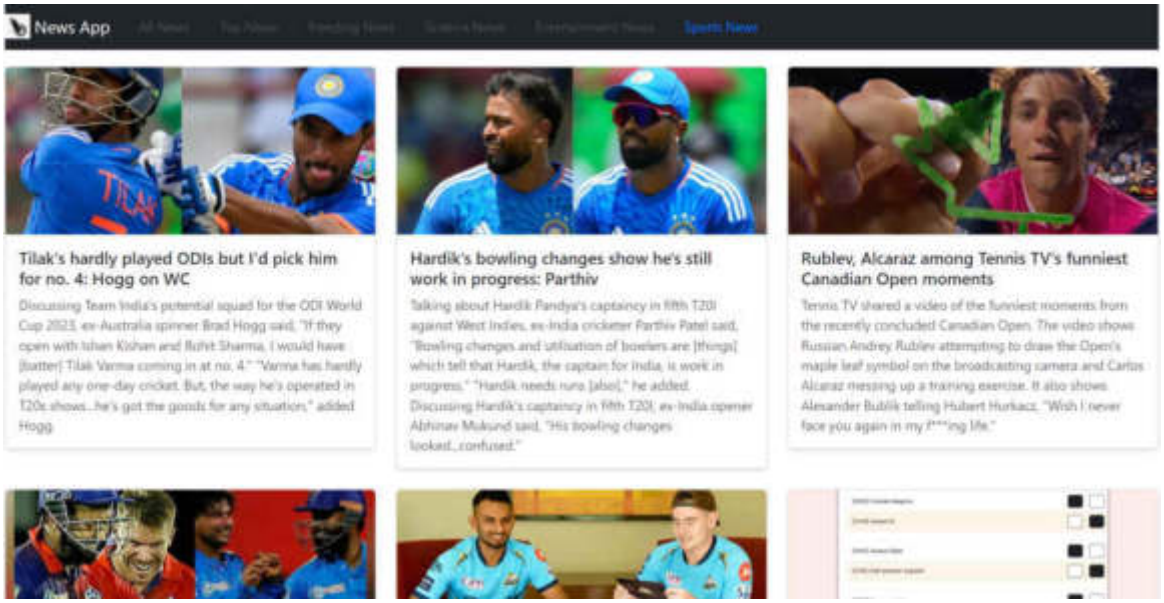


Fig 12.5 React Project Sports News Output

12.2 Conclusion: Dynamic News Application with Real-Time API Integration

In this project, we harnessed React's capabilities to build a dynamic news application that seamlessly integrates real-time data updates from an external API. Leveraging React's functional components, state management hooks, and React Bootstrap's pre-designed components, we created an intuitive user interface for news consumption.

By strategically employing the useState and useEffect hooks, we achieved real-time data fetching and continuous updates, ensuring our users stay informed with the latest news articles. The application's architecture, powered by reusable components and card layouts, facilitated efficient data management and elegant article presentation.

Additionally, our implementation of subtle hover effects on cards enhanced user interaction, providing visual cues to engage with news content. In summary, this project exemplifies React's prowess in crafting modern and responsive applications while showcasing our ability to seamlessly integrate real-time data for an engaging user experience.

INTERNSHIP AT INFOLABZ IT SERVICES PVT LTD

AN INTERNSHIP REPORT

Submitted by

Pandya Aryan Chetankumar

200390116032

In partial fulfillment of the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

July 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ IT SERVICES PVT LTD** has been carried out by **Pandya Aryan Chetankumar** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116032
Semester: 7th, Information Technology
S.p.b Patel Engineering College

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Aryan Chetankumar Pandya .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Aryan Chetankumar Pandya all the best for future endeavors.

Ms. Twinkle Shah
Internship Coordinator
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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ IT SERVICES PVT LTD** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Pandya Aryan Chetankumar**	_____Aryan

ACKNOWLEDGMENT

I extend my heartfelt gratitude to Infolabz IT Services Pvt. Ltd. for granting me a 15-day internship opportunity in the React domain. This experience significantly enriched my web development skills.

I am deeply appreciative of Chintan Nagrecha, Director at Infolabz, for his invaluable guidance and support throughout this journey. The hands-on training, project assistance, and exposure to API handling have tremendously augmented my practical knowledge.

Infolabz provided a conducive learning environment, and the expertise shared by mentors has been truly enlightening. I am thankful for the opportunity to translate theoretical concepts into practical applications, preparing me for the evolving tech landscape.

Thank you once again, Infolabz IT Services Pvt. Ltd., for nurturing my growth. I eagerly anticipate contributing to the tech industry with newfound proficiency.

Sincerely,

Pandya Aryan Chetankumar

Abstract

The primary objective of the internship was to acquire practical experience in the development of dynamic web pages using React and live APIs. Over the course of the internship, I successfully navigated the intricacies of the HTTP request-response mechanism, adeptly employing ES6 concepts to seamlessly retrieve real-time data. This experience facilitated a comprehensive grasp of essential JavaScript principles, encompassing the utilization of arrow functions, manipulation of variables via form interfaces, implementation of functions, interaction with user prompts, and proficient handling of objects, including their data representation.The practical exposure garnered during this internship significantly enriched my understanding of React's potential in advancing web page development and underscored the pivotal role played by APIs in facilitating dynamic content. The integration of theoretical knowledge with hands-on implementation culminated in a well-rounded proficiency in contemporary web development methodologies. This abstract serves as a comprehensive record of the invaluable insights and competencies I cultivated throughout the internship, equipping me with the assurance to adeptly navigate the realm of modern web development in my future endeavors.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Founded in 2016 and operating under the umbrella of our parent IT entity, INFOLABZ IT SERVICES PVT. LTD., our firm has carved a distinct niche within the realm of the Information Technology sector. Our scope of activities encompasses a spectrum of services including Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, as well as SMS services.Over the course of seven years, our unwavering commitment has enabled us to consistently meet project deadlines with exceptional precision, extending our services to clients worldwide. At the core of our success lie dedicated teams comprising seasoned and diligent developers. These individuals, driven by a thirst for fresh challenges and a keenness for continuous learning, form the backbone of our organization.Our primary goal is to sustain a trajectory of exponential growth within the dynamic landscape of the IT industry. Our overarching mission revolves around delivering unparalleled excellence with each passing quarter, while our vision is oriented towards conceiving a groundbreaking product that resonates with a diverse global audience.

1.2 MISSION AND VISION OF THE COMPANY:



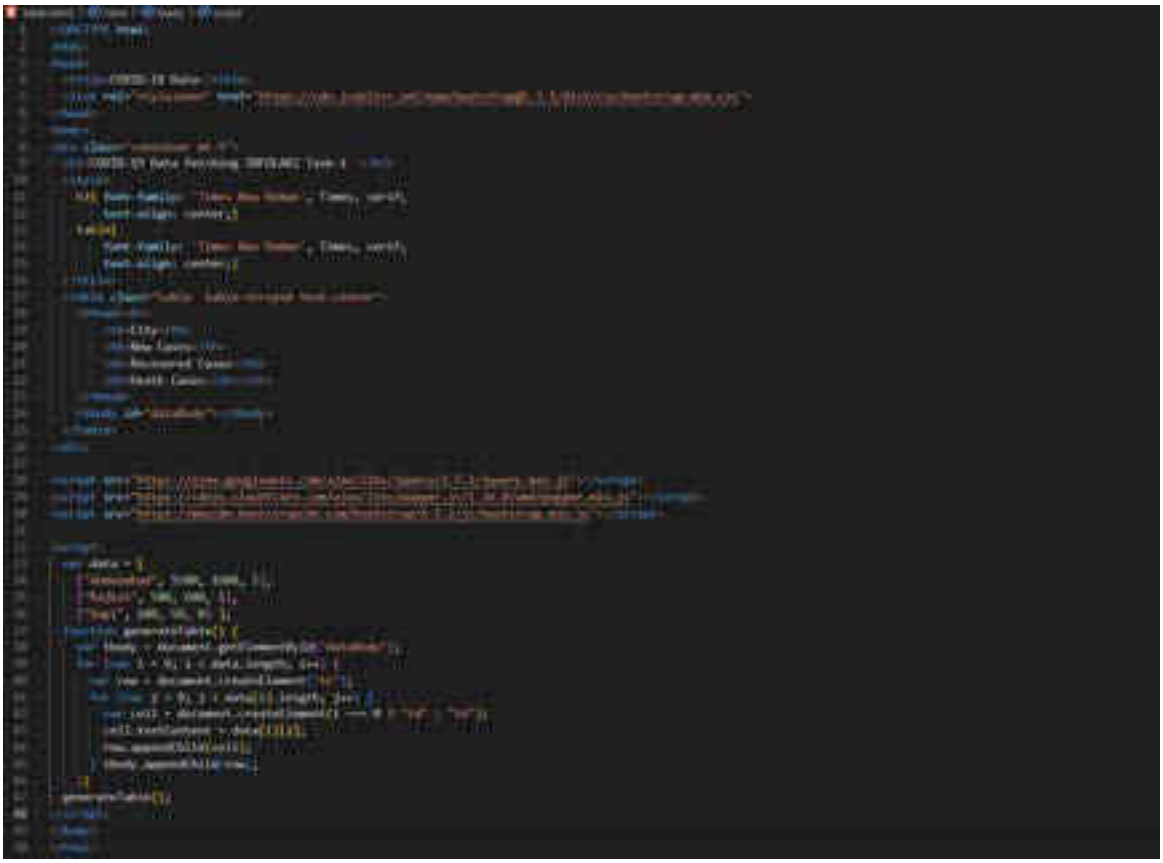
Chapter 2. WEEK:1 - DAY:1

2.1 TOPICS: JavaScript Fundamentals

In this section, we delve into the cornerstone concepts of modern web development, starting with an exploration of JavaScript (JS), a dynamic and versatile programming language that underpins both client-side and server-side operations. Originally employed for enhancing web page interactivity, JS has evolved into a linchpin of front-end and back-end development. We then delve into ECMAScript 6 (ES6), a pivotal update to JS, introducing enhanced syntax and features to meet the demands of contemporary web applications. Lastly, we unravel the significance of JavaScript objects, fundamental data structures that enable the organized manipulation of interconnected information, exemplifying JS's capability to manage complex data relationships seamlessly.

2.2 Task: COVID-19 Data fetching INFOLABZ Task-1

Code :



Output :

COVID-19 Data fetching INFOLABZ Task-1

City	New Cases	Recovered Cases	Death Cases
Ahmedabad	1000	1000	2
Rajkot	500	600	1
Vapi	100	50	0

Chapter 3. WEEK:1 - DAY:2

3.1 TOPICS:

3.1.1 JS Functions & Arrow Functions:

A function constitutes a defined code block crafted to fulfill a designated task. It is capable of receiving input parameters, executing a sequence of instructions, and furnishing an outcome. The utility of functions lies in their capacity to organize code, diminish redundancy, and foster the reuse of code segments. This involves specifying the function's name, parameters, and a code block encapsulated within curly braces.

Within the landscape of ECMAScript 6 (ES6), the introduction of arrow functions presents an elegant and expressive approach to function definition in JavaScript. Particularly suitable for crafting succinct and straightforward functions, arrow functions contribute to the creation of code that is both compact and comprehensible. Their application proves especially beneficial when composing concise and lucid code, notably for minor functions and callback mechanisms.

3.1.2 Async Function:

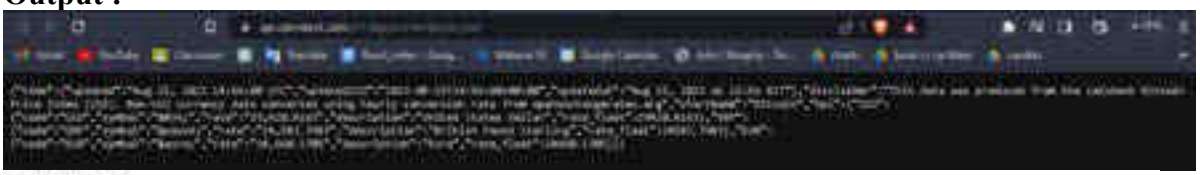
Asynchronous programming is crucial for handling operations that take time to complete, such as network requests or file I/O, without blocking the main execution thread. Async functions, also introduced in ES6, simplify asynchronous code by using the async keyword to define a function that returns a Promise. Inside an async function, the await keyword is used to pause execution until a Promise is resolved or rejected.

3.1.3 BitCoin API

Code :

```
<!DOCTYPE html>
<head>
    <title>
    API Fetching of bitcoin file
    </title>
</head>
    <body>
        <script>
            async function load(){
                let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
                let myobject = await (await fetch(url)).json();
                document.write(myobject["bpi"]["USD"]["rate"]);
            }
            load();
        </script>
    </body>
```

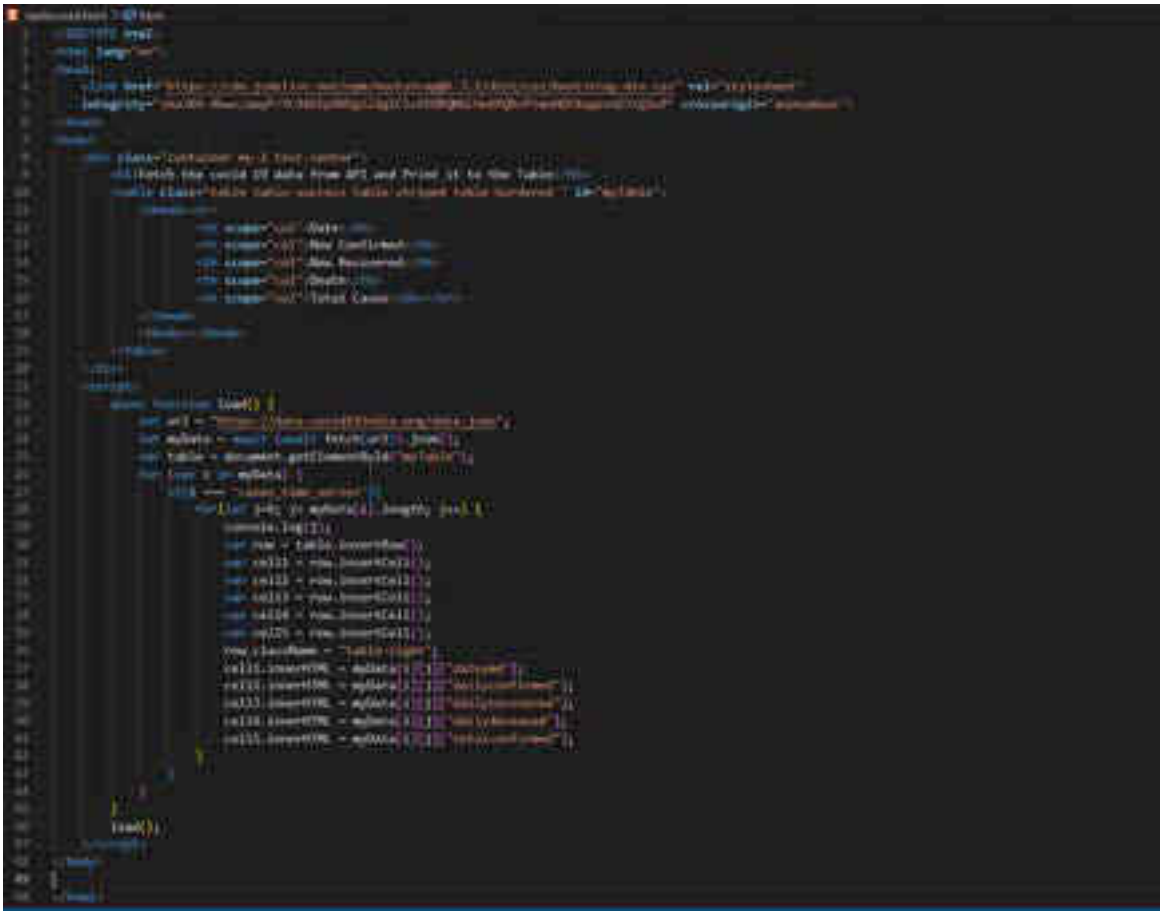
Output :



29,400.9732

3.2 Task-2 Fetch the Data From the Covid-19 API and Print it in the Table.

Code :



Output :

Fetch the covid 19 data from API and Print it to the Table

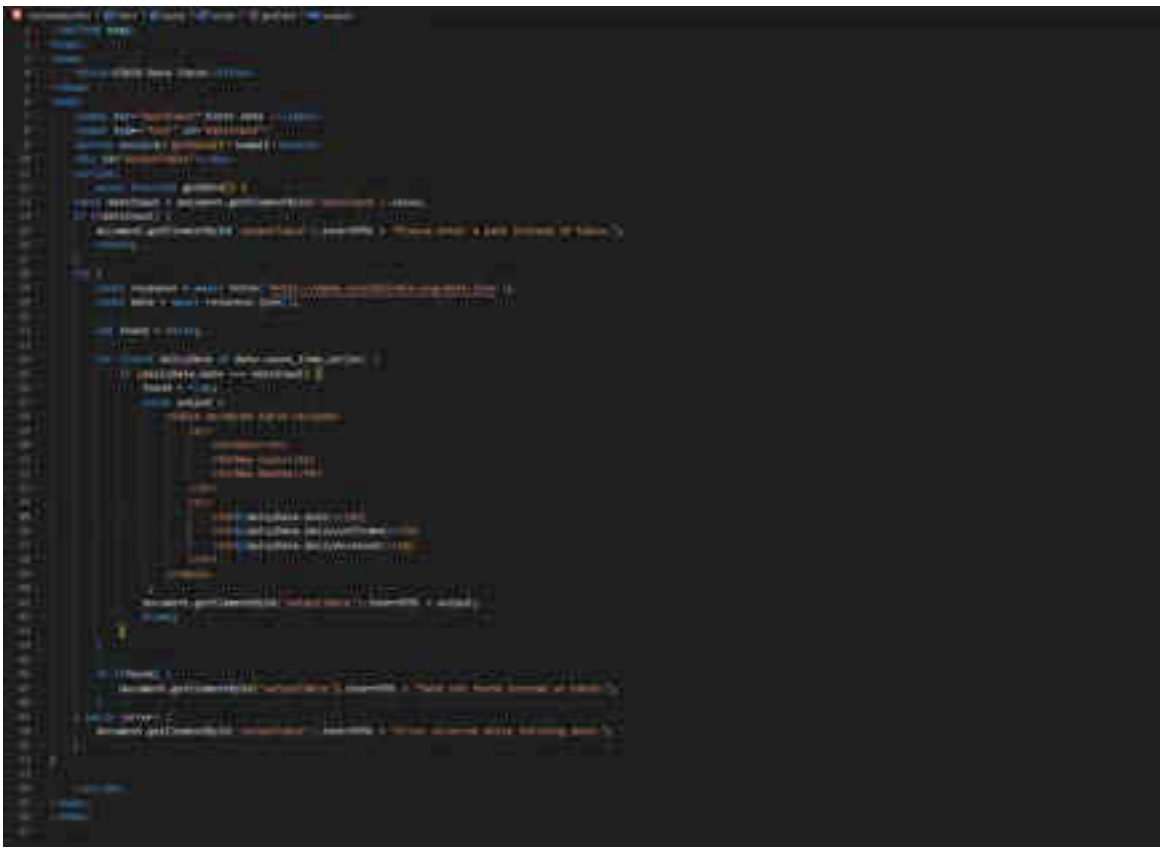
Date	New Confirmed	New Recovered	Death	Total Cases
2020-01-30	1	0	0	1
2020-01-31	0	0	0	1
2020-02-01	0	0	0	1
2020-02-02	1	0	0	2
2020-02-03	1	0	0	3
2020-02-04	0	0	0	3
2020-02-05	0	0	0	3
2020-02-06	0	0	0	3
2020-02-07	0	0	0	3
2020-02-08	0	0	0	3
2020-02-09	0	0	0	3
2020-02-10	0	0	0	3
2020-02-11	0	0	0	3
2020-02-12	0	0	0	3
2020-02-13	0	1	0	4
2020-02-14	0	0	0	4
2020-02-15	0	0	0	4
2020-02-16	0	1	0	5
2020-02-17	0	0	0	5

Chapter 4. WEEK:1 - DAY:3

4.1 TOPICS:

4.1.1 Covid API Data fetching and mapping :

Code :



Output :

Enter date : 25 February 2020 Submit

Date	New Cases	New Deaths
25 February 2020	0	0

4.1.2 JS Pop-Up Boxes

JavaScript pop-up boxes are like small conversation windows on a website where developers can talk to users, get information from them, or ask them to confirm something. These boxes show messages, questions, or notices right on the web page itself. They make it easier for users to interact with the website without needing to go to a different page or use complicated parts of the website.

There are three main types of these pop-up boxes:

Alert Box: This is like a quick message to the user. It only has a button to say "OK" and close the box. Alert boxes are often used for telling the user something important or giving them a brief message.

Prompt Box: With this box, there's a message, and users can type in some information in a field. It's like asking the user a question, and they can type their answer. Then they can click a button to send their answer back to the website.

Confirm Box: This box has a message and two buttons: "OK" and "Cancel." It's used to ask the user if they are sure about doing something. For example, it could be asking if they're sure they want to delete something. They can then choose either "OK" to confirm or "Cancel" to stop the action.

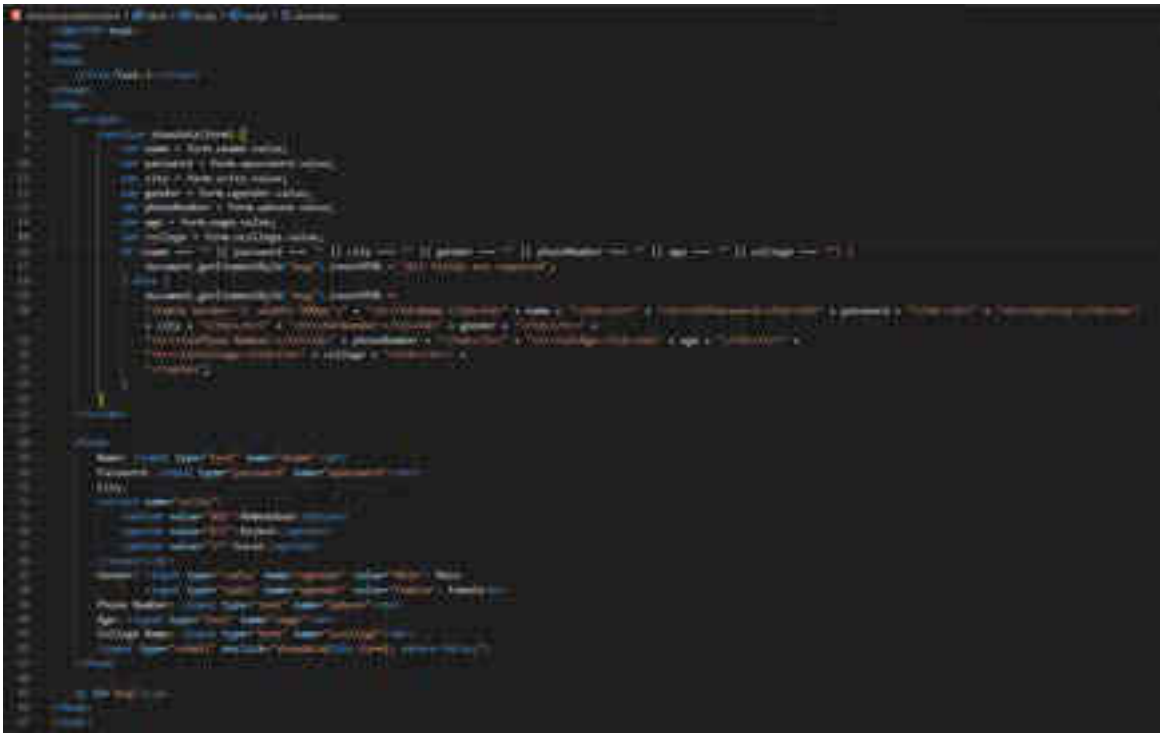
.

4.1.3 Form to Variable

Converting user input from an HTML form into JavaScript variables allows you to process and manipulate the data within your scripts. By capturing form values and storing them in variables, you can perform calculations, validation, or other operations on the collected information.

4.2 Task 3 Get the Input From the User and Print the Data in the Form of Table.

Code :



Output :


User Information Form
Address
Gender
Male
Female
Other
Submit
User Information Table
Field
Value

Chapter 5. WEEK:1 - DAY:4

5.1 TOPICS:

5.1.1 JS Arrays :

Arrays are fundamental data structures in JavaScript that allow you to store and manage multiple values under a single variable name. Arrays are useful for grouping related data, and they provide a way to access and manipulate elements using their index positions.

5.1.2 Javascript Form to Table :

Turning what a user types into a table on a webpage using JavaScript means arranging the stuff they entered neatly in a table. This makes it easy to see and compare the information.

First, you make a special area on the webpage where the user can type things, like their name or choices. When they press a button or do something specific, a special part of JavaScript gets busy. It takes what they typed and organizes it.

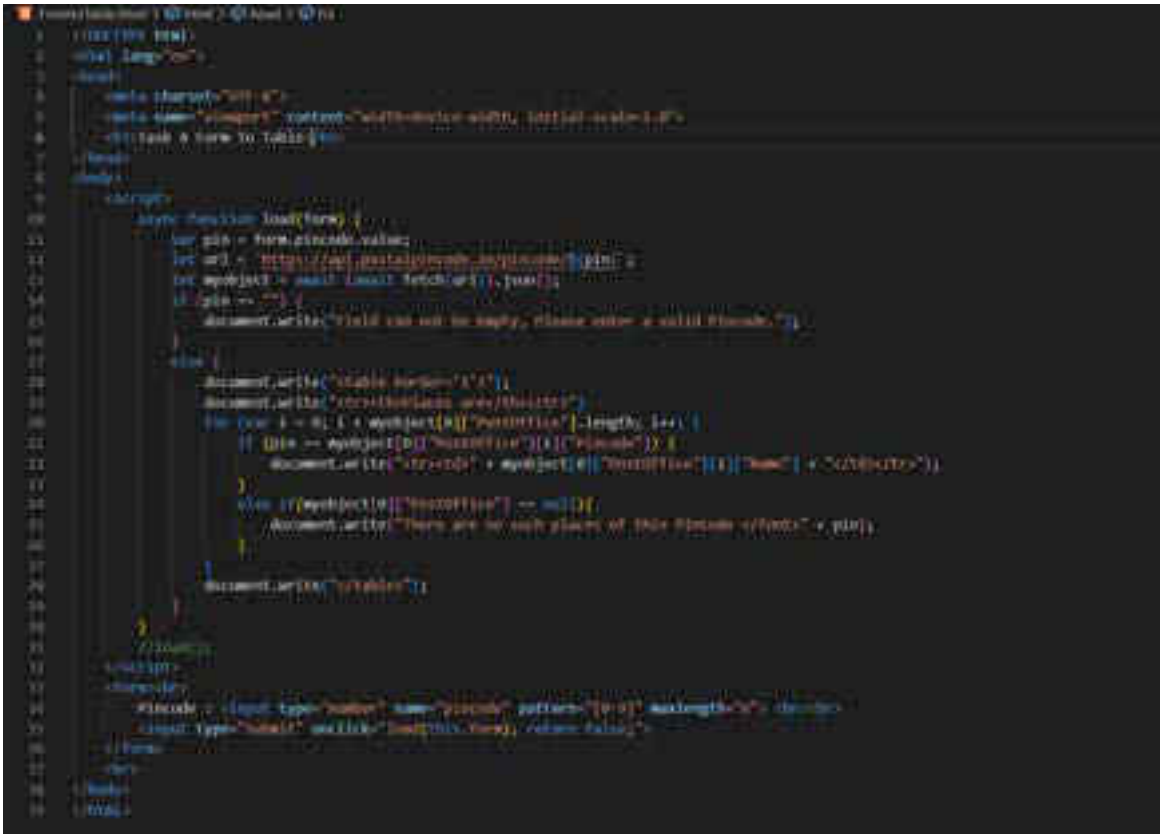
The table is like a grid where the user's stuff will go. At the top of the table, there are labels for each column, like titles for the information.

The JavaScript part adds new rows to the table and fills them with what the user typed. So, every time the user does the special action, like pressing a button, the table gets a new row with their info. It keeps doing this every time the user enters something.

In simple words, JavaScript helps arrange what people type into a neat and organized table on the webpage so we can understand and compare the information easily.

5.2 Task 4 Fetch Data From API Get the User Value and Print in the form of a Table.

Code :



Output :

Task 4 Form To Table

Pincode : 380009

Submit

Places are
Ahmedabad
Dariapur (Ahmedabad)
District Court (Ahmedabad)
Gandhi Road (Ahmedabad)
Gheekanta Road
Jamalpur (Ahmedabad)
Kalupur Chakla
Khadia
Khanpur (Ahmedabad)
Lal Darwaja
Manek Chowk
Municipal Corporation
Raikhad
Raipur (Ahmedabad)

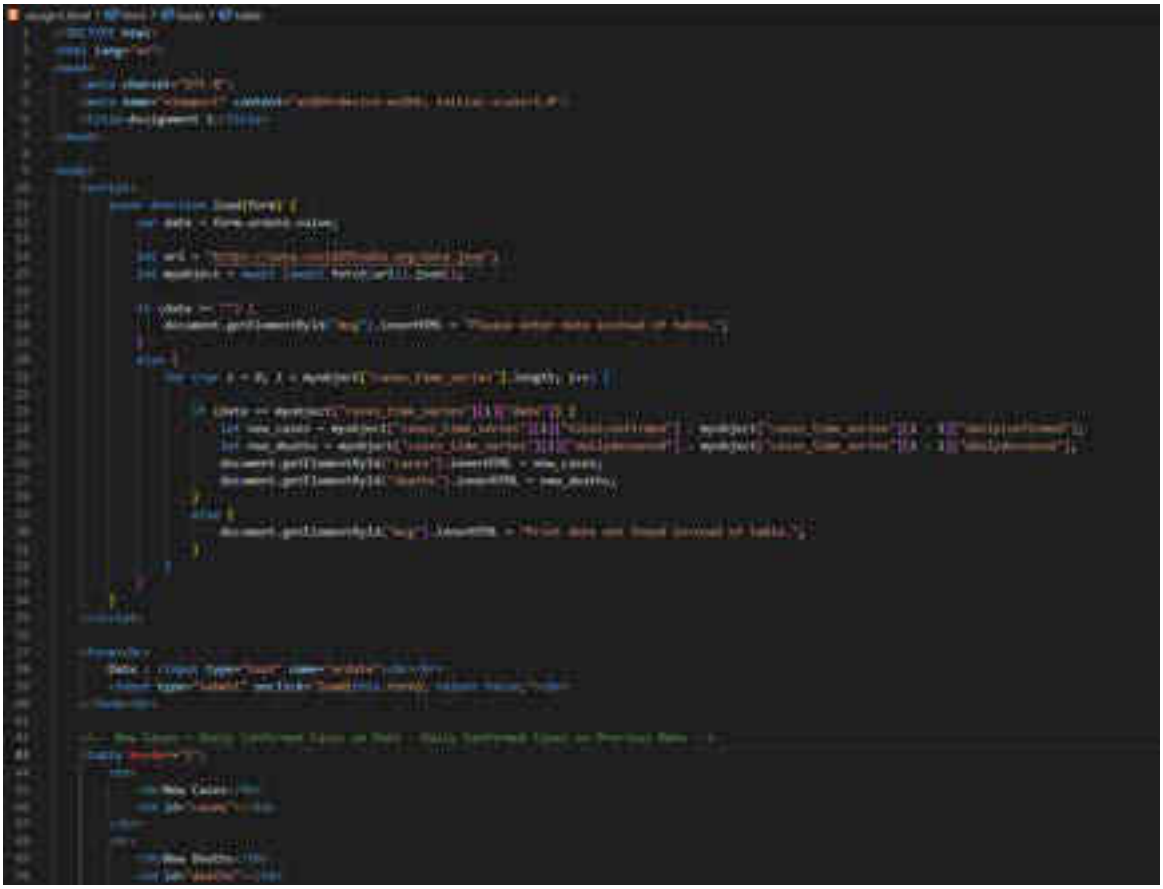
Chapter 6. WEEK:1 - DAY:5

6.1 Assignment :

6.1.1 Covid Data Search :

Allow the user to input the date in the text box. On click of submit, It should display the number of new cases and deaths that occurred on that day. If the Field is blank print the message: Please enter date instead of table. If the Date is not matched: print date not found instead of a table.

Code :



Date : 19 April 2020

Submit

New Cases	15934
New Deaths	3

Output :

6.1.2 Mutual Fund API :

Print the total number of schemes available in this API. Allow the user to input the scheme code in the text box. Search scheme code from this API and print scheme name. - If blank print message: Please enter scheme code, If not found print message: Scheme not found

Code :



Output:

Enter Scheme Code : 100348

Submit

Total number of schemes are: 45505

ICICI Prudential Large & Mid Cap Fund - Dividend

Chapter 7. WEEK:2 - DAY:1

7.1 TOPICS :

7.1.1 React Environment setup(Node JS installation) :

Download Node.js:
Visit the official Node.js website at https://nodejs.org and download the LTS (Long Term Support) version for your operating system (Windows, macOS, or Linux).

Install Node.js:
Run the downloaded installer and follow the installation instructions. This will also install npm, which is used to manage packages and dependencies.

Verify Installation:
Open a command prompt or terminal and run the following commands to verify that Node.js and npm are correctly installed:

node -v
npm -v

7.1.2 Creating First React App:

Create React App:

Open your terminal and run the following command to create a new React app using
npx create-react-app my-first-react-app

Replace my-first-react-app with your preferred app name.

Navigate to the App Directory:
Move to the newly created app directory:

cd my-first-react-app
Start the Development Server:

Run the following command to start the development server and open your app in the default browser:

npm start

This command launches the app in development mode and automatically reloads the page whenever you make changes.

Explore Your App:
Open your browser and go to http://localhost:3000 to see your first React app in action. You'll find a sample page that you can modify as you learn more about React.

Modify the App:
Open the src/App.js file in your code editor. You can make changes to the JSX code to see how it affects the app's appearance. As you become more comfortable with React, you can create components, manage state, and add interactivity.

7.1.3 Functional Components and Class Components :

In a functional component, you define the component using a function and pass in the props object as an argument. You then return the JSX that represents the UI you want to render. Functional components are typically used for presentational purposes, where the component's main responsibility is to render data and UI elements.

Class Components in React:

In a class component, you define the component by creating a class that extends React. Component. You can define the state using this. State object and update it using the setState method. Class components also provide access to lifecycle methods like componentDidMount, componentDidUpdate, and componentWillUnmount.

7.2 Task 6 React Class Components.

Code :



Output :


HELLO MR ARVAN PANDYA
CONGRATULATIONS FOR GETTING SELECTED FOR 15 DAYS INTERNSHIP IN INFOLABZ
IT'Z REAL TIME API HANDLING
ADDITION OF 100 AND 200 IS 300
SUBSTRACTION OF 100 AND 200 IS -100

Chapter 8. WEEK:2 - DAY:2

8.1 TOPICS:

8.1.1 Variable Data Map:

Source of Information:
You possess an assortment of data, such as a collection of items obtained from an API or passed down as attributes.

Matching Using .map():
You employ the .map() operation on the data collection to establish a fresh array containing React components. Each element within this array symbolizes a component to be exhibited based on the data.

Crafting Components:
Within the .map() process, you specify how each element of the data array is transformed into a React component. This could involve conveying data as attributes to a component, establishing efficient rendering keys, and executing any essential calculations or logic.

Display:
The newly formed array of React components, generated through the .map() operation, can be seamlessly displayed within your JSX code. With each component's rendering, it can tap into the provided data and be individually tailored in terms of appearance and functionality.

8.1.2 Object Map:

Object Source:
You have an object with properties and corresponding values. This could be an object fetched from an API, received as props, or defined locally.

Mapping with Object. keys() or Object.entries():
To iterate over the properties of an object, you can use the Object. keys() or Object.entries() methods. Object. keys() returns an array of the object's keys, and Object. entries() returns an array of key-value pairs.

Component Generation:
Within the mapping process, you define how to transform each property or key-value pair of the object into a React component. This could involve passing data as props to a

component, setting keys for efficient rendering, and performing any necessary calculations or logic.

Rendering:
The components generated during the object mapping can be directly rendered within your JSX. As you render each component, it will have access to the data you've provided, and you can customize its appearance and behavior accordingly.

8.2 Task 7 Map the Object Data and Print in the Form of Table.

Code:



Output :



Chapter 9. WEEK:2 - DAY:3

9.1 TOPICS:

9.1.1 React Props:

In React, "props" (short for "properties") are a mechanism for passing data from a parent component to a child component. Props allow you to provide dynamic values or configuration to components, enabling you to customize their behavior and appearance. Props are immutable, meaning they cannot be modified within the component that receives them.

Passing Data:
Props are used to pass data from a parent component to a child component. This data can be in the form of simple values (strings, numbers, booleans) or more complex objects.

Usage in Child Components:
In a child component, you can access the props passed down to it using the props object. Each property passed as a prop becomes a key in the props object.

Customization and Reusability:
Props allow you to customize the behavior and appearance of components without altering their internal logic. This promotes reusability since a component can be used in different contexts with different props.

Functional Components:
In functional components, props are passed as a parameter to the function. You can directly access them like any other function argument.

Class Components:
In class components, props are accessed using this. props.

Dynamic Rendering:
Props are often used to dynamically render content. Components can use props to display different data or UI elements based on what's passed to them.

9.1.2 React Bootstrap:

React Bootstrap is a popular open-source front-end framework that combines the power of React, a JavaScript library for building user interfaces, with the styling and components provided by Bootstrap, a widely used CSS framework. React Bootstrap allows developers to create responsive and visually appealing web applications quickly and efficiently.

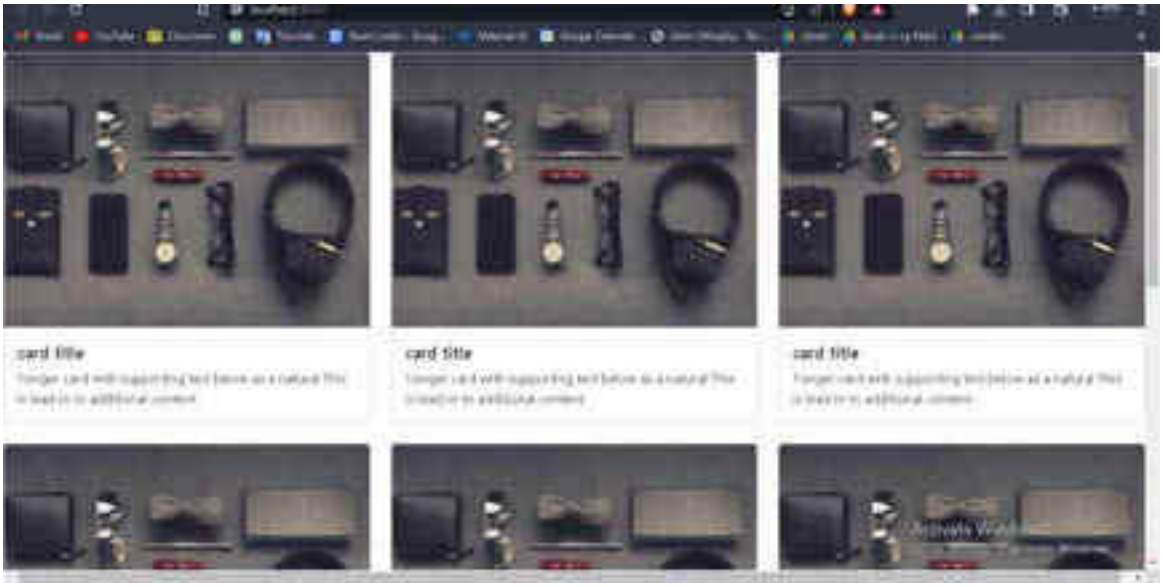
9.2 Task 8 Use React Bootstrap and get 9 Cards with Titles and Text.

Code:

```
cards-app > src > JS App.js > GridExample > map() callback
import React from 'react';
import 'bootstrap/dist/css/bootstrap.min.css';
import './App.css';
import Card from 'react-bootstrap/Card';
import Col from 'react-bootstrap/Col';
import Row from 'react-bootstrap/Row';

function GridExample() {
  return (
    <Row xs={1} md={3} className="g-4">
      {Array.from({ length: 9 }).map((_, idx) => (
        <Col key={idx}>
          <Card>
            <Card.Img variant="top" src="news-image.jpg" />
            <Card.Body>
              <Card.Title>Card title</Card.Title>
              <Card.Text>
                This is a longer card with supporting text below as a natural
                lead-in to additional content.
              </Card.Text>
            </Card.Body>
          </Card>
        </Col>
      ))}
    </Row>
  );
}
export default GridExample;
```

Output :


card title
card title
card title

Chapter 10. WEEK:2 - DAY:4

10.1 TOPICS:

10.1.1 React Hooks: UseEffect and UseState:

React Hooks are functions that allow you to use state and lifecycle features in functional components without the need for class components. They were introduced in React 16.8 as a way to simplify and enhance the development of functional components.

useState:
The useState hook allows functional components to manage state by adding state variables to them. It returns a pair of values: the current state value and a function to update it. This hook eliminates the need to use the this.setState method in class components.

useEffect Hook:
The useEffect hook in React is used to perform side effects within functional components. It is similar to lifecycle methods in class components such as componentDidMount, componentDidUpdate, and componentWillUnmount. It takes two arguments: a function representing the effect to be performed and an array of dependencies that determine when the effect should run.

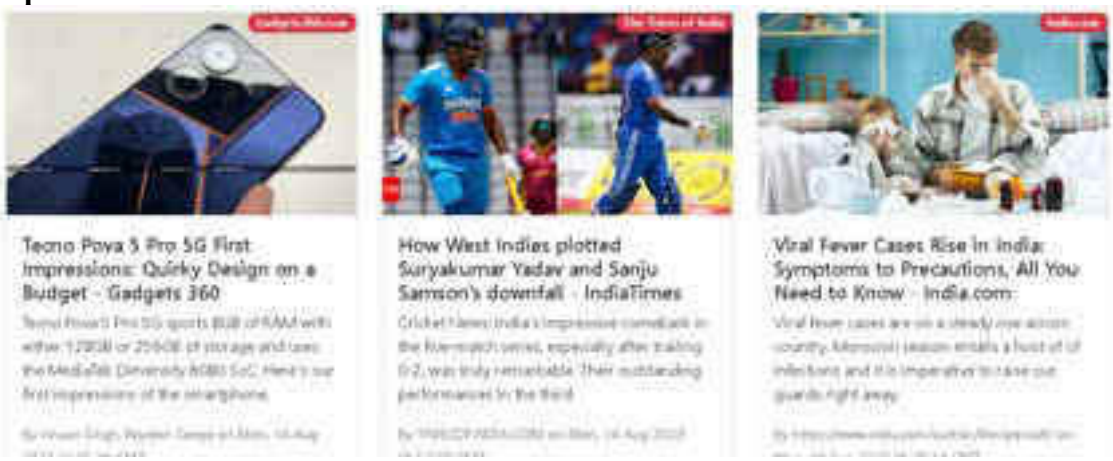
10.1.2 API data fetch with react:

Code:



```
  useEffect(() => {
    apiget();
    const interval = setInterval(() => {
      apiget();
    }, 50000);
    return () => clearInterval(interval);
  }, []);
  return (
    <Row xs={1} md={3} className="g-4">
      {mydata.map((value, idx) => (
        <Col key={idx}>
          <Card>
            <Card.Img variant="top" src={value.imageUrl} />
            <Card.Body>
              <Card.Title>{value.title}</Card.Title>
              <Card.Text>{value.content}</Card.Text>
            </Card.Body>
          </Card>
        </Col>
      ))}
    </Row>
  );
}
export default GridExample;
```

Output:



10.2 Task 9 Apply CSS in the Above fetched Api Component.

Code:



```
.card {
  border: none;
  box-shadow: 0px 2px 4px rgba(0, 0, 0, 0.1);
  transition: transform 0.2s ease-in-out;
}

.card:hover {
  transform: translateY(-4px);
}

.card-title {
  font-size: 1.2rem;
  margin-bottom: 10px;
}

.card-text {
  color: #555;
}

.card img {
  max-height: 200px;
  object-fit: cover;
}
```



› Pova 5 Pro 5G First
essions: Quirky Design on a
iet - Gadgets 360

Pova 5 Pro 5G sports 8GB of RAM with
12BGB or 256GB of storage and uses
diaTek Dimensity 6080 SoC. Here's our
pressions of the smartphone.



How West Indies plotted
Suryakumar Yadav and Sanju
Samson's downfall - IndiaTimes

Cricket News: India's impressive comeback in
the five-match series, especially after trailing
0-2, was truly remarkable. Their outstanding
performances in the third



Viral Fever Cases Rise in Ind
Symptoms to Precautions, A
Need to Know - India.com

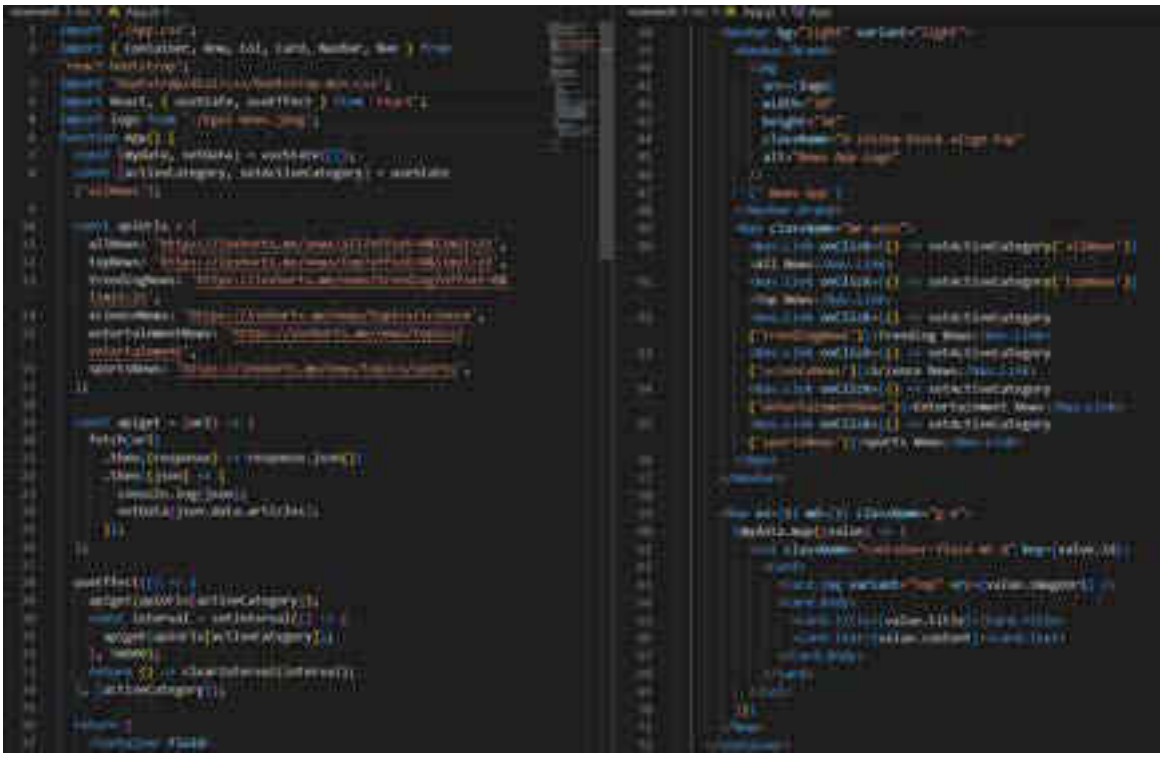
Viral fever cases are on a steady rise
country. Monsoon season entails a h
infections and it is imperative to take
guards right away.

Chapter 11. WEEK:2 - DAY:5

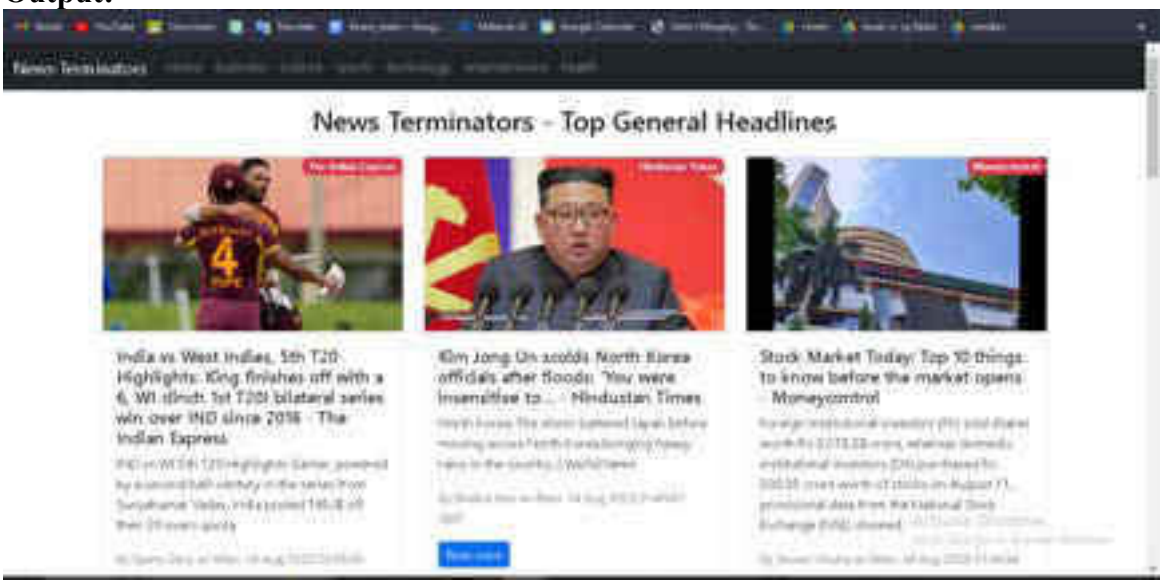
11.1 ASSIGNMENT

API BASED REAL-TIME NEWS WEB APPLICATION

Code:



Output:

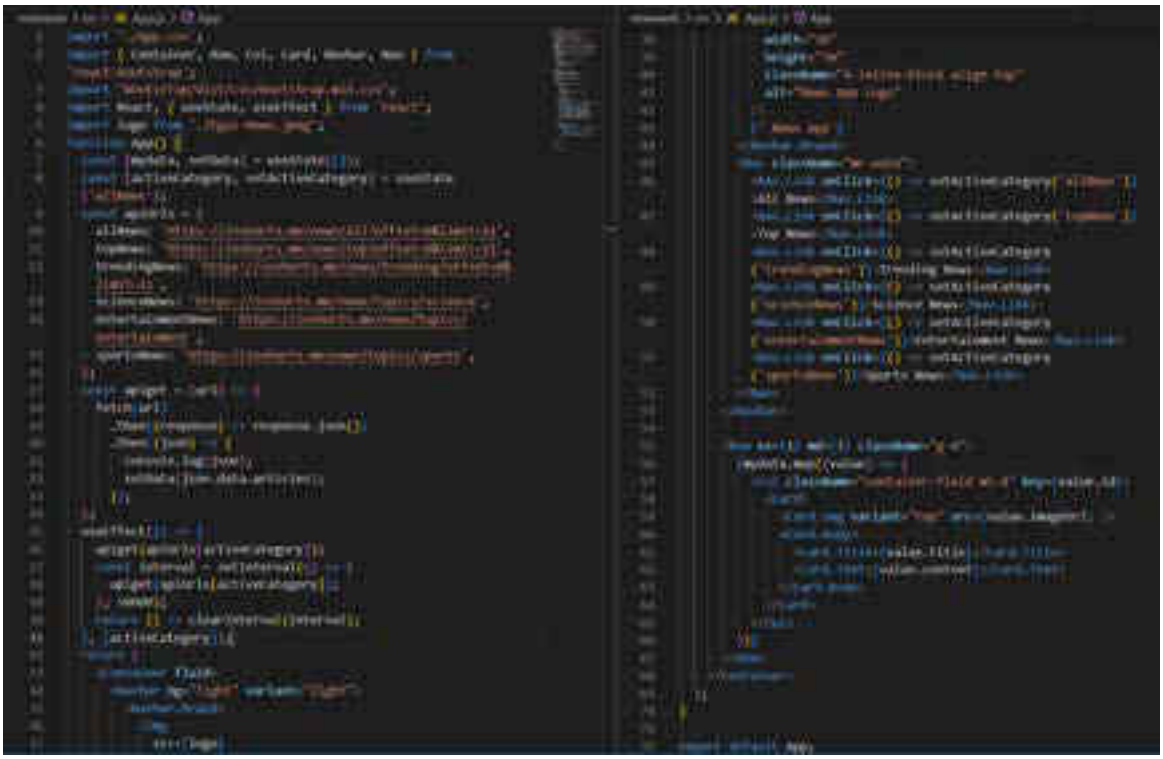


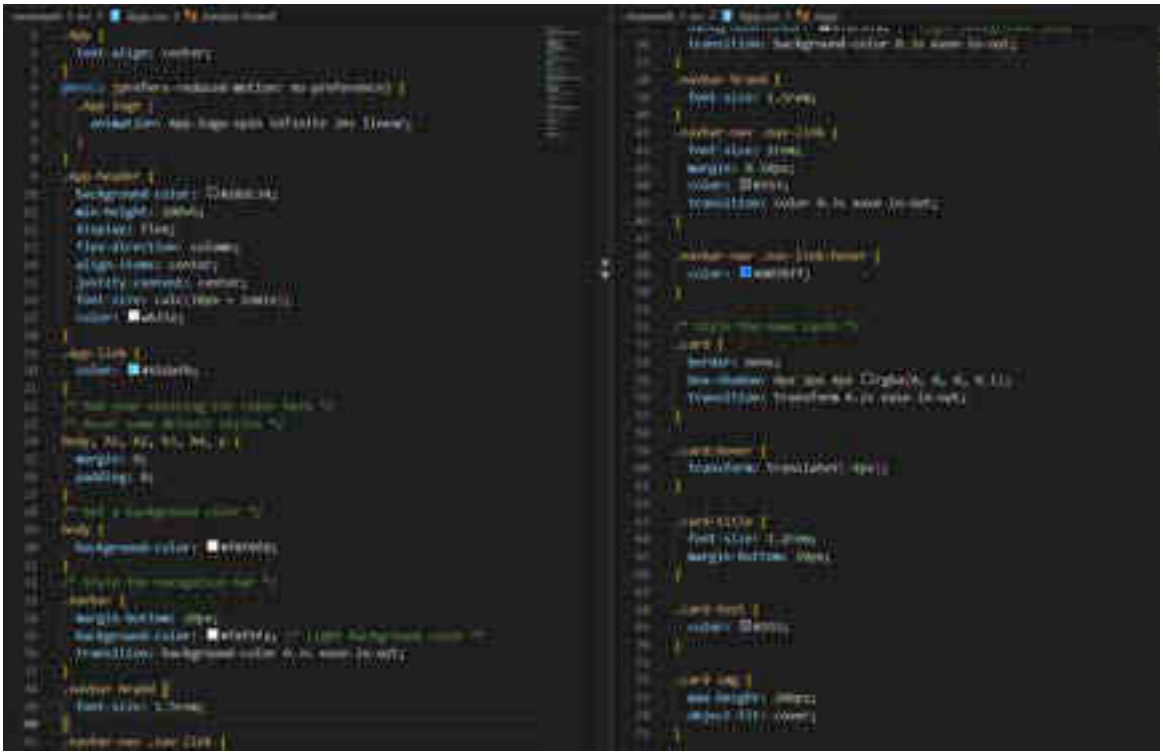
Chapter 12. PROJECT & CONCLUSION

12.1 Introduction of the Project: Real-Time API Handling with React

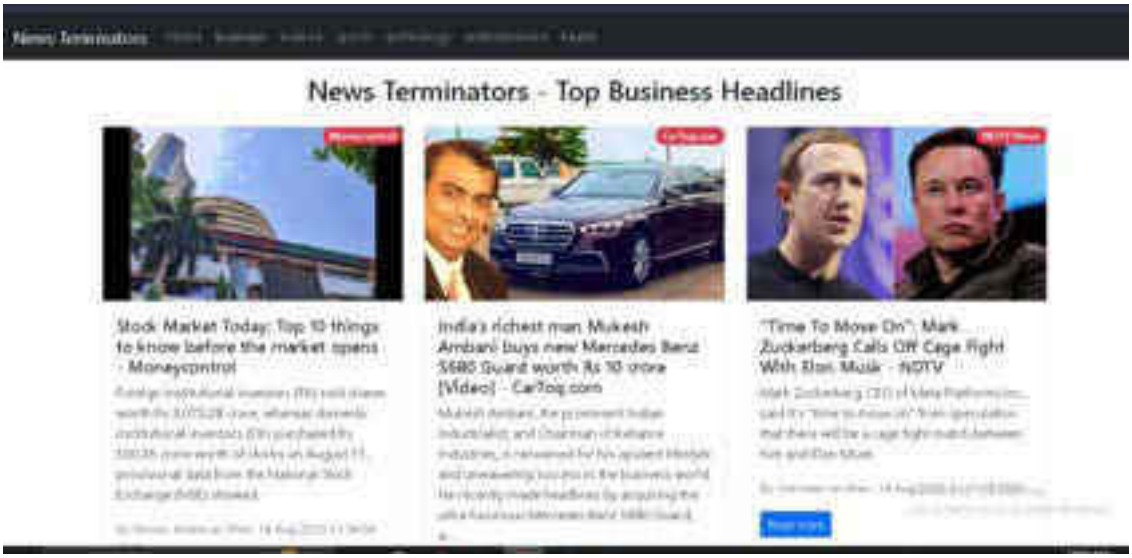
In a React project, handling real-time data from an API involves fetching and updating data at regular intervals to keep the content fresh and up-to-date for users. The project can be structured with components that leverage React Hooks like useState and useEffect to achieve this dynamic behavior.

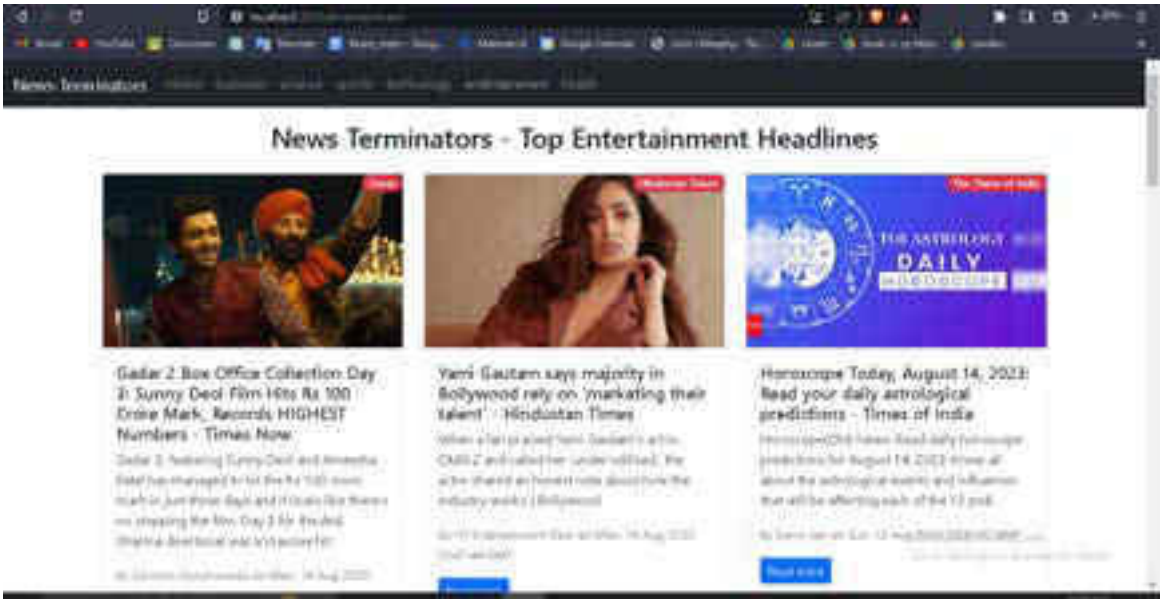
Code:

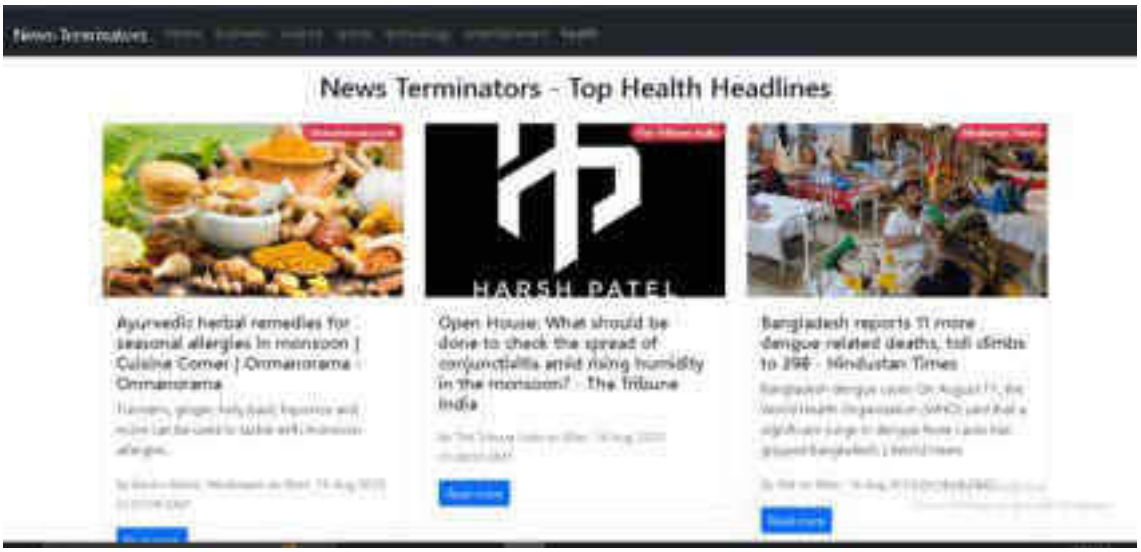




Output:


News Terminators - Top Business Headlines
Stock Market Today: Top 10 things to know before the market opens - Moneycontrol
India's richest man Mukesh Ambani buys new Mercedes Benz S680 Guard worth Rs 10 crore [Video] - CarToq.com
"Time To Move On": Mark Zuckerberg Calls Off Cage Fight With Elon Musk - NDTV





12.2 Conclusion: Dynamic News Application with Real-Time API Integration

In this project, we harnessed React's capabilities to build a dynamic news application that seamlessly integrates real-time data updates from an external API. Leveraging React's functional components, state management hooks, and React Bootstrap's pre-designed components, we created an intuitive user interface for news consumption.

By strategically employing the useState and useEffect hooks, we achieved real-time data fetching and continuous updates, ensuring our users stay informed with the latest news articles. The application's architecture, powered by reusable components and card layouts, facilitated efficient data management and elegant article presentation.

Additionally, our implementation of subtle hover effects on cards enhanced user interaction, providing visual cues to engage with news content. In summary, this project

exemplifies React's prowess in crafting modern and responsive applications while showcasing our ability to seamlessly integrate real-time data for an engaging user experience.

INTERNSHIP AT CREART SOLUTIONS PVT. LTD.

AN INTERNSHIP REPORT

ON

D'JANGO PYTHON

Submitted by

Om Patel

(200390116033)

In partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July-August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled Internship at **CREART SOLUTIONS PVT. LTD.** has been carried out by **Patel Omkumar Ashvinbhai** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof.	Prof. Akshay Kansara
Internal Guide	Head of Department

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

JOINING LETTER

CREART

INTERNSHIP JOINING LETTER

Date: 27th July 2023

This is to certify that

Mr/Ms. Omkumar Patel
Enrollment No : 200390116033
College : Saffrony Institute of Technology

has been selected for the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

Figure 1: Joining Letter

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

COMPLETION LETTER

INTERNSHIP COMPLETION LETTER

CREART

Date: 10th August 2023

This is to certify that

Mr/Ms. Omkumar Patel
Enrollment No : 200390116033
College : Saffrony Institute of Technology

has successfully completed the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

Figure 2: Completion Letter

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I do declare that the Internship report submitted along with the Internship entitled on **NoticeHub** using **D'jango Python** at **CREART SOLUTIONS PVT. LTD.** submitted in partial fulfilment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad.

I hereby warrant that the work I have presented does not breach any existing copyright acts.

Name of the Student	Sign of Student
Om Patel	_____

ACKNOWLEDGMENT

I would like to extend my heartfelt gratitude to everyone who made my enriching 2-week internship at CREART SOLUTIONS PVT. LTD. a valuable learning experience. First and foremost, I am immensely thankful to Alkesh Kaba for his dedicated efforts in conducting daily sessions. His insightful guidance and patient teaching style helped me grasp the intricacies of Python and the Django framework, laying a strong foundation for my web development journey. I would also like to express my appreciation to Krishnamohan Gupta, the CEO of CREART SOLUTIONS for offering this invaluable internship opportunity. His visionary leadership and support have been instrumental in shaping this educational experience. Lastly, I want to acknowledge the entire CREART SOLUTIONS team for their welcoming atmosphere and collaborative spirit. Their camaraderie and willingness to share knowledge contributed greatly to my growth as a developer. I am truly grateful for the opportunity and look forward to applying the skills and insights gained during this internship in my future endeavours.

ABSTRACT

During the engaging two-week internship at CREART SOLUTIONS PVT. LTD., I had the privilege of participating in a comprehensive program designed to enhance my skills as a Django Developer. Under the guidance of Alkesh Kaba, I was introduced to the world of Python and gained practical experience in building applications using the Django framework. The internship culminated in the creation of "NoticeHub," a dynamic platform that enables efficient communication between administrators and students. This hands-on experience not only deepened my technical knowledge but also emphasized the importance of collaborative teamwork and the application of theoretical concepts in real-world scenarios. The internship, facilitated by CEO Krishnamohan Gupta, provided a valuable opportunity to bridge the gap between academic learning and practical implementation.

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CHAPTER 1: INTRODUCTION

1.1 About Company

- CreArt Solutions is a privately owned IT solutions company based in Ahmedabad, Gujarat, India. It was founded in 2013 with the mission to "create a resistant future" by bringing together business, people, and technology. CreArt offers a wide range of services, including software development, digital marketing, SEO, and cloud computing.

- CreArt is a fast-growing company with a strong focus on innovation and creativity. The company culture is collaborative and supportive, and employees are encouraged to take ownership of their work and to be creative in their problem-solving. CreArt has a proven track record of success, having worked with a variety of clients, including Fortune 500 companies. In 2022, CreArt was named one of the "Top 10 IT Companies in Ahmedabad" by the Economic Times.

- CreArt is committed to continued growth and innovation. The company plans to expand its services and to enter new markets in the coming years. CreArt is also committed to giving back to the community, and it supports a number of local charities.

- CreArt is also focused on providing training and development opportunities for its employees. The company offers a variety of training programs, both in-house and external, to help its employees stay up-to-date on the latest technologies and best practices.

- I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience.

1.2 Mission and Vision of the Company

Mission

CREART SOLUTIONS PVT. LTD. is committed to creating a resistant future by bringing together business, people, and technology. We believe that by working together, we can create innovative solutions that solve real-world problems.

Creart Solution strongly believe in delivering the best services to the clients till their satisfaction. Main objective of CreArt is to provide professional, qualitative, innovative and accessible services in every possible form.

Vision

We envision a world where everyone has access to the tools and technologies they need to succeed. We believe that technology can be a force for good, and we are committed to using our skills and expertise to make a positive impact on the world.

CHAPTER 2: ABOUT DOMAIN (WEEK 1)

2.1 Domain Introduction

- The internship at CreArt Solution offered a comprehensive introduction to the realm of web development, focusing on both foundational programming skills and advanced web framework utilization. In the first week, the curriculum centered around Python, a versatile and widely-used programming language, providing a strong basis for understanding coding concepts. The second week delved into the Django framework, a powerful tool for creating web applications efficiently.

- Django simplifies the complexities of web development by providing a structured approach and a range of built-in functionalities. This framework enables developers to swiftly create feature-rich websites and applications, making it an integral component of modern web development.

- As a practical culmination of the internship, I was tasked with designing and building a web application named "NoticeHub" using the Django framework. This platform facilitates seamless communication between administrators and users, streamlining the process of posting and accessing important notices. This project not only consolidated my learning but also underscored the practical application of the skills acquired throughout the internship, reinforcing the significance of hands-on experience in mastering web development.

2.2 Introduction and Installation

2.2.1 Python Introduction

- The inaugural lecture of the internship at CreArt Solution provided a comprehensive introduction to Python, a versatile and user-friendly programming language. Python's popularity stems from its simplicity, readability, and extensive libraries, making it an ideal language for both beginners and experienced developers.

- The lecture covered the fundamental concepts of Python programming, including data types, variables, operators, and control structures. Hands-on exercises allowed us to apply these concepts and gain a practical understanding of coding syntax and logic.

- Python's object-oriented programming (OOP) principles were also explored, elucidating the significance of classes, objects, and methods in creating efficient and modular code. The lecture underscored Python's strengths in data manipulation, and its usage in various domains, such as web development, data analysis, and artificial intelligence, was highlighted.

- As the foundation of our internship journey, this introduction to Python laid the groundwork for comprehending subsequent topics, enabling us to embark on the exploration of web development using the Django framework.



Figure 3: Django Image

2.2.2 Python and Text Editor Installation

- The lecture commenced with a step-by-step guide on installing Python on our local machines, ensuring that we have a functional development environment. Additionally, the lecture guided us through the installation of the Visual Studio Code text editor, a popular choice among programmers due to its user-friendly interface and powerful features.

- By providing us with hands-on experience in installing Python and setting up a reliable text editor, the lecture ensured that we were well-equipped to begin our journey into programming and web development using the Django framework. This foundational knowledge was pivotal in establishing a conducive learning environment for the subsequent stages of the internship.

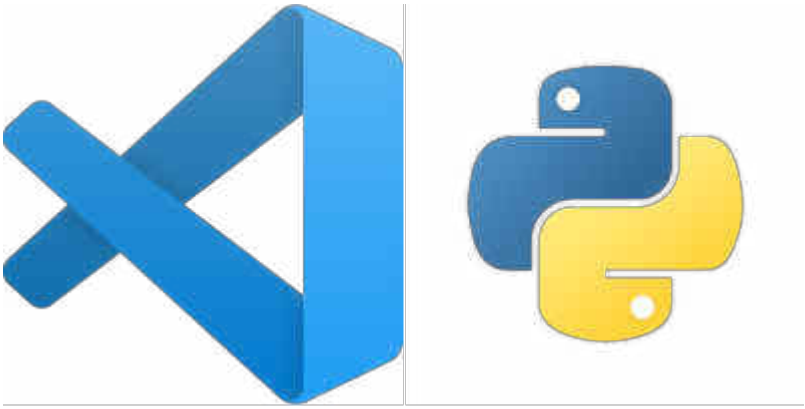


Figure 4: Visual Studio Editor Image

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CHAPTER 3: PYTHON DATATYPES AND VARIABLES

3.1 Data Types and Variables

- The second lecture of the internship at CreArt Solution delved into the fundamental concepts of Python data types and variables. This lecture was instrumental in providing a solid understanding of how data is structured and manipulated within the Python programming language.

- We explored the various data types available in Python, including integers, floats, strings, lists, tuples, and dictionaries. Each data type was explained in detail, elucidating their specific characteristics and use cases. Practical examples were provided to illustrate how to declare variables and assign values of different data types.

- The lecture emphasized the importance of data type selection in optimizing memory usage and ensuring accurate data representation. Additionally, concepts like type casting and variable naming conventions were covered to promote coding best practices.

- By comprehensively covering Python data types and variables, this lecture equipped us with the foundational knowledge necessary for effective programming and data manipulation. This understanding formed the bedrock for our subsequent exploration of more advanced programming concepts and the application of these principles in web development using the Django framework.

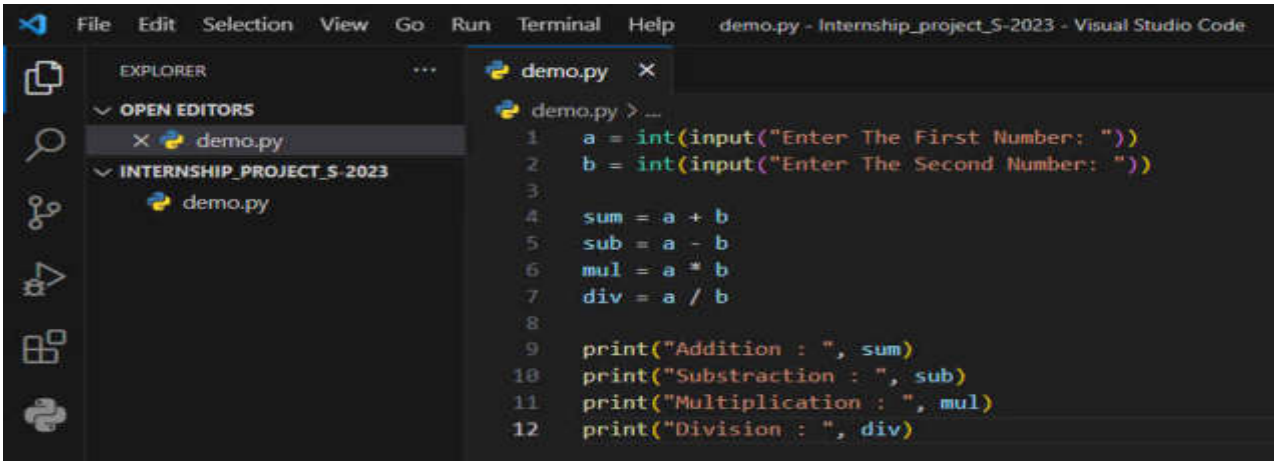


Figure 5: Data Types and Variables

CHAPTER 4: PYTHON PROBLEM SOLVING EXAMPLES

4.1 Area of Triangle and Pentagon

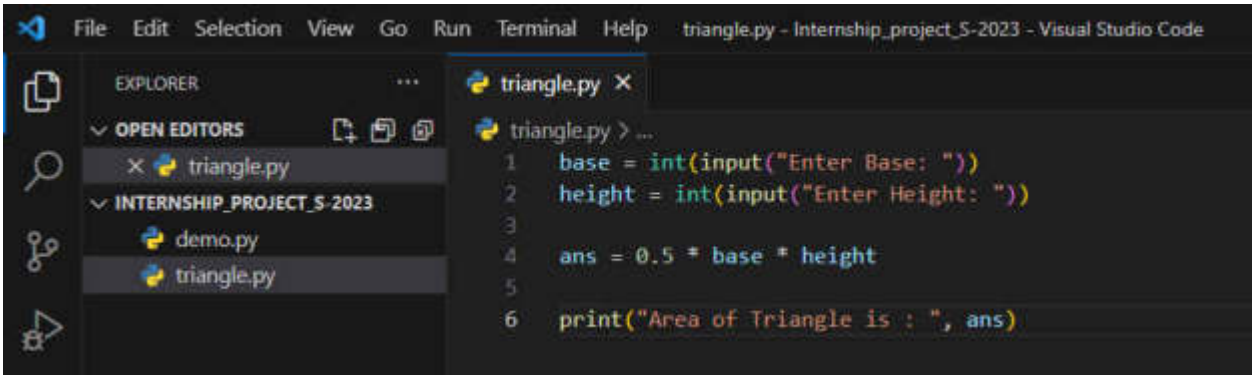


Figure 6: Area of Triangle

Output:

```
PS C:\Django\om\Internship_project_S-2023> python -u "c:\Django\om\Internship_project_S-2023\triangle.py"
Enter Base: 12
Enter Height: 15
Area of Triangle is :  90.0
PS C:\Django\om\Internship_project_S-2023>
```

Area of Pentagon

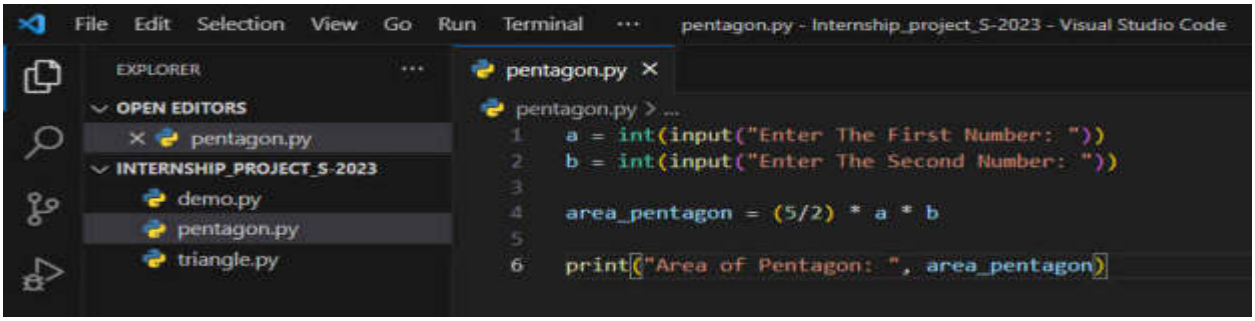


Figure 7: Area of Pentagon

Output:

```
PS C:\Django\om\Internship_project_S-2023> python -u "c:\Django\om\Internship_project_S-2023\pentagon.py"
Enter The First Number: 21
Enter The Second Number: 10
Area of Pentagon:  525.0
PS C:\Django\om\Internship_project_S-2023>
```

4.2 Temperature Converter

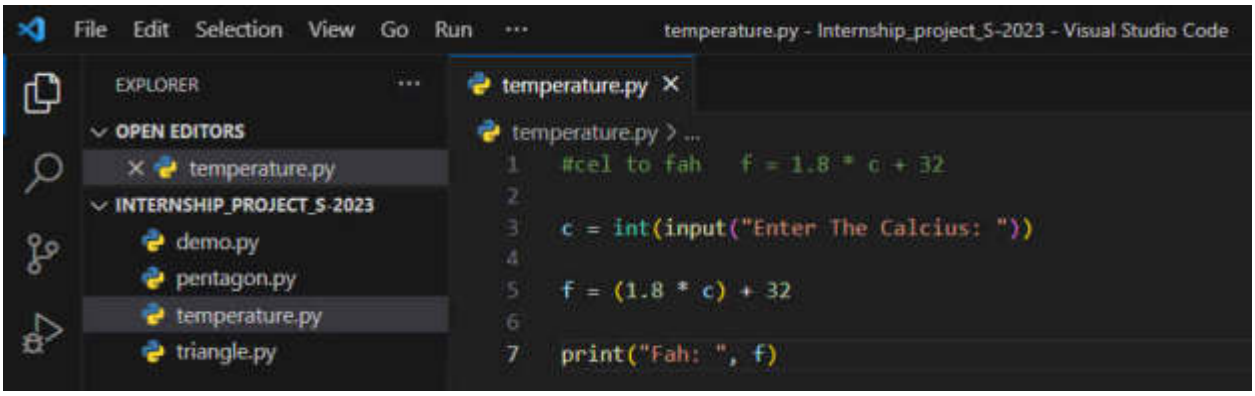


Figure 8: Temperature Converter

Output:

```
PS C:\Django\om\Internship_project_S-2023> python -u "c:\Django\om\Internship_project_S-2023\temperature.py"
Enter The Calcius: 50
Fah:  122.0
PS C:\Django\om\Internship_project_S-2023>
```

CHAPTER 5: PYTHON FUNCTION

5.1 Python Function

- A Function in Python is a reusable piece of code that performs specific tasks. It's defined using the def keyword, followed by a name and optional parameters in parentheses. Functions are called by their name with parentheses, and they can return values using the return statement.

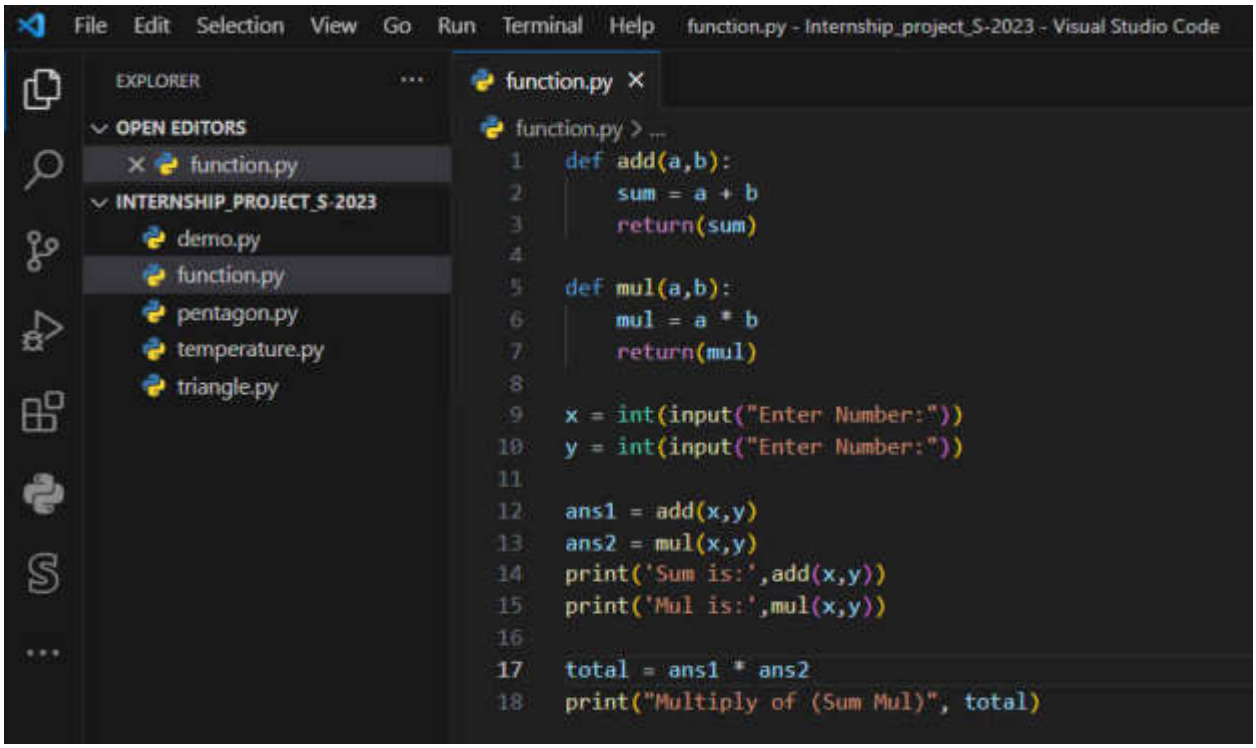


Figure 09: Python Function

Output:

```
PS C:\Django\om\Internship_project_S-2023> python -u "c:\Django\om\Internship_project_S-2023\function.py"
Enter Number:50
Enter Number:40
Sum is: 90
Mul is: 2000
Multiply of (Sum Mul) 180000
PS C:\Django\om\Internship_project_S-2023>
```

CHAPTER 6: DJANGO INTRODUCTION (WEEK 2)

6.1 Introduction of Django Framework

The introduction to the Django framework during our internship at CreArt Solution was a pivotal moment. Django, a high-level Python web framework, revolutionizes web application development by providing a comprehensive toolkit and following a "batteries-included" philosophy. This lecture introduced us to Django's Model-View-Template (MVT) architecture, URL routing, and the powerful admin interface. This foundation set the stage for creating dynamic and efficient web applications, enriching our web development skills significantly.

6.2 Django installation and Environment Setup

Django Project Setup Steps:

1. **Creating a Virtual Environment:** We established a virtual environment to ensure isolated dependencies for our project. This step fosters a controlled development environment, preventing conflicts with other projects.

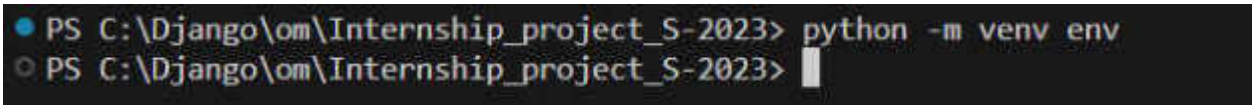


Figure 10: Virtual Environment

2. **Project Initialization:** Using the Django-admin command-line tool, we initiated a new project. This command automatically generated the basic structure necessary for a Django project.

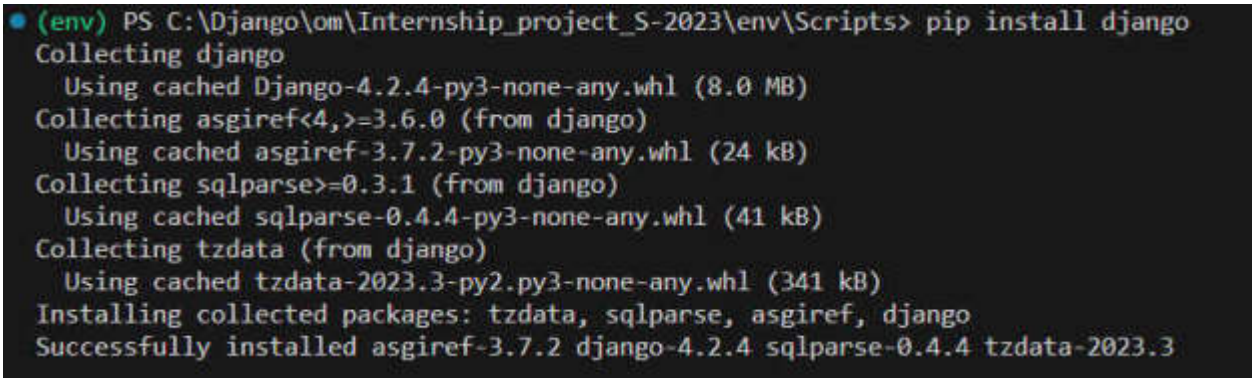


Figure 11: Project Initialization

3. **App Creation:** Within the project, we created distinct applications, each catering to specific features or components. Django's modularity shines through the creation of apps, enabling focused development.
4.

```
(env) PS C:\Django\om\Internship_project_S-2023> django-admin startproject noticehub
(env) PS C:\Django\om\Internship_project_S-2023>
```

Figure 12: App Creation

5. **Database Configuration:** Django's robust Object-Relational Mapping (ORM) system facilitates database interactions. We configured the database settings to align with our project requirements.

```
DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.mysql',
        'NAME': 'noticehub',
        'USER': 'root',
        'PASSWORD': '',
        'HOST':'127.0.0.1',
        'PORT':'3306',
    }
}
```

Figure 13: Database Configuration

6. **URL Mapping:** Through URL routing, we mapped URLs to specific views, ensuring seamless navigation within the application.

```python
from django.contrib import admin
from django.urls import path,include

urlpatterns = [
    path('admin/', admin.site.urls),
    path('user/', include('user.urls')),
]
```

Figure 14: URL Mapping

7. **Creating Views and Templates:** We designed views to manage data and templates to define the presentation of our web pages.

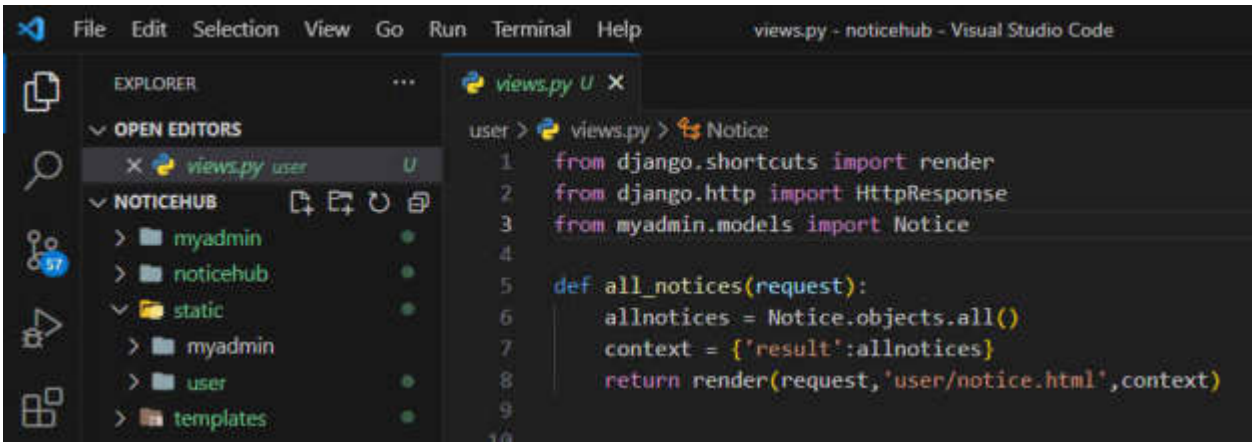


Figure 15: Creation Views and Templates

8. **Admin Interface Setup:** Django's powerful admin interface was configured to manage the application's data efficiently.

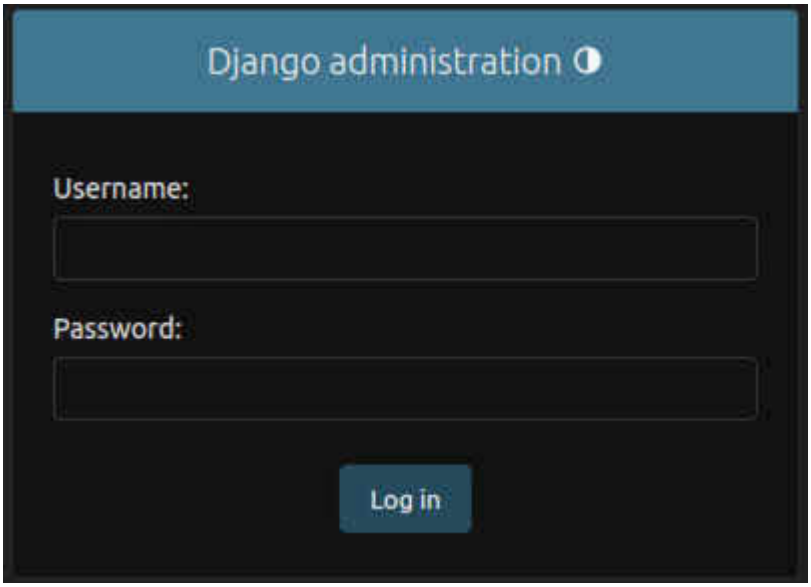


Figure 16: Admin Interface Setup

By meticulously following these steps, we established a functional project environment, ready to accommodate our web development journey using the Django framework. This process empowered us to progress from theoretical knowledge to hands-on application, facilitating the creation of dynamic and engaging web applications.

CHAPTER 7: TEMPLATES RENDERING

7.1 Templates configuration and creation

We configured Django's template system to separate HTML structure from Python code, promoting clean and organized code. By creating template files, we defined the visual presentation of our web pages while dynamically incorporating data from the backend, ensuring a user-friendly and adaptable interface.

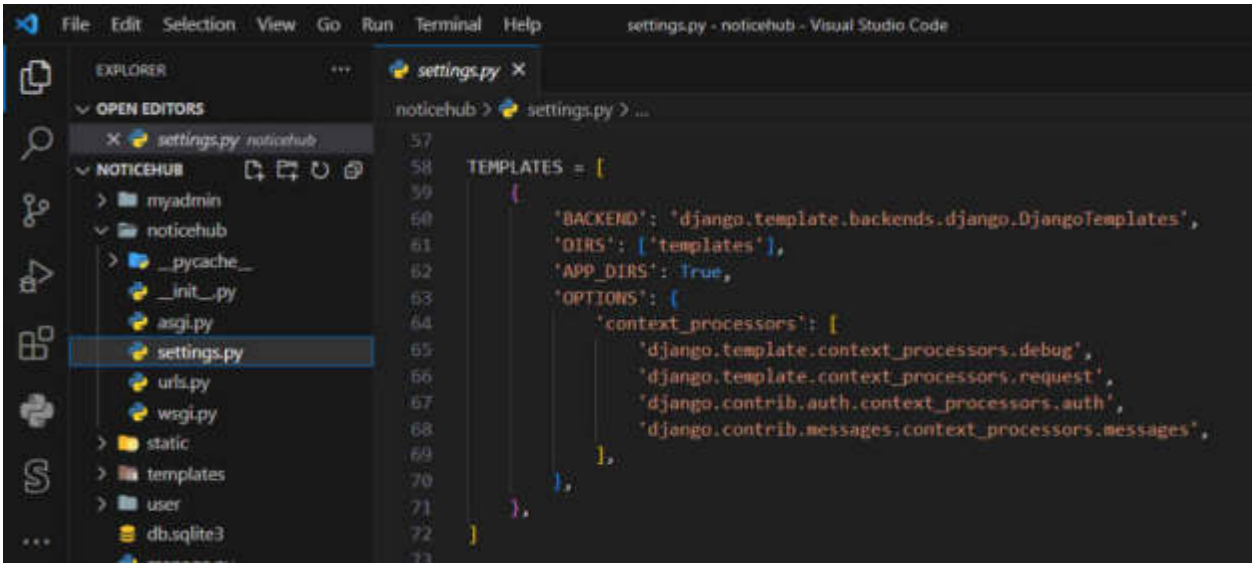


Figure 17: Templates Configuration

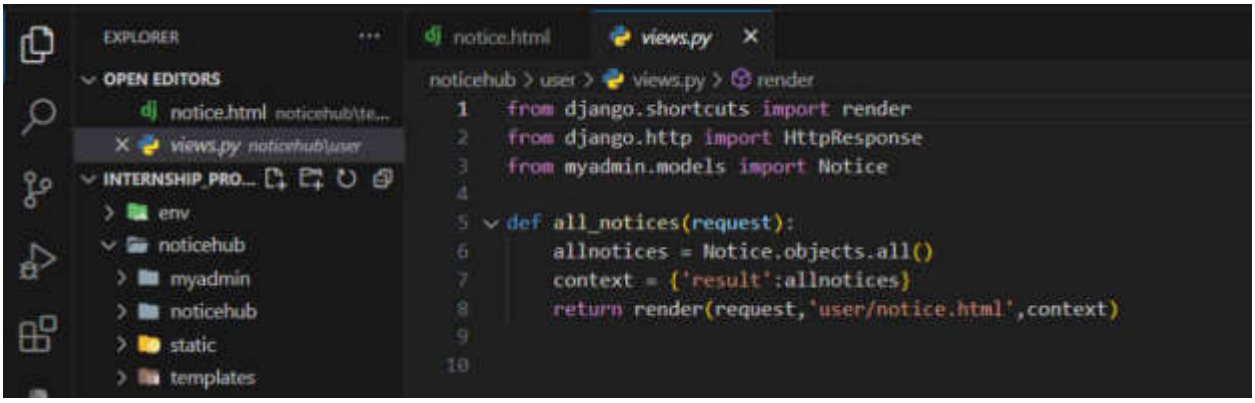


Figure 18: Templates Rendering

CHAPTER 8: ADDING CUSTOM CSS TO HTML PAGE

8.1 CSS file creation and load to HTML page

We integrated CSS styles into our Django project by creating a static directory and linking the CSS file to HTML templates using the **{% static %}** template tag, ensuring consistent and visually appealing designs across our web application.

We elevated the visual appeal of our Django web application by seamlessly integrating CSS styles, enriching user experience and interface aesthetics.

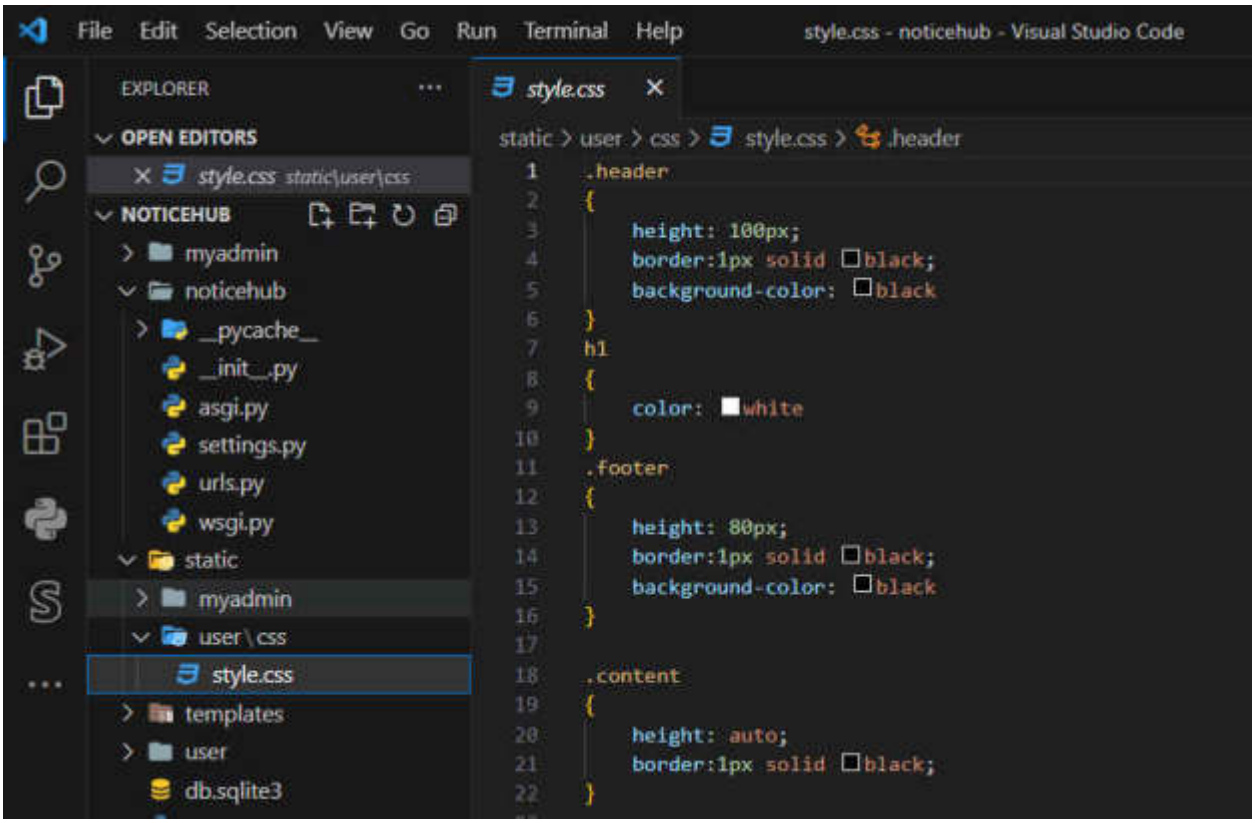


Figure 19: CSS file configuration

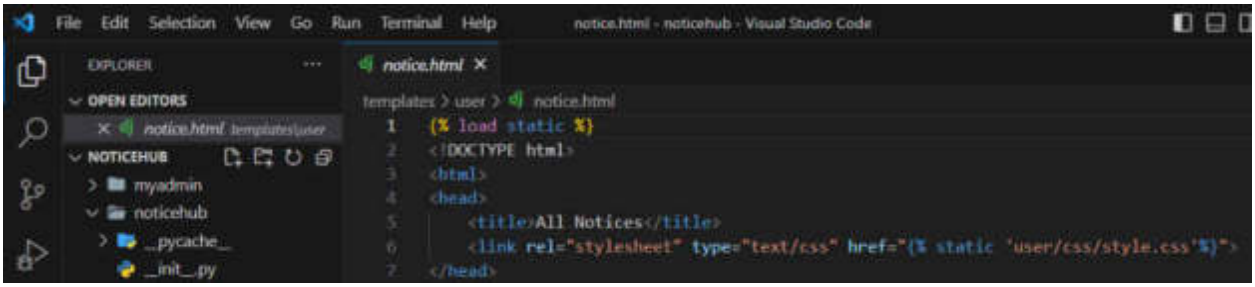


Figure 20: CSS load to HTML

CHAPTER 9: NOTICEHUB PROJECT

9.1 Project Introduction

NoticeHub:

The NoticeHub project, a culmination of our internship at CreArt Solution, exemplifies the practical implementation of Django. This platform empowers administrators to effortlessly publish notices while enabling students to conveniently access and view these updates. Through this project, we showcased our proficiency in web development and the application of Django's features in a real-world context.

Technology:

Python (Django), HTML, CSS and MySQL Database

9.2 Project Creation

1. **Creating a Virtual Environment:** We established a virtual environment to ensure isolated dependencies for our project.
2. **Project Initialization:** Using the Django-admin command-line tool, we initiated a new project.
3. **App Creation:** Within the project, we created distinct applications, each catering to specific features or components. Django's modularity shines through the creation of apps, enabling focused development.

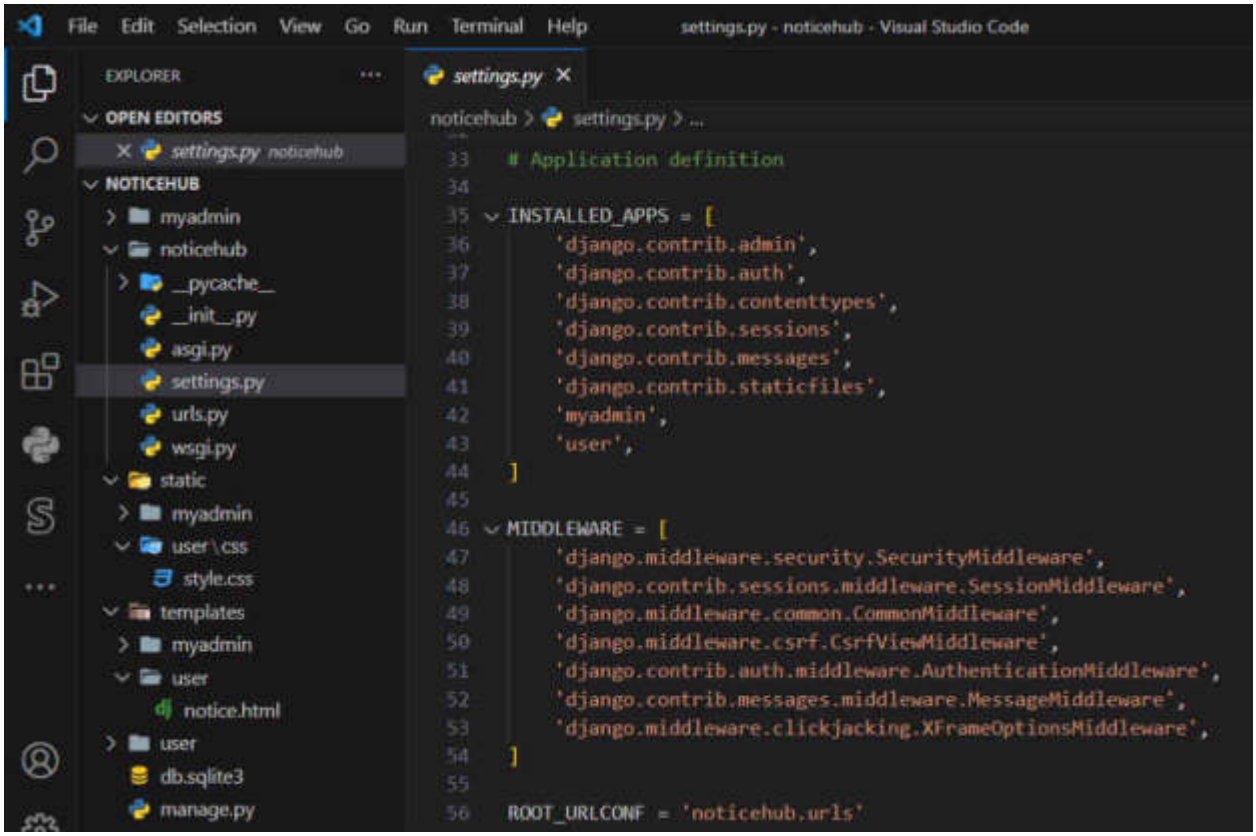


Figure 21: App Configuration

4. **Database Configuration:** Django's robust Object-Relational Mapping (ORM) system facilitates database interactions. We configured the database settings to align with our project requirements.

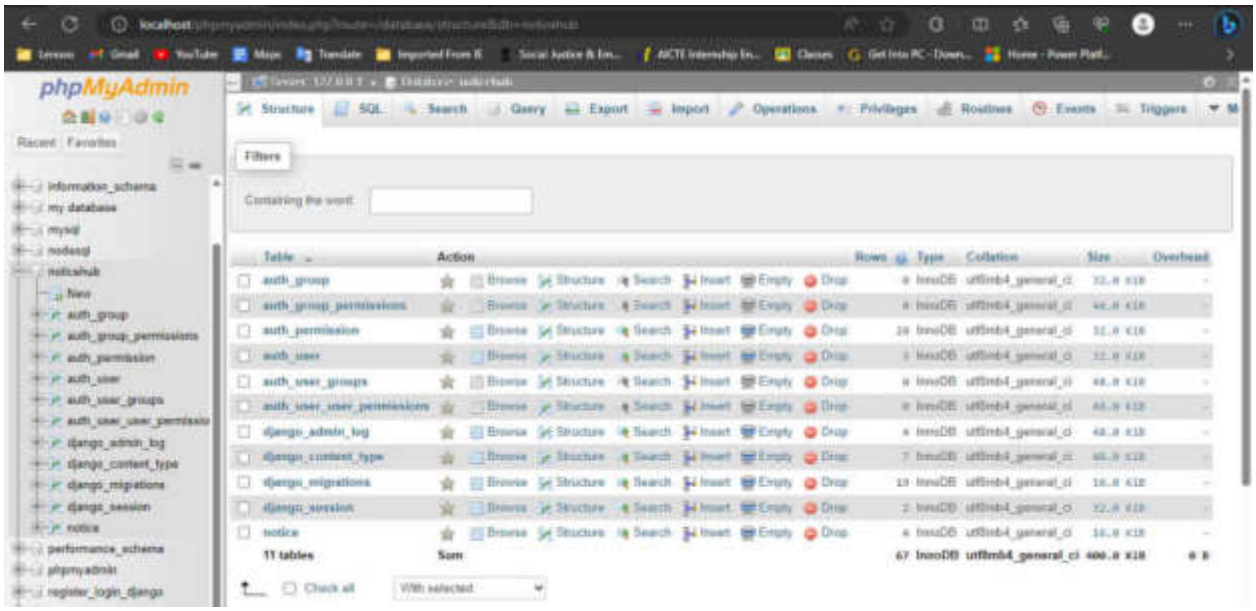


Figure 22: Database Creation

5. **Admin Interface:** We harnessed Django's powerful admin interface to efficiently manage and manipulate application data, enhancing the backend administration process

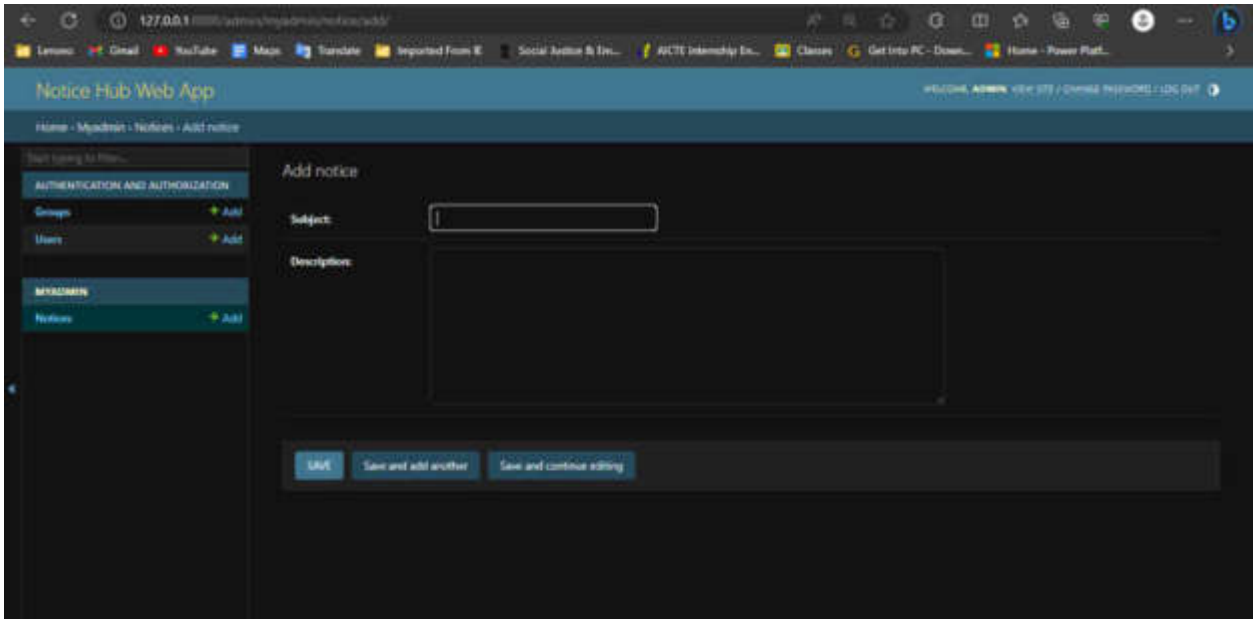


Figure 23: Admin Interface

6. **User Interface:** We created an intuitive and user-friendly interface for students, enabling easy access to important notices and facilitating effective communication between administrators and users.

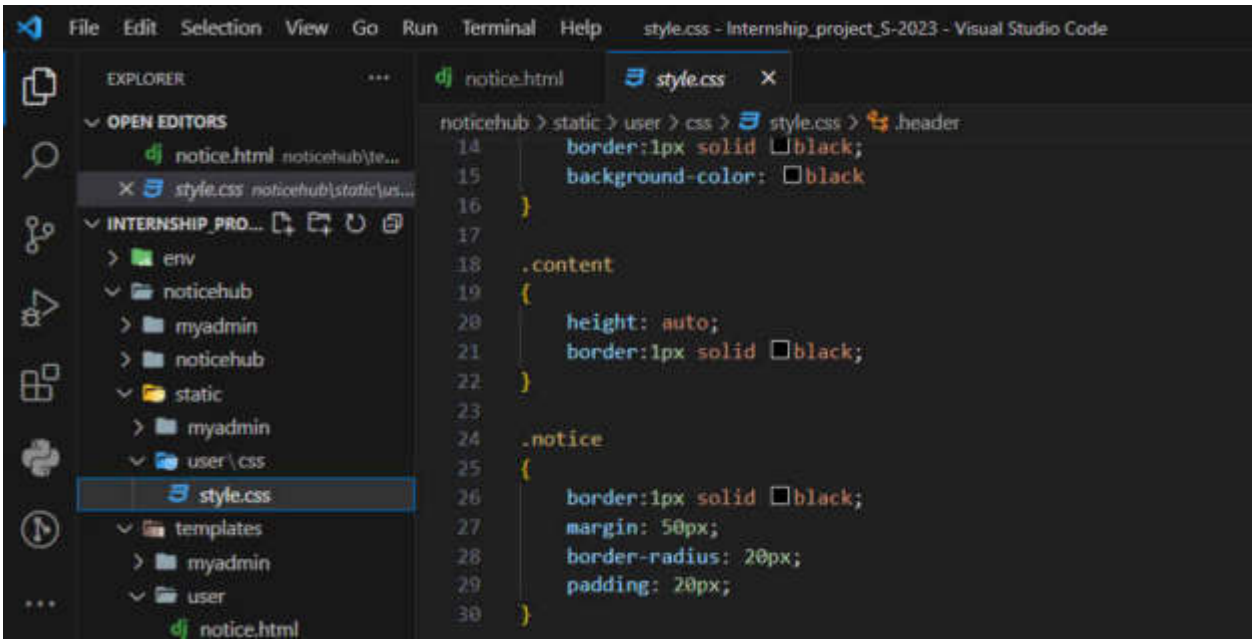


Figure 24: Styling page using CSS

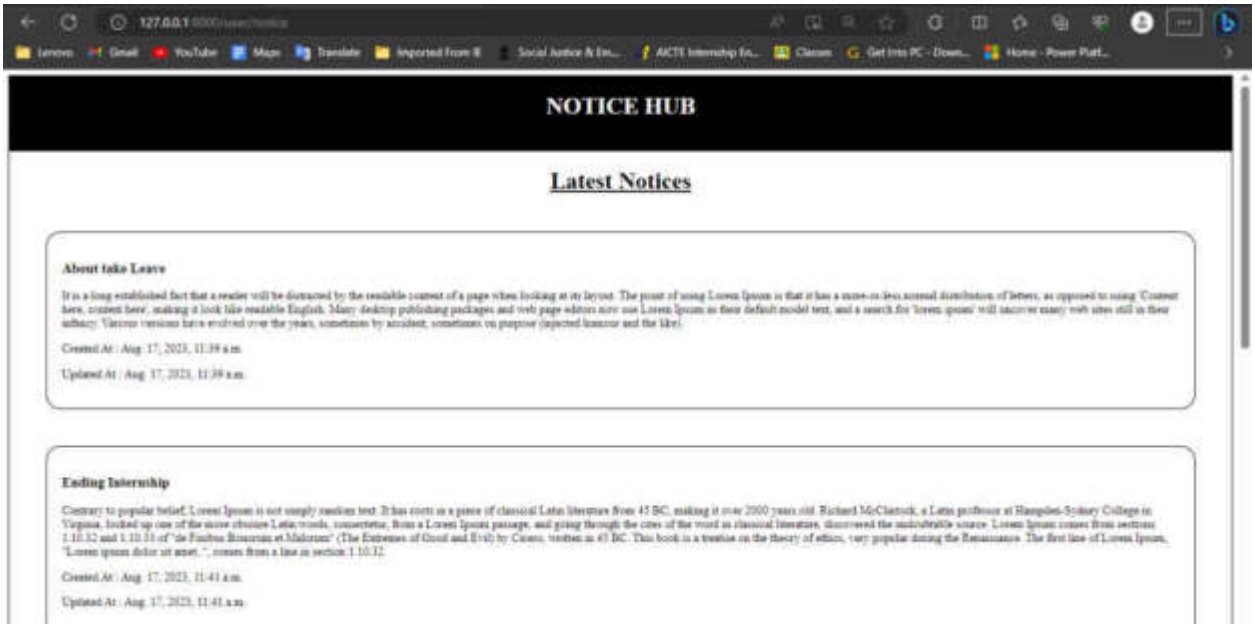


Figure 25: User Interface

CHAPTER 10: REFERENCES

* Alkesh Kaba, Software Engineer, CreArt Solutions, Ahmedabad, India. Email: alkesh.kaba@creart.in.

* Krishnamohan Gupta, CEO, CreArt Solutions, Ahmedabad, India. Email: krishnamohan.gupta@creart.in.

* * *

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD.

AN INTERNSHIP REPORT

Submitted by

Panchal Vivekkumar Rajubhai

200390116035

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ IT SERVICES PVT. LTD.** has been carried out by **Panchal Vivekkumar Rajubhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Mechanical Engineering, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign

Prof. Arpita Modh

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116035
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Panchal Vivekkumar Rajubhai .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Panchal Vivekkumar Rajubhai all the best for future endeavors.

Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ IT SERVICES PVT. LTD.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Arpita Modh** & **Chintan Nagrecha (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Panchal Vivekkumar Rajubhai**	_____

ACKNOWLEDGMENT

I would like to express my heartfelt gratitude to all those who have contributed to the successful completion of the "**15-Day Summer Internship at INFOLABZ IT SERVICES PVT. LTD.**" First and foremost, I extend my sincere appreciation to the management and **team** at INFOLABZ IT SERVICES for providing me with the opportunity to be a part of their esteemed organization and for offering a dynamic platform to gain practical insights into the IT industry. I am deeply thankful to **my Internal guide**, **S. P. B. Patel Engineering College**, and **Gujarat Technological University (GTU)** for facilitating this internship opportunity and nurturing my academic foundation.

Abstract

This report summarizes a 15-day summer internship at ***INFOLABZ IT Services Pvt. Ltd***., focusing on "**Dynamic Web Page Designing Using React.**" The internship aimed to provide practical exposure to the IT industry. It covers tasks, project, and lessons learned. In this internship, I have learned the fundamentals of JS and ES6 concepts. Additionally, I have learned the basics of React concepts and API integration.

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Abbreviations

JS	JavaScript
ES6	ECMAScript 6

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Chapter 1. COMPANY INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services, etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers who are always willing to take on new challenges and looking forward to learning new things, are the heart of this company.

Our objective is to sustain with exponential growth in the IT industry. Our mission is to deliver the best with top-notch quality every quarter and our vision is to develop a product with one of its kind concept which could be used by millions of people.

Chapter 2. OVERVIEW OF JS & ES6

2.1 INTRODUCTION TO JS:

JavaScript is a **high-level**, **versatile** programming language primarily used for adding interactivity and dynamic behavior to websites. It is often used in **web development** to create features like interactive forms, animations, and responsive designs. It can be executed in a web browser to manipulate the Document Object Model (DOM) of a webpage, which allows developers to **update the content** and appearance of a page without requiring a **full page reload**.

It has a wide range of use cases beyond just web development. It can be used in **server-side environments** (Node.js), desktop applications (Electron), and even mobile app development (React Native). It has a rich **ecosystem** of libraries and frameworks that make it easier to build complex applications.

2.2 INTRODUCTION TO ES6:

ES6 (also known as **ECMAScript 2015**) is the sixth version of the ECMAScript standard, a specification for a general-purpose scripting language. It was released in June 2015. It brought many important additions to JavaScript that made the language more powerful, readable, and efficient for developers. Some of the **notable features** introduced in ES6 include:

- let and const Declarations
- Arrow Functions
- Promises
- Destructuring
- Template Literals
- Modules
- Spread and Rest Operators

2.3 OBJECTS:

In JavaScript, an object is a **fundamental data structure** that allows you to store and organize data in **key-value pairs**. Objects are used to represent real-world entities, concepts, or data structures. They are a core building block of the language and play a crucial role in JavaScript programming.

An object in JavaScript consists of **properties**, where each property has a name (also called a key) and a value. The value can be of **any data type**, including other objects, functions, arrays, and primitive data types like numbers, strings, and booleans.

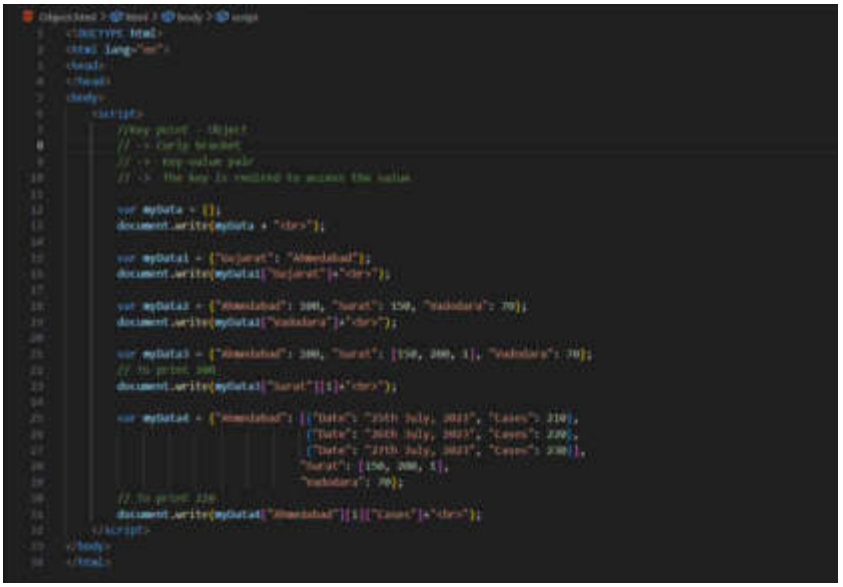


Fig 2.1 Object Example Code

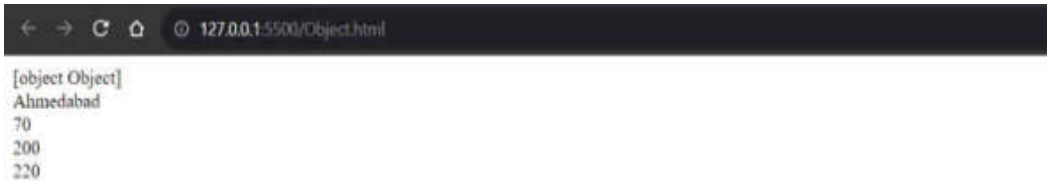


Fig 2.2 Object Example Output

CHAPTER 3. TYPES OF FUNCTIONS

3.1 JS FUNCTIONS and ARROW FUNCTIONS:

In JavaScript, functions are **blocks of code** that can be defined and executed. They allow you to group code together and reuse it as needed. **Regular functions** are defined using the function keyword, followed by the function name, a list of parameters enclosed in parentheses, and the function body enclosed in curly braces {}.

Arrow functions are a more concise way to define functions, introduced in **ECMAScript 6 (ES6)**. They use the => syntax and do not have their own version of this value. Arrow functions are particularly useful for shorter function expressions.

3.1.1 JS Functions Example

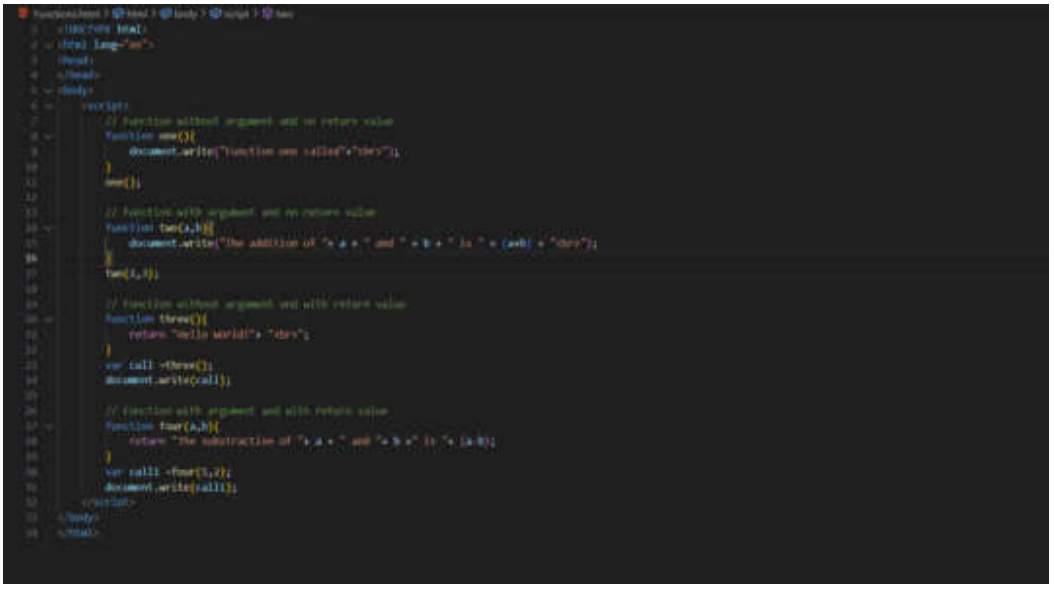


Fig 3.1 JS Functions Code



Fig 3.2 JS Functions Output

3.1.2 Arrow Functions Example



Fig 3.3 Arrow Functions Code



Fig 3.4 Arrow Functions Output

3.2 ASYNC FUNCTION AND BITCOIN API:

Async functions in JavaScript are a way to work with **asynchronous** code in a more readable and structured manner. They were introduced in **ECMAScript 2017** (ES8) and provide a way to write asynchronous code that looks similar to synchronous code, making it easier to understand and maintain.

An async is defined using the "**async**" keyword before the "**function**" keyword. Inside an async function, you can use the **await** keyword to pause the execution of the function until a promise is resolved, effectively allowing you to write asynchronous code in a more linear fashion.



Fig 3.5 Async Functions Code (Bitcoin API)



Fig 3.6 Print the Bitcoin Price (Output)

CHAPTER 4. API DATA

4.1 COVID API – DATA FETCHING AND MAPPING:

The task was to fetch the **COVID-19 Data** from the **API** and print it in table format. Here, I used the **asynchronous function** to wait until I fetched all the data from the COVID-19 API. Once the data is fetched, it will be printed in table format.



Fig 4.1 Data Fetching From API Code

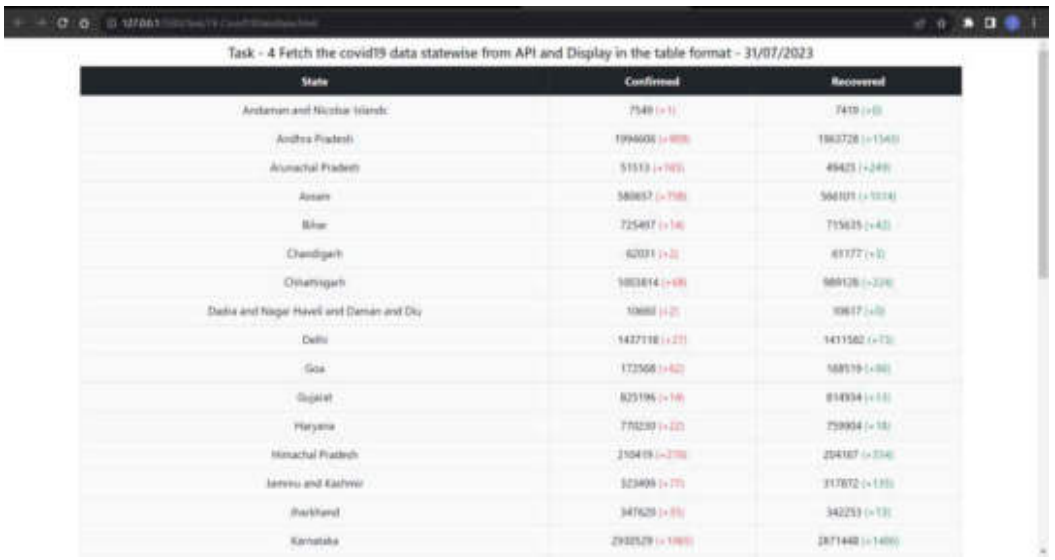


Fig 4.2 Data Fetching From API Output

4.2 FORM TO VARIABLE:

Taking the **input** from the user, that value will be **stored** in the variable. And then print it on the **display**.

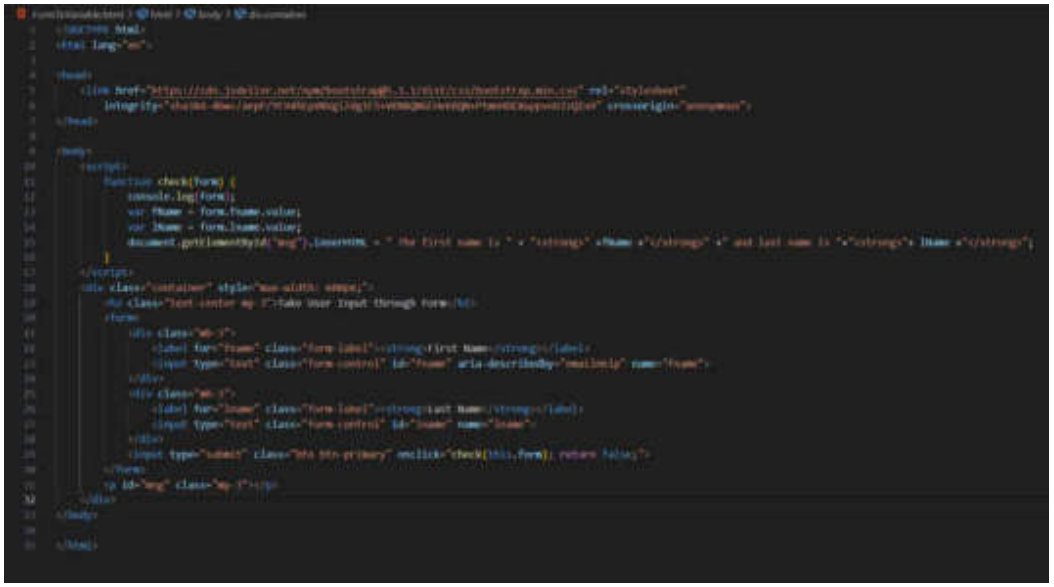


Fig 4.3 Form to Variable Code

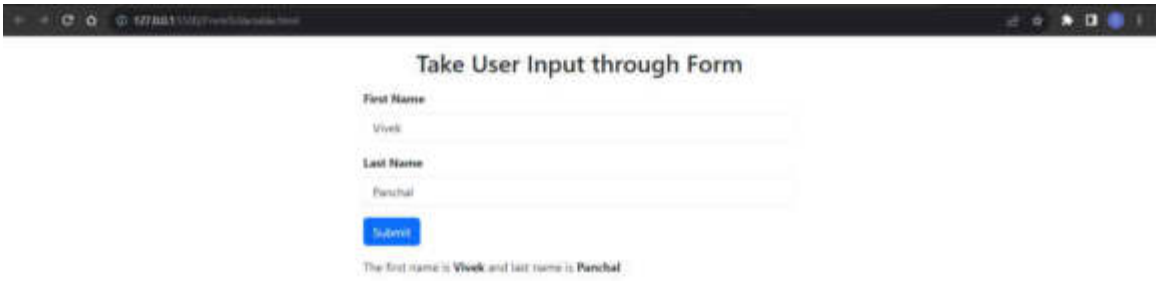


Fig 4.4 Form to Variable Output

CHAPTER 5. ARRAY & FORM DATA

5.1 FORM TO TABLE:

Taking the **different types** of input from the user, those values will be stored in the variable. And then print the data on the display in **table** format.

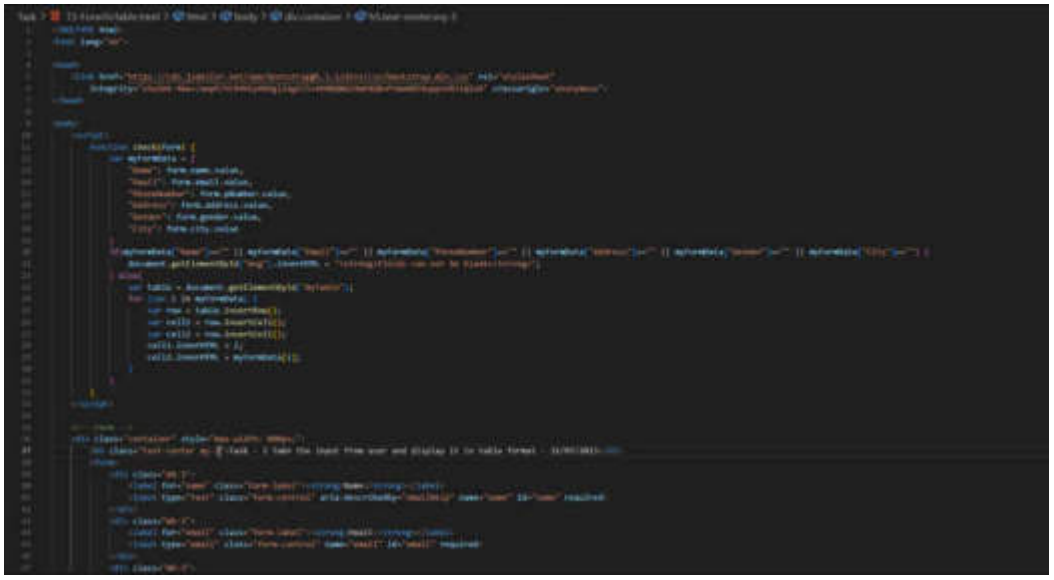


Fig 5.1 Form to Table Code Part-1

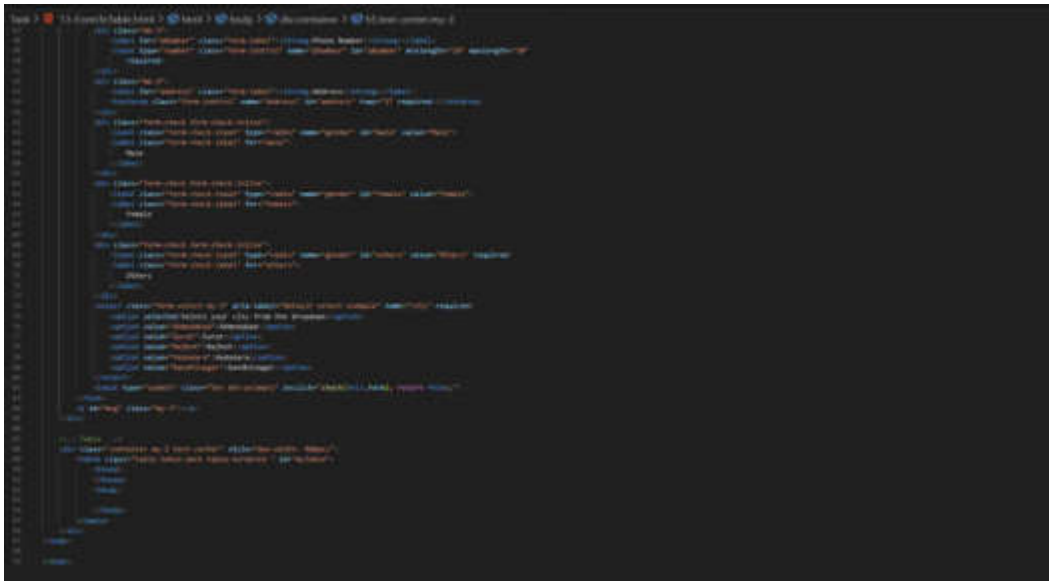


Fig 5.2 Form to Table Code Part-2

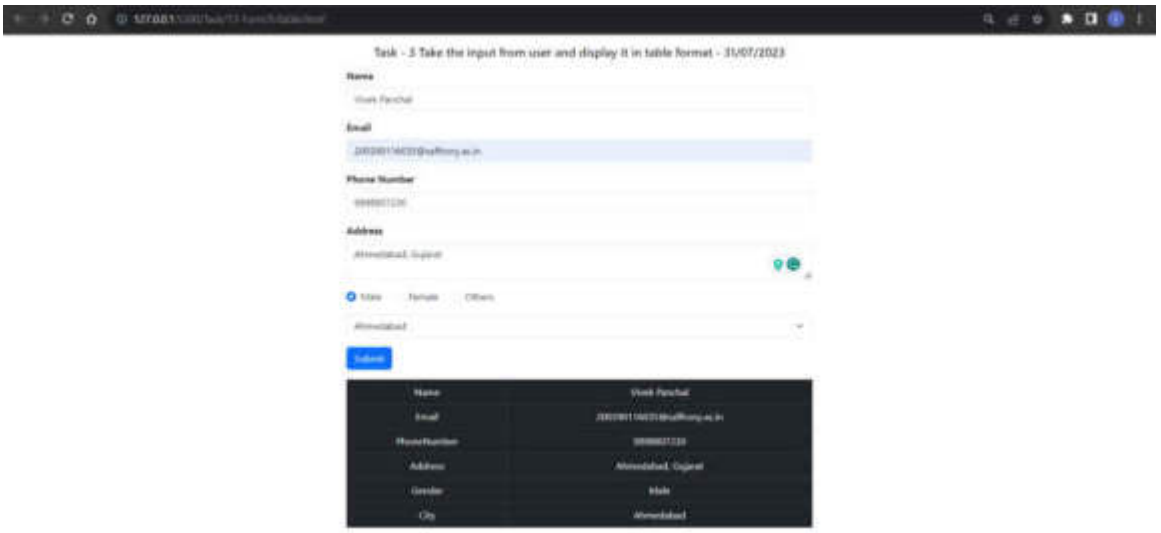


Fig 5.3 Form to Table Output

5.2 JS ARRAYS:

JavaScript (JS) arrays are a fundamental **data structure** in the JavaScript programming language. They are used to **store** and **manage collections** of values, which can be of any data type, including numbers, strings, objects, and even other arrays. Arrays are commonly used for tasks like storing lists of items, iterating over elements, and performing various operations on groups of values.



Fig 5.4 Login Validation Code



Fig 5.5 Login Validation Output

CHAPTER 6. TASK

6.1 COVID DATA SEARCH:

The **COVID-19 API** includes data from January 30, 2020, to August 16, 2021. Each data contains the **new cases** and **new deaths** of the particular Date. So, the user will have to enter the date in the given format, and if it has the data, it will be printed in **table format**; otherwise, it will show that the entered date data has **not** been **found**.

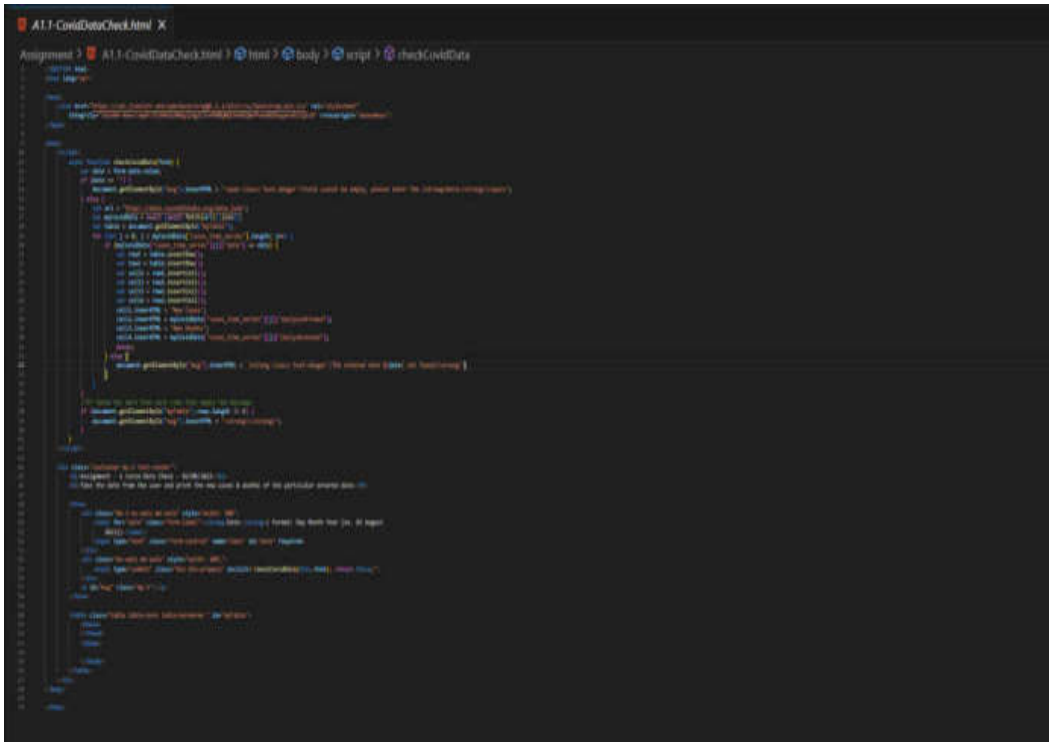


Fig 6.1 Covid Data Search Code

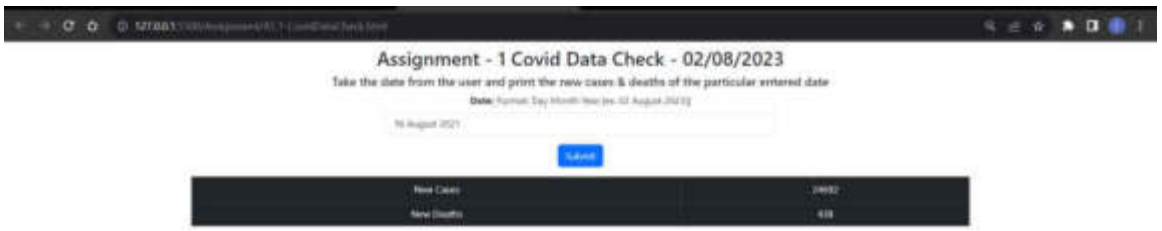


Fig 6.2 Covid Data Search Output

6.2 MUTUAL FUND API:

The **Mutual Fund API** includes different types of Mutual Fund schemes. The user will



have to enter the **scheme code** in order to know the corresponding s**cheme name**. If the scheme code is present in the data, then print the scheme name; otherwise, it will print that the scheme code is not present in the data.

Fig 6.3 Mutual Fund Scheme Code

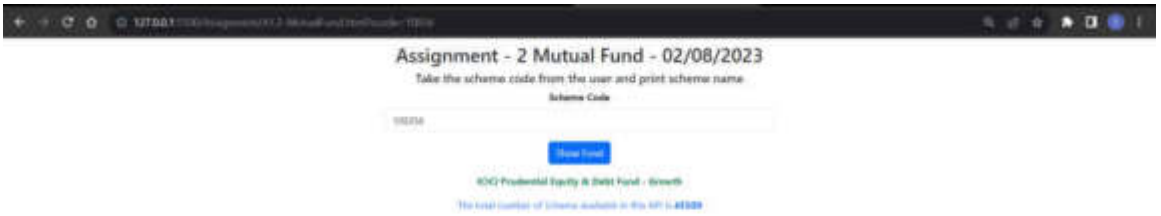


Fig 6.4 Mutual Fund Scheme Output

CHAPTER 7. INTRODUCTION TO REACT

7.1 REACT ENVIRONMENT SETUP:

The command to create a React application -

- **npx create-react-app name_of_application**

The command to start the development server -

- **npm run start**

7.2 FUNCTIONAL COMPONENTS:

Functional Components are a **key concept** in the React JavaScript library, which is widely used for **building** user interfaces in web applications. Functional Components are also known as **Stateless Components** or **Functional Stateless Components**.

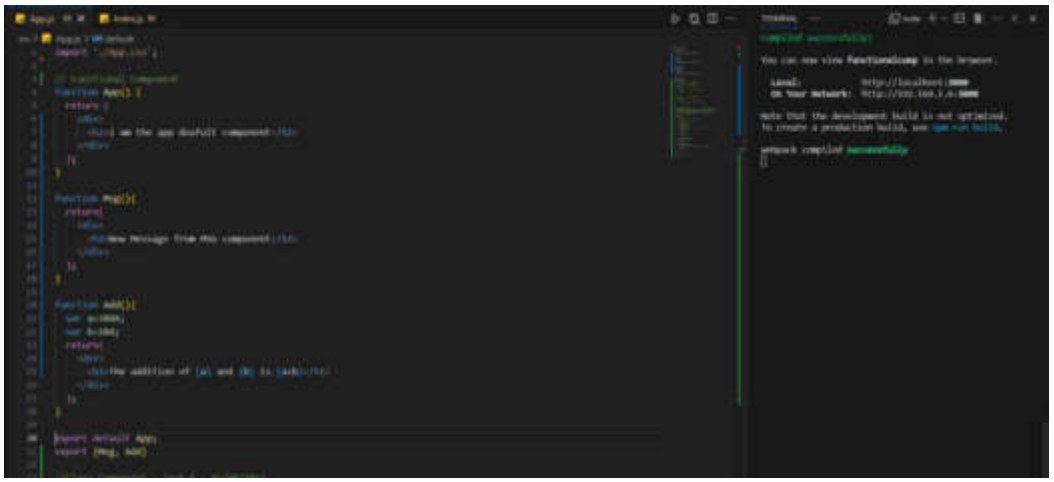


Fig 7.1 Functional Components in React



Fig 7.2 Functional Components Output

7.3 CLASS COMPONENTS:

Class Components are a type of component in the React JavaScript library that was commonly used for building user interfaces before the **introduction** of **Functional Components** and **Hooks**.

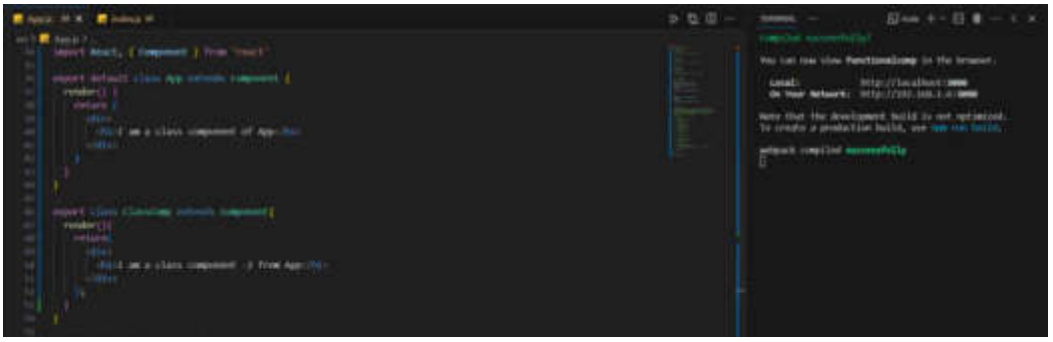


Fig 7.3 Class Components in React



Fig 7.4 Class Components Output

CHAPTER 8. DATA MAPPING

8.1 VARIABLE DATA MAP:

Here, I have used the map method to iterate through each Array element.



Fig 8.1 Variable Data Map Code Part-1

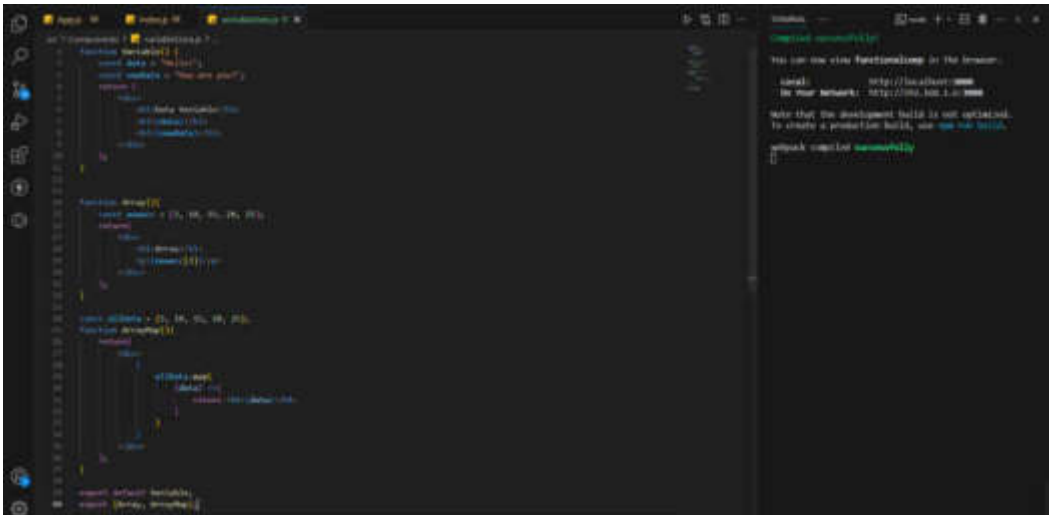


Fig 8.2 Variable Data Map Code Part-2

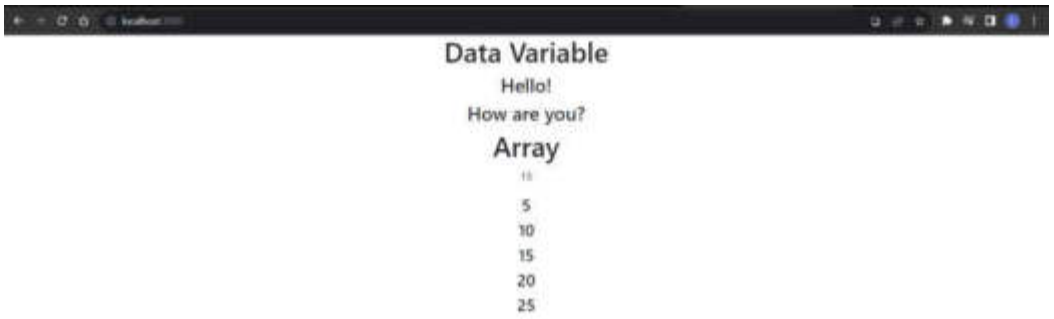


Fig 8.3 Variable Data Map Output

8.2 OBJECT MAP:

Here, I have used the map method to iterate over object properties and print the data.

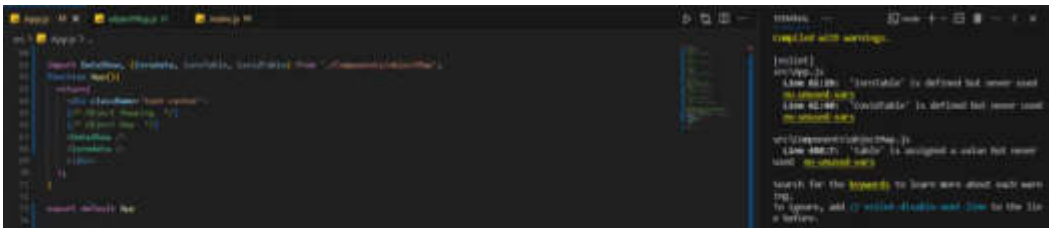


Fig 8.4 Object Map Code Part-1

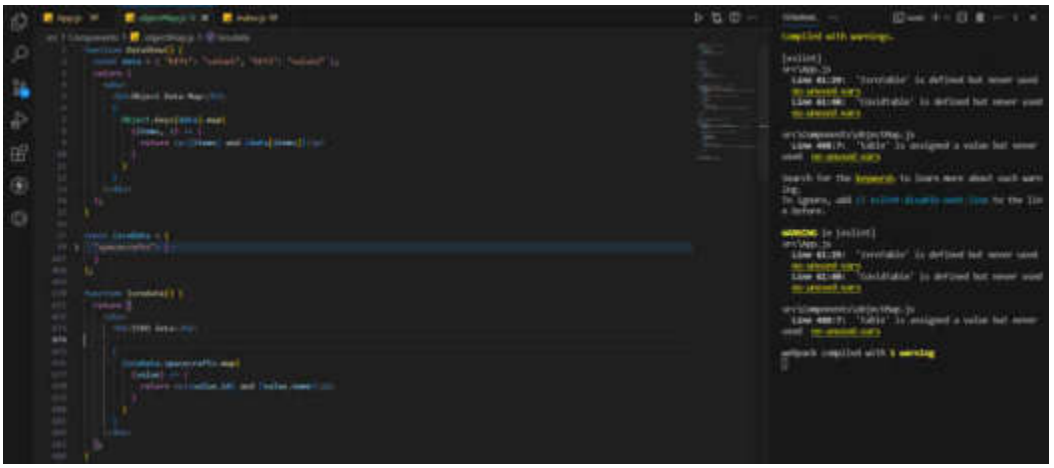


Fig 8.5 Object Map Code Part-2



Fig 8.6 Object Map Output

CHAPTER 9. REACT PROPS & BOOTSTRAP

9.1 REACT PROPS:

In React, "props" is short for "properties," and it's a mechanism for passing data from a parent component to a child component. Props allow you to customize and configure child components based on the data provided by their parent components.

Props are read-only and cannot be modified by the child component that receives them. They provide a way for components to communicate and share data without violating the principle of maintaining unidirectional data flow in React.

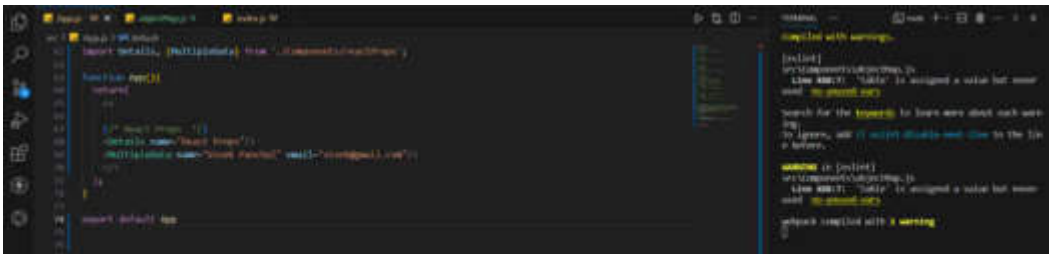


Fig 9.1 React Props Code Part-1

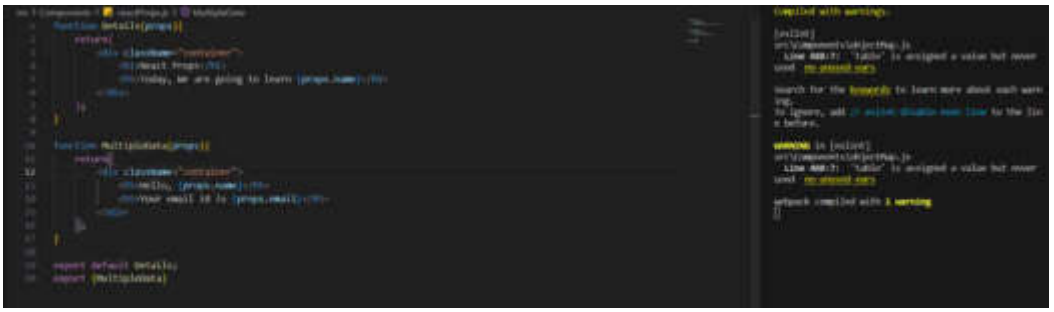


Fig 9.2 React Props Code Part-2



Fig 9.3 React Props Output

9.2 REACT BOOTSTRAP:

React Bootstrap is a popular open-source front-end framework that combines the power of the React library with the styling and components of the Bootstrap framework. It provides a set of pre-designed and responsive UI components that you can use to quickly build modern and visually appealing web applications. React Bootstrap allows developers to create responsive and consistent user interfaces without having to write complex CSS or custom styling.



Fig 9.4 React Bootstrap Code Part-1

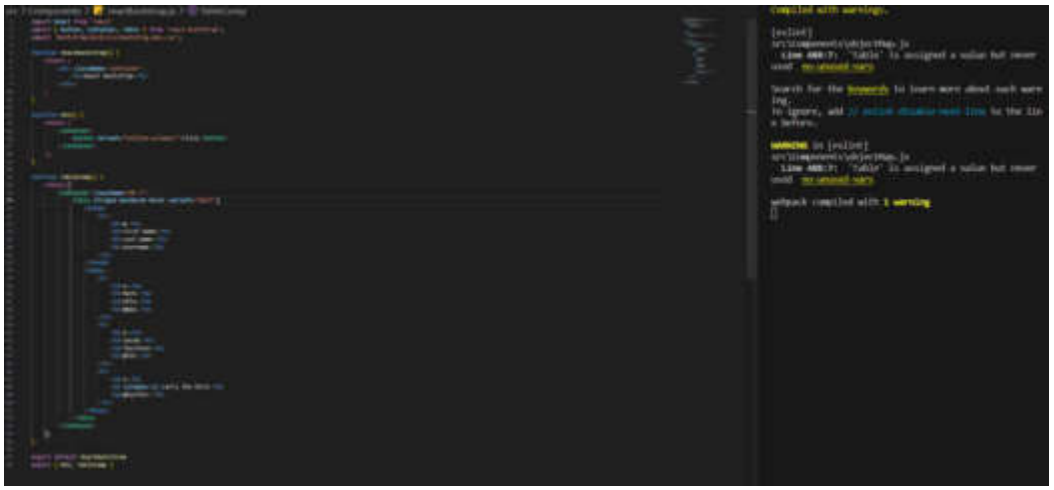


Fig 9.5 React Bootstrap Code Part-2

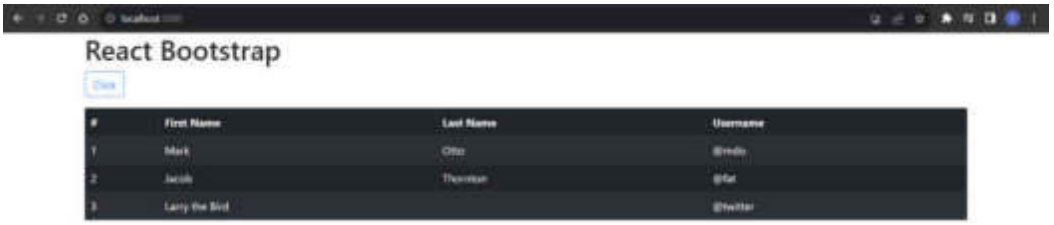


Fig 9.6 React Bootstrap Output

CHAPTER 10. NEWS WEB APP (PROJECT)

10.1 DESCRIPTION:

The News Web App is created using the React Framework. The app provides the top headline news from different categories without reloading the page. The app is fetching data from different categories of API. And then it will be displayed in the standard format.

10.2 CODE:

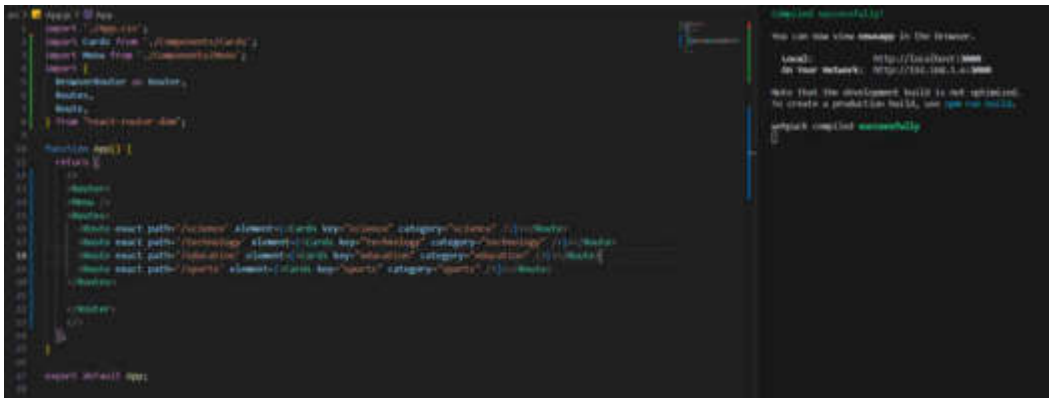


Fig 10.1 App Component Code



Fig 10.2 Navigation Component Code

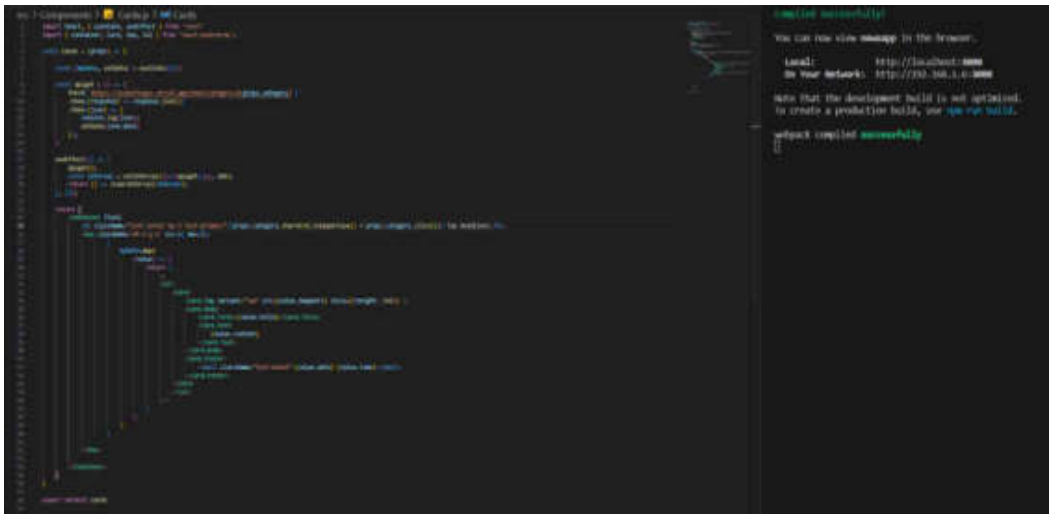


Fig 10.3 Cards Component Code

10.3 OUTPUT:

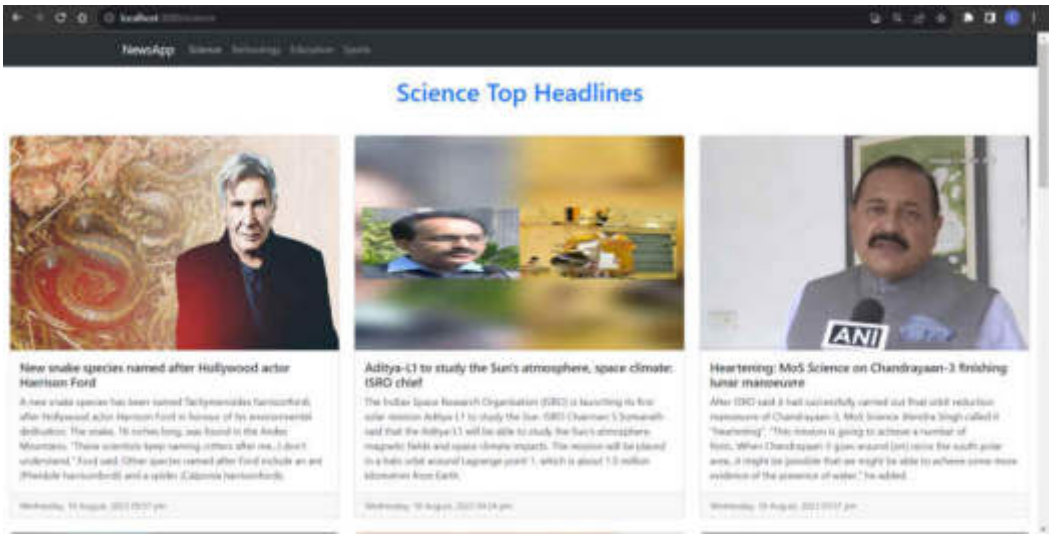


Fig 10.4 Science Top Headlines

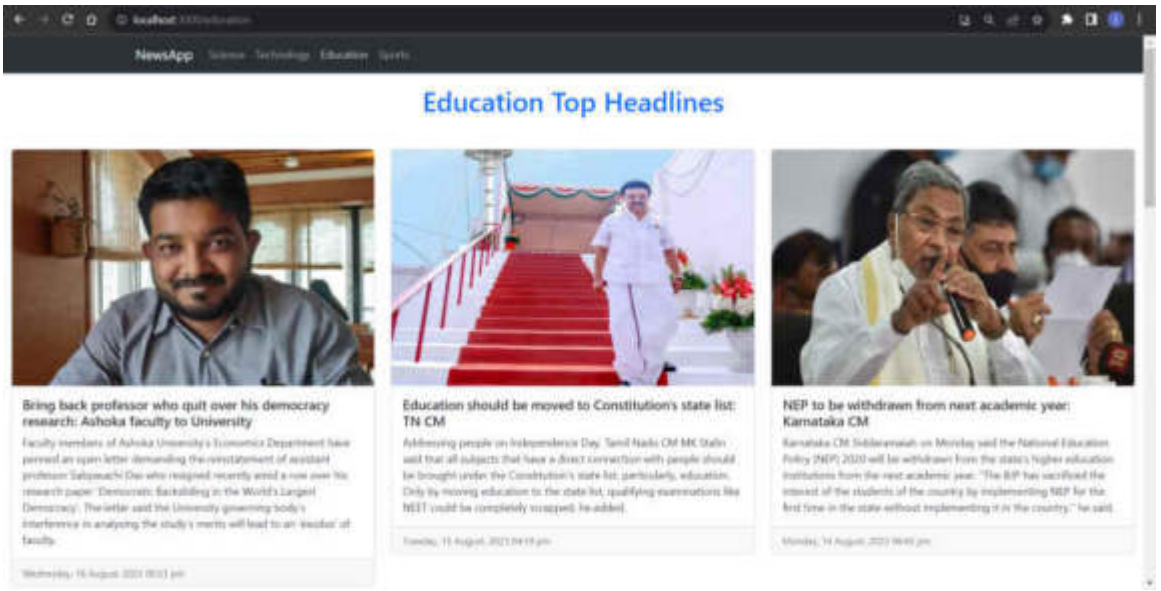


Fig 10.5 Education Top Headlines

INTERNSHIP AT INFOLABZ IT SERVICES PVT LTD.

AN INTERNSHIP REPORT

Submitted by

Gurusimran Singh R Rajput

200390116036

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

Aug, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at Infolabz IT Services Pvt Ltd.** has been carried out by **Student Gurusimran Singh R Rajput** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Arpita Modh

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Internship Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116036
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Gurusimran Singh Rajput .

In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework

We wish Gurusimran Singh Rajput all the best for future endeavors.



Ms. Twinkle Shah
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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Infolabz IT Services Pvt Ltd.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Arpita Modh & Chintan Nagrecha (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. Gurusimran Singh R Rajput	_____

ACKNOWLEDGMENT

The successful completion of any project depends upon the co-operation of many individuals. Through this brief note I would like to acknowledge the help of individuals who have directly and indirectly contributed towards the completion of project.

First of all, I would like to express my deepest gratitude to the leading team of Infolabz IT Services Pvt Ltd. for providing me an opportunity to carry on my project in organization.

I also express my gratitude to **Mr. Chintan Nagrecha and Ms. Twinkle Shah** team member of Elsner Technology for their co-operation, valuable suggestion, guidance.

I also would like to thank, internship coordinator Department of IT for their support to get complete internship.

Abstract

This report contains the work done by the author during his internship at ***Infolabz IT Services Pvt Ltd***. It shows the work I did in the company during my internship period. In the report, the author discusses the process of manufacturing and steps of assembly of the machines. The author also discusses the structure of the company, all the departments and their work. It also explains what the author learned during this internship period.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

.

1.2 MISSION AND VISION OF THE COMPANY:

Our mission is to deliver best-in-class services with top-notch quality.

Our vision is to sustain the exponential growth of the IT industry.

Chapter 2. Overview of Django

2.1 Introduction to Django:

Django is an open-source web framework for building web applications using the Python programming language. It follows the Model-View-Controller (MVC) architectural pattern and emphasizes rapid development, clean code, and reusability.

Django provides a wide range of tools and features, including an Object-Relational Mapping (ORM) system for database interaction, a templating engine for rendering dynamic content, built-in user authentication, and a powerful admin interface for managing application data. It promotes the "Don't Repeat Yourself" (DRY) principle and encourages best practices for security and scalability. Django is widely used by developers to create a variety of web applications, from simple websites to complex web platforms.

2.1.1 Django Environment setup:

- Install Python.
- Install PyCharm community edition.
- Install SQLite database browser.

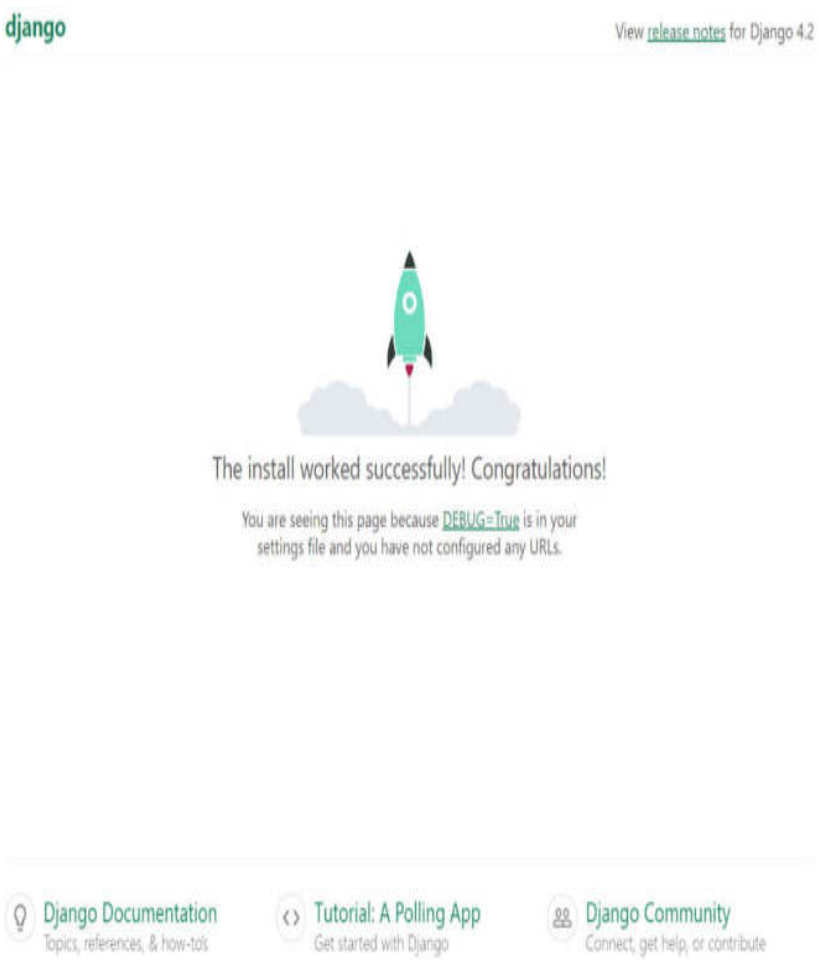
2.1.2 Django Project Creation:

Type the following commands or install dependencies in the terminal.

- pip install django
- django-admin startproject project name .
- python manage.py makemigrations
- python manage.py
- python manage.py runserver

.

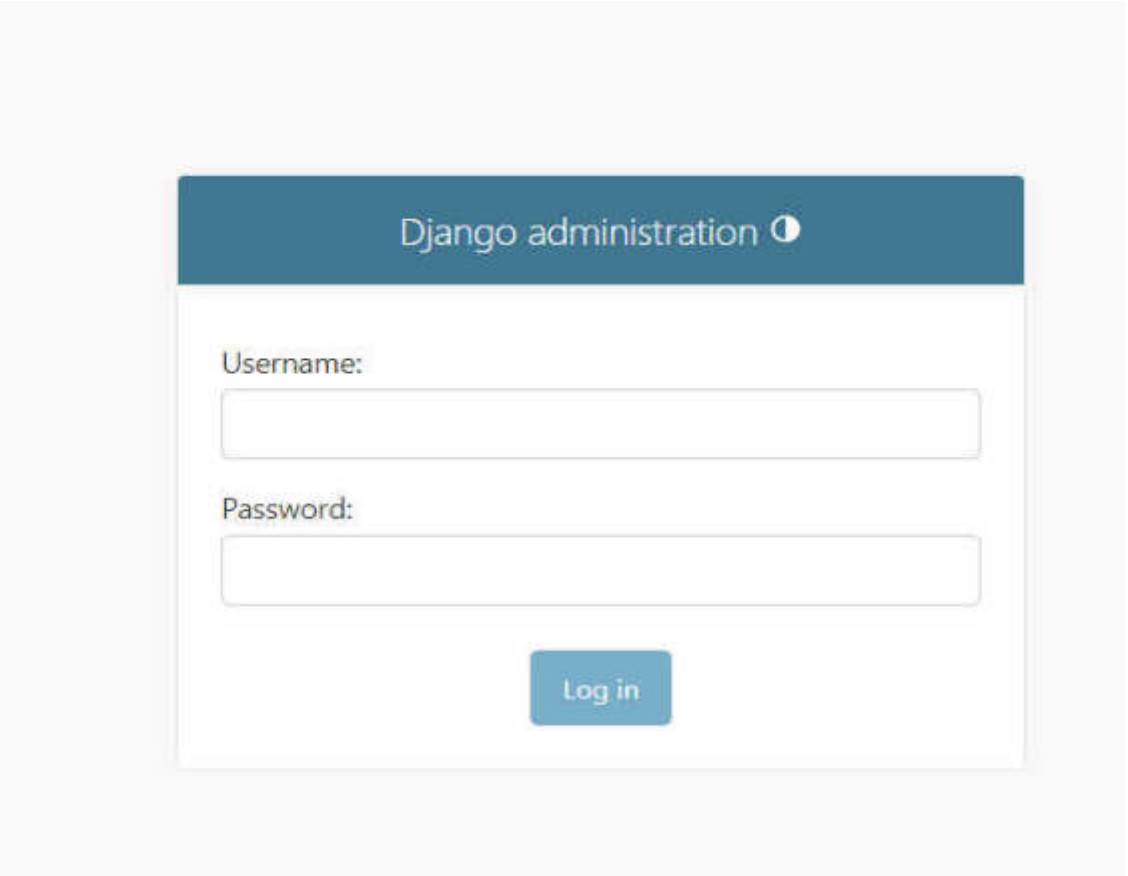
Make Migrations & Migrate: In Django, **makemigrations** is a command used to create files that capture changes in your app's data structure. These changes are then applied to the database using the migrate command, ensuring your code and database remain in sync.



2.2 Superusers in Django:

In Django, a superuser is a user account with administrative privileges that can access and manage the admin interface. Superusers have the ability to add, edit, and delete records across the application's models through the Django admin panel. They play a crucial role in managing the backend of a Django-powered website or application.

When you write /admin after the user page address you will see a login or admin panel.
http://127.0.0.1:8000/admin/login/?next=/admin/

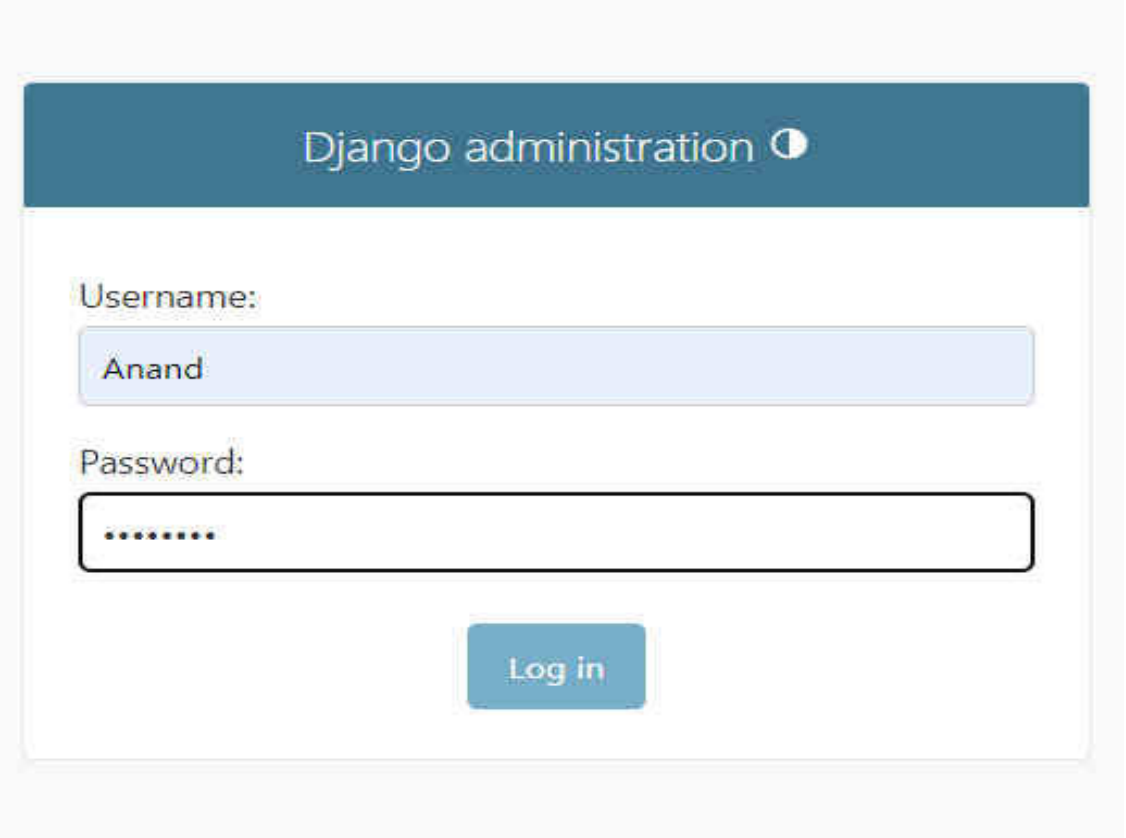


2.2.1 Creating Superuser:

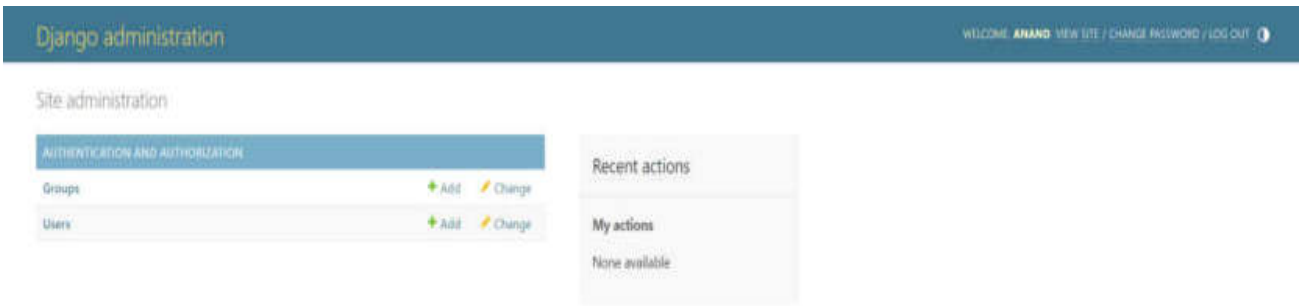
To create superuser you have to type the command in the terminal
python maange.py createsuperuser
This will execute and give the following output

```
(venv) PS C:\Users\gurus\PycharmProjects\Internship practice 10> python manage.py createsuperuser
Username (leave blank to use 'gurus'): Anand
Email address: and@gmail.com
Password:
Password (again):
Superuser created successfully.
```

- Now for login you have to use the superuser name and password. You can create more than one superuser.



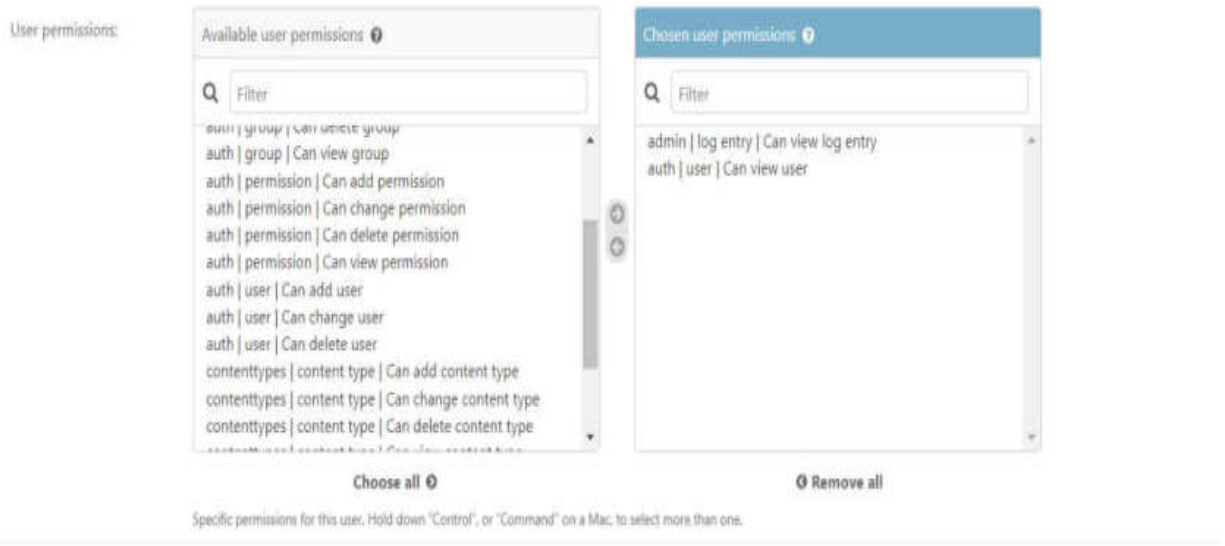
- After login you will see the following page.



2.2.2 Superuser permissions:

The superuser that you created have all the permissions. When there are more than one superuser you have to decide to give permissions to other users through the main admin or superuser.

If the permissions are not decided then it will result in the Insert, update or delete of the data. This can be done by using the inbuilt permission box given in django admin panel. You have to remove the superuser status box for the permissions to work, nor the user will have permissions along with the superuser permissions.



- After setting the permission when the user login again it will have the following permissions that are been given.
- Because the user was given the login and view other users' permission, it can be seen in the above-mentioned figure.



Chapter 3. Introduction to Database

3.1 Introduction to SQLite 3:

SQLite3 is the default database backend used by Django, a popular Python web framework. It provides an easy and efficient way to store and retrieve data for web applications. Django abstracts the database interactions, allowing developers to work with models and query data using Python code. While suitable for development and small-scale applications, it's recommended to switch to more robust databases like PostgreSQL or MySQL for larger and production-level projects due to their scalability and advanced features.

3.2 CRUD Operations in Django:

1. **Delete Operation**: Use Django admin's built-in interface to select and delete records. Registered models in the admin panel allow easy record deletion.

2. **Insert Operation**: In the admin panel, use the "Add" button to input data and create new records.

3. **Update Operation**: Modify records via the admin panel by selecting them, making changes, and saving the updates.

For the read operation you have to use the ORM (Object Relational Mapping) because using it you can call the objects directly.

3.2.1 Apps in Django:

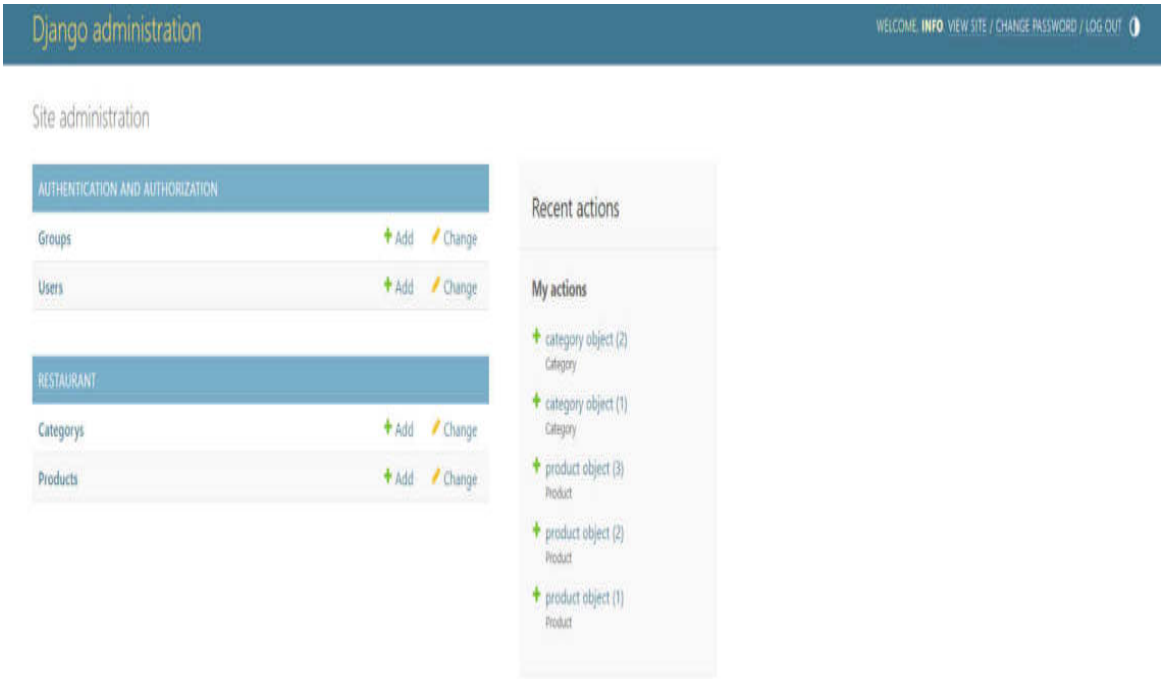
In Django, apps are modular components that encapsulate specific functionalities or features of a web application. Each app focuses on a particular aspect of the project, such as user authentication, blog posts, comments, etc. Apps promote code organization, reusability, and maintainability. They consist of models, views, templates, and other supporting files needed for that specific feature. Apps can be reused across projects, fostering a modular and scalable approach to web development.

For creating the apps in the django you have to type the following command in the terminal.

- django-admin startapp appname
- The app contains model.py, admin.py, view.py etc. inbuilt files.

After that you have to register the app in the settings.py installed apps of the main project.

```
INSTALLED_APPS = [
    'django.contrib.admin',
    'myapp.apps.MyappConfig',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
]
```



3.3 Creating Database:

We create the database in the apps folder in the preinstalled files models.py and admin.py. The information for the same using e.g., is provided below.
For performing the crud operation in database, we will use model.py and admin.py file of app we create.

3.3.1 Models.py:

In Django, the models.py file is where you define the structure and behavior of your application's data. It contains Python classes, called models, that represent the various entities and their attributes in your database. These models define the data schema, relationships, and constraints. By creating models in models.py, you're essentially creating a blueprint for how your data will be stored, retrieved, and manipulated in the database.

The simple database created in models.py is shown in below figure.

```python
from django.db import models

# create your models here.
2 usages
class product(models.Model):
    name = models.CharField(max_length=50)
    price = models.IntegerField()

2 usages
class category(models.Model):
    name = models.CharField(max_length=60)
    description = models.TextField()
```

3.3.2 Admins.py:

In Django, the admins.py file is used to configure and customize the admin interface for managing your application's data. You can register your models with the admin site, which allows you to easily perform CRUD operations on your data through a user-friendly web interface. By customizing admins.py, you control how your models are displayed, filtered, and edited in the admin panel, enhancing the management and manipulation of your application's data without needing to build custom views or templates.

The simple database register using admin.py is shown in below figure.

```python
from django.contrib import admin
from .models import product,category

# Register your models here.
1 usage
class productdisplay(admin.ModelAdmin):
    list_display = ['name', 'price']

admin.site.register(product,productdisplay)

1 usage
class categorydisplay(admin.ModelAdmin):
    list_display = ['name', 'description']

admin.site.register(category,categorydisplay)
```

- The database looks in the following way in the website and sqlite3 database.



id	name	price
Filter	Filter	Filter
1	Parker pen	20
2	Pencil	10
3	Pilot Pen	50

id	name	description
Filter	Filter	Filter
1	Pen	there are wide options for ball pen an...
2	Books	There are many inspiring and ...

3.4 Multiple Database:

Multiple databases refer to the practice of using and managing more than one separate database within a single software application or system. This can involve utilizing different database systems, instances, or schemas to store and manage various sets of data or to achieve specific performance, security, or scalability goals. It's commonly used in scenarios where an application needs to handle diverse types of data or distribute data storage across multiple resources.

3.4.1 Multiple Database in Django:

In Django, multiple databases refer to the capability of using and managing more than one distinct database within a single Django project. This feature allows you to define and interact with multiple database connections using the same codebase. Each database connection can use a different database engine, such as SQLite, PostgreSQL, MySQL, etc., and may serve different purposes within your application. This is useful for scenarios

where you need to segregate data or use different databases for different parts of your application, such as separating user data from analytics data.

The multiple databases are created using the same format as done in the single database but more than one database is created. The above e.g., explains the below.

```python
from django.db import models

# Create your models here.
2 usages
class contactus(models.Model):
    name = models.CharField(max_length=30)
    email = models.CharField(max_length=50)
    phone = models.IntegerField()
    message = models.TextField()

2 usages
class userinfo(models.Model):
    name = models.CharField(max_length=30)
    email = models.EmailField()
    phone = models.CharField(max_length=11)
    linkedin = models.URLField()
    description = models.TextField()
    addedon = models.DateTimeField(auto_now_add=True)
```

```python
CITY_CHOICES = [
    ('1', 'Anand'),
    ('2', 'Surat'),
    ('3', 'Rajkot')
]

2 usages
class address(models.Model):
    name = models.CharField(max_length=30)
    add = models.TextField()
    city = models.CharField(choices=CITY_CHOICES,max_length=30)
```

```python
from django.contrib import admin
from .models import contactus, userinfo, address

# Register your models here.
1 usage
class showcontact(admin.ModelAdmin):
    list_display = ['name', 'email', 'phone', 'message']

admin.site.register(contactus,showcontact)

1 usage
class showuserinfo(admin.ModelAdmin):
    list_display = ['name', 'email', 'phone', 'linkedin', 'description', 'addedon']

admin.site.register(userinfo,showuserinfo)
```

```python
class showaddress(admin.ModelAdmin):
    list_display = ['name', 'add', 'city']

admin.site.register(address,showaddress)
```

id	name	email	phone	message
Filter	Filter	Filter	Filter	Filter
1	Krish	krish@gmail.com	678901235	Please contact to this person for any ...

id	name	email	phone	linkedin	description	addedon
Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	Shrey	shrey16@gmail.com	5345908762	https://linkedin.com/in/Shrey	I am a bachelor student and I want ...	2023-08-01 05:08:05.641132

id	name	add	city
Filter	Filter	Filter	Filter
1	Shrey	34, Aristo Villa Bungalows Nr Lambel ...	1

3.4.2 Foreign Key Concept:

A foreign key is a link between two database tables. In Django models, it's a field that connects one model to another. It maintains data integrity and enables you to navigate between related data. For example, a book model might have a foreign key to an author model, creating a connection between the two. It gives the following functionalities.

- Model Relationships.
- Database Integrity.
- Navigation.
- Data Integrity.

The e.g., of foreign key shown using the bank database e.g.

```python
class role(models.Model):
    user_typename = models.CharField(max_length=20)

    def __str__(self):
        return self.user_typename

STATUS_CHOICES = [
    ('0', 'Active'),
    ('1', 'Inactive')
]
```

4 usages

```python
class user_detail(models.Model):
    u_name = models.CharField(max_length=50)
    u_password = models.CharField(max_length=30)
    u_email = models.EmailField(max_length=100)
    u_phone = models.CharField(max_length=11)
    u_type = models.ForeignKey(role, on_delete=models.CASCADE)
```

```python
class bankcard_detail(models.Model):
    user_id = models.ForeignKey(user_detail, on_delete=models.CASCADE)
    bankname = models.CharField(max_length=50)
    cardno = models.IntegerField()
    endmonth = models.CharField(choices=MONTH_CHOICES, max_length=20)
    end_year = models.CharField(choices=YEAR_CHOICES, max_length=20)
```

3 usages

```python
class country(models.Model):
    country_name = models.CharField(max_length=60)
```

3 usages

```python
class state(models.Model):
    country_id = models.ForeignKey(country, on_delete=models.CASCADE)
    state_name = models.CharField(max_length=50)
```

id	u_name	u_password	u_email	u_phone	u_status	u_type_id
Filter	Filter	Filter	Filter	Filter	Filter	Filter
5	Ramesh	ramesh@908	ramesh@admin.com	8905623715	0	2
6	Naresh	naresh@123	naresh78@gmail.in	9870452309	1	4

id	state_name	country_id_id
Filter	Filter	Filter
4	Vancover	3
5	Gujarat	1
6	New Jersey	2

id	city_name	state_id_id
Filter	Filter	Filter
5	Anand	5
6	Newark	6
7	Sari	4

id	country_name
Filter	Filter
1	India
2	USA
3	Canada

Chapter 4. Basics of UI and API

4.1 HTML in Django:

In Django, HTML (Hypertext Markup Language) is used to structure the content and layout of web pages. HTML templates in Django allow you to dynamically generate HTML content by embedding Python code within HTML markup. This allows you to create dynamic web pages that display data from the backend, adapt to user interactions, and maintain a consistent layout across your application.

4.1.1 Steps for Templates:

Here are the basic steps for creating HTML file in Django using templates folder.

1. Create an app: python manage.py startapp myapp
2. Configure myapp/templates/my_template.html.
3. Define a view function in myapp/views.py.
4. Map a URL to the view in myapp/urls.py.
5. Access template variables and logic in my_template.html.
6. Run the development server: python manage.py runserver.



```
from django.shortcuts import render

# Create your views here.
1 usage
def index(request):
    return render(request, template_name: 'index.html')
```

- The above-mentioned steps then have to be followed further for creating urls.py file for app path and then installing or registering it in the project urls.py file.

```
from django.urls import path
from .import views
urlpatterns = [
    path('', views.index, name="indexfile"),
]
```

4.2 CSS and JS in Django:

CSS: In Django, CSS (Cascading Style Sheets) is used to style and format the visual appearance of web pages. It allows you to define how the HTML elements on your web pages should be presented, including aspects like colors, fonts, spacing, and layout. CSS helps make your Django web application more visually appealing and user-friendly.

JavaScript: JavaScript in Django refers to the use of the JavaScript programming language within a Django web application. Django is a Python web framework, and JavaScript is a client-side scripting language primarily used to enhance interactivity and functionality in web browsers.

4.2.1 Steps for CSS:

1. Create Directory: Make a "static" directory inside your app's folder.
2. Add CSS File: Place your CSS file in "static/app_name/".
3. Link in Template: In your HTML template, load static files with {% load static %} and use {% static 'path_to_css_file' %} to create the CSS URL.
4. Apply Styles: Define styles in the CSS file and use class names or IDs to apply them to HTML elements in your template.
5. Run Development Server: Start Django's development server to see your CSS changes locally.

- Here is the simple sample code for CSS attached as a figure below.

```
h1{
color:red;
}
```

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
  </head>
<body>
  <h1>Welcome to about us page</h1>
  <a href="{% url 'indexfile' %}">GO TO HOME PAGE</a><br>
    <table border="1" class="table table-striped table-hover">
        <tr>
            <th>Header 1</th>
            <th>Header 2</th>
            <th>Header 3</th>
            <th>Header 4</th>
```

Welcome to home page

4.2.2 Steps for JS:

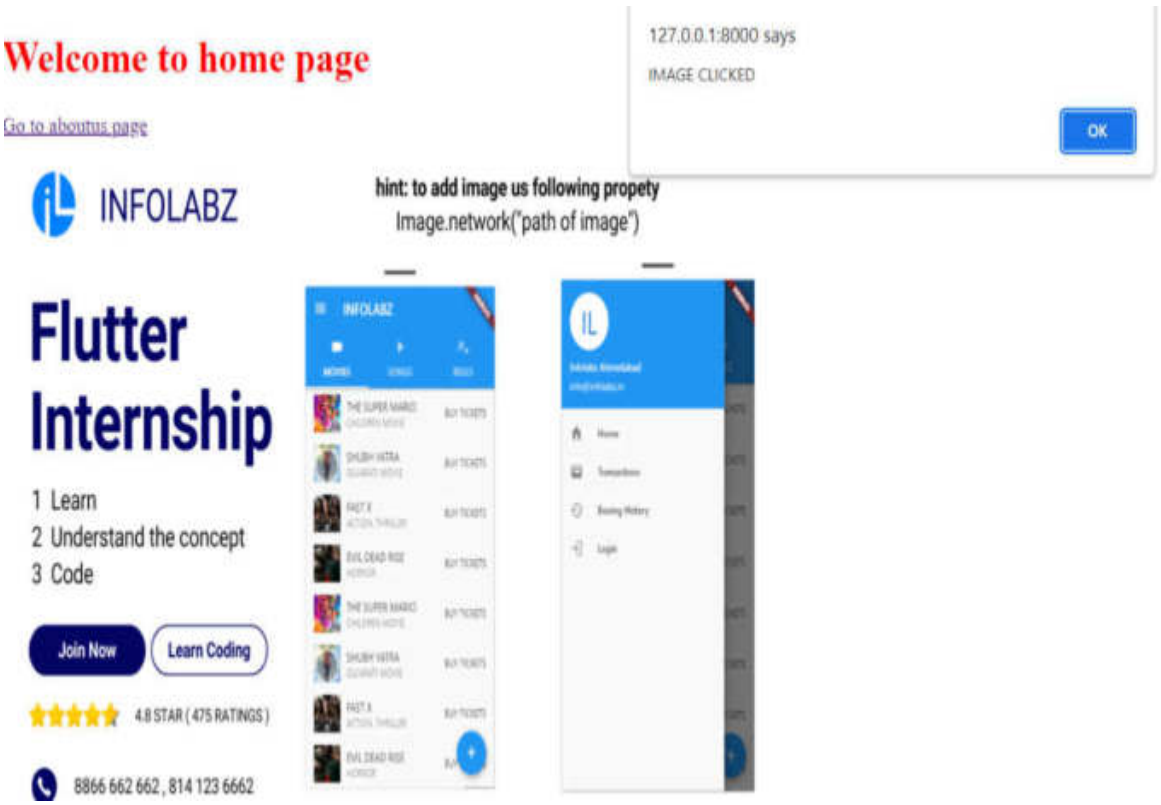
1. Create Directory: Make a "static" directory inside your app's folder.
2. Add JavaScript File: Place your JavaScript file in "static/app_name/".
3. Link in Template: In your HTML template, use the <script> tag with the file's URL to incorporate the JavaScript.
4. Write JavaScript Code: Inside your JavaScript file, write the client-side code you want to execute.

5. Run Development Server: Start Django's development server to test your JavaScript locally.

- Here is the simple sample code for JavaScript attached as a figure below.

```
function viewmsg(){
    alert("IMAGE CLICKED");
}
```

```
<!DOCTYPE html>
<html lang="en">
{% load static %}
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="{% static 'css/style.css' %}">
    <script src="{% static 'js/demo.js' %}"></script>
</head>
<body>
  <h1>Welcome to home page</h1>
    <a href="{% url 'aboutusfile' %}">Go to aboutus page </a><br>
    <img src="{% static 'images/intft.png' %}" height="500px" width="700px" onclick="viewmsg();" />
</body>
</html>
```



4.2.3 Bootstrap:

In the context of Django, integrating Bootstrap means bringing in the Bootstrap front-end framework to improve the appearance and user interface of web applications. Bootstrap offers a collection of pre-designed elements and styles that simplify the process of building responsive and visually appealing web pages. This integration allows Django developers to create modern and user-friendly interfaces without needing to craft extensive custom design and layout code.

1. Setup Project: Create a Django project and app if you haven't already.
2. Static Files: Configure static file settings in settings.py.
3. Bootstrap Files: Download Bootstrap or use a CDN for CSS and optionally JavaScript.
4. Templates: Create HTML templates in your app's templates directory.

5. Apply Bootstrap: Use Bootstrap classes in your templates to style elements.

6. Add Components: Integrate Bootstrap components like forms, navigation bars, etc.

7. Customize (Optional): Customize styles with custom CSS if needed.

Here is the simple sample code for bootstrap attached as a figure below.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
  </head>
<body>
  <h1>Welcome to about us page</h1>
  <a href="{% url 'indexfile' %}">GO TO HOME PAGE</a><br>
    <table border="1" class="table table-striped table-hover">
        <tr>
            <th>Header 1</th>
            <th>Header 2</th>
            <th>Header 3</th>
            <th>Header 4</th>
```



4.3 API in Django:

In Django, an API (Application Programming Interface) is a mechanism that enables different software components to communicate. In web development, it typically involves exposing specific functions and data of a web application, allowing external systems to

interact with and control the application remotely over the internet. This is often done through endpoints that handle requests and responses, facilitating actions like retrieving, creating, updating, and deleting data. There are specifically two types of API in Django.

RESTful API: A RESTful API in Django, using the Django REST framework, exposes your app's data and services to external systems. It follows HTTP methods (GET, POST, PUT, DELETE) for actions on resources. For example, you can create an API to list, create, update, and delete articles. Endpoints like /articles/ and /articles/<article_id>/ handle these actions.

Internal Modular API: An internal modular API in Django improves code organization by facilitating effective communication between different parts of the application. For instance, you could have a user management module communicating with an authentication module via well-defined internal APIs. This separation enhances maintainability and code reuse. These APIs serve distinct purposes: one for external interaction and the other for internal modularity, yet both create interfaces for components to communicate within a Django app.

4.3.1 Dictionaries in API:

Dictionaries in Python are a collection of key-value pairs, where each key is unique and associated with a value. They are often used to store and manage data in a structured way. In the context of Django, you might use dictionaries for various purposes, such as passing data to templates, handling form data, or processing JSON data from APIs.

Here is the sample basic code for python dictionary usage in the below figure.

```
# curly bracket
# key (left) : value (right)
# to access value key is required.
mydata = {"Ahmedabad":100,"Surat":200,"Rajkot":300}
print(mydata["Rajkot"])
mydata1 = {"Ahmedabad":100,"Surat":[200,250,1],"Rajkot":300}
print(mydata1["Surat"][1])

mydata2 = {"Ahmedabad":[{"date":"5 Aug 2023","cases":15},
                        {"date":"6 Aug 2023","cases":25},
                        {"date":"7 Aug 2023","cases":35}],
           "Surat":[200,250,1],
           "Rajkot":300}
print(mydata2["Ahmedabad"][1]["date"])
print(mydata.keys())
```



- We are given some handfuls tasks on the different API links to learn more about working and integrating of API that I am attaching with name, output in below topics in form of figure as an e.g.

4.3.2 Different API Tasks:

1. COVID.py: This API shows the cases of covid19 for India.

```
import requests

url = requests.get("https://data.covid19india.org/data.json")
mydata = url.json()

print(mydata.keys())
print(mydata["cases_time_series"][0]["date"])
print(len(mydata["cases_time_series"]))
```



2. Bitcoin.py: This API shows the rate of bitcoin in the terms of different currency.

```python
# pip install requests

import requests

url = requests.get("https://api.coindesk.com/v1/bpi/currentprice.json")
mydata = url.json()

print(type(mydata))
print(mydata["bpi"]["USD"]["rate"])
print(mydata.keys())
```

```
"C:\Users\gurus\PycharmProjects\Internship practice 9\venv\Scripts\python.exe" "C:\Users\gurus\PycharmProjects\Internship practice 9\bitcoin.py"
<class 'dict'>
29,346.5558
dict_keys(['time', 'disclaimer', 'chartName', 'bpi'])

Process finished with exit code 0
```

Chapter 5. Final Project

5.1 Project Overview:

We use Django and Bootstrap framework in this Django real time news website. We mainly used the basic html, bootstrap classes, views.py and requests package. You will be able to see all the live news here in browser. The news will change if there will be a new updated live news whenever you refresh the page. We get all the data from the Inshorts API which is a type of RESTful API. This project is a news website or news app that I made to practice Django and API. It was developed using Django framework and Bootstrap classes.

5.2 Requirements:

- HTML
- Bootstrap classes
- PyCharm
- Python
- Django
- API

5.3 Index.html:



5.4 Views.py:

```python
import requests
from django.shortcuts import render
import requests


# Create your views here.
1 usage
def index(request):
    records = {}
    url = requests.get("https://inshorts.me/news/all?offset=0&limit=21")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, template_name: 'index.html',records)
```

5.5 Final output:



5,500-year-old gate discovered in Israel, pic released

Israel archaeologists excavating an area near Kiryat Gat's industrial zone discovered a 5,500-year-old gate, the oldest such structure ever found in Israel. They also unveiled portion of a fortification system, all dating to the Early Bronze Age, approximately 3,300 years ago. According to Israel Antiquities Authority, this provides valuable insights into the development of urban centres.



Adani Green's unit appeals against tax demand

Adani Green Energy's subsidiary Adani Energy has filed an appeal before the Commissioner of Income Tax (Appeals). The matter is related to the computation of capital gains on account of the transfer of equity shares in an internal restructuring scheme, a filing said. The expected financial implication, if any, due to compensation or penalty could be ₹72.16 crore, it added.



SRK changes his social media profile pic to National Flag on I-Day

On India's 77th Independence Day, Shah Rukh Khan changed his profile picture on social media platforms to the picture of India's National Flag. Earlier in the day, the actor had posted a picture, which also featured his wife Gauri Khan and son Abram. On the work front, the actor will be seen in Atlee directorial 'Jawan'.



K'taka constable suspended after WhatsApp status against INC MLA

Karnataka Police constable Latha, who posted WhatsApp status against Congress MLA KS Anand, has been suspended. Latha had alleged that Anand interfered with her transfer to Tarikere, an allegation denied by the MLA. In her status, Latha said if anything happened to her, Anand would be responsible. Earlier, Congress workers approached Anand after Latha fined them for not wearing helmets.



Chandrayaan-3 completes all lunar bound manoeuvres; ISRO shares graphic

In a tweet on Wednesday, the Indian Space Research Organisation (ISRO) said, "Today's successful firing, needed for a short duration, has put Chandrayaan-3 into an orbit of 153 km x 163 km, as intended. With this, the lunar bound manoeuvres are completed." "Separation of the Lander Module from the Propulsion Module is planned for August 17, 2023," it added.



Aptech CEO Anil Pant passes way

Aptech MD and CEO Anil Pant passed away on Tuesday. The company informed in a BSE filing about Pant's death. "Dr Pant's contribution and energy will be missed by the company. All the Directors and employees of the company convey their deepest condolences to his family," the company said.

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INTERNSHIP AT INFOLABZ IT SERVICES PVT LTD.

AN INTERNSHIP REPORT

Submitted by

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BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

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ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Patel Aryan Shaileshbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technoloy, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116038
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Patel Aryan Shaileshbhai .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Patel Aryan Shaileshbhai all the best for future endeavors.

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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at InfoLabz** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technoloy** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName & FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Patel Aryan Shaileshbhai**	_____

ACKNOWLEDGMENT

I am extremely grateful for the enriching opportunity to have completed a 15-day summer internship at INFOLABZ IT Services Pvt Ltd. This experience has been truly invaluable in providing me with insights into the dynamic world of IT services and offering a hands-on learning environment. I extend my heartfelt appreciation to the entire team at INFOLABZ for their guidance, support, and encouragement throughout my internship journey. The exposure to real-world projects and the chance to collaborate with professionals in the field has undoubtedly contributed to my growth and understanding of the industry. I am thankful for the trust the company placed in me and for fostering an atmosphere that encourages learning and skill development. This internship has significantly enhanced my skill set and will undoubtedly have a lasting impact on my future endeavors in the IT sector. Thank you, INFOLABZ IT Services Pvt Ltd., for this incredible learning experience.

Abstract

During my 15-day internship at Infolabz Company, I undertook a project focused on developing a live news application that fetches real-time data from news APIs. This immersive experience allowed me to master crucial concepts including ES6 arrow functions, async programming, user input handling, and data rendering. Throughout the internship, I delved into the intricacies of modern JavaScript, refining my skills in utilizing ES6 features like arrow functions for concise code and grasping the power of async functions in managing asynchronous operations efficiently. Additionally, I honed my ability to create user-friendly interfaces, ensuring seamless interaction and value handling. The project not only provided a hands-on opportunity to navigate APIs but also enabled me to comprehend the complexities of real-time data collection, processing, and presentation. This experience not only expanded my technical proficiency but also strengthened my problem-solving acumen. In summary, my internship at Infolabz has been a transformative learning journey. Through practical application, I've mastered key programming concepts and refined my ability to develop user-centric applications. This report serves as a reflection of the comprehensive growth and skill enhancement I achieved during my tenure.

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1. INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in the IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced andhard working developers. Our developers who are always willing to take on new challenges and looking forward to learning new things, are the heart of this company.

Our objective is to sustain exponential growth in the IT industry. Our mission is to deliver the best with top notch quality every quarter and our vision is to develop a product with one of its kind concepts which could be used by millions of people.

2. Day - 1

2.1 Topics:

2.1.1 INTRODUCTION TO JS:-

- JavaScript (JS) is a programming language used mainly in web browsers to make websites interactive. It lets developers create dynamic content, handle user actions, and change web page elements. It works with the Document Object Model (DOM) to manipulate web page structure, supports events, functions, and loops, and handles asynchronous operations. JavaScript has frameworks and libraries for easier development, like React and Angular. It's crucial for modern web development and provides enhanced user experiences.

2.1.2 INTRODUCTION TO ES6:-

- ECMAScript 6 (ES6) is a major upgrade to JavaScript that introduced new features like `let` and `const` for variable declarations, arrow functions for concise function syntax, template literals for improved string handling, and enhanced object literals. It also added destructuring, default parameters, spread and rest operators, classes for structured OOP, native modules for better code organization, promises for handling asynchronous operations, and more. ES6 significantly improved JavaScript's capabilities and laid the groundwork for modern web development practices.

2.1.3 OBJECTS:-

- JavaScript objects are data structures that store related information as key-value pairs. They're created with `{}` and can hold various data types, including other objects and functions. Objects allow you to organize and access data and methods. You can add, modify, and access properties using dot notation or square brackets. Objects can also be used as blueprints for creating similar objects using constructors or classes. They're essential for managing complex data and behaviors in JavaScript programs.

2.1.4 Task - 1 Print the Json APIS into from of TABLE

Code:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-4bw+/aepP/
    YC94hEpVNVgiZdgIC5+VKNBQNGCHeKRQN+PtmoHDEXuppvnDJzQIu9" crossorigin="anonymous">
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/js/bootstrap.bundle.min.js"
    integrity="sha384-HwwvtgBNo3bZJJLYd8oVXjrBZt8cqVSpeBNS5n7C8IVInixGAoxmnlMuBnhbgrkm" crossorigin="anonymous"></script>
</head>
<body>
    <h2>Print the Json APIS into from of TABLE</h2>
    <script>
        var cases = { "ahmedabad": [1500, 1600, 2], "rajkot": [500, 600, 1], "vapi": [100, 50, 0] };
        document.write(`<table border="solid 2px" class="table">
            <th>City_name</th>
            <th>New_cases</th>
            <th>Recovered_Cases</th>
            <th>Death_Cases</th>`);
        for(var i in cases){
            document.write(`
            <tr class="table-primary">
                <td>${i}</td>
                <td>${cases[i][0]}</td>
                <td>${cases[i][1]}</td>
                <td>${cases[i][2]}</td>
            </tr> <br />
            `);
        }
        document.write(`</table>`);
    </script>

</body>
</html>
```

Fig 1. Task - 1 Code

Output:

Print the Json APIS into from of TABLE

City_name	New_cases	Recovered_Cases	Death_Cases
ahmedabad	1500	1600	2
rajkot	500	600	1
vapi	100	50	0

Fig 2. Task - 1 Output

3. Day - 2

3.1 Topics:-

3.1.1 JS Functions & Arrow Functions:-

- JavaScript functions are blocks of reusable code. Regular functions use the `function` keyword, and arrow functions use a concise `=>` syntax. Arrow functions inherit `this` from their surrounding context, making them useful for callbacks. Regular functions have an `arguments` object, while arrow functions don't. Regular functions are hoisted, while arrow functions are not. Regular functions are versatile, and arrow functions are concise for simpler tasks and proper `this` handling.

3.1.2 Async Function:-

- An async function in JavaScript is defined using the `async` keyword before the `function` keyword. It allows you to write asynchronous code using a more synchronous-like syntax. Inside an async function, you can use the `await` keyword to pause the function's execution until a promise is resolved. Async functions return promises implicitly and enable error handling with try-catch blocks. They simplify asynchronous programming, making it more readable and manageable. Async functions are widely supported in modern JavaScript environments.

3.1.3 BitCoin API:-

Code:

```
async function load(){
    let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
    let myobject = await (await fetch(url)).json();
    document.write(myobject["bpi"]["USD"]["rate"]);
}
load();
```

Fig 3. Fetch BitCoin API Code

Output:

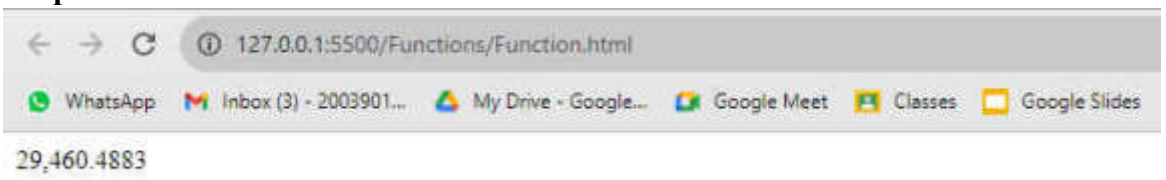


Fig 4. Fetch BitCoin API Output

3.1.4 Task - 2 Fetch the Data From the Covid-19 API and Print it in the Table.

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Task 2</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-4bw+/aepP/
    YC94hEpVNVgiZdgIC5+VKNBQNGCHeKRQN+PtmoHDEXuppvnDJzQIu9" crossorigin="anonymous">
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/js/bootstrap.bundle.min.js"
    integrity="sha384-HwwvtgBNo3bZJJLYd8oVXjrBZt8cqVSpeBNS5n7C8IVInixGAoxmnlMuBnhbgrkm" crossorigin="anonymous"></script>
</head>
<body>
    <script>
        async function load() {
            let url = "https://data.covid19india.org/data.json";
            let cases = await (await fetch(url)).json();
            document.write(`<table border="1" class="table table-striped"
            <tr>
                <th>Date</th>
                <th>New Confirmed</th>
                <th>New Recovered</th>
                <th>Death</th>
            </tr>`);
            for (var i=0; i<cases["cases_time_series"].length; i++){
                document.write(`<tr class="table-primary">
                <td>${cases["cases_time_series"][i]["date"]}</td>
                <td>${cases["cases_time_series"][i]["dailyconfirmed"]}</td>
                <td>${cases["cases_time_series"][i]["dailyrecovered"]}</td>
                <td>${cases["cases_time_series"][i]["dailydeceased"]}</td>
            </tr>
            `);
            }
            document.write(`</table>`);
        }
        load();
    </script>
</body>
</html>
```

Fig 5.Task - 2 Code

Output:

Date	New Confirmed	New Recovered	Death
30 January 2020	1	0	0
31 January 2020	0	0	0
1 February 2020	0	0	0
2 February 2020	1	0	0
3 February 2020	1	0	0
4 February 2020	0	0	0
5 February 2020	0	0	0
6 February 2020	0	0	0
7 February 2020	0	0	0
8 February 2020	0	0	0
9 February 2020	0	0	0
10 February 2020	0	0	0
11 February 2020	0	0	0
12 February 2020	0	0	0
13 February 2020	0	1	0
14 February 2020	0	0	0
15 February 2020	0	0	0
16 February 2020	0	1	0
17 February 2020	0	0	0
18 February 2020	0	0	0
19 February 2020	0	0	0
20 February 2020	0	1	0
21 February 2020	0	0	0
22 February 2020	0	0	0

Fig 6. Task - 2 Output

4. Day - 3

4.1 Topics:-

4.1.1 Covid API – Data fetching and mapping:-

Code:

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Lecture 3 </title>
</head>
<body>
    <script>
        async function load() {
            let url = "https://data.covid19india.org/data.json";
            let myobject = await (await fetch(url)).json();
            document.write(myobject["cases_time_series"][0]["date"]);
            document.write("<table border='1' width='100%'>");
            for (var i = 0; i < myobject["cases_time_series"].length; i++) {
                if (myobject["cases_time_series"][i]["dailyconfirmed"] >= 100000) {
                    document.write("<tr><td>" + myobject["cases_time_series"][i]["date"] + "</td><td style='color:red'>" + myobject
                    ["cases_time_series"][i]["dailyconfirmed"] + "</td><td>" + myobject["cases_time_series"][i]["dailyrecovered"] + "</
                    td><td>" + myobject["cases_time_series"][i]["dailydeceased"] + "</td></tr>");
                }
                else {
                    document.write("<tr><td>" + myobject["cases_time_series"][i]["date"] + "</td><td>" + myobject["cases_time_series"][i]
                    ["dailyconfirmed"] + "</td><td>" + myobject["cases_time_series"][i]["dailyrecovered"] + "</td><td>" + myobject
                    ["cases_time_series"][i]["dailydeceased"] + "</td></tr>");
                }
            }
            document.write("</table>");
        }
        load();
    </script>
</body>
</html>
```

Fig 7. Fetch Covid-19 API Code

Output:

30 January 2020	1	0	0
31 January 2020	0	0	0
1 February 2020	0	0	0
2 February 2020	1	0	0
3 February 2020	1	0	0
4 February 2020	0	0	0
5 February 2020	0	0	0
6 February 2020	0	0	0
7 February 2020	0	0	0
8 February 2020	0	0	0
9 February 2020	0	0	0
10 February 2020	0	0	0
11 February 2020	0	0	0
12 February 2020	0	0	0
13 February 2020	0	1	0
14 February 2020	0	0	0
15 February 2020	0	0	0
16 February 2020	0	1	0
17 February 2020	0	0	0
18 February 2020	0	0	0
19 February 2020	0	0	0
20 February 2020	0	1	0
21 February 2020	0	0	0
22 February 2020	0	0	0
23 February 2020	0	0	0

Fig 8. Fetch Covid-19 API Output

4.1.2 USER INPUT 1 : JS Pop Up Boxes:-

JavaScript provides three types of pop-up boxes:
1. Alert: Displays a message with an OK button for notifications.
    Syntax: alert("Message");

2. Confirm: Displays a message with OK and Cancel buttons for user confirmation.

Syntax: const result = confirm("Confirm?");

3. Prompt: Displays a message with an input field for gathering user input.

Syntax: const input = prompt("Enter something:");

These pop-up boxes are simple but can disrupt user experience and are less customizable. Modern alternatives like CSS frameworks or custom modals are often preferred for better user interaction.

4.1.3 USER INPUT 2 : Form to Variable:-

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Form to Variable</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/css/bootstrap.min.css" rel="stylesheet" integrity="sha384-4bw+/aepP/
    YC94hEpVNVgiZdgIC5+VKNBQNGCHeKRQN+PtmoHDEXuppvnDJzQIu9" crossorigin="anonymous">
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/js/bootstrap.bundle.min.js"
    integrity="sha384-HwwvtgBNo3bZJJLYd8oVXjrBZt8cqVSpeBNS5n7C8IVInixGAoxmnlMuBnhbgrkm" crossorigin="anonymous"></script>
</head>
<body>
    <script>
        function check(form){
            var name = form.uname.value;
            var surname = form.surname.value;
            //alert("User name is "+name+ " And Surname is "+surname);
            document.getElementById("msg").innerHTML = "User name is "+name+ " and Surname is "+surname;
        }
    </script>
    <Form> <br>
        Name : <input type="text" name="uname" /><br><br>
        Surname : <input type="text" name="surname" /><br><br>
        <input type="submit" onclick="check(this.form); return false;"/>
    </Form><br>
    <mark id="msg"></mark>
</body>
</html>
```

Fig 9. User Input Form to Variable Code

Output:

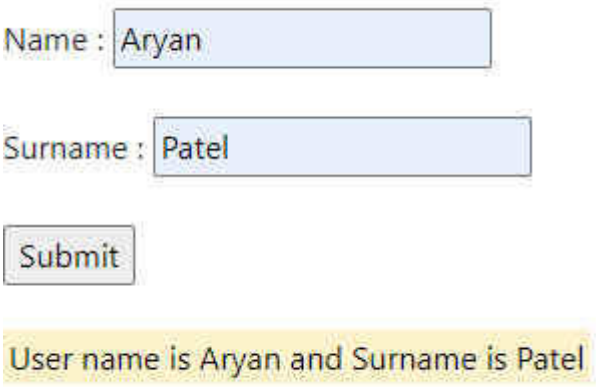


Fig 10. User Input Form to Variable Output

4.1.4 Task -3:- Get the Input From the User and Print the Data in the Form of Table.

Code:



Fig 11. Task - 3 Code

Output:



Fig 12. Task - 3 Output

5. Day - 4

5.1 Topics:-

5.1.1 JS Arrays:-

Code:

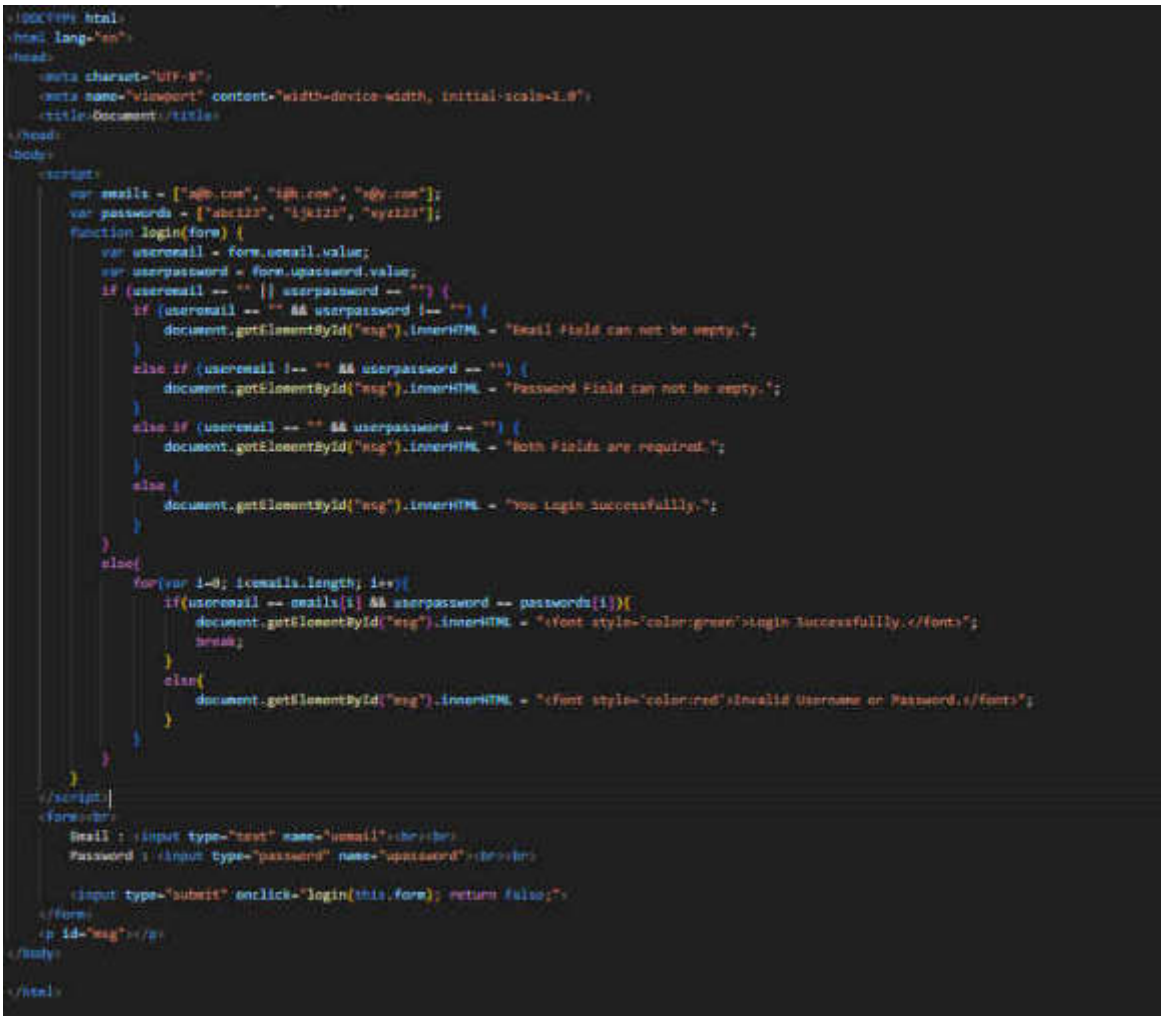


Fig 13. Java Script Arrays Code

Output:



Fig 14. Java Script Arrays Output

5.1.2 Form to Table & Task-4:- Fetch Data From APIs and Get the User Value and print in the Form of Table.

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Task 4</title>
</head>
<body>
    <script>
        async function load(form) {
            var pin = form.pincode.value;
            let url = `https://api.postalpincode.in/pincode/${pin}`;
            let myobject = await (await fetch(url)).json();
            //document.getElementById("msg").innerHTML = pin;
            if (pin == "") {
                //document.getElementById("msg").innerHTML = "<font style='color:red'> Field can not be Empty, Please enter a valid Pincode. </font>";
                document.write("Field can not be Empty, Please enter a valid Pincode.");
            }
            else {
                document.write("<table border='1'>");
                document.write("<tr><th>Places are</th></tr>")
                for (var i = 0; i < myobject[0]["PostOffice"].length; i++) {
                    if (pin == myobject[0]["PostOffice"][i]["Pincode"]) {
                        //document.getElementById("msg").innerHTML = "Pincodes Places are : " + myobject[0]["PostOffice"][i]["Name"];
                        document.write("<tr><td>" + myobject[0]["PostOffice"][i]["Name"] + "</td></tr>");
                    }
                    else if(myobject[0]["PostOffice"] == null){
                        //document.getElementById("msg").innerHTML = "<font style='color:red'> There are no such places of this Pincode </font>" + pin;
                        document.write("There are no such places of this Pincode </font>" + pin);
                    }
                }
                document.write("</table>");
            }
        }
        //load();
    </script>

    <form><br>
        Pincode : <input type="number" name="pincode" pattern="[0-9]" maxlength="6"> <br><br>
        <input type="submit" onclick="load(this.form); return false;">
        <!-- <button type="submit" onclick="load(this.form)">submit</button> -->
    </form>
    <br>
</body>

</html>
```

Fig 15. Form to Table & Task - 4 Code

Output:

Pincode : 382330

Submit

Places are
Bilasia
Limbadia
Medra
Nana Chiloda
Naroda
Naroda I E
Naroda S A
Pardhol
Vehlal

Fig 16. Form to Table & Task - 4 Output

6. Day - 5

6.1 Task Assignment:-

6.1.1 Assignment- 1:- Covid Data Check.

Code:

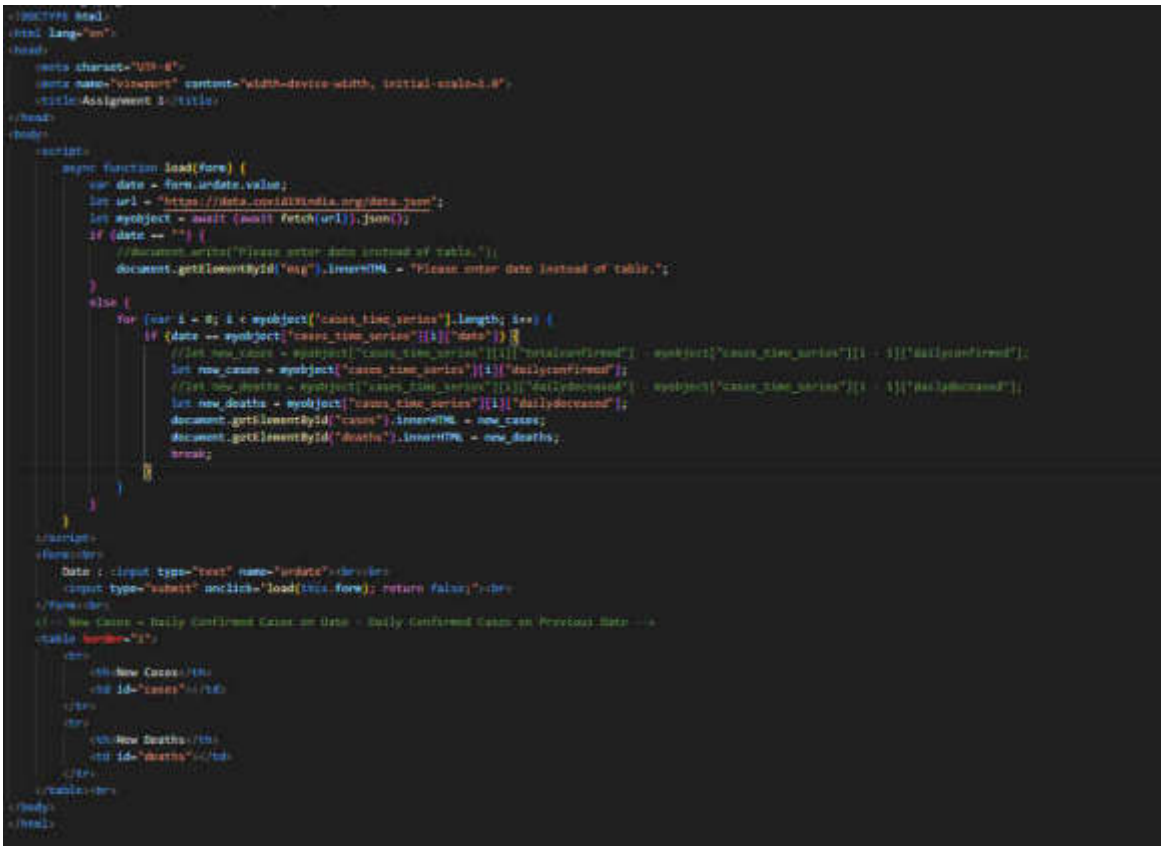


Fig 17. Assignment - 1 Covid Data Check Code

Output:

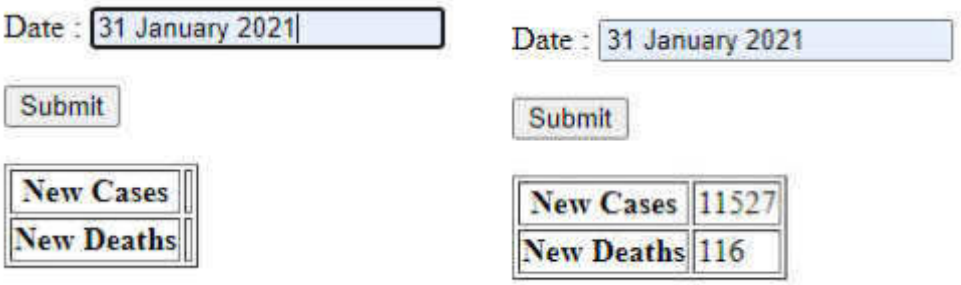


Fig 18. Assignment - 1 Covid Data Check Output

6.1.2 Assignment- 2:- Mutual Fund Check.

Code:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Assignment 2</title>
</head>
<body>
    <script>
        async function load(form) {
            let url = "https://api.mfapi.in/mf";
            let myobject = await (await fetch(url)).json();
            var data = form.scheme.value;
            document.getElementById("msg").innerHTML = "Total number of schemes are: " + myobject.length;
            if (data == "") {
                document.getElementById("msg1").innerHTML = "Please enter scheme code.";
            }
            else {
                for (var i = 0; i < myobject.length; i++) {
                    if (data == myobject[i]["schemeCode"]) {
                        document.getElementById("msg1").innerHTML = myobject[i]["schemeName"];
                        break;
                    }
                    else {
                        document.getElementById("msg1").innerHTML = "Scheme not found";
                    }
                }
            }
        }
    </script>
    <form><br>
        Enter Scheme Code : <input type="number" name="scheme"><br><br>
        <input type="submit" onclick="load(this.form); return false;"><br>
    </form><br>
    <p id="msg"></p>
    <p id="msg1"></p>
</body>
</html>
```

Fig 19. Assignment - 2 Mutual Fund Check Code

Output:

Enter Scheme Code : 100027

Submit

Total number of schemes are: 45505

Grindlays Super Saver Income Fund-GSSIF-Half Yearly Dividend

Fig 20. Assignment - 2 Mutual Fund Check Output

7. Day - 6

7.1 Topics:-

7.1.1 React Environment setup (Node JS installation) & First React App.

Node.js Installation:

1. Download Node.js from the official website.
2. Install it, which will also install npm.

Creating My First React App:

1. Open your terminal/command prompt.
2. Run: npx create-react-app my-first-app.
3. Navigate to the app directory: cd my-first-app.
4. Start the server: npm start.
5. Modify src/App.js for your app content.
6. Stop the server with Ctrl + C.

7.1.2 React Functional Components.

React functional components are simpler, stateless building blocks for UI elements. They receive data via props and are concise:

- Use the function keyword to define them.
- They focus on rendering UI based on props.
- Ideal for components that don't need internal state or lifecycle methods.
- Can be optimized for performance.
- Basis for using React hooks for state and effects.

Code:

App.js

react-app-internship > src > App.js > Secapp

```
import React from 'react';
//import Propsexample,{Create2} from './DailyTask/Propsexample';
function App() {
  return (
    <div>
      <p>Hello</p>
      <h2>This is react app.</h2>
    </div>
  );
}
function Secapp(){
  return(
    <div>
      <h2>This is second component</h2>
    </div>
  );
}
function Add(){
  var a=100, b=100;2
  return(
    <div>
      <h2>Addition of {a} and {b} is {a+b}. </h2>
    </div>
  );
}
export default App;
export {Secapp, Add};
```

Fig 21. React Functional Component Code

Output:

Hello

This is react app.

This is second component

Addition of 100 and 100 is 200.

Fig 22. React Functional Component Output

7.1.3 Task -6:- React Class Components.

React class components are reusable UI elements with their own internal state and lifecycle methods:

- Defined using the class keyword and extending Component.
- Have an internal state accessible via this.state.
- Can use lifecycle methods like componentDidMount.
- Suitable for components with internal state or more complex behavior.
- Hooks in functional components offer similar capabilities with better performance and simplicity.

Code:

App.js × index.js

react-app-internship > src > App.js > ...

```
import React from 'react';
import Propsexample,{Create2} from './DailyTask/Propsexample';
class App extends React.Component {
    render() {
        return (
            <div>
                <h1> This is first class component. </h1>
                <Propsexample name="Aryan"/>
                <Create2 name="Aryan" email="aryanpatels@gmail.com" />
            </div>
        );
    }
}

class Secapp extends React.Component {
    render() {
        return <h2> This is second class component. </h2>;
    }
}

class Add extends React.Component {
    render() {
        var a = 100, b = 100;
        return <h3> The Addition of {a} and {b} is {a + b}. </h3>;
    }
}

export default App;
export { Secapp, Add };
```

Fig 23. Task - 6 Code

Output:

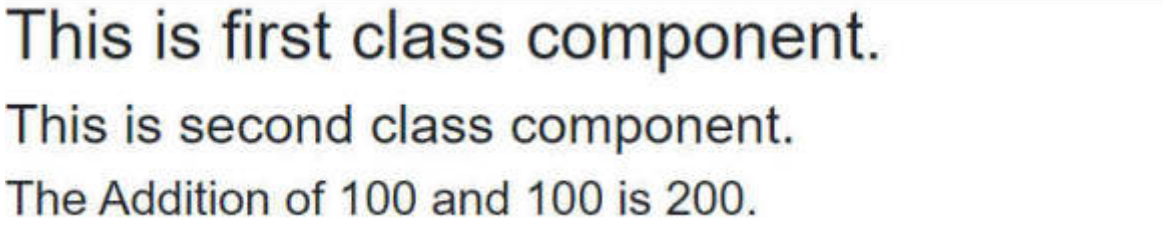


Fig 24. Task - 6 Code

8. Day - 7

8.1 Topics:-

8.1.1 Variable Data Map in the React.

- To dynamically render components based on an array of data in React:

Code:

App.js index.js Useofmap.js

react-app-internship > src > DailyTask > Useofmap.js > Useofmap

```
import React from 'react';
function Useofmap() {
    const newdata = "How are you?";
    return(
        <div>
            <h1>Data Variable.</h1>
            <h1>{newdata}</h1>
            <h1>{data}</h1>
        </div>
    );
}
const data = "Hiiii";
const newacc = [5, 10, 15, 20, 25];

function Newcomp(){
    return(
        <div>
            <h1>Hello</h1>
            <h2>{data}</h2>
            <h3>{newacc[3]}</h3>
        </div>
    );
}

const alldata = [5, 10, 15, 20, 25];
function Display(){
    return(
        <div>
            {
                alldata.map(
                    (data) => {
                        return <h2>{data}</h2>
                    }
                )
            }
        </div>
    );
}
export default Useofmap;
export {Newcomp,Display};
```

Fig 25. Variable Data Mapping In React Code

Output:



Fig 26. Variable Data Mapping In React Output

8.1.2 Object Map in the React.

Code:

App.js | index.js | Useofmap.js | Mapwithobjects.js

react-app-internship > src > DailyTask > Mapwithobjects.js > Datashow

```
import React from 'react';
function MApwithobjects() {
    return (
        <div className="App">
            <h4>Object Data App</h4>
        </div>
    );
}
const data = { "KEY1": "VALUE1", "KEY2": "VALUE2", "KEY3": "VALUE3"};

function Datashow() {
    return (
        <div>
            {
                Object.keys(data).map(
                    (items, i) => {
                        return <h4> {items} and {data[items]} </h4>
                    }
                )
            }
        </div>
    );
}

export default MApwithobjects;
export { Datashow };
```

Fig 27. Object Data Mapping In React Code

Output:

Object Data App

KEY1 and VALUE1

KEY2 and VALUE2

KEY3 and VALUE3

Fig 28. Object Data Mapping In React Output

8.1.3 Task -7:- Map the Obaject Data and Print in the Form of Table.

Code:

App.js | index.js | Useofmap.js | Mapwithobjects.js

react-app-internship > src > DailyTask > Mapwithobjects.js > Tableshow

```
function Tableshow() {
    return (
        <div>
            <table border="4" className="table">
                <tr>
                    <th>Kyes</th>
                    <th>Values</th>
                </tr>
                <tbody border="1">
                    {Object.keys(data).map(
                        (items, i) => {
                            return (
                                <tr className="table-primary">
                                    <td>{items}</td>
                                    <td>{data[items]}</td>
                                </tr>
                            );
                        }
                    )
                    }
                </tbody>
            </table>
        </div>
    );
}

export default MApwithobjects;
export { Datashow, Tableshow };
```

Fig 29. Task - 7 Code

Output:

Kyes	Values
KEY1	VALUE1
KEY2	VALUE2
KEY3	VALUE3

Fig 30. Task - 7 Output

9. Day - 8

9.1 Topics:-

9.1.1 React Props.

Props stand for "Properties." They are read-only components. It is an object which stores the value of attributes of a tag and works similar to the HTML attributes. It gives a way to pass data from one component to other components. It is similar to function arguments.

- Pass data by adding attributes to child components in the parent's JSX.
- Access data in child components using the props parameter.
- Pass functions to child components for event handling or actions.
- Use defaultProps to set default values for props.
- Props enable modular and customizable components.

Code:

App.js | Propsexample.js | index.js | Useofmap.js | Mapwitho

react-app-internship > src > DailyTask > Propsexample.js > ...

```
1  import React from 'react';
2
3  function Create(props){
4      return(
5          <div>
6              <h5>Hello, My name is {props.name} </h5>
7          </div>
8      );
9  }
10
11 function Create2(props){
12     return(
13         <div>
14             <h5>Hello, {props.name} and Email is {props.email}</h5>
15         </div>
16     );
17 }
18
19 export default Create;
20 export {Create2};
```

Fig 31. React Props Example Code

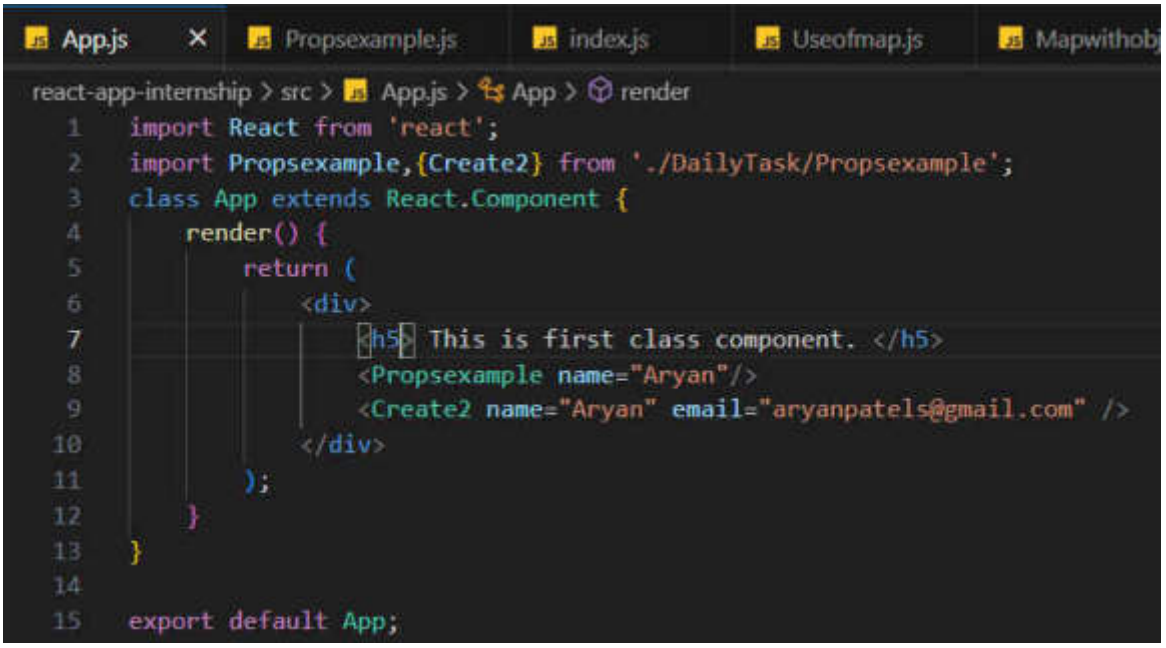


Fig 32. React Props Example Code

Output:

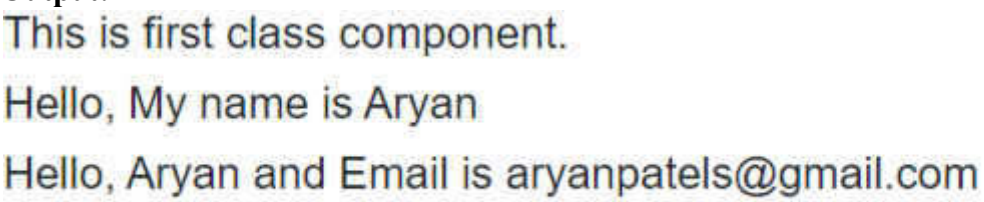


Fig 33. React Props Example Output

9.1.2 React Bootstrap.

React Bootstrap is a combination of React and Bootstrap, offering a set of pre-designed components for building responsive and visually appealing user interfaces. To use React Bootstrap:

1. Install it using npm or yarn.
2. Import the Bootstrap CSS in your main application file.
3. Use components like Navbar, Buttons, Cards, and more in your JSX code.

React Bootstrap simplifies UI development by merging the strengths of React and Bootstrap, providing ready-made components for creating modern, responsive applications.

9.1.3 Task -8:- Use of React Bootstrap and Print 9 Cards with Title and Text.

Code:

App.js | Newscard.js | NewsHunt.js | index.js

react-app-internship > src > DailyTask > Newscard.js > ...

```
import Card from 'react-bootstrap/Card';
import Col from 'react-bootstrap/Col';
import Row from 'react-bootstrap/Row';
import Image from 'react-bootstrap/Image';

function Newscard() {
    return (
        <div>
            <h3 className="App">News Cards</h3>
            <Row xs={1} md={3} className="g-4">
                {Array.from({ length: 9 }).map((_, idx) => (
                    <Col key={idx}>
                        <Card>
                            <Image variant="top" src="Image2.jpg" />
                            <Card.Body>
                                <Card.Title>Card title</Card.Title>
                                <Card.Text>
                                    This is a longer card with supporting text below as a natural
                                    lead-in to additional content. This content is a little bit
                                    longer.
                                </Card.Text>
                            </Card.Body>
                        </Card>
                    </Col>
                ))}
            </Row>
        </div>
    );
}

export default Newscard;
```

Fig 34. Task - 8 Code

Output:



Fig 35. Task - 8 Output

10. Day - 9

10.1 Topics:-

10.1.1 React Hooks: UseEffect and UseState.

React Hooks, introduced in React 16.8, provide state and lifecycle features in functional components.

- useState: Adds state to functional components.
- useEffect: Adds lifecycle behavior to functional components.
- Hooks promote cleaner and more concise code.
- useState manages state, and useEffect handles side effects.
- They are a powerful alternative to class components.

10.1.2 API Data Fetch with React.

Code:

react-app-internship > src > Components > SportsApi.js > NewsApi > imageStyle

```
import { Container, Row, Col, Card } from 'react-bootstrap';
import React, { useState, useEffect } from 'react';

function NewsApi() {
  const [mydata, setData] = useState([]);

  const apiget = () => {
    fetch('https://inshorts.me/news/topics/sports')
      .then((response) => response.json())
      .then((json) => {
        console.log(json);
        setData(json.data.articles);
      });
  };

  useEffect(() => {
    apiget();
    const interval = setInterval(() => {
      apiget();
    }, 500000);
    return () => clearInterval(interval);
  }, []);
```

Fig 36. API Data Fetch with React Example Code

```
react-app-internship > src > Components > SportsApi.js > ...
49    return (
50      <Container fluid>
51        <Row xs={1} md={3} className="g-4">
52          {
53            mydata.map((value) => (
54              <Col key={value.id} className="container-fluid mt-4">
55                <Card
56                  style={cardStyle}
57                  onMouseEnter={(e) => (e.currentTarget.style.transform = hoverStyle.transform)}
58                  onMouseLeave={(e) => (e.currentTarget.style.transform = 'none')}>
59                  <Card.Img variant="top" src={value.imageUrl} alt={value.title} style={imageStyle} />
60                  <Card.Body>
61                    <Card.Title
62                      style={titleStyle}
63                      onMouseEnter={(e) => (e.currentTarget.style.color = titleHoverStyle.color)}
64                      onMouseLeave={(e) => (e.currentTarget.style.color = titleStyle.color)}>
65                      {value.title}
66                    </Card.Title>
67                    <Card.Text>{value.content}</Card.Text>
68                    <footer className="blockquote-footer">
69                      Published On: {value.date}, {value.time}
70                    </footer>
71                  </Card.Body>
72                </Card>
73              </Col>
74            ))}
75        </Row>
76      </Container>
77    );
78  }
79
80  export default NewsApi;
```

Fig 37. API Data Fetch with React Example Code

Output:

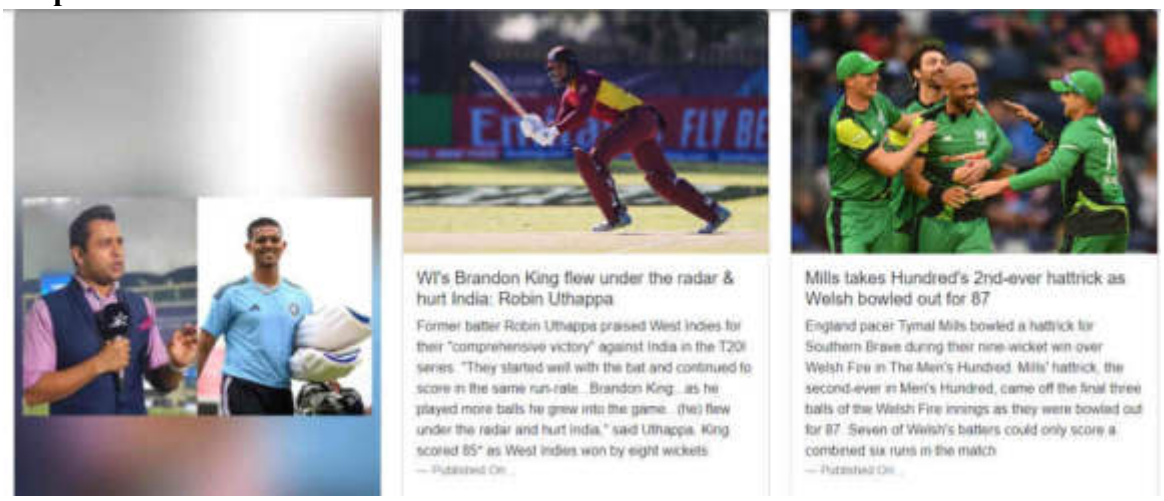


Fig 38. API Data Fetch with React Example Output

10.1.3 Task -9:- Apply CSS in the Above fetched Api Component.

Code:

```
import { Container, Row, Col, Card } from 'react-bootstrap';
import React, { useState, useEffect } from 'react';
function NewsApi() {
  const [mydata, setData] = useState([]);
  const apiget = () => {
    fetch('https://inshorts.me/news/topics/sports')
      .then((response) => response.json())
      .then((json) => {
        console.log(json);
        setData(json.data.articles);
      });
  };
  useEffect(() => {
    apiget();
    const interval = setInterval(() => {
      apiget();
    }, 500000);
    return () => clearInterval(interval);
  }, []);
  const cardStyle = {
    width: '100%', // Adjust as needed
    height: '100%', // Adjust as needed
    transition: 'transform 0.3s ease-in-out',
  };
  const hoverStyle = {
    transform: 'scale(1.05)', // Enlarge the card on hover
  };
  const imageStyle = {
    width: '100%', // Set the width
    height: '250px', // Set the height
    objectFit: 'contain', // Maintain aspect ratio and fit entire image
  };
```

Fig 39. Task - 9 Code

```
const titleStyle = {
  color: 'initial', // Initial color
  transition: 'color 0.3s ease-in-out', // Transition for color change
};
const titleHoverStyle = {
  color: 'red', // Color on hover
};
return (
  <Container fluid>
    <Row xs={1} md={3} className="g-4">
      {
        mydata.map((value) => (
          <Col key={value.id} className="container-fluid mt-4">
            <Card
              style={cardStyle}
              onMouseEnter={(e) => (e.currentTarget.style.transform = hoverStyle.transform)}
              onMouseLeave={(e) => (e.currentTarget.style.transform = 'none')}>
              <Card.Img variant="top" src={value.imageUrl} alt={value.title} style={imageStyle} />
              <Card.Body>
                <Card.Title
                  style={titleStyle}
                  onMouseEnter={(e) => (e.currentTarget.style.color = titleHoverStyle.color)}
                  onMouseLeave={(e) => (e.currentTarget.style.color = titleStyle.color)}>
                  {value.title}
                </Card.Title>
                <Card.Text>{value.content}</Card.Text>
                <footer className="blockquote-footer">
                  Published On: {value.date}, {value.time}
                </footer>
              </Card.Body>
            </Card>
```

Fig 40. Task - 9 Code

```
          </Col>
        ))}
      </Row>
    </Container>
  );
}

export default NewsApi;
```

Fig 41. Task - 9 Code

Output:

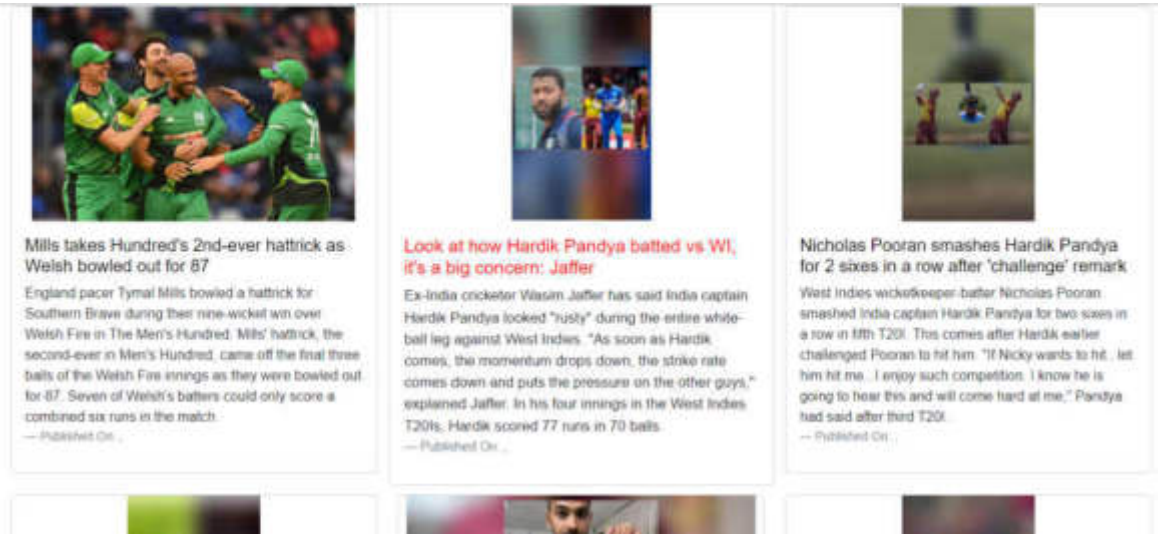


Fig 42. Task - 9 Output

11. Day - 10

11.1 TASK ASSIGNMENT:-

11.1.1 Assignment - 1:- API Based Real Time NEWS Web Page Application.

Code:

App.js | NewsApi.js | AllApi.js | NewsHunt.js | index.js

react-app-internship > src > Components > AllApi.js > ...

```
import React, { useState, useEffect } from 'react';
import { Container, Row, Col, Card } from 'react-bootstrap';
function AllApi() {
    const [mydata, setData] = useState([]);
    const apiget = () => {
        fetch('https://inshorts.me/news/all?offset=0&limit=21')
            .then((response) => response.json())
            .then((json) => {
                console.log(json);
                setData(json.data.articles);
            });
    };
    useEffect(() => {
        apiget();
        const interval = setInterval(() => {
            apiget();
        }, 500000);
        return () => clearInterval(interval);
    }, []);
    const cardStyle = {
        width: '100%', // Adjust as needed
        height: '100%', // Adjust as needed
        transition: 'transform 0.3s ease-in-out',
    };
    const hoverStyle = {
        transform: 'scale(1.05)', // Enlarge the card on hover
    };
    const imageStyle = {
        width: '100%', // Set the width
        height: '250px', // Set the height
        objectFit: 'contain', // Maintain aspect ratio and fit entire image
    };
```

Fig 43. Assignment - 1:- API Based Real Time NEWS Web Page Application Code.

```
    const titleStyle = {
        color: 'initial', // Initial color
        transition: 'color 0.3s ease-in-out', // Transition for color change
    };
    const titleHoverStyle = {
        color: 'red', // Color on hover
    };
    return (
        <Container fluid>
            <Row xs={1} md={3} className="g-4">
                {
                    mydata.map((value) => (
                        <Col key={value.id} className="container-fluid mt-4">
                            <Card
                                style={cardStyle}
                                onMouseEnter={(e) => (e.currentTarget.style.transform = hoverStyle.transform)}
                                onMouseLeave={(e) => (e.currentTarget.style.transform = 'none')}
                            >
                                <Card.Img variant="top" src={value.imageUrl} alt={value.title} style=
                                {imageStyle} />
                                <Card.Body>
                                    <Card.Title
                                        style={titleStyle}
                                        onMouseEnter={(e) => (e.currentTarget.style.color = titleHoverStyle.
                                        color)}
                                        onMouseLeave={(e) => (e.currentTarget.style.color = titleStyle.color)}
                                    >
                                        {value.title}
                                    </Card.Title>
                                    <Card.Text>{value.content}</Card.Text>
                                    <footer className="blockquote-footer">
                                        Published On: {value.date}, {value.time}
```

Fig 44. Assignment - 1:- API Based Real Time NEWS Web Page Application Code

```
                                    </footer>
                                </Card.Body>
                            </Card>
                        </Col>
                    ))
                }
            </Row>
        </Container>
    );
}

export default AllApi;
```

Fig 45. Assignment - 1:- API Based Real Time NEWS Web Page Application Code

Output:

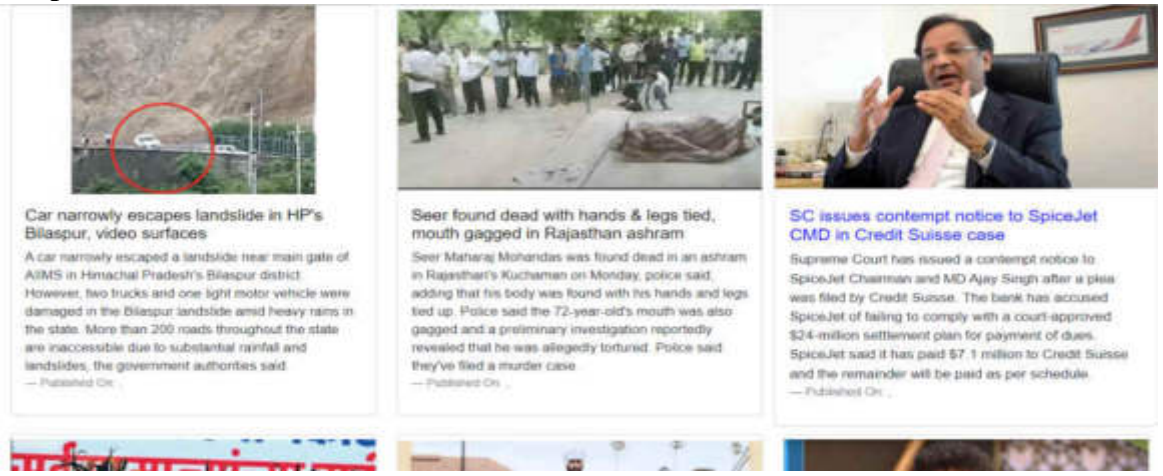


Fig 46. Assignment - 1:- API Based Real Time NEWS Web Page Application Output

12. Day - 11

12.1 Final Project:- Real Time API handling with React.

- "Introducing 'News Hunt,' a dynamic web application designed to keep users informed and engaged with the latest news from around the world. This cutting-edge platform boasts a user-friendly navigation system, allowing seamless movement between distinct news categories. Whether users are interested in 'Top News,' 'Trending News,' 'Entertainment,' 'Sports,' or 'Science,' the intuitive navbar provides instant access to their desired content.
- At the heart of this application is its sophisticated data retrieval mechanism. Leveraging the power of React Hooks, the project fetches real-time news data from diverse APIs. This dynamic integration ensures that users are consistently presented with the most up-to-date information. The responsive interface allows for effortless exploration of a myriad of news topics, tailored to individual interests.
- The 'News Hunt' project is a testament to the fusion of design and functionality. Its sleek and responsive design enhances user experience, while React Hooks enable efficient data retrieval and presentation. This amalgamation of innovation results in a seamless and engaging news platform, catering to users' preferences across an array of news categories. With 'News Hunt,' staying informed has never been more engaging and effortless."

Code:

FinalApp.js

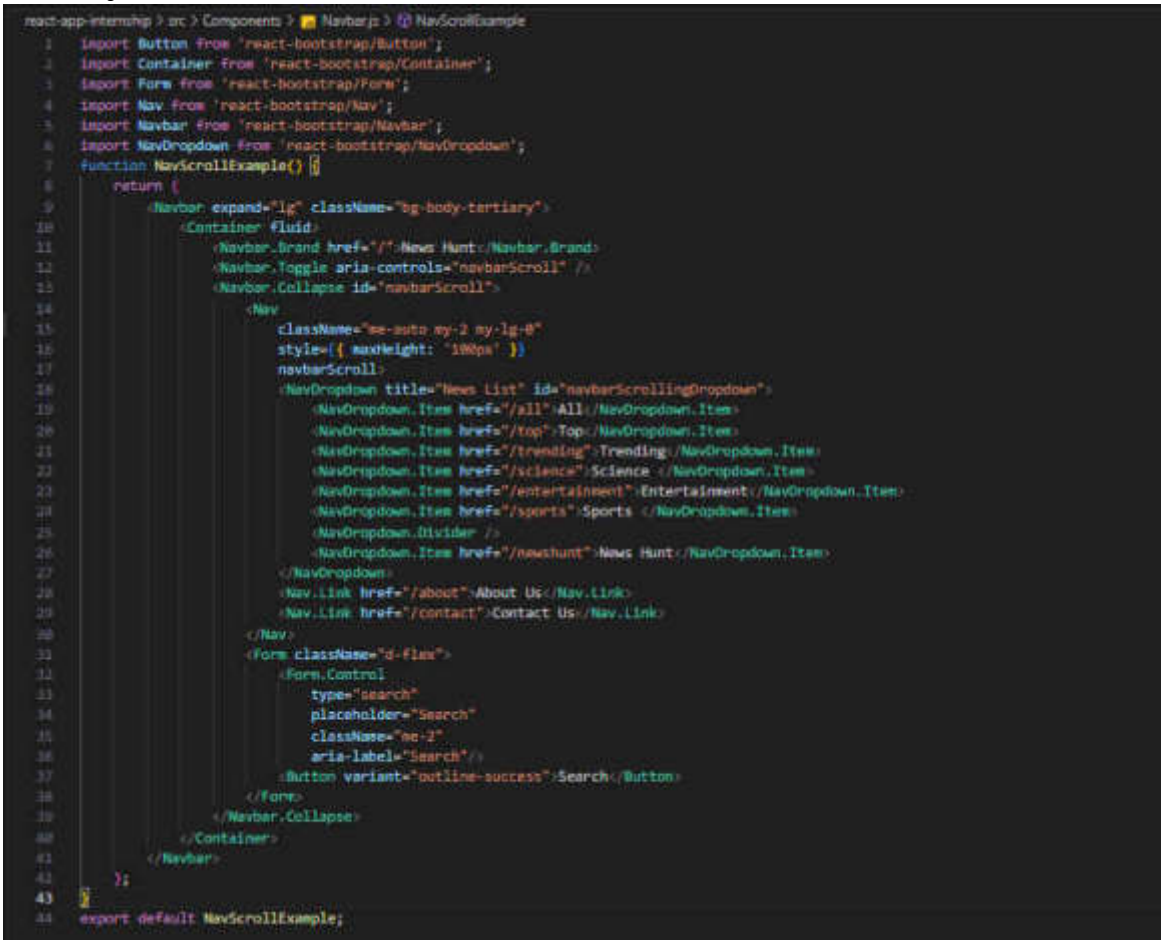
react-app-internship > src > Components > FinalApp.js > ...

```
import React, { Component } from 'react'
import {
  BrowserRouter as Router,
  Routes,
  Route
} from "react-router-dom";
import Navbar from '../Components/Navbar';
import NewsHunt from './NewsHunt';
import About from './About';
import Contact from './Contact';
import SportsApi from './SportsApi';
import AllApi from './AllApi';
import TopApi from './TopApi';
import TrendingApi from './TrendingApi';
import ScienceApi from './ScienceApi';
import EntertainmentApi from './EntertainmentApi';
function FinalApp(){
    return(
        <React.Fragment>
            <Navbar />
            <Router>
                <Routes>
                    <Route path="/" element={<NewsHunt />}/>
                    <Route path="/about" element={<About />}/>
                    <Route path="/contact" element={<Contact />}/>
                    <Route path="/all" element={<AllApi />}/>
                    <Route path="/top" element={<TopApi />}/>
                    <Route path="/trending" element={<TrendingApi />}/>
                    <Route path="/science" element={<ScienceApi />}/>
                    <Route path="/entertainment" element={<EntertainmentApi />}/>
                    <Route path="/sports" element={<SportsApi />}/>
                    <Route path="/newshunt" element={<NewsHunt />}/>
                </Routes>
            </Router>
        </React.Fragment>
    );
}

export default FinalApp;
```

Fig 47. Final Project FinalApp.js Folder

Navbar.js



```
react-app-internship > src > Components > Navbar.js > NavScrollExample
import Button from 'react-bootstrap/Button';
import Container from 'react-bootstrap/Container';
import Form from 'react-bootstrap/Form';
import Nav from 'react-bootstrap/Nav';
import Navbar from 'react-bootstrap/Navbar';
import NavDropdown from 'react-bootstrap/NavDropdown';
function NavScrollExample() {
    return (
        <Navbar expand="lg" className="bg-body-tertiary">
            <Container fluid>
                <Navbar.Brand href="/">News Hunt</Navbar.Brand>
                <Navbar.Toggle aria-controls="navbarScroll" />
                <Navbar.Collapse id="navbarScroll">
                    <Nav
                        className="me-auto my-2 my-lg-0"
                        style={{ maxHeight: '100px' }}
                        navbarScroll>
                        <NavDropdown title="News List" id="navbarScrollingDropdown">
                            <NavDropdown.Item href="/all">All</NavDropdown.Item>
                            <NavDropdown.Item href="/top">Top</NavDropdown.Item>
                            <NavDropdown.Item href="/trending">Trending</NavDropdown.Item>
                            <NavDropdown.Item href="/science">Science </NavDropdown.Item>
                            <NavDropdown.Item href="/entertainment">Entertainment</NavDropdown.Item>
                            <NavDropdown.Item href="/sports">Sports </NavDropdown.Item>
                            <NavDropdown.Divider />
                            <NavDropdown.Item href="/newshunt">News Hunt</NavDropdown.Item>
                        </NavDropdown>
                        <Nav.Link href="/about">About Us</Nav.Link>
                        <Nav.Link href="/contact">Contact Us</Nav.Link>
                    </Nav>
                    <Form className="d-flex">
                        <Form.Control
                            type="search"
                            placeholder="Search"
                            className="me-2"
                            aria-label="Search"/>
                        <Button variant="outline-success">Search</Button>
                    </Form>
                </Navbar.Collapse>
            </Container>
        </Navbar>
    );
}
export default NavScrollExample;
```

Fig 48. Final Project Navbar.js Folder

NewsHunt.js



```
react-app-internship > src > Components > NewsHunt.js > NewsHunt
import "../Styles/NewsHunt.css";
import Footer from "./Footer";
function NewsHunt() {
    return (
        <>
            <div>
                <p className="FirstPara">" Fake News are Cheap to Produce. Genuine Journalism Is Expensive. "</
                p>
                <div className="Secdiv">
                    <img src="Image3.jpg" className="image" />
                    <div className="Paragraph">
                        <p id="Para">" Newspaper cannot be defined by the second word --paper. They've got to
                        be defined by the first word --NEWS. "</p>
                    </div>
                </div>
            </div>
            <Footer />
        </>
    );
}
export default NewsHunt;
```

Fig 49. Final Project NewsHunt.js Folder

EntertainmentApi.js

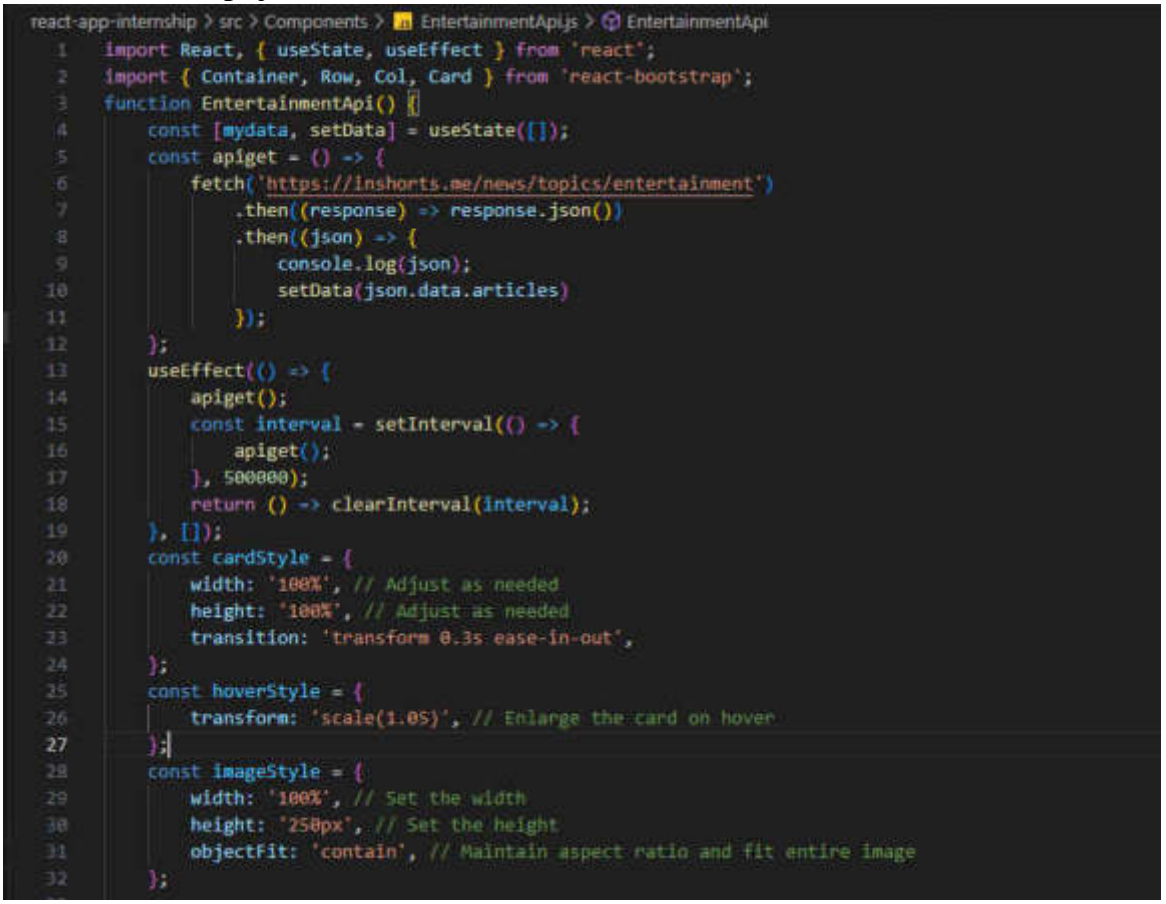


Fig 50. Final Project EntertainmentApi.js Folder

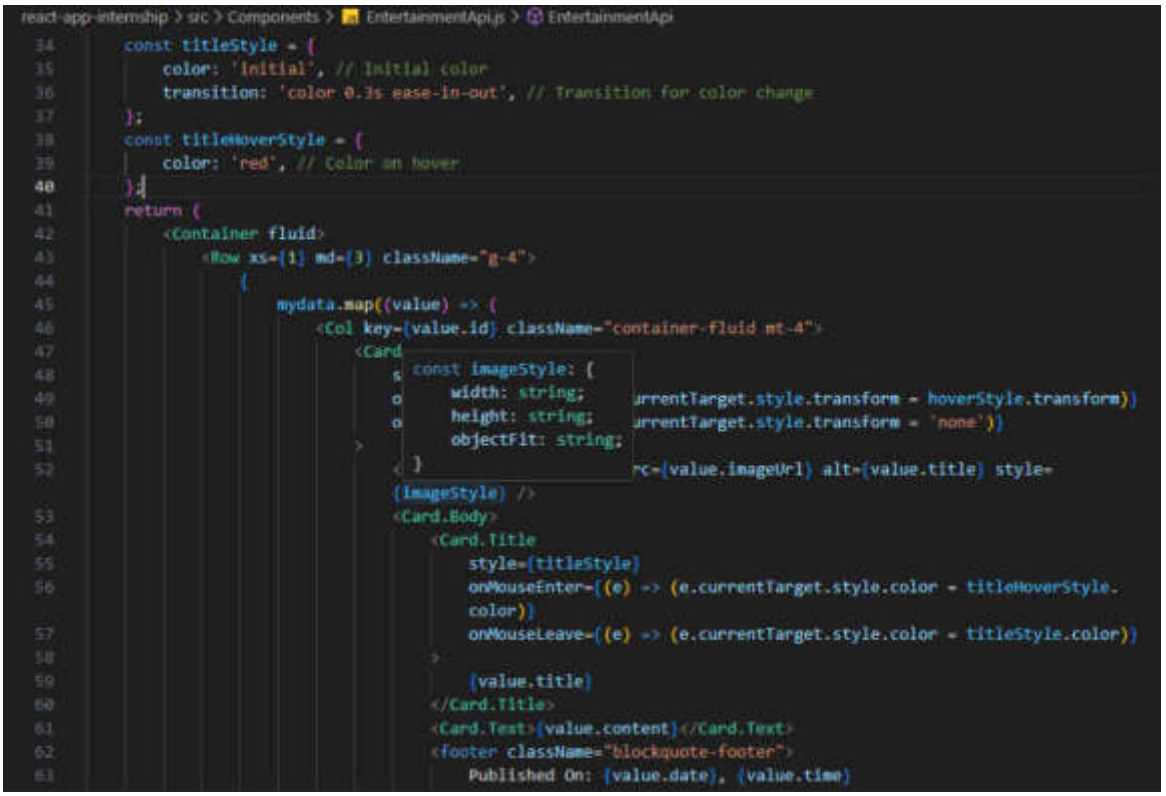


Fig 51. Final Project EntertainmentApi.js Folder



Fig 52. Final Project EntertainmentApi.js Folder

Output:

NewsHunt Page

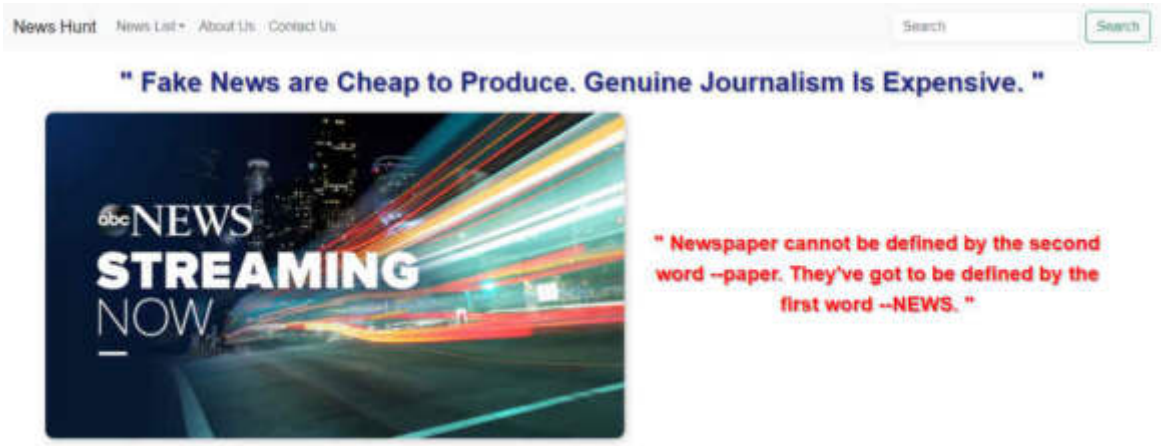


Fig 53. Final Project NewsHunt.js Folder Output

Entertainment Page

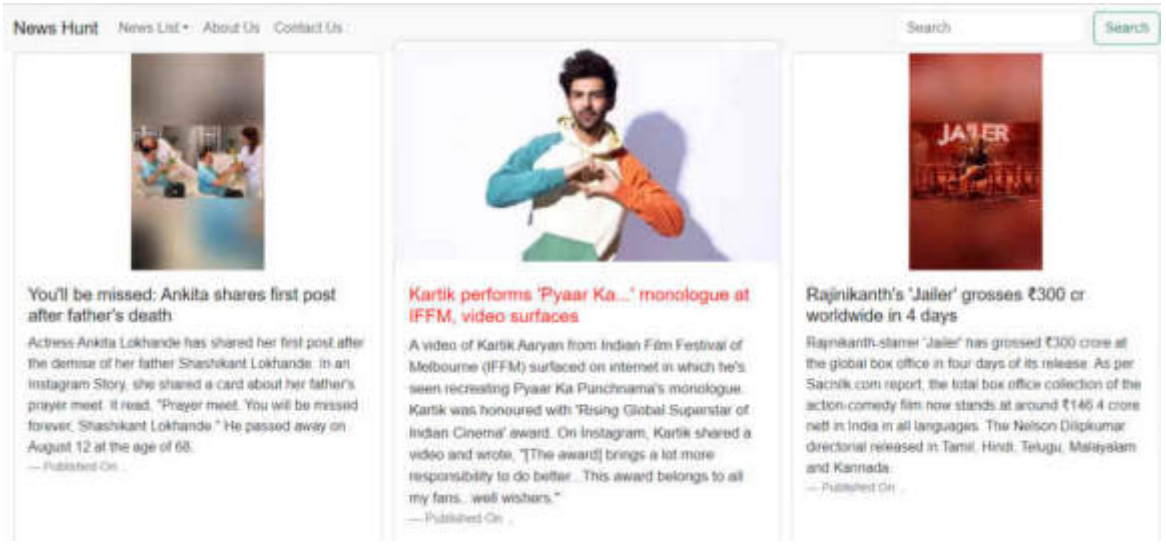


Fig 54. Final Project EntertainmentApi.js Folder Output

INTERNSHIP AT CODSOFT

AN INTERNSHIP REPORT

Submitted by

Niraj Lalwani

200390116039

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mahesana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CODSOFT** has been carried out by **Niraj Lalwani** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. Akshay Kansara	Prof. Akshay Kansara
Internal Guide	Head of Department

Internship Certificate


C.ID: 56f1952

CodSoft

CERTIFICATE

OF COMPLETION
PROUDLY PRESENTED TO

Niraj G. Lalwani

has successfully completed 4 weeks of a virtual internship program in
Python Programming
with wonderful remarks at **CODSOFT** from **20/07/2023 to 20/08/2023.**
We were truly amazed by his/her showcased skills and invaluable contributions to the tasks and projects throughout the internship.

Founder

contact@codsoft.in www.codsoft.in Date: 22/08/2023

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Codsoft** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Guide** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
Niraj Lalwani	_____

ACKNOWLEDGMENT

CodSoft:
I wish to express my sincere gratitude to Codsoft for granting me the privilege of participating in an enriching internship within their esteemed organization. This invaluable experience has profoundly deepened my comprehension of the real-world implementations of Python programming, making a substantial contribution to my professional advancement.

My heartfelt appreciation also extends to company, whose unwavering guidance, support, and mentorship have gracefully guided me through this transformative journey. The invaluable insights and wealth of expertise shared have been instrumental in refining my proficiency and expertise in the realm of Python programming.

Saffrony Institute of Technology:
I would like to acknowledge Saffrony Institute of Technology for providing me with the academic foundation that has enabled me to translate classroom learning into practical skills during my internship.

Once again, I express my sincere thanks to Saffrony Institute of Technology and Codsoft for this exceptional internship opportunity.

Your Sincerely
Niraj Lalwani
En. No: 200390116039

Abstract

This report contains the work done by the author during his internship at ***Codsoft***, with a focus on Python programming. It provides an insightful overview of the tasks undertaken and skills honed during the internship duration. Within the report, the author delves into Python programming processes, highlighting coding practices and problem-solving methodologies. The report culminates in an elucidation of the valuable insights and lessons acquired by the author through this immersive Python programming internship experience.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

- CodSoft are IT services and IT consultancy that specializes in creating innovative solutions for businesses. We are passionate about technology and believe in the power of software to transform the world. Our internship program is just one of the ways in which we are investing in the future of the industry.

- At CodSoft, we believe practical knowledge is the key to success in the tech industry. Our aim is to help students lacking basic skills by offering hands-on learning through live projects and real-world examples.

- It is a top company that offers internships in different technology fields. They provide internships in web development, app development, software development, and Java programming.

- They understand the importance of practical experience for aspiring tech professionals. That's why their internship program offers hands-on learning, where students work on real projects under the guidance of experienced mentors.

- Their team consists of industry experts who are dedicated to equipping interns with the knowledge and skills needed to succeed in their careers. They foster an inclusive and supportive environment that encourages learning, growth, and creativity.

1.2 MISSION AND VISION OF THE COMPANY:

1.We Provide All Exclusive services For Clients.
2.We build websites and web applications.
3.Today, every business should have a website.
4.No matter how small or large your business, having a website is must have at this time.
5.Having a website help you to maintain your online presence.

1.3 INTERNSHIP OBJECTIVES:

The primary objectives of my internship were to:
1. Gain hands-on experience in Python programming.
2. Contribute to real-world projects that utilize Python.
3. Enhance my problem-solving skills by tackling challenges in programming.

Chapter 2. ACTIVITIES AND PROJECTS

2.1 OVERVIEW OF PYTHON PROGRAMMING:

- What is Python?
- Why is Python Popular?
- Python's Applications

1. Project 1: To-Do list Application

Created a To-Do List GUI App that can perform the following actions:

1. Add a written task to a list.
2. Delete a selected task from the list.
3. Edit a selected task in the list.

The To-Do List GUI App is written in Python using the Tkinter library. The app uses a listbox to display the list of tasks. The user can add a task to the list by entering the task text in an entry box and clicking the "Add" button. The user can delete a selected task from the list by clicking the "Delete" button. The user can edit a selected task in the list by clicking the "Edit" button and entering the new task text in the entry box.

Github Repository: https://github.com/Niraj3112/CodSoft-2023/blob/main/ToDo_List.py

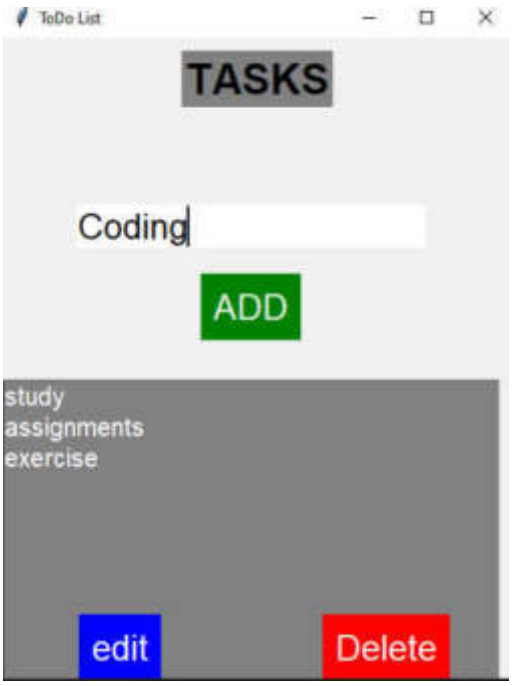


Fig. 2.1 To-Do List

2. Project 2: Calculator Application

Designed a simple calculator with basic arithmetic operations. Prompt the user to input two numbers and an operation choice and Perform the calculation and display the result.

The Calculator GUI App is written in Python using the Tkinter library. The calculator interface consists of a text area to display the input and results, and a grid of buttons for numeric input and arithmetic operations. It supports basic arithmetic operations (+, -, *, /), the square root operation, and the ability to clear the input and backspace one character. When the equal (=) button is pressed, the calculator evaluates the expression in the text area and displays the result. Error handling is implemented to handle any invalid input.

Github Repository: https://github.com/Niraj3112/CodSoft-2023/blob/main/Calculator.py



Fig. 2.2 Calculator

3. Project 3: Password Generator

Created a password generator app that can able to

1. **Take User Input:** Prompt the user to specify the desired length of the password
2. **Generate Password:** Use a combination of random characters to generate a password of the specified length.
3. **Display the Password:** Print the generated password on the screen.

The Password generator app is written in Python using the Tkinter library. It generates random passwords based on user-defined length and displays them. The user can input their username and choose the desired password length. The application then generates and shows the password in a text area. There are "Generate password," "RESET," and "Accept" buttons to trigger the respective functions.

Github Repository: https://github.com/Niraj3112/CodSoft2023/blob/main/Password_generator.py

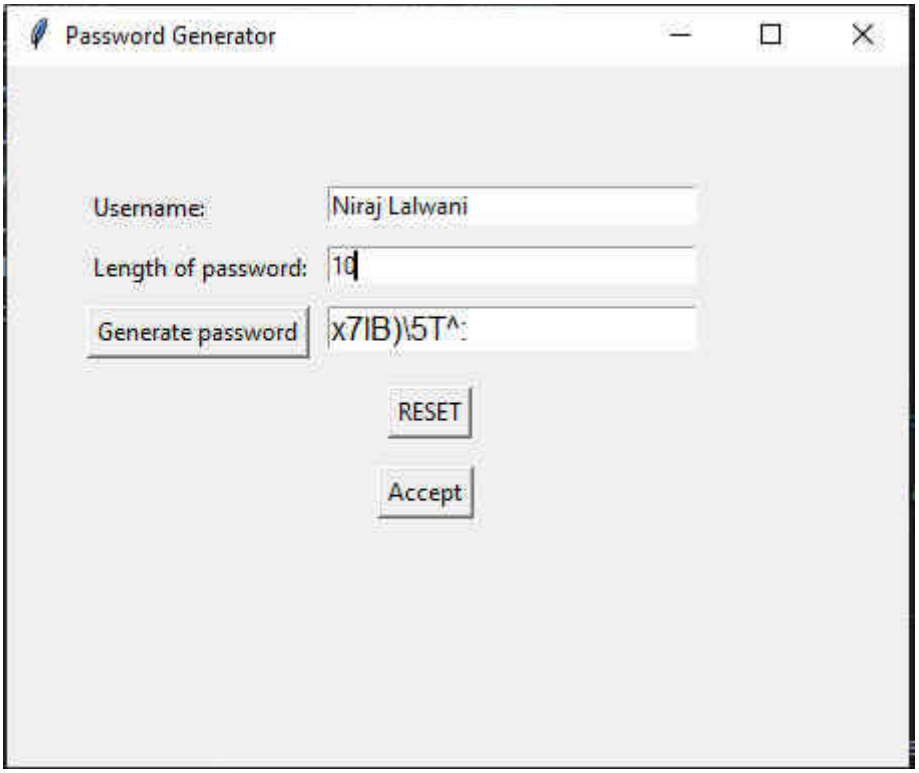


Fig 2.3 Password Generator

CHAPTER 3. LEARNING AND EXPERIENCE

3.1 TOPICS I EXPLORED DURING MY INTERNSHIP:

1. Python Basics:

- Introduction to Python and its history
- Installation and setup of Python environment
- Understanding Python syntax and indentation
- Variables, data types, and type conversion
- Basic input and output operations

2. Control Structures:

- Conditional statements (if, elif, else)
- Looping structures (for and while loops)
- Iteration and control flow

3. Functions and Modules:

- Defining functions and their importance
- Parameters, return values, and scope
- Creating and using modules
- Standard library modules and their applications

4. Data Structures:

- Lists, tuples, and dictionaries
- Sets and their properties
- Manipulating data structures
- List comprehensions and other advanced techniques

5. Object-Oriented Programming (OOP):

- Concepts of OOP (classes and objects)
- Encapsulation, inheritance etc.
- Implementing OOP principles in Python

6. File Handling:

- Reading and writing text files
- Working with CSV and JSON files
- Exception handling and error management

7. Libraries and Frameworks:

- Introduction to popular Python libraries (e.g., NumPy, tkinter)
- Exploring data manipulation and analysis using libraries

8. Best Practices and Coding Standards:

- Writing clean and readable code
- Code documentation and comments

3.2 SKILLS ACQUIRED:

During my internship, I developed the following skills:

- Proficiency in Python programming, including syntax, data structures, and object-oriented concepts.
- Knowledge of key Python libraries such as pandas, NumPy, Tkinter, Requests etc.
- Problem-solving abilities through tackling real-world programming challenges.

3.3. CHALLENGES FACED:

- Adapting to different Python libraries and understanding their functionalities.
- Debugging and troubleshooting code to ensure its correctness and efficiency.
- Balancing multiple projects and tasks while meeting deadlines.

3.4 KEY TAKEAWAYS:

- A deep understanding of Python programming and its diverse applications.
- Improved problem-solving skills through hands-on experience.

3.5 CONCLUSION:

- My internship at CodSoft was a transformative experience that provided me with invaluable insights into Python programming. I gained practical skills, faced challenges head-on, and contributed to meaningful projects. This experience has solidified my passion for programming and equipped me with the skills necessary to excel in future endeavors.

- I am immensely grateful for the guidance and mentorship provided by the team at CodSoft, and I look forward to applying the knowledge and skills I've acquired in my future career.

3.6 ACKNOWLEDGMENTS:

- I would like to express my gratitude to the entire team at CodSoft for their continuous support, guidance, and the opportunity to be a part of their dynamic work environment.

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD

AN INTERNSHIP REPORT

Submitted by

Dhrupal Patel

200390116040

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





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CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Dhrupal Patel** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. First Name Last Name

Internal Guide

Sign

Prof. FirstName Last Name

Head of Department

CERTIFICATE OF COMPLETION

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116040
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Dhrupal Patel.

In this internship tenure, we have covered the fundamentals of Data Analytics and Machine Learning. In the data analytics part, we have worked on API data and covered the basics of analysis using pandas and data visualization using matplotlib. In machine learning, we have implemented elementary regression models.

We wish Dhrupal Patel all the best for future endeavors.



Ms. Twinkle Shah
Internship Coordinator
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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under supervision of &Prof CHINTAN NAGRECHA and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
Dhrupal Patel	_____

ACKNOWLEDGMENT

I am deeply grateful for the opportunity to acknowledge and express my heartfelt appreciation to everyone who contributed to my enriching internship experience at INFOLABZ IT Services Pvt Ltd in the field of Data Analytics and Machine Learning.

Chintan Nagrecha:
I extend my sincere gratitude to Mr. Chintan Nagrecha, my mentor and guide, for his exceptional mentorship and continuous support throughout my internship. His insights, guidance, and expertise in the realm of Data Analytics and Machine Learning have been instrumental in shaping my understanding of advanced techniques and real-world applications.

INFOLABZ IT Services Pvt Ltd:
I want to convey my sincere appreciation to INFOLABZ IT Services Pvt Ltd for providing me with an opportunity to work on challenging projects and immerse myself in the practical aspects of data analysis and machine learning. The exposure to diverse projects and the dynamic work environment have contributed significantly to my growth as a data professional.

Saffrony Institute of Technology:
I would like to acknowledge Saffrony Institute of Technology for providing me with the academic foundation that has enabled me to translate classroom learning into practical skills during my internship.

The internship journey with INFOLABZ IT Services Pvt Ltd, under the guidance of Chintan Nagrecha, has been an enlightening experience that has equipped me with valuable insights and skills in the field of Data Analytics and Machine Learning. I am sincerely grateful for the opportunities, knowledge, and support that I have received.

Dhrupal Patel
Enrollment ID**:** 200390116040

Abstract

This report contains the work done by the author during the internship at INFOLABZ IT SERVICES PVT. LTD. It shows the work I did in the company during my internship period. In this report, the author discusses the concepts of data analytics and machine learning. The report also includes the tools and libraries used for data analytics and machine learning. In the machine learning part, the mathematical as well as coding part is mentioned by the author. Overall the report signifies the learning of the author during this internship period.

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Week 1

27 JULY 2023

- **Basics of Data Analytics, Type of Data:**

Data analytics is the process of examining, cleaning, transforming, and interpreting data to extract meaningful insights and support decision-making. It involves various techniques and methods to analyze data in order to identify patterns, trends, correlations, and other valuable information. Data analytics can be broadly categorized into descriptive, diagnostic, predictive, and prescriptive analytics.

When it comes to the types of data used in data analytics, they can be classified into several categories based on their characteristics: structure data and unstructured data

- **Dictionary:**

In Python, a dictionary is a built-in data type that stores key-value pairs. It's also known as an associative array or a hash map in other programming languages. Dictionaries are mutable, unordered collections, meaning the order of elements is not guaranteed, and they allow for fast retrieval of values based on their associated keys

```
# Creating a dictionary
student = {
"name": "John",
"age": 20,
"major": "Computer Science"
}
```

- **Concept of API:**

The concept of an API (Application Programming Interface) revolves around providing a set of rules, protocols, and tools that allow different software applications to

communicate and interact with each other. APIs enable developers to build software that can utilize the functionality of other software components, services, or platforms without needing to understand the underlying implementation details. APIs abstract the complexity and provide a standardized way for programs to interact

Python is commonly used to interact with web-based APIs using libraries like **requests**. Web APIs expose endpoints that allow you to retrieve or manipulate dfrom remote servers, often using HTTP or HTTPS.

Example :

```
import requests
response = requests.get("https://api.example.com/data")
data = response.json()
print(data)
```

- **Requests Package:**

The **requests** package in Python is a widely used library that simplifies making HTTP requests and interacting with web services. It provides an intuitive and Pythonic way to handle various aspects of HTTP communication, such as sending requests, receiving responses, handling headers, and managing cookies. The **requests** library is often used for tasks like fetching data from web APIs, submitting forms, or interacting with web pages.



Fig 1.1 Request package

Week 1

28 JULY 2023

- **API Handling :** Covid API, ISRO API, Bitcoin API, Mutual Fund

Covid API: There are various APIs that provide COVID-19 related data, such as cases, deaths, recoveries, and vaccination statistics. One popular source is the COVID-19 Data API provided by Johns Hopkins University. You can use the **requests** library to make requests to the API and process the received data.



Fig 1.2 Covid API Example

ISRO API: The Indian Space Research Organisation (ISRO) provides APIs to access information about their missions, satellites, and other space-related data. The exact endpoints and details may vary, so it's important to refer to ISRO's official API documentation.



Fig 1.3 ISRO API Example

API Search: To search for APIs programmatically using Python, you can leverage the capabilities of the **requests** library to query API directories and retrieve information about available APIs. Below, I'll provide you with an example of how to search for APIs using the ProgrammableWeb API directory as an example:



```
In [2]: #1: The highest number of daily confirmed cases

        import requests

        url = requests.get("https://data.covid19india.org/data.json")
        mydata = url.json()

        # Extract daily confirmed cases from the data
        cases = [int(i["dailyconfirmed"]) for i in mydata["cases_time_series"]]

        highest_cases = max(cases)

        print("The highest number of daily confirmed cases is:", highest_cases)

        The highest number of daily confirmed cases is: 414280

In [3]: # 2: The highest number of daily confirmed cases

        import requests

        url  = requests.get("https://data.covid19india.org/data.json")
        mydata = url.json()

        max_cases = 0
        max_date = ""
```

Fig 1.4 API search Example

Week 1

31 JULY 2023

- **Data Visualization using MatPlotLib**

Matplotlib is a popular Python library for creating various types of data visualizations, such as line charts, bar charts, scatter plots, histograms, and more. It provides a flexible and powerful way to visualize data and is widely used for exploratory data analysis and presentation of results.

Support for Various Plot Types: Matplotlib supports a wide range of plot types, including line plots, scatter plots, bar charts, histograms, pie charts, 3D plots, and more.

Customization: Users can extensively customize visual elements such as colors, markers, line styles, titles, axes labels, legends, and more to create polished and informative visualizations.

Multiple Backends: Matplotlib can generate plots in various formats, including PNG, PDF, SVG, and interactive formats for web applications. It also supports rendering plots in different GUI environments.

Integration with NumPy: Matplotlib works seamlessly with NumPy arrays, making it easy to visualize data from numerical computations.

Subplots and Layouts: Matplotlib allows you to create multiple plots within a single figure using subplots. You can customize the arrangement and layout of subplots.

```
In [1]:  # From COVID API :  generate horizontal bargraph, state vs totalconfirmed

import requests
from matplotlib import pyplot as plt

url = requests.get("https://data.covid19india.org/data.json")
mydata = url.json()

state = []
confirmed = []

for i in range(0, len(mydata['statewise'])):
    state.append(mydata['statewise'][i]['state'])
    confirmed.append(mydata['statewise'][i]['confirmed'])

plt.figure(figsize=(10, 8))  # Adjust the figure size
bars = plt.barh(state, confirmed, color='skyblue')

plt.title('COVID-19 Confirmed Cases by State in India', fontsize=16)
plt.xlabel('Total Confirmed Cases', fontsize=14)
plt.ylabel('State', fontsize=14)

# Format numbers on the y-axis with commas for better readability
plt.gca().get_xaxis().set_major_formatter(plt.FuncFormatter(lambda x, loc: "{:,}".format(int(x))))

plt.tight_layout()  # Prevents the labels from being cut off
plt.show()
```

OUTPUT :

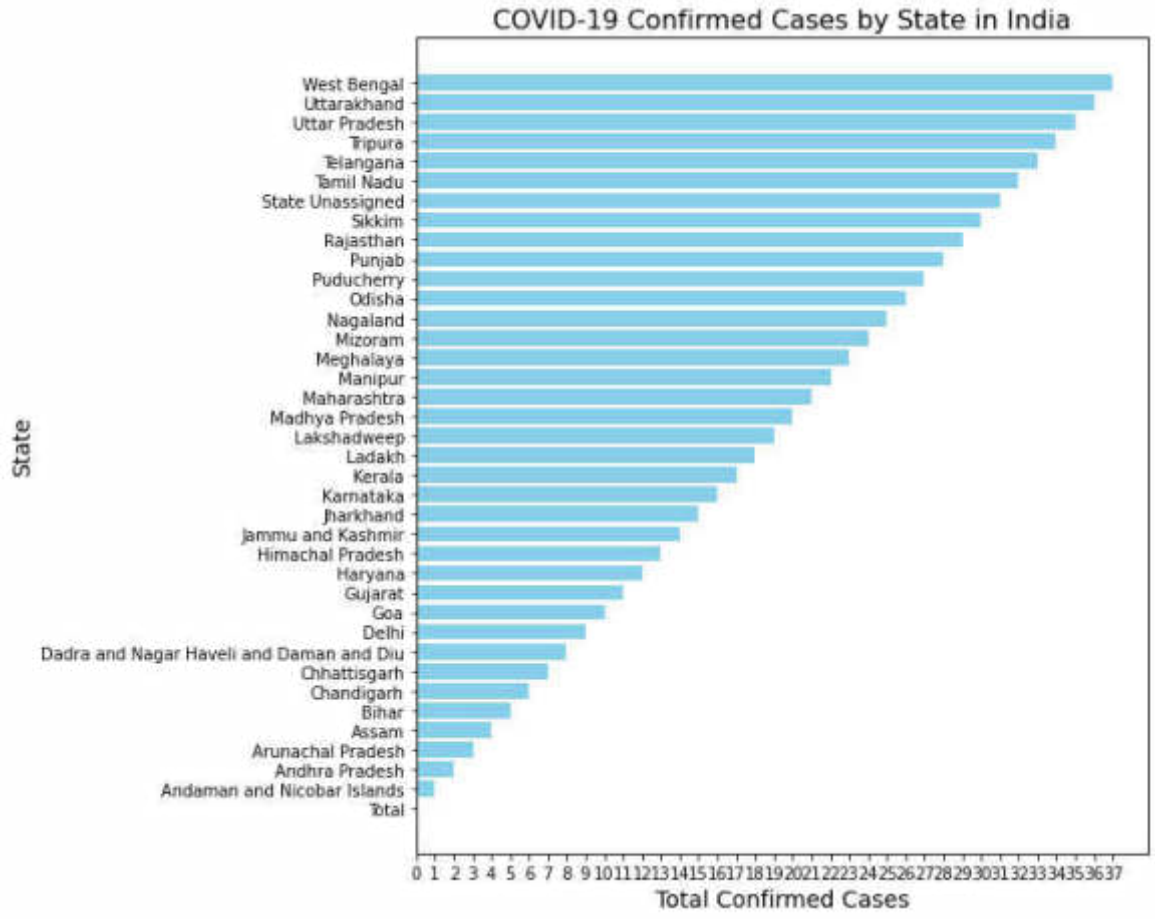


Fig 1.5 Data visualization Example

Week 1

1 August 2023

- **Data Visualization :**

Data visualization in Python involves using various libraries and tools to create graphical representations of data to better understand patterns, relationships, and trends. Python offers several powerful libraries for data visualization, and two of the most commonly used ones are Matplotlib and Seaborn

- **API Data Visualization :**

API data visualization involves fetching data from APIs (Application Programming Interfaces) and then using visualization libraries to create graphical representations that provide insights into the data. This process allows you to dynamically retrieve and display information from external sources, which is particularly useful for displaying real-time or frequently updated data. Here's a general outline of how to perform API data visualization

Choose an API:

Select an API that provides the data you want to visualize. This could be data related to weather, stock prices, social media posts, COVID-19 statistics, or any other domain-specific information.

Retrieve Data from the API:

Use a library like requests in Python to send HTTP requests to the API's endpoints and retrieve the data. This may involve sending parameters to specify the type of data you're interested in.

Process Data:

Once you receive the data from the API, process it into a format suitable for visualization. This might involve transforming the data, aggregating it, or extracting relevant fields.

Choose a Visualization Library:

Select a suitable data visualization library such as Matplotlib, Seaborn, Plotly, or any other library that fits your needs and provides the type of visualizations you want to create.

Create Visualizations:

Use the chosen library to create the desired visualizations. Depending on the nature of the data, you might create line charts, bar charts, pie charts, maps, heatmaps, or other types of plots.

Display the Visualizations:

Show the visualizations on your preferred platform. This could be in a Jupyter Notebook, a web application, a desktop application, or any other environment that supports the chosen visualization library.

Week 1

2 August 2023

- **Assignment 1 :**

API :: https://inshortsapi.vercel.app/news?category=all

1) How many main keys are there in this API? Extract and print all keys.

2) How many news are available in this API?

3) Print all news in bellow format.

1. News content , Author: AUTHOR NAME, DATE: Date of news

2. News content , Author: AUTHOR NAME, DATE: Date of news

3. News content , Author: AUTHOR NAME, DATE: Date of news

In [2]:
```
# print all the keys

import requests

url = requests.get("https://inshortsapi.vercel.app/news?category=all")
mydata = url.json()

count = 0
for i in mydata:
    print(i)
    count+=1

print('Total main keys are: ', count)
```

```
category
data
success
Total main keys are:  3
```

In [3]:
```
# print all news
import requests

url = requests.get("https://inshortsapi.vercel.app/news?category=all")
mydata = url.json()

count=0
for j in range(0, len(mydata["data"])):
    count = count + 1

print("Total Count =",count)

for i in range(0, len(mydata["data"])):
    print("News content:", mydata["data"][i]["content"],
          ", Author:", mydata["data"][i]["author"],
          ", Date:", mydata["data"][i]["date"])
```

```
Total Count = 9
News content: Sonia Sharifi, a 17-year-old girl whose picture with her hands in the air went viral amid anti-hijab protests in Iran, has said that she was abducted and tortured by the authorities for a second time. She said that she was dragged from her car and blindfolded, before they beat her up. She also shared a picture of her head wound. , Author: Arshiya Chopra , Date: Sunday, 13 August, 2023
News content: The domain name of microblogging platform X has begun shifting from 'twitter.com' to 'x.com' on iOS, The Verge reported. The web link and Android app are still redirecting users to the old domain. Billionaire Elon Musk rebranded Twitter as X last month. Thereafter, names of associate products like Twitter Blue subscription and TweetDeck became X Blue subscription and XPro, respectively. , Author: Nidhi Sinha , Date: Sunday, 13 August, 2023
```

- **API Data Visualization :**

API :: https://isro.vercel.app/api/spacecrafts

1) Print all main keys and total number of main keys as well.

2) Print all spacecrafts names as per below output format

3) Allow user to enter name of spacecraft. Print spacecraft is found or spacecraft not found

In [4]:
```
# Print all the keys

import requests

url = requests.get("https://isro.vercel.app/api/spacecrafts")
mydata = url.json()

count = 0
for i in mydata:
    print(i)
    count+=1

print('Total main keys are: ', count)
```

```
spacecrafts
Total main keys are:  1
```

In [6]:
```
#Allow user to enter name of spacecraft. Print spacecraft is found or spacecraft not found

import requests

url = requests.get("https://isro.vercel.app/api/spacecrafts")
mydata = url.json()

Uname = input("Enter spacecraft name: ")

for i in range(0, len(mydata["spacecrafts"])):
    if Uname == mydata["spacecrafts"][i]["name"]:
        print("Spacecraft found - ", str(mydata["spacecrafts"][i]["id"]), ":", mydata["spacecrafts"][i]["name"])
        break
else:
    print(str(Uname), '- Spacecraft not found"')
```

```
Enter spacecraft name: SRE-1
Spacecraft found -  44 : SRE-1
```

In [7]:
```
import requests
import numpy as np
from matplotlib import pyplot as plt

url = requests.get("https://isro.vercel.app/api/spacecrafts")
mydata = url.json()

url = requests.get("https://isro.vercel.app/api/customer_satellites")
data = url.json()

count = len(mydata["spacecrafts"])
print("Domestic:", count)

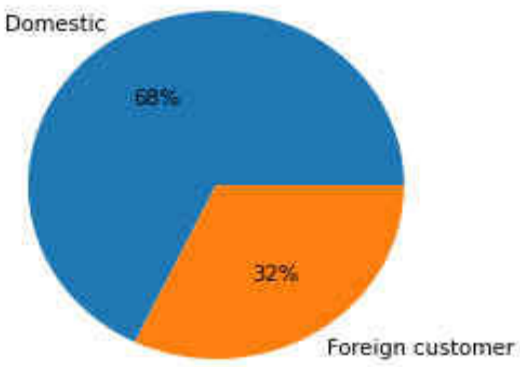
num = len(data["customer_satellites"])
print("Foreign customer:", num)

y = np.array([count, num])
mylabels = ["Domestic", "Foreign customer"]

plt.pie(y, labels = mylabels, autopct='%1.0f%%')
plt.show()
```

```
Domestic: 112
Foreign customer: 53
```

OUTPUT:



Dynamic API: PINCODE :

API: https://api.postalpincode.in/pincode/380001

- Allow user to insert pincode

- Print name of all areas which comes under that pincode

- Pincode entered by user shell be merged in below url's xxxxxx part.

- URL: https://api.postalpincode.in/pincode/XXXXXX

In [10]:
```
import requests

url = requests.get(f"https://api.postalpincode.in/pincode/")
mydata = url.json()

pincode = input()
areas = mydata[0]["PostOffice"][0]["Name"]
print(pincode + ' - ' + areas)


import requests

url = requests.get("https://api.postalpincode.in/pincode/"+pincode)
data = url.json()

pincode = input("Enter Pincode: ")

print("Pincode: " + pincode)
print("URL: https://api.postalpincode.in/pincode/"+pincode)

for i in range(len(data[0]["PostOffice"])):
    if pincode == data[0]["PostOffice"][i]["Pincode"]:
        print(data[0]["PostOffice"][i]["Name"])
```

```
382721
```

Week 2

3 August 2023

- **Pandas: Data Frame**

Pandas is a powerful Python library for data manipulation and analysis. One of its core components is the DataFrame, which is a two-dimensional labeled data structure similar to a table in a relational database or a spreadsheet. DataFrames provide a flexible and efficient way to work with structured data, and they are widely used in data analysis and data science tasks.

Here's an overview of how to work with DataFrames in Pandas:

Installation: If you haven't already, you can install Pandas using the following command.

pip install pandas

Importing Pandas: To use Pandas, import the library as follows:

import pandas as pd

Creating DataFrames:

You can create a DataFrame from various data sources, including dictionaries, lists, NumPy arrays, and external files (CSV, Excel, databases, etc.).

Creating a DataFrame from a dictionary

```
data = {'Name': ['Alice', 'Bob', 'Charlie'],'Age': [25, 30, 22]}

df = pd.DataFrame(data)
```

```
In [1]: import pandas as pd

file1data = pd.read_excel("Downloads/RESULT1.xlsx")
file2data = pd.read_excel("Downloads/RESULT2.xlsx")
alldata = pd.concat([file1data, file2data])

def fun(percentage):
    if 80 <= percentage <= 100:
        return 'SCHOLAR'
    elif 50 <= percentage <= 79:
        return 'AVERAGE'
    else:
        return 'WEAK'

alldata['CATEGORY'] = alldata['PERCENTAGE'].apply(fun)
print(alldata)

alldata.to_csv('result.csv')
```

	SRNO	BRANCH	NAME	TOTAL	PERCENTAGE	PASSFAIL	CATEGORY
0	1	CE	RAMESH	210	70	1	AVERAGE
1	2	CE	SURESH	150	50	1	AVERAGE
2	3	IT	MAHESH	225	75	1	AVERAGE
3	4	IT	NARESH	180	60	1	AVERAGE
4	5	CE	JAYESH	90	30	0	WEAK
0	1	EC	RATAN	150	50	1	AVERAGE
1	2	CE	JATAN	270	90	1	SCHOLAR
2	3	IT	KATHAN	285	95	1	SCHOLAR
3	4	EC	NAYAN	195	65	1	AVERAGE

Fig 1.6 Pandas Example

- **Pandas: Excel, API to CSV:**

Reading Excel Files and API Data using Pandas, and Saving to CSV:

Reading Excel Files:

You can use the pd.read_excel() function to read data from an Excel file and create a DataFrame.

import pandas as pd

Reading data from an Excel file

excel_file_path = 'data.xlsx'

df_excel = pd.read_excel(excel_file_path)

Fetching Data from an API:

Use the requests library to fetch data from an API and then create a DataFrame.

```
import requests

import pandas as pd

api_url = 'https://api.example.com/data'

response = requests.get(api_url)

data = response.json()

df_api = pd.DataFrame(data)
```

Saving to CSV:

After obtaining your DataFrame, you can save it to a CSV file using the to_csv() method.

```
# Saving the Excel data to a CSV file

csv_output_path = 'data.csv'

df_excel.to_csv(csv_output_path, index=False)


# Saving the API data to a CSV file

api_csv_output_path = 'api_data.csv'

df_api.to_csv(api_csv_output_path, index=False)
```

- **XLRD:** xlrd is a Python library used for reading data from Excel files in the older .xls format (Excel 97-2003). It provides a convenient way to extract data from Excel spreadsheets and work with it in Python programs. However, it's important to note that xlrd only supports reading Excel files and doesn't support creating or modifying Excel files.

Week 2

4 August 2023

- **Introduction to Machine Learning :**

Machine Learning (ML) is a subset of artificial intelligence (AI) that focuses on developing algorithms and models that enable computers to learn and make decisions from data without being explicitly programmed. In other words, it's about creating systems that can learn and improve from experience.

Types of Machine Learning:

Machine learning can be categorized into three main types:

Supervised Learning: In this type, the algorithm learns from labeled data, meaning it's provided with input-output pairs. The goal is to learn a mapping function that can predict outputs for new inputs.

Unsupervised Learning: Here, the algorithm is given unlabeled data and tasked with finding patterns, structures, or relationships in the data. Clustering and dimensionality reduction are common tasks in unsupervised learning.

Reinforcement Learning: This type involves training an agent to interact with an environment and learn by receiving feedback in the form of rewards or penalties. The agent learns optimal actions to maximize cumulative rewards.

- **Linear Model: Mathematics:**

Linear Regression is one of the fundamental and widely used techniques in machine learning and statistics for modeling the relationship between a dependent variable and one or more independent variables. It's a type of supervised learning algorithm used for regression tasks, where the goal is to predict a continuous output value.

In simple linear regression, you have a single independent variable (feature) and a single dependent variable. The goal is to find the best-fitting linear line (a straight line) that minimizes the squared differences between the predicted values and the actual values.

The equation of a simple linear regression model can be represented as:

y = mx + b

where:

y is the dependent variable (target)

x is the independent variable (feature)

m is the slope of the line

b is the y-intercept

- **Linear Model Implementation:**

```
In [11]: # From the actual dataset create Linear Regression model

import pandas as pd
from matplotlib import pyplot as plt
from sklearn import linear_model

df = pd.read_csv('Downloads\Salary_Data.csv')
print(df)

# y = b0 + (b1*x)

plt.scatter(df.YearsExperience, df.Salary, color="r")
plt.plot(df.YearsExperience, df.Salary, color="b")
plt.xlabel('YearsExperience')  # YearsExperience = Independent = x
plt.ylabel('Salary')  # Salary = Dependent = y
plt.show()

reg = linear_model.LinearRegression()  # Process model
reg.fit(df[['YearsExperience']], df[['Salary']])  # Train model

print("Salary (y):", reg.predict([[5]]))  # x = 5 (YearsExperience)

print("Coefficient (b1):", reg.coef_)
print("Intercept (b0):", reg.intercept_)
```

```
    YearsExperience  Salary
0               1.1   39343
1               1.3   46205
```

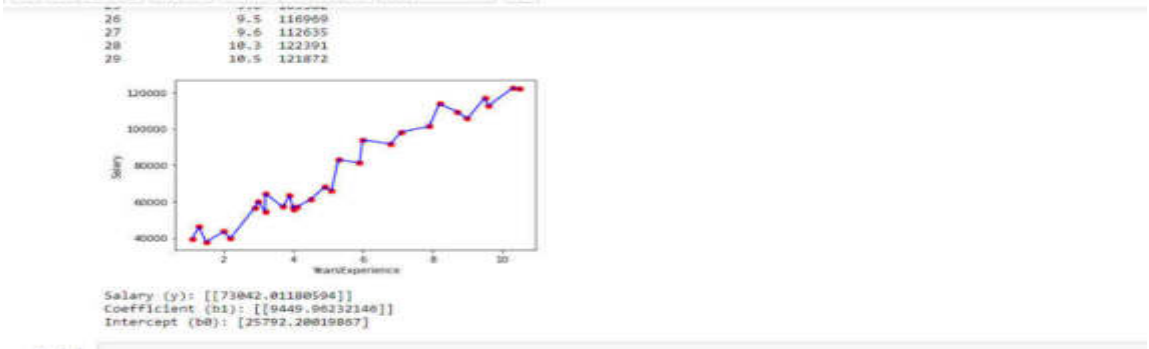


Fig 1.7 Linear model implementation

Week 2

7 August 2023

- **Multiple Linear Model: Mathematics :**

n multiple linear regression, you have multiple independent variables. The goal is to find the best-fitting hyperplane that minimizes the squared differences between the predicted values and the actual values.

The equation of a multiple linear regression model can be represented as:

$y = b0 + b1*x1 + b2*x2 + ... + bn*xn$

where:

y is the dependent variable (target)

x1, x2, ..., xn are the independent variables (features)

b0, b1, b2, ..., bn are the coefficient

- **Multiple Linear Model Implementation :**

```
In [2]: import pandas as pd
        from sklearn import linear_model

        df = pd.read_csv('Downloads/50_Startups.csv')
        print(df)

        reg = linear_model.LinearRegression()  # Process model
        reg.fit(df[['R&D Spend','Administration','Marketing Spend']], df.Profit)  # Train model
        print("Profit :", reg.predict([[120000,90000,220000]]))
        X = df.iloc[:, :-1]    # independent varible
        y = df.iloc[:, -1]     # dependent variable

        X.head()
```

	R&D Spend	Administration	Marketing Spend	State	Profit
0	165349.20	136897.80	471784.10	New York	192261.83
1	162597.70	151377.59	443898.53	California	191792.06
2	153441.51	101145.55	407934.54	Florida	191050.39
3	144372.41	118671.85	383199.62	New York	182901.99
4	142107.34	91391.77	366168.42	Florida	166187.94
5	131876.90	99814.71	362861.36	New York	156991.12
6	134615.46	147198.87	127716.82	California	156122.51
7	130298.13	145530.06	323876.68	Florida	155752.60
8	120542.52	148718.95	311613.29	New York	152211.77
9	123334.88	108679.17	304981.62	California	149759.96
10	101913.08	110594.11	229160.95	Florida	146121.95
11	100671.96	91790.61	249744.55	California	144259.40

```
36   28663.76        127056.21        201126.82      Florida   90708.19
37   44069.95         51283.14        197029.42   California   89949.14
38   20229.59         65947.93        185265.10     New York   81229.06
39   38558.51         82982.09        174999.30   California   81005.76
40   28754.33        118546.05        172795.67   California   78239.91
41   27892.92         84710.77        164470.71      Florida   77798.83
42   23640.93         96189.63        148001.11   California   71498.49
43   15505.73        127382.30         35534.17     New York   69758.98
44   22177.74        154806.14         28334.72   California   65200.33
45    1000.23        124153.04          1903.93     New York   64926.08
46    1315.46        115816.21        297114.46      Florida   49490.75
47       0.00        135426.92             0.00   California   42559.73
48     542.05         51743.15             0.00     New York   35673.41
49       0.00        116983.80         45173.06   California   14681.40
Profit : [150384.73608041]
```

Out[2]:

	R&D Spend	Administration	Marketing Spend	State
0	165349.20	136897.80	471784.10	New York
1	162597.70	151377.59	443898.53	California
2	153441.51	101145.55	407934.54	Florida
3	144372.41	118671.85	383199.62	New York
4	142107.34	91391.77	366168.42	Florida

Fig 1.8 Multiple Linear Model Implementation

Week 2

8 August 2023

- **Polynomial Linear Regression Model Implementation:**

Polynomial Linear Regression is an extension of the traditional Linear Regression model where the relationship between the independent variable and the dependent variable is modeled as an nth-degree polynomial. This allows the model to capture non-linear relationships in the data.

In [4]:
```
import numpy as np
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.preprocessing import PolynomialFeatures
# Generate synthetic data
np.random.seed(0)
X = np.sort(5 * np.random.rand(80, 1), axis=0)
y = np.sin(X).ravel() + np.random.normal(0, 0.1, X.shape[0])
#Split the data into training and testing sets.
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=0)
degree = 3  # Degree of the polynomial
poly = PolynomialFeatures(degree=degree)
X_train_poly = poly.fit_transform(X_train)
X_test_poly = poly.transform(X_test)
#Train a Polynomial Linear Regression Model:
model = LinearRegression()
model.fit(X_train_poly, y_train)
#Predictions and Evaluation:
y_pred = model.predict(X_test_poly)
# Calculate the Mean Squared Error (MSE)
mse = np.mean((y_pred - y_test) ** 2)
print(f"Mean Squared Error: {mse:.4f}")
X_range = np.linspace(0, 5, 100)[:, np.newaxis]
X_range_poly = poly.transform(X_range)
y_range_pred = model.predict(X_range_poly)
```

```
plt.scatter(X, y, color='blue', label='Data points')
plt.plot(X_range, np.sin(X_range), color='green', label='True function')
plt.plot(X_range, y_range_pred, color='red', label='Predicted function')
plt.xlabel('X')
plt.ylabel('y')
plt.legend()
plt.title('Polynomial Linear Regression')
plt.show()
```

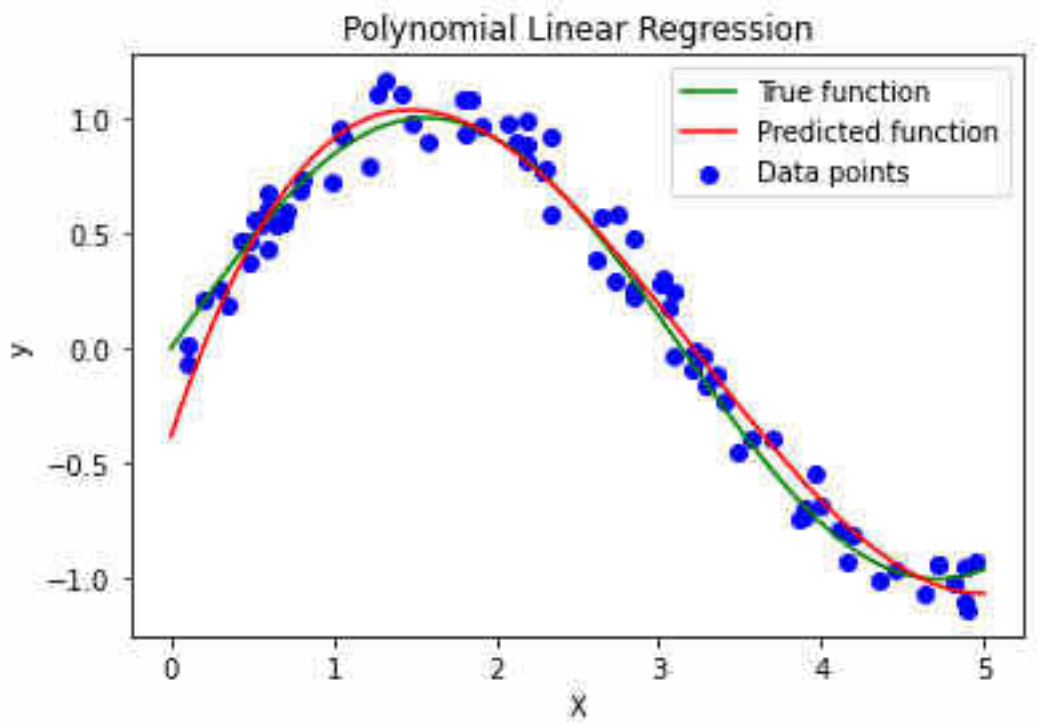


Fig 1.9 Polynomial Linear Regression

Week 2

9 August 2023

- **Assignment 2 :**

For OPEN CV :

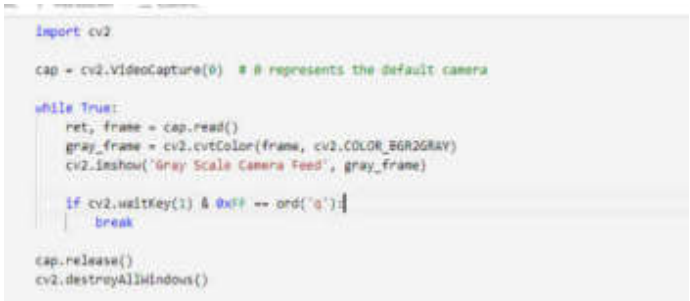
● Write script to Open Camera.

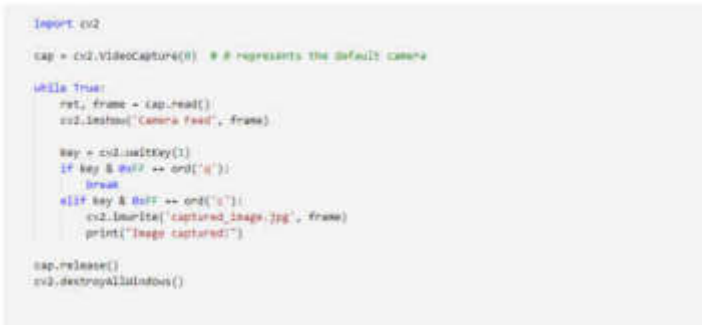
● Write script to Open Camera in gray scale mode (black and white)

● Write script to Capture image on click of key “c” while camera is open.









```
import cv2

cap = cv2.VideoCapture(0)  # 0 represents the default camera

while True:
    ret, frame = cap.read()
    cv2.imshow('Camera Feed', frame)

    key = cv2.waitKey(1)
    if key & 0xFF == ord('q'):
        break
    elif key & 0xFF == ord('s'):
        cv2.imwrite('captured_image.jpg', frame)
        print("Image captured!")

cap.release()
cv2.destroyAllWindows()
```

```
Image captured!
```

Week 2

10 August 2023

- **Conclusion :**

These past 15 days of internship have been an enriching and dynamic experience. I am delighted to had the opportunity to work with INFOLABZ and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved.

Throughout these 15 days, I've had the privilege of working alongside experienced professionals who have generously shared their knowledge and insights. I've gained exposure to Data analyst tools, which has significantly expanded my skill set.

During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.

In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and committed to making the most of this internship experience. Thank you for this incredible opportunity.

Internship At CodSoft It Services Pvt Ltd

AN INTERNSHIP REPORT

Submitted by

Deep Dharmeshbhai Savani

200390116041

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CodSoft It Services Pvt Ltd** has been carried out by **Deep Dharmeshbhai Savani** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 6th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign	Sign
Prof. First Name Last Name	Prof. FirstName Last Name
Internal Guide	Head of Department

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Joining Letter

CodSoft
Code.Create.Succeed Type your text

INTERNSHIP OFFER LETTER

Date : **18/07/2023** **ID:CS07WX11515**

Dear,

Savani deep dharmeshbhai

We would like to congratulate you on being selected for the " **Android App Development**" internship position with "**CodSoft**". We at **CodSoft** are excited that you will join our team.

The duration of the internship will be of **4 weeks**, starting from **20 July 2023 to 20 August 2023** The internship is an educational opportunity for you hence the primary focus is on learning and developing new skills and gaining hands-on knowledge. We believe that you will perform all your tasks/projects.

As an intern, we expect you to perform all assigned tasks to the best of your ability and follow any lawful and reasonable instructions provided to you.

We are confident that this internship will be a valuable experience for you, we look forward to working with you and helping you achieve your career goals.

Best of Luck!

Thank You!

Team CodSoft

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CERTIFIED ISO 9001:2015 COMPANY

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Company Certificate


C.ID: 7af586d

CodSoft

CERTIFICATE

OF COMPLETION
PROUDLY PRESENTED TO

Savani Deep Dharmeshbhai

has successfully completed 4 weeks of a virtual internship program in
Android App Development
with wonderful remarks at **CODSOFT** from **20/07/2023** to **20/08/2023.**

We were truly amazed by his/her showcased skills and invaluable contributions to the tasks and projects throughout the internship.

Founder

CERTIFIED ISO 9001:2015 COMPANY

MSME MICRO, SMALL & MEDIUM ENTERPRISES

contact@codsoft.in www.codsoft.in Date:23/08/2023

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at CodSoft It Services Pvt Ltd** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. Deep Dharmeshbhai Savani	_____

ACKNOWLEDGMENT

I would like to extend my heartfelt gratitude to everyone who made my enriching 4-week internship at CODSOFT IT SERVICES PVT. LTD. a valuable learning experience. First and foremost, I am immensely thankful to Alkesh Kaba for his dedicated efforts in conducting daily sessions. His insightful guidance and patient teaching style helped me to laying a strong foundation for my app development journey. I would also like to express my appreciation to CODSOFT for offering this invaluable internship opportunity. His visionary leadership and support have been instrumental in shaping this educational experience. Lastly, I want to acknowledge the entire CODESOFT IT SERVICES team for their welcoming atmosphere and collaborative spirit. Their camaraderie and willingness to share knowledge contributed greatly to my growth as a developer. I am truly grateful for the opportunity and look forward to applying the skills and insights gained during this internship in my future endeavours.

Abstract

During my internship at CodSoft It Services Pvt Ltd, I gained valuable experience and knowledge in the field of Android app development. Throughout this internship, my primary focus was on learning dart.

I was exposed to real-world projects and tasks that allowed me to understand the practical application of flutter development. Additionally, I had the opportunity to collaborate with experienced developers who provided guidance and insights into best practices within the industry.

Through hands-on experience and mentorship, I enhanced my coding skills, problem-solving abilities, and understanding of App development workflows. This internship not only introduced me to the world of flutter development but also provided me with a solid foundation to pursue a career in App development. I am grateful for the knowledge and experience gained during my time at CodSoft It Services Pvt Ltd, which is used for me to explore flutter for android development.

COMPANY PROFILE

CodSoft is a privately owned venture of IT Services and IT Consultants formed in 2022 and headquarters of the CodSoft is in kolkata. CodSoft believe in bringing Business, People and Technology together in the way forward. Main aim of CodSoft is to help students lacking basic skills by offering hands-on learning through live projects and real-world examples.

CodSoft understand the importance of practical experience for aspiring tech professionals. That's why CodSoft internship program offers hands-on learning, where students work on real projects under the guidance of experienced mentors.

CodSoft team consists of industry experts who are dedicated to equipping interns with the knowledge and skills needed to succeed in their careers. CodSoft foster an inclusive and supportive environment that encourages learning, growth, and creativity.

Company work on following type project:

- UI/UX Design
- Web Development
- Android App Development
- Data Science
- AI & Machine Learning

MISSION AND VISION OF THE COMPANY:

CODESOFT IT SERVICES PVT. LTD. is committed to creating a resistant future by bringing together business, people, and technology. We believe that by working together, we can create innovative solutions that solve real-world problems.

We envision a world where everyone has access to the tools and technologies they need to succeed. We believe that technology can be a force for good, and we are committed to using our skills and expertise to make a positive impact on the world.

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Week 1

• Basic Information About Internship & Company:

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This is my 4 Weeks online internship at CodSoft It Services Pvt Ltd. CodSoft team shares information about company and our project, and timing. Our project is to build Calculator and Flashlight App.

CodSoft shares task of android development through mail and that task must be required to complete for the completion of the internship.

Company work on following type project:

- UI/UX Design
- Web Development
- Android App Development
- Data Science
- AI & Machine Learning

• what is flutter and flutter architecture?

Flutter is an open source framework developed and supported by Google. Frontend and full-stack developers use Flutter to build an application's user interface (UI) for multiple platforms with a single codebase.

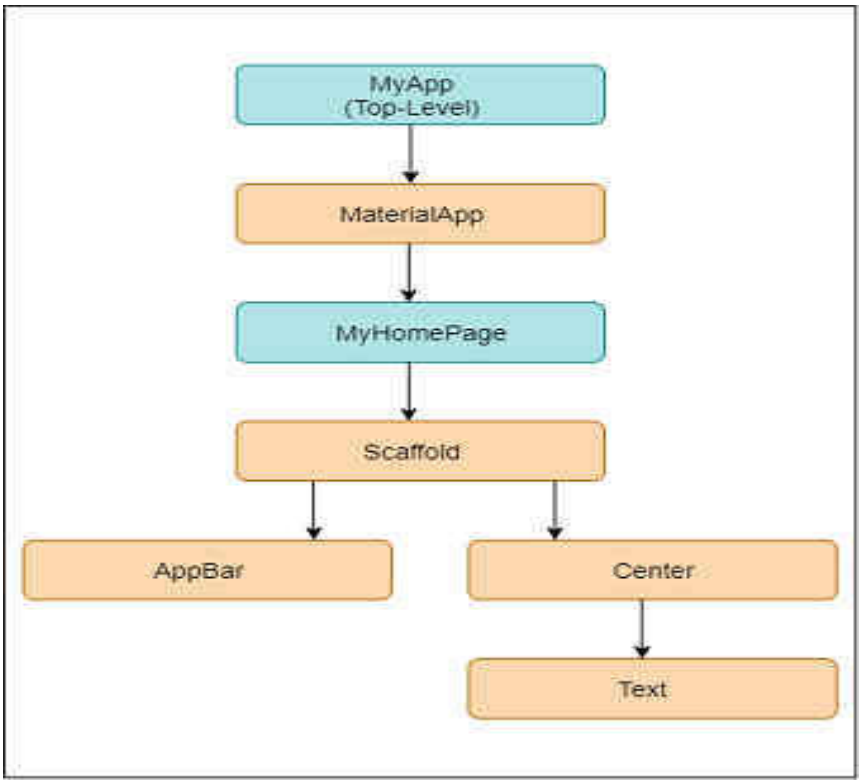
When Flutter launched in 2018, it mainly supported mobile app development. Flutter now supports application development on six platforms: iOS, Android, the web, Windows, MacOS, and Linux.

Flutter uses the open-source programming language Dart, which was also developed by Google. Dart is optimized for building UIs, and many of Dart's strengths are used in Flutter.

The Flutter architecture mainly comprises of four components.

1. Flutter Engine

2. Foundation Library
3. Widgets
4. Design Specific Widgets



- **flutter and android studio installation**

Step 1: Download Flutter SDK. ...
Step 2: Extract the Files. ...
Step 3: Update Path Variable for Windows PowerShell. ...
Step 4: Confirm Installed Tools for Running Flutter. ...
Step 5: Download and Install Android Studio. ...
Step 6: Install Visual Studio (Optional)

```
:\Flutter\flutter>flutter doctor
octor summary (to see all details, run flutter doctor -v):
√] Flutter (Channel stable, 2.5.3, on Microsoft Windows [Version 10.0.19043.1348], locale en-US)
X] Android toolchain - develop for Android devices
   X Unable to locate Android SDK.
     Install Android Studio from: https://developer.android.com/studio/index.html
     On first launch it will assist you in installing the Android SDK components.
     (or visit https://flutter.dev/docs/get-started/install/windows#android-setup for detailed instructions).
     If the Android SDK has been installed to a custom location, please use
     `flutter config --android-sdk` to update to that location.

√] Chrome - develop for the web
!] Android Studio (not installed)
√] IntelliJ IDEA Community Edition (version 2021.1)
√] VS Code (version 1.62.3)
√] Connected device (2 available)

Doctor found issues in 2 categories.
```

- **learn dart for flutter**

  Dart is an open-source general-purpose programming language. It is originally developed by Google. Dart is an object-oriented language with C-style syntax. It supports programming concepts like interfaces, classes, unlike other programming languages Dart doesn't support arrays. Dart collections can be used to replicate data structures such as arrays, generics, and optional typing.

- **Dart data types and variables**

  - Numbers
  - Strings
  - Booleans
  - Lists
  - Sets
  - Maps
  - HashMap

➢ Map and HashMap:-

```
void main() {
 var map_name = {

   'key1': 'value1',
   'key2': 2,
   'key 3': 3.0,
   'key4': true
```

```
  };

  // map_name['key1'] =  'deep';  replace value of key 1
  map_name['key5'] = "gaurav";

  print(map_name);
  print(map_name['key2']);


  var mapName = Map();
  mapName['Name'] = 'deep';
  mapName['key5'] = 5;
  mapName['avg.rating'] = 3.0;

  print(mapName);

  print(mapName.isNotEmpty);
  print(mapName.isEmpty);
  print(mapName.length);
  print(mapName.keys);
  print(mapName.values);
  print(mapName.containsKey('Name'));
  print(mapName.containsValue(false));
  print(mapName.remove('avg.rating'));


  print(mapName);
}
```

- **what are functions and their uses in dart**

Functions are the building blocks of readable, maintainable, and reusable code. A function is a set of statements to perform a specific task. Functions organize the program into logical blocks of code.

Basically, there are four types of function in Dart.

There are as follows:

1. No arguments and no return type
2. with arguments and no return type
3. no arguments and return type

4. with arguments and with return type

```dart
void main(){
  print("hi");

  var myc = myClass(); //here myClass() is co
  myc.printName("hi there"); // function call
  myc.printName("helloo");
      print(myc.add(5,7));
}
class myClass {

  myClass() {
    // Defult Constructor it's needed when we
    print("Object crated");
  }

  void printName(String name) {
    //function Declaration
    print(name); // function defination
  }

  int add(int a, int b) {
    // int a=5;
    //int b=6;
    int sum = a + b;
    return sum;
  }
}
```

Output:-

```
C:/flutter_windows_3.10.6-stable/flutter/bin/ca
hi
Object crated
hi there
helloo
12

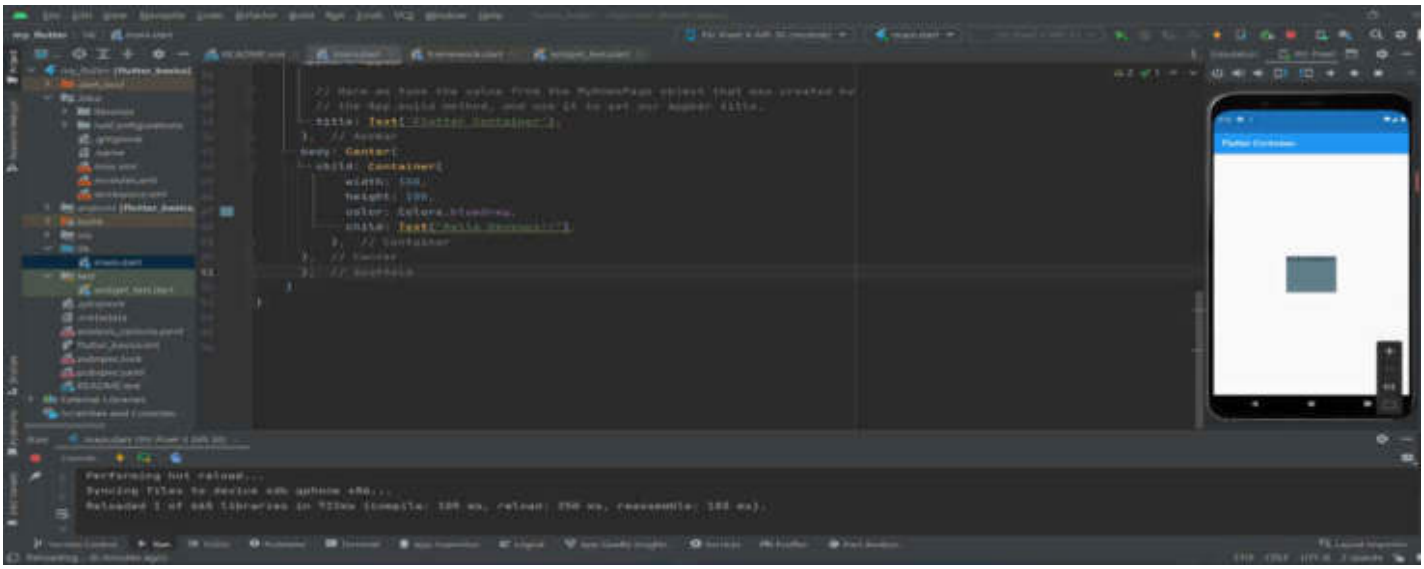
Process finished with exit code 0
```

Week 2

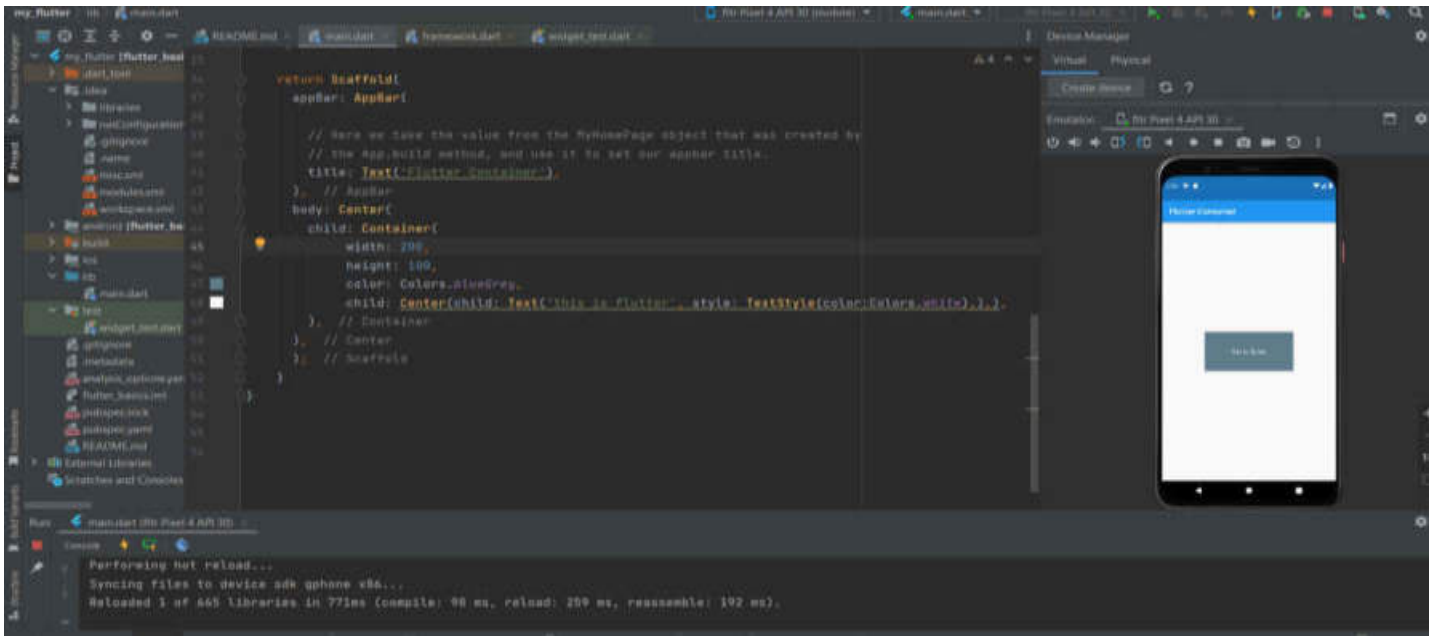
- **Learn about flutter widget**

  Flutter widgets are built using a modern framework that takes inspiration from React. The central idea is that you build your UI out of widgets. Widgets describe what their view should look like given their current configuration and state.

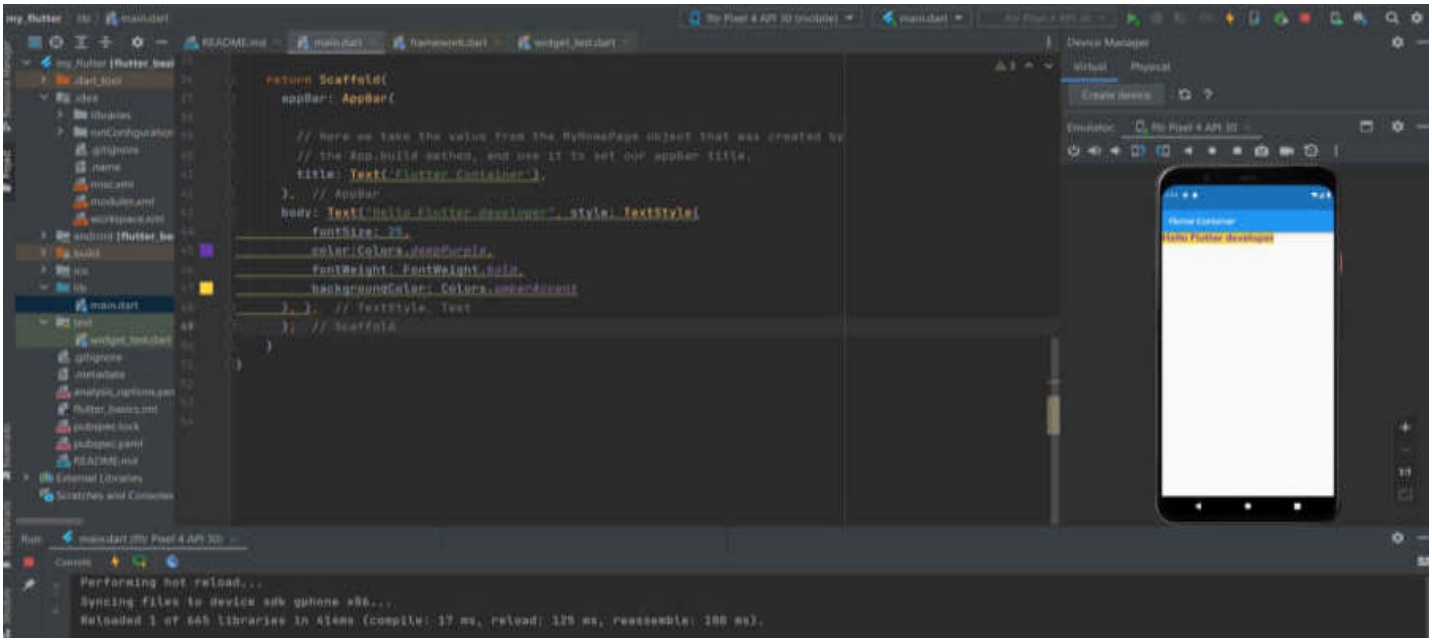
  - Container:-



- Center widget:



- Text and style widget:

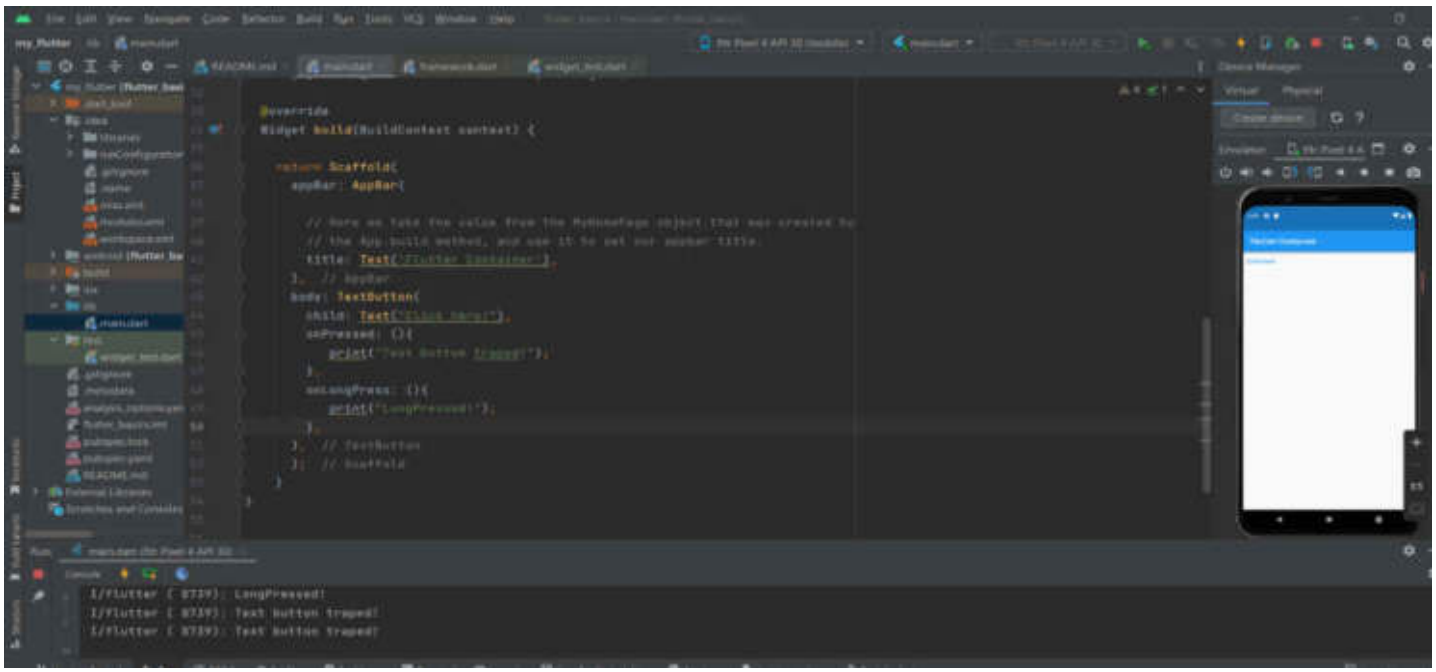


- Button:

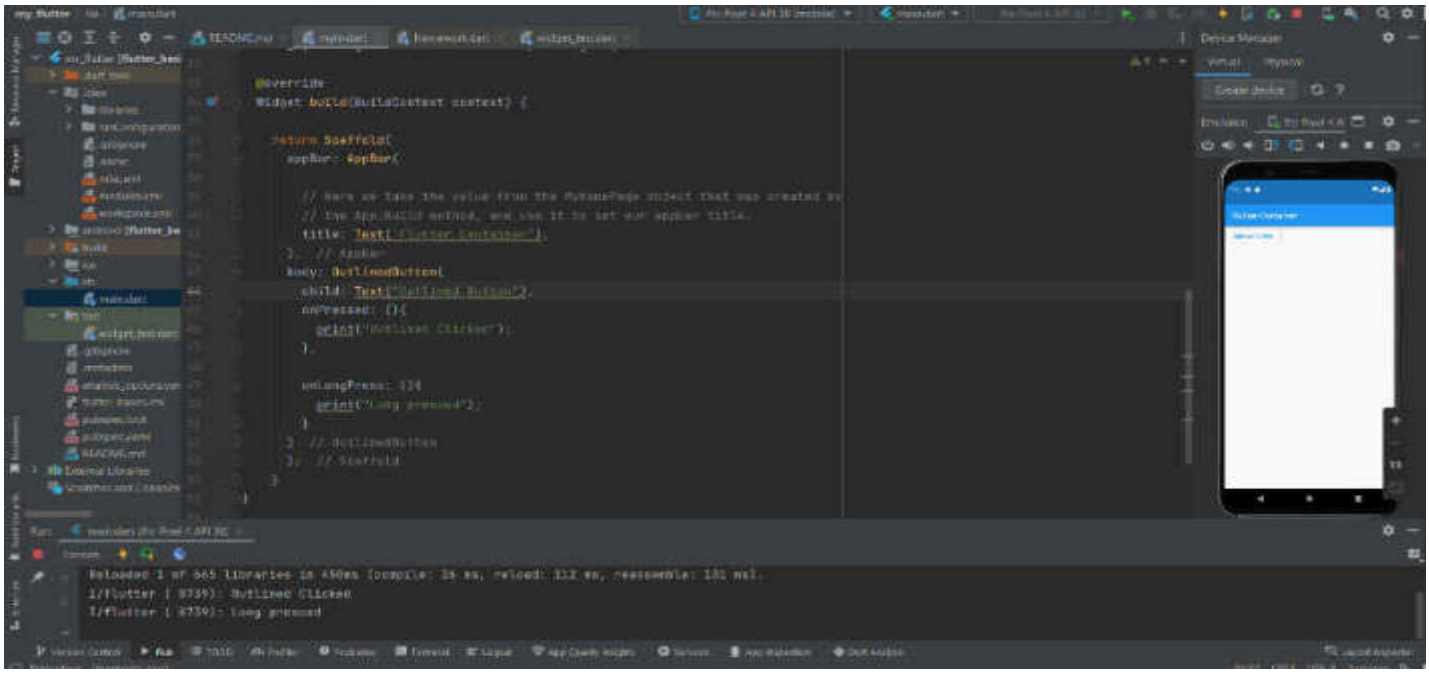
Types of button in flutter:

1. Text Button
2. Outlined Button
3. Elevated Button

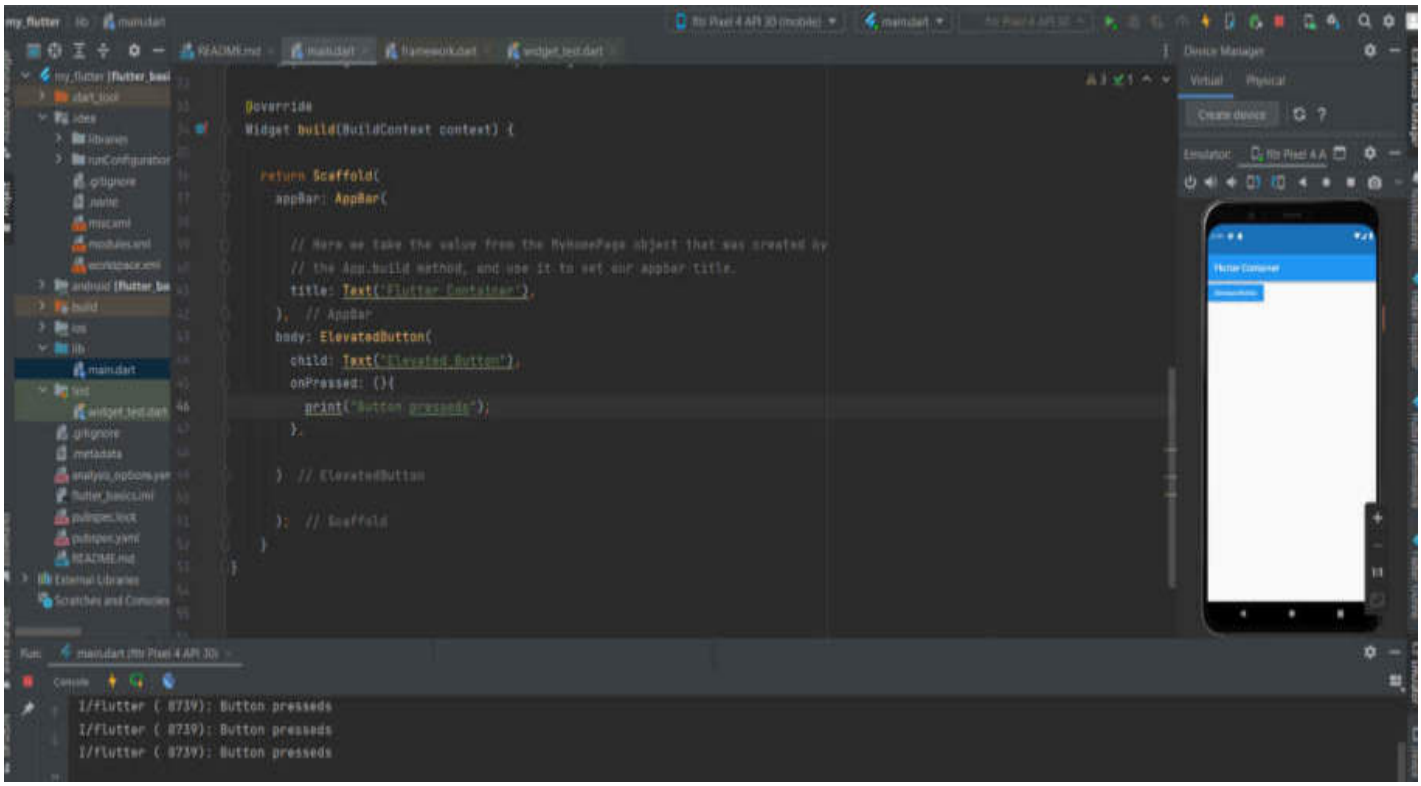
1. Text Button:-



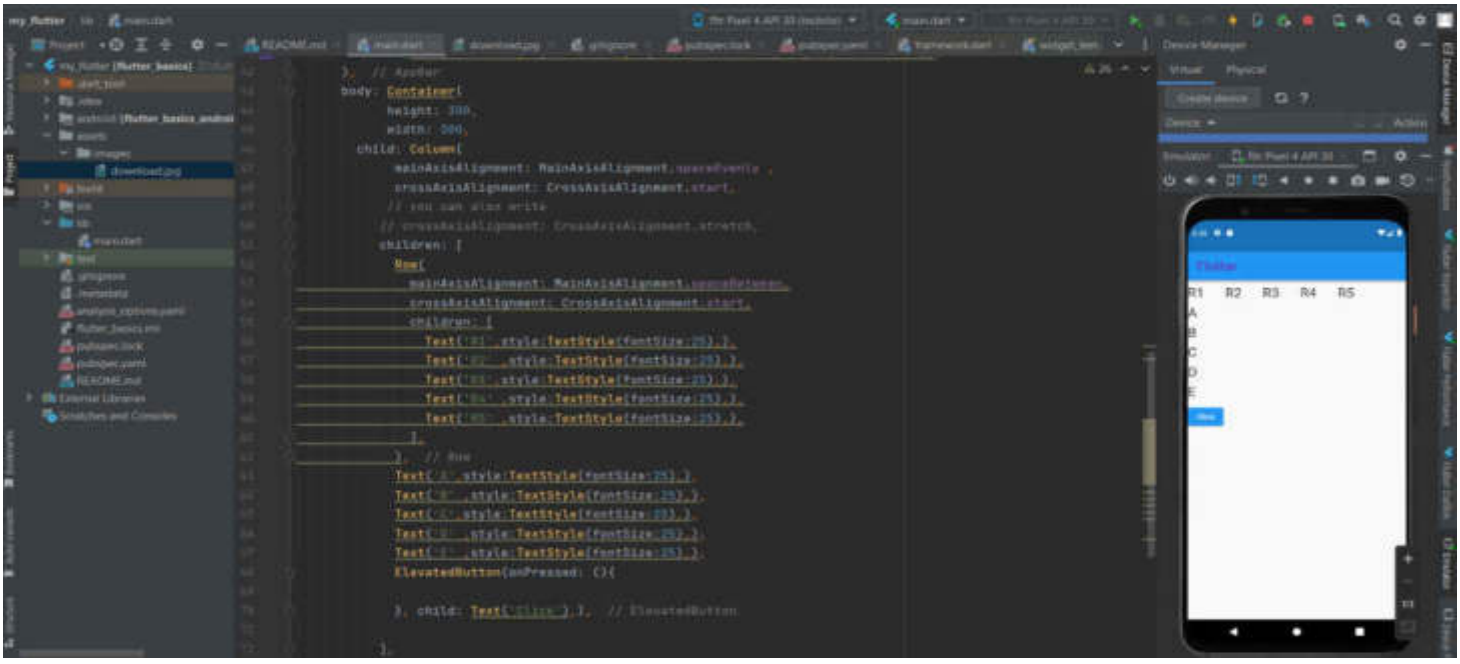
2. Outlined Button:



3. Elevated Button

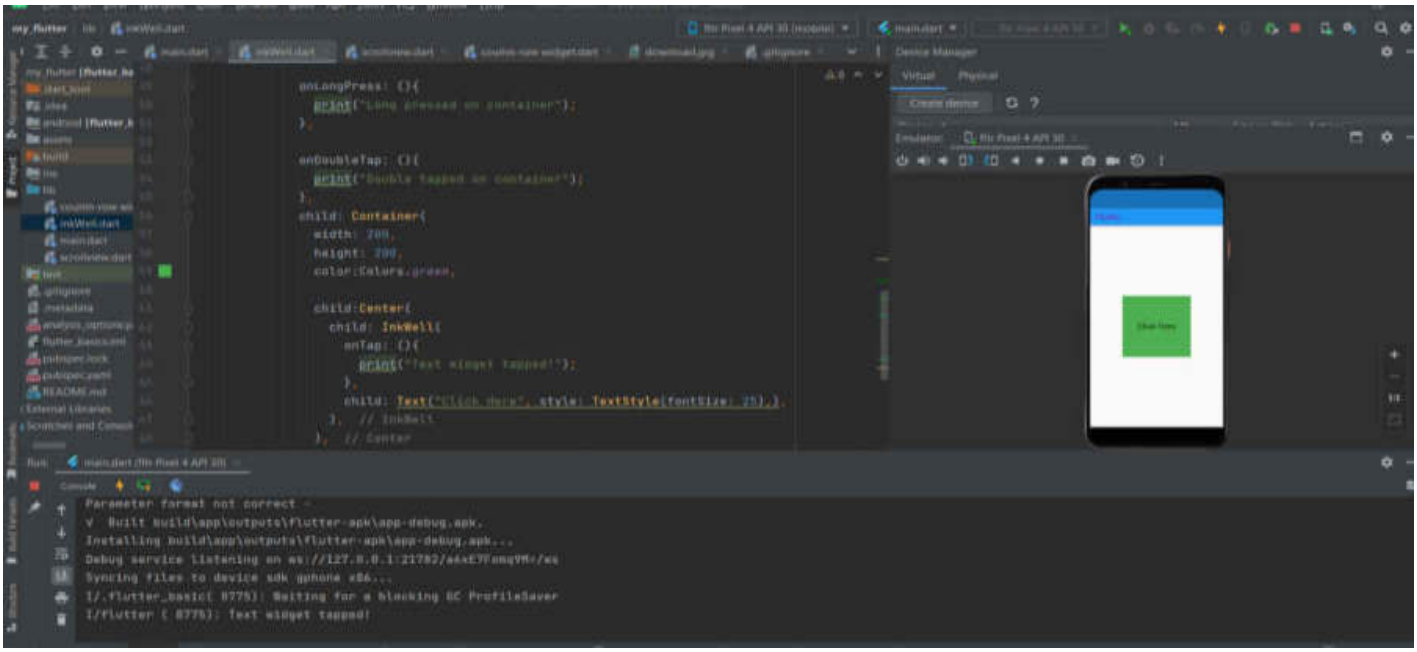


➢ Rows and columns:

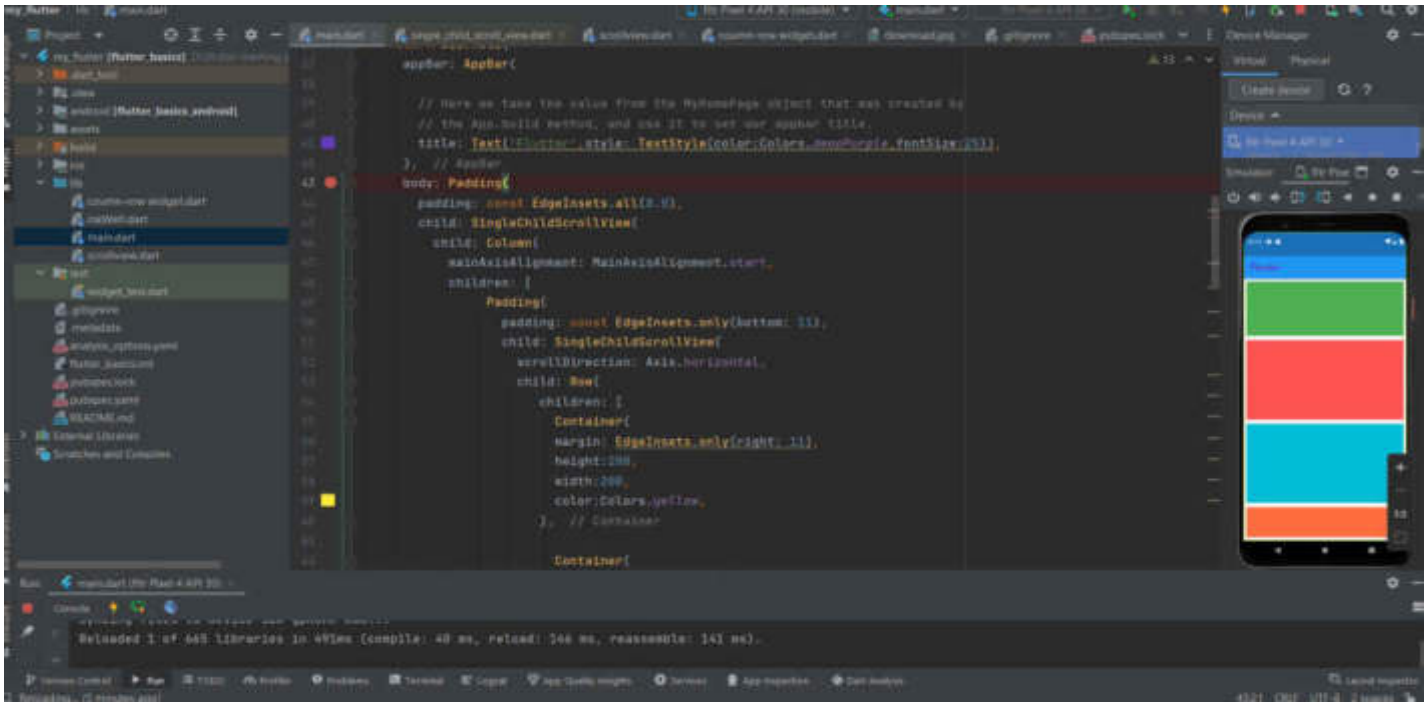


- **learn about InkWell widget , ScrollView widgets and Listview**

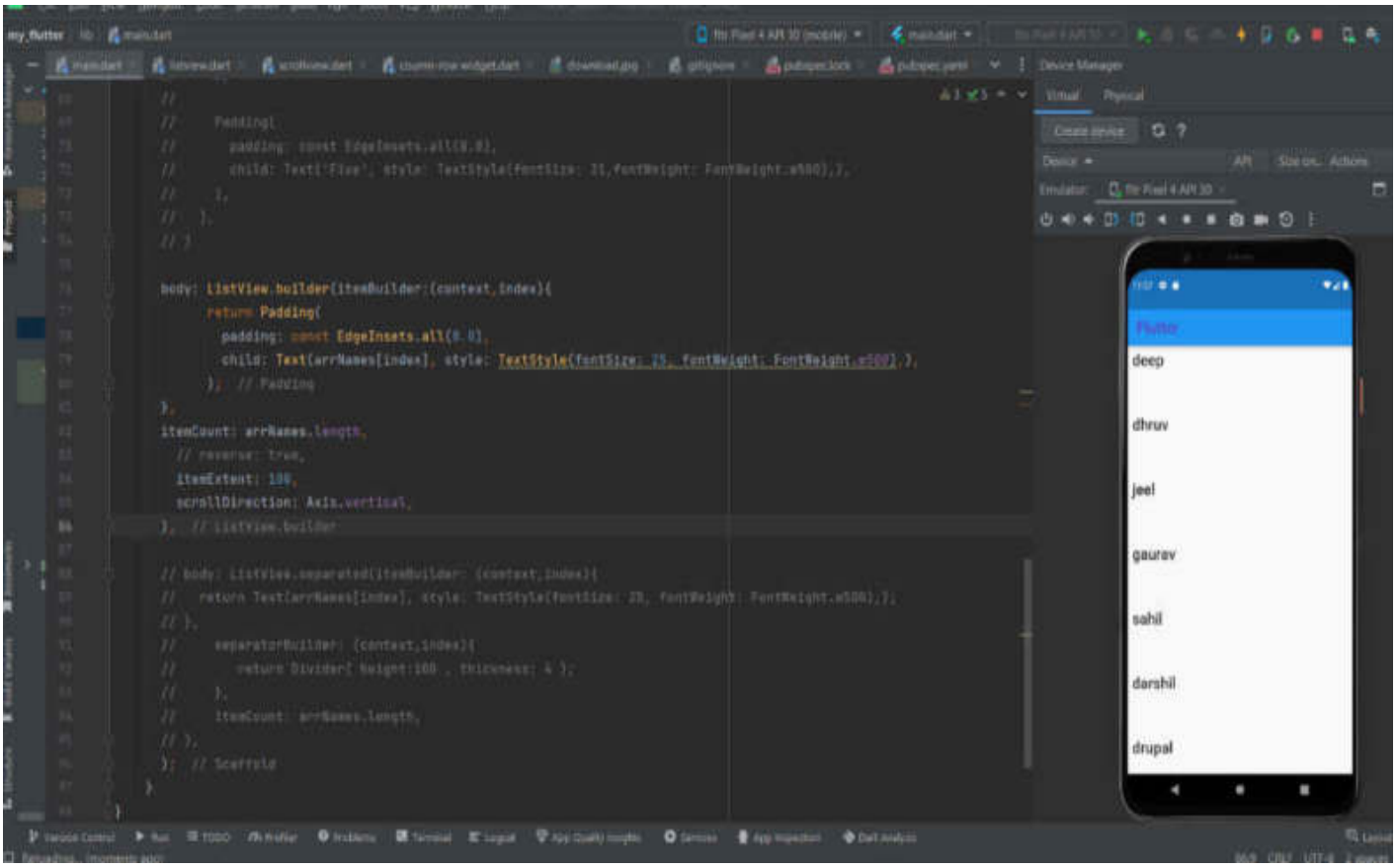
➢ InkWell



➢ ScrollView

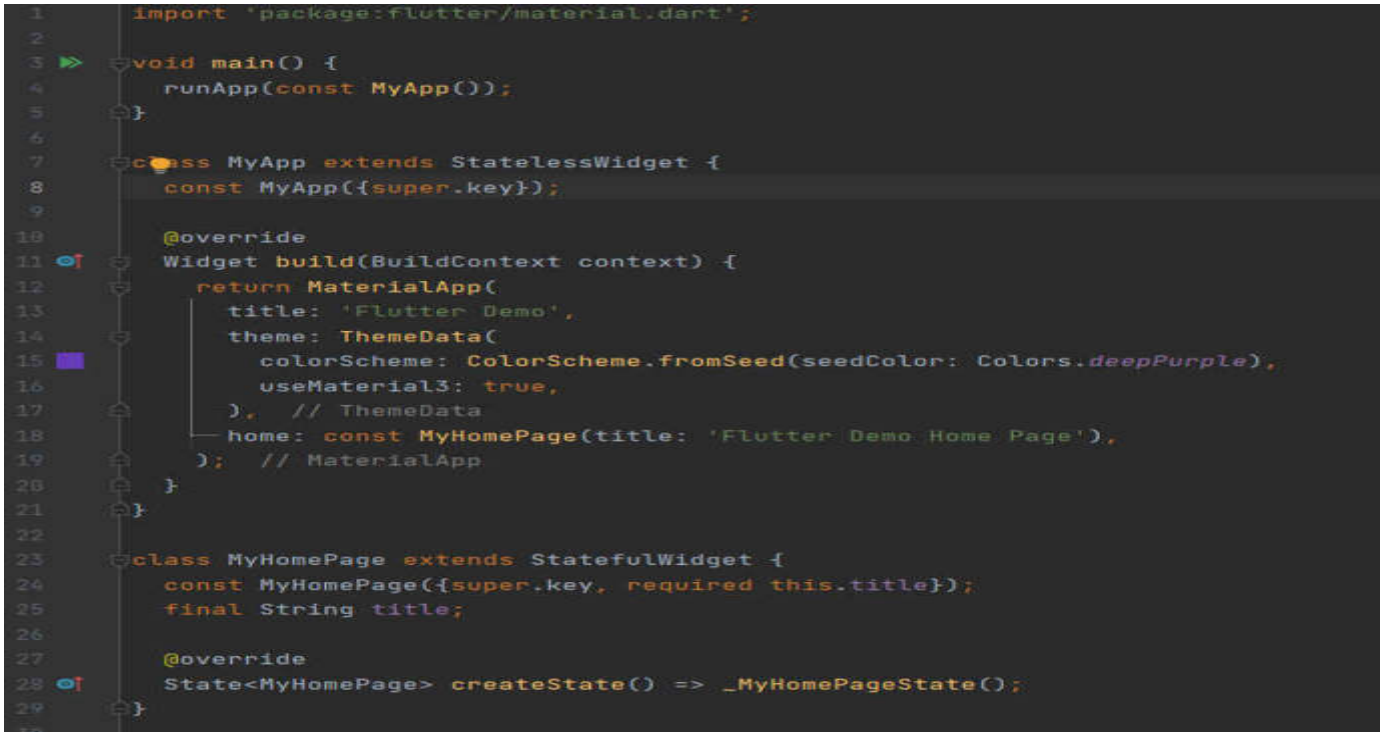


- ListView:



Week 3

- **Default Program in Flutter**



```dart
import 'package:flutter/material.dart';

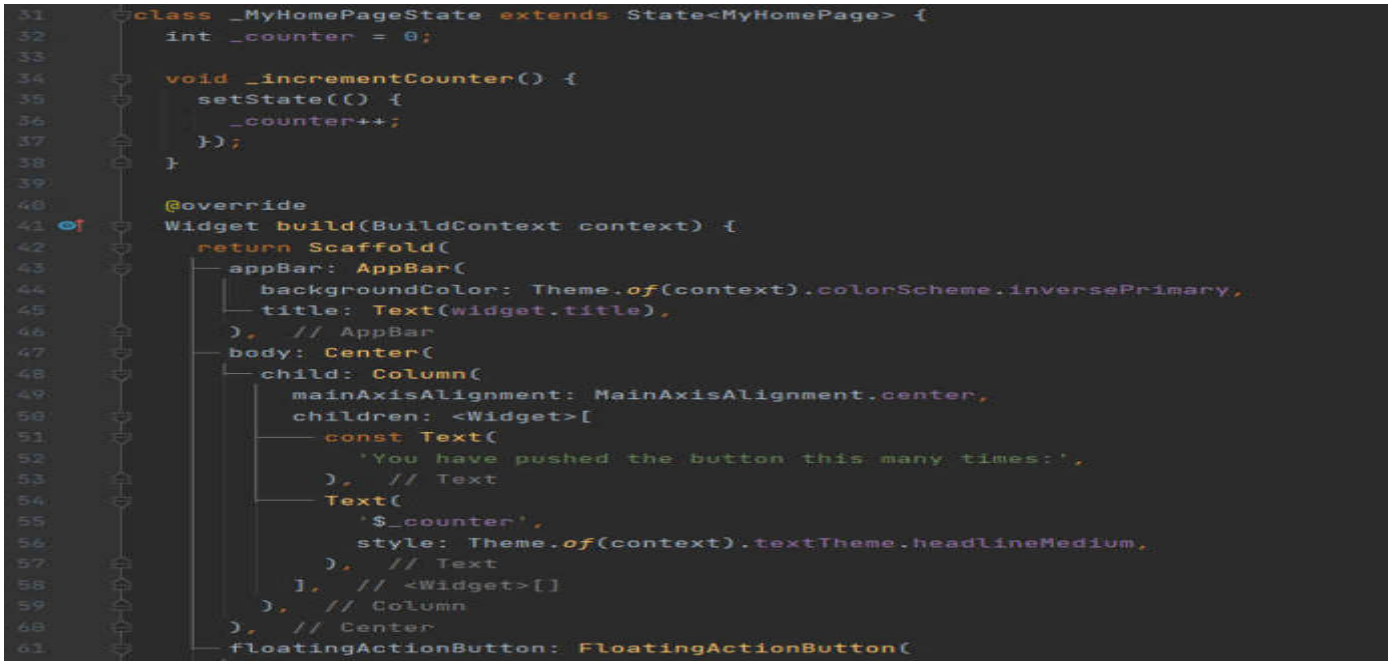
void main() {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'Flutter Demo',
      theme: ThemeData(
        colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
        useMaterial3: true,
      ),  // ThemeData
      home: const MyHomePage(title: 'Flutter Demo Home Page'),
    );  // MaterialApp
  }
}

class MyHomePage extends StatefulWidget {
  const MyHomePage({super.key, required this.title});
  final String title;

  @override
  State<MyHomePage> createState() => _MyHomePageState();
}
```

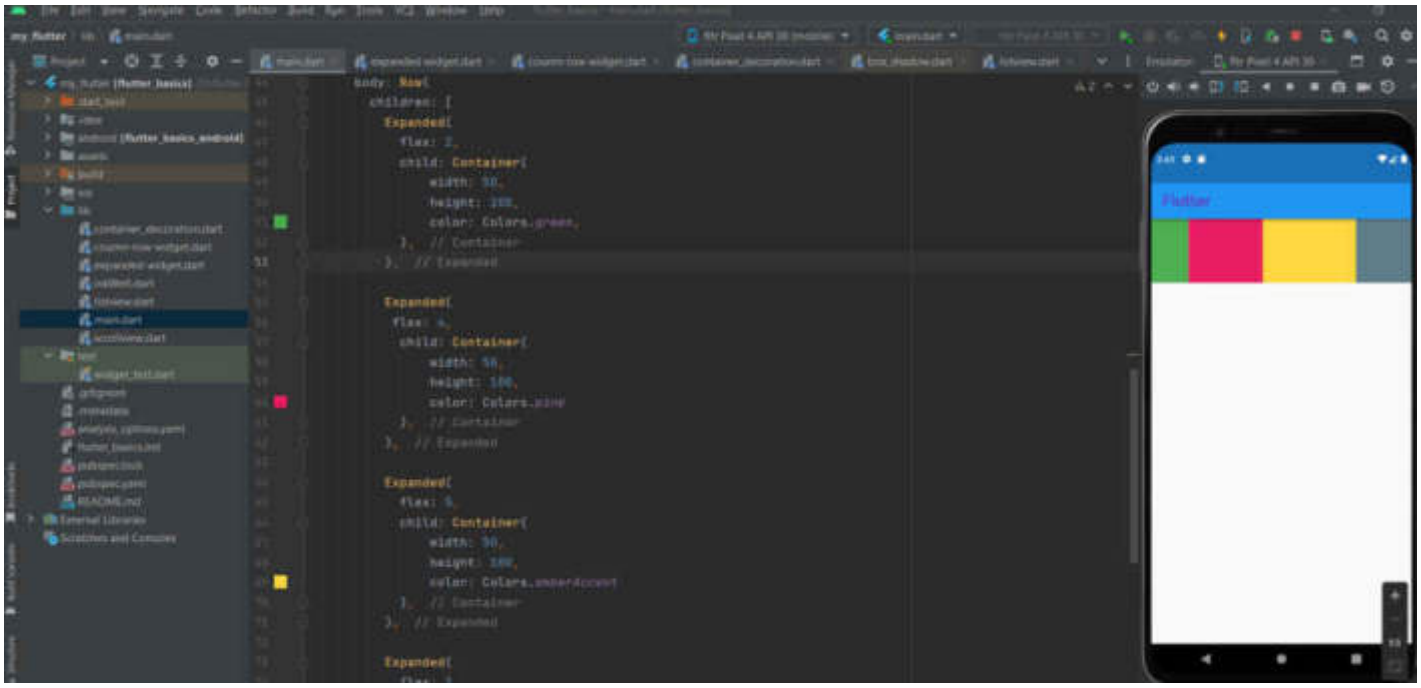


```dart
class _MyHomePageState extends State<MyHomePage> {
  int _counter = 0;

  void _incrementCounter() {
    setState(() {
      _counter++;
    });
  }

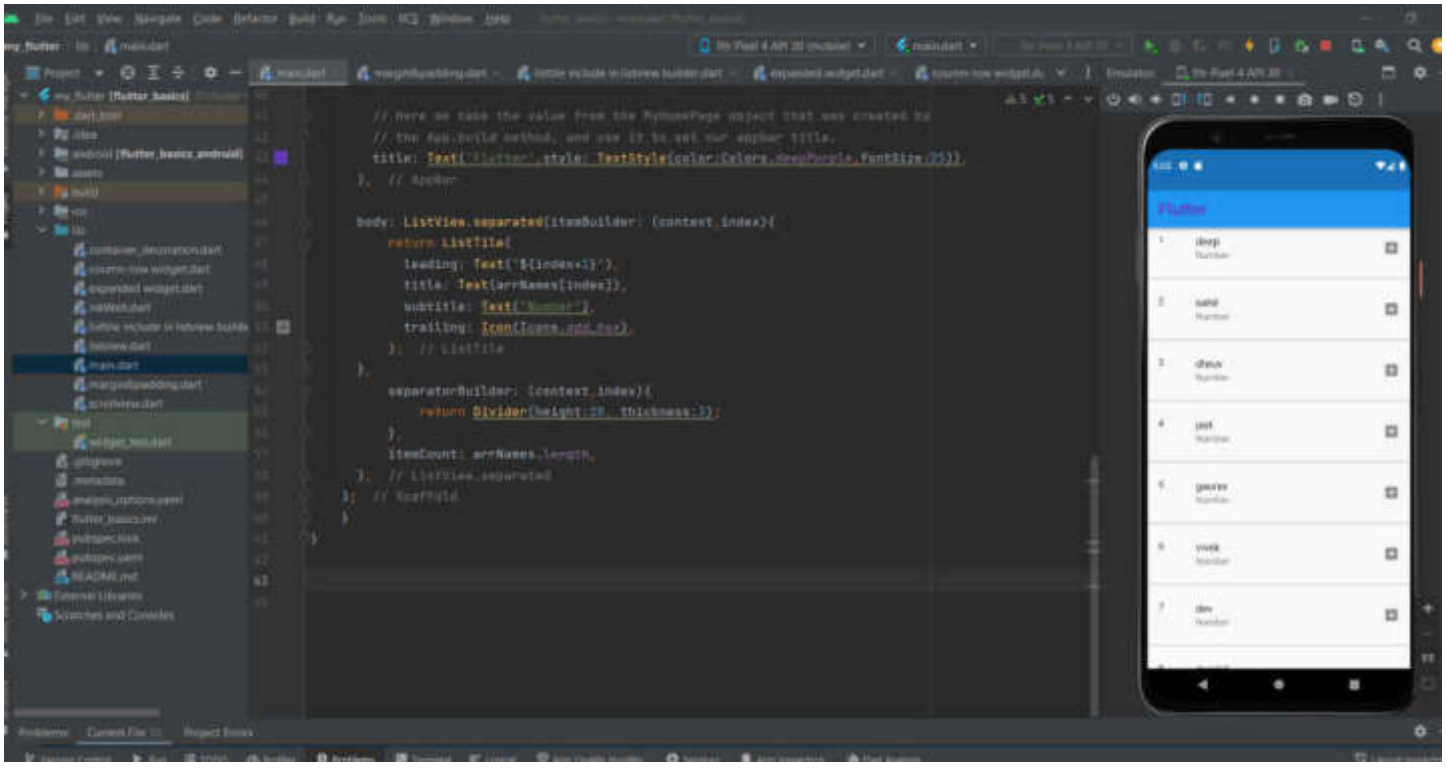
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        backgroundColor: Theme.of(context).colorScheme.inversePrimary,
        title: Text(widget.title),
      ),  // AppBar
      body: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: <Widget>[
            const Text(
              'You have pushed the button this many times:',
            ),  // Text
            Text(
              '$_counter',
              style: Theme.of(context).textTheme.headlineMedium,
            ),  // Text
          ],  // <Widget>[]
        ),  // Column
      ),  // Center
      floatingActionButton: FloatingActionButton(
```

- **learn about Expanded widget**

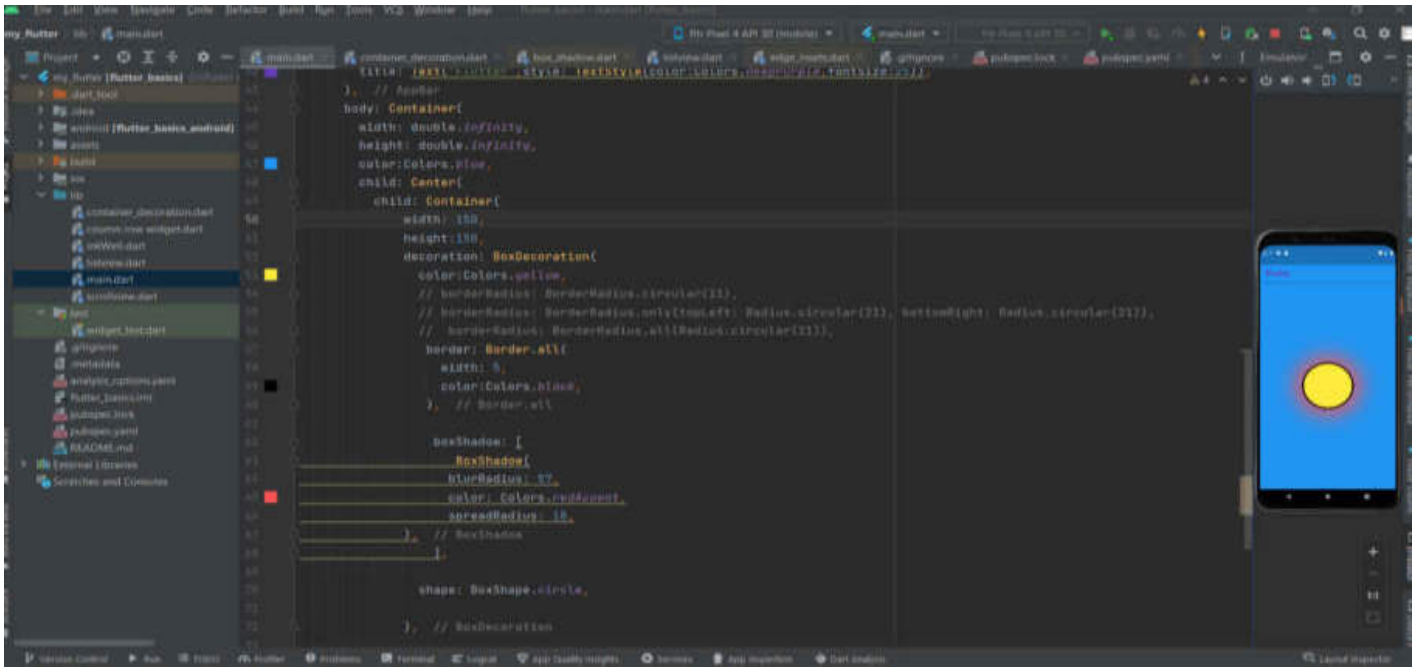


- flutter ListTile and Circle Avatar

➢ ListTile



- Circle Avatar



Week 4

- **Build Calculator app**

```
import 'package:flutter/material.dart';
import 'package:math_expressions/math_expressions.dart';


void main() {
  runApp(MaterialApp(
    debugShowCheckedModeBanner: false,
    home: CalculatorApp(),
  ));
}


class CalculatorApp extends StatefulWidget {
  const CalculatorApp({Key? key}) : super(key: key);


  @override
  State<CalculatorApp> createState() => _CalculatorAppState();
}

class _CalculatorAppState extends State<CalculatorApp> {

  double firstNum = 0.0;
  double secondNum = 0.0;
  var input = "";
  var output = "";
  var operation = "";
  var hideInput = false;
  var outputSize = 38.0;


  onButtonClick(value) {
    if (value == "AC") {
      input = "";
      output = "";
    }
    else if (value == "<") {
      if(input.isNotEmpty) {
        input = input.substring(0, input.length - 1);
      }
    }
    else if (value == "=") {
      if (input.isNotEmpty) {
        var userInput = input;
        userInput = input.replaceAll("x", "*");
        Parser p = Parser();
        Expression expression = p.parse(userInput);
        ContextModel cm = ContextModel();
        var finalValue = expression.evaluate(EvaluationType.REAL, cm);
        output = finalValue.toString();

        if(output.endsWith(".0")) {
          output = output.substring(0, output.length - 2);
        }
```

```
        input = output;
        hideInput = true;
        outputSize = 49;
      }

    }
    else{
      input = input + value;
      hideInput = false;
      outputSize = 38;
    }

    setState(() {});
  }


  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.white,
      body: Column(
        children: [
          Expanded(
            child: Container(
              width: double.infinity,
              padding: EdgeInsets.all(20),
              color: Colors.blueGrey,
              child: Column(
                mainAxisAlignment: MainAxisAlignment.end,
                crossAxisAlignment: CrossAxisAlignment.end,
                children: [
                  Text(hideInput ? " " : input,
                    style: TextStyle(fontSize: 45, color: Colors.white),),

                  SizedBox(
                    height: 18,
                  ),

                  Text(output, style: TextStyle(
                      fontSize: outputSize, color:
Colors.white.withOpacity(0.8)),),

                  SizedBox(
                    height: 28,
                  ),
                ],
              ),
            ),
          ),

          Row(
            children: [
              button(text: "AC", buttonBgColor: Colors.lightBlueAccent),
              button(text: "( )", buttonBgColor: Colors.cyan[200]),
              button(text: "%", buttonBgColor: Colors.cyan[200]),
              button(text: "/", buttonBgColor: Colors.cyan[200]),
            ],
          ),

          Row(
```

```
            children: [
              button(text: "7"),
              button(text: "8"),
              button(text: "9"),
              button(text: "x", buttonBgColor: Colors.cyan[200]),
            ],
          ),

          Row(
            children: [
              button(text: "4"),
              button(text: "5"),
              button(text: "6"),
              button(text: "-", buttonBgColor: Colors.cyan[200]),
            ],
          ),

          Row(
            children: [
              button(text: "1"),
              button(text: "2"),
              button(text: "3"),
              button(text: "+", buttonBgColor: Colors.cyan[200]),
            ],
          ),

          Row(
            children: [
              button(text: "0"),
              button(text: "."),
              button(text: "<"),
              button(text: "=", buttonBgColor: Colors.cyan[400]),
            ],
          ),


        ],
      ),
    );
  }

  Widget button({
    text, buttonBgColor = Colors.white, tColor = Colors.black
  }) {
    return Expanded(
        child: Container(
          margin: EdgeInsets.all(10),
          child: ElevatedButton(
            style: ElevatedButton.styleFrom(
                backgroundColor: buttonBgColor,
                padding: EdgeInsets.all(20),
                shape: RoundedRectangleBorder(
                  borderRadius: BorderRadius.circular(40),
                )
            ),
            onPressed: () => onButtonClick(text),


            child: Text(text, style: TextStyle(
                color: tColor, fontSize: 18, fontWeight:
FontWeight.bold),),
```

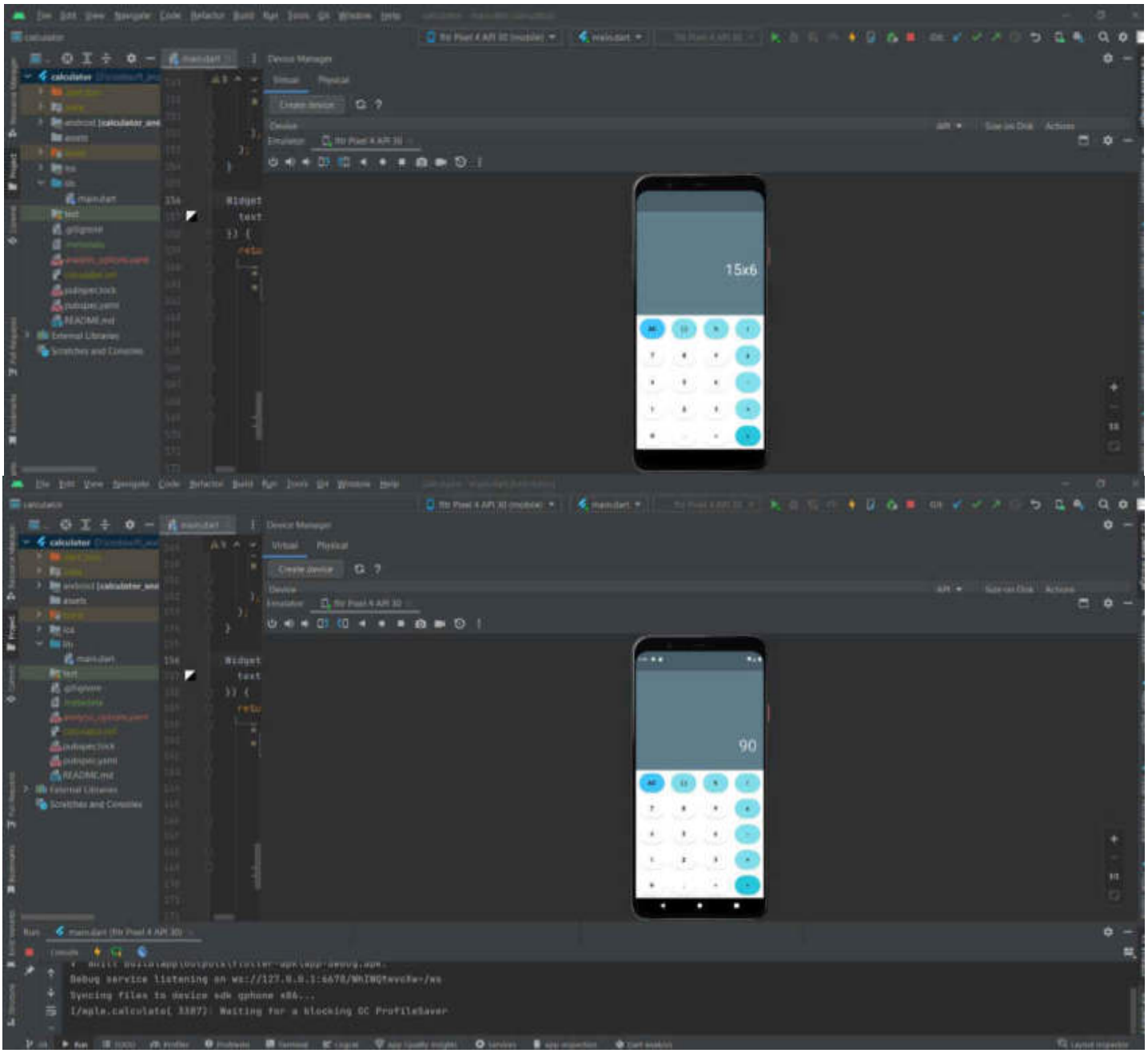
```
            ),
          )
      );
    }


}
```

GitHub Link :-

https://github.com/Deepsavani2904/CODSOFT/tree/master

Output:-



- **Build Flashlight app**

```
import 'package:flutter/material.dart';
import 'package:torch_controller/torch_controller.dart';


void main() {
  TorchController().initialize();
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  // This widget is the root of your application.
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false   ,
      title: 'FlashLight',
      theme: ThemeData(
        primarySwatch: Colors.grey,
      ),
      home: const TorchLight(),
    );
  }

}


class TorchLight extends StatefulWidget {
  const TorchLight({super.key});

  @override
  State<TorchLight> createState() => _TorchLightState();
}

class _TorchLightState extends State<TorchLight> {

  var isActive = false;
  var controller = TorchController();

  @override
  Widget build(BuildContext context) {
    return  Scaffold(
      backgroundColor: Colors.grey,
      appBar: AppBar(
        backgroundColor: Colors.lightBlue,
        elevation: 0.0,
        title: Text("Flashlight", style: TextStyle(color:
Colors.greenAccent, fontSize:30 ),),
      ),
      body: Column(
        children: [
          Expanded(
              child: Padding(
                padding: EdgeInsets.all(8.0),
                child: Center(
                  child: Column(
                    mainAxisAlignment : MainAxisAlignment.center,
```

```
                    children:[
                      Padding(
                        padding: const EdgeInsets.only(left: 70,
right: 70),
                        child: Container(
                          child: Text("Flashlight" ,
                            style: TextStyle(color: isActive ?
Colors.white : Colors.white70,
                                  fontSize:35,
                                  fontWeight: FontWeight.w600),),
                        ),
                      ),

                      SizedBox(
                        height:25 ,
                      ),

                      ElevatedButton(
                          onPressed: (){
                            controller.toggle();
                            isActive = !isActive;
                            setState(() {});
                          },
                          child: Text(isActive ? 'ON' : 'OFF',
                              style: TextStyle(fontSize:25,fontWeight
: FontWeight.w500)),
                          style: ElevatedButton.styleFrom(
                            backgroundColor: Colors.teal,
                            padding: EdgeInsets.only(left: 20 ,right:
20),
                          )

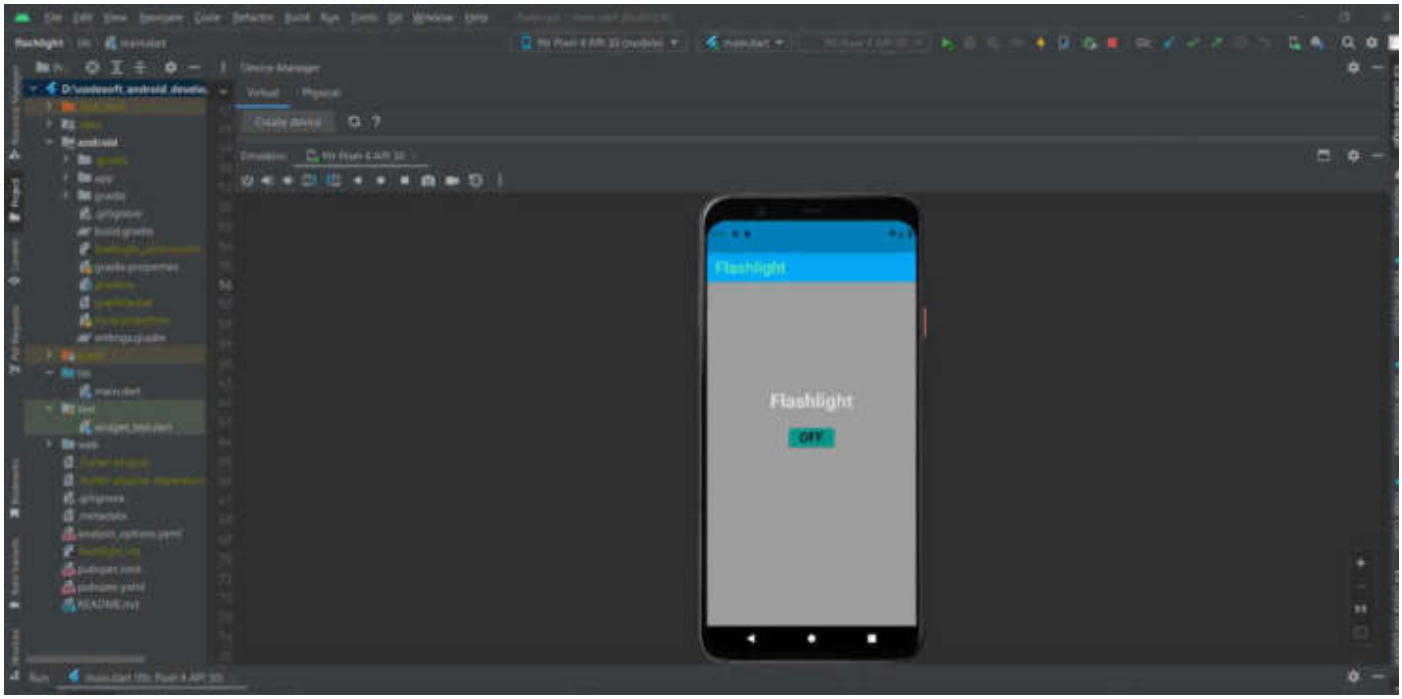
                      ),

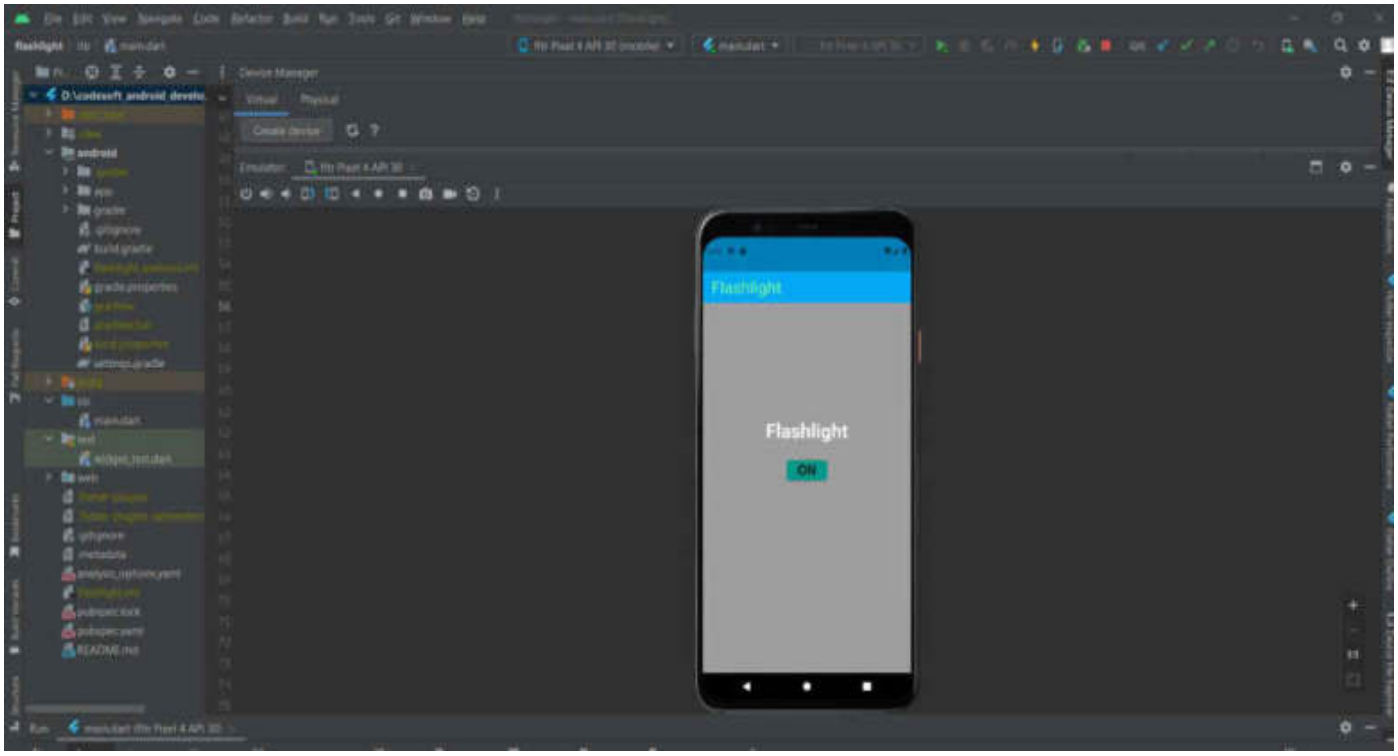

                      SizedBox(
                        height: 130,
                      )

                    ],
                  ),
                ),
              )
            ),
          ],
        ),
      );
    }
}
```

GitHub Link:-
https://github.com/Deepsavani2904/CODSOFT/tree/main

Output:-





Conclusion

My two-week internship at CodSoft It Services Pvt Ltd has been an invaluable experience that has expanded my knowledge and skills in the flutter development. Throughout this journey, I have had the privilege of immersing myself in a dynamic and collaborative environment, working alongside talented professionals who are passionate about their craft.

Moreover, the internship allowed me to witness firsthand the importance of effective communication and teamwork in a professional setting. This experience not only improved my technical skills but also bolstered my soft skills, which are equally vital for success in any professional setting.

I am profoundly grateful for the opportunity to learn and grow at CodSoft It Services Pvt Ltd. The exposure to real-world projects, the guidance from skilled mentors, and the supportive work culture have combined to create an enriching and transformative experience. As I move forward in my journey, I am excited to apply the knowledge and skills I have gained here to future endeavors, and I am confident that this internship has laid a strong foundation for my career in flutter development.

In closing, I extend my sincere gratitude to the entire team at CodSoft It Services Pvt Ltd for their warm welcome, guidance, and support. This internship has been a stepping stone towards my professional aspirations, and I am eager to continue my journey of growth and learning in the world of App development.

INTERNSHIP AT CODSOFT

AN INTERNSHIP REPORT

Submitted by

Smit Hitendrakumar Vidja

200390116043

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CODSOFT** has been carried out by **Smit Hitendrakumar Vidja** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. Akshay Kansara	Prof. Akshay Kansara
Internal Guide	Head of Department

Internship Offer Letter

CodSoft
Code.Create.Succeed

INTERNSHIP OFFER LETTER

Date : **17/07/2023** **ID:CS07WX10067**

Dear,

Smit Vidja

We would like to congratulate you on being selected for the " **Machine learning**" internship position with "**CodSoft**". We at **CodSoft** are excited that you will join our team.

The duration of the internship will be of **4 weeks**, starting from **20 July 2023 to 20 August 2023** The internship is an educational opportunity for you hence the primary focus is on learning and developing new skills and gaining hands-on knowledge. We believe that you will perform all your tasks/projects.

As an intern, we expect you to perform all assigned tasks to the best of your ability and follow any lawful and reasonable instructions provided to you.

We are confident that this internship will be a valuable experience for you, we look forward to working with you and helping you achieve your career goals.

Best of Luck!

Thank You!

Team CodSoft

CodSoft IT SERVICE

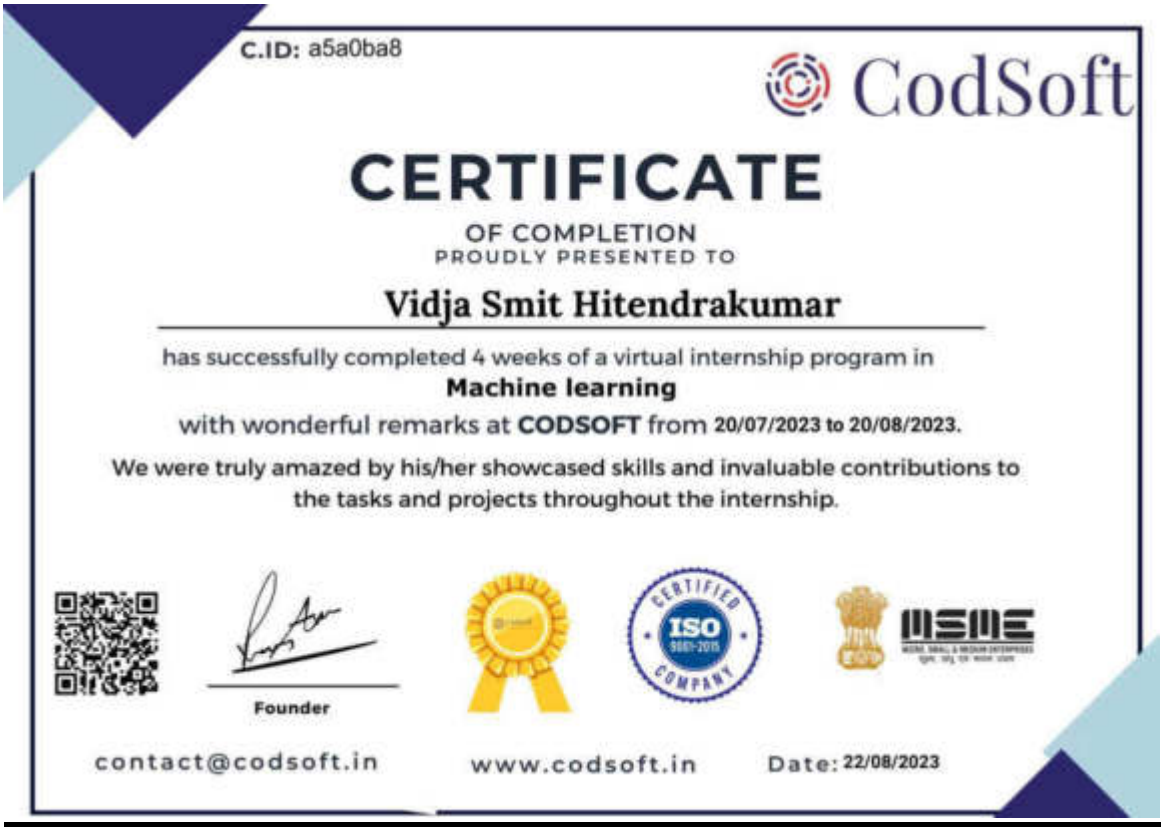
CERTIFIED ISO 9001:2015 COMPANY

MSME

MSME Registered

www.codsoft.in
contact@codsoft.in

Internship Certificate







S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Codsoft** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
Smit Hitendrakumar Vidja	_____

ACKNOWLEDGMENT

I would like to express my sincere gratitude to Codsoft for providing me with the opportunity to undertake my internship at their esteemed organization. This experience has been invaluable in enhancing my understanding of the practical applications of Machine learning and has contributed significantly to my professional growth. I am deeply thankful to , my internship supervisor, for his/her guidance, support, and mentorship throughout my internship journey. The insights and expertise shared by [Supervisor's Name] have been instrumental in shaping my skills and knowledge in Machine learning.

Your Sincerely

Smit Vidja

Abstract

This report contains the work done by the author during his internship at ***Codsoft***. It shows the work I did in the company during my internship period. In the report, the author discusses the process of manufacturing and steps of assembly of the machines. The author also discusses the structure of the company, all the departments and their work . It also explains what the author learned during this internship period.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

- CodSoft are IT services and IT consultancy that specializes in creating innovative solutions for businesses. We are passionate about technology and believe in the power of software to transform the world. Our internship program is just one of the ways in which we are investing in the future of the industry.

- At CodSoft, we believe practical knowledge is the key to success in the tech industry. Our aim is to help students lacking basic skills by offering hands-on learning through live projects and real-world examples.

- It is a top company that offers internships in different technology fields. They provide internships in web development, app development, software development, Machine learning and Java programming.

- They understand the importance of practical experience for aspiring tech professionals. That's why their internship program offers hands-on learning, where students work on real projects under the guidance of experienced mentors.

- Their team consists of industry experts who are dedicated to equipping interns with the knowledge and skills needed to succeed in their careers. They foster an inclusive and supportive environment that encourages learning, growth, and creativity.

1.2 MISSION AND VISION OF THE COMPANY:

1.We Provide All Exclusive services For Clients.
2.We build websites and web applications.
3.Today, every business should have a website.
4.No matter how small or large your business, having a website is must have at this time.
5.Having a website help you to maintain your online presence.

1.3 INTERNSHIP OBJECTIVES:

The primary objectives of my internship were to:
1. Gain hands-on experience in Python programming.
2. Contribute to real-world projects that utilize Python.
3. Enhance my problem-solving skills by tackling challenges in programming.

Chapter 2. ACTIVITIES AND PROJECTS

2.1 OVERVIEW OF MACHINE LEARNING :

1. Machines learn from data, improving without explicit programming using algorithms.
2. Involves identifying patterns, making predictions, and adapting to new information without explicit programming.
3. Statistical methods drive autonomous refinement, enabling better predictions and decisions.
4. Applied in image recognition, language processing, medical diagnosis, diverse industries.

1. Project 1: Credit card fraud

- I have Create a machine learning model which can detect CREDIT CARD FRAUD
- It checks the given data and give the required output accordingly on different test like Logistic Regression
- Github Repo: https://github.com/smitvidja/Codsoft-Internship-2k23/blob/main/Credit_card_fraud.ipynb

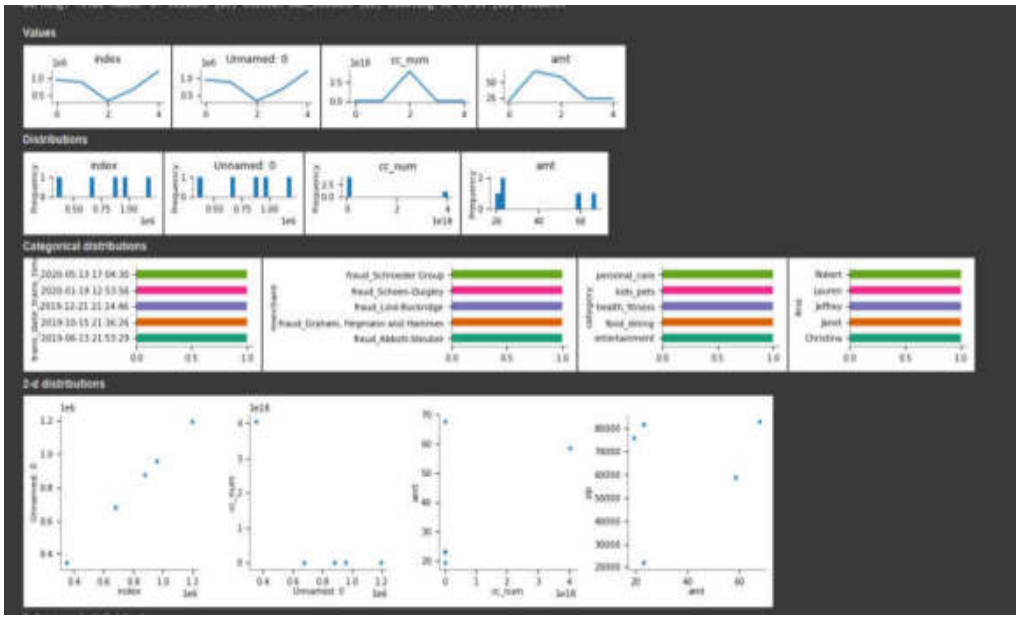


Fig. 2.1 Value Distribution of credit card

2. Project 2: CUSTOMER CHURN PREDICTION

- I have Develop a model to predict customer churn for a subscription based service or business
- It checks the given data and give the required output accordingly on different test like Logistic Regression, random forest etc.
- Github Repo : https://github.com/smitvidja/Codsoft-Internship-2k23/blob/main/Customer%20Churn%20Prediction.ipynb

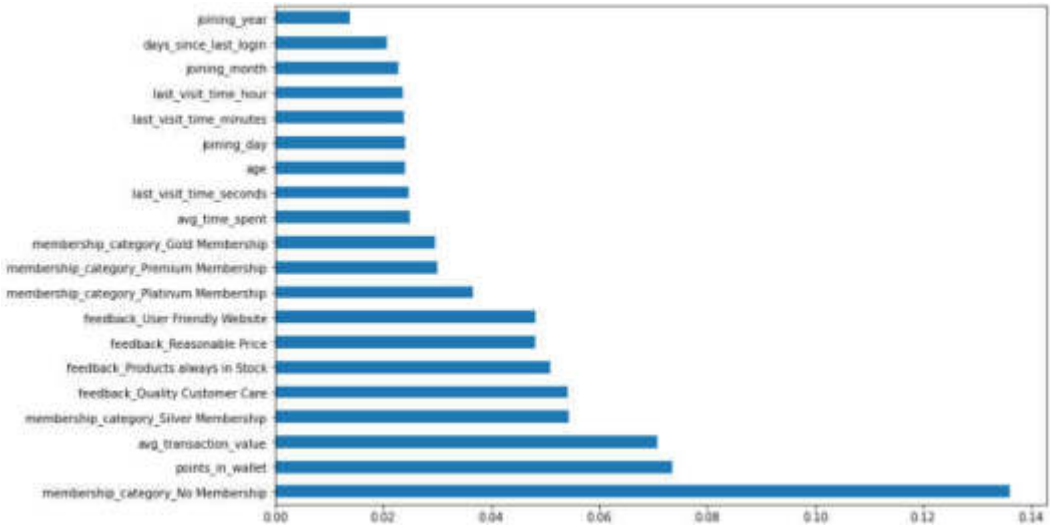


Fig. 2.2 Customer Churn Prediction

3. Project 3: SPAM SMS DETECTION

- I have Build an AI model that can classify SMS messages as spam or legitimate.
- It checks it's accuracy for different techniques like random forest, Logistic Reggration, Support Vector Classifier etc.
- Github Repo : https://github.com/smitvidja/Codsoft-Internship-2k23/blob/main/SMS_Spam_Detection.ipynb



Fig. 2.3 Catagorical Distribution of data

CHAPTER 3. LEARNING AND EXPERIENCE

3.1 TOPICS THAT I EXPLORED DURING MY INTERNSHIP:

1. **Introduction to Machine Learning:**
- Understanding of machine learning's role in enabling computers to learn from data.
- Awareness of its diverse applications across industries, from healthcare to finance.

2. **Data Collection and Preprocessing:**
- Knowledge of how to gather, clean, and prepare data for accurate model training.
- Handling missing values and outliers to ensure quality datasets.

3. **Supervised Learning Basics:**
- Grasping the concept of labeled data and learning algorithms to predict outcomes.
- Familiarity with regression and classification techniques for different problem types.

4. **Unsupervised Learning Insights:**
- Exploration of clustering methods for grouping similar data points without labels.
- Understanding dimensionality reduction techniques like PCA to simplify complex data.

5. **Neural Networks Introduction:**
- Learning about artificial neural networks and their biological inspiration.
- Recognizing the importance of input layers, hidden layers, and output layers.

6. **Deep Learning Applications:**
- Exposure to deep neural networks for handling complex tasks like image recognition.
- Understanding the impact of convolutional and recurrent layers in deep architectures.

7. **Natural Language Processing (NLP) Basics:**
- Comprehension of tokenization to break down text into meaningful units.
- Insight into sentiment analysis, a key application of NLP in understanding emotions.

8. **Image Processing Fundamentals:**

- Knowledge of how convolutional neural networks (CNNs) detect features in images.
- Understanding the concept of pooling layers for downsampling in CNNs.

9. **Model Evaluation Techniques:**

- Familiarity with metrics like accuracy, precision, and recall for assessing model performance.
- Ability to utilize techniques like cross-validation to ensure robustness.

3.2 SKILLS ACQUIRED:

During my internship, I developed the following skills:

- Data preprocessing: Cleaning, transforming, and preparing diverse datasets.
- Algorithm implementation: Applying supervised, unsupervised methods for predictive analysis.
- Model evaluation: Assessing accuracy, precision, recall, optimizing for performance.

3.3.CHALLENGES FACED:

- Data quality: Dealing with noisy, incomplete datasets for accurate modeling.
- Algorithm selection: Choosing appropriate methods for specific problem domains.
- Overfitting: Balancing model complexity to prevent poor generalization.
- Hyperparameter tuning: Optimizing settings for improved model performance.
- Interpretability: Understanding complex models, explaining decisions to stakeholders.

3.4 KEY TAKEAWAYS:

- Practical ML: Applied algorithms, skills in real-world scenarios.
- Data nuances: Importance of preprocessing, quality for model accuracy.
- Continuous learning: Explore hyperparameters, techniques for model enhancement.
- Collaboration benefits: Teamwork, communication essential for successful projects.
- Ethical awareness: Address biases, fairness concerns in AI applications.

3.5 CONCLUSION:

- My internship at Codsoft was a transformative experience that provided me with invaluable insights into Machine Learning. I gained practical skills, faced challenges head-on, and contributed to meaningful projects. This experience has solidified my passion for programming and equipped me with the skills necessary to excel in future endeavors.

- I am immensely grateful for the guidance and mentorship provided by the team at [Company Name], and I look forward to applying the knowledge and skills I've acquired in my future career.

3.6 ACKNOWLEDGMENTS:

- I would like to express my gratitude to the entire team at CodSoft for their continuous support, guidance, and the opportunity to be a part of their dynamic work environment.

INTERNSHIP AT CREART SOLUTIONS PVT. LTD.

AN INTERNSHIP REPORT

ON

NOTICEHUB USING D'JANGO PYTHON

Submitted by

Rana Siddharthsinh H.

(200390116044)

In partial fulfilment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July-August, 2023

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled Internship at **CREART SOLUTIONS PVT. LTD.** has been carried out by **Rana Siddharthsinh H.** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof.	Prof. Akshay Kansara
Internal Guide	Head of Department

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

JOINING LETTER

CREART

INTERNSHIP JOINING LETTER

Date: 27th July 2023

This is to certify that

Mr/Ms. Siddharthsinh Rana
Enrollment No : 200390116044
College : Saffrony Institute Of Technology

has been selected for the 15 day's of summer intership from **27th July 2023** to **10th August 2023** at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

COMPLETION LETTER

CREART

INTERNSHIP COMPLETION LETTER

Date: 10th August 2023

This is to certify that

Mr/Ms. Siddharthsinh Rana
Enrollment No : 200390116044
College : Saffrony Institute Of Technology

has successfully completed the 15 day's of summer intership from **27th July 2023** to **10th August 2023** at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I do declare that the Internship report submitted along with the Internship entitled on **Notice Hub** using **D'jango Python** at **CREART SOLUTIONS PVT. LTD.** submitted in partial fulfilment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad.

I hereby warrant that the work I have presented does not breach any existing copyright acts.

Name of the Student	Sign of Student
Siddharthsinh H. Rana	_____





COMPANY PROFILE

CreArt Solutions is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. We strongly believe in delivering the best services to the clients till their satisfaction. Main objective of CreArt is to provide professional , qualitative , innovative and accessible services in every possible form.

Our objective is the strong collaboration between design, development, and delivering services on time, which benefits not only clients but also the communities in which the projects are implemented. More to help businesses succeed worldwide, we offer end-to-end development of web and mobile apps that integrate dynamic modern technologies like AR/VR Development, AI, Machine Learning and many more.

ACKNOWLEDGMENT

The internship experience I had with **CREART SOLUTIONS PVT. LTD.** was truly invaluable, providing me with a remarkable opportunity for learning and professional growth. I consider myself extremely fortunate to have been given this chance.

I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience. Additionally, I extend my heartfelt thanks to Krishnamohan Gupta, the CEO at CREART SOLUTIONS PVT. LTD., for her support and assistance.

This internship has marked a significant milestone in my career development, offering me a platform to acquire valuable skills and knowledge. I am committed to applying these newly acquired abilities in the most effective manner, while continuously striving to enhance and refine them. My dedication is geared towards achieving my ultimate career objectives.

ABSTRACT

NoticeHub is a web application by which we can send the Notice to all employees/students etc. it has basically two panels: Admin & User. We can create & update Notices from Admin Panel and directly show it to all Users on User Panel.

It is very easy process to perform task, we just required a network connection. First we have to connect XAMPP server then go to browser, open the admin Panel, Create new notice or Update existing notice & lastly click on the submit button so that User successfully receive the Notices without any failure. It was implementing using HTML & CSS for frontend and Django, Python & MySQL for backend.

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Chapter:1 About the Company

1.1 Introduction of Company



Fig. 1.1 Company Logo

- CreArt is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

- CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. They strongly believe in delivering the best services to the clients till their satisfaction.

- Main objective of CreArt is to provide professional, qualitative, innovative and accessible services in every possible form. We take care of development, deliveries, required resources and innovation. Our experienced development and consultancy will add value to mobile or web application development project.

- Our objective is the strong collaboration between design, development, and delivering services on time, which benefits not only clients but also the communities in which the projects are implemented. More to help businesses succeed worldwide, we offer end-to-end development of web and mobile apps that integrate dynamic modern technologies like AR/VR Development, AI, Machine Learning and many more.

- I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience.

Chapter:2 About the Domain & IDE

2.1 Introduction of Core Python

- Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development,

- Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

- Core Python is a programming branch of Python. It is employed in the development of areas such as artificial intelligence and desktop apps. The core Python language includes basic commands and data structures such as tuple, list, and dictionary implementation to perform certain tasks

2.2 Introduction & Installation of Text Editor (Sublime 3)

- There is recommended system requirement for python and so many IDEs are available for python. They also told us the pros and cons of different IDEs.

- There are many software available for programming in Python like.. PyCharm, Notepad++, VScode, Sublime text 3, atom and NetBeans etc. I have installed PyCharm, VScode and Sublime text. mostly I am work on Sublime Text3.



Fig. 2.2.1 Sublime Text 3 Logo

- We can directy Download Sublime Text 3 from https://www.sublimetext.com/3. And then directly Install it. After Installation Open Folder as shown below.

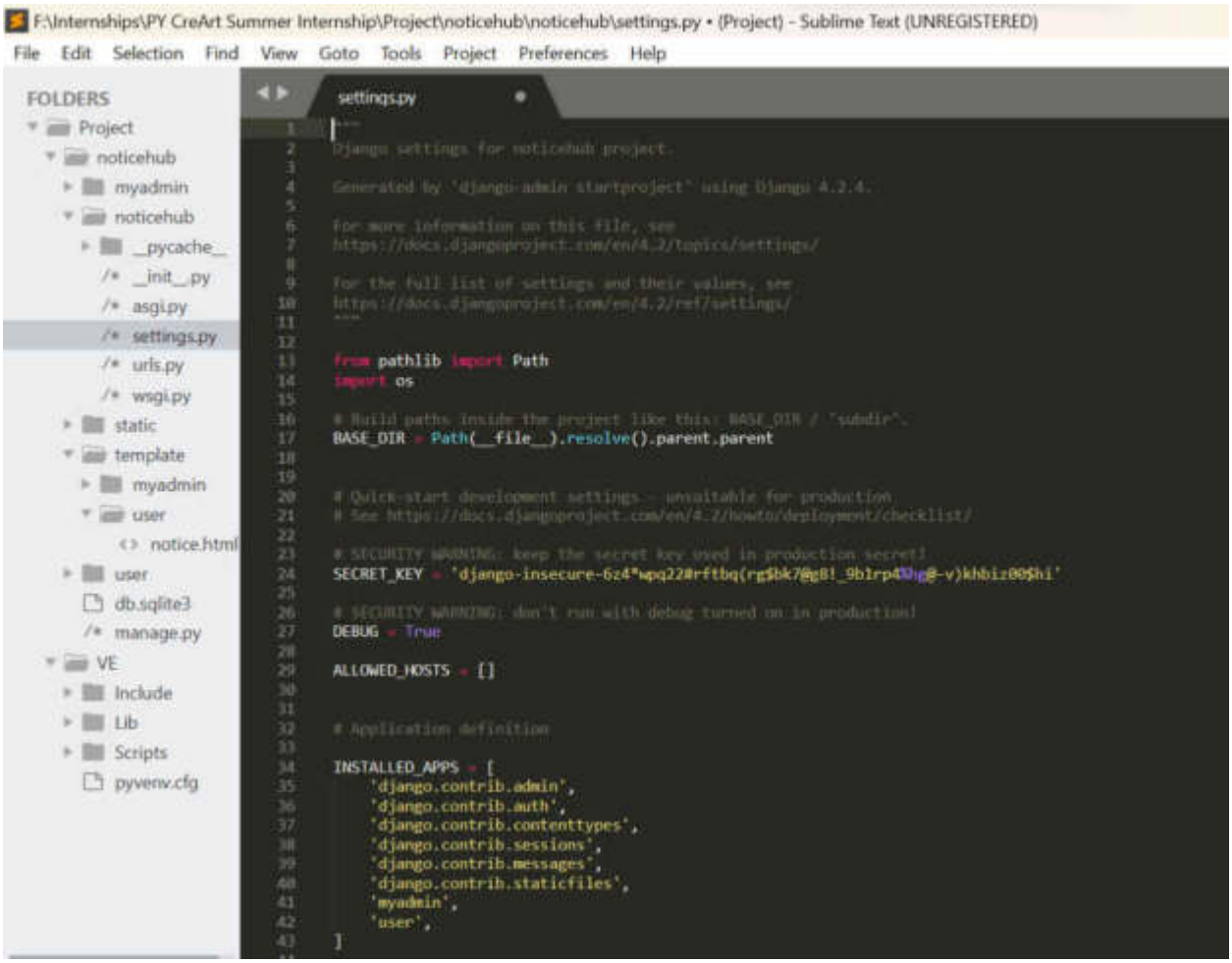


Fig. 2.2.2 Folder in Sublime Text 3

- In Sublime, We can create a Folder and then create a python file with **.py** extension. Here we see the folder named **Project** and inside this folder I created another folder name **noticehub** and inside this I created many other folders and many other python files.

Chapter:3 Datatypes and Variables

3.1 Variables & rules in Python

- In Python, variables are used to store and manipulate data values. They act as containers that hold various types of information, such as numbers, strings, lists, or more complex data structures.

- Certainly! In Python, variables serve as containers to store different types of data. They are like labels that help you refer to values easily. To create a variable, you simply give it a name and assign a value using the '=' symbol. Python is dynamically typed, so you don't need to specify the type of data the variable will hold.

- Variables can store integers (whole numbers), floats (decimal numbers), strings (text), Booleans (True or False), and more complex structures like lists (ordered collections), tuples (similar to lists but immutable), dictionaries (key-value pairs), and sets (unordered unique values).

- You can change a variable's value by assigning it a new value, and you can use variables in strings using techniques like f-strings. Just remember that variable names must follow certain rules and conventions, and they can have different scopes based on where they are defined, affecting their accessibility within your code.

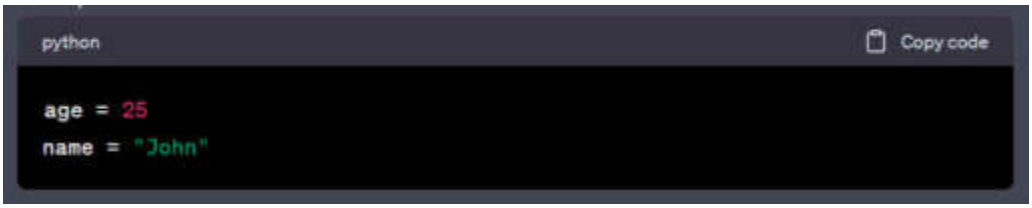


Fig. 3.1.1 Variables in Python

3.2 Datatypes & Type casting in Python

- In Python, data types define the kind of values a variable can hold. Here's a quick overview of some common data types:

    1. int: Represents integers (whole numbers), like 5 or -12.

2. float: Represents floating-point numbers (decimal numbers), such as 3.14 or -0.5.
3. str: Stands for string and represents text, like "Hello, world!".
4. bool: Represents Boolean values, True or False, often used for logical operations.
5. list: Represents an ordered collection of items, which can be of mixed types.
6. tuple: Similar to lists but immutable, meaning their contents can't be changed after creation.
7. dict : Stands for dictionary, representing a collection of key-value pairs for efficient data lookup.
8. set: Represents an unordered collection of unique items, useful for mathematical operations.
9. None Type: Represents the absence of a value, often used to indicate a variable with no assigned value.
10. complex: Represents complex numbers with a real and an imaginary part.

- Python's dynamic typing allows you to change the type of a variable on the fly, making it flexible but also requiring caution. Understanding these data types is crucial for effective programming and data manipulation.

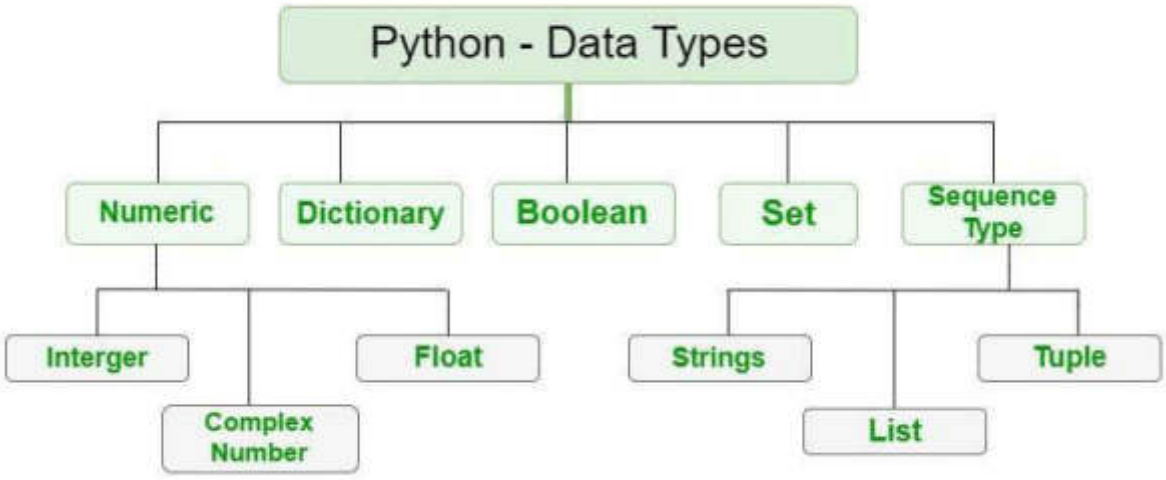


Fig. 3.2.1 Datatypes in Python

Chapter:4 Problem solving Examples

- Here are some Mathematical Examples solved by Python Programming..

4.1 Area Of Circle :

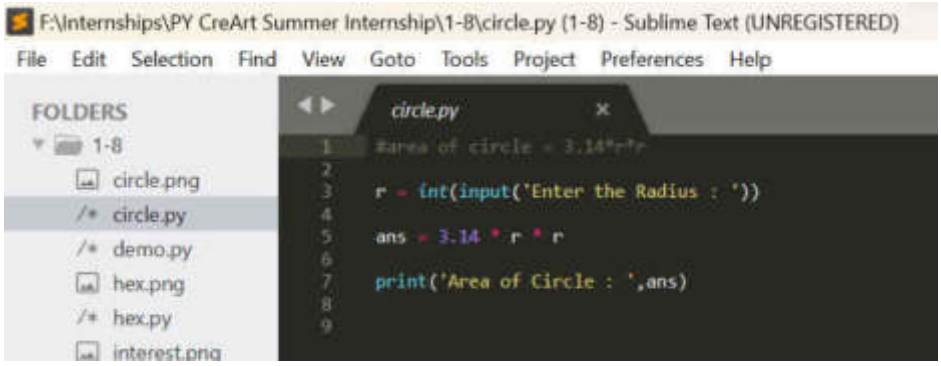


Fig. 4.1.1 Example 1

```
F:\Internships\CreArt Summer Internship>python circle.py
Enter the Radius : 3
Area of Circle :  28.259999999999998

F:\Internships\CreArt Summer Internship>
```

Fig. 4.1.2 Output 1

4.2 Marksheet :

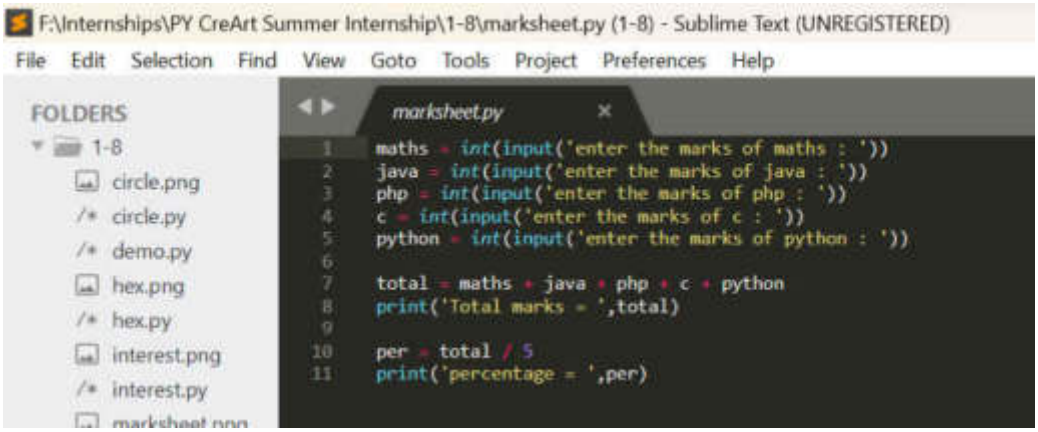


Fig. 4.2.1 Example 2

```
F:\Internships\CreArt Summer Internship>python marksheet.py
enter the marks of maths : 78
enter the marks of java : 89
enter the marks of php : 90
enter the marks of c : 78
enter the marks of python : 89
Total marks =  424
percentage =  84.8

F:\Internships\CreArt Summer Internship>
```

Fig. 4.2.2 Output 2

4.3 Temperature Cel to Fah :

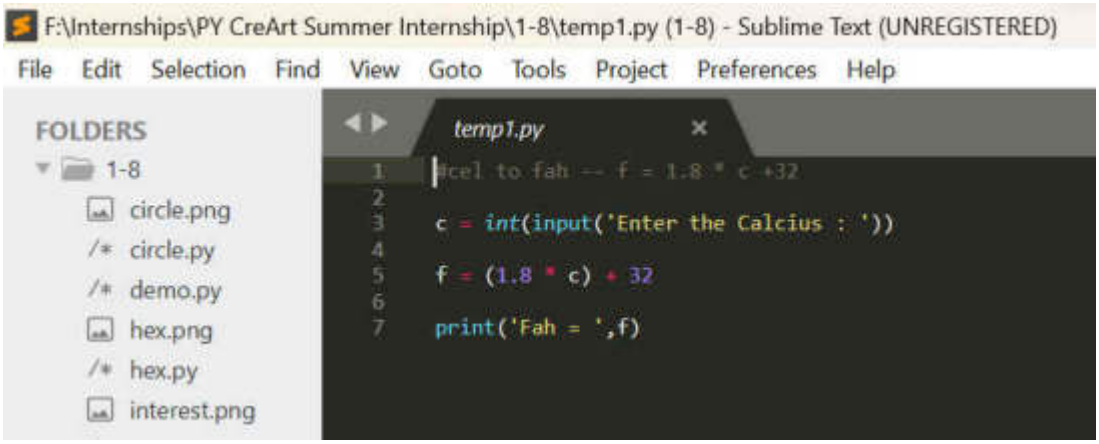


Fig. 4.3.1 Example 3

```
F:\Internships\CreArt Summer Internship>python temp1.py
Enter the Calcius : 25
Fah =  77.0
```

Fig. 4.3.2 Output 3

- There are many more examples similar like these saved in system with python file and it's Output screenshot.

Chapter:5 Functions in Python

5.1 Introduction and Uses of Function :

- A Function in Python is a reusable piece of code that performs specific tasks. It's defined using the **def** keyword, followed by a name and optional parameters in parentheses. Functions are called by their name with parentheses, and they can return values using the return statement.

- They help organize code, improve reusability, and facilitate code comprehension. Function parameters have local scope, while variables outside functions have global scope. Functions can take both positional and keyword arguments, and default values can be set for parameters.

- In python def is used for creating function like ...
  { def FunctionName (arg1, arg2, ...):
  statement1
  statement2 }



Fig. 5.1.1 Example of Function

```
F:\Internships\CreArt Summer Internship\2--8>python f1.py
start
i am hello function
i can help you a lot
how are you?
end
```

Fig. 5.1.2 Output of Function

Chapter:6 RETURN keyword in Python

6.1 Get Input from Users using RETURN Keyword:

- In Python, the **return** keyword is used within a function to send a value back to the caller. When a function is executed and encounters a **return** statement, it immediately ends the function's execution and provides the specified value as the function's output.

- This returned value can then be assigned to a variable or used in further calculations. The return statement is essential for functions that need to provide results or computed values to the rest of the program. If a **return** statement is omitted or used without a value, the function returns **None** by default.

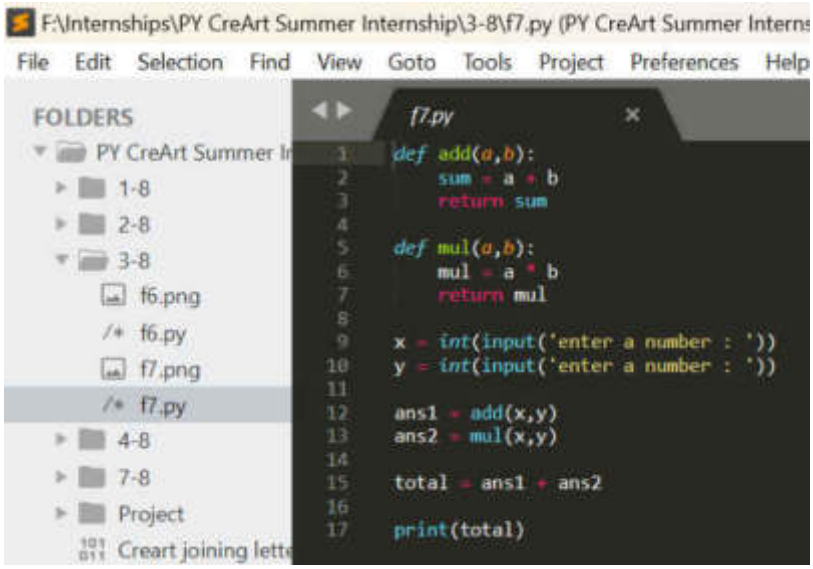


Fig. 6.1.1 Example of RETURN keyword

```
F:\Internships\PY CreArt Summer Internship\3-8>python f7.py
enter a number : 10
enter a number : 20
230
```

Fig. 6.1.2 Output of RETURN keyword

Chapter:7 D'jango Framework

7.1 Introduction of D'jango Framework :

- D'jango is a high-level python web framework that enables rapid development of secure and maintainable websites. D'jango is used because of its versatility, Scalability, Security (Using SQL Injection, CSRF Protection), Pre-Requisite (ORM (Object Relationships Mapper)), Large Library Support, Free and Open Source.

- It is mostly used in web-based application and servers side websites and particular the mechanics of client-server interactions in websites. Web app means User can perform action on browser and also can use in mobile and PC both.

- Why D'jango :-
  - ✓ Scalable
  - ✓ Security
  - ✓ Performance
  - ✓ Library
  - ✓ Open source and free
  - ✓ Versatile:- multiple tasks

7.2 Installation of D'jango Framework and Project Setup Steps:

- There are steps following for create Django project: -

1. Create Virtual Environment and Activate.
2. Download Django and install it.
3. Create project.
4. Run on Server.
5. Install MySQL client library.
6. Then migrate the database using **python mange.py migrate**.
7. Create superuser (Admin) by **python manage.py createsuperuser.**
8. In project run server using **python manage.py runserver** command here one local host address was displayed: - http:// 127.0.0.1.8000.

- **Project Setup :**

1) First create & Activate Virtual Environment using Python by following command:
   Python –m venv VE & VE>Scripts>activate

2) Install Django using following command:
   pip install Django

3) Create project.
   Project>Django-admin startproject NoticeHub

4) Run on Server.
   Project>python manage.py runserver

```
F:\Project>python -m venv VE

F:\Project>cd VE

F:\Project\VE>cd Scripts

F:\Project\VE\Scripts>activate

(VE) F:\Project\VE\Scripts>cd..

(VE) F:\Project\VE>cd..

(VE) F:\Project>django-admin Startproject NoticeHub
'django-admin' is not recognized as an internal or external command,
operable program or batch file.

(VE) F:\Project>pip install django
Collecting django
  Using cached Django-4.2.4-py3-none-any.whl (8.0 MB)
Collecting asgiref<4,>=3.6.0 (from django)
  Using cached asgiref-3.7.2-py3-none-any.whl (24 kB)
Collecting sqlparse>=0.3.1 (from django)
  Using cached sqlparse-0.4.4-py3-none-any.whl (41 kB)
Collecting tzdata (from django)
  Using cached tzdata-2023.3-py2.py3-none-any.whl (341 kB)
Installing collected packages: tzdata, sqlparse, asgiref, django
Successfully installed asgiref-3.7.2 django-4.2.4 sqlparse-0.4.4 tzdata-2023.3

[notice] A new release of pip is available: 23.1.2 -> 23.2.1
[notice] To update, run: python.exe -m pip install --upgrade pip

(VE) F:\Project>django-admin Startproject NoticeHub
No Django settings specified.
Unknown command: 'Startproject'. Did you mean startproject?
Type 'django-admin help' for usage.

(VE) F:\Project>django-admin startproject NoticeHub

(VE) F:\Project>python manage.py runserver
C:\Users\parma\AppData\Local\Programs\Python\Python311\python.exe: can't open file

(VE) F:\Project>cd NoticeHub

(VE) F:\Project\NoticeHub>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you ap
Run 'python manage.py migrate' to apply them.
August 16, 2023 - 13:39:02
Django version 4.2.4, using settings 'NoticeHub.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
```

Fig. 7.2.1 Setup

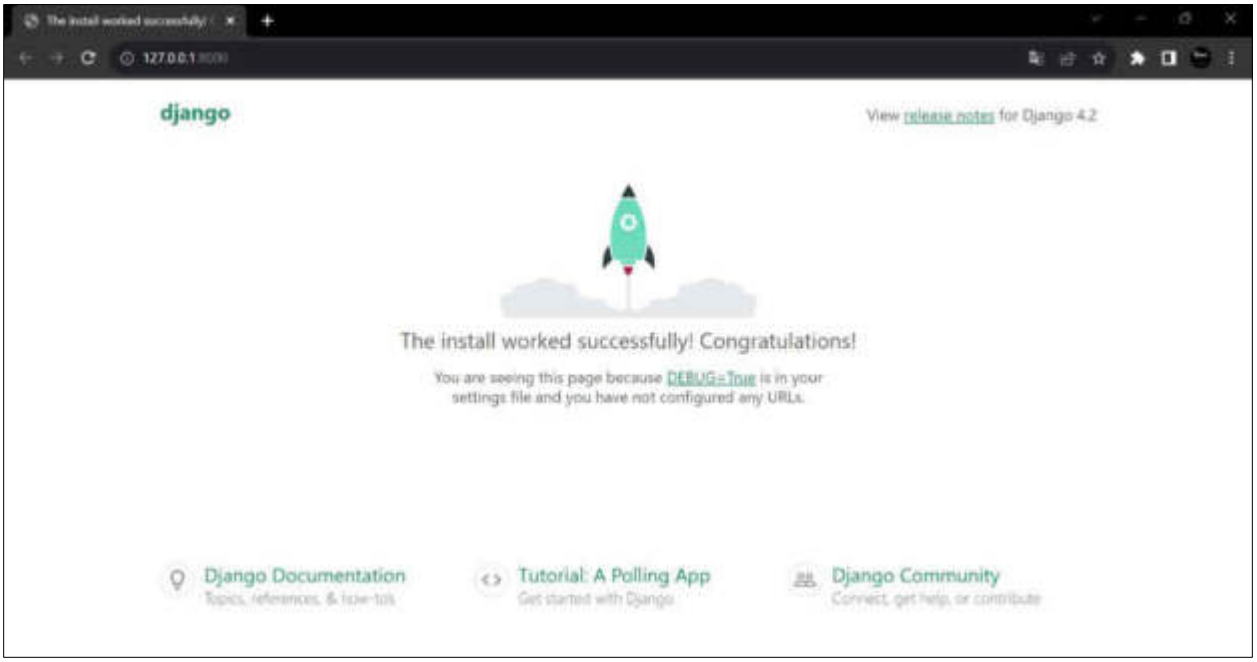


Fig. 7.2.2 Setup Output

Chapter:8 & 9 Complete Project Setup

8-9.1 Complete Project Setup Steps:

5) Install MySQL client library:
   pip install mysqlclient

6) Change in Setting.py file : SQLite to SQL database
   Then migrate the database using:
   python mange.py migrate

7) Create superuser (Admin) using:
   Python manage.py create superuser

8) Now run server using **python manage.py runserver** command here one local host address was displayed: - http:// 127.0.0.1.8000.

```
(VE) F:\Project\NoticeHub>pip install mysqlclient
Collecting mysqlclient
  Using cached mysqlclient-2.2.0-cp311-cp311-win_amd64.whl (199 kB)
Installing collected packages: mysqlclient
Successfully installed mysqlclient-2.2.0

[notice] A new release of pip is available: 23.1.2 -> 23.2.1
[notice] To update, run: python.exe -m pip install --upgrade pip

(VE) F:\Project\NoticeHub>
```

Fig. 8-9.1.1 Install mysqlclient

```
DATABASES = {
    "default": {
        "ENGINE": "django.db.backends.mysql",
        "NAME": "noticehub",
        "USER": "root",
        "PASSWORD": "",
        "HOST": "127.0.0.1",
        "PORT": "3306",
    }
}
```

Fig. 8-9.1.2 Change in database

- Once, the Changes are done in Setting.py (SQLite to SQL Database), Now we have to Create 10 tables by default with the help of Migrate command as shown in step number

6. Output of it as shown in Fig. 8-9.1.3

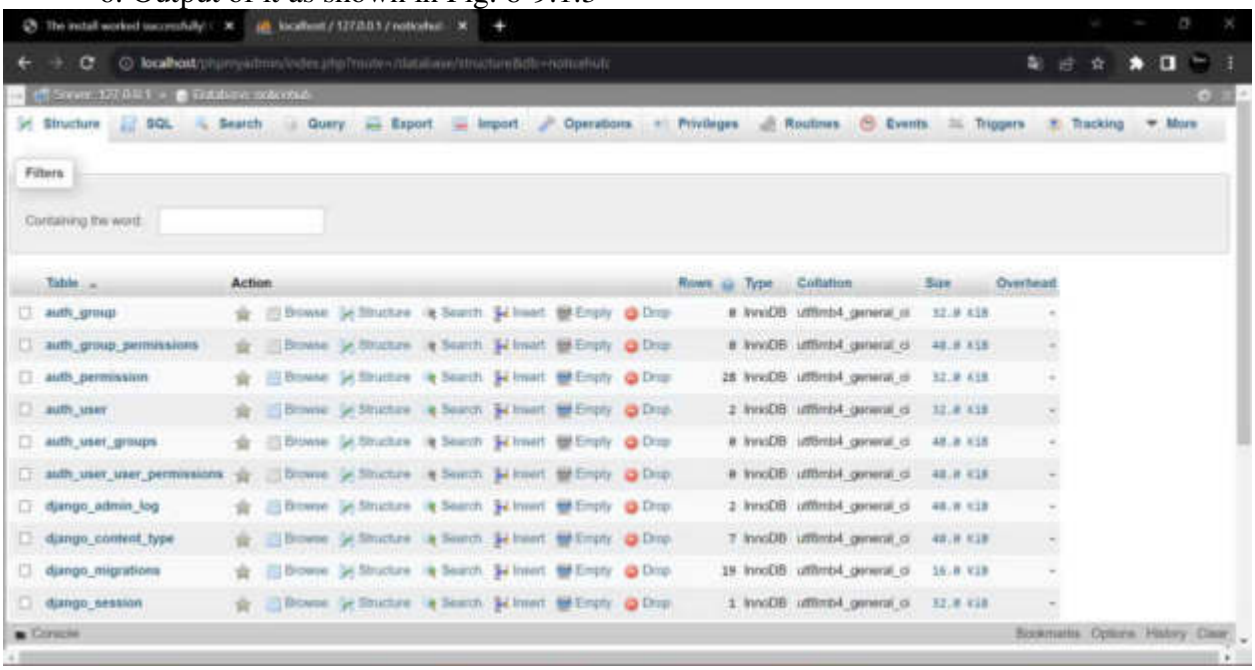


Fig. 8-9.1.3 Migrate command output

- Now, we have to create Two superuser named Admin and User. once, the superusers are created in Noticehub, we have to check it can be run on server or not.

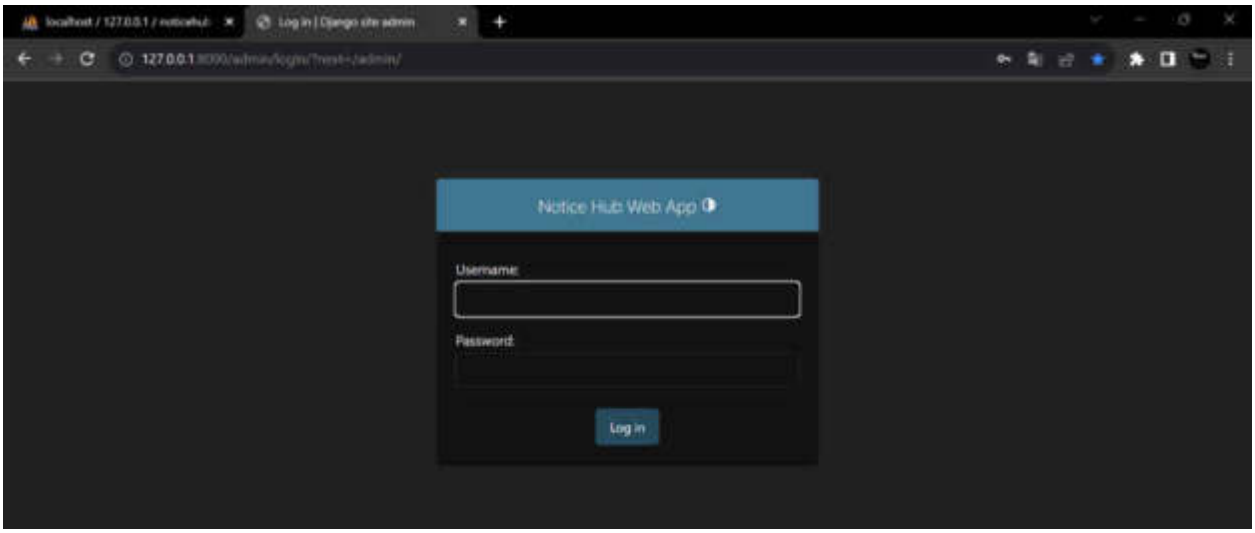


Fig. 8-9.1.4 Admin panel

Chapter:10 Frontend of NoticeHub

10.1 Frontend using D'jango Framework (using HTML) :

- Till 9th chapter, Our Project Setup is done. So now we go to Sublime Text 3 and make HTML file in User side folder. So that we can print notices on the web browser from our Project NoticeHub. For that we have to make **notice.html** file in **template** folder.

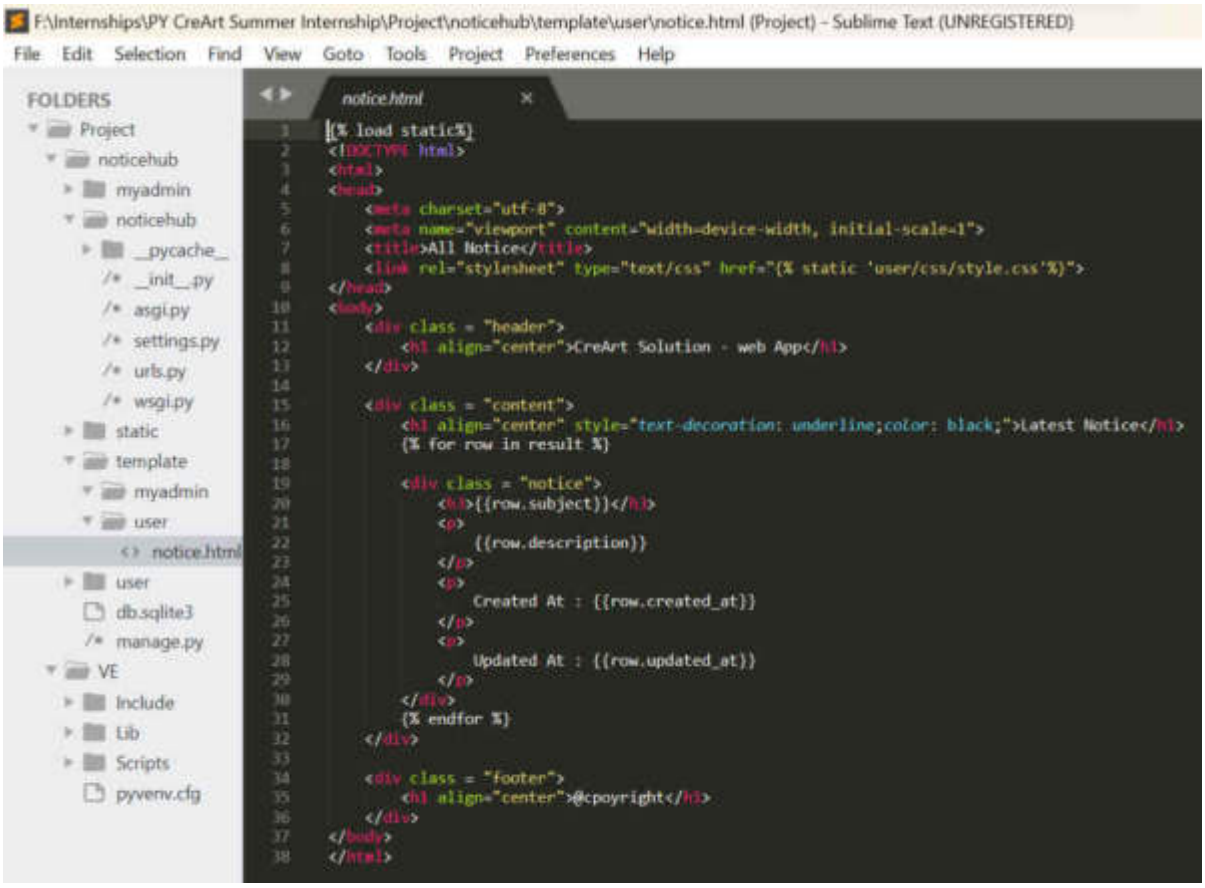


Fig. 10.1.1 notice.html

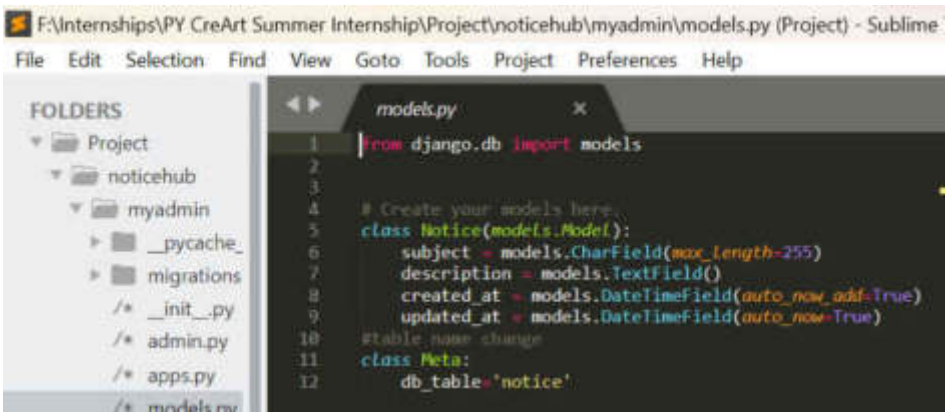


Fig. 10.1.2 models.py

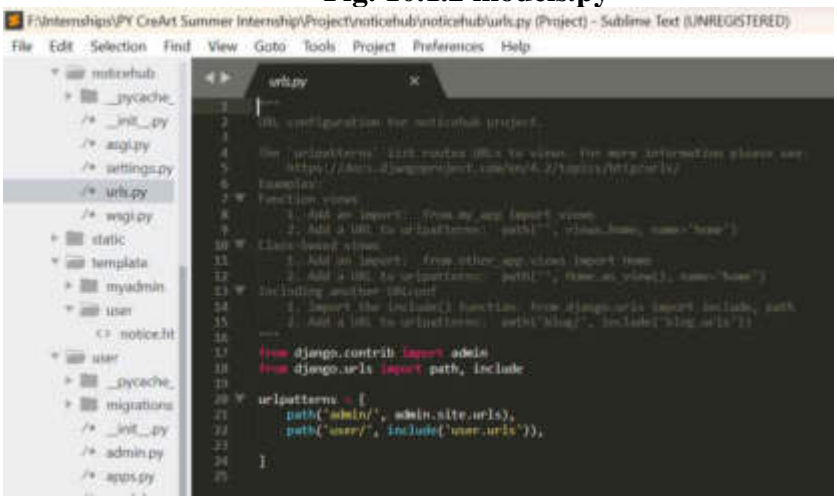


Fig. 10.1.3 urls.py

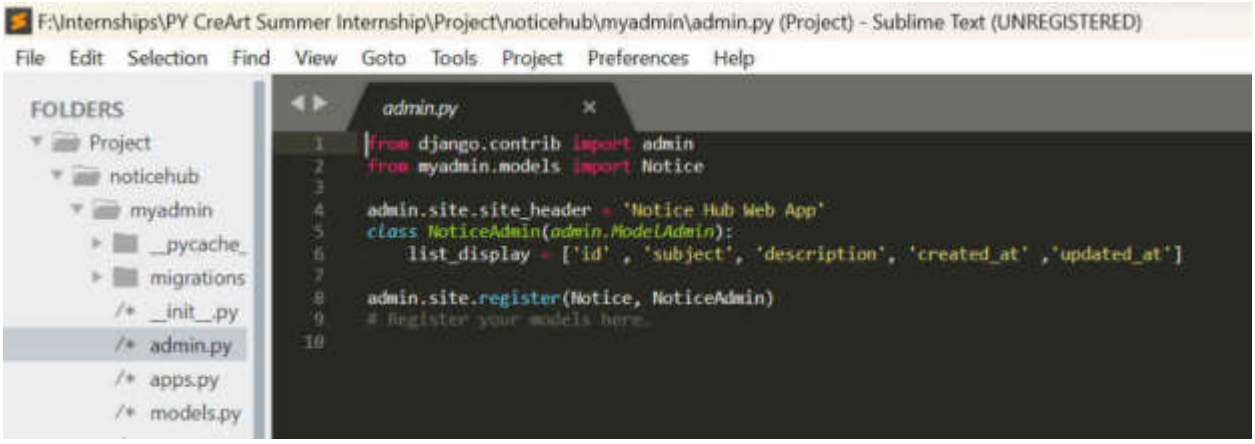


Fig. 10.1.4 admin.py

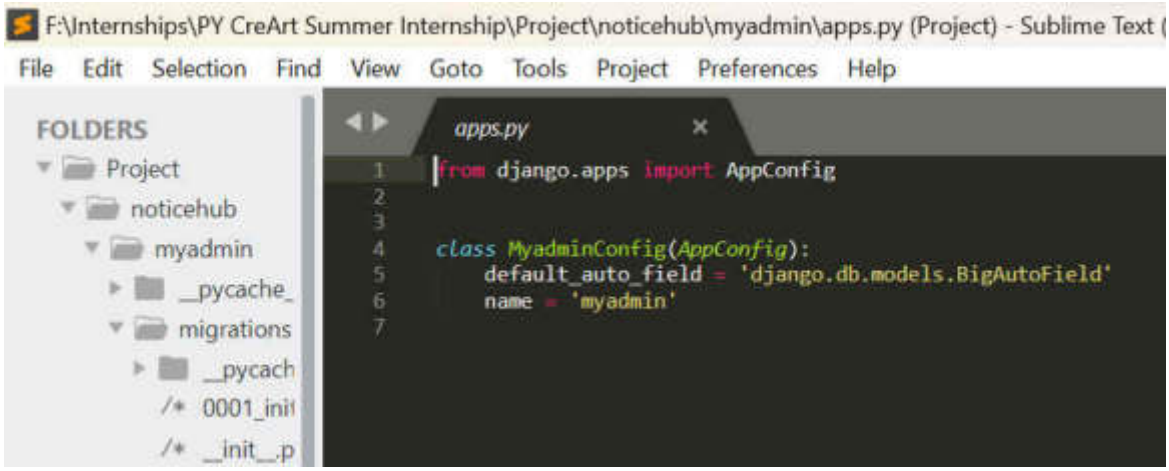


Fig. 10.1.5 apps.py

Chapter:11 Apply CSS on Frontend

11.1 Applying CSS on Frontend and Complete the Frontend :

- Till 10th chapter, Our Project's HTML Format Frontend is done. So now we have to decorate or style the frontend with the help of CSS. So that we can make a better GUI for our Project NoticeHub. For that we have to make **style.css** file in **static** folder.

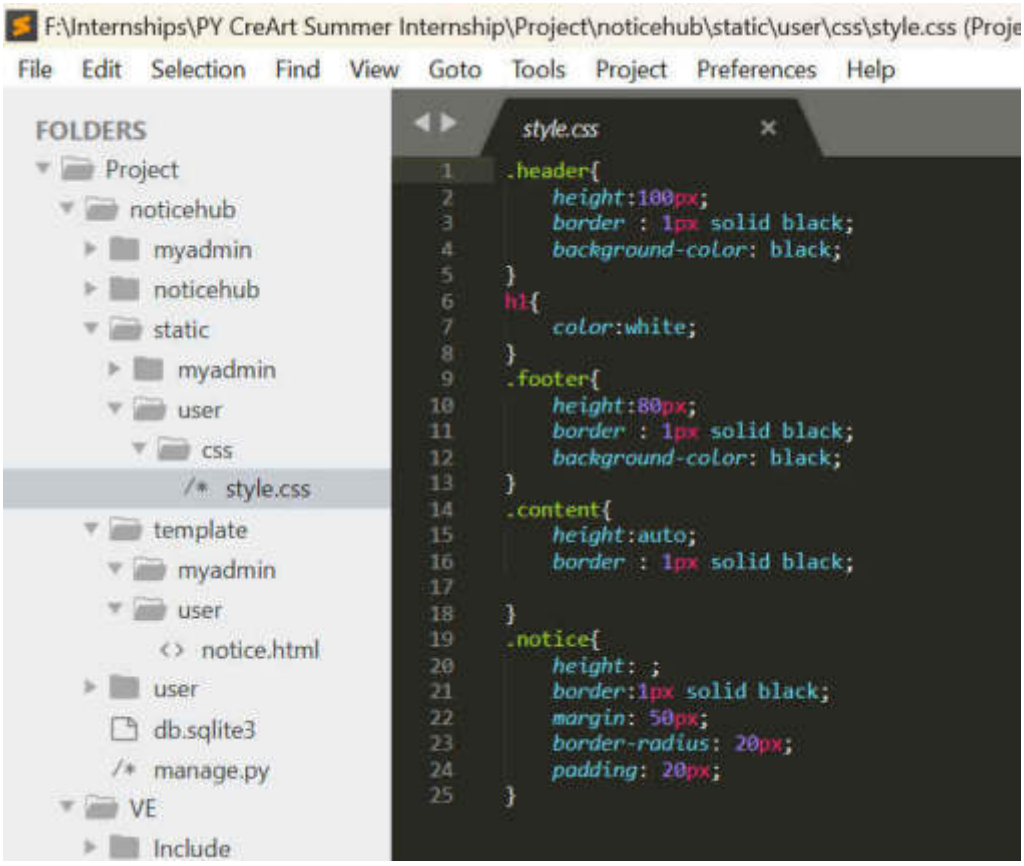


Fig. 11.1.1 style.css

- So till now, we completed whole Frontend of our Project NoticeHub. Now, it's time to run the project on the server and checks for the result.

Chapter:12 NoticeHub Project

12.1 Overview of NoticeHub :

- NoticeHub is a web application by which we can send the Notice to all employees/students etc. it has basically two panels: Admin & User. We can create & update Notices from Admin Panel and directly show it to all Users on User Panel.

- It is very easy process to perform task, we just required a network connection. First we have to connect XAMPP server then go to browser, open the admin Panel, Create new notice or Update existing notice & lastly click on the submit button so that User successfully receive the Notices without any failure. It was implementing using HTML & CSS for frontend and Django, Python & MySQL for backend.

- **Technology Used :**

  - Frontend :
    - ⇨ HTML : HTML is used to create and save web document.
    - ⇨ CSS : Create attractive Layout and design the web page.
  - Backend :
    - ⇨ Django : Django is a Python based web framework that follows the model-template-views architectural pattern.
    - ⇨ MySQL : MySQL is a database, widely used for accessing querying and managing databases.

12.2 Run the NoticeHub :

- Here we make total two panels : Admin & User.

  - Admin panel : It's a basic Admin panel, Where Superusers can log in and make or update the notices. Also there are features for manage the selective notices. For go to Admin panel : **http://127.0.0.1:8000/admin/**

  - User panel : It's a basic User panel, Where all kinds of users like Employees or Students can see new notices and updated notices also. Here they can get User Friendly UI of NoticeHub. For go to User panel : **http://127.0.0.1:8000/user/notice**

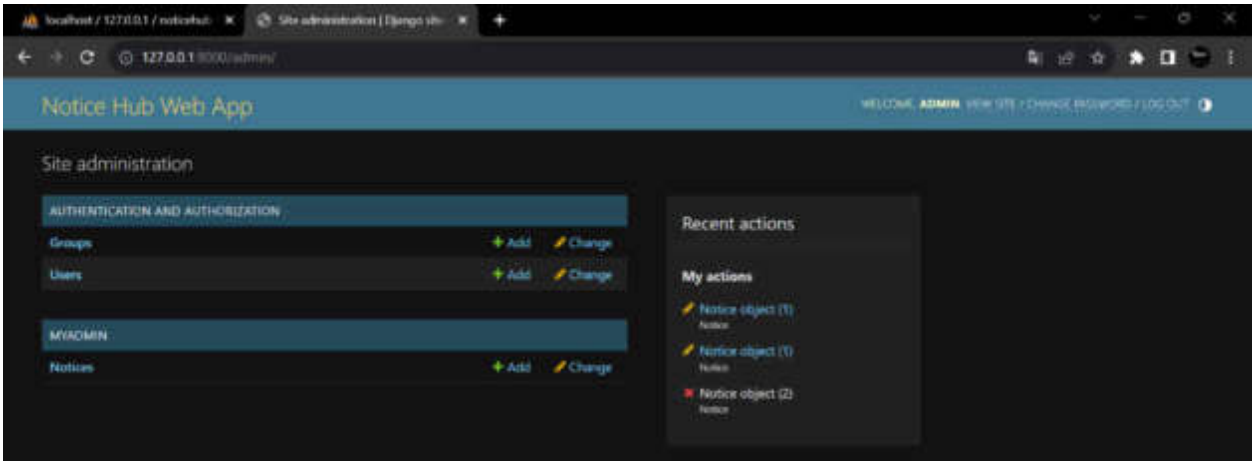


Fig. 12.2.1 Admin Panel

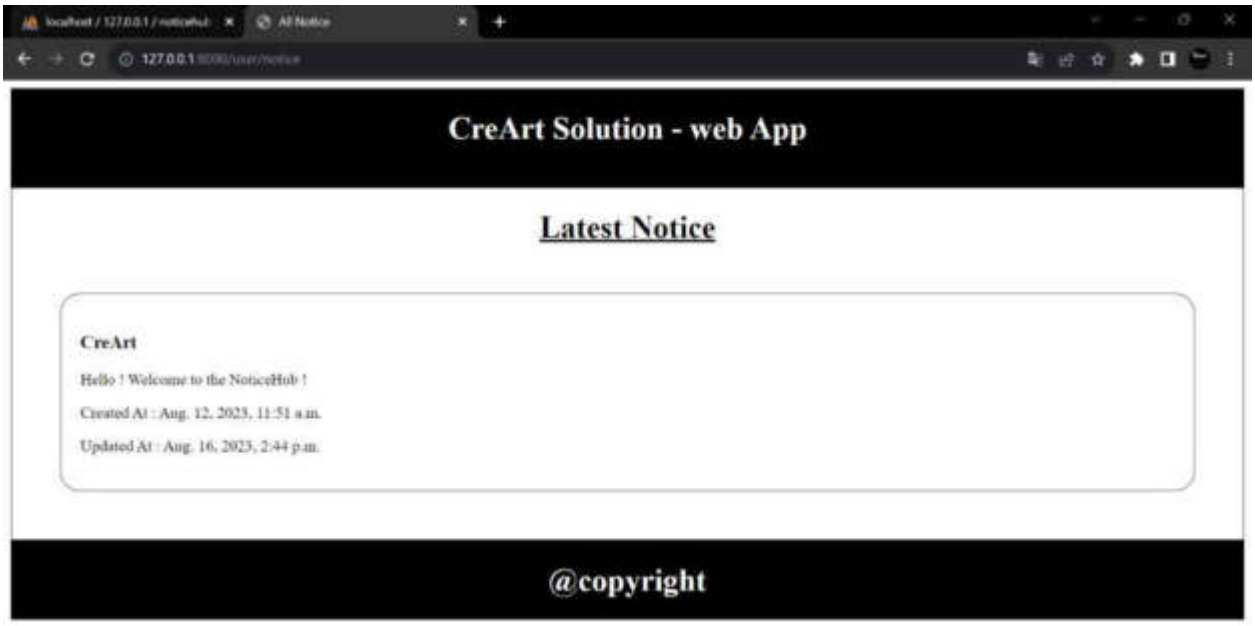


Fig. 12.2.2 User Panel

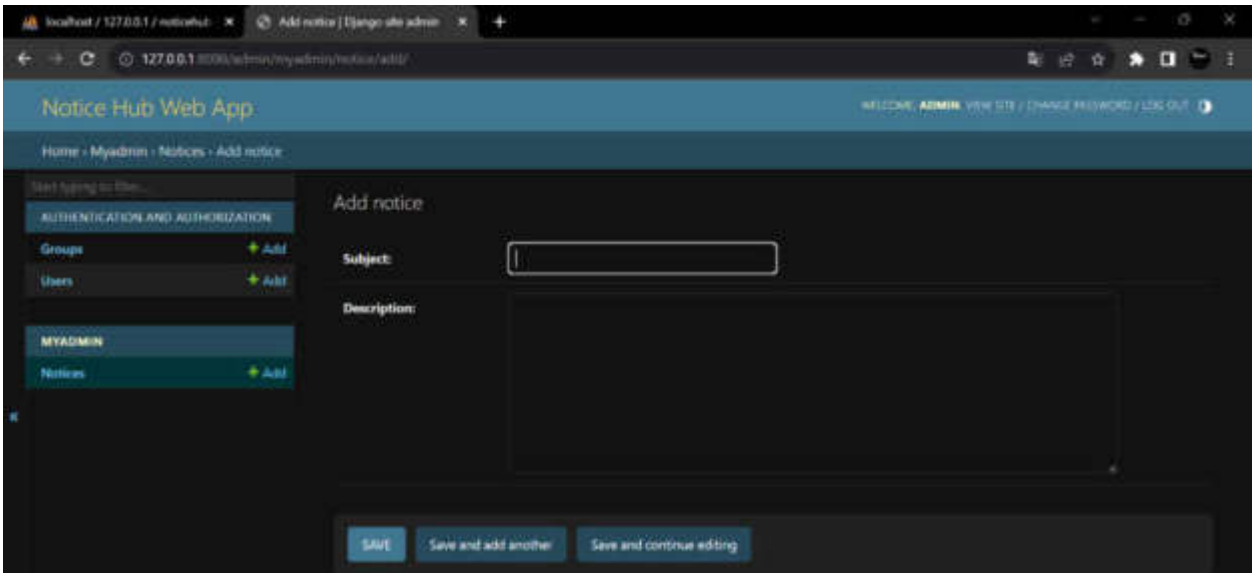


Fig. 12.2.3 Create New Notice

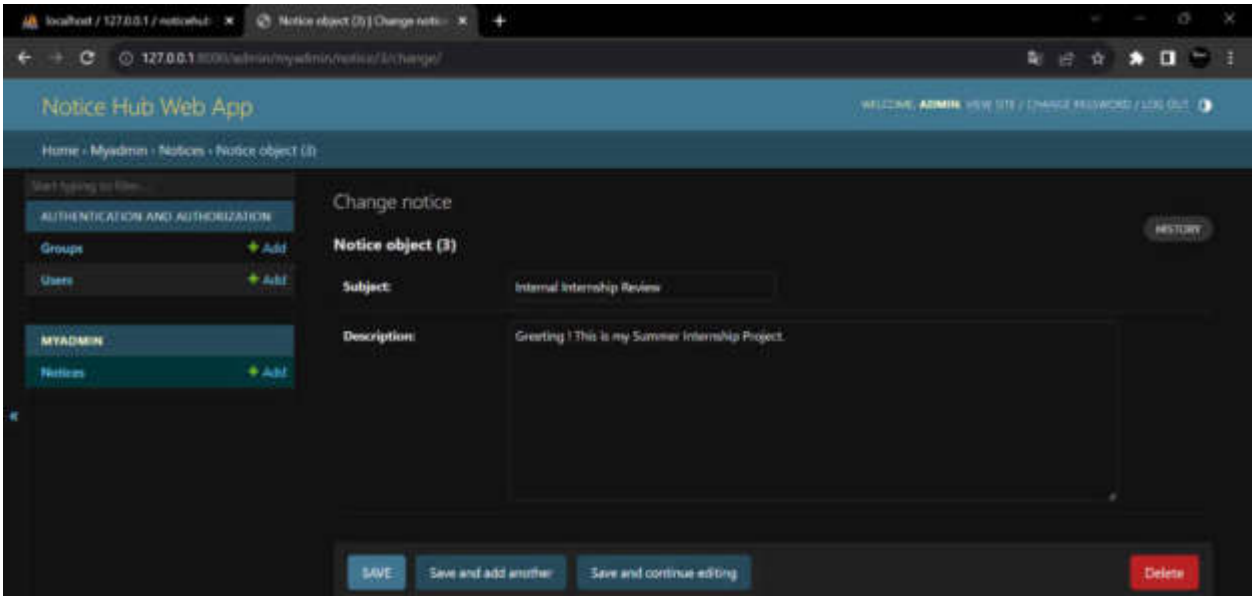


Fig. 12.2.4 Write Notice

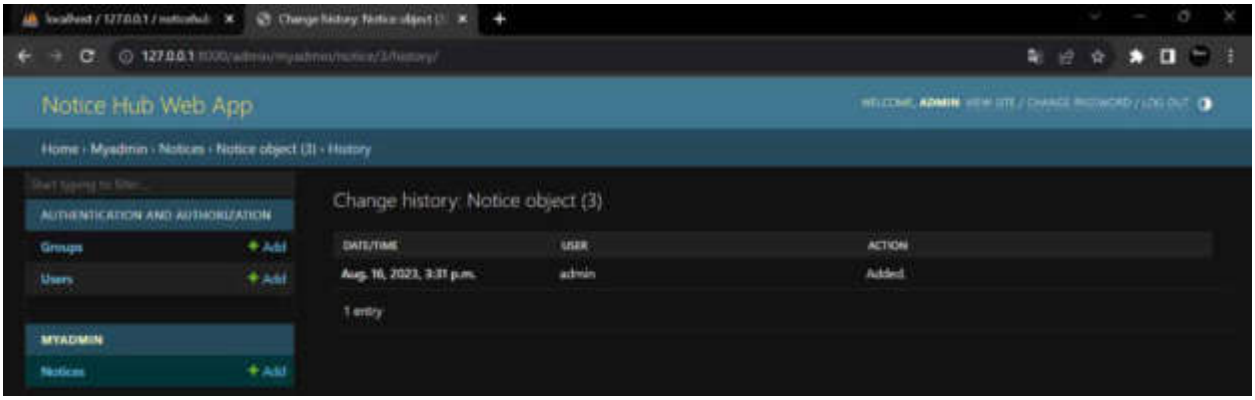


Fig. 12.2.5 Submit Notice



Fig. 12.2.6 Output of New Notice

* * *

INTERNSHIP CREART SOLUTION

AN INTERNSHIP REPORT

Submitted by

Rahul Gupta

200390116045

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2023

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CREART SOLUTION** has been carried out by **Rahul Gupta** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. First Name Last Name

Internal Guide

Sign

Prof. Akshay Kansara
Head of Department

Internship Offer Letter

CREART

INTERNSHIP JOINING LETTER

Date: 27th July 2023

This is to certify that

Mr/Ms. Rahul Gupta
Enrollment No : 200390116045
College : SAFFRONY INSTITUTE OF TECHNOLOGY

has been selected for the 15 day's of summer intership from **27th July 2023** to **10th August 2023** at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

Internship Certificate

INTERNSHIP COMPLETION LETTER

CREART

Date: 10th August 2023

This is to certify that

Mr/Ms. Rahul Gupta
Enrollment No : 200390116045
College : SAFFRONY INSTITUTE OF TECHNOLOGY

has successfully completed the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at CreArt Solutions, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

S.P.B. PATEL
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SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad –Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at CREART SOLUTION** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Alkesh kaba** and that no part of this report has been directly copied from any

students' reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Rahul Gupta

ACKNOWLEDGMENT

I would like to express my sincere gratitude to Codsoft for providing me with the opportunity to undertake my internship at their esteemed organization. This experience has been invaluable in enhancing my understanding of the practical applications of Python programming and has contributed significantly to my professional growth. I am deeply thankful to , my internship supervisor, for his/her guidance, support, and mentorship throughout my internship journey. The insights and expertise shared by [Supervisor's Name] have been instrumental in shaping my skills and knowledge in Python programming.

Your Sincerely

Rahul Gupta

Abstract

This report contains the work done by the author during his internship at ***CREART SOLUTION***. It shows the work I did in the company during my internship period. In the report, the author discusses the process of manufacturing and steps of assembly of the machines. The author also discusses the structure of the company, all the departments and their work . It also explains what the author learned during this internship period.

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Abbreviations

QA Quality Assurance

QC Quality Control

MCU Machine Control Unit HMC

Horizontal Machining Center

CNC Computerized Numerical Control.

VMC Vertical Machining Center

PDI Pre dispatch inspection

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Scanned copies of weekly reports duly signed by internal and external guide
Scanned attendance sheet if any
Any supporting documents in scanned copy

Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

- CREART SOLUTION are IT services and IT consultancy that specializes in creating innovative solutions for businesses. We are passionate about technology and believe in the power of software to transform the world. Our internship program is just one of the ways in which we are investing in the future of the industry.

- At CREART SOLUTION, we believe practical knowledge is the key to success in the tech industry. Our aim is to help students lacking basic skills by offering hands-on learning through live projects and real-world examples.

- It is a top company that offers internships in different technology fields. They provide internships in web development, app development, software development, and Java programming.

- They understand the importance of practical experience for aspiring tech professionals. That's why their internship program offers hands-on learning, where students work on real projects under the guidance of experienced mentors.

- Their team consists of industry experts who are dedicated to equipping interns with the knowledge and skills needed to succeed in their careers. They foster an inclusive and supportive environment that encourages learning, growth, and creativity.

1.2 MISSION AND VISION OF THE COMPANY:

1.We Provide All Exclusive services For Clients.
2.We build websites and web applications.
3.Today, every business should have a website.
4.No matter how small or large your business, having a website is must have at this time.
5.Having a website help you to maintain your online presence.

1.3 INTERNSHIP OBJECTIVES:

The primary objectives of my internship were to:

1. Gain hands-on experience in Python programming.
2. Contribute to real-world projects that utilize Python.
3. Enhance my problem-solving skills by tackling challenges in programming.

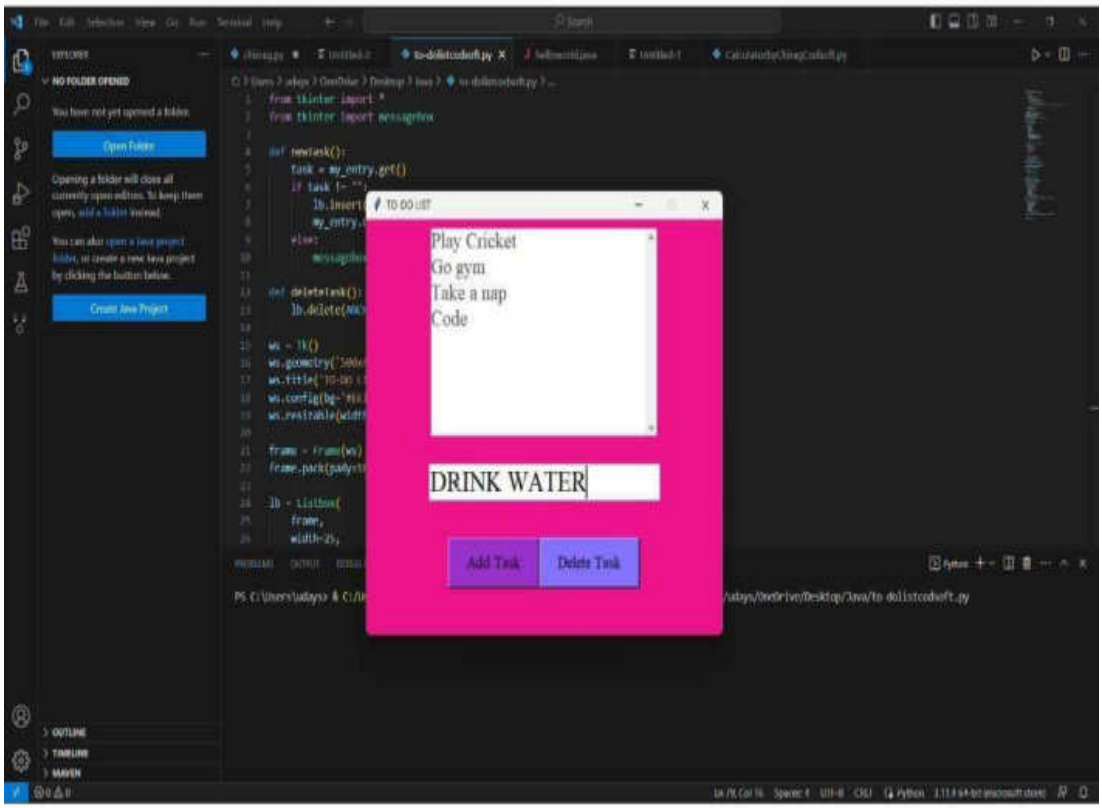
Chapter 2. ACTIVITIES AND PROJECTS

2.1 OVERVIEW OF PYTHON PROGRAMMING:

- What is Python?
- Why Python is Popular?
- Python's Applications

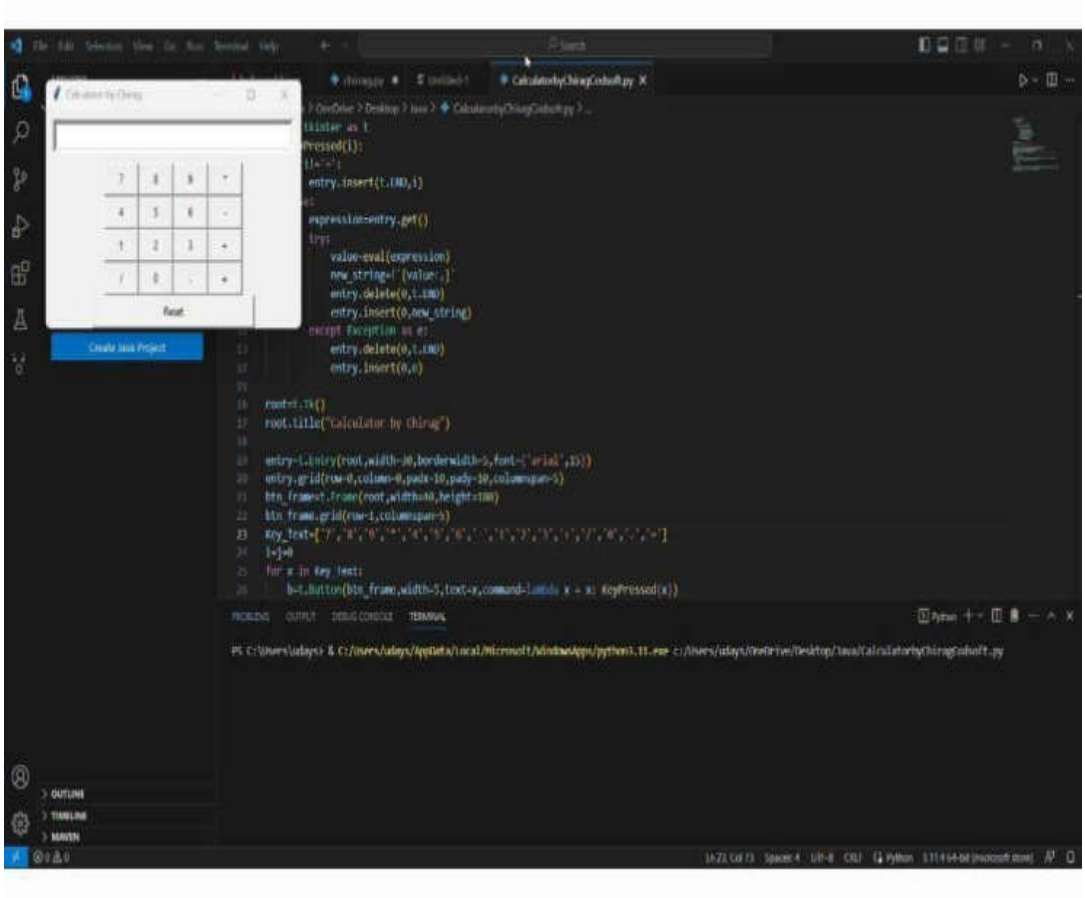
1. Project 1: To-Do list Application

- I have created this GUI application using Python tkinter.
- The application performs the add and delete task operations.



2. Project 2: Calculator Application

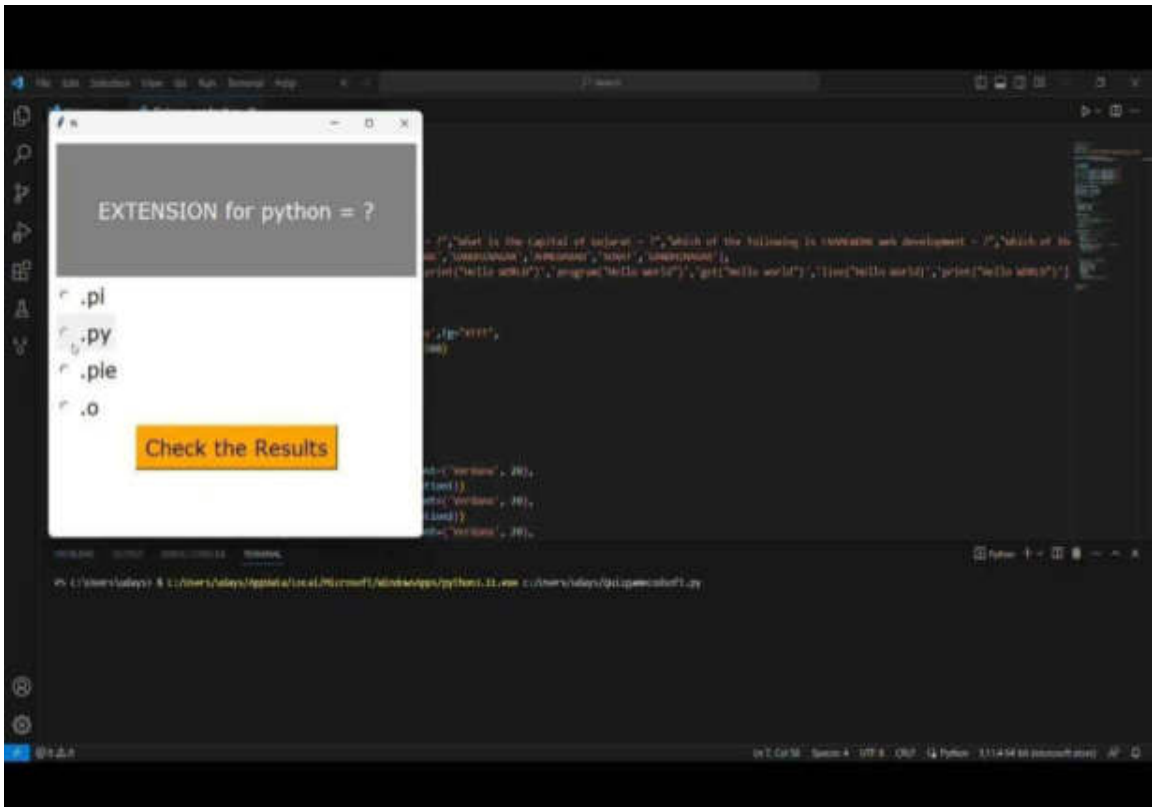
- A Calculator Application that performs basic arithmetic operations such as addition, subtraction, multiplication, and Division.



3. Project 3: Quiz Game Application

- I made this Quiz Game Application using GUI Framework Tkinter which is used to develop fast and easy GUI applications.The Quiz game asks the player questions and

- They have to answer the correct one from the four options to score a point.


EXTENSION for python = ?
.pi
.py
.pie
.o
Check the Results

CHAPTER 3. LEARNING AND EXPERIENCE

3.1 TOPICS THAT I EXPLORED DURING MY INTERNSHIP:

1. Python Basics:

    - Introduction to Python and its history
    - Installation and setup of Python environment
    - Understanding Python syntax and indentation
    - Variables, data types, and type conversion ● Basic input and output operations

2. Control Structures:

    - Conditional statements (if, elif, else)
    - Looping structures (for and while loops)
    - Iteration and control flow

3. Functions and Modules:

    - Defining functions and their importance
    - Parameters, return values, and scope
    - Creating and using modules
    - Standard library modules and their applications

4. Data Structures:

    - Lists, tuples, and dictionaries
    - Sets and their properties
    - Manipulating data structures
    - List comprehensions and other advanced techniques

5. Object-Oriented Programming (OOP):

    - Concepts of OOP (classes and objects)
    - Encapsulation, inheritance, and polymorphism ● Implementing OOP principles in Python

6. File Handling:

    - Reading and writing text files
    - Working with CSV and JSON files
    - Exception handling and error management

7. Libraries and Frameworks:

    - Introduction to popular Python libraries (e.g., NumPy, pandas)
    - Exploring data manipulation and analysis using libraries
    - Basics of web development with Flask or Django

8. Intermediate Topics:

    - Regular expressions and pattern matching
    - Decorators and generators ● Context managers and the 'with' statement

9. Debugging and Testing:

    - Identifying and debugging common errors
    - Unit testing using the 'unittest' framework

10. Data Visualization:

    - Introduction to data visualization libraries (e.g., Matplotlib, Seaborn)
    - Creating plots, graphs, and charts

11. Advanced Python Concepts:

    - Memory management and performance optimization
    - Concurrency and parallelism using threads and multiprocessing
    - Asynchronous programming using 'asyncio'

12. Best Practices and Coding Standards:

    - Writing clean and readable code
    - Following PEP 8 guidelines
    - Code documentation and comments

3.2 SKILLS ACQUIRED:

During my internship, I developed the following skills:

- Proficiency in Python programming, including syntax, data structures, and object-oriented concepts.
- Knowledge of key Python libraries such as pandas, NumPy, Beautiful Soup, and Requests.
- Problem-solving abilities through tackling real-world programming challenges.
- Collaborative skills by working in a team-oriented environment.

3.3.CHALLENGES FACED:

- Adapting to different Python libraries and understanding their functionalities.
- Debugging and troubleshooting code to ensure its correctness and efficiency.
- Balancing multiple projects and tasks while meeting deadlines.

3.4 KEY TAKEAWAYS:

- A deep understanding of Python programming and its diverse applications.
- Improved problem-solving skills through hands-on experience.
- Enhanced collaboration and teamwork abilities by working alongside experienced professionals.

3.5 CONCLUSION:

- My internship at CREART SOLUTION was a transformative experience that provided me with invaluable insights into Python programming. I gained practical skills, faced challenges head-on, and contributed to meaningful projects. This experience has solidified my passion for programming and equipped me with the skills necessary to excel in future endeavors.

- I am immensely grateful for the guidance and mentorship provided by the team at CREART SOLUTION and I look forward to applying the knowledge and skills I've acquired in my future career.

3.6 ACKNOWLEDGMENTS:

- I would like to express my gratitude to [Mentor's Name] and the entire team at Creart Solution for their continuous support, guidance, and the opportunity to be a part of their dynamic work environment.

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Appendix

INTERNSHIP AT CREART SOLUTIONS PVT. LTD.

AN INTERNSHIP REPORT

ON

NOTICEHUB USING D'JANGO PYTHON

Submitted by

Akhja Rohan Rashmikant

(200390116046)

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July-August, 2023

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled Internship at **CREART SOLUTIONS PVT. LTD.** has been carried out by **Akhja Rohan Rashmikant** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof.	Prof. Akshay Kansara
Internal Guide	Head of Department

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

JOINING LETTER

CREART

INTERNSHIP JOINING LETTER

Date: 27th July 2023

This is to certify that

Mr/Ms. Rohan Akhja
Enrollment No : 200390116046
College : Saffrony institute of technology

has been selected for the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at CreArt Solutions, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

COMPLETION LETTER

INTERNSHIP COMPLETION LETTER

CREART

Date: 10th August 2023

This is to certify that

Mr/Ms. Rohan Akhja
Enrollment No : 200390116046
College : Saffrony institute of technology

has successfully completed the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at CreArt Solutions, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I do declare that the Internship report submitted along with the Internship entitled on **NoticeHub** using **D'jango Python** at **CREART SOLUTIONS PVT. LTD.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad.

I hereby warrant that the work I have presented does not breach any existing copyright acts.

Name of the Student — Sign of Student

Rohan Akhja _____





COMPANY PROFILE

CreArt Solutions is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. We strongly believe in delivering the best services to the clients till their satisfaction. Main objective of CreArt is to provide professional , qualitative , innovative and accessible services in every possible form.

Our objective is the strong collaboration between design, development, and delivering services on time, which benefits not only clients but also the communities in which the projects are implemented. More to help businesses succeed worldwide, we offer end-to-end development of web and mobile apps that integrate dynamic modern technologies like AR/VR Development, AI, Machine Learning and many more.

ACKNOWLEDGMENT

The internship experience I had with **CREART SOLUTIONS PVT. LTD.** was truly invaluable, providing me with a remarkable opportunity for learning and professional growth. I consider myself extremely fortunate to have been given this chance.

I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience. Additionally, I extend my heartfelt thanks to Krishnamohan Gupta, the CEO at CREART SOLUTIONS PVT. LTD., for her support and assistance.

This internship has marked a significant milestone in my career development, offering me a platform to acquire valuable skills and knowledge. I am committed to applying these newly acquired abilities in the most effective manner, while continuously striving to enhance and refine them. My dedication is geared towards achieving my ultimate career objectives.

ABSTRACT

NoticeHub is a web application by which we can send the Notice to all employees/students etc. it has basically two panels: Admin & User. We can create & update Notices from Admin Panel and directly show it to all Users on User Panel.

It is very easy process to perform task, we just required a network connection. First we have to connect XAMPP server then go to browser, open the admin Panel, Create new notice or Update existing notice & lastly click on the submit button so that User successfully receive the Notices without any failure. It was implementing using HTML & CSS for frontend and Django, Python & MySQL for backend.

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Chapter:1 About the Company

1.1 Introduction of Company



Fig. 1.1 Company Logo

- CreArt is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

- CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. They strongly believe in delivering the best services to the clients till their satisfaction.

- Main objective of CreArt is to provide professional , qualitative , innovative and accessible services in every possible form.We take care of development, deliveries, required resources and innovation.Our experienced development and consultancy will add value to mobile or web application development project.

- Our objective is the strong collaboration between design, development, and delivering services on time, which benefits not only clients but also the communities in which the projects are implemented. More to help businesses succeed worldwide, we offer end-to-end development of web and mobile apps that integrate dynamic modern technologies like AR/VR Development, AI, Machine Learning and many more.

- I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience.

Chapter:2 About the Domain & IDE

2.1 Introduction of Core Python

- Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development,

- Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

- Core Python is a programming branch of Python. It is employed in the development of areas such as artificial intelligence and desktop apps. The core Python language includes basic commands and data structures such as tuple, list, and dictionary implementation to perform certain tasks

2.2 Introduction & Installation of Text Editor (Sublime 3)

- There is recommended system requirement for python and so many IDEs are available for python. They also told us the pros and cons of different IDEs.

- There are many software available for programming in Python like.. PyCharm, Notepad++, VScode, Sublime text 3, atom and NetBeans etc. I have installed PyCharm, VScode and Sublime text. mostly I am work on Sublime Text3.



Fig. 2.2.1 Sublime Text 3 Logo

- We can directy Download Sublime Text 3 from https://www.sublimetext.com/3. And then directly Install it. After Installation Open Folder as shown below.

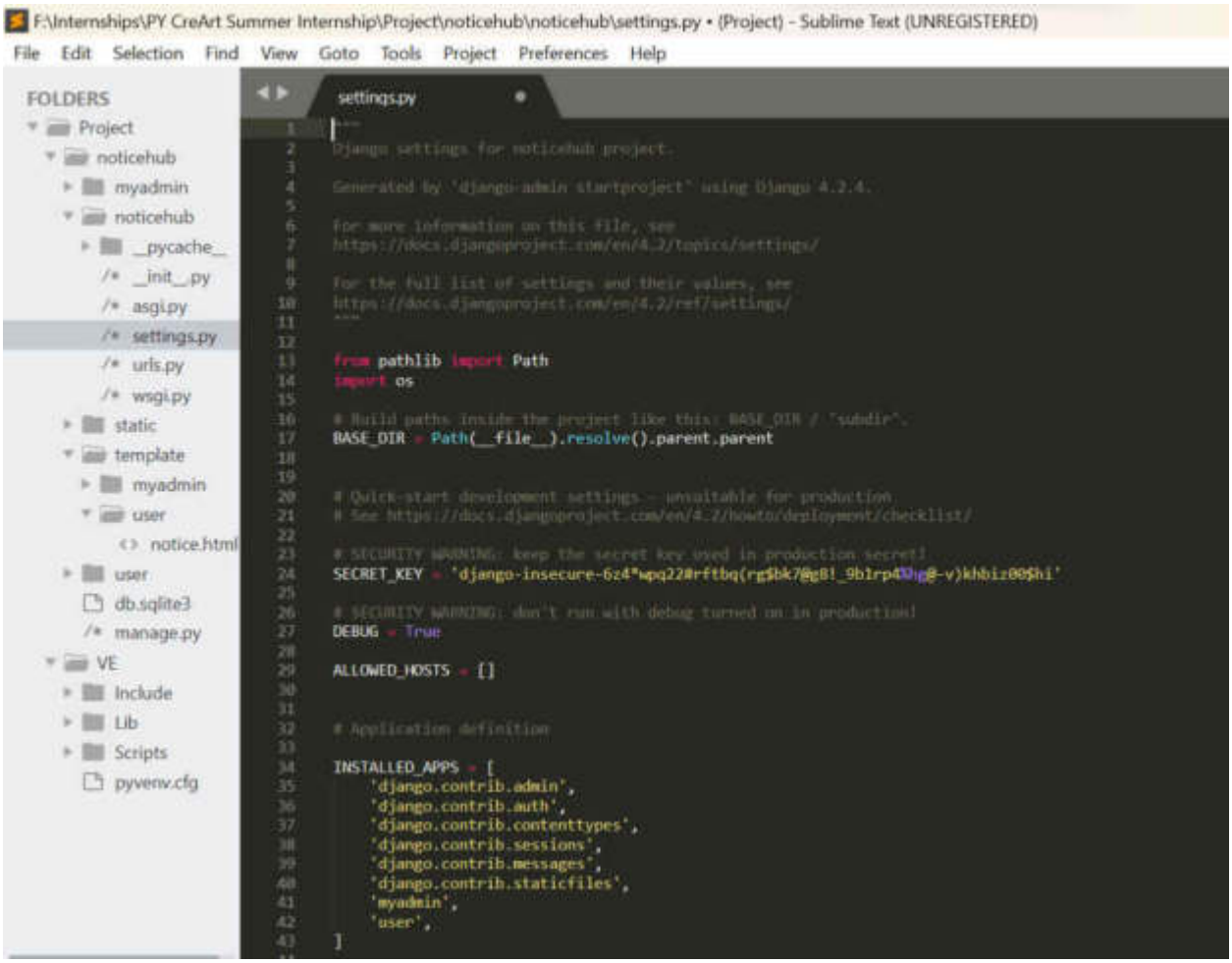


Fig. 2.2.2 Folder in Sublime Text 3

- In Sublime, We can create a Folder and then create a python file with **.py** extension. Here we see the folder named **Project** and inside this folder I created another folder name **noticehub** and inside this I created many other python files.

Chapter:3 Datatypes and Variables

3.1 Variables & rules in Python

- In Python, variables are used to store and manipulate data values. They act as containers that hold various types of information, such as numbers, strings, lists, or more complex data structures.

- Certainly! In Python, variables serve as containers to store different types of data. They are like labels that help you refer to values easily. To create a variable, you simply give it a name and assign a value using the '=' symbol. Python is dynamically typed, so you don't need to specify the type of data the variable will hold.

- Variables can store integers (whole numbers), floats (decimal numbers), strings (text), Booleans (True or False), and more complex structures like lists (ordered collections), tuples (similar to lists but immutable), dictionaries (key-value pairs), and sets (unordered unique values).

- You can change a variable's value by assigning it a new value, and you can use variables in strings using techniques like f-strings. Just remember that variable names must follow certain rules and conventions, and they can have different scopes based on where they are defined, affecting their accessibility within your code.



Fig. 3.1.1 Variables in Python

3.2 Datatypes & Type casting in Python

- In Python, data types define the kind of values a variable can hold. Here's a quick overview of some common data types:

    1. int: Represents integers (whole numbers), like 5 or -12.
    2. float: Represents floating-point numbers (decimal numbers), such as 3.14 or -0.5.
    3. str: Stands for string and represents text, like "Hello, world!".

4. bool: Represents Boolean values, True or False, often used for logical operations.
5. list: Represents an ordered collection of items, which can be of mixed types.
6. tuple: Similar to lists but immutable, meaning their contents can't be changed after creation.
7. dict : Stands for dictionary, representing a collection of key-value pairs for efficient data lookup.
8. set: Represents an unordered collection of unique items, useful for mathematical operations.
9. None Type: Represents the absence of a value, often used to indicate a variable with no assigned value.
10. complex: Represents complex numbers with a real and an imaginary part.

- Python's dynamic typing allows you to change the type of a variable on the fly, making it flexible but also requiring caution. Understanding these data types is crucial for effective programming and data manipulation.

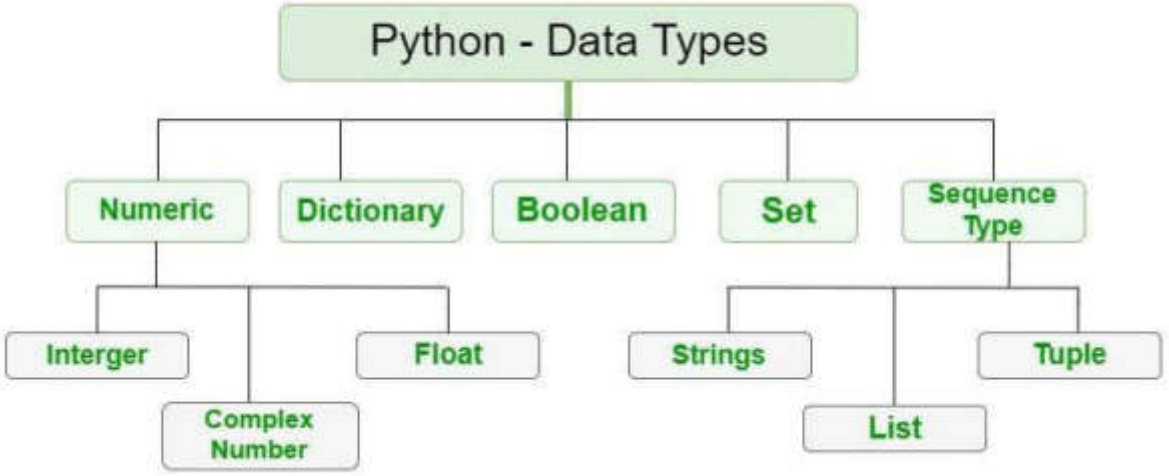


Fig. 3.2.1 Datatypes in Python

Chapter:4 Problem solving Examples

- Here are some Mathematical Examples solved by Python Programming..

4.1 Area Of Circle :

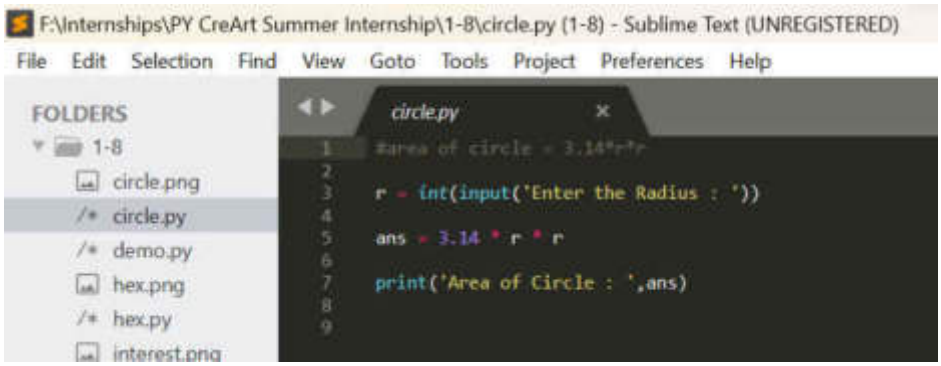


Fig. 4.1.1 Example 1

```
F:\Internships\CreArt Summer Internship>python circle.py
Enter the Radius : 3
Area of Circle :  28.259999999999998

F:\Internships\CreArt Summer Internship>
```

Fig. 4.1.2 Output 1

4.2 Marksheet :

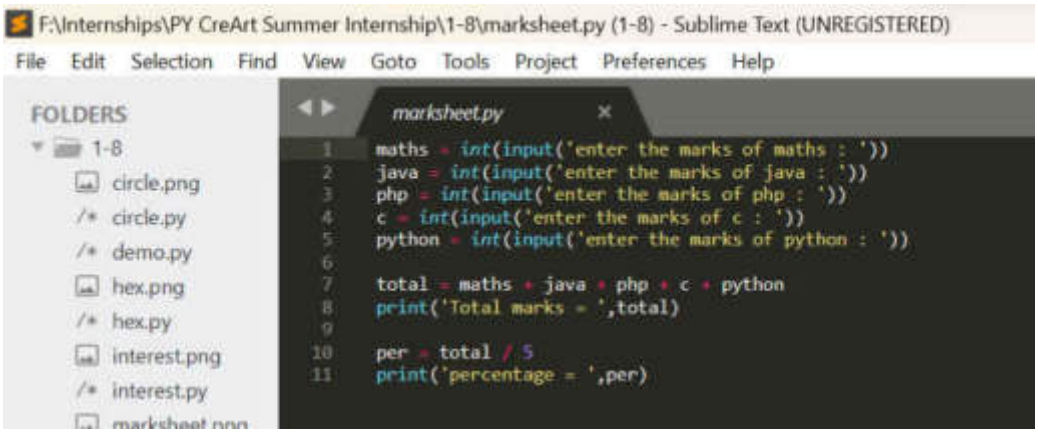


Fig. 4.2.1 Example 2

```
F:\Internships\CreArt Summer Internship>python marksheet.py
enter the marks of maths : 78
enter the marks of java : 89
enter the marks of php : 90
enter the marks of c : 78
enter the marks of python : 89
Total marks =  424
percentage =  84.8

F:\Internships\CreArt Summer Internship>
```

Fig. 4.2.2 Output 2

4.3 Temperature Cel to Fah :

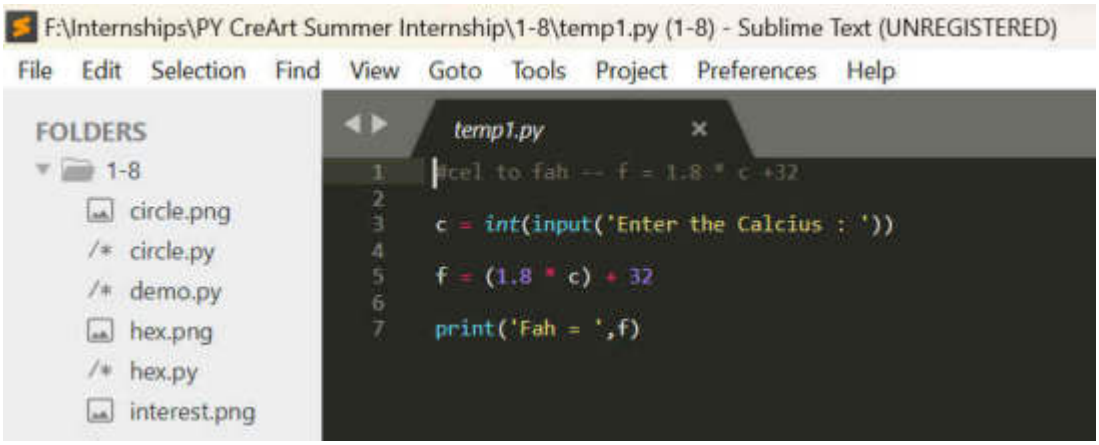


Fig. 4.3.1 Example 3

```
F:\Internships\CreArt Summer Internship>python temp1.py
Enter the Calcius : 25
Fah =  77.0
```

Fig. 4.3.2 Output 3

- There are many more examples similar like these saved in system with python file and it's Output screenshot.

Chapter:5 Functions in Python

5.1 Introduction and Uses of Function :

- A Function in Python is a reusable piece of code that performs specific tasks. It's defined using the **def** keyword, followed by a name and optional parameters in parentheses. Functions are called by their name with parentheses, and they can return values using the return statement.

- They help organize code, improve reusability, and facilitate code comprehension. Function parameters have local scope, while variables outside functions have global scope. Functions can take both positional and keyword arguments, and default values can be set for parameters.

- In python def is used for creating function like ...
  { def FunctionName (arg1, arg2, ...):
  statement1
  statement2 }



Fig. 5.1.1 Example of Function

```
F:\Internships\CreArt Summer Internship\2--8>python f1.py
start
i am hello function
i can help you a lot
how are you?
end
```

Fig. 5.1.2 Output of Function

Chapter:6 RETURN keyword in Python

6.1 Get Input from Users using RETURN Keyword:

- In Python, the **return** keyword is used within a function to send a value back to the caller. When a function is executed and encounters a **return** statement, it immediately ends the function's execution and provides the specified value as the function's output.

- This returned value can then be assigned to a variable or used in further calculations. The return statement is essential for functions that need to provide results or computed values to the rest of the program. If a **return** statement is omitted or used without a value, the function returns **None** by default.

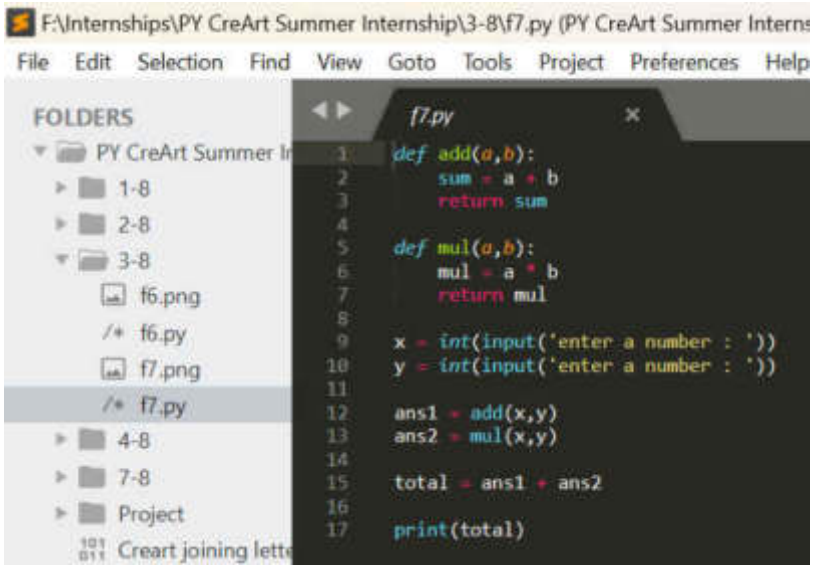


Fig. 6.1.1 Example of RETURN keyword

```
F:\Internships\PY CreArt Summer Internship\3-8>python f7.py
enter a number : 10
enter a number : 20
230
```

Fig. 6.1.2 Output of RETURN keyword

Chapter:7 D'jango Framework

7.1 Introduction of D'jango Framework :

- D'jango is a high-level python web framework that enables rapid development of secure and maintainable websites. D'jango is used because of its versatility, Scalability, Security (Using SQL Injection, CSRF Protection), Pre-Requisite (ORM (Object Relationships Mapper)), Large Library Support, Free and Open Source.

- It is mostly used in web-based application and servers side websites and particular the mechanics of client-server interactions in websites. Web app means User can perform action on browser and also can use in mobile and PC both.

- Why D'jango :-
  - ✓ Scalable
  - ✓ Security
  - ✓ Performance
  - ✓ Library
  - ✓ Open source and free
  - ✓ Versatile:- multiple tasks

7.2 Installation of D'jango Framework and Project Setup Steps:

- There are steps following for create Django project: -
  1. Create Virtual Environment and Activate.
  2. Download Django and install it.
  3. Create project.
  4. Run on Server.
  5. Install MySQL client library.
  6. Then migrate the database using **python mange.py migrate**.
  7. Create superuser (Admin) by **python manage.py createsuperuser.**
  8. In project run server using **python manage.py runserver** command here one local host address was displayed: - http:// 127.0.0.1.8000.

- **Project Setup :**

1) First create & Activate Virtual Environment using Python by following command:
   Python –m venv VE & VE>Scripts>activate

2) Install Django using following command:
   pip install Django

3) Create project.
   Project>Django-admin startproject NoticeHub

4) Run on Server.
   Project>python manage.py runserver

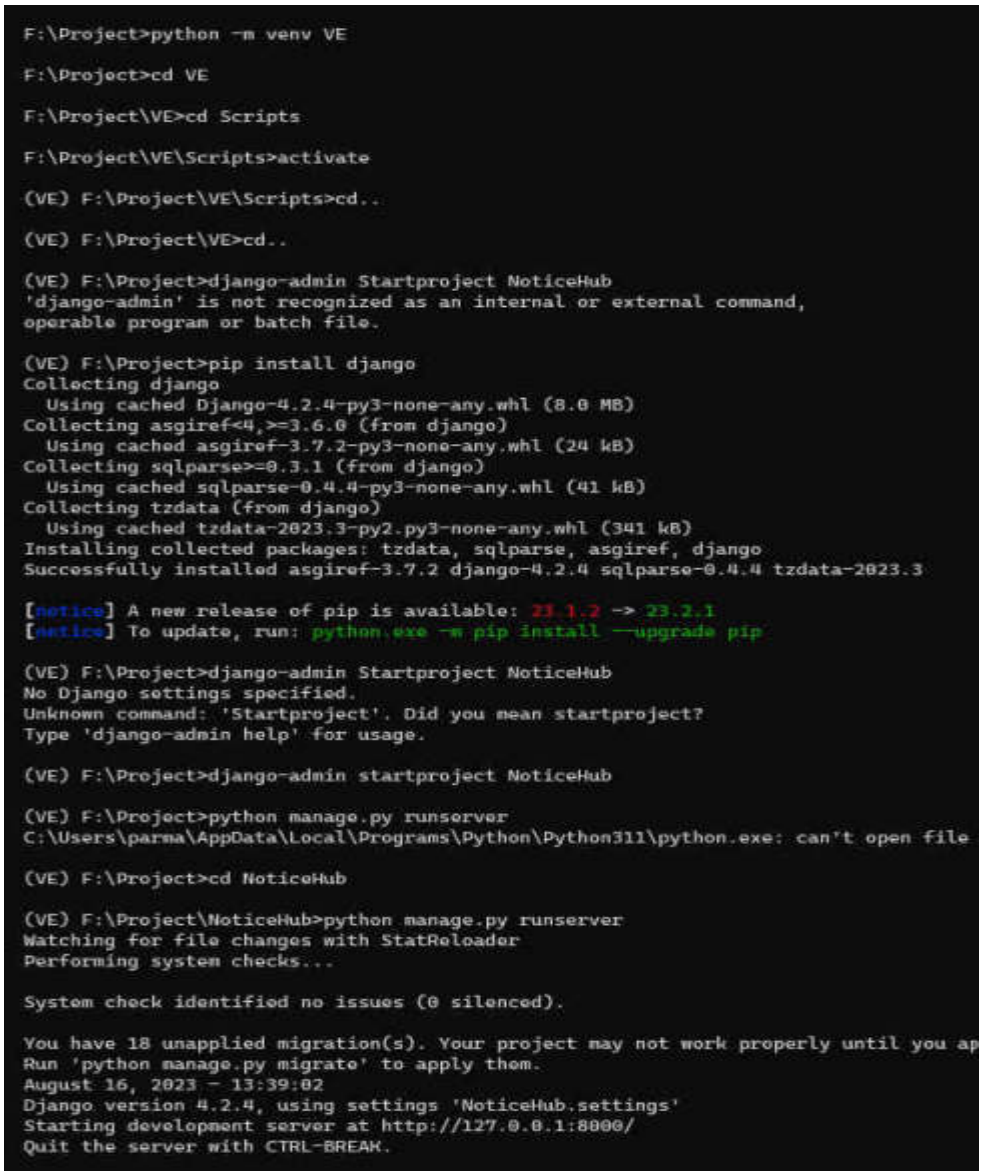


Fig. 7.2.1 Setup

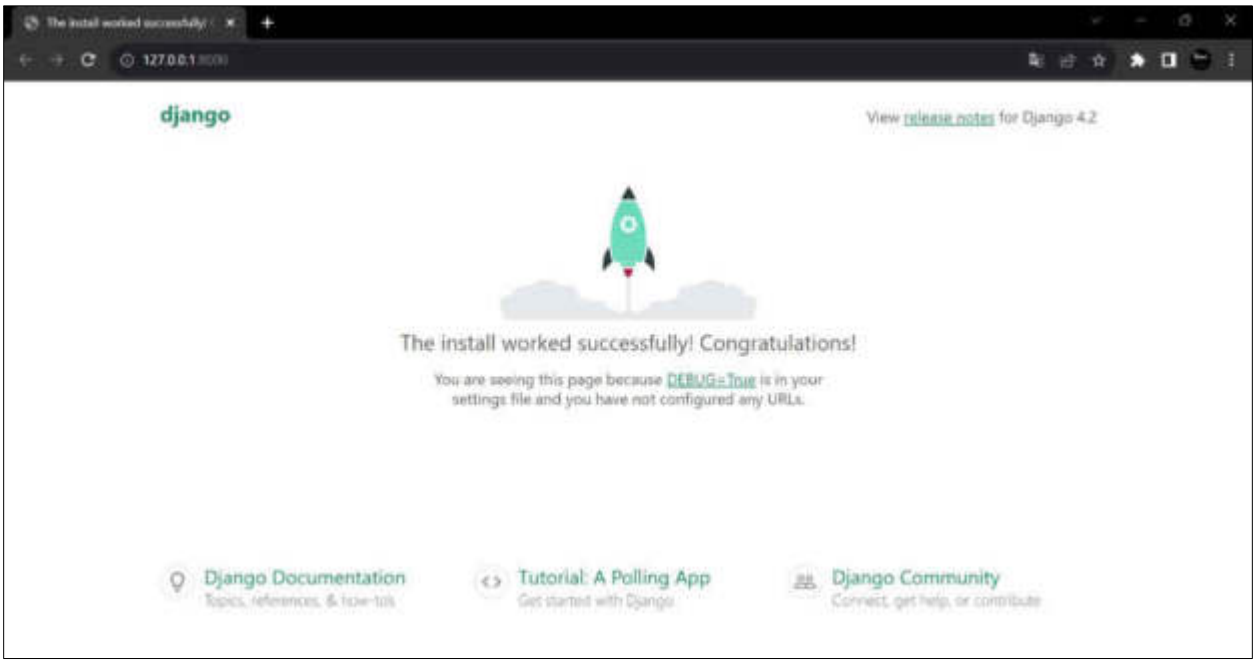


Fig. 7.2.2 Setup Output

Chapter:8 & 9 Complete Project Setup

8-9.1 Complete Project Setup Steps:

5) Install MySQL client library:
   pip install mysqlclient

6) Change in Setting.py file : SQLite to SQL database
   Then migrate the database using:
   python mange.py migrate

7) Create superuser (Admin) using:
   python manage.py createsuperuser

8) Now run server using **python manage.py runserver** command here one local host address was displayed: - http:// 127.0.0.1.8000.

```
(VE) F:\Project\NoticeHub>pip install mysqlclient
Collecting mysqlclient
  Using cached mysqlclient-2.2.0-cp311-cp311-win_amd64.whl (199 kB)
Installing collected packages: mysqlclient
Successfully installed mysqlclient-2.2.0

[notice] A new release of pip is available: 23.1.2 -> 23.2.1
[notice] To update, run: python.exe -m pip install --upgrade pip

(VE) F:\Project\NoticeHub>
```

Fig. 8-9.1.1 Install mysqlclient

```
DATABASES = {
    "default": {
        "ENGINE": "django.db.backends.mysql",
        "NAME": "noticehub",
        "USER": "root",
        "PASSWORD": "",
        "HOST": "127.0.0.1",
        "PORT": "3306",
    }
}
```

Fig. 8-9.1.2 Change in database

- Once, the Changes are done in Setting.py (SQLite to SQL Database), Now we have to Create 10 tables by default with the help of Migrate command as shown in step number 6. Output of it as shown in Fig. 8-9.1.3

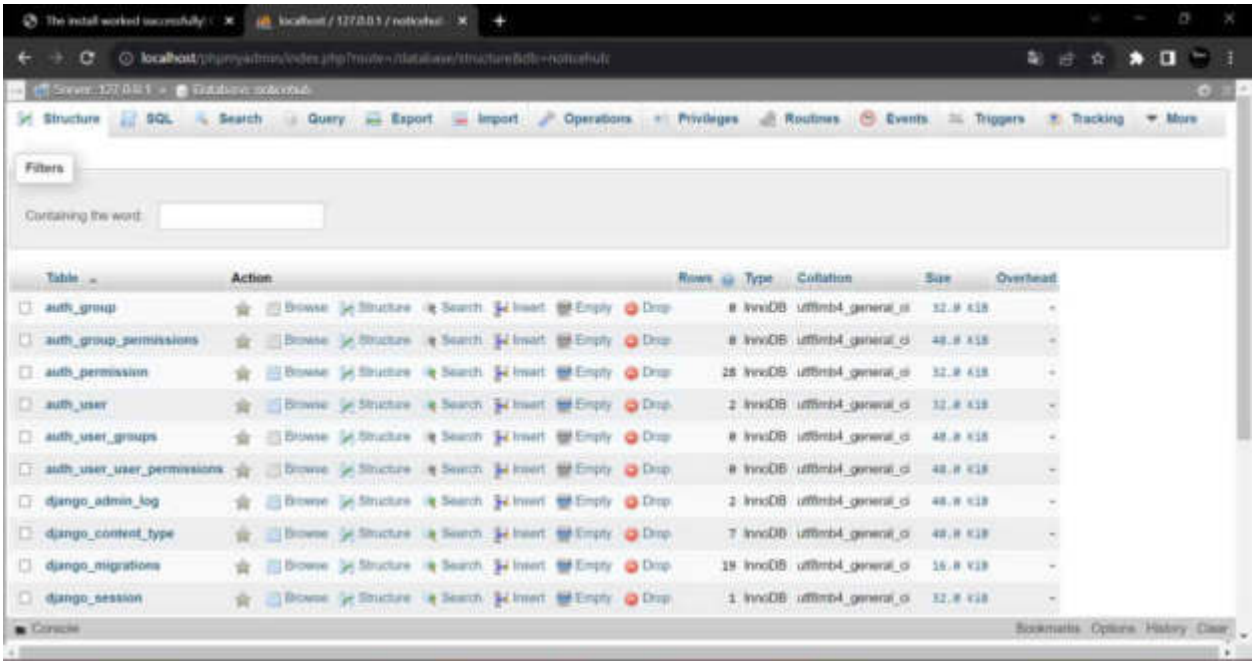


Fig. 8-9.1.3 Migrate command output

- Now, we have to create Two superuser named Admin and User. once, the superusers are created in Noticehub, we have to check it can be run on server or not.

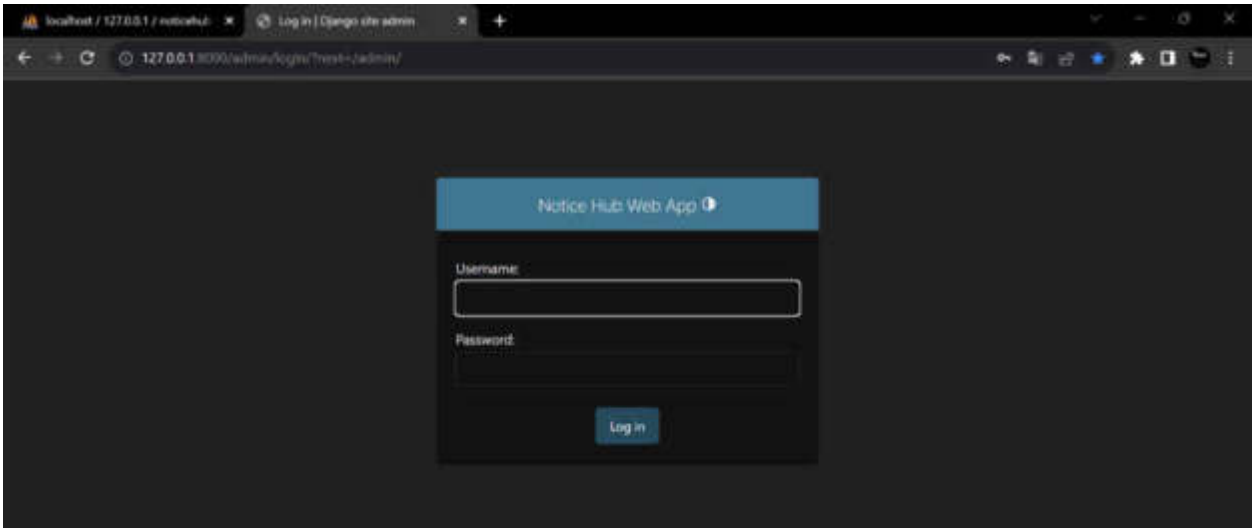


Fig. 8-9.1.4 Admin panel

Chapter:10 Frontend of NoticeHub

10.1 Frontend using D'jango Framework (using HTML) :

- Till 9th chapter, Our Project Setup is done. So now we go to Sublime Text 3 and make HTML file in User side folder. So that we can print notices on the web browser from our Project NoticeHub. For that we have to make **notice.html** file in **template** folder.

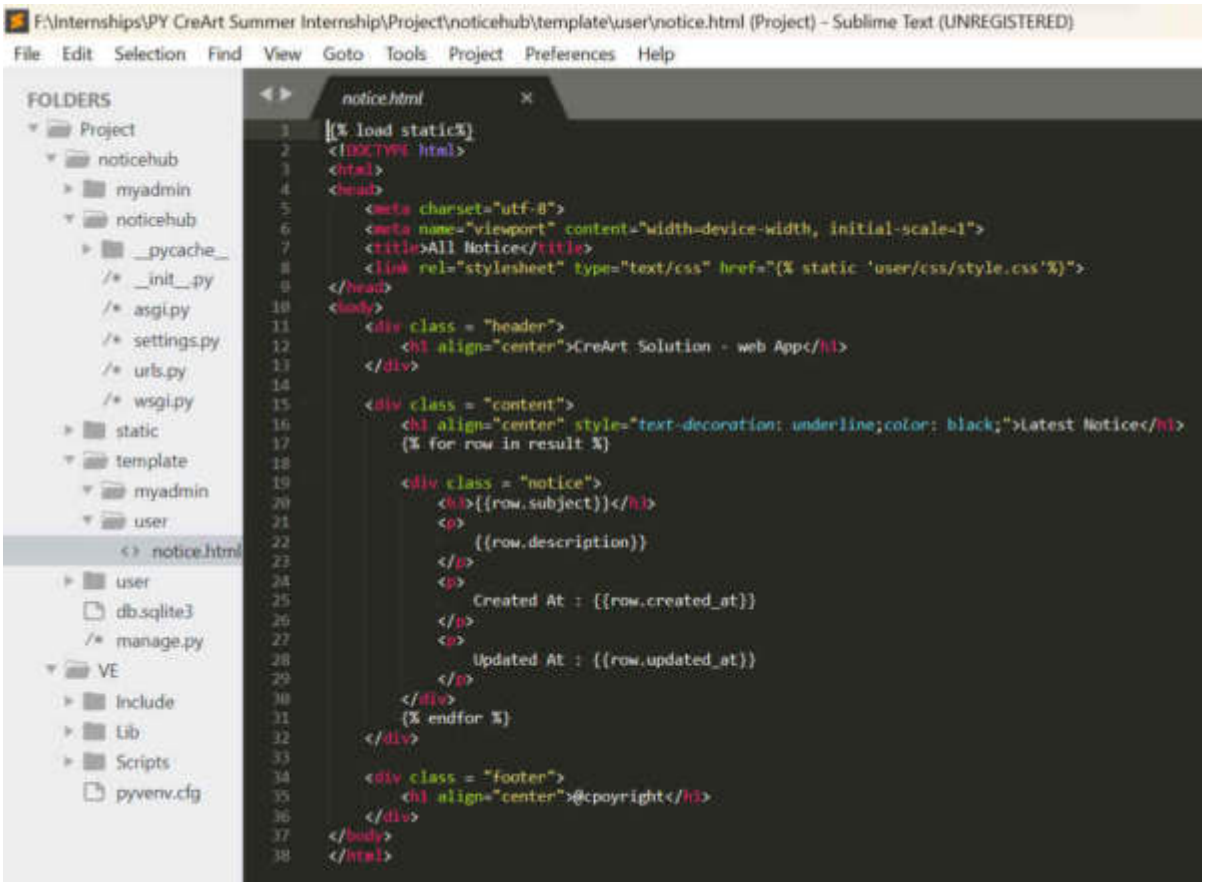


Fig. 10.1.1 notice.html

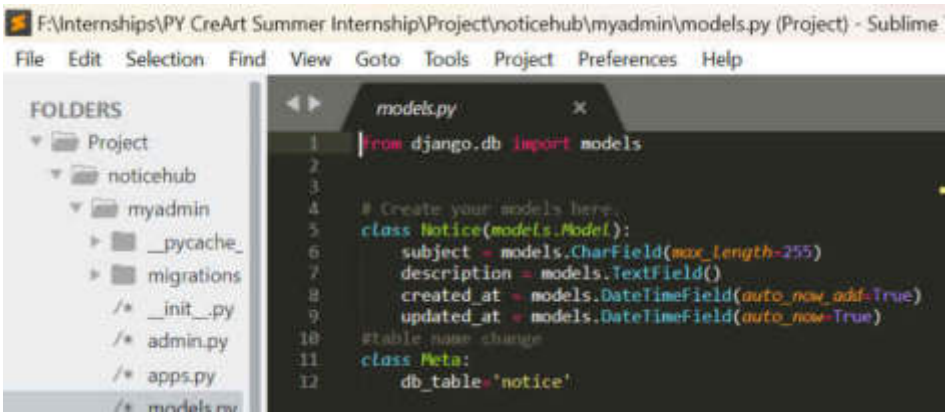


Fig. 10.1.2 models.py

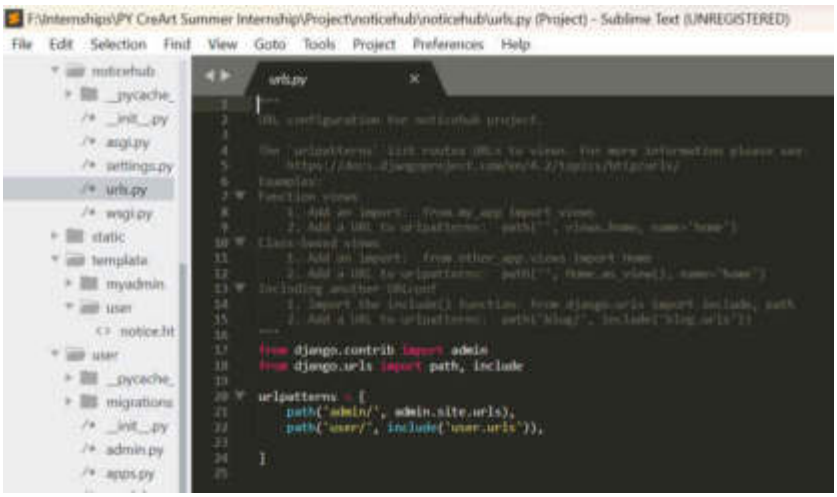


Fig. 10.1.3 urls.py

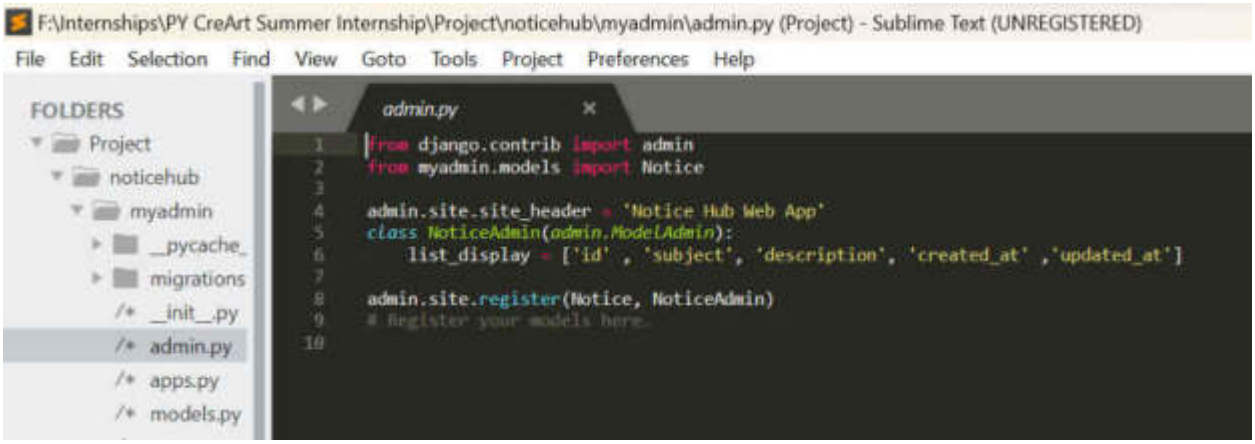


Fig. 10.1.4 admin.py

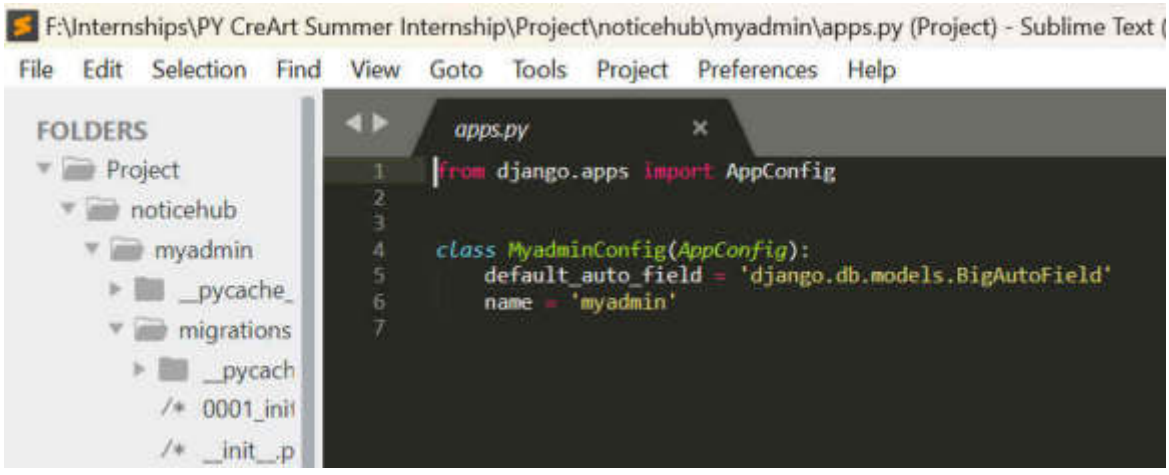


Fig. 10.1.5 apps.py

Chapter:11 Apply CSS on Frontend

11.1 Applying CSS on Frontend and Complete the Frontend :

- Till 10th chapter, Our Project's HTML Format Frontend is done. So now we have to decorate or style the frontend with the help of CSS. So that we can make a better GUI for our Project NoticeHub. For that we have to make **style.css** file in **static** folder.

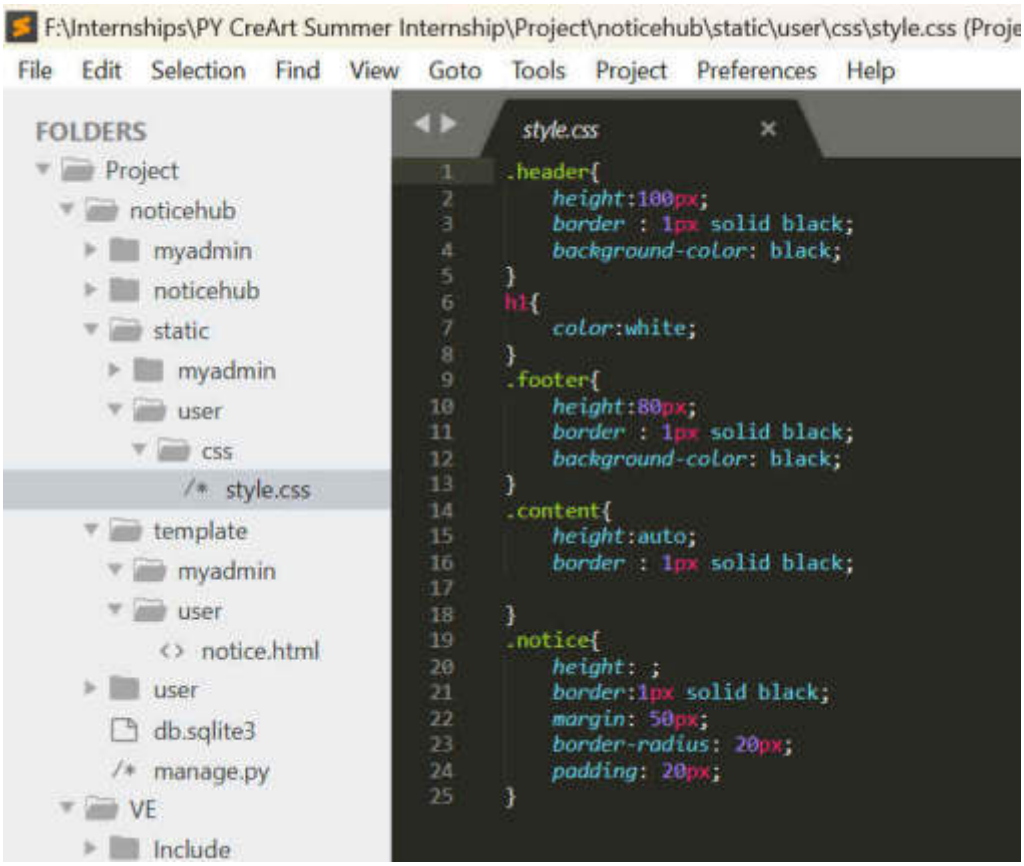


Fig. 11.1.1 style.css

- So till now, we completed whole Frontend of our Project NoticeHub. Now, it's time to run the project on the server and checks for the result.

Chapter:12 NoticeHub Project

12.1 Overview of NoticeHub :

- NoticeHub is a web application by which we can send the Notice to all employees/students etc. it has basically two panels: Admin & User. We can create & update Notices from Admin Panel and directly show it to all Users on User Panel.

- It is very easy process to perform task, we just required a network connection. First we have to connect XAMPP server then go to browser, open the admin Panel, Create new notice or Update existing notice & lastly click on the submit button so that User successfully receive the Notices without any failure. It was implementing using HTML & CSS for frontend and Django, Python & MySQL for backend.

- **Technology Used :**

  - Frontend :
    - ⇨ HTML : HTML is used to create and save web document.
    - ⇨ CSS : Create attractive Layout and design the web page.
  - Backend :
    - ⇨ Django : Django is a Python based web framework that follows the model-template-views architectural pattern.
    - ⇨ MySQL : MySQL is a database, widely used for accessing querying and managing databases.

12.2 Run the NoticeHub :

- Here we make total two panels : Admin & User.

  - Admin panel : It's a basic Admin panel, Where Superusers can log in and make or update the notices. Also there are features for manage the selective notices. For go to Admin panel : **http://127.0.0.1:8000/admin/**

  - User panel : It's a basic User panel, Where all kinds of users like Employees or Students can see new notices and updated notices also. Here they can get User Friendly UI of NoticeHub. For go to User panel : **http://127.0.0.1:8000/user/notice**

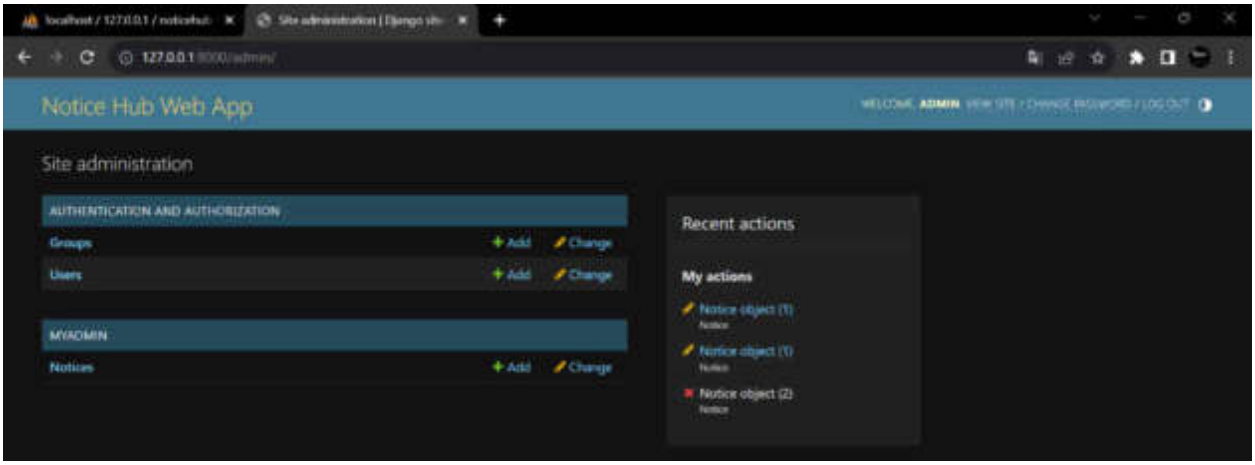


Fig. 12.2.1 Admin Panel

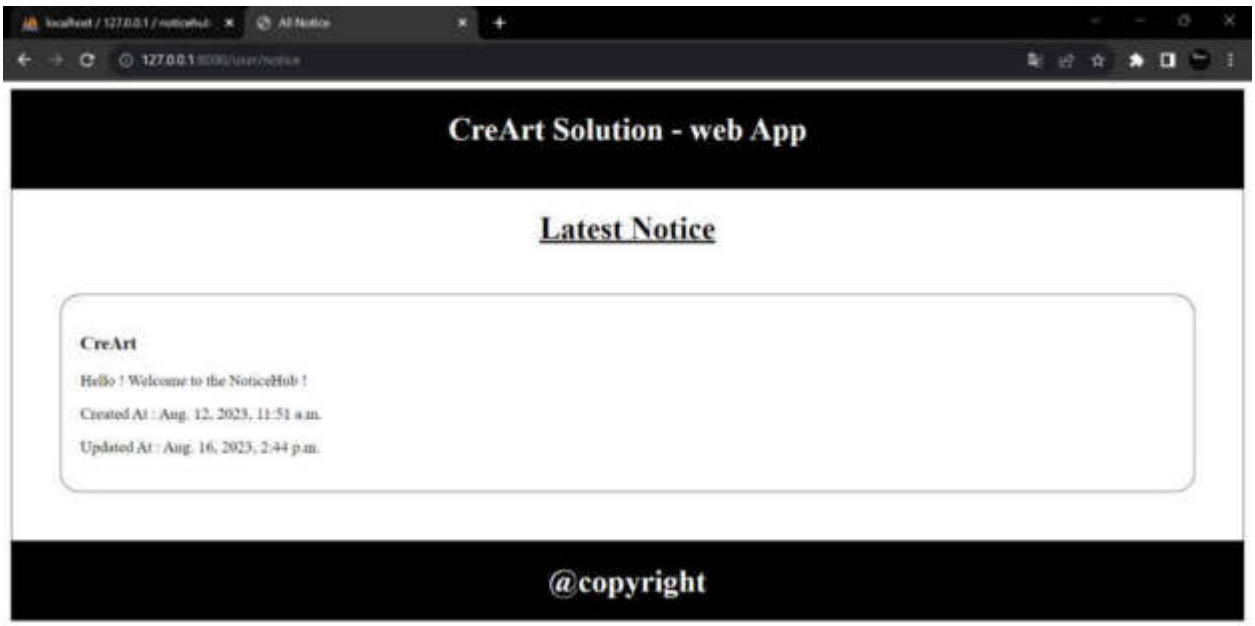


Fig. 12.2.2 User Panel

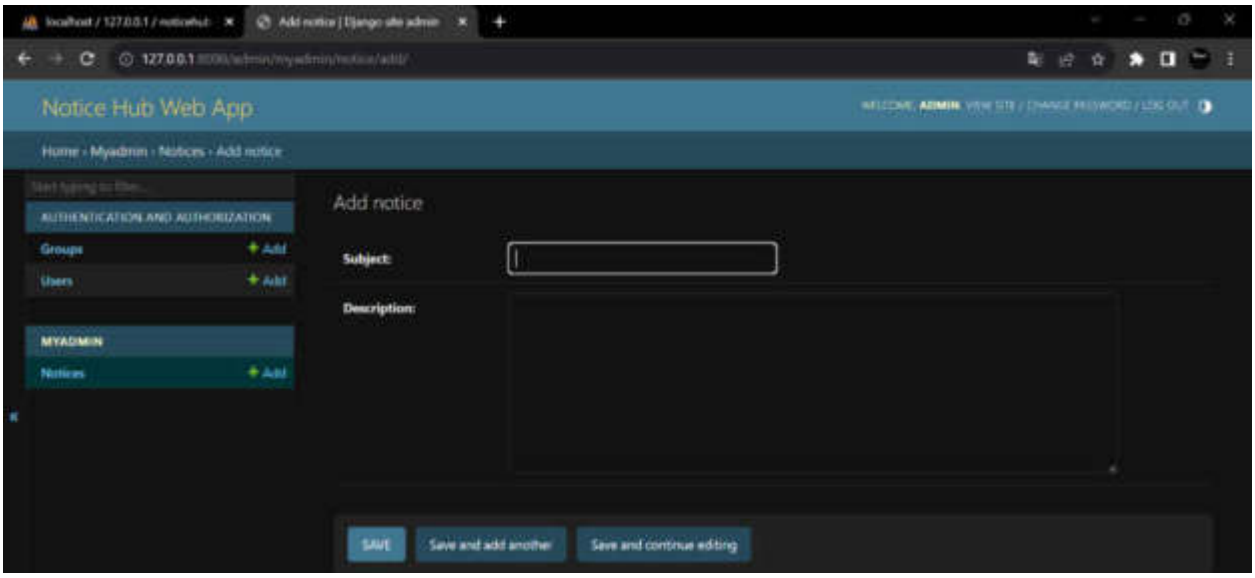


Fig. 12.2.3 Create New Notice

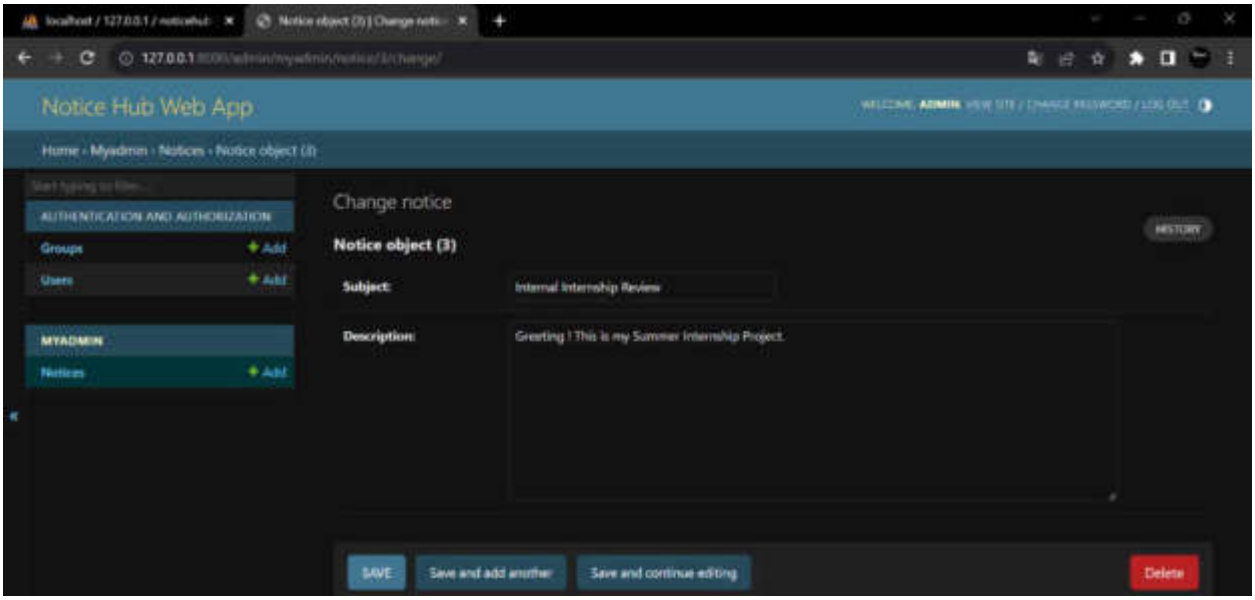


Fig. 12.2.4 Write Notice

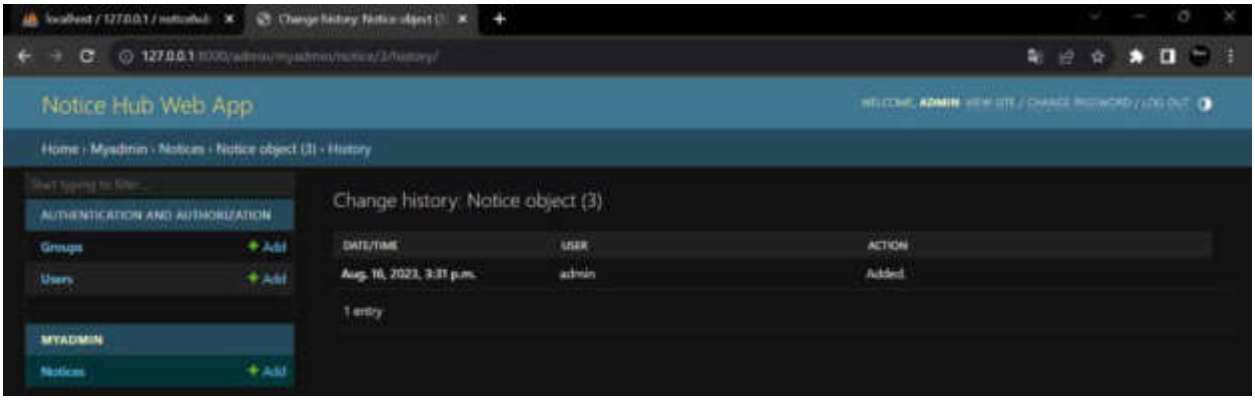


Fig. 12.2.5 Submit Notice



Fig. 12.2.6 Output of New Notice

* * *

INTERNSHIP AT OIL AND NATURAL GAS CORPORATION LIMITED(ONGC)

AN INTERNSHIP REPORT

Submitted by

Jeel Maheshbhai Patel

200390116048

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at ONGC** has been carried out by **Jeel Maheshbhai Patel** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign	Sign
Prof. Akshay Kansara	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate

ओएनजीसी

ONGC

ऑयल एण्ड नेचुरल गैस कॉरपोरेशन लिमिटेड
Oil and Natural Gas Corporation Limited

मेहसाना परिसम्पत्ति / Mehsana Asset

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TO WHOM IT MAY CONCERN

This is to certify that Ms. Patel Jeel M., a student of B.E. (IT) of S.P.B. Patel Engineering College, Linch, has completed internship at ONGC Mehsana Asset in Infocom Services. The duration of the internship was from 27.07.2023 to 10.08.2023.

We hope her time spent at ONGC Mehsana Asset was fruitful. We wish her all the success in her future.

Date: 23.08.2023

OIL AND NATURAL GAS CORPORATION LTD. MEHSANA

(Hemant Kumar)
GM (HR)
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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at ONGC** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Akshay Kansara** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Jeel Maheshbhai Patel**	

ACKNOWLEDGMENT

I would like to express my sincere gratitude and appreciation to the entire team at Oil and Natural Gas Corporation (ONGC) for providing me with the opportunity to undergo a rewarding 15-day internship in the field of Information Technology. I extend my heartfelt thanks to my mentor, Mr. Shrikant sir, for his invaluable guidance and dedicated efforts in imparting his knowledge of the Laravel programming language. His support and mentorship played a pivotal role in enhancing my understanding and skills in web development. I am also thankful to the entire IT department for their warm welcome, constant encouragement, and the collaborative learning environment they provided throughout my internship journey. The experience gained during this internship has undoubtedly contributed to my personal and professional growth, and I am truly grateful for the insights and practical exposure that I have gained.

Abstract

This report contains the work done by the author during his internship at ***ONGC***. It shows the work I did in the company during my internship period. In the report, the author discusses the process of manufacturing and steps of assembly of the machines. The author also discusses the structure of the company, all the departments and their work . It also explains what the author learned during this internship period.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Maharatna ONGC is the largest crude oil and natural gas Company in India, contributing around 71 per cent to Indian domestic production. Crude oil is the raw material used by downstream companies like IOC, BPCL, HPCL and MRPL (Last two are subsidiaries of ONGC) to produce petroleum products like Petrol, Diesel, Kerosene, Naphtha, and Cooking Gas LPG.

ONGC has a unique distinction of being a company with in-house service capabilities in all areas of Exploration and Production of oil & gas and related oil-field services. Winner of the Best Employer award, this public sector enterprise has a dedicated team of around 27,000 professionals who toil round the clock in challenging locations.

ONGC Videsh Limited, a Miniratna Schedule "A" Central Public Sector Enterprise (CPSE) of the Government of India under the administrative control of the Ministry of Petroleum & Natural Gas, is the wholly owned subsidiary and overseas arm of Oil and Natural Gas Corporation Limited (ONGC), the flagship national oil company (NOC) of India. The primary business of ONGC Videsh is to prospect for oil and gas acreages outside India, including exploration, development and production of oil and gas. ONGC Videsh owns Participating Interests in 35 oil and gas assets in 15 countries and produced about 30.3% of oil and 23.7% of oil and natural gas of India's domestic production. In terms of reserves and production, ONGC Videsh is the second largest petroleum company of India, next only to its parent ONGC.

ONGC subsidiary Mangalore Refinery and Petrochemicals Limited (MRPL) is a schedule 'A' Miniratna, Central Public Sector Enterprise (CPSE) under the Ministry of Petroleum & Natural Gas. The 15.0MMTPA (Million Metric Ton per annum) Refinery has got a versatile design with complex secondary processing units and a high flexibility to process Crudes of various API, delivering a variety of quality products. MRPL, with its parent company Oil and Natural Gas Corporation Limited (ONGC), owns and operates ONGC Mangalore Petrochemicals Limited (OMPL), a petrochemical unit capable of producing 0.905 MMTPA of Para Xylene and 0.273 MMTPA of Benzene.

ONGC subsidiary HPCL is a Maharatna CPSE. HPCL has the second largest share of product pipelines in India with a pipeline network of more than 3370 kms for transportation of petroleum products and a vast marketing network consisting of 14 Zonal offices in major cities and 133 Regional Offices facilitated by a Supply & Distribution infrastructure comprising Terminals, Pipeline networks, Aviation Service Stations, LPG Bottling Plants, Inland Relay Depots & Retail Outlets, Lube and LPG Distributorships. Consistent excellent performance has been made possible by a highly motivated workforce of over 9,500 employees working all over India at its various refining and marketing locations.

1.2 MISSION AND VISION OF THE COMPANY:

Vision

To be a global leader in integrated energy business through sustainable growth, knowledge excellence and exemplary governance practices.

Mission

World Class

- Dedicated to excellence by leveraging competitive advantages in R&D and technology with involved people.
- Imbibe high standards of business ethics and organizational values.
- Abiding commitment to safety, health and environment to enrich quality of community life.
- Foster a culture of trust, openness and mutual concern to make working a stimulating and challenging experience for our people.
- Strive for customer delight through quality products and services.

Integrated In Energy Business

- Focus on domestic and international oil and gas exploration and production business opportunities.
- Provide value linkages in other sectors of energy business.
- Create growth opportunities and maximize shareholder value.

Dominant Indian Leadership

- Retain a dominant position in the Indian petroleum sector and enhance India's energy availability.

Carbon Neutrality

- Strive to reduce CO2 emissions across the activity chain with the objective of achieving carbon neutrality.

Chapter 2: Juniper Switch
Week 1 (27/07/2023 , 28/07/2023)

2.1 Basics of Network:

In the initial two days, I observed different switches and gained in-depth knowledge about L2 and L3 switches, comprehending their operational mechanisms and data transmission processes. Furthermore, we extensively covered various cable connections, exploring their interconnections and functionalities. Notably, during this period, we had the opportunity to observe the Juniper L3 switch in action.

- **L1 Switch (Physical Layer):** Connects devices within a network and manages the physical connections, like plugging devices into sockets.
- **L2 Switch (Data Link Layer):** Uses MAC addresses to forward data within a local network, like directing traffic within a single neighborhood.
- **L3 Switch (Network Layer):** Routes data between different networks using IP addresses, like guiding traffic between different cities or regions.

2.2 juniper L3 switch:



Fig:2.1 Juniper L3 switch

Juniper Networks is a well-known networking equipment manufacturer that produces a wide range of networking devices, including routers, switches, and security appliances. Juniper's L3 (Layer 3) switches are designed to operate at the network layer of the OSI model, enabling them to perform routing functions and make forwarding decisions based on IP addresses.

Juniper L3 switches, like many other networking devices, consist of several key components that work together to provide routing and switching capabilities. While the specific components may vary based on the model and series of the Juniper L3 switch, here are some common parts typically found in Juniper L3 switches:

1. Processor (CPU): The processor is the brain of the switch, responsible for executing control plane functions, handling routing protocols, and managing the switch's overall operation.

2. Memory: Various types of memory are used in a Juniper L3 switch, including RAM (Random Access Memory) for temporary data storage and caching, and flash memory for storing the operating system and configuration files.

3. Switching Fabric: The switching fabric is a high-speed internal bus or architecture that allows data packets to be switched and forwarded between different ports and interfaces.

4. Network Interfaces: These are the physical ports on the switch that connect to devices, servers, routers, and other networking equipment. They can include Ethernet ports of different speeds (e.g., 1Gbps, 10Gbps, 40Gbps, 100Gbps) and may support various types of connectors (e.g., RJ-45, SFP, QSFP).

5. Routing Engine: The routing engine handles control plane functions, including running routing protocols, maintaining routing tables, and making routing decisions.

6. ASICs (Application-Specific Integrated Circuits): ASICs are specialized hardware components designed to accelerate specific networking functions. In an L3 switch, ASICs may be used to perform packet forwarding, routing lookups, and other processing tasks, improving performance and efficiency.

7. Power Supply Units (PSUs): These components provide electrical power to the switch. High-end switches may have redundant power supply units for increased reliability.

8. Cooling System: Juniper L3 switches are equipped with fans and cooling mechanisms to maintain optimal operating temperatures and prevent overheating.

9. Management Interfaces: These interfaces allow network administrators to configure, monitor, and manage the switch. They can include console ports, Ethernet management ports, and out-of-band management options.

10. Operating System (Junos): Juniper L3 switches run the Junos operating system, which provides the software framework for routing, switching, security, and management features.

11. CLI (Command Line Interface) and Management Software: Network administrators use the CLI and management software to configure the switch, monitor its performance, and troubleshoot issues.

12. Redundancy Features: High-end Juniper L3 switches often include redundancy features such as Virtual Chassis or Virtual Chassis Fabric, which allow multiple switches to operate as a single logical unit, enhancing fault tolerance and availability.

working of juniper L3 switch :

1. Routing Intelligence: A Juniper L3 switch starts by knowing where different parts of the network are located. It compiles a list of paths (routing table) that tells it the best ways to reach different destinations.
2. Packet Checkpoint: When data arrives, the switch checks its "address label" (destination IP) to figure out where it should go.
3. Smart Decision: Using its routing table, the L3 switch decides the quickest path for the data. Imagine choosing the fastest route on a map.
4. Physical Address: If the data needs to go to another "neighborhood" (subnet), the switch finds the recipient's "house number" (MAC address) through a quick lookup (ARP).
5. Packet Packing: The switch carefully wraps the data in a new package with the correct "neighborhood address" (MAC). It's like putting the data in the right envelope.
6. Onward Journey: The switch then sends the newly packaged data on its way, following the optimal path it selected earlier.
7. VLAN Magic: If there are different "parts of town" (VLANs), the L3 switch can help the data travel between them, like building virtual bridges.
8. Traffic Control: The switch can act like a traffic cop, using rules (ACLs) to allow or stop data based on instructions.
9. Priority Treatment: To keep things fair, the switch can also give important data a "green light" (QoS), ensuring it gets through quickly.

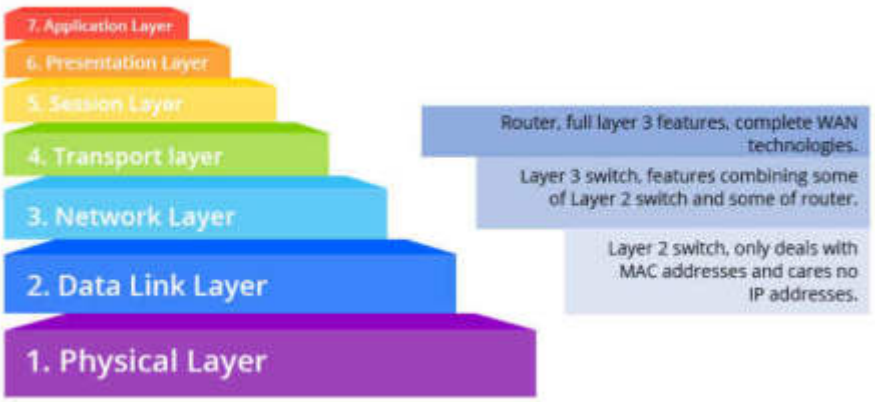


Fig:2.2 OSI Layer

Chapter 3: Ubuntu & php
Week 2 (31/07/2023 To 04/08/2023)

3.1 Learning of Language

- We started our work with a new OS which is Ubuntu, Ubuntu is a Linux-based operating system. I installed Ubuntu on my laptop, and set up everything inside ubuntu. I Install all necessary tools like vscode inside ubuntu.



Fig:3.1 Ubuntu



Fig:3.2 php

- We learn the basics of php, because our main task is to update the website(dpr), store data in the database, fetching data from database and maintain all the dpr(Daily Production Report) of ONGC. and all the dpr we have to update using laravel language which is the framework of php.

- php:- PHP is a widely-used scripting language designed for web development and server-side programming. It boasts a user-friendly syntax that simplifies creating dynamic and interactive web applications. PHP operates seamlessly with HTML, allowing developers to embed PHP code directly within web pages. It supports variables, enabling the storage of data, and employs data types such as integers, strings, and arrays. Control structures like loops and conditional statements facilitate decision-making and iterative processes.

  One of PHP's standout features is its robust support for database interaction. It can effortlessly connect to various databases, enabling the storage and retrieval of data. Functions and libraries are integral to PHP, offering pre-built code snippets for common tasks. Moreover, PHP's object-oriented capabilities empower developers to structure code logically and reuse components. The language also facilitates seamless file manipulation, making it easy to read, write, and modify files. In essence, PHP serves as a versatile tool for crafting dynamic web applications, boasting features like form handling, session management, and secure authentication mechanisms.

- now we learn about **laravel** framework:



Fig:3.3 Laravel

Laravel is a sophisticated and widely-used PHP web framework renowned for its elegant design and developer-friendly features. Operating on the Model-View-Controller (MVC) architectural pattern, Laravel facilitates the organization of code into distinct components: Models, responsible for data handling and interaction with databases; Views, managing the presentation layer; and Controllers, governing application logic and user interactions.

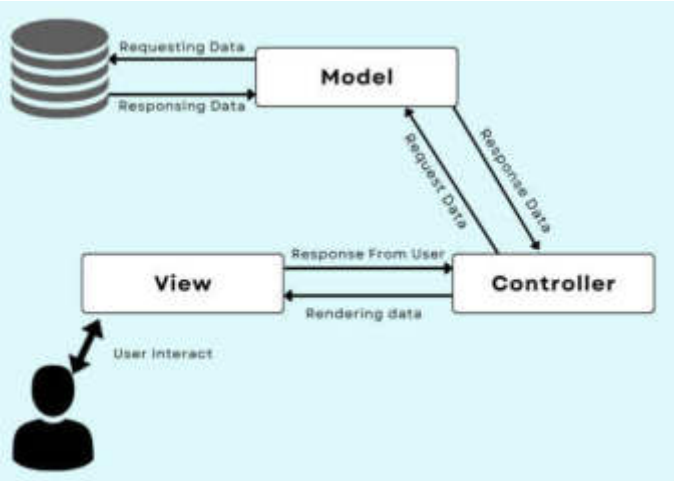


Fig:3.4 MVC Architecture

Beyond its architectural prowess, Laravel comes equipped with a multitude of built-in tools and functionalities that expedite web development. Its routing system provides a straightforward way to define endpoints and handle HTTP requests, while the Blade templating engine offers expressive and reusable views. Laravel's authentication and security mechanisms ensure the safeguarding of user data, while the Eloquent ORM simplifies database interactions through an intuitive, object-oriented syntax.

Furthermore, Laravel's extensive ecosystem is enriched by Composer, a package manager that allows seamless integration of third-party libraries. Its vibrant community continually contributes to the framework's growth and evolution, offering a wealth of resources, tutorials, and forums. Overall, Laravel empowers developers to create feature-rich and

maintainable web applications efficiently, making it a preferred choice within the realm of modern web development.



Fig:3.5 phpMyAdmin

- We are working with a **phpmyadmin** tool for managing and administering MySQL or MariaDB databases. Developed in PHP, phpMyAdmin provides a web-based interface that enables users to perform a wide range of database-related tasks, including creating, modifying, and deleting databases, tables, and records, as well as executing SQL queries, importing and exporting data, and managing user privileges. Its intuitive interface makes it accessible to both beginners and experienced database administrators, facilitating efficient database management without requiring extensive knowledge of command-line tools.

3.2 Kits & Liveries (DPR):

login1.blade.php:

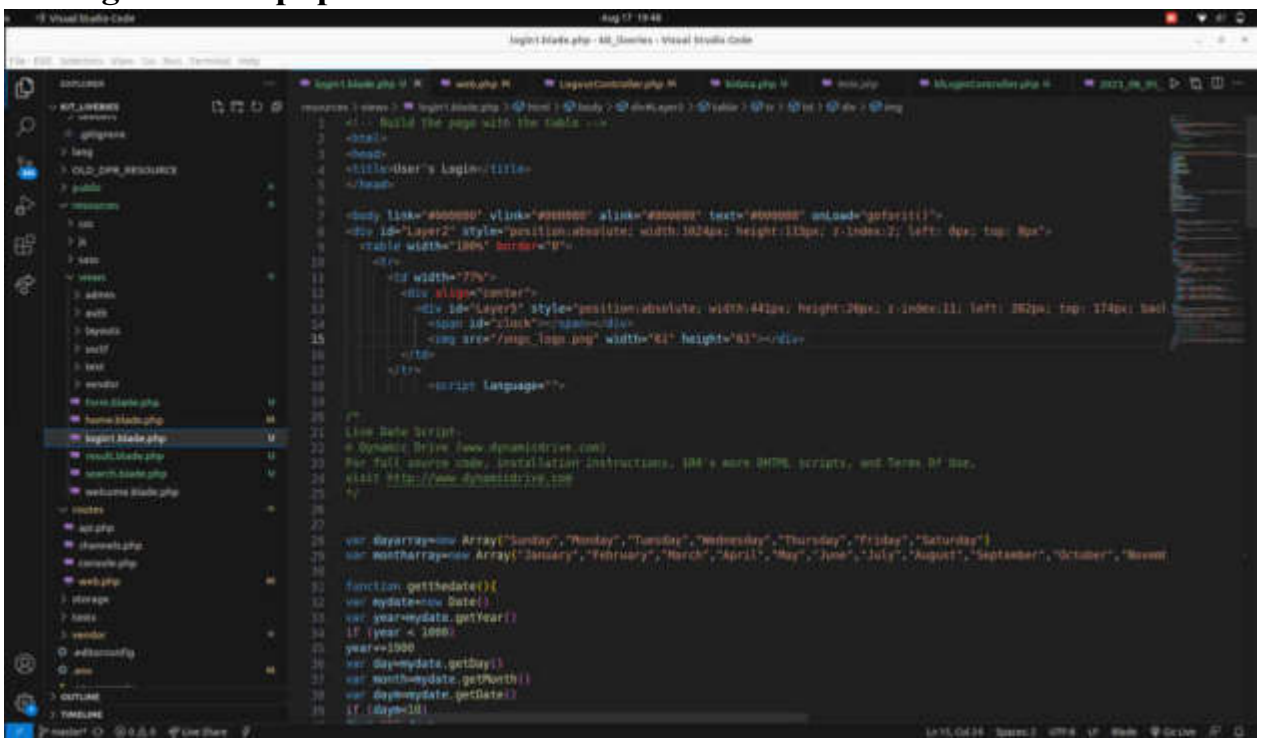


Fig:3.6 login1 Page

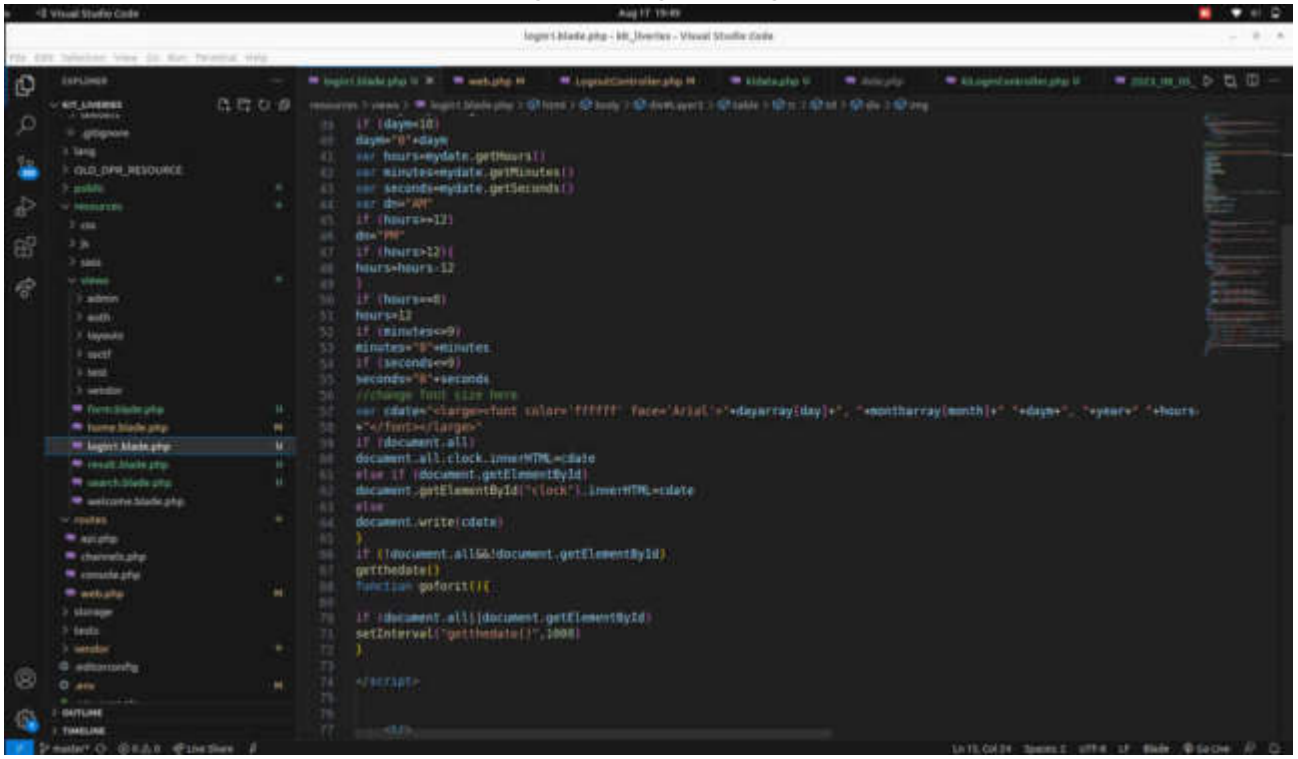


Fig:3.7 login1 Page

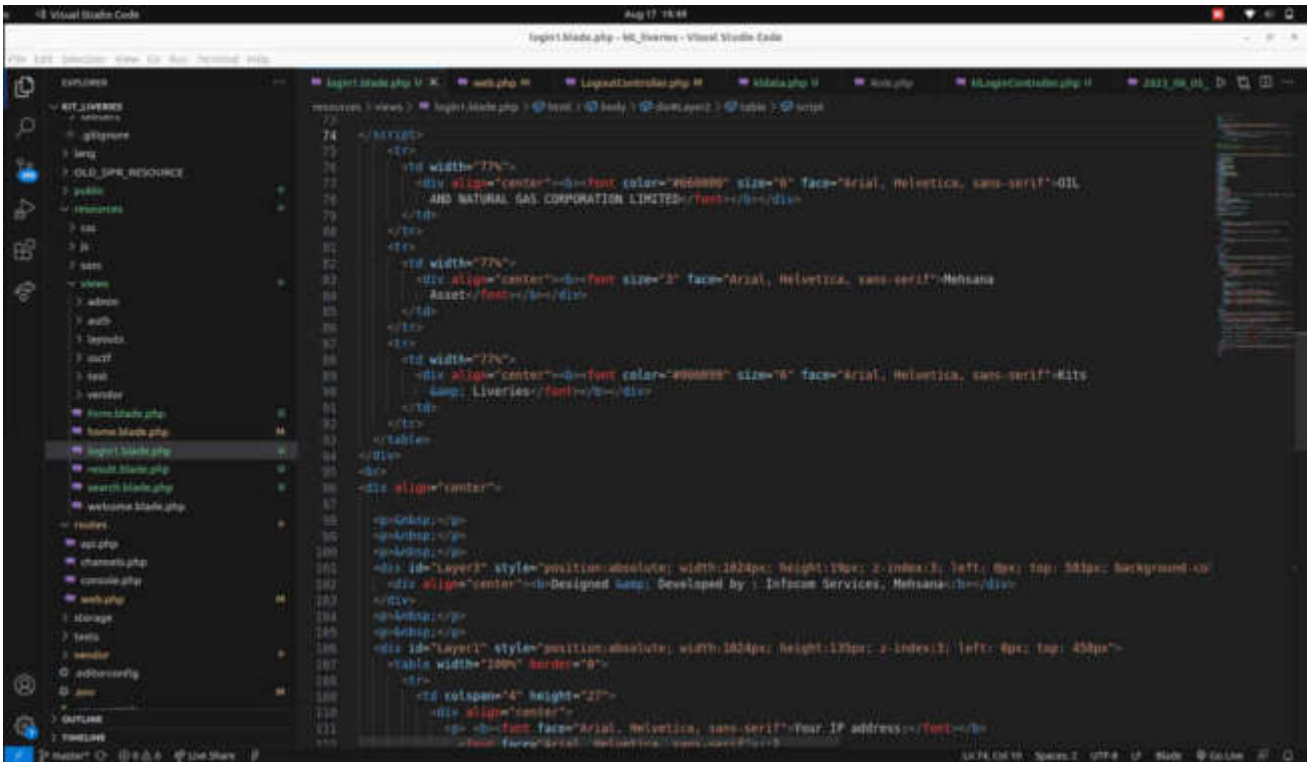


Fig:3.8 login1 Page

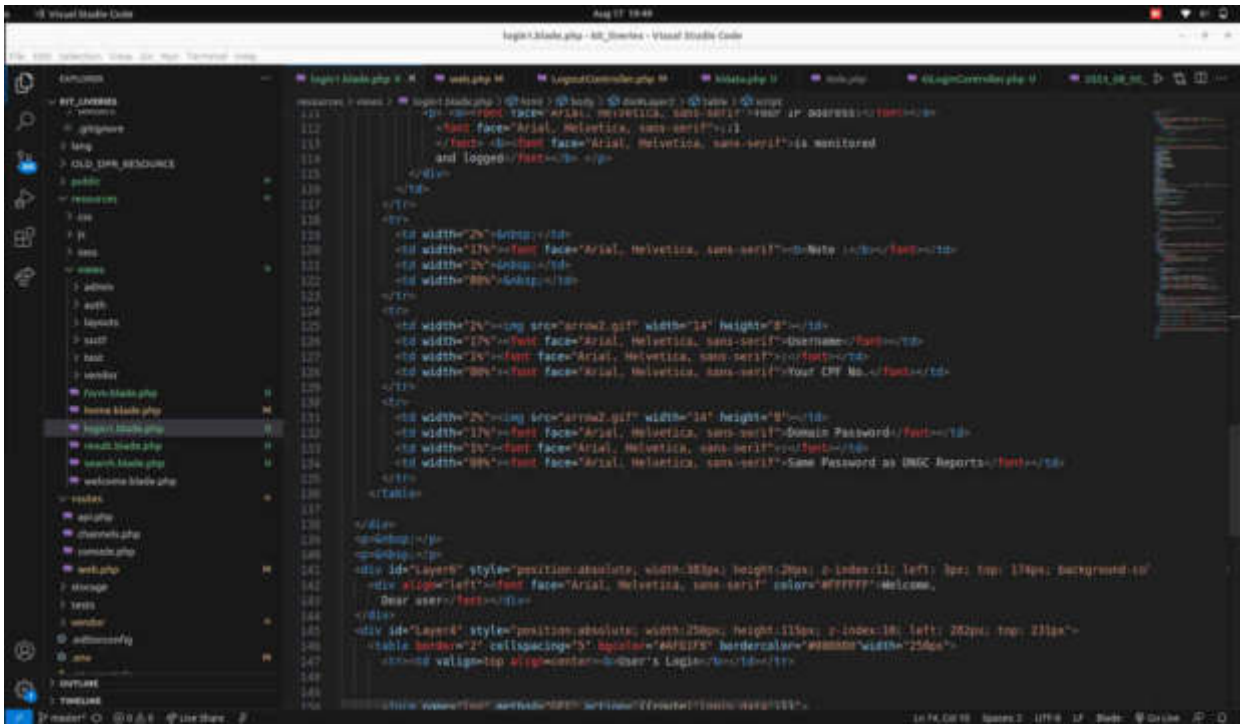


Fig:3.9 login1 Page

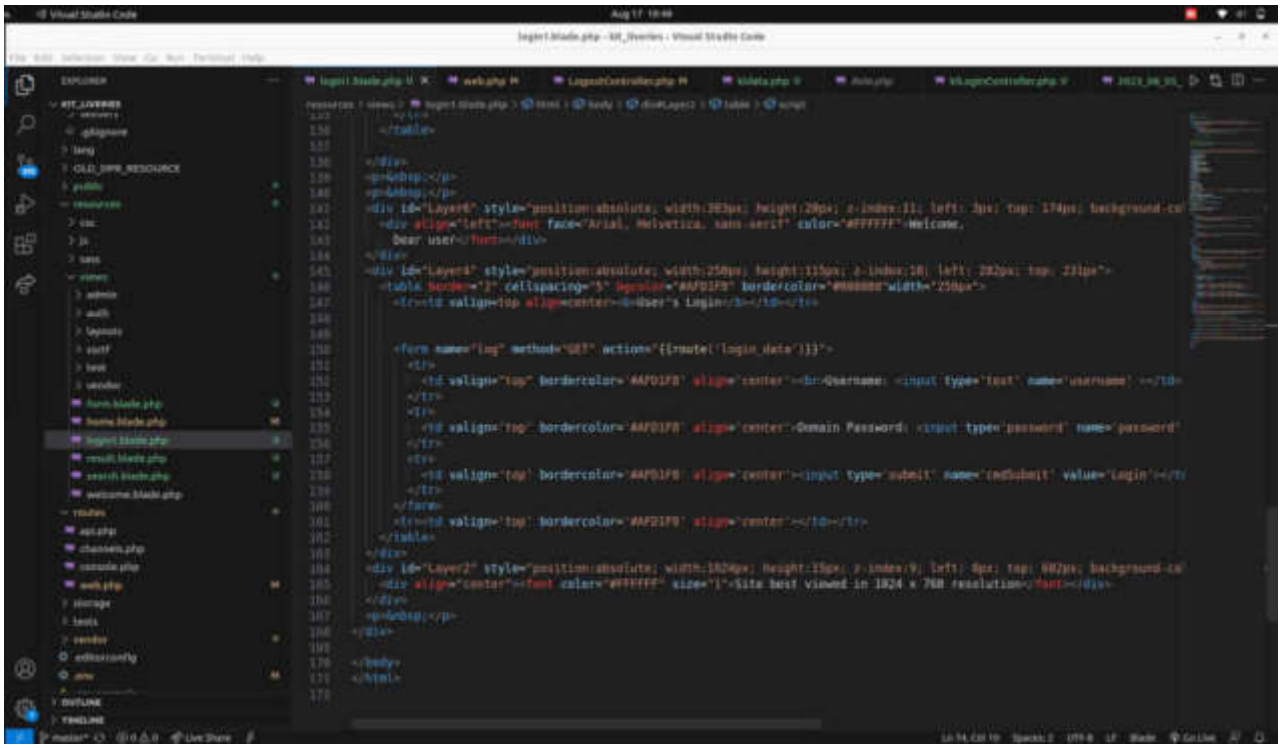


Fig:3.10 login1 Page

form.blade.php:

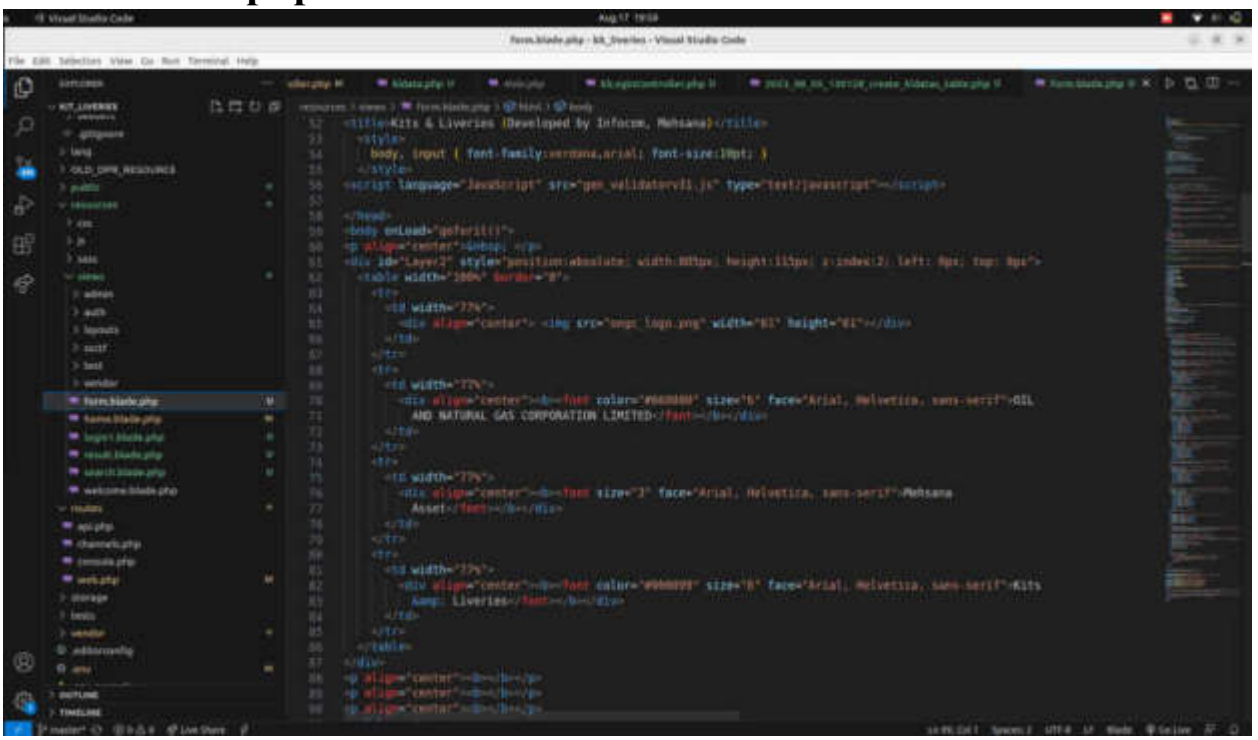


Fig:3.11 form Page

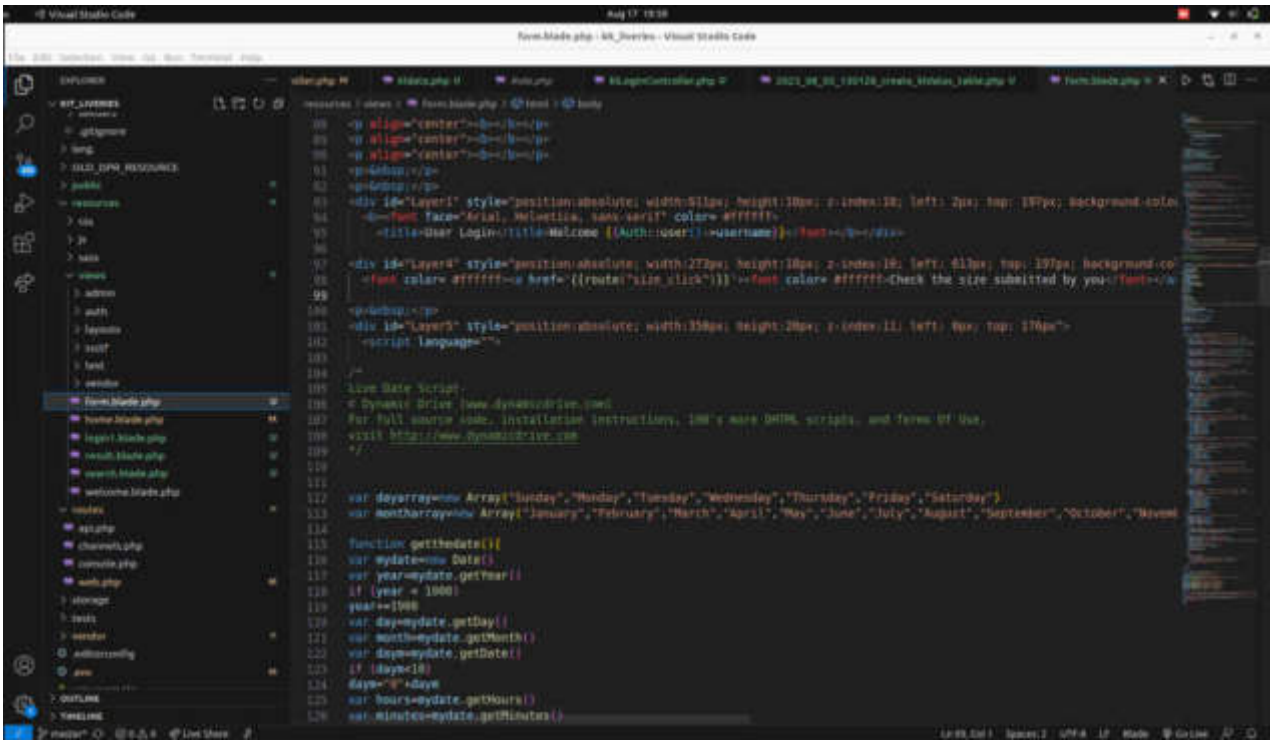


Fig:3.12 form Page

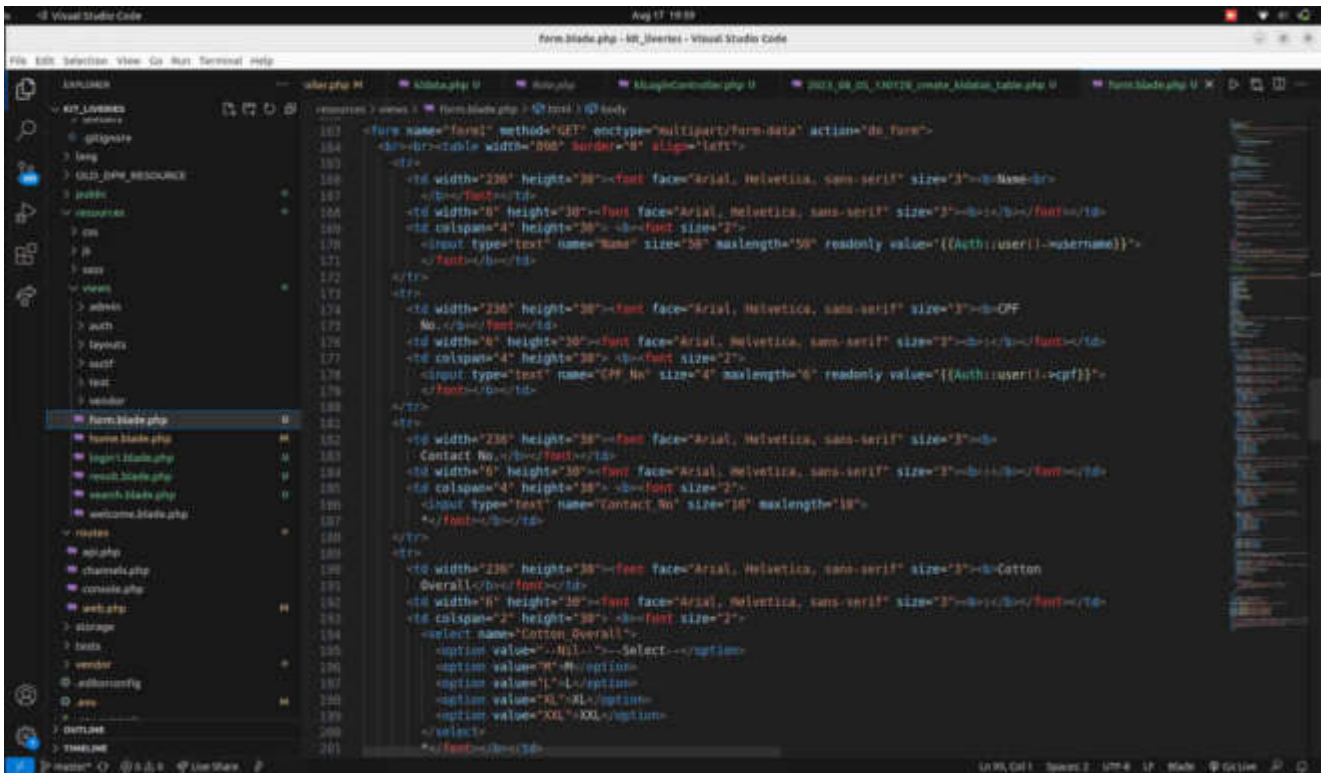


Fig:3.13 form Page

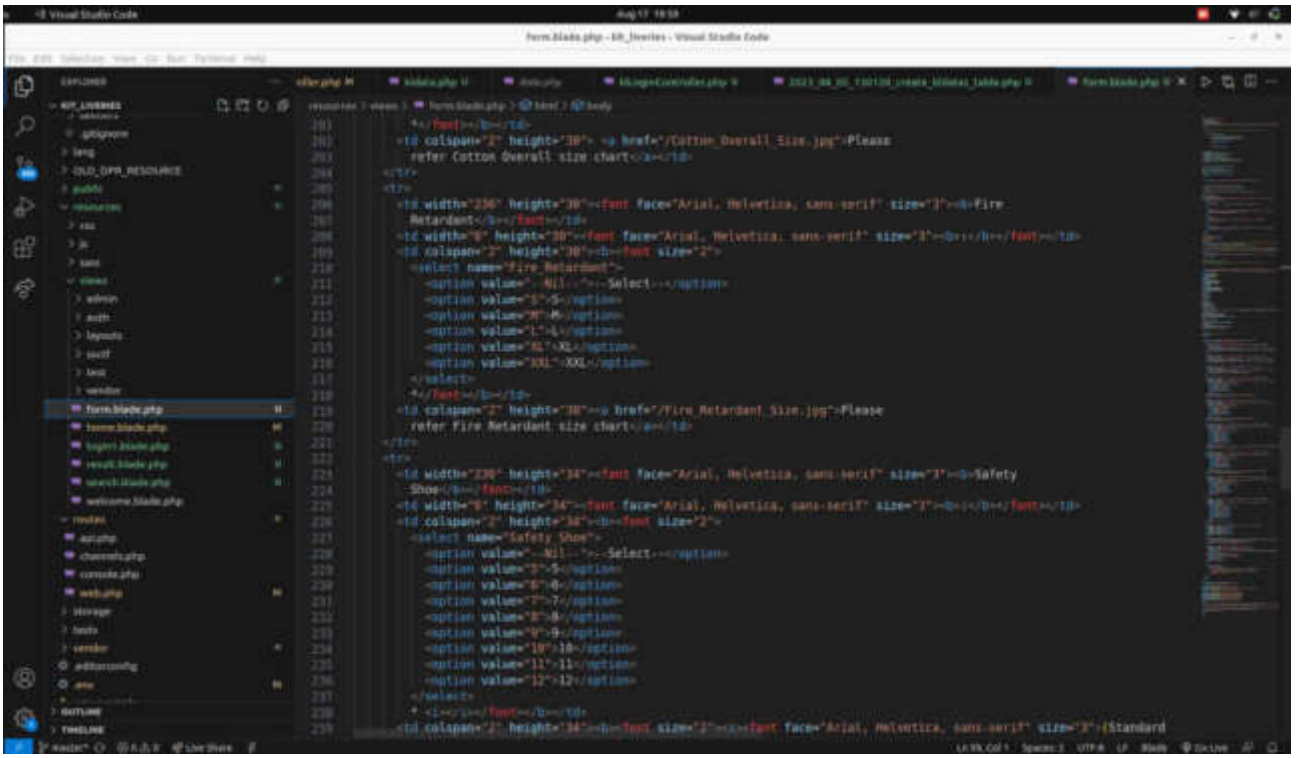


Fig:3.14 form Page

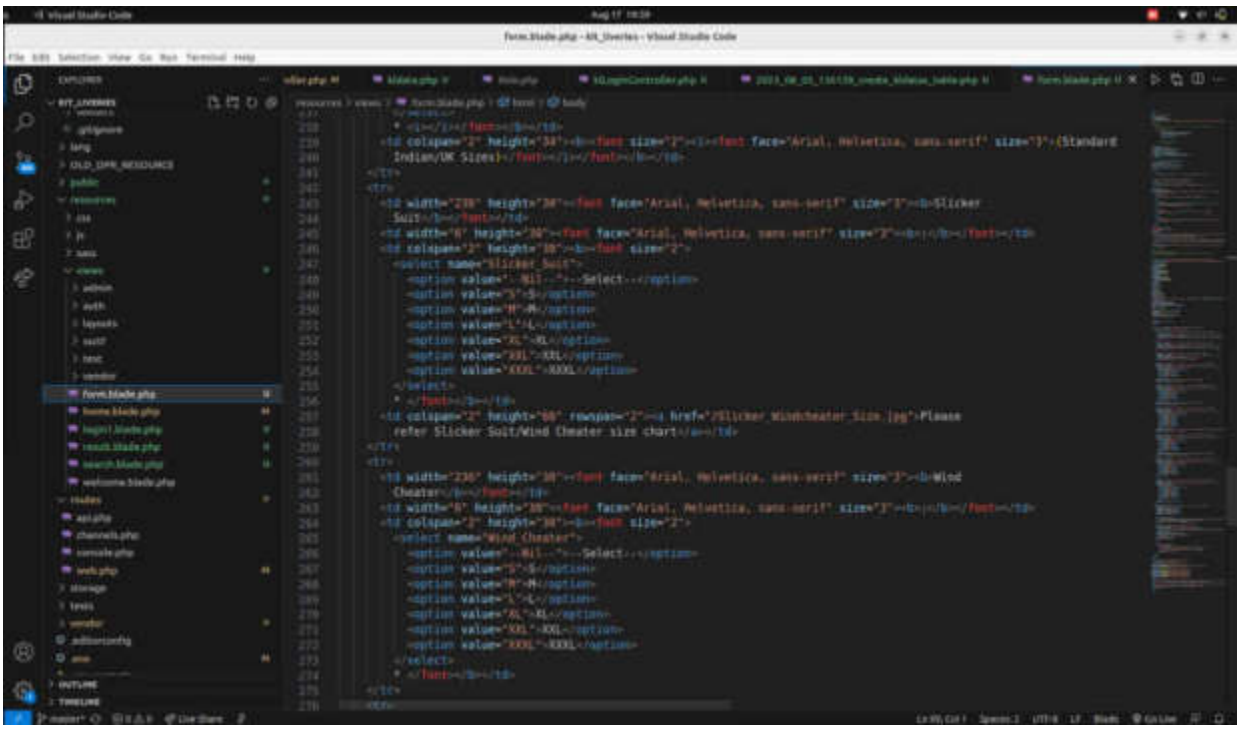


Fig:3.15 form Page

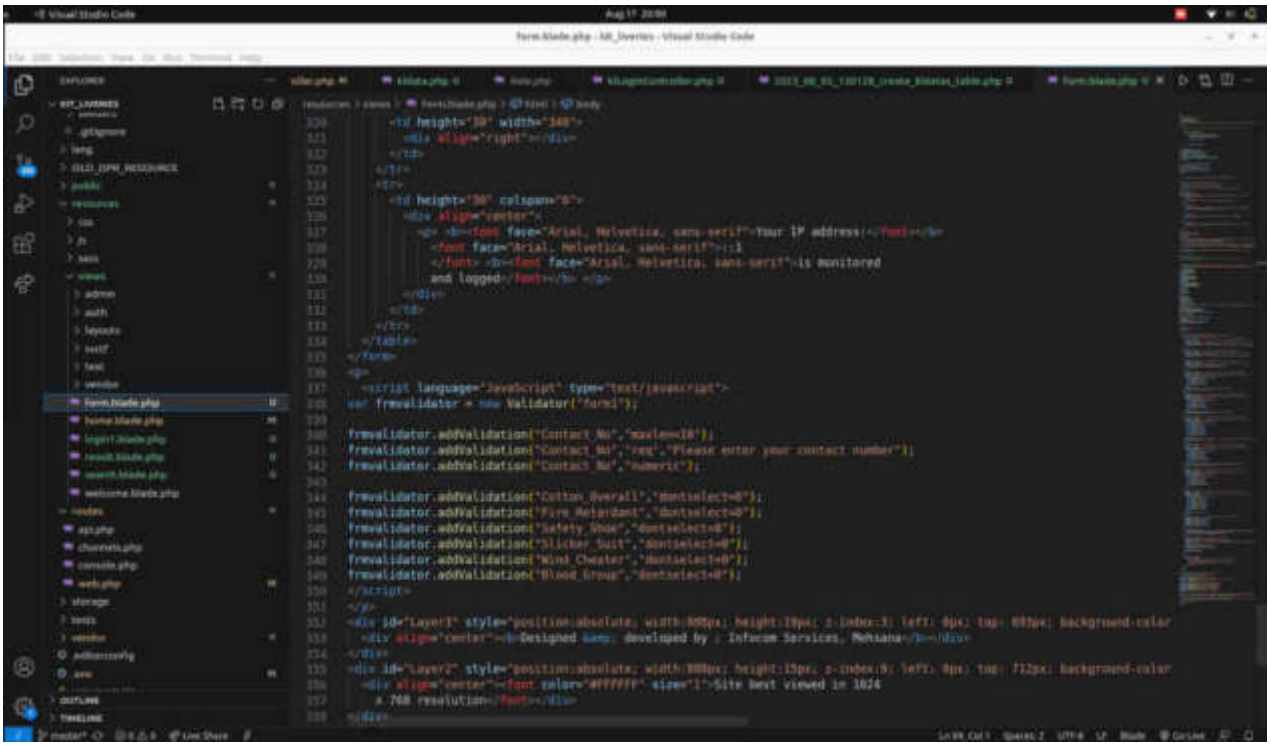


Fig:3.16 form Page

web.php:

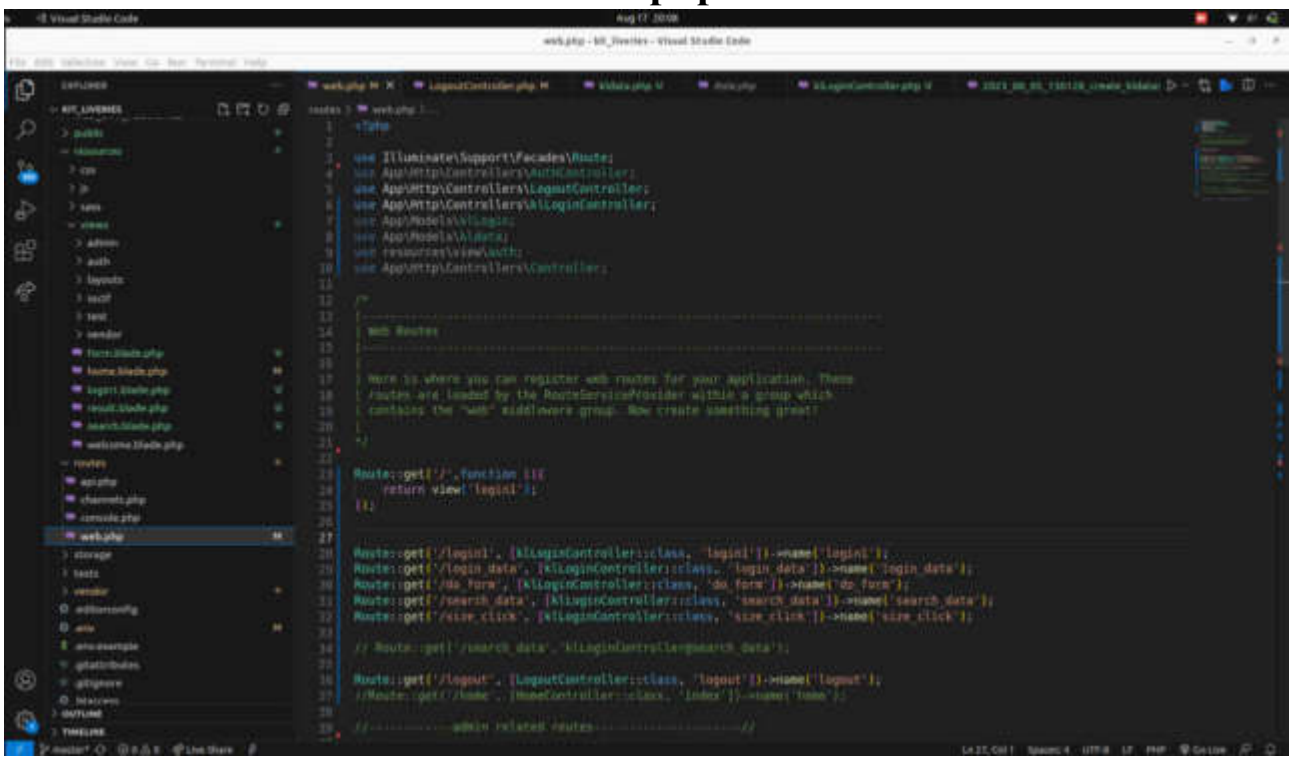


Fig:3.17 Web Page

KlLoginController.php:

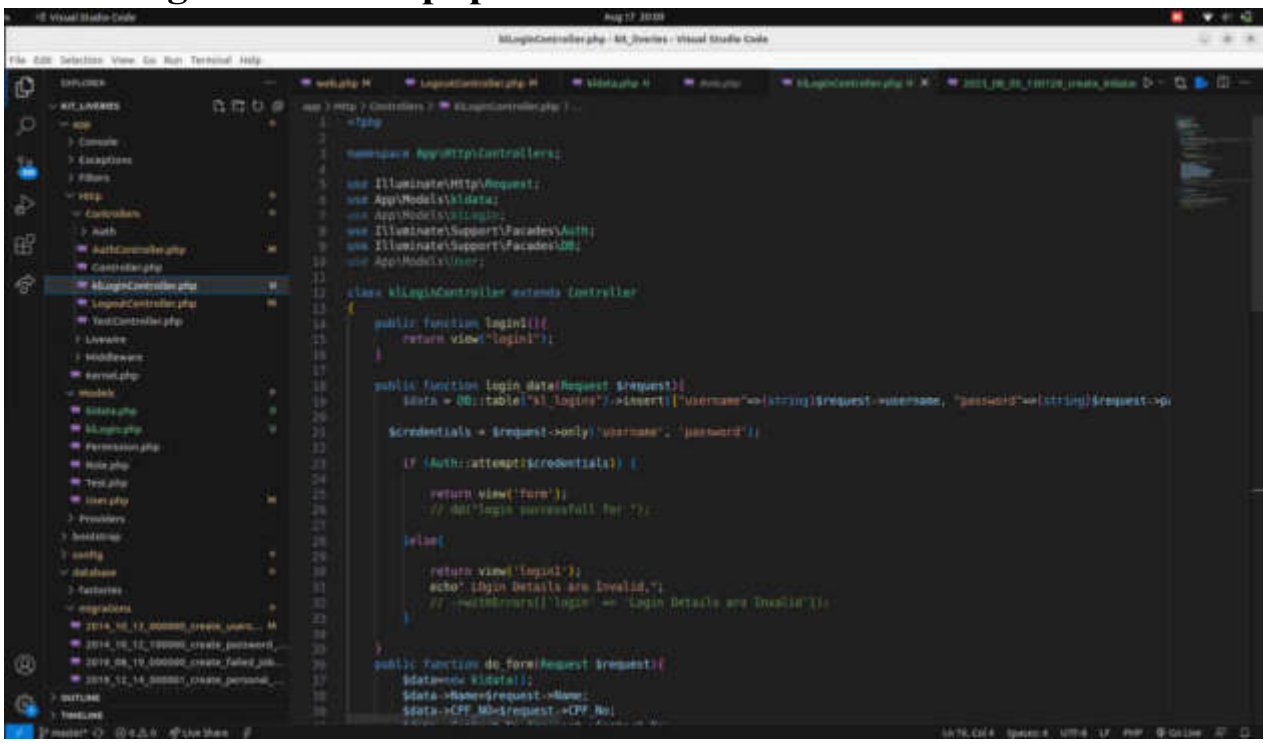


Fig:3.18 KlLoginController Page

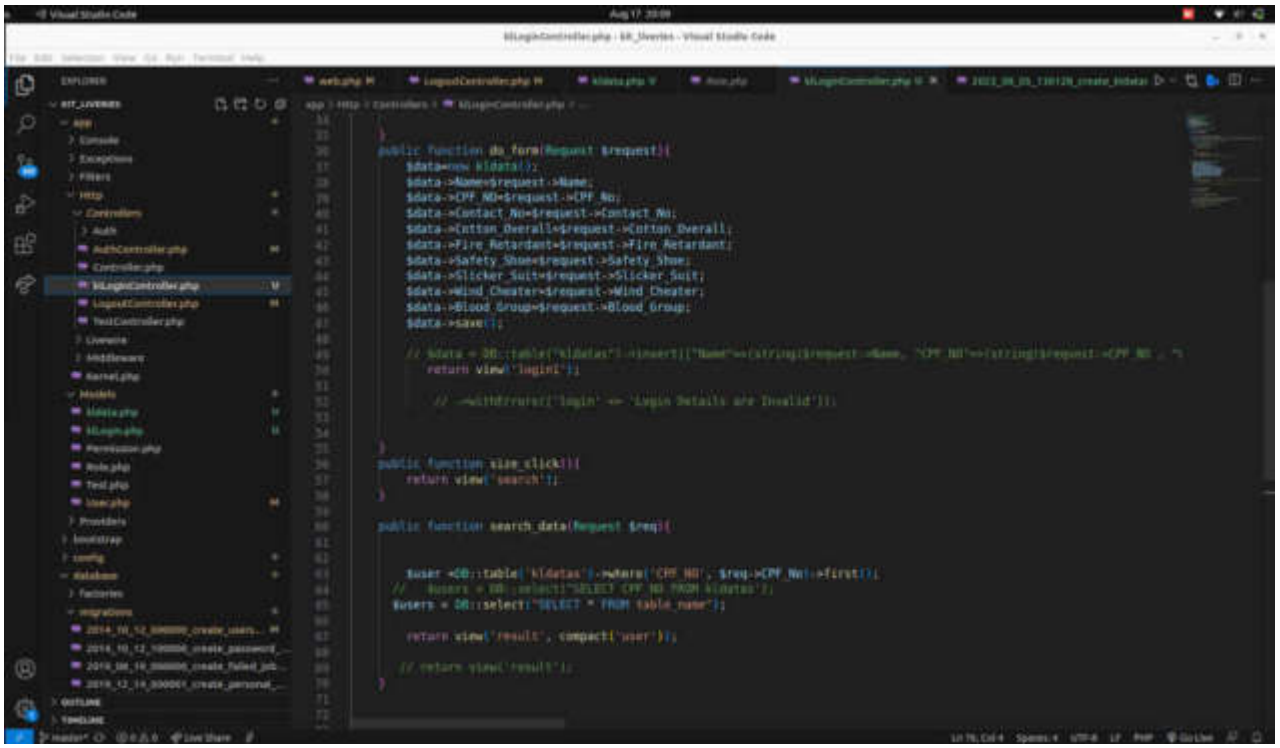


Fig:3.19 KlLoginController Page

LogoutController.php:

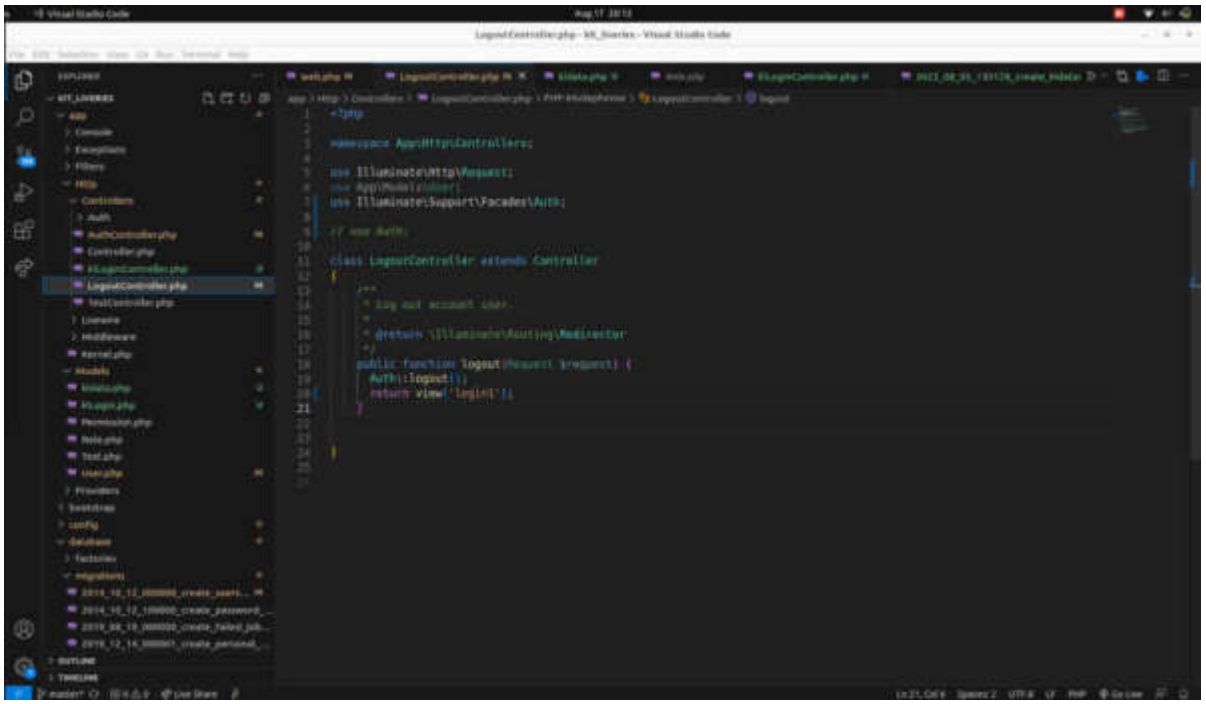


Fig:3.20 LogoutController Page

phpMyAdmin:

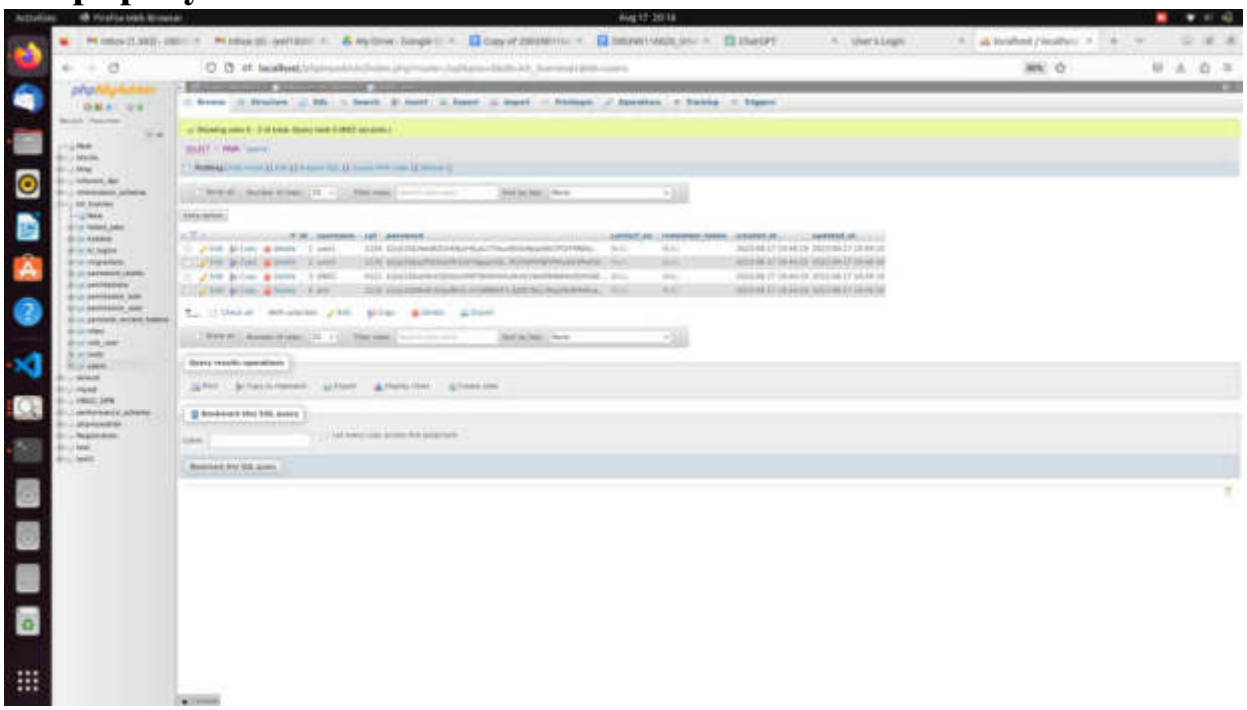


Fig:3.21 login data page

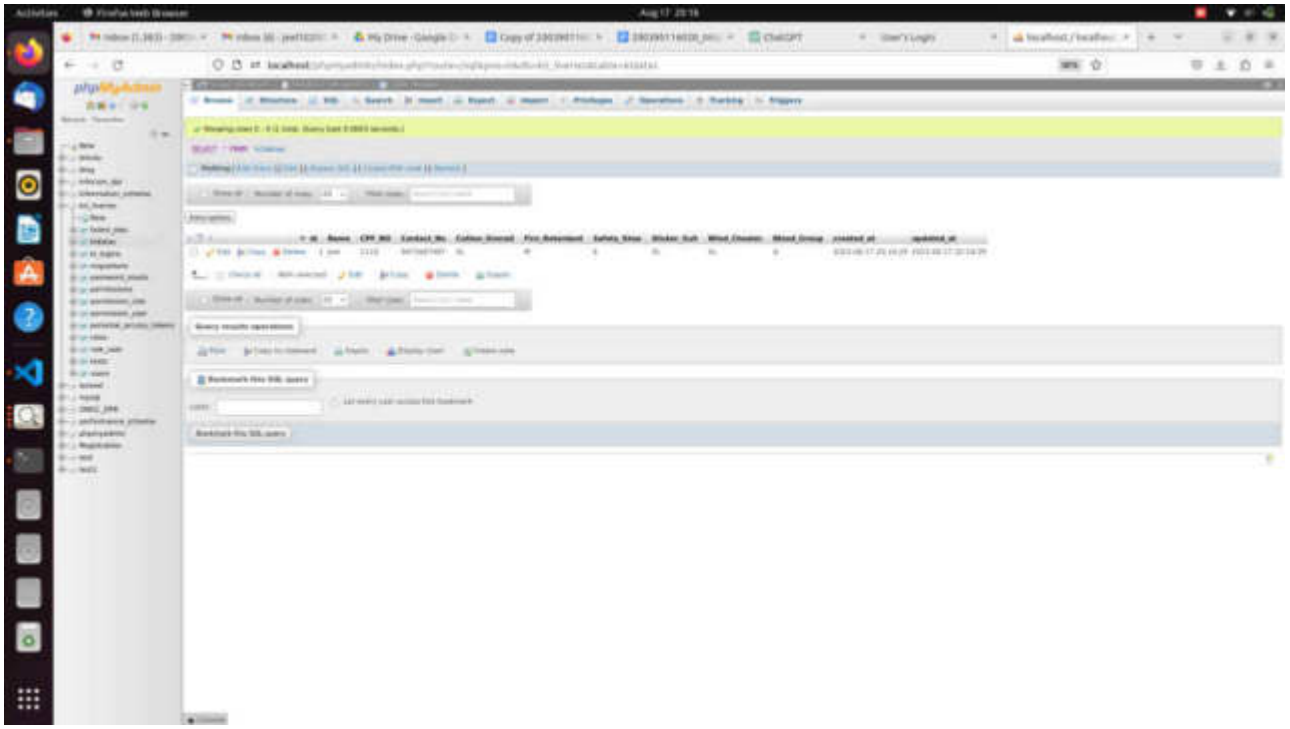


Fig:3.22 form data page

Chapter 4: DPR
Week 3 (07/08/2023 To 10/08/2023)

4.1 INFO MEHSANA DPR :

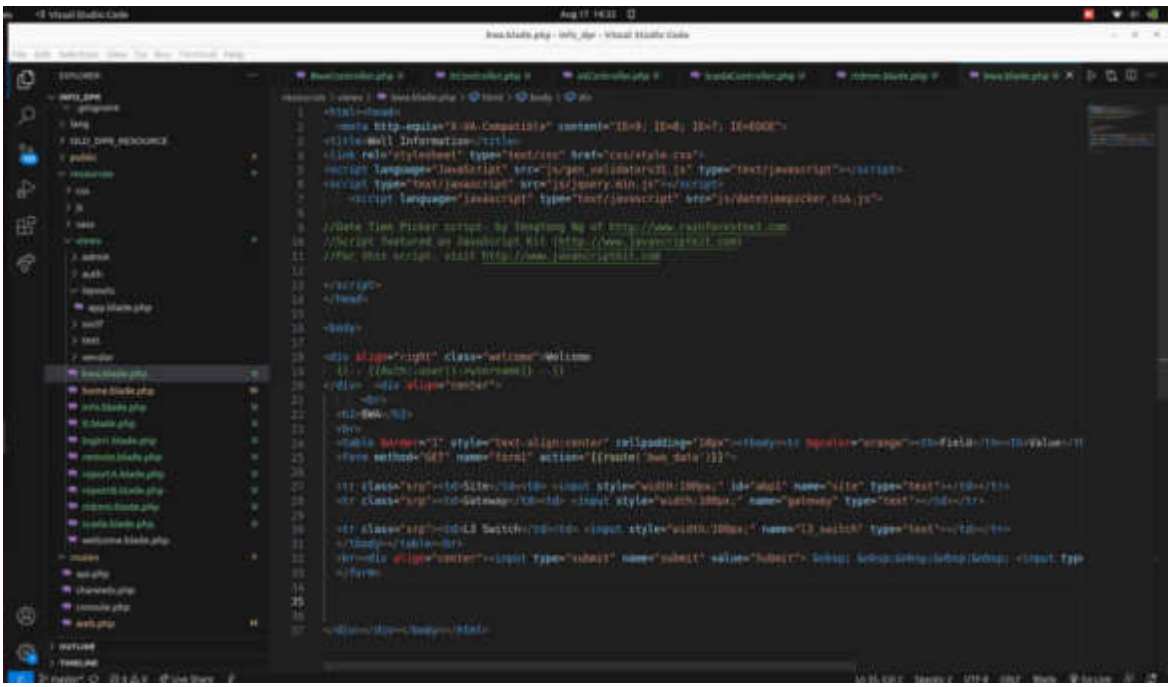


Fig:4.1 Bwa Login page

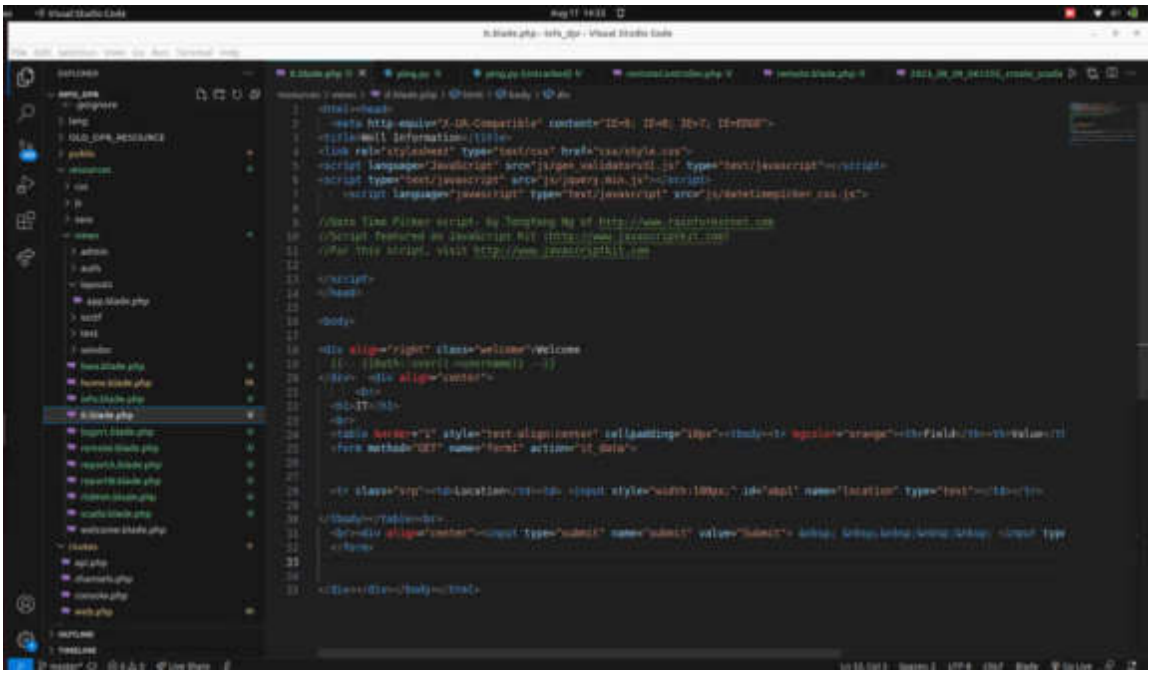


Fig:4.2 ItLogin page

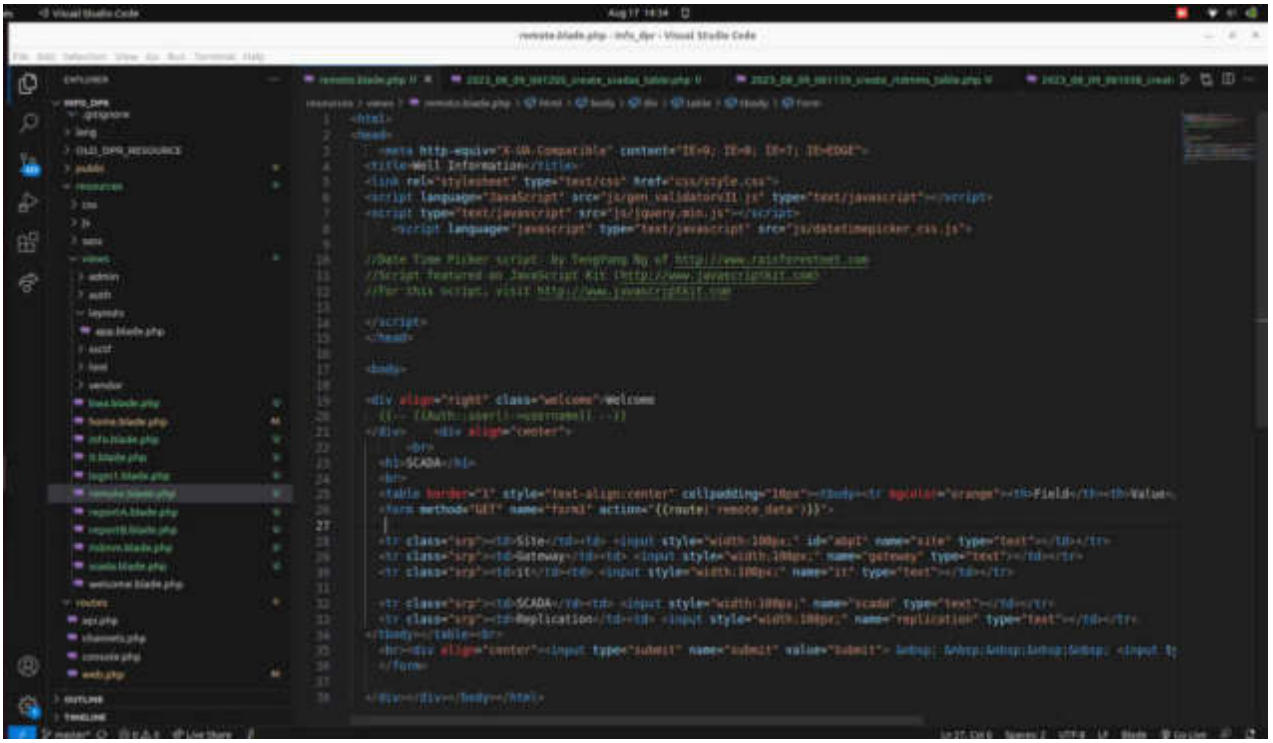


Fig:4.3 Remote Login page

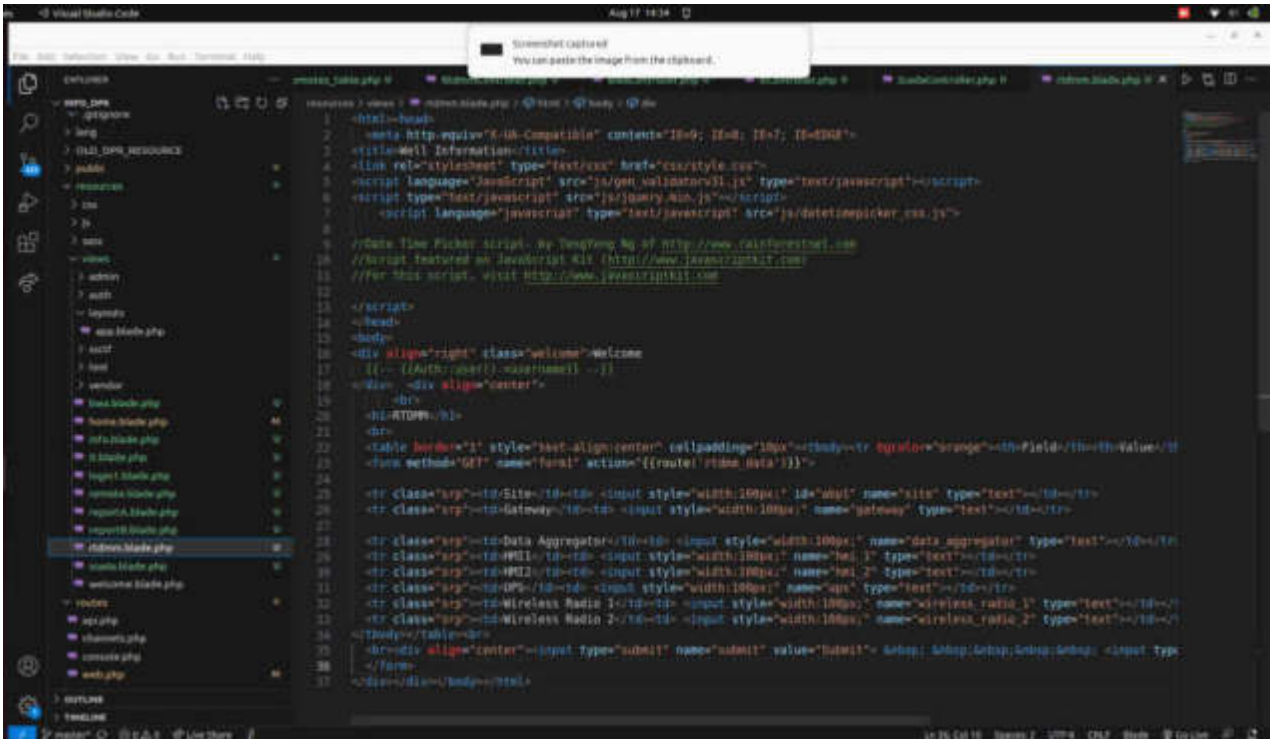


Fig:4.4 Rtdmm Login page

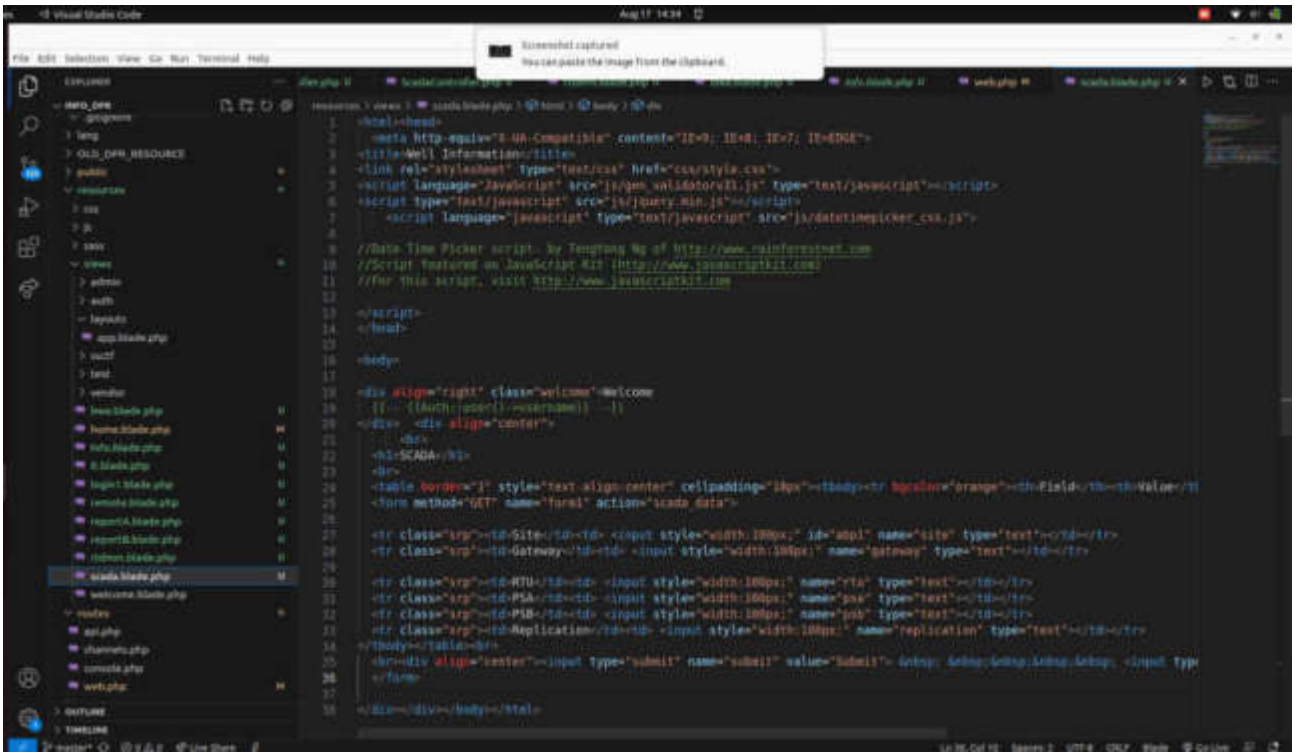


Fig:4.5 Scada Login page

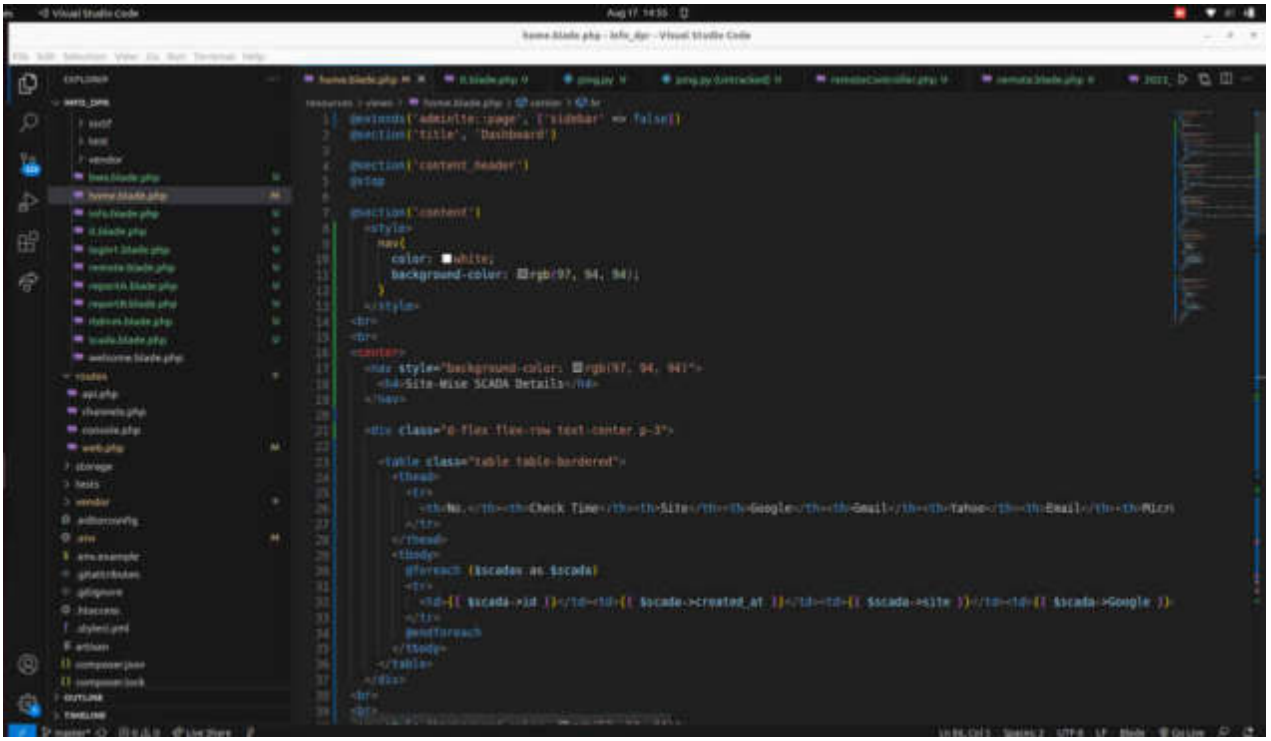


Fig:4.6 home page

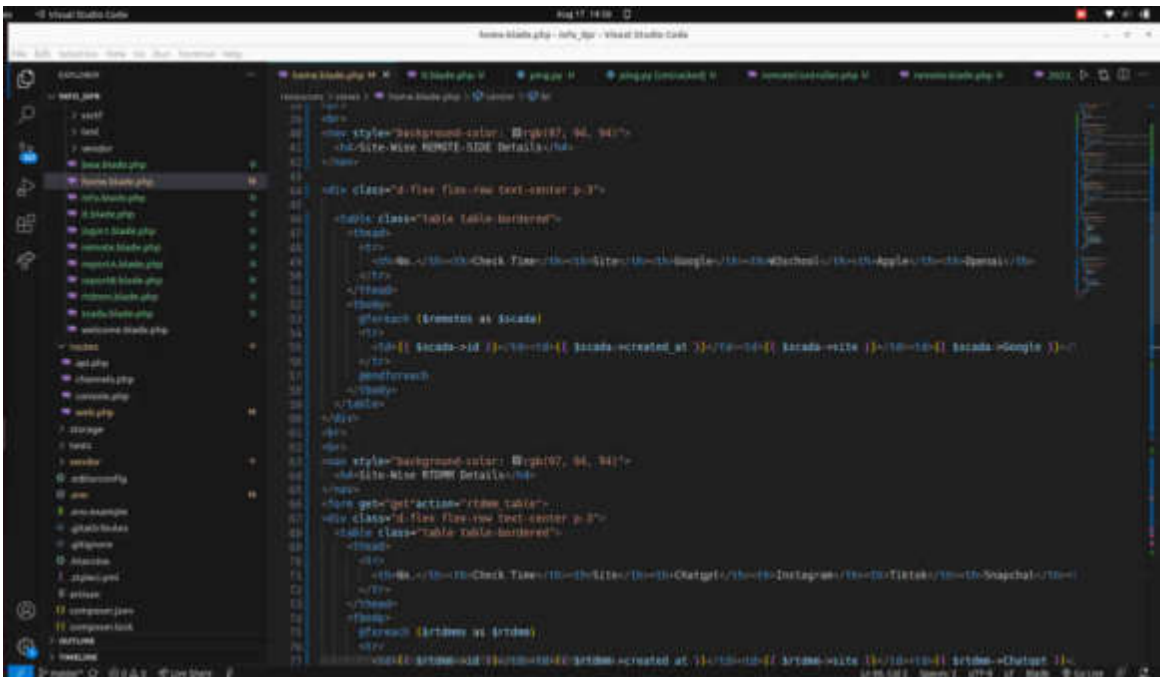


Fig:4.7 home page

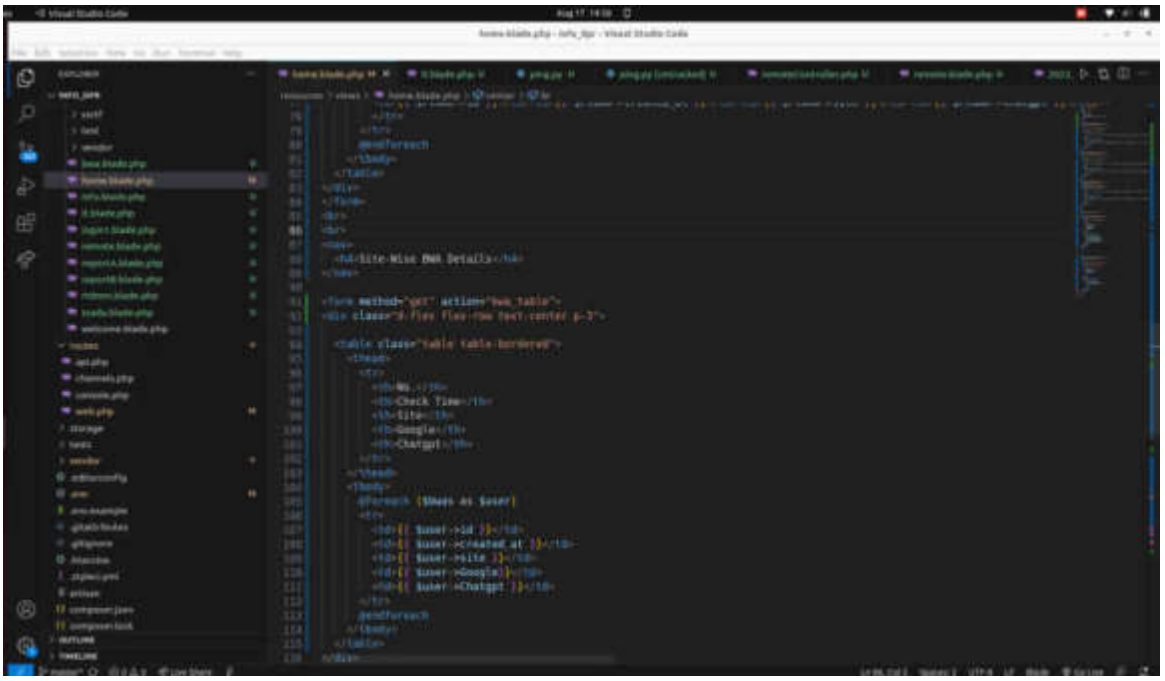


Fig:4.8 home page

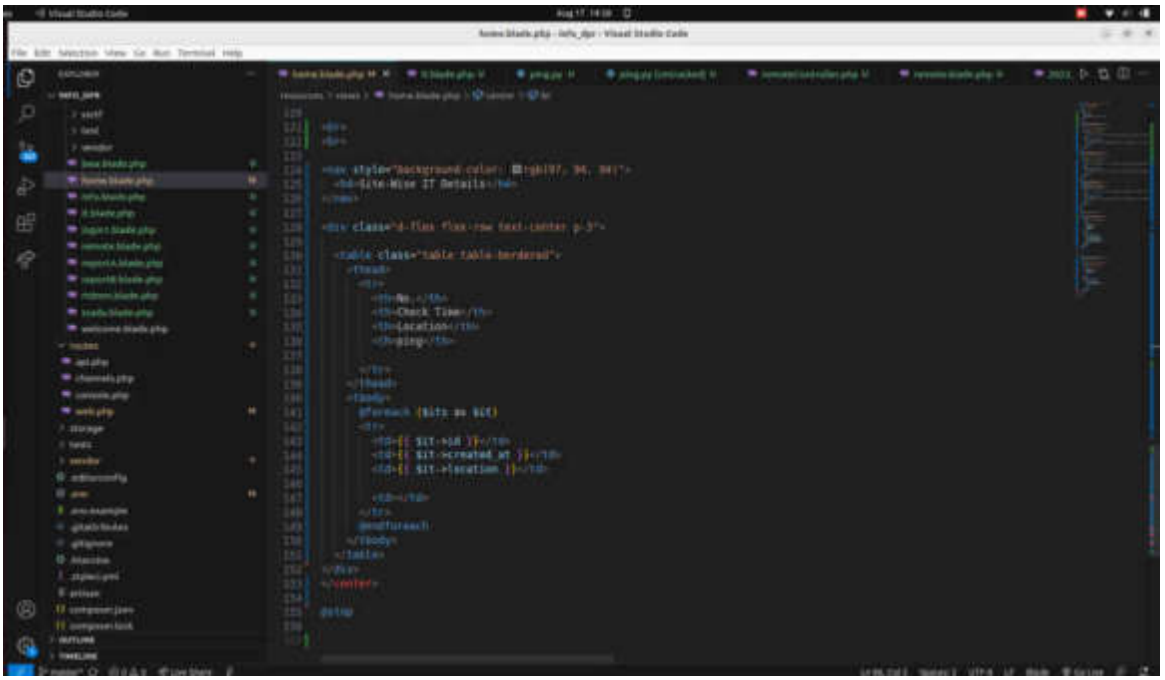


Fig:4.9 home page

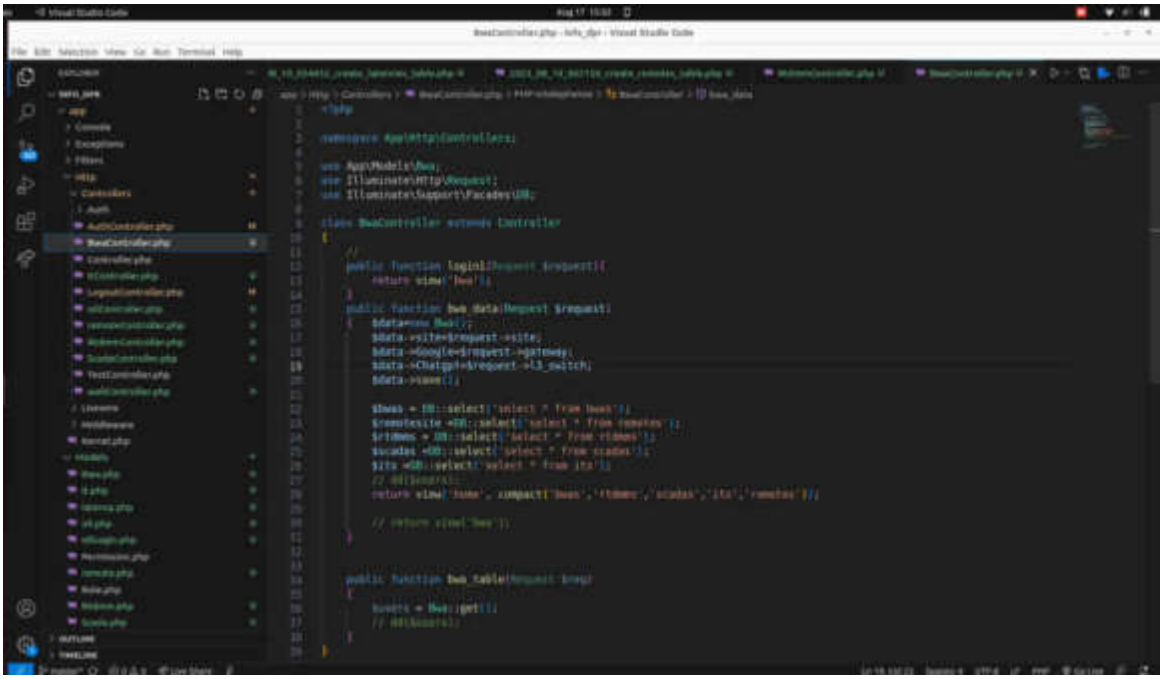


Fig:4.10 bwaController Page

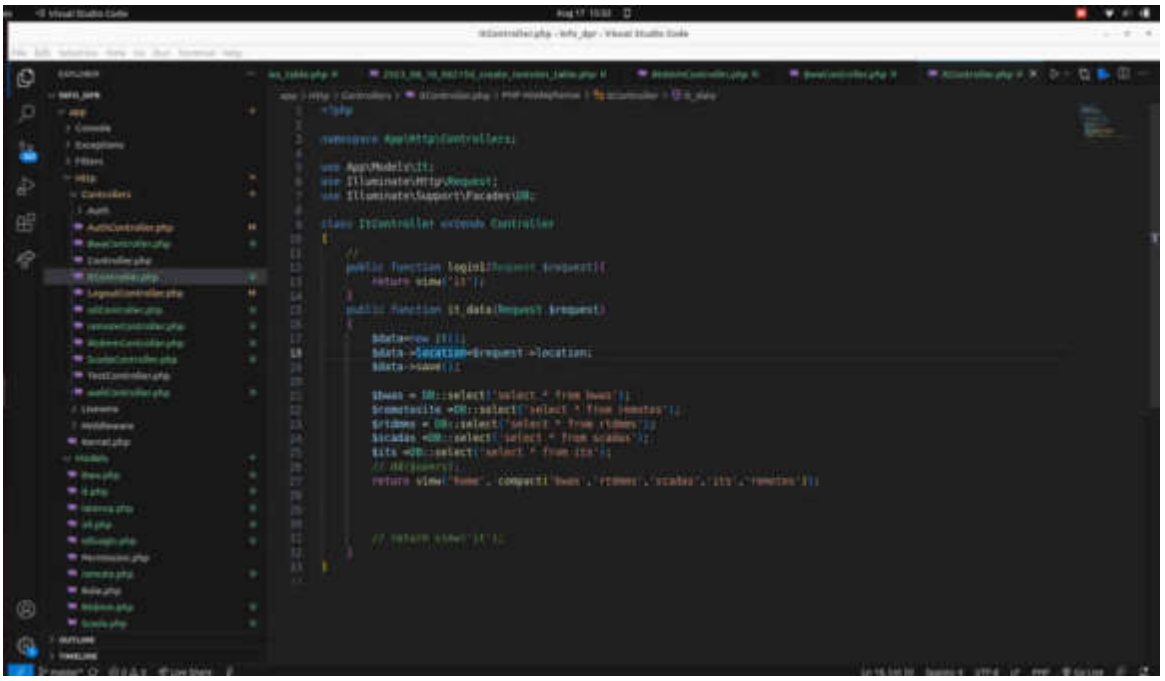


Fig:4.11 ItController Page

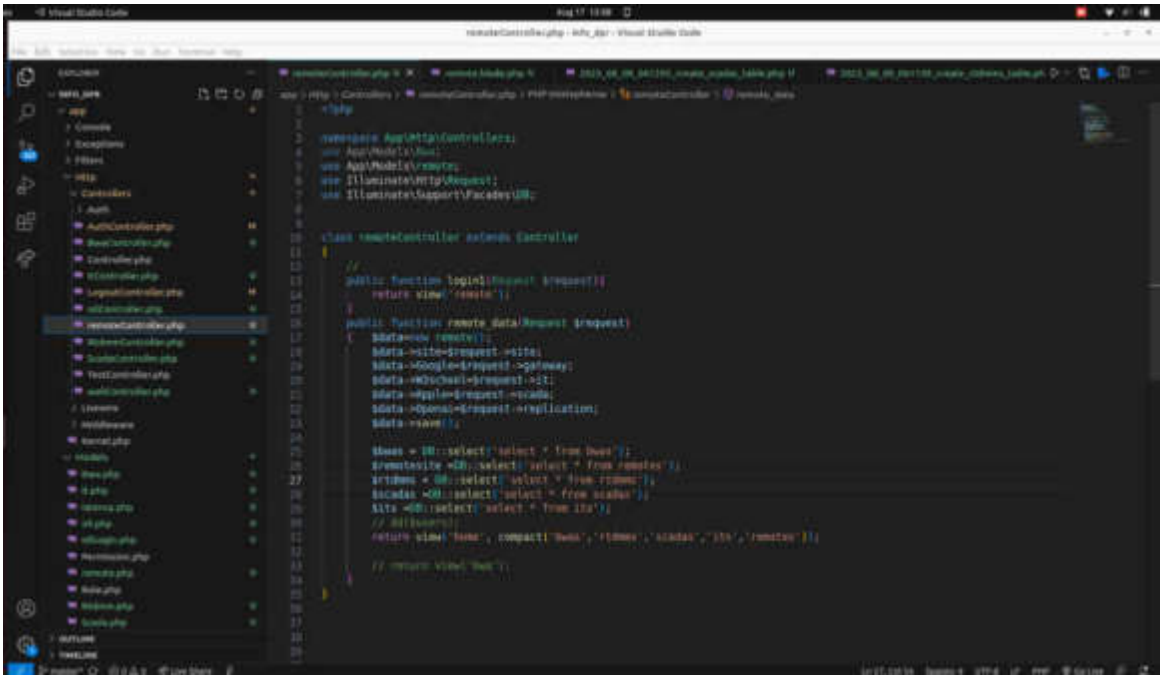


Fig:4.12 RemoteController Page

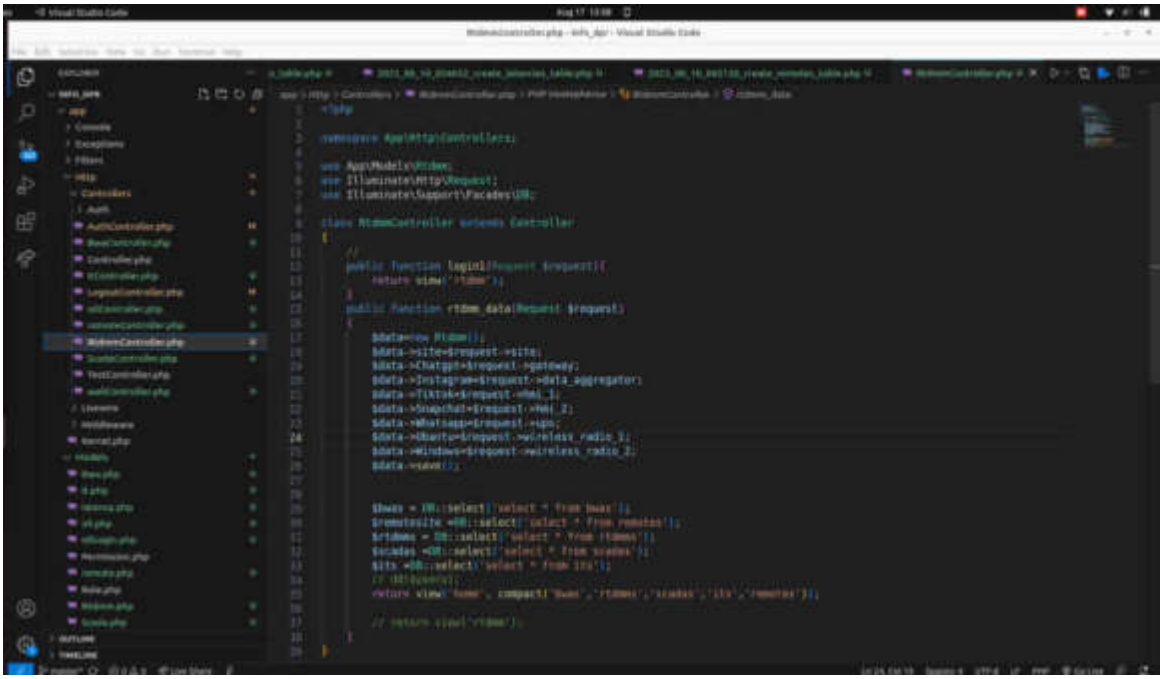


Fig:4.13 RtdmmController Page

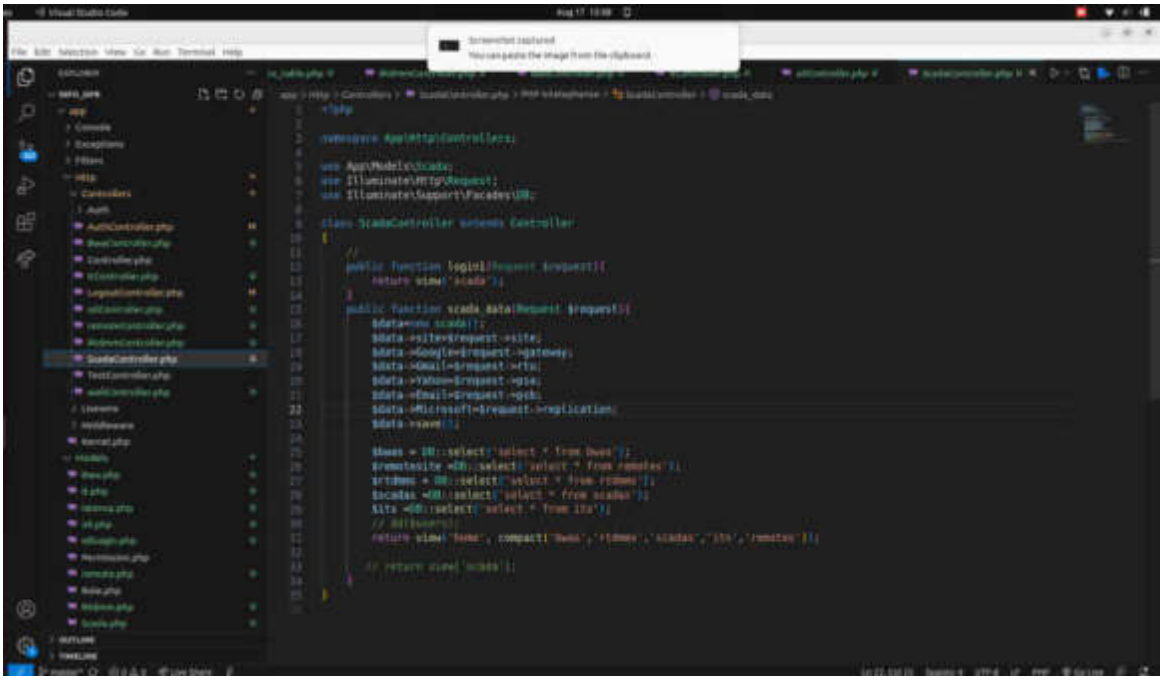


Fig:4.14 ScadaController Page

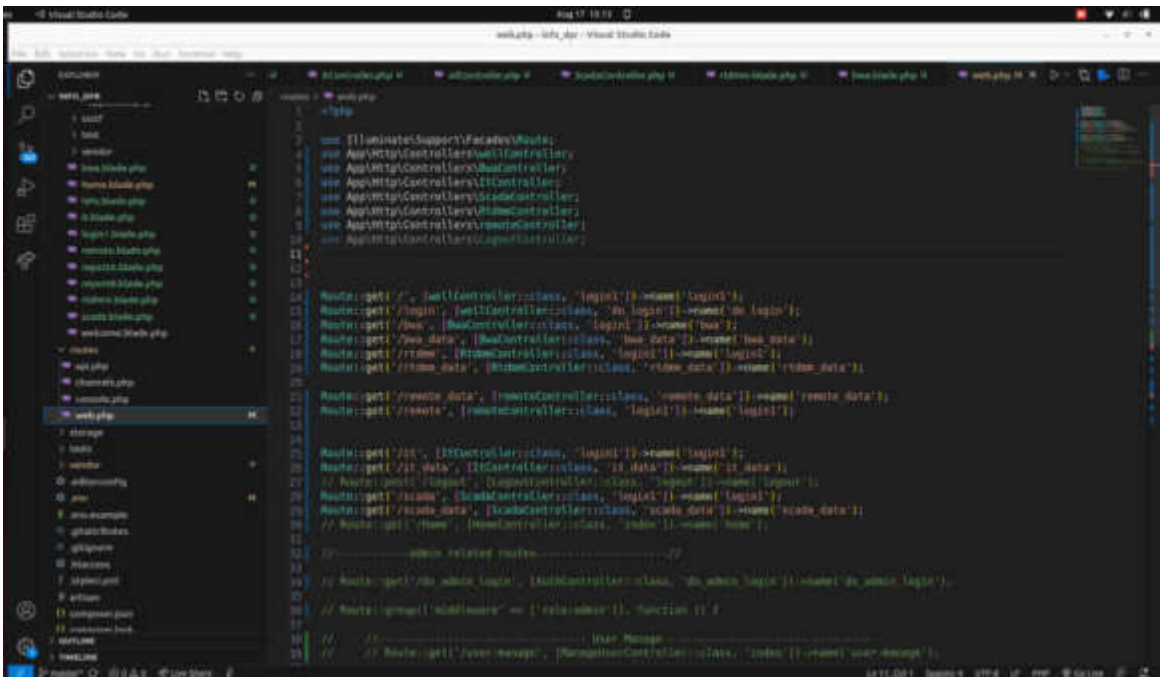
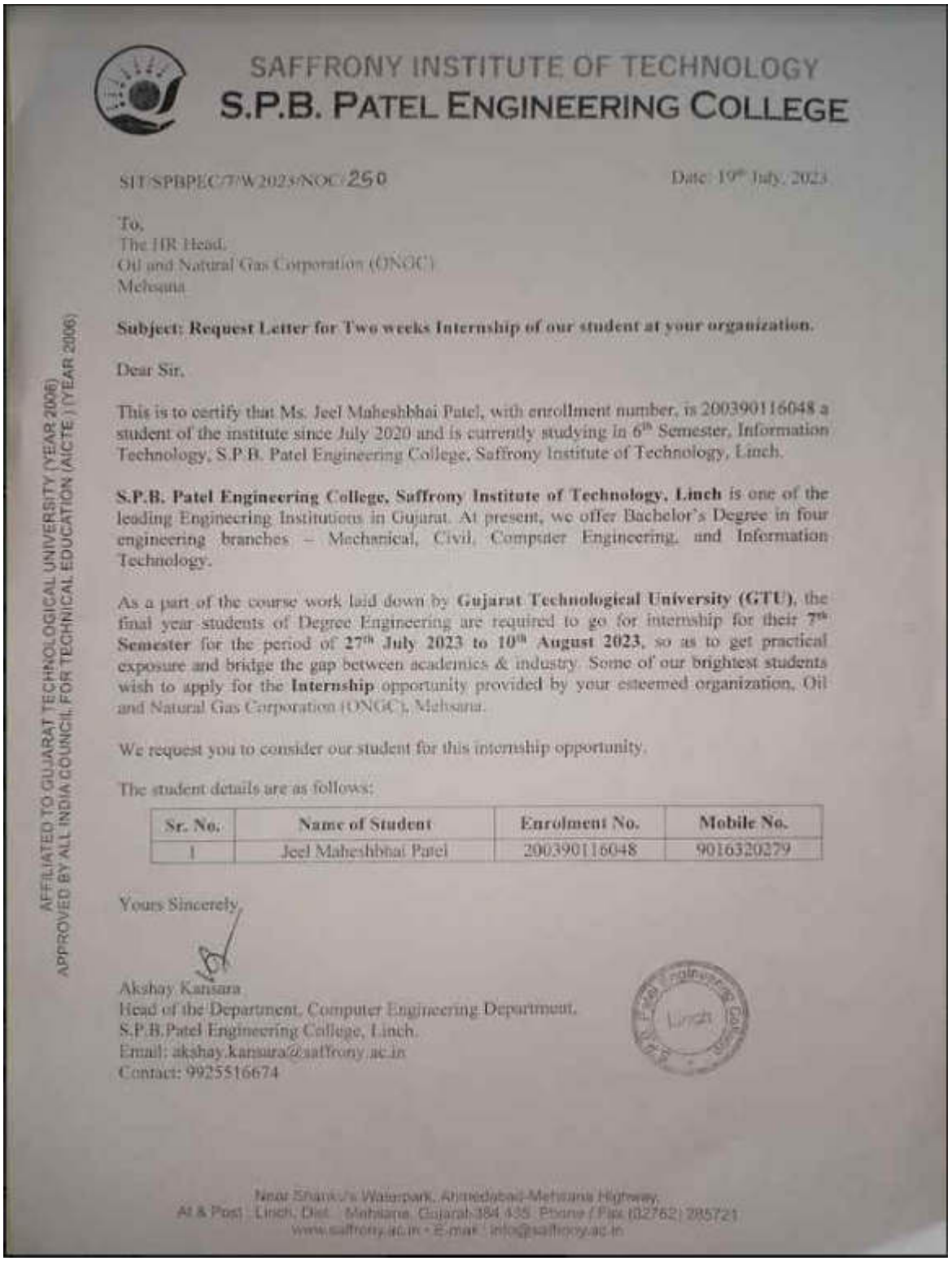


Fig:4.15 Web Page

Appendix



SAFFRONY INSTITUTE OF TECHNOLOGY
S.P.B. PATEL ENGINEERING COLLEGE

AFFILIATED TO GUJARAT TECHNOLOGICAL UNIVERSITY (YEAR 2006)
APPROVED BY ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE) (YEAR 2006)

SIT/SPBPEC/7/W2023/NOC/250 Date: 19th July, 2023

To,
The HR Head,
Oil and Natural Gas Corporation (ONGC)
Mehsana

Subject: Request Letter for Two weeks Internship of our student at your organization.

Dear Sir,

This is to certify that Ms. Jeel Maheshbhai Patel, with enrollment number, is 200390116048 a student of the institute since July 2020 and is currently studying in 6th Semester, Information Technology, S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch.

S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch is one of the leading Engineering Institutions in Gujarat. At present, we offer Bachelor's Degree in four engineering branches – Mechanical, Civil, Computer Engineering, and Information Technology.

As a part of the course work laid down by **Gujarat Technological University (GTU)**, the final year students of Degree Engineering are required to go for internship for their **7th Semester** for the period of **27th July 2023 to 10th August 2023**, so as to get practical exposure and bridge the gap between academics & industry. Some of our brightest students wish to apply for the **Internship** opportunity provided by your esteemed organization, Oil and Natural Gas Corporation (ONGC), Mehsana.

We request you to consider our student for this internship opportunity.

The student details are as follows:

Sr. No.	Name of Student	Enrolment No.	Mobile No.
1	Jeel Maheshbhai Patel	200390116048	9016320279

Yours Sincerely,

Akshay Kansara
Head of the Department, Computer Engineering Department,
S.P.B.Patel Engineering College, Linch.
Email: akshay.kansara@saffrony.ac.in
Contact: 9925516674

Near Shanti's Waterpark, Ahmedabad-Mehsana Highway,
At & Post : Linch, Dist : Mehsana, Gujarat-384 435. Phone / Fax (02762) 285721
www.saffrony.ac.in • E-mail : info@saffrony.ac.in

INTERNSHIP AT Infolabz IT Services Pvt. Ltd.

AN INTERNSHIP REPORT

Submitted by

Parikh Tirth Rakeshbhai

200390116049

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at Infolabz IT Services Pvt. Ltd.** has been carried out by **Parikh Tirth Rakeshbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Akshay Kansara

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116049
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Parikh Tirth Rakeshbhai .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Parikh Tirth Rakeshbhai all the best for future endeavors.



Ms. Twinkle Shah
Internship Coordinator
InfoLabz, Ahmedabad

+91 8866662662
+91 8141236662

info@infolabz.in
www.infolabz.in

405 Vraj Avenue, Above SAM'S Pizza
Nr, Commerce Six Rd, Navrangpura,
Ahmedabad, Gujarat 380009





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship report submitted along with the Internship entitled **Infolabz IT Services Pvt. Ltd.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **CHINTAN NAGRECHA** and that no part of this report has been directly copied from any student's reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Parikh Tirth Rakeshbhai _____

Abstract

This report contains the work done by the author during his internship at **Infolabz IT Services Pvt. Ltd.**. It shows the work I did in the company during my internship period. In the report, the author discusses the dynamic web page designing. React is a javascript web framework which is very popular and one of the most important parts of full stack web development. Application Programming Interface (API) is one of the most important data sources. In this internship we will be going to work on some live APIs to create a real time dynamic web page. In order to fetch some live data we will use some concepts of http (request - response mechanism) and ES6.

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1.2 Mission And Vision Of The Company……..…….……

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

InfoLabz IT Services Pvt. Ltd. is a leading IT company that provides technical solutions and services.

InfoLabz IT Services Pvt. Ltd. strives to provide innovative and client-focused solutions. They help customers modernize their networks in order to improve their market strategy and profitability. They provide excellence while ensuring quality customer service with our expert team, advanced technologies, and seamless processes.

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES

PVT. LTD. has managed to make its own position in the IT Sector. We are involved in Web

Development, App Development, Progressive Web Application Development, IOT solutions,Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard working developers. Our developers who are always willing to take on new challenges and looking forward to learning new things, are the heart of this company.

Our objective is to sustain exponential growth in the IT industry. Our mission is to deliver the best with top notch quality every quarter and our vision is to develop a product with one of its kind concepts which could be used by millions of people.

1.2 MISSION AND VISION OF THE COMPANY:

InfoLabz IT Services Pvt. Ltd.mission is to deliver best-in-class services with top-notch quality & vision is to sustain the exponential growth of the IT industry.

Chapter 2: Introduction to JS, ES6, Objects, and Functions

Week 1 (27/07/2023 , 28/07/2023)

- **INTRODUCTION TO JS :**

JavaScript is an open-source programming language designed for creating web-centric applications . It is lightweight and interpreted which makes it much faster than other languages and is integrated with HTML making it easier to implement in web applications.

JavaScript is a multi-paradigm, dynamic language with types and operators, standard built-in objects, and methods. Its syntax is based on the Java and C languages — many structures from those languages apply to JavaScript as well.

- **INTRODUCTION TO ES6 :**

ES6 or ECMAScript 2015 is the 6th version of the ECMAScript programming language. ECMAScript is the standardization of Javascript which was released in 2015 and subsequently renamed as ECMAScript 2015. ECMAScript and Javascript are both different in nature.

- **OBJECTS :**

Object properties can be both primitive values, other objects, and functions. An object method is an object property containing a function definition. JavaScript objects are containers for named values, called properties and methods.

JavaScript is designed on a simple object-based paradigm. An object is a collection of properties, and a property is an association between a name (or key) and a value. A property's value can be a function, in which case the property is known as a method.

```
const object={
        property:Value,
        key:Value    }
```

− JS Functions & Arrow Functions: -

Since regular functions are constructible, they can be called using the 'new' keyword. However, the arrow functions are only 'callable' and not constructible. Thus, we will get a run-time error on trying to construct a non-constructible arrow function using the new keyword.

Arrow functions are anonymous functions i.e. functions without a name and are not bound by an identifier. Arrow functions do not return any value and can be declared without the function keyword. They are also called **Lambda Functions**.

Syntax:

```
const ArrowFunction= () => {
        console.log( "Hello World!" );
}
```

OUTPUT => Hello World!

Chapter 3: JS POP UP Boxes and Form To Variable and JS Array and Task Assignment and React Environment Setup and Variable Data Map Object Map

Week 2 (31/07/2023 To 04/08/2023)

- **Covid API – Data fetching and mapping :**

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
    <style>
        * {
            margin: 0%;
            padding: 0%;
            box-sizing: border-box;
        }
        html {
            font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
            font-size: 62.5%;
        }
        .container {
            padding: 2rem 1.5rem;
        }
        table {
            border-collapse: collapse;
            width: 100%;
            text-align: center;
            font-size: 2rem;
            border: .1rem groove ■black;
        }
        table tr td {
            padding: 1rem;
            font-size: 1.7rem;
        }
        table th {
            padding: 1.8rem 0
        }
        tr:nth-child(even) {
            background-color: □#f0f0f0;
        }
        @media (min-width:320px) and (max-width:480px) {
```



```
        background-color: #f8f8f8;
    }
    @media (min-width:320px) and (max-width:480px) {
        html {
            font-size: 50%;
        }

        .container {
            padding: 0;
        }
    }
    @media (min-width:481px) and (max-width:768px) {
        html {
            font-size: 50%;
        }
        .container {
            padding: 0;
        }

    }
    @media (min-width:769px) and (max-width:1024px) {
        html {
            font-size: 80%;
        }

    }
    @media (min-width:1025px) and (max-width:1200px) {
        html {
            font-size: 90%;
        }

    }
</style>
</head>
<body>
    <div class="container">
        <table>
```



```
            font-size: 90%;
        }

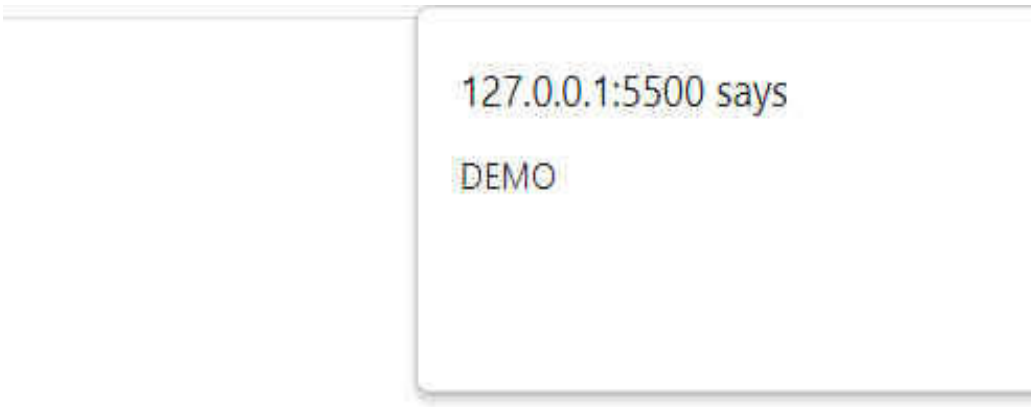
    }
</style>
</head>
<body>
    <div class="container">
        <table>
            <tr>
                <th>City Name</th>
                <th>New Cases</th>
                <th> Recover Cases</th>
                <th>Deth Case</th>
            </tr>
            <script>
                let object =
                {
                    Ahemdabad: [100, 90, 0],
                    Rajkot: [120, 100, 0],
                    Baroda: [190, 180, 0],
                    Rajastham: [150, 140, 0],
                    Surat: [190, 180, 0]

                }
                for (var i in object) {
                    document.write('<tr><td>' + i + '</td><td>' + object[i][0] + '</td><td>' + object[i][1] + '</td><td>' + object[i][2] + '</td>')
                }
            </script>
        </table>
    </div>
</body>
</html>
```

New Cases	Recover Cases
100	90
120	100
190	180
150	140
190	180

USER INPUT 1: JS Pop Up Boxes:

There are three types of pop-up boxes in JavaScript namely Alert Box, Confirm Box and Prompt Box. Alert Box: It is used when a warning message is needed to be produced. When the alert box is displayed to the user, the user needs to press ok and proceed.



USER INPUT 2: Form to Variable: -

It helps to get the data from Form to Table or any other format.

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/css/bootstrap.min.css" rel="stylesheet"
        integrity="sha384-4bw+/aepP/YC94hEpVNVgiZdgIC5+VKNBQNGCHeKRQN+PtmoHDEXuppvnDJzQIu9" crossorigin="anonymous">

    <title>Document</title>
</head>

<body>


    <form class="row g-4 mb-5 container-fluid p-lg-4" onsubmit="smt(); return false">
        <div class="row g-3">
            <div class="col">
                <input type="text" class="fname form-control " placeholder="First name" aria-label="First name"      name="fnm" >
            </div>
            <div class="col">
                <input type="text" class="form-control lname" placeholder="Last name" aria-label="Last name">
            </div>
        </div>

        <div class="col-md-6">
            <label for="inputEmail4" class="form-label ">Email</label>
            <input type="email" class="form-control eml" id="inputEmail4">
        </div>
        <div class="col-md-6">
            <label for="inputPassword4" class="form-label">Password</label>
            <input type="password" class="form-control" id="inputPassword4">
        </div>
        <div class="col-12">
            <label for="inputAddress" class="form-label">Address</label>
            <input type="text" class="form-control add" id="inputAddress" placeholder="1234 Main St">
        </div>
```

```
            <label for="inputPassword4" class="form-label">Password</label>
            <input type="password" class="form-control" id="inputPassword4">
        </div>
        <div class="col-12">
            <label for="inputAddress" class="form-label">Address</label>
            <input type="text" class="form-control add" id="inputAddress" placeholder="1234 Main St">
        </div>

        <div class="col-md-6">
            <label for="inputCity" class="form-label ">City</label>
            <input type="text" class="form-control cty" id="inputCity">
        </div>
        <div class="col-md-4">
            <label for="inputState" class="form-label">State</label>
            <select id="inputState" class="form-select stt">
                <option selected>Choose...</option>
                <option>Gujarat</option>
                <option>Surat</option>
                <option>Rajkot</option>

            </select>
        </div>
        <div class="col-12">
            <button type="submit" class="btn btn-primary bt" >Sign   in</button>
        </div>
    </form>
    <div class="dpl container-fluid p-lg-4" >
        <table class="table">
            <thead>
                <tr>
                    <th scope="col">Name</th>
                    <th scope="col">Contect No.</th>
                    <th scope="col">Gender</th>
                </tr>
            </thead>
            <tbody>
                <tr>
```

```
                <option selected>Choose...</option>
                <option>Gujarat</option>
                <option>Surat</option>
                <option>Rajkot</option>

            </select>
        </div>
        <div class="col-12">
            <button type="submit" class="btn btn-primary bt" >Sign   in</button>
        </div>
    </form>
    <div class="dpl container-fluid p-lg-4" >
        <table class="table">
            <thead>
                <tr>
                    <th scope="col">Name</th>
                    <th scope="col">Contect No.</th>
                    <th scope="col">Gender</th>
                </tr>
            </thead>
            <tbody>
                <tr>
                    <td>${nme}</td>
                    <td>Otto</td>
                    <td>@mdo</td>
                </tr>
            </tbody>
        </table>
    </div>
</body>
<script>
    console.log('ok');
    let nme = document.querySelector('.fname');
    let lnme = document.querySelector('.lname');
let eml=document.querySelector('.eml')
let add=document.querySelector('.add')
```

```
let eml=document.querySelector('.eml')
let add=document.querySelector('.add')
let cty=document.querySelector('.cty')
let stt=document.querySelector('.stt')
    console.log(nme);
    let bmt = document.querySelector('.bt')
    console.log(bmt);
    // bmt.addEventListener('click', clk)
    function smt(e) {
        // e.preventDefault()
        console.log('k');
        console.log(nme.value);
        console.log(lnme.value);
        console.log(add.value);

        console.log(eml.value);
        console.log(cty.value);
        console.log(stt.value);
        let hml=` <table class="table">
            <thead>
                <tr>
                    <th scope="col">First Name</th>                    <th scope="col">Last Name</th>
                    <th scope="col">Email</th>

                    <th scope="col">Address</th>
                    <th scope="col">City</th>
                    <th scope="col">State</th>

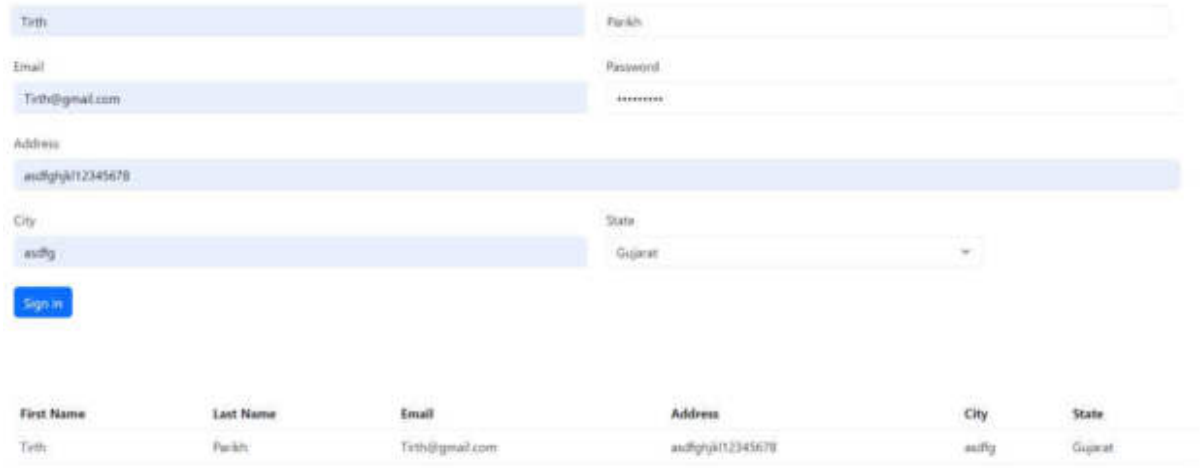
                </tr>
            </thead>
            <tbody>
                <tr>
                    <td>${nme.value}</td>
                    <td>${lnme.value}</td>
                    <td>${eml.value}</td>
                    <td>${add.value}</td>
                    <td>${cty.value}</td>
```

```
                    <th scope="col">City</th>
                    <th scope="col">State</th>

                </tr>
            </thead>
            <tbody>
                <tr>
                    <td>${nme.value}</td>
                    <td>${lnme.value}</td>
                    <td>${eml.value}</td>
                    <td>${add.value}</td>
                    <td>${cty.value}</td>
                    <td>${stt.value}</td>

                </tr>
            </tbody>
        </table>`
        let dpl=document.querySelector('.dpl')
        dpl.innerHTML=hml
    }
</script>

</html>
```



− Covid Data Search:

```
</head>

<body>

    <div class="container">
        <div class="mb-3">
            <label for="exampleFormControlInput1" class="form-label">Enter Date</label>
            <input type="text" class="form-control uDtae" id="exampleFormControlInput1" placeholder="Ex.6 July 2020">
        </div>
        <button type="button" class="btn btn-primary btnFGtData">Get Data</button>
<br><br>
        <div class="dpl"></div>


    </div>



    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/js/bootstrap.bundle.min.js"
        integrity="sha384-HwwvtgBNo3bZJJLYd8oVXjrBZt8cqVSpeBNS5n7C8IVInixGAoxmnlMuBnhbgrkm"
        crossorigin="anonymous"></script>
</body>

</html>
<script>
    let uDtae = document.querySelector('.uDtae')
    let btnFGtData = document.querySelector('.btnFGtData')
```

```
        .nomatch {
            color: blue;
        }
    </style>
</head>

<body>

    <div class="container">
        <div class="mb-3">
            <label for="exampleFormControlInput1" class="form-label">Enter Date</label>
            <input type="text" class="form-control uDtae" id="exampleFormControlInput1" placeholder="Ex.6 July 2020">
        </div>
        <button type="button" class="btn btn-primary btnFGtData">Get Data</button>
<br><br>
        <div class="dpl"></div>


    </div>



    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/js/bootstrap.bundle.min.js"
        integrity="sha384-HwwvtgBNo3bZJJLYd8oVXjrBZt8cqVSpeBNS5n7C8IVInixGAoxmnlMuBnhbgrkm"
        crossorigin="anonymous"></script>
</body>

</html>
<script>
    let uDtae = document.querySelector('.uDtae')
    let btnFGtData = document.querySelector('.btnFGtData')
    btnFGtData.addEventListener('click', fetchData)
    async function fetchData() {
        let url = 'https://data.covid19india.org/data.json';
        let obj = await (await fetch(url)).json();
```

```
                    <td>${cty.value}</td>
                    <td>${stt.value}</td>

                </tr>
            </tbody>
        </table>`
        let dpl=document.querySelector('.dpl')
        dpl.innerHTML=hml
```

```
async function fetchData() {
    let url = 'https://data.covid19india.org/data.json';
    let obj = await (await fetch(url)).json();
    // console.log(obj["cases_time_series"][0]['date']);

    // console.log(obj["cases_time_series"]);

    // console.log(typeof (uDtae.value));
    let trmUdata=uDtae.value
    // console.log(trmUdata);
    console.log(trmUdata.trim(' '));
    let finalTrmVal=trmUdata.trim()
    index = obj["cases_time_series"].findIndex(x => x.date === finalTrmVal)
    console.log(index);
    let dpl = document.querySelector('.dpl')


    if (index == -1) {
        console.log('nno');
        let hml = '<h1 class='nomatch'>Enter A Valid Date</h1>'
        dpl.innerHTML = hml
    }else{
        let hml = `<table class="table">
                        <thead>
                            <tr>
                            <th scope="col">#</th>
                            <th scope="col">New Cases</th>
                            <th scope="col">Dailydeceased</th>
                            </tr>
                        </thead>
                        <tbody>
                            <tr>
                            <th scope="row">1</th>
                            <td>${obj["cases_time_series"][index]['dailyconfirmed']}</td>
                            <td>${obj["cases_time_series"][index]['dailydeceased']}</td>
                            </tr>
```

```
                            <th scope="col">#</th>
                            <th scope="col">New Cases</th>
                            <th scope="col">Dailydeceased</th>
                            </tr>
                        </thead>
                        <tbody>
                            <tr>
                            <th scope="row">1</th>
                            <td>${obj["cases_time_series"][index]['dailyconfirmed']}</td>
                            <td>${obj["cases_time_series"][index]['dailydeceased']}</td>
                            </tr>

                        </tbody>
                        </table>`

        dpl.innerHTML = hml;
        }


    }


</script>
```



− Mutual Fund API: -

```
        <div class="mb-3">
            <label for="exampleFormControlInput1" class="form-label">Enter Scheme Code</label>
            <input type="text" class="form-control uCode" id="exampleFormControlInput1" placeholder="Ex.100XXX">
        </div>
        <button type="button" class="btn btn-primary btnFGtData">Get Data</button>
        <br><br>
        <div class="dpl"></div>



    </div>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/js/bootstrap.bundle.min.js"
        integrity="sha384-HwwvtgBNo3bZJJLYd8oVXjrBZt8cqVSpeBNS5n7C8IVInixGAoxmnlMuBnhbgrkm"
        crossorigin="anonymous"></script>
</body>

<script>
    console.log('k');
    let btnFGtData=document.querySelector('.btnFGtData')
    btnFGtData.addEventListener('click',getFetch)

    async function getFetch(){
        let url='https://api.mfapi.in/mf'
        let obj= await(await fetch(url)).json()
        let uCode=document.querySelector('.uCode')
        let uCde=uCode.value;
        let trmuCd=uCde.trim()
        let dpl=document.querySelector('.dpl')

        let index=obj.findIndex(x=> x.schemeCode == trmuCd )

        // if(trmuCd !== obj[schemeCode] ){}
        if(trmuCd!=obj["schemeCode"]){
            let hml=`<h2>Enter A Valid Scheme Code</h2>`
```

```
<body>
    <div class="container">
        <div class="mb-3">
            <label for="exampleFormControlInput1" class="form-label">Enter Scheme Code</label>
            <input type="text" class="form-control uCode" id="exampleFormControlInput1" placeHolder="Ex.100XXX">
        </div>
        <button type="button" class="btn btn-primary btnFGtData">Get Data</button>
        <br><br>
        <div class="dpl"></div>



    </div>
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.1/dist/js/bootstrap.bundle.min.js"
        integrity="sha384-HwwvtgBNo3bZJJLYd8oVXjrBZt8cqVSpeBNS5n7C8IVInixGAoxmnlMuBnhbgrkm"
        crossorigin="anonymous"></script>
</body>

<script>
    console.log('k');
    let btnFGtData=document.querySelector('.btnFGtData')
    btnFGtData.addEventListener('click',getFetch)

    async function getFetch(){
        let url='https://api.mfapi.in/mf'
        let obj= await(await fetch(url)).json()
        let uCode=document.querySelector('.uCode')
        let uCde=uCode.value;
        let trmuCd=uCde.trim()
        let dpl=document.querySelector('.dpl')

        let index=obj.findIndex(x=> x.schemeCode == trmuCd )

        // if(trmuCd !== obj[schemeCode] ){}
        if(trmuCd!==obj["schemeCode"]){
            let hml=`<h2>Enter A Valid Scheme Code</h2>`
dpl.innerHTML=hml
}
```

```
        let dpl=document.querySelector('.dpl')

        let index=obj.findIndex(x=> x.schemeCode == trmuCd )

        // if(trmuCd !== obj[schemeCode] ){}
        if(trmuCd!==obj["schemeCode"]){
            let hml=`<h2>Enter A Valid Scheme Code</h2>`
dpl.innerHTML=hml
}
        let hml=`<h2>${obj[index]['schemeName']}</h2>`
dpl.innerHTML=hml
    }
</script>
</html>
```

100290

Get Data

Kotak MNC

− React Environment setup (Node JS installation): -

Method 1: Using create-react-app

Step 1: Navigate to the folder where you want to create the project and open it in terminal

Step 2: In the terminal of the application directory type the following command

npx create-react-app <<Application Name>>

Step 3: Navigate to the newly created folder using the command

cd <<Application_Name>>

Step 4: A default application will be created with the following project structure and dependencies

− Functional Components: -

ReactJS Functional components are some of the more common components that will come across while working in React. These are simply JavaScript functions. We can create a functional component in React by writing a JavaScript function. These functions may or may not receive data as parameters. In the functional Components, the return value is the JSX code to render to the DOM tree

```
115
116
117 const App=()=>{
118     const name='NAME';
119     return(<><App2  name={name} /></>)
120 }
121 const App2=(props)=>{
122     return(<><h1>Props:{props.name}</h1>)
123 }
124
125
126
```

− Class Components: -

Before React 16.8, Class components were the only way to track state and lifecycle on a React component. Function components were considered "stateless".With the addition of Hooks, Function components are now almost equivalent to Class components. The differences are so minor that you will probably never need to use a Class component in React.

Even though Function components are preferred, there are no current plans on removing Class components from React.This section will give you an overview of how to use Class components in React.

```
class Car extends React.Component {
  constructor(props) {
    super(props);
  this.state = {brand: "Ford"};
  }
  render() {
    return (
      <div>
        <h1>My Car</h1>
      </div>
    );
  }
}
```

```
class Car extends React.Component {
  constructor(props) {
    super(props);
    this.state = {
      brand: "Ford",
      model: "Mustang",
      color: "red",
      year: 1964
    };
  }
  render() {
    return (
      <div>
        <h1>My Car</h1>
      </div>
    );
  }
}
```

– Variable Data Map: -

Map Method in ReactJS: Usage. Conclusion. Map is a type of data structure or data collection that is used to store the data in the form of key and value pairs. Each pair has a unique key in a map, and the value stored in each pair must be mapped to its unique key.

```
import React from 'react';
import ReactDOM from 'react-dom';

function NameList(props) {
  const myLists = props.myLists;
  const listItems = myLists.map((myList) =>
    <li>{myList}</li>
  );
  return (
    <div>
          <h2>React Map Example</h2>
             <ul>{listItems}</ul>
    </div>
  );
}
const myLists = ['A', 'B', 'C', 'D', 'D'];
ReactDOM.render(
  <NameList myLists={myLists} />,
  document.getElementById('app')
);
export default App;
```

React Map Example

- A
- B
- C
- D
- D

Chapter 4: React Props , Bootstrap, React Hooks,API Data Fetch ,Assignment Task

Week 3 (07/08/2023 To 10/08/2023)

– React Props: -

Props stand for "Properties." They are read-only components. It is an object which stores the value of attributes of a tag and works similar to the HTML attributes. It gives a way to pass data from one component to other components. It is similar to function arguments.

```
115
116
117  const App=()=>{
118      const name='NAME';
119      return(<><App2  name={name} /></>)
120  }
121  const App2=(props)=>{
122      return(<><h1>Props:{props.name}</h1>)
123  }
124
125
126
```

– React Bootstrap: -

There are mainly three ways to add Bootstrap to the React app. We will discuss them one by one.

1. Using Bootstrap CDN.

2. Import Bootstrap in React as a dependency

3. Install React Bootstrap package (such as bootstrap-react or reactstrap).

Import Bootstrap as a Dependency

npm install bootstrap

− React Hooks: UseEffect and UseState:-

UseState(): -

useState is a hook used to manage state in functional components, while useEffect is a hook used to manage side effects (like fetching data, setting up event listeners, or updating the DOM) in functional components.

```
// // //2
const My = () => {
    const [inVl, upVl] = useState([])
    const Appppp = async () => {
        try {
            const url = 'https://inshortsapi.vercel.app/news?category=sports'
            const response = await axios.get(url)
            console.log(response.data.data);
            upVl(response.data.data)
        } catch (error) {
            console.log(error);
        }
    }
    useEffect(()=>{
        Appppp()
    })
    return (<>
        <div className='container'>
            <div className='row '>
                {
                    inVl.map((vl, indx) => {
                        return (<>
                            <div class="card-group"> <div className="card   " key={indx}>
                                <img src={vl.imageUrl} className="card-img-top" alt="..." width='200px' height='200px' />
                                <div className="card-body">
                                    <h5 className="card-title">{vl.author}</h5>
                                    <p className="card-text">{vl.content}</p>
                                    <p className="card-text blockquote-footer"><small className="text-muted">{vl.date} && {vl.time}</small></p>
                                </div></div></div>
                        </>)  })
                } </div> </div></>)
}
ReactDOM.render(<>
    <My />
</>, document.getElementById('root'))
```

useState and useEffect can be used together in a functional component to manage state and side effects. For example, you can use useState to manage the state of fetched data, and useEffect to fetch the data and update the state.



useEffect runs on every render. That means that when the count changes, a render happens, which then triggers another effect this is not what we want. There are several ways to control when side effects run.We should always include the second parameter which accepts an array. We can optionally pass dependencies to useEffect in this array.



− ASSIGNMENT TASK

− API BASED REAL TIME NEWS WEB APPLICATION

```
// // //2
const My = () => {
    const [inVl, upVl] = usestate([])
    const Appppp = async () => {
        try {
            const url = 'https://inshortsapi.vercel.app/news?category=sports'
            const response = await axios.get(url)
            console.log(response.data.data);
            upVl(response.data.data)
        } catch (error) {
            console.log(error);
        }
    }
    useEffect(()=>{
        Appppp()
    })
    return (<>
        <div className='container'>
            <div className='row '>
                {
                    inVl.map((vl, indx) => {
                        return (<>
                            <div class="card-group"> <div className="card    " key={indx}>
                                <img src={vl.imageUrl} className="card-img-top" alt="..." width='200px' height='200px' />
                                <div className="card-body">
                                    <h5 classname="card-title">{vl.author}</h5>
                                    <p classname="card-text">{vl.content}</p>
                                    <p classname="card-text blockquote-footer"><small classname="text-muted">{vl.date} && {vl.time}</small></p>
                                </div></div></div>
                        </>)  })
                } </div> </div></>)
}
ReactDOM.render(<>
    <My />
</>, document.getElementById('root'))
```



INTERNSHIP AT CREART SOLUTIONS PVT. LTD.

AN INTERNSHIP REPORT

ON

NOTICEHUB USING D'JANGO PYTHON

Submitted by

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(200390116051)

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

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S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
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Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled Internship at **CREART SOLUTIONS PVT. LTD.** has been carried out by **Parmar Mihir Mehulbhai** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Akshay Kansara	Prof. Akshay Kansara
Internal Guide	Head of Department

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

JOINING LETTER

CREART

INTERNSHIP JOINING LETTER

Date: 27th July 2023

This is to certify that

Mr/Ms. MIHIR PARMAR
Enrollment No : 200390116051
College : SAFFRONY INSTITUTE OF TECHNOLOGY

has been selected for the 15 day's of summer intership from **27th July 2023** to **10th August 2023** at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

COMPLETION LETTER

CREART

INTERNSHIP COMPLETION LETTER

Date: 10th August 2023

This is to certify that

Mr/Ms. Mihir Parmar
Enrollment No : 200390116051
College : Saffrony Institute of technology

has successfully completed the 15 day's of summer intership from **27th July 2023** to **10th August 2023** at **CreArt Solutions**, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I do declare that the Internship report submitted along with the Internship entitled on **NoticeHub** using **D'jango Python** at **CREART SOLUTIONS PVT. LTD.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad.

I hereby warrant that the work I have presented does not breach any existing copyright acts.

Name of the Student	Sign of Student
Mihir Parmar	





COMPANY PROFILE

CreArt Solutions is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. We strongly believe in delivering the best services to the clients till their satisfaction. Main objective of CreArt is to provide professional , qualitative , innovative and accessible services in every possible form.

Our objective is the strong collaboration between design, development, and delivering services on time, which benefits not only clients but also the communities in which the projects are implemented. More to help businesses succeed worldwide, we offer end-to-end development of web and mobile apps that integrate dynamic modern technologies like AR/VR Development, AI, Machine Learning and many more.

ACKNOWLEDGMENT

The internship experience I had with **CREART SOLUTIONS PVT. LTD.** was truly invaluable, providing me with a remarkable opportunity for learning and professional growth. I consider myself extremely fortunate to have been given this chance.

I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience. Additionally, I extend my heartfelt thanks to Krishnamohan Gupta, the CEO at CREART SOLUTIONS PVT. LTD., for her support and assistance.

This internship has marked a significant milestone in my career development, offering me a platform to acquire valuable skills and knowledge. I am committed to applying these newly acquired abilities in the most effective manner, while continuously striving to enhance and refine them. My dedication is geared towards achieving my ultimate career objectives.

ABSTRACT

NoticeHub is a web application by which we can send the Notice to all employees/students etc. it has basically two panels: Admin & User. We can create & update Notices from Admin Panel and directly show it to all Users on User Panel.

It is very easy process to perform task, we just required a network connection. First we have to connect XAMPP server then go to browser, open the admin Panel, Create new notice or Update existing notice & lastly click on the submit button so that User successfully receive the Notices without any failure. It was implementing using HTML & CSS for frontend and Django, Python & MySQL for backend.

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Chapter:1 About the Company

1.1 Introduction of Company



Fig. 1.1 Company Logo

- CreArt is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

- CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. They strongly believe in delivering the best services to the clients till their satisfaction.

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- Our objective is the strong collaboration between design, development, and delivering services on time, which benefits not only clients but also the communities in which the projects are implemented. More to help businesses succeed worldwide, we offer end-to-end development of web and mobile apps that integrate dynamic modern technologies like AR/VR Development, AI, Machine Learning and many more.

- I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience.

Chapter:2 About the Domain & IDE

2.1 Introduction of Core Python

- Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development,

- Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

- Core Python is a programming branch of Python. It is employed in the development of areas such as artificial intelligence and desktop apps. The core Python language includes basic commands and data structures such as tuple, list, and dictionary implementation to perform certain tasks

2.2 Introduction & Installation of Text Editor (Sublime 3)

- There is recommended system requirement for python and so many IDEs are available for python. They also told us the pros and cons of different IDEs.

- There are many software available for programming in Python like.. PyCharm, Notepad++, VScode, Sublime text 3, atom and NetBeans etc. I have installed PyCharm, VScode and Sublime text. mostly I am work on Sublime Text3.



Fig. 2.2.1 Sublime Text 3 Logo

- We can directy Download Sublime Text 3 from https://www.sublimetext.com/3. And then directly Install it. After Installation Open Folder as shown below.

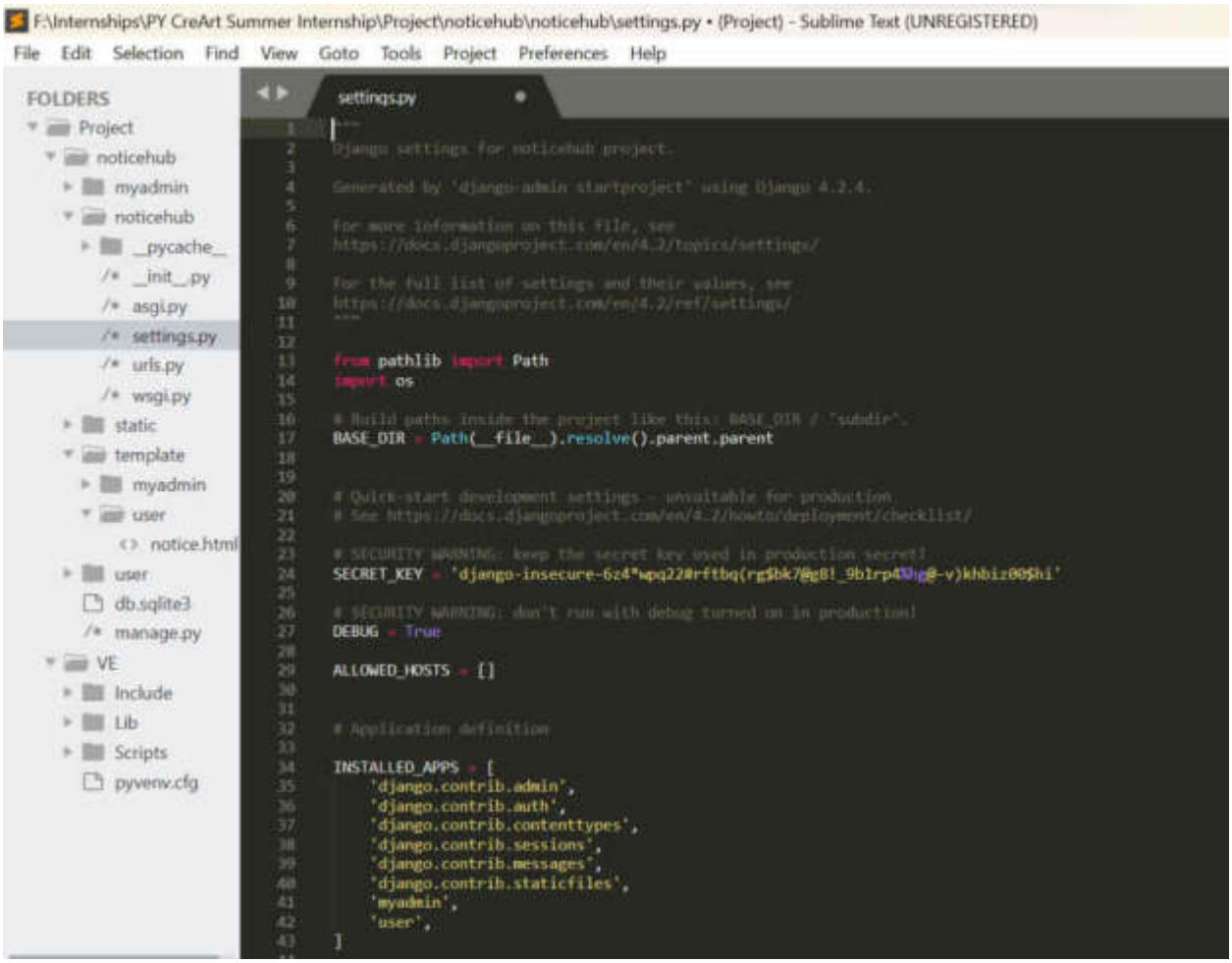


Fig. 2.2.2 Folder in Sublime Text 3

- In Sublime, We can create a Folder and then create a python file with **.py** extension. Here we see the folder named **Project** and inside this folder I created another folder name **noticehub** and inside this I created many other python files.

Chapter:3 Datatypes and Variables

3.1 Variables & rules in Python

- In Python, variables are used to store and manipulate data values. They act as containers that hold various types of information, such as numbers, strings, lists, or more complex data structures.

- Certainly! In Python, variables serve as containers to store different types of data. They are like labels that help you refer to values easily. To create a variable, you simply give it a name and assign a value using the '=' symbol. Python is dynamically typed, so you don't need to specify the type of data the variable will hold.

- Variables can store integers (whole numbers), floats (decimal numbers), strings (text), Booleans (True or False), and more complex structures like lists (ordered collections), tuples (similar to lists but immutable), dictionaries (key-value pairs), and sets (unordered unique values).

- You can change a variable's value by assigning it a new value, and you can use variables in strings using techniques like f-strings. Just remember that variable names must follow certain rules and conventions, and they can have different scopes based on where they are defined, affecting their accessibility within your code.

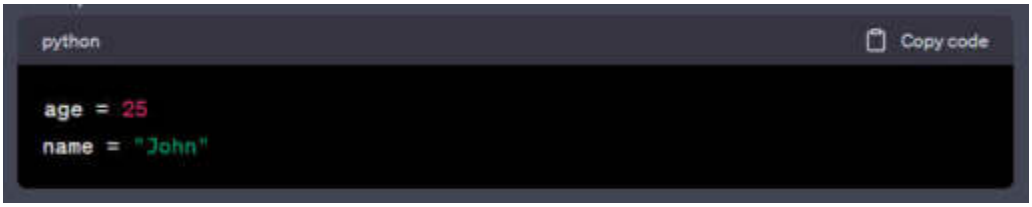


Fig. 3.1.1 Variables in Python

3.2 Datatypes & Type casting in Python

- In Python, data types define the kind of values a variable can hold. Here's a quick overview of some common data types:

    1. int: Represents integers (whole numbers), like 5 or -12.
    2. float: Represents floating-point numbers (decimal numbers), such as 3.14 or -0.5.
    3. str: Stands for string and represents text, like "Hello, world!".

4. bool: Represents Boolean values, True or False, often used for logical operations.
5. list: Represents an ordered collection of items, which can be of mixed types.
6. tuple: Similar to lists but immutable, meaning their contents can't be changed after creation.
7. dict : Stands for dictionary, representing a collection of key-value pairs for efficient data lookup.
8. set: Represents an unordered collection of unique items, useful for mathematical operations.
9. None Type: Represents the absence of a value, often used to indicate a variable with no assigned value.
10. complex: Represents complex numbers with a real and an imaginary part.

- Python's dynamic typing allows you to change the type of a variable on the fly, making it flexible but also requiring caution. Understanding these data types is crucial for effective programming and data manipulation.

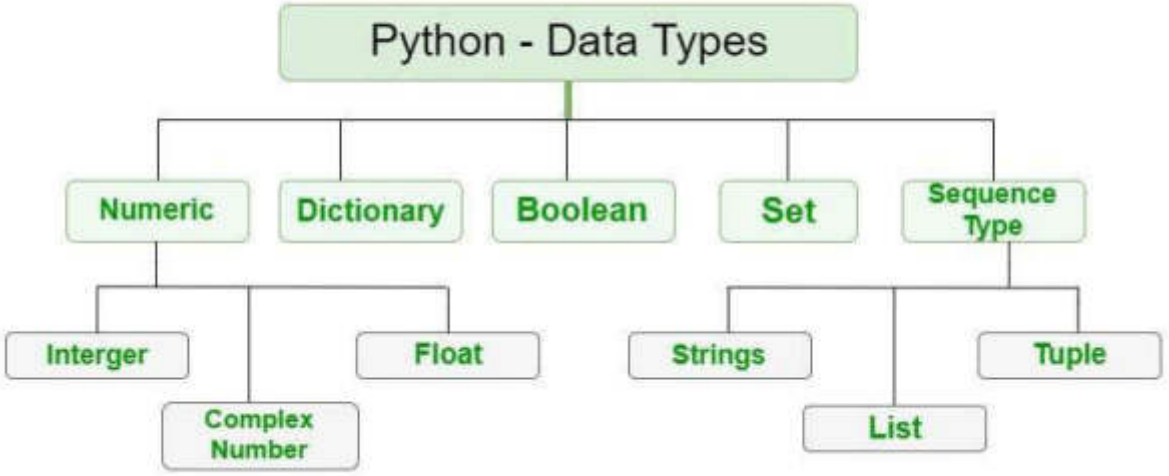


Fig. 3.2.1 Datatypes in Python

Chapter:4 Problem solving Examples

- Here are some Mathematical Examples solved by Python Programming..

4.1 Area Of Circle :

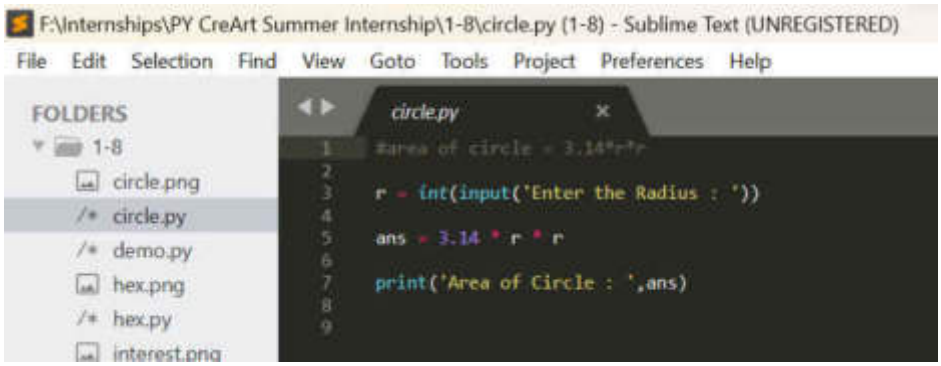


Fig. 4.1.1 Example 1

```
F:\Internships\CreArt Summer Internship>python circle.py
Enter the Radius : 3
Area of Circle :  28.259999999999998

F:\Internships\CreArt Summer Internship>
```

Fig. 4.1.2 Output 1

4.2 Marksheet :

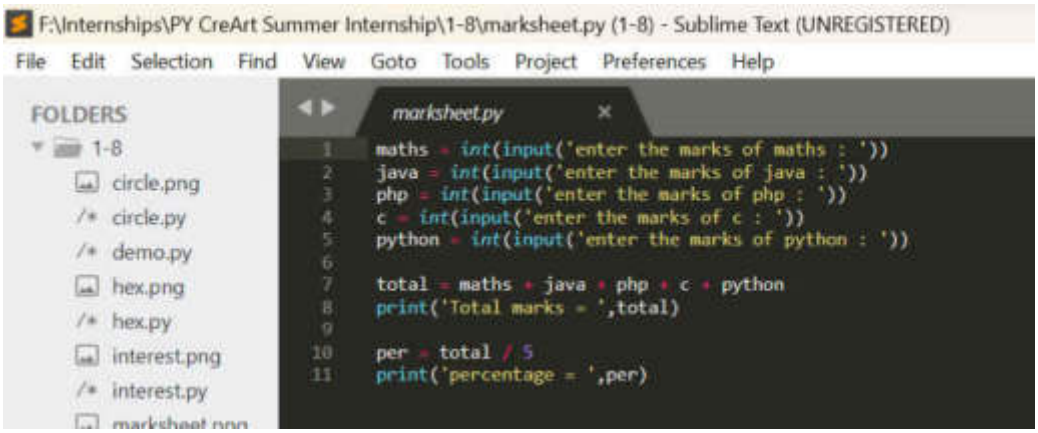


Fig. 4.2.1 Example 2

```
F:\Internships\CreArt Summer Internship>python marksheet.py
enter the marks of maths : 78
enter the marks of java : 89
enter the marks of php : 90
enter the marks of c : 78
enter the marks of python : 89
Total marks =  424
percentage =  84.8

F:\Internships\CreArt Summer Internship>
```

Fig. 4.2.2 Output 2

4.3 Temperature Cel to Fah :

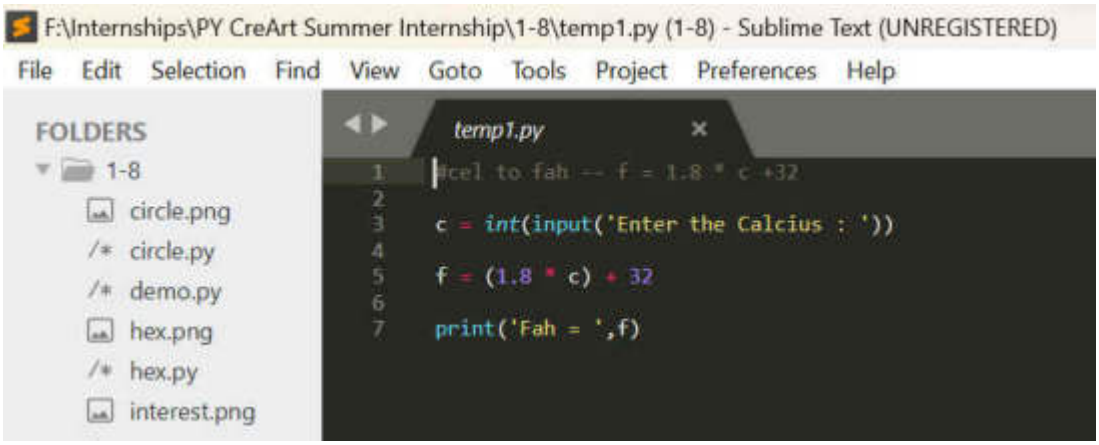


Fig. 4.3.1 Example 3

```
F:\Internships\CreArt Summer Internship>python temp1.py
Enter the Calcius : 25
Fah =  77.0
```

Fig. 4.3.2 Output 3

- There are many more examples similar like these saved in system with python file and it's Output screenshot.

Chapter:5 Functions in Python

5.1 Introduction and Uses of Function :

- A Function in Python is a reusable piece of code that performs specific tasks. It's defined using the **def** keyword, followed by a name and optional parameters in parentheses. Functions are called by their name with parentheses, and they can return values using the return statement.

- They help organize code, improve reusability, and facilitate code comprehension. Function parameters have local scope, while variables outside functions have global scope. Functions can take both positional and keyword arguments, and default values can be set for parameters.

- In python def is used for creating function like ...
  { def FunctionName (arg1, arg2, ...):
  statement1
  statement2 }



Fig. 5.1.1 Example of Function

```
F:\Internships\CreArt Summer Internship\2--8>python f1.py
start
i am hello function
i can help you a lot
how are you?
end
```

Fig. 5.1.2 Output of Function

Chapter:6 RETURN keyword in Python

6.1 Get Input from Users using RETURN Keyword:

- In Python, the **return** keyword is used within a function to send a value back to the caller. When a function is executed and encounters a **return** statement, it immediately ends the function's execution and provides the specified value as the function's output.

- This returned value can then be assigned to a variable or used in further calculations. The return statement is essential for functions that need to provide results or computed values to the rest of the program. If a **return** statement is omitted or used without a value, the function returns **None** by default.

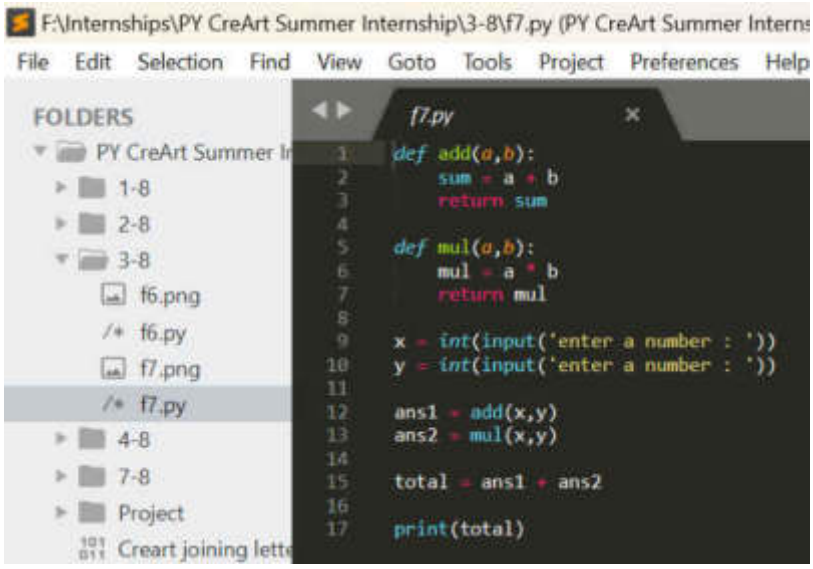


Fig. 6.1.1 Example of RETURN keyword

```
F:\Internships\PY CreArt Summer Internship\3-8>python f7.py
enter a number : 10
enter a number : 20
230
```

Fig. 6.1.2 Output of RETURN keyword

Chapter:7 D'jango Framework

7.1 Introduction of D'jango Framework :

- D'jango is a high-level python web framework that enables rapid development of secure and maintainable websites. D'jango is used because of its versatility, Scalability, Security (Using SQL Injection, CSRF Protection), Pre-Requisite (ORM (Object Relationships Mapper)), Large Library Support, Free and Open Source.

- It is mostly used in web-based application and servers side websites and particular the mechanics of client-server interactions in websites. Web app means User can perform action on browser and also can use in mobile and PC both.

- Why D'jango :-
  - ✓ Scalable
  - ✓ Security
  - ✓ Performance
  - ✓ Library
  - ✓ Open source and free
  - ✓ Versatile:- multiple tasks

7.2 Installation of D'jango Framework and Project Setup Steps:

- There are steps following for create Django project: -
  1. Create Virtual Environment and Activate.
  2. Download Django and install it.
  3. Create project.
  4. Run on Server.
  5. Install MySQL client library.
  6. Then migrate the database using **python mange.py migrate**.
  7. Create superuser (Admin) by **python manage.py createsuperuser.**
  8. In project run server using **python manage.py runserver** command here one local host address was displayed: - http:// 127.0.0.1.8000.

- **Project Setup :**

1) First create & Activate Virtual Environment using Python by following command:
   Python –m venv VE & VE>Scripts>activate

2) Install Django using following command:
   pip install Django

3) Create project.
   Project>Django-admin startproject NoticeHub

4) Run on Server.
   Project>python manage.py runserver

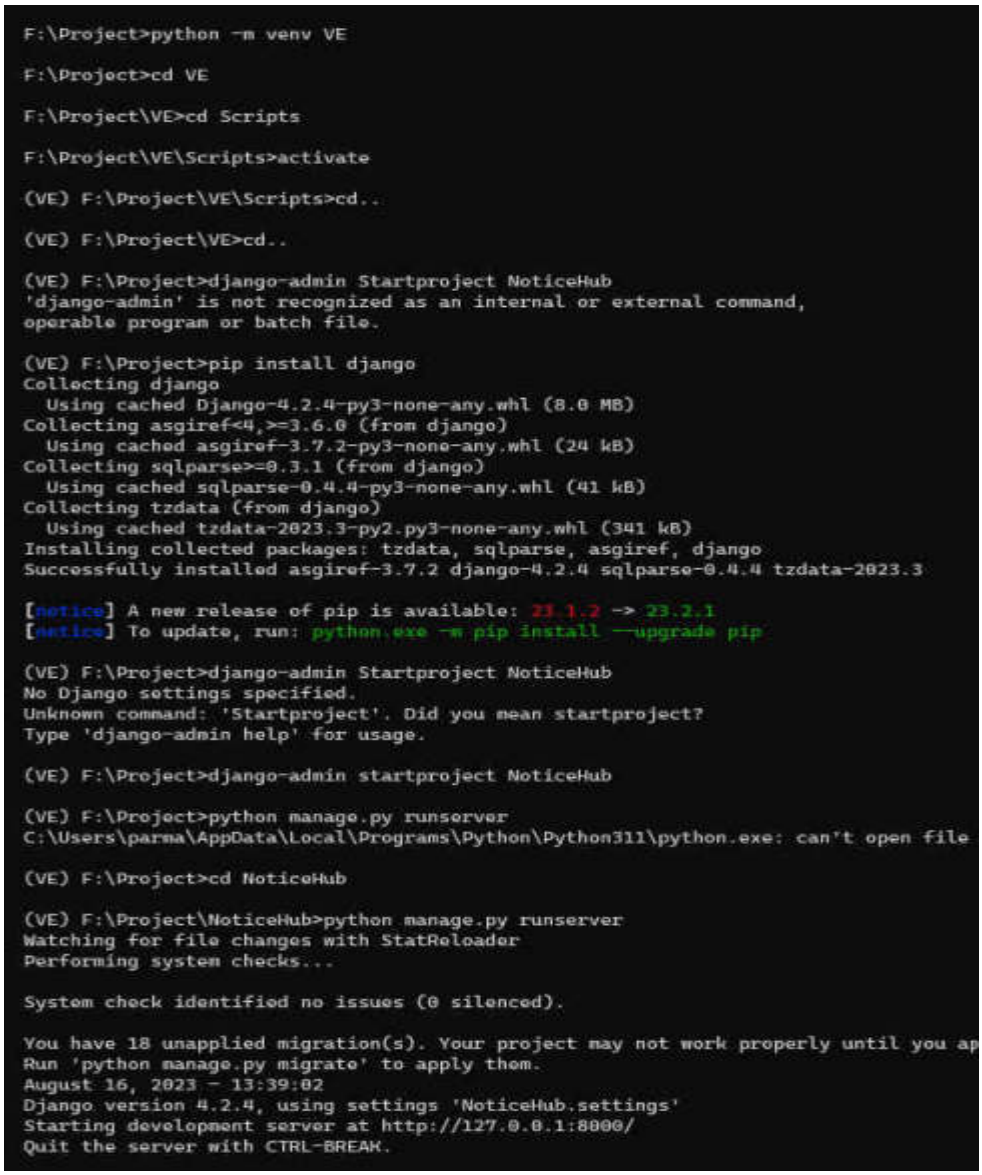


Fig. 7.2.1 Setup

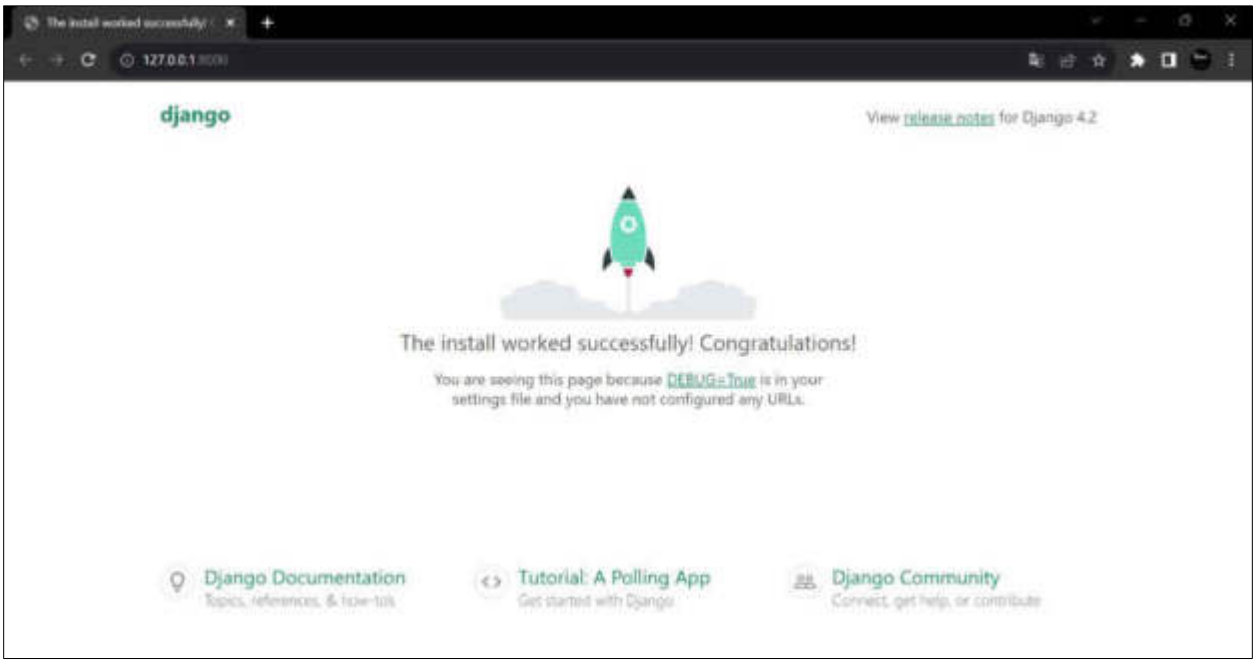


Fig. 7.2.2 Setup Output

Chapter:8 & 9 Complete Project Setup

8-9.1 Complete Project Setup Steps:

5) Install MySQL client library:
   pip install mysqlclient

6) Change in Setting.py file : SQLite to SQL database
   Then migrate the database using:
   python mange.py migrate

7) Create superuser (Admin) using:
   python manage.py createsuperuser

8) Now run server using **python manage.py runserver** command here one local host address was displayed: - http:// 127.0.0.1.8000.

```
(VE) F:\Project\NoticeHub>pip install mysqlclient
Collecting mysqlclient
  Using cached mysqlclient-2.2.0-cp311-cp311-win_amd64.whl (199 kB)
Installing collected packages: mysqlclient
Successfully installed mysqlclient-2.2.0

[notice] A new release of pip is available: 23.1.2 -> 23.2.1
[notice] To update, run: python.exe -m pip install --upgrade pip

(VE) F:\Project\NoticeHub>
```

Fig. 8-9.1.1 Install mysqlclient

```
DATABASES = {
    "default": {
        "ENGINE": "django.db.backends.mysql",
        "NAME": "noticehub",
        "USER": "root",
        "PASSWORD": "",
        "HOST": "127.0.0.1",
        "PORT": "3306",
    }
}
```

Fig. 8-9.1.2 Change in database

- Once, the Changes are done in Setting.py (SQLite to SQL Database), Now we have to Create 10 tables by default with the help of Migrate command as shown in step number 6. Output of it as shown in Fig. 8-9.1.3

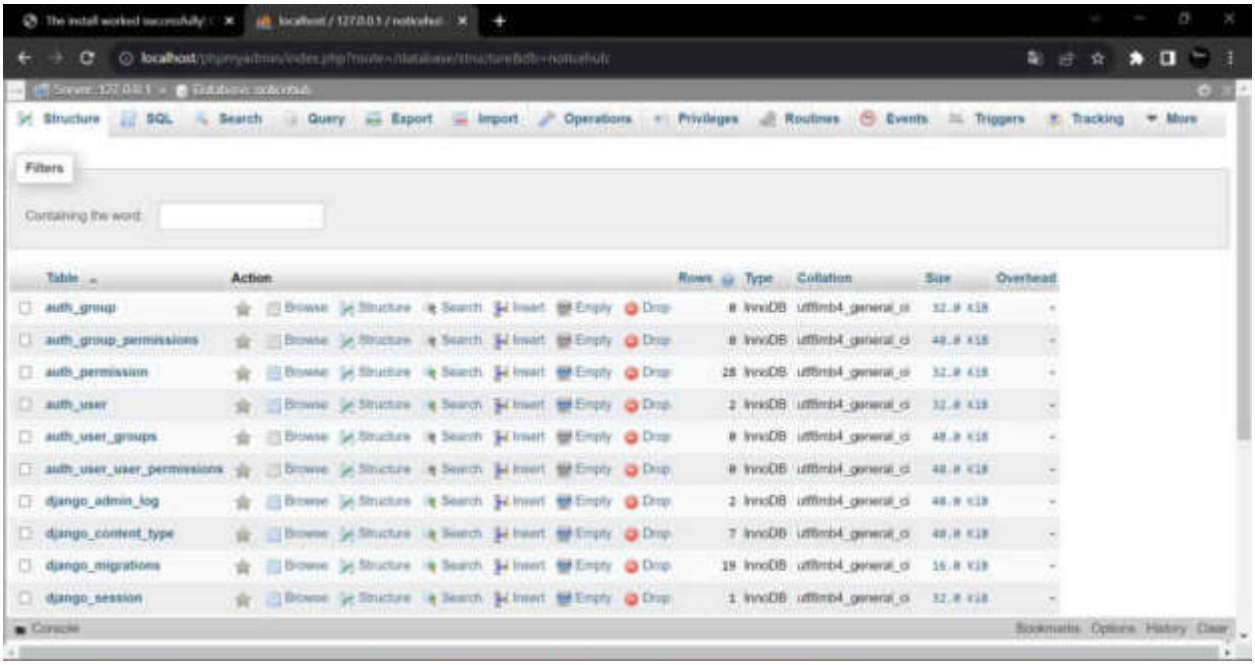


Fig. 8-9.1.3 Migrate command output

- Now, we have to create Two superuser named Admin and User. once, the superusers are created in Noticehub, we have to check it can be run on server or not.

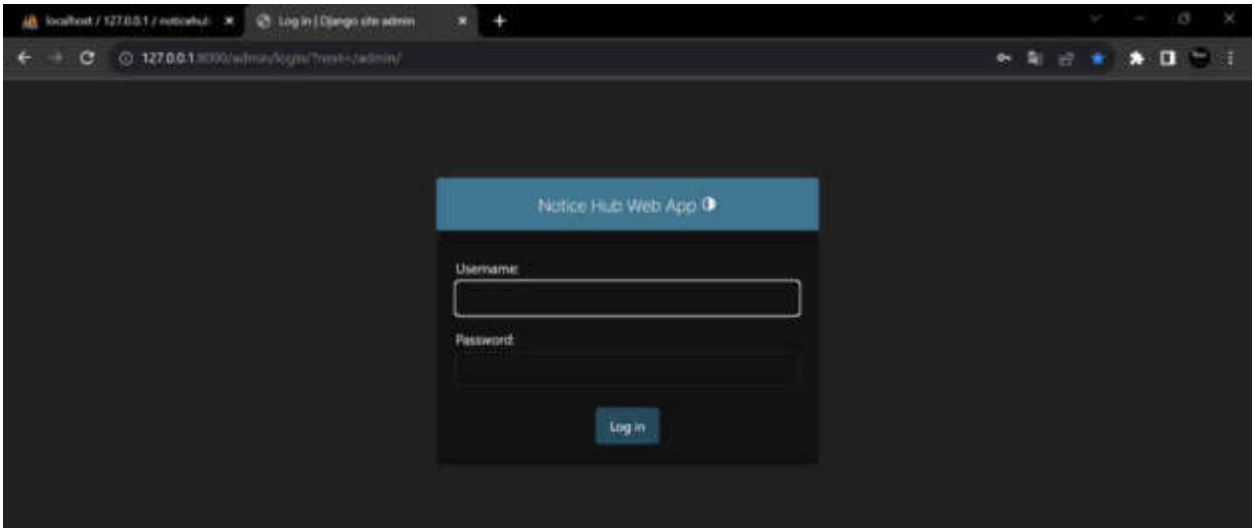


Fig. 8-9.1.4 Admin panel

Chapter:10 Frontend of NoticeHub

10.1 Frontend using D'jango Framework (using HTML) :

- Till 9th chapter, Our Project Setup is done. So now we go to Sublime Text 3 and make HTML file in User side folder. So that we can print notices on the web browser from our Project NoticeHub. For that we have to make **notice.html** file in **template** folder.

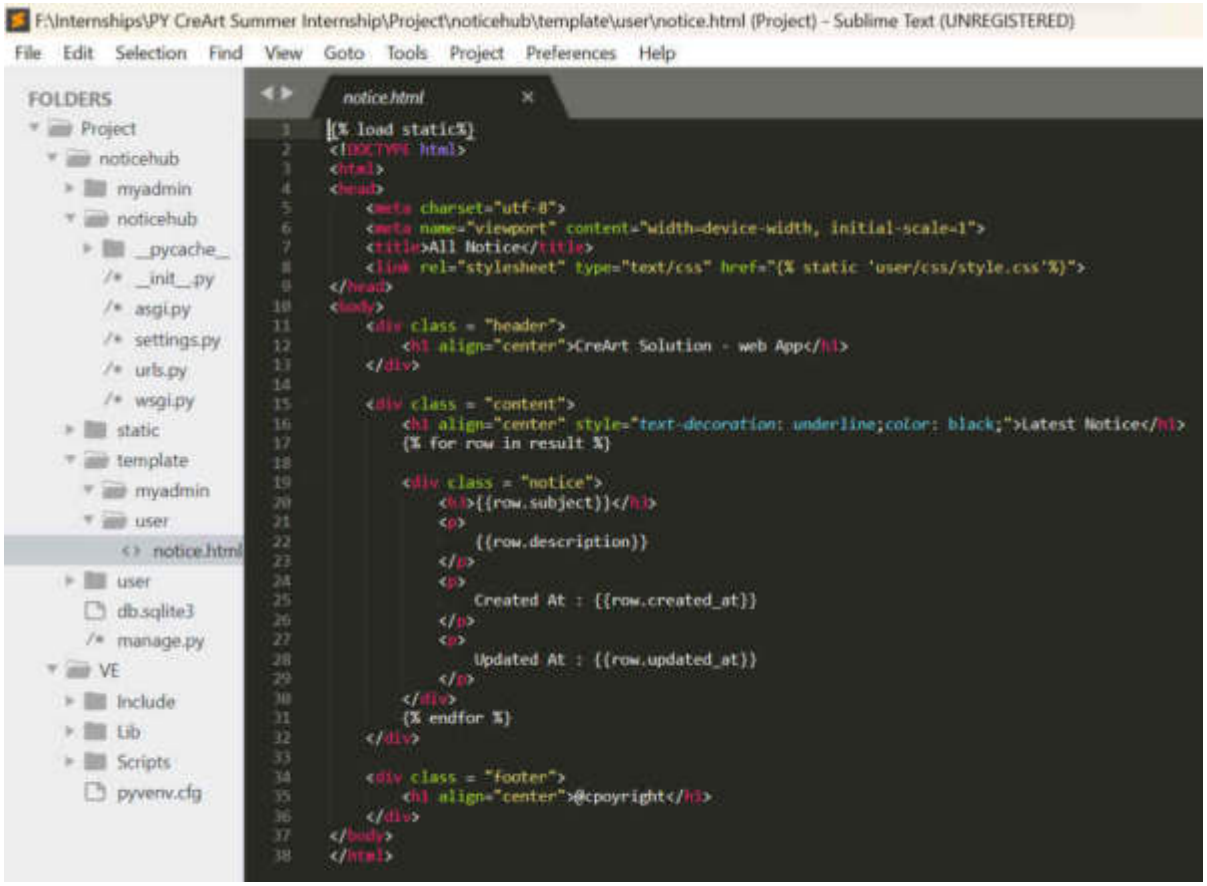


Fig. 10.1.1 notice.html

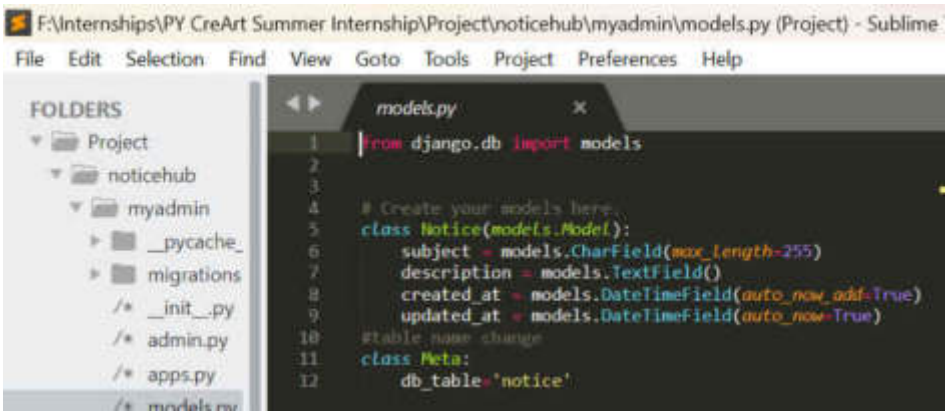


Fig. 10.1.2 models.py

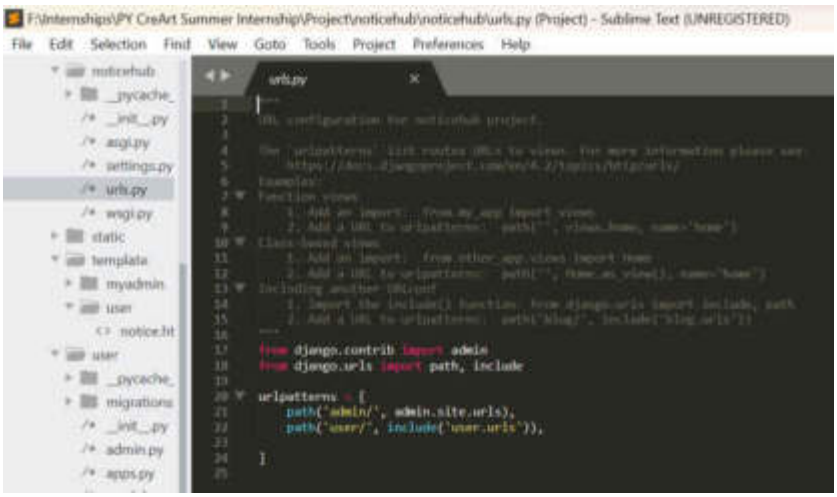


Fig. 10.1.3 urls.py

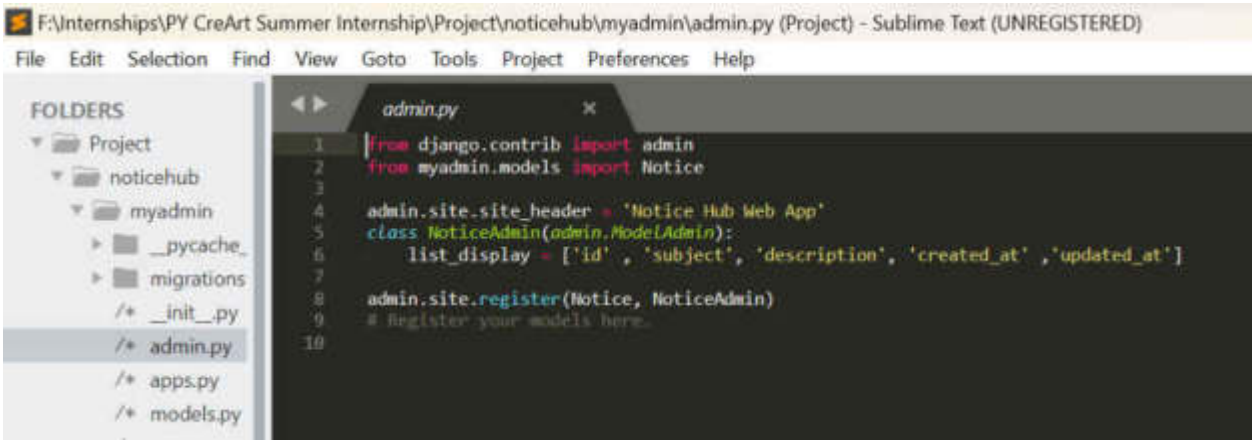


Fig. 10.1.4 admin.py

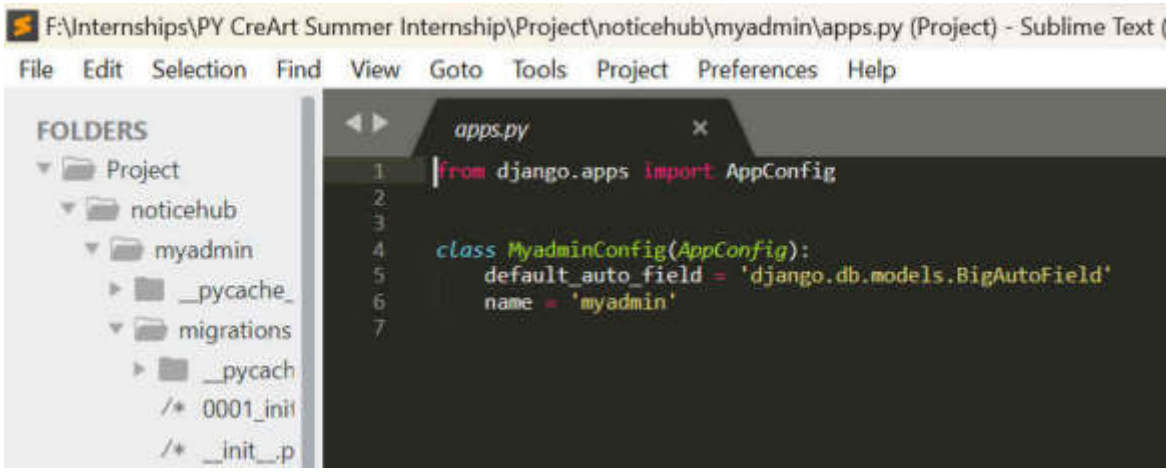


Fig. 10.1.5 apps.py

Chapter:11 Apply CSS on Frontend

11.1 Applying CSS on Frontend and Complete the Frontend :

- Till 10th chapter, Our Project's HTML Format Frontend is done. So now we have to decorate or style the frontend with the help of CSS. So that we can make a better GUI for our Project NoticeHub. For that we have to make **style.css** file in **static** folder.

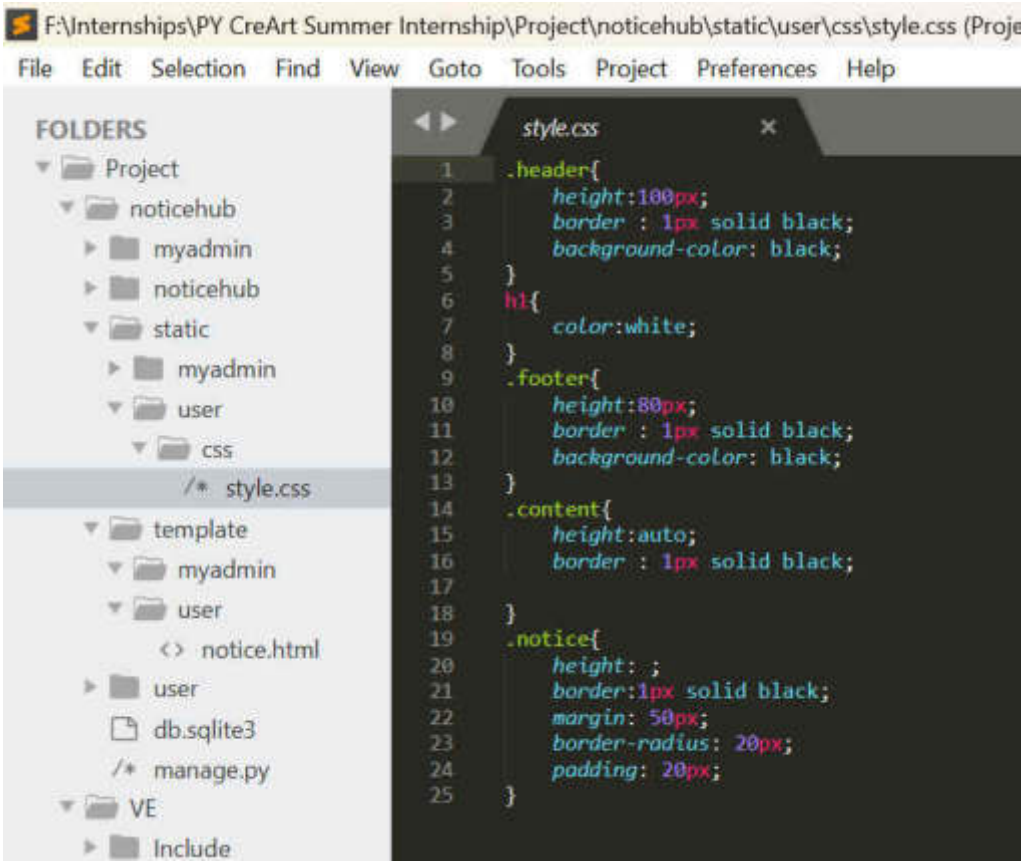


Fig. 11.1.1 style.css

- So till now, we completed whole Frontend of our Project NoticeHub. Now, it's time to run the project on the server and checks for the result.

Chapter:12 NoticeHub Project

12.1 Overview of NoticeHub :

- NoticeHub is a web application by which we can send the Notice to all employees/students etc. it has basically two panels: Admin & User. We can create & update Notices from Admin Panel and directly show it to all Users on User Panel.

- It is very easy process to perform task, we just required a network connection. First we have to connect XAMPP server then go to browser, open the admin Panel, Create new notice or Update existing notice & lastly click on the submit button so that User successfully receive the Notices without any failure. It was implementing using HTML & CSS for frontend and Django, Python & MySQL for backend.

- **Technology Used :**

  - Frontend :
    - ⇨ HTML : HTML is used to create and save web document.
    - ⇨ CSS : Create attractive Layout and design the web page.
  - Backend :
    - ⇨ Django : Django is a Python based web framework that follows the model-template-views architectural pattern.
    - ⇨ MySQL : MySQL is a database, widely used for accessing querying and managing databases.

12.2 Run the NoticeHub :

- Here we make total two panels : Admin & User.

  - Admin panel : It's a basic Admin panel, Where Superusers can log in and make or update the notices. Also there are features for manage the selective notices. For go to Admin panel : **http://127.0.0.1:8000/admin/**

  - User panel : It's a basic User panel, Where all kinds of users like Employees or Students can see new notices and updated notices also. Here they can get User Friendly UI of NoticeHub. For go to User panel : **http://127.0.0.1:8000/user/notice**

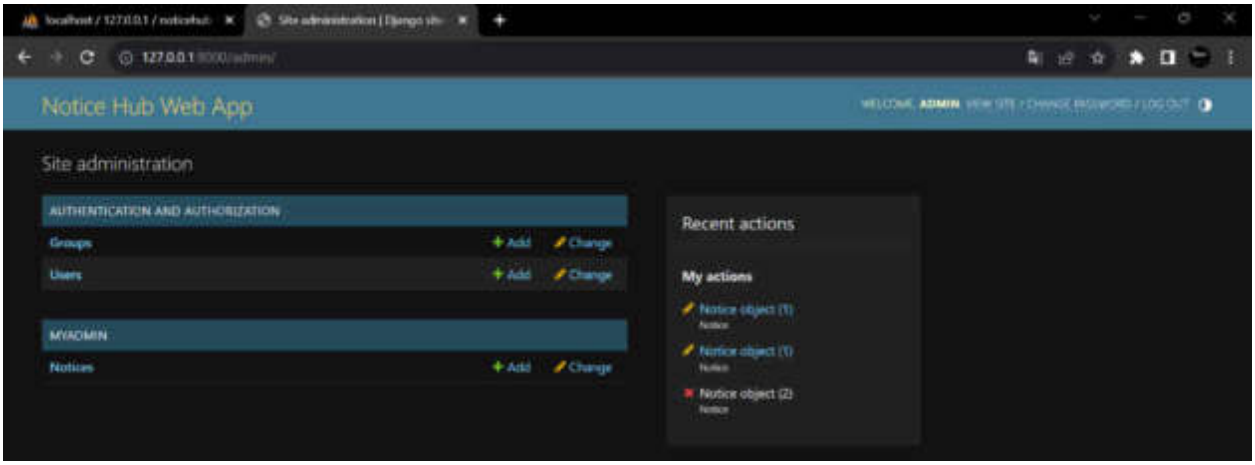


Fig. 12.2.1 Admin Panel

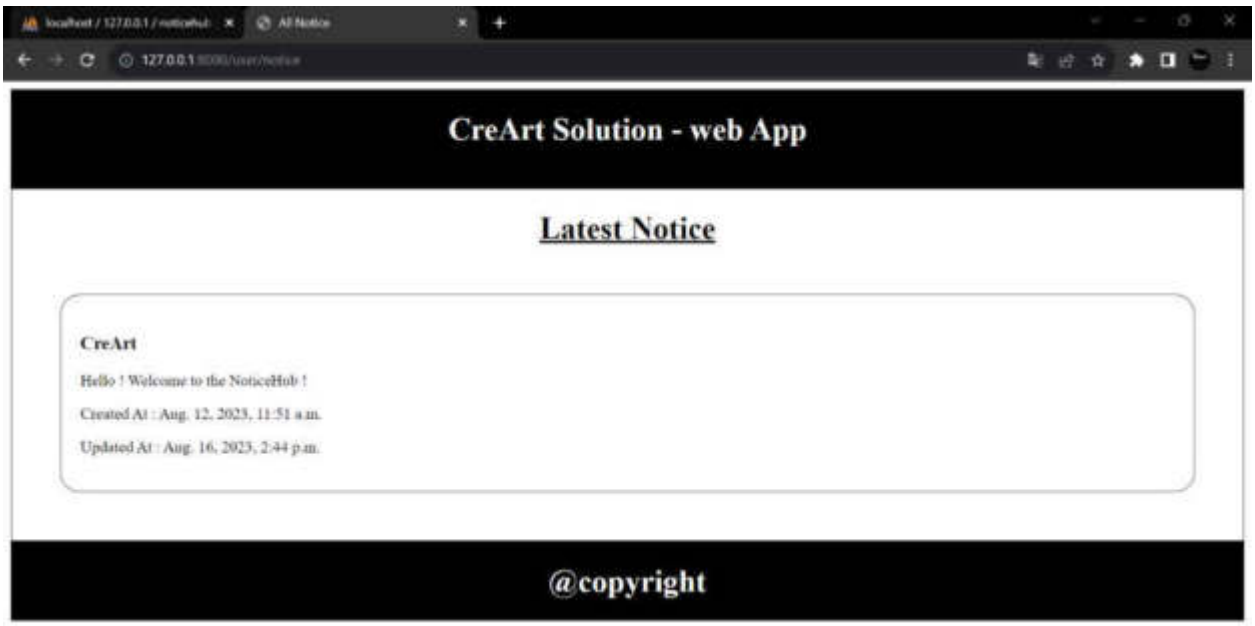


Fig. 12.2.2 User Panel

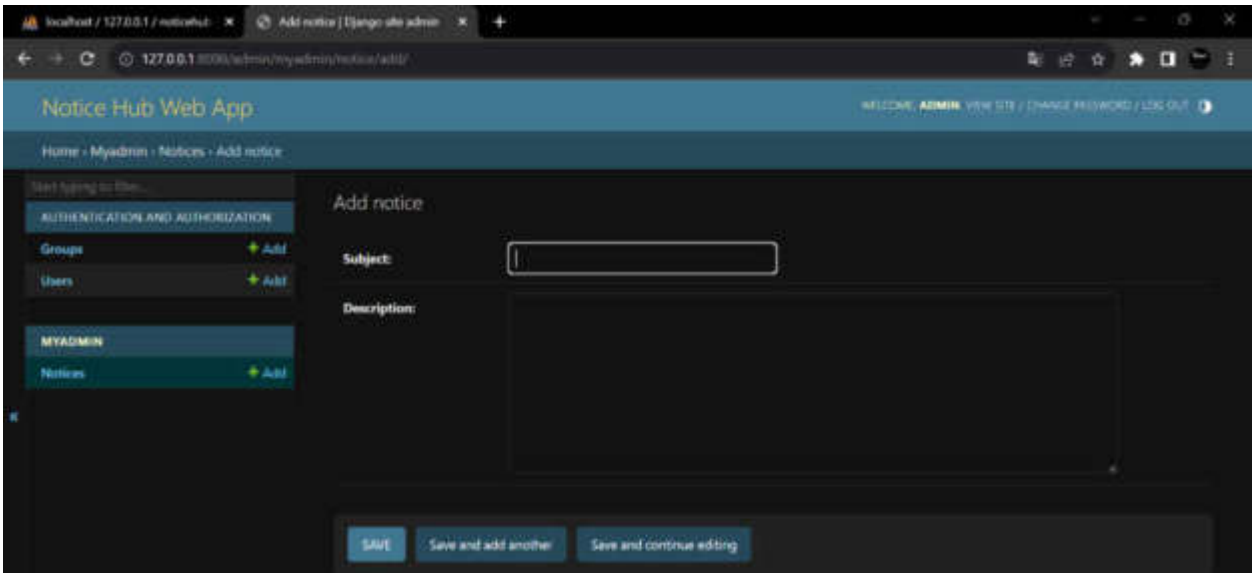


Fig. 12.2.3 Create New Notice

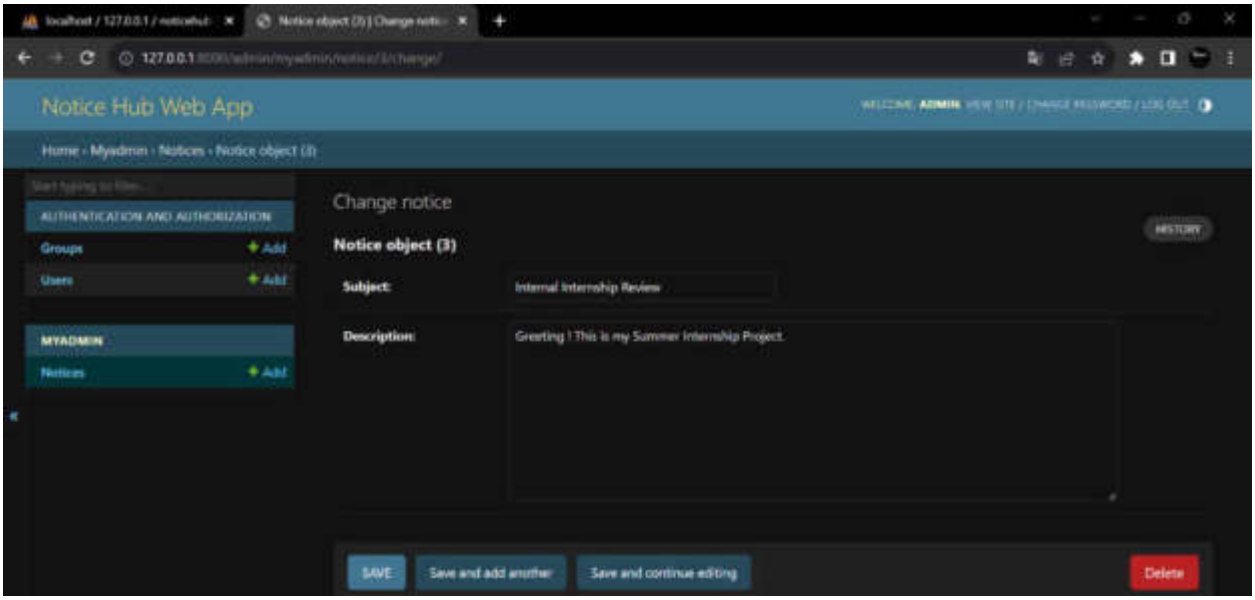


Fig. 12.2.4 Write Notice

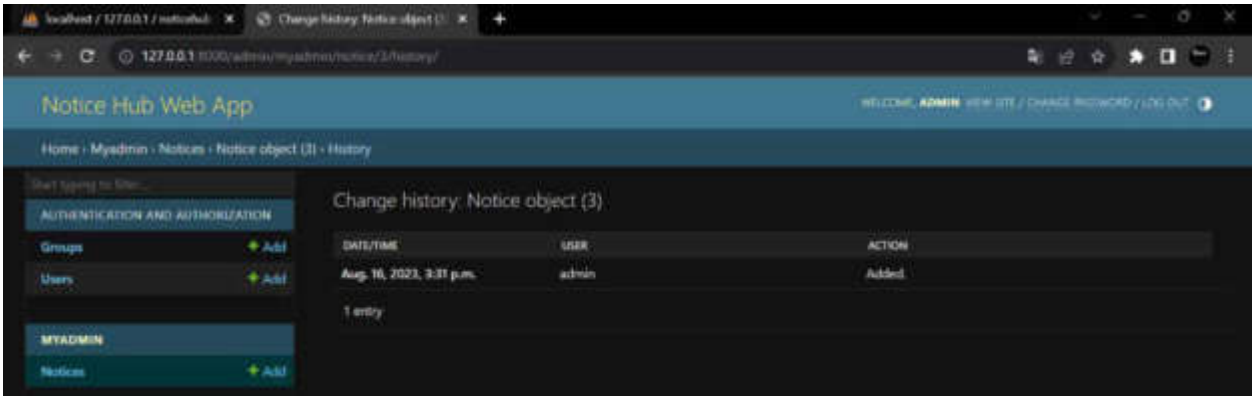


Fig. 12.2.5 Submit Notice



Fig. 12.2.6 Output of New Notice

* * *

INTERNSHIP AT CREART SOLUTIONS PVT. LTD.

AN INTERNSHIP REPORT

ON

NOTICEHUB USING D'JANGO PYTHON

Submitted by

Dasadiya Ruchit Naginbhai

(200390116052)

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

July-August, 2023

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled Internship at **CREART SOLUTIONS PVT. LTD.** has been carried out by **Dasadiya Ruchit Naginbhai** under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof.	Prof. Akshay Kansara
Internal Guide	Head of Department

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

JOINING LETTER

CREART

INTERNSHIP JOINING LETTER

Date: 27th July 2023

This is to certify that

Mr/Ms. Ruchit Dasadiya
Enrollment No : 200390116052
College : Saffrony institute of technology

has been selected for the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at CreArt Solutions, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

COMPLETION LETTER

INTERNSHIP COMPLETION LETTER

CREART

Date: 10th August 2023

This is to certify that

Mr/Ms. Ruchit Dasadiya
Enrollment No : 200390116052
College : Saffrony institute of technology

has successfully completed the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at CreArt Solutions, Ahmedabad.

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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I do declare that the Internship report submitted along with the Internship entitled on **NoticeHub** using **D'jango Python** at **CREART SOLUTIONS PVT. LTD.** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad.

I hereby warrant that the work I have presented does not breach any existing copyright acts.

Name of the Student	Sign of Student
Dasadiya Ruchit	_____





COMPANY PROFILE

CreArt Solutions is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. We strongly believe in delivering the best services to the clients till their satisfaction. Main objective of CreArt is to provide professional , qualitative , innovative and accessible services in every possible form.

Our objective is the strong collaboration between design, development, and delivering services on time, which benefits not only clients but also the communities in which the projects are implemented. More to help businesses succeed worldwide, we offer end-to-end development of web and mobile apps that integrate dynamic modern technologies like AR/VR Development, AI, Machine Learning and many more.

ACKNOWLEDGMENT

The internship experience I had with **CREART SOLUTIONS PVT. LTD.** was truly great,roviding me with a remarkable opportunity for learning and professional growth. I consider myself extremely fortunate to have been given this chance.

I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience. Additionally, I extend my heartfelt thanks to Krishnamohan Gupta, the CEO at CREART SOLUTIONS PVT. LTD., for her support and assistance.

ABSTRACT

NoticeHub is a web application by which we can send the Notice to all employees/students etc. it has basically two panels: Admin & User. We can create & update Notices from Admin Panel and directly show it to all Users on User Panel.

It is very easy process to perform task, we just required a network connection. First we have to connect XAMPP server then go to browser, open the admin Panel, Create new notice or Update existing notice & lastly click on the submit button so that User successfully receive the Notices without any failure. It was implementing using HTML & CSS for frontend and Django, Python & MySQL for backend.

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Chapter:1 About the Company

1.1 Introduction of Company



Fig. 1.1 Company Logo

- CreArt is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.

- CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. They strongly believe in delivering the best services to the clients till their satisfaction.

- Main objective of CreArt is to provide professional , qualitative , innovative and accessible services in every possible form.We take care of development, deliveries, required resources and innovation.Our experienced development and consultancy will add value to mobile or web application development project.

- Our objective is the strong collaboration between design, development, and delivering services on time, which benefits not only clients but also the communities in which the projects are implemented. More to help businesses succeed worldwide, we offer end-to-end development of web and mobile apps that integrate dynamic modern technologies like AR/VR Development, AI, Machine Learning and many more.

- I would like to express my sincere gratitude to Mr.Alkesh kaba, the director and instructor at CREART SOLUTIONS PVT. LTD., for his guidance and mentorship throughout my internship. His insights and expertise were instrumental in shaping my learning experience.

Chapter:2 About the Domain & IDE

2.1 Introduction of Core Python

- Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development,

- Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

- Core Python is a programming branch of Python. It is employed in the development of areas such as artificial intelligence and desktop apps. The core Python language includes basic commands and data structures such as tuple, list, and dictionary implementation to perform certain tasks

2.2 Introduction & Installation of Text Editor (Sublime 3)

- There is recommended system requirement for python and so many IDEs are available for python. They also told us the pros and cons of different IDEs.

- There are many software available for programming in Python like.. PyCharm, Notepad++, VScode, Sublime text 3, atom and NetBeans etc. I have installed PyCharm, VScode and Sublime text. mostly I am work on Sublime Text3.



Fig. 2.2.1 Sublime Text 3 Logo

- We can directy Download Sublime Text 3 from https://www.sublimetext.com/3. And then directly Install it. After Installation Open Folder as shown below.

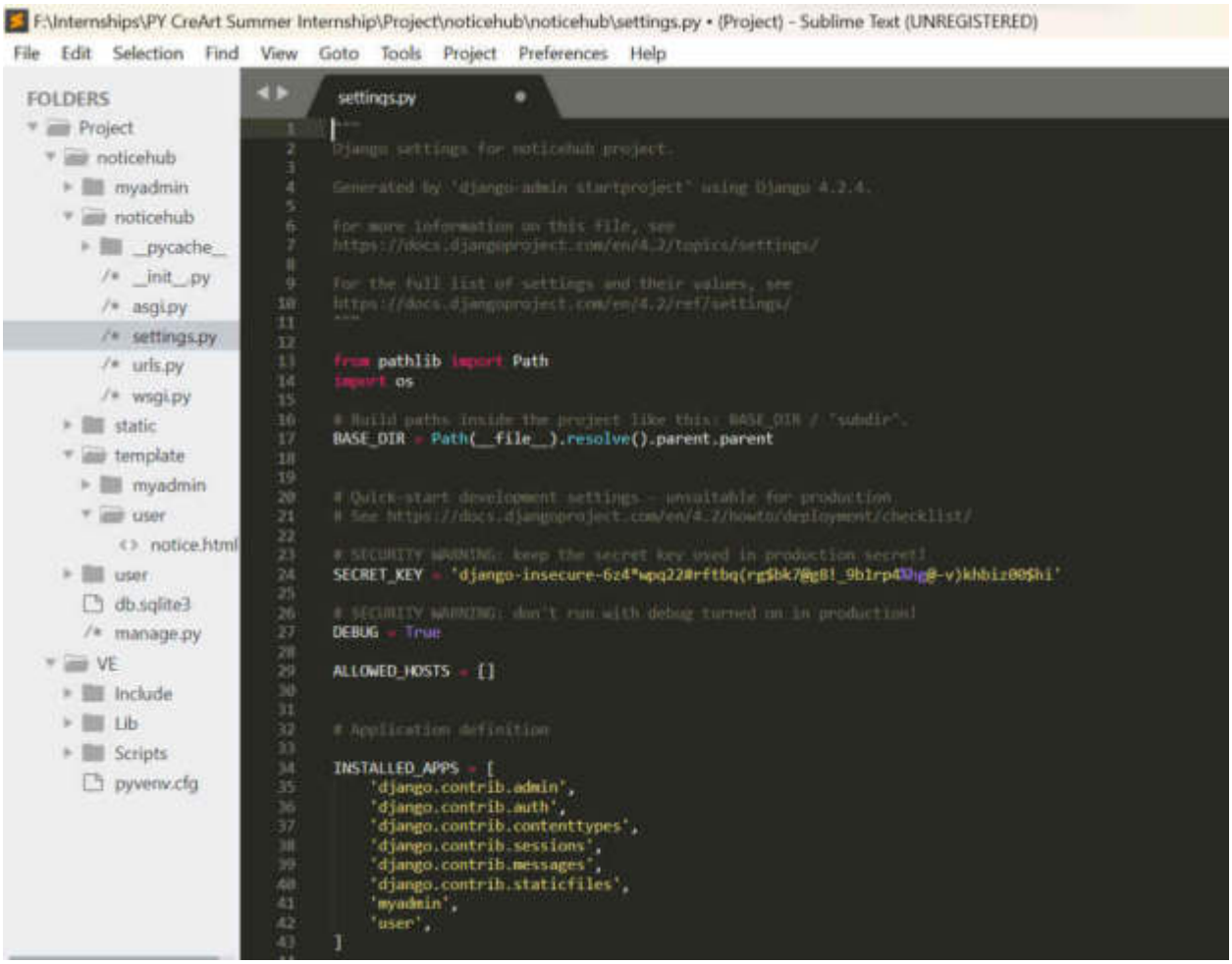


Fig. 2.2.2 Folder in Sublime Text 3

- In Sublime, We can create a Folder and then create a python file with **.py** extension. Here we see the folder named **Project** and inside this folder I created another folder name **noticehub** and inside this I created many other folders and many other python files.

Chapter:3 Datatypes and Variables

3.1 Variables & rules in Python

- In Python, variables are used to store and manipulate data values. They act as containers that hold various types of information, such as numbers, strings, lists, or more complex data structures.

- Certainly! In Python, variables serve as containers to store different types of data. They are like labels that help you refer to values easily. To create a variable, you simply give it a name and assign a value using the '=' symbol. Python is dynamically typed, so you don't need to specify the type of data the variable will hold.

- Variables can store integers (whole numbers), floats (decimal numbers), strings (text), Booleans (True or False), and more complex structures like lists (ordered collections), tuples (similar to lists but immutable), dictionaries (key-value pairs), and sets (unordered unique values).

- You can change a variable's value by assigning it a new value, and you can use variables in strings using techniques like f-strings. Just remember that variable names must follow certain rules and conventions, and they can have different scopes based on where they are defined, affecting their accessibility within your code.

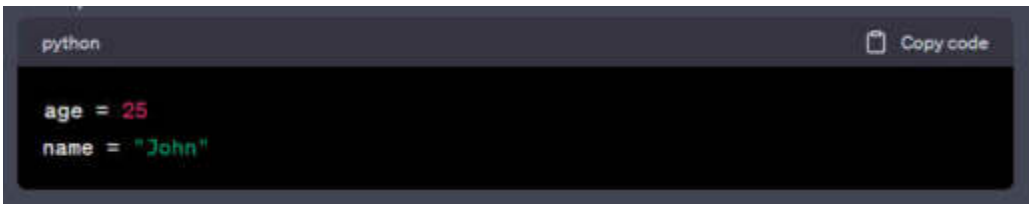


Fig. 3.1.1 Variables in Python

3.2 Datatypes & Type casting in Python

- In Python, data types define the kind of values a variable can hold. Here's a quick overview of some common data types:

1. int: Represents integers (whole numbers), like 5 or -12.
2. float: Represents floating-point numbers (decimal numbers), such as 3.14 or -0.5.
3. str: Stands for string and represents text, like "Hello, world!".
4. bool: Represents Boolean values, True or False, often used for logical operations.
5. list: Represents an ordered collection of items, which can be of mixed types.
6. tuple: Similar to lists but immutable, meaning their contents can't be changed after creation.
7. dict : Stands for dictionary, representing a collection of key-value pairs for efficient data lookup.
8. set: Represents an unordered collection of unique items, useful for mathematical operations.
9. None Type: Represents the absence of a value, often used to indicate a variable with no assigned value.
10. complex: Represents complex numbers with a real and an imaginary part.

- Python's dynamic typing allows you to change the type of a variable on the fly, making it flexible but also requiring caution. Understanding these data types is crucial for effective programming and data manipulation.

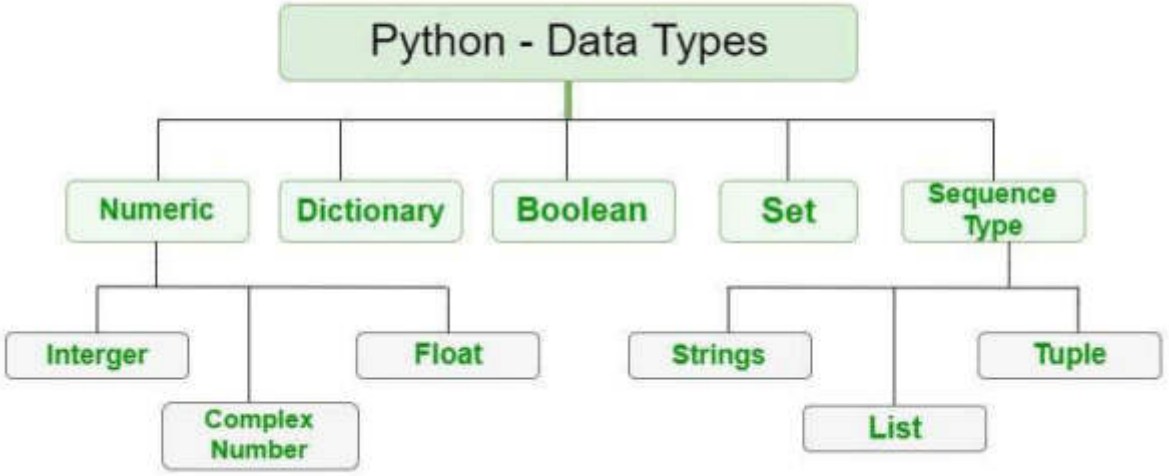


Fig. 3.2.1 Datatypes in Python

Chapter:4 Problem solving Examples

- Here are some Mathematical Examples solved by Python Programming..

4.1 Area Of Circle :

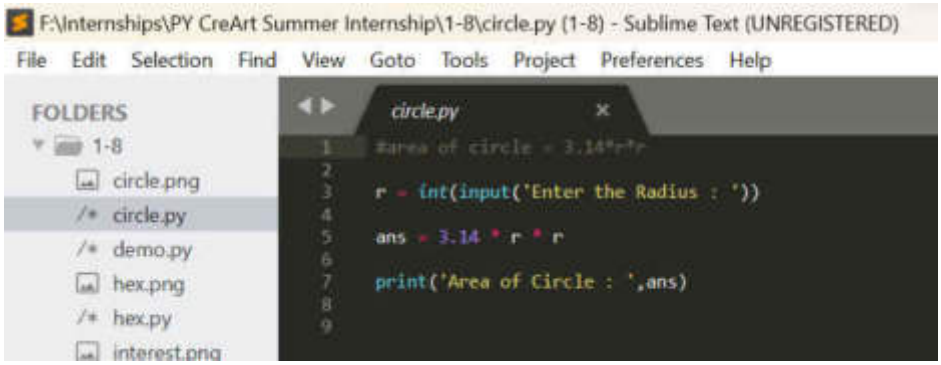


Fig. 4.1.1 Example 1

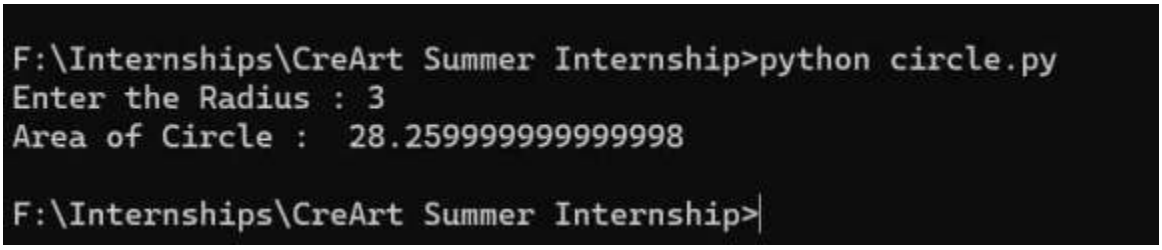


Fig. 4.1.2 Output 1

4.2 Marksheet :

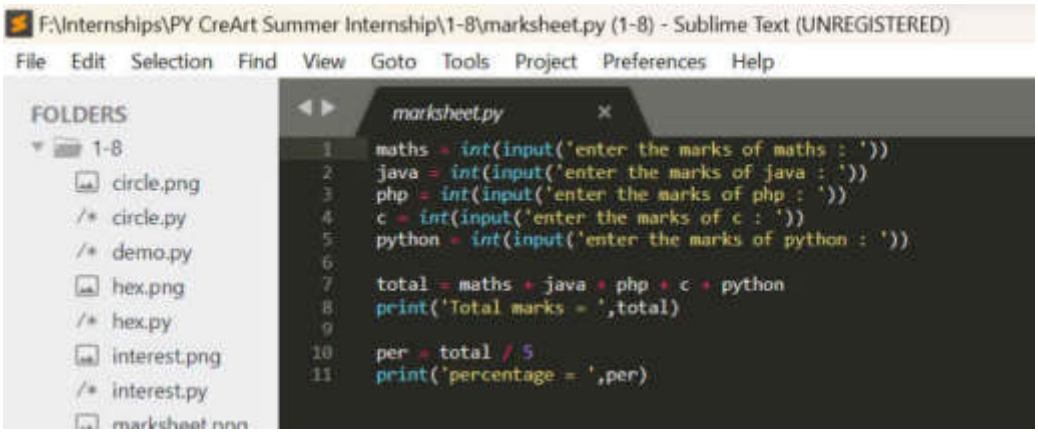


Fig. 4.2.1 Example 2

```
F:\Internships\CreArt Summer Internship>python marksheet.py
enter the marks of maths : 78
enter the marks of java : 89
enter the marks of php : 90
enter the marks of c : 78
enter the marks of python : 89
Total marks =  424
percentage =  84.8

F:\Internships\CreArt Summer Internship>
```

Fig. 4.2.2 Output 2

4.3 Temperature Cel to Fah :

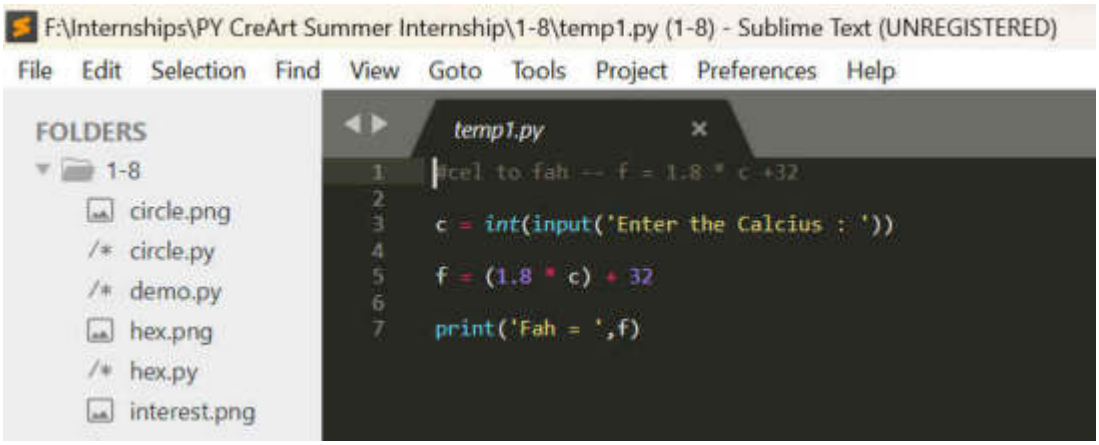


Fig. 4.3.1 Example 3

```
F:\Internships\CreArt Summer Internship>python temp1.py
Enter the Calcius : 25
Fah =  77.0
```

Fig. 4.3.2 Output 3

- There are many more examples similar like these saved in system with python file and it's Output screenshot.

Chapter:5 Functions in Python

5.1 Introduction and Uses of Function :

- A Function in Python is a reusable piece of code that performs specific tasks. It's defined using the **def** keyword, followed by a name and optional parameters in parentheses. Functions are called by their name with parentheses, and they can return values using the return statement.

- They help organize code, improve reusability, and facilitate code comprehension. Function parameters have local scope, while variables outside functions have global scope. Functions can take both positional and keyword arguments, and default values can be set for parameters.

- In python def is used for creating function like ...
  { def FunctionName (arg1, arg2, ...):
  statement1
  statement2 }



Fig. 5.1.1 Example of Function

```
F:\Internships\CreArt Summer Internship\2--8>python f1.py
start
i am hello function
i can help you a lot
how are you?
end
```

Fig. 5.1.2 Output of Function

Chapter:6 RETURN keyword in Python

6.1 Get Input from Users using RETURN Keyword:

- In Python, the **return** keyword is used within a function to send a value back to the caller. When a function is executed and encounters a **return** statement, it immediately ends the function's execution and provides the specified value as the function's output.

- This returned value can then be assigned to a variable or used in further calculations. The return statement is essential for functions that need to provide results or computed values to the rest of the program. If a **return** statement is omitted or used without a value, the function returns **None** by default.

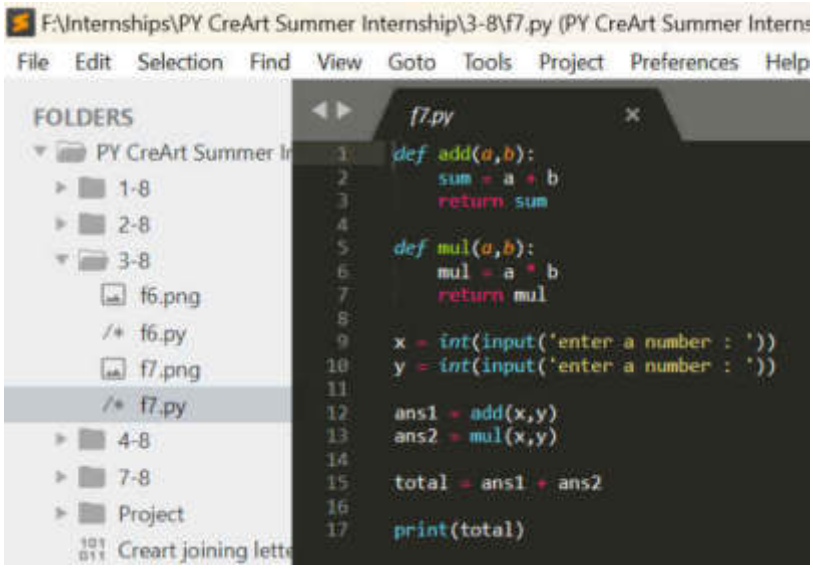


Fig. 6.1.1 Example of RETURN keyword

```
F:\Internships\PY CreArt Summer Internship\3-8>python f7.py
enter a number : 10
enter a number : 20
230
```

Fig. 6.1.2 Output of RETURN keyword

Chapter:7 D'jango Framework

7.1 Introduction of D'jango Framework :

- D'jango is a high-level python web framework that enables rapid development of secure and maintainable websites. D'jango is used because of its versatility, Scalability, Security (Using SQL Injection, CSRF Protection), Pre-Requisite (ORM (Object Relationships Mapper)), Large Library Support, Free and Open Source.

- It is mostly used in web-based application and servers side websites and particular the mechanics of client-server interactions in websites. Web app means User can perform action on browser and also can use in mobile and PC both.

- Why D'jango :-
  - ✓ Security
  - ✓ Performance
  - ✓ Open source and free
  - ✓ Versatile:- multiple tasks

7.2 Installation of D'jango Framework and Project Setup Steps:

- There are steps following for create Django project: -
  1. Create Virtual Environment and Activate.
  2. Download Django and install it.
  3. Create project.
  4. Run on Server.
  5. Install MySQL client library.
  6. Then migrate the database using **python mange.py migrate**.
  7. Create superuser (Admin) by **python manage.py createsuperuser.**
  8. In project run server using **python manage.py runserver** command here one local host address was displayed: - http:// 127.0.0.1.8000.

- **Project Setup :**

  1) First create & Activate Virtual Environment using Python by following command:

Python –m venv VE & VE>Scripts>activate

2) Install Django using following command:
   pip install Django

3) Create project.
   Project>Django-admin startproject NoticeHub

4) Run on Server.
   Project>python manage.py runserver

```
F:\Project>python -m venv VE

F:\Project>cd VE

F:\Project\VE>cd Scripts

F:\Project\VE\Scripts>activate

(VE) F:\Project\VE\Scripts>cd..

(VE) F:\Project\VE>cd..

(VE) F:\Project>django-admin Startproject NoticeHub
'django-admin' is not recognized as an internal or external command,
operable program or batch file.

(VE) F:\Project>pip install django
Collecting django
  Using cached Django-4.2.4-py3-none-any.whl (8.0 MB)
Collecting asgiref<4,>=3.6.0 (from django)
  Using cached asgiref-3.7.2-py3-none-any.whl (24 kB)
Collecting sqlparse>=0.3.1 (from django)
  Using cached sqlparse-0.4.4-py3-none-any.whl (41 kB)
Collecting tzdata (from django)
  Using cached tzdata-2023.3-py2.py3-none-any.whl (341 kB)
Installing collected packages: tzdata, sqlparse, asgiref, django
Successfully installed asgiref-3.7.2 django-4.2.4 sqlparse-0.4.4 tzdata-2023.3

[notice] A new release of pip is available: 23.1.2 -> 23.2.1
[notice] To update, run: python.exe -m pip install --upgrade pip

(VE) F:\Project>django-admin Startproject NoticeHub
No Django settings specified.
Unknown command: 'Startproject'. Did you mean startproject?
Type 'django-admin help' for usage.

(VE) F:\Project>django-admin startproject NoticeHub

(VE) F:\Project>python manage.py runserver
C:\Users\parma\AppData\Local\Programs\Python\Python311\python.exe: can't open file

(VE) F:\Project>cd NoticeHub

(VE) F:\Project\NoticeHub>python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you ap
Run 'python manage.py migrate' to apply them.
August 16, 2023 - 13:39:02
Django version 4.2.4, using settings 'NoticeHub.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CTRL-BREAK.
```

Fig. 7.2.1 Setup
Fig. 7.2.2 Setup Output

Chapter:8 & 9 Complete Project Setup

8-9.1 Complete Project Setup Steps:

5) Install MySQL client library:
   pip install mysqlclient

6) Change in Setting.py file : SQLite to SQL database
   Then migrate the database using:
   python mange.py migrate

7) Create superuser (Admin) using:
   python manage.py createsuperuser

8) Now run server using **python manage.py runserver** command here one local host address was displayed: - http:// 127.0.0.1.8000.

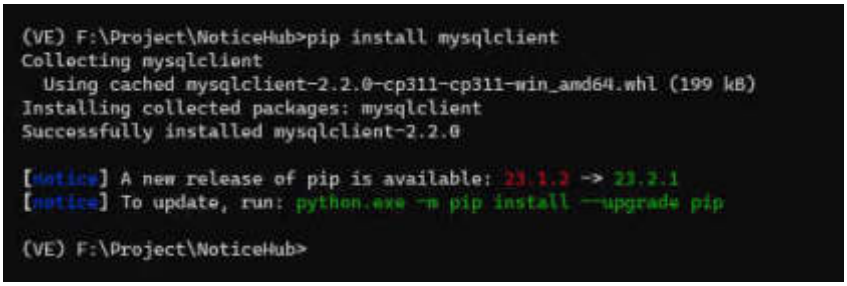


Fig. 8-9.1.1 Install mysqlclient



Fig. 8-9.1.2 Change in database

- Once, the Changes are done in Setting.py (SQLite to SQL Database), Now we have to

Create 10 tables by default with the help of Migrate command as shown in step number 6. Output of it as shown in Fig. 8-9.1.3

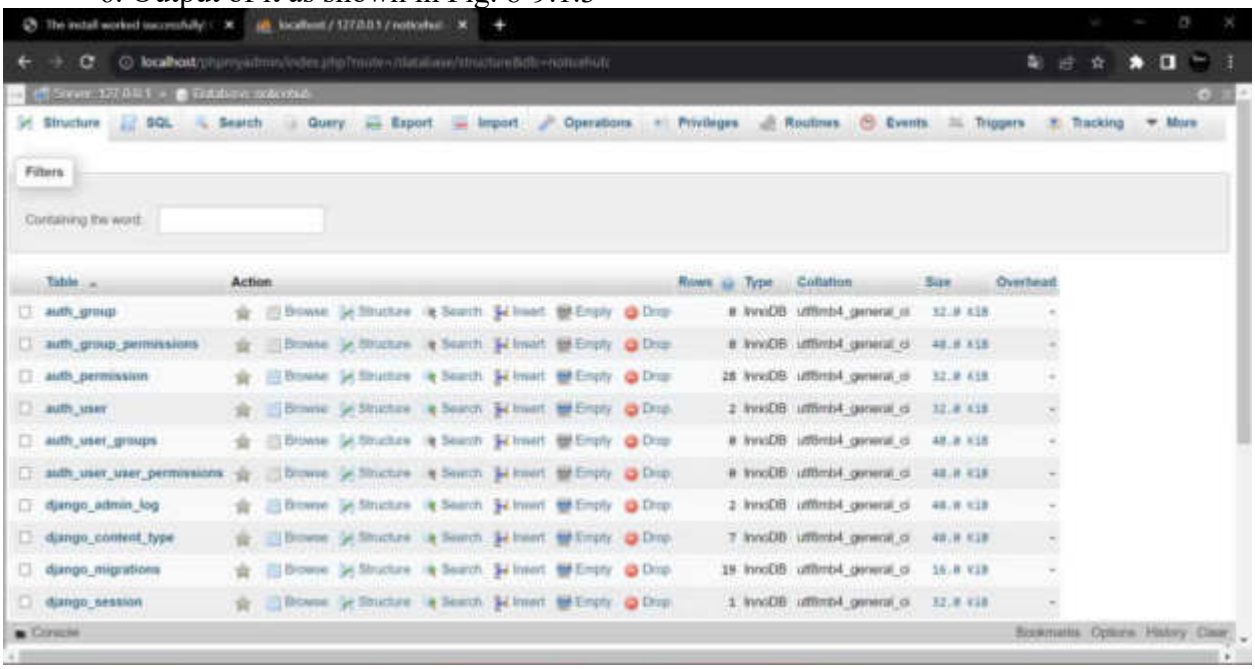


Fig. 8-9.1.3 Migrate command output

- Now, we have to create Two superuser named Admin and User. once, the superusers are created in Noticehub, we have to check it can be run on server or not.

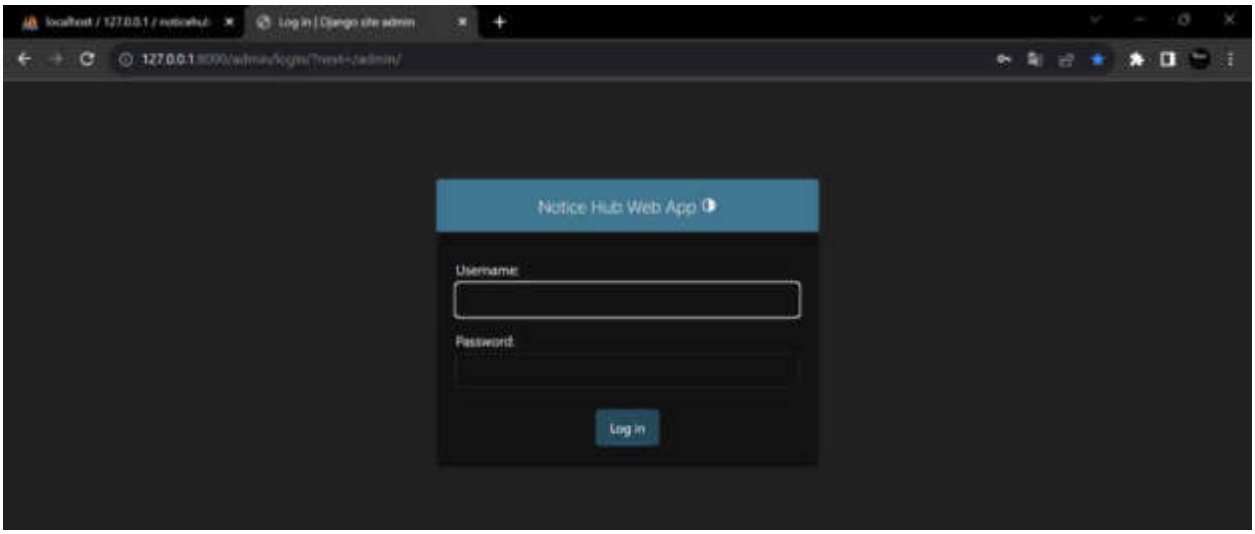


Fig. 8-9.1.4 Admin panel

Chapter:10 Frontend of NoticeHub

10.1 Frontend using D'jango Framework (using HTML) :

- Till 9th chapter, Our Project Setup is done. So now we go to Sublime Text 3 and make HTML file in User side folder. So that we can print notices on the web browser from our Project NoticeHub. For that we have to make **notice.html** file in **template** folder.

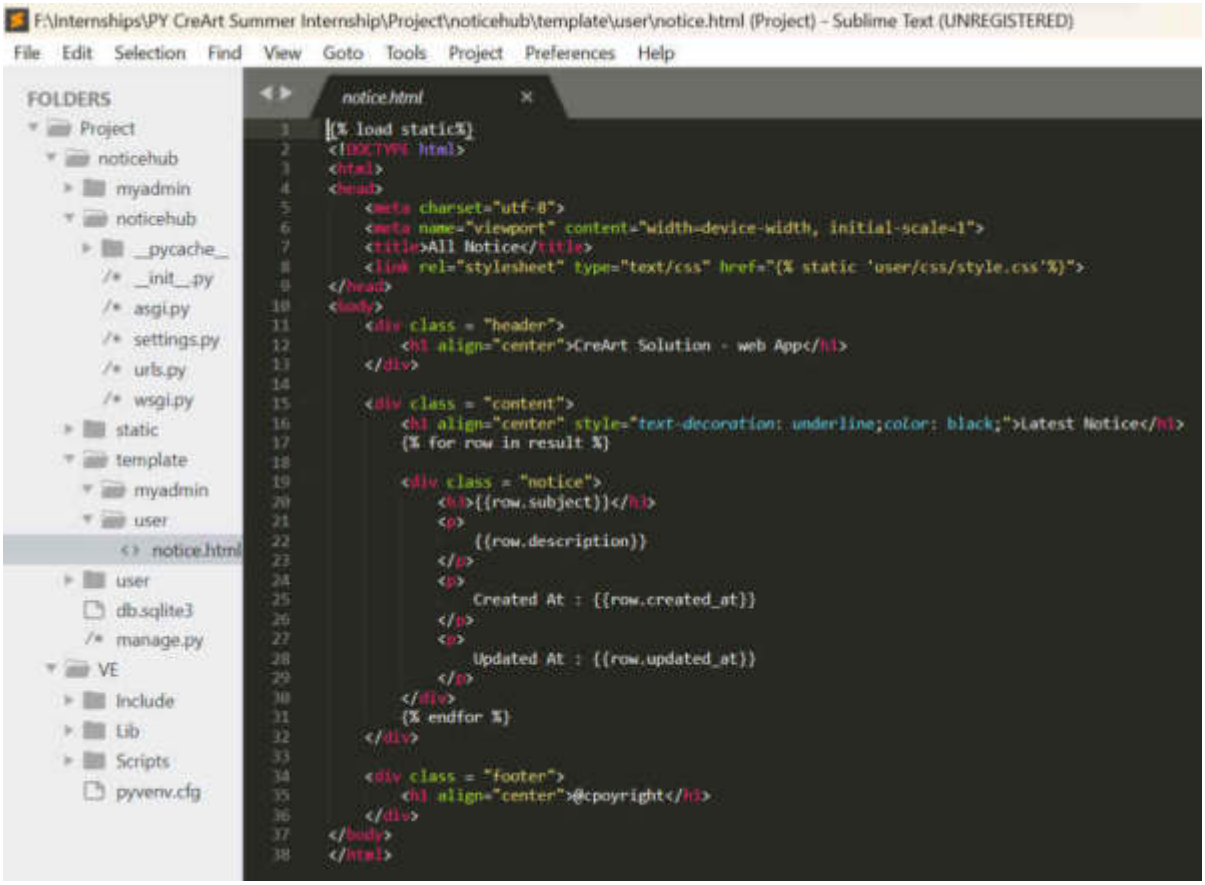


Fig. 10.1.1 notice.html

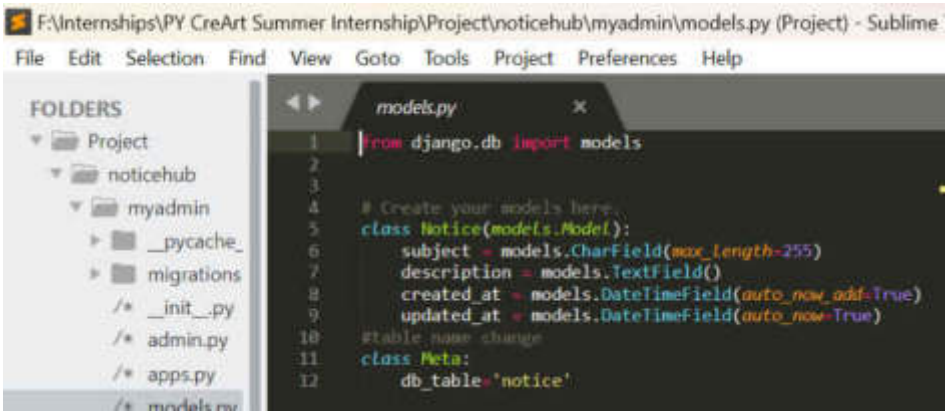


Fig. 10.1.2 models.py

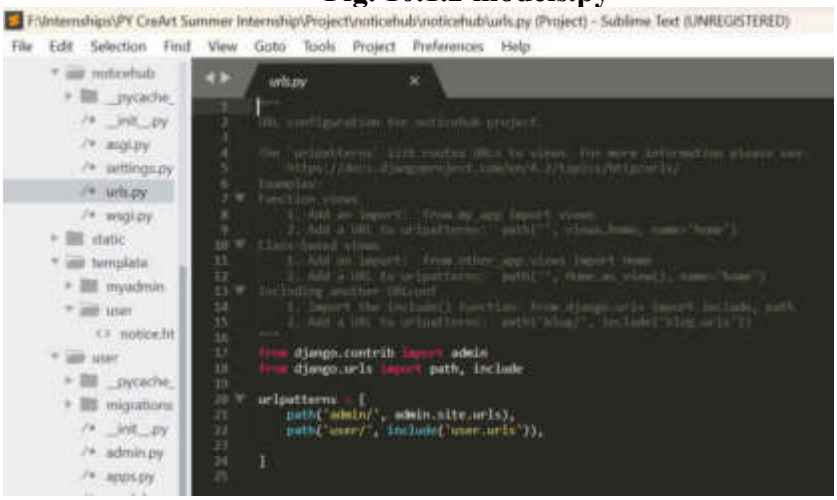


Fig. 10.1.3 urls.py

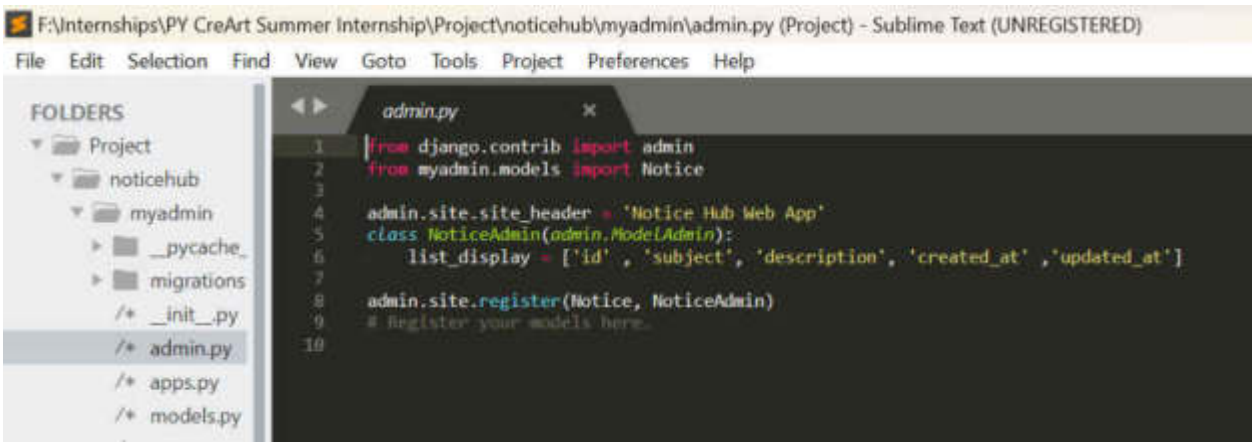


Fig. 10.1.4 admin.py

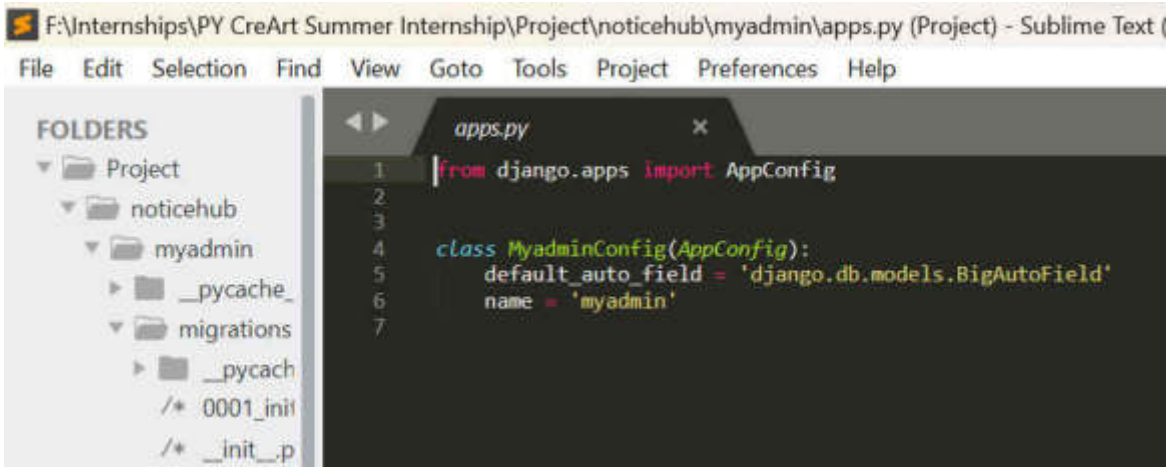


Fig. 10.1.5 apps.py

Chapter:11 Apply CSS on Frontend

11.1 Applying CSS on Frontend and Complete the Frontend :

- Till 10th chapter, Our Project's HTML Format Frontend is done. So now we have to decorate or style the frontend with the help of CSS. So that we can make a better GUI for our Project NoticeHub. For that we have to make **style.css** file in **static** folder.

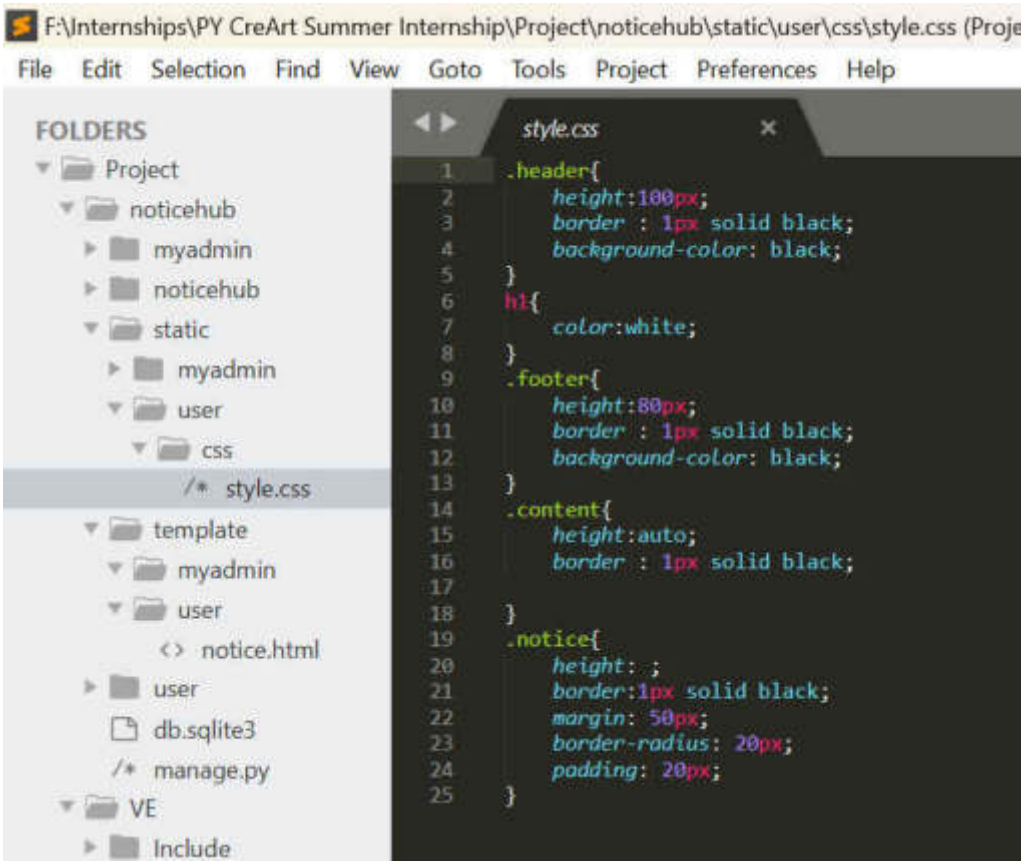


Fig. 11.1.1 style.css

- So till now, we completed whole Frontend of our Project NoticeHub. Now, it's time to run the project on the server and checks for the result.

Chapter:12 NoticeHub Project

12.1 Overview of NoticeHub :

- NoticeHub is a web application by which we can send the Notice to all employees/students etc. it has basically two panels: Admin & User. We can create & update Notices from Admin Panel and directly show it to all Users on User Panel.

- It is very easy process to perform task, we just required a network connection. First we have to connect XAMPP server then go to browser, open the admin Panel, Create new notice or Update existing notice & lastly click on the submit button so that User successfully receive the Notices without any failure. It was implementing using HTML & CSS for frontend and Django, Python & MySQL for backend.

- **Technology Used :**

  - Frontend :
    - ⇨ HTML : HTML is used to create and save web document.
    - ⇨ CSS : Create attractive Layout and design the web page.
  - Backend :
    - ⇨ Django : Django is a Python based web framework that follows the model-template-views architectural pattern.
    - ⇨ MySQL : MySQL is a database, widely used for accessing querying and managing databases.

12.2 Run the NoticeHub :

- Here we make total two panels : Admin & User.

  - Admin panel : It's a basic Admin panel, Where Superusers can log in and make or update the notices. Also there are features for manage the selective notices. For go to Admin panel : **http://127.0.0.1:8000/admin/**

  - User panel : It's a basic User panel, Where all kinds of users like Employees or Students can see new notices and updated notices also. Here they can get User Friendly UI of NoticeHub. For go to User panel : **http://127.0.0.1:8000/user/notice**

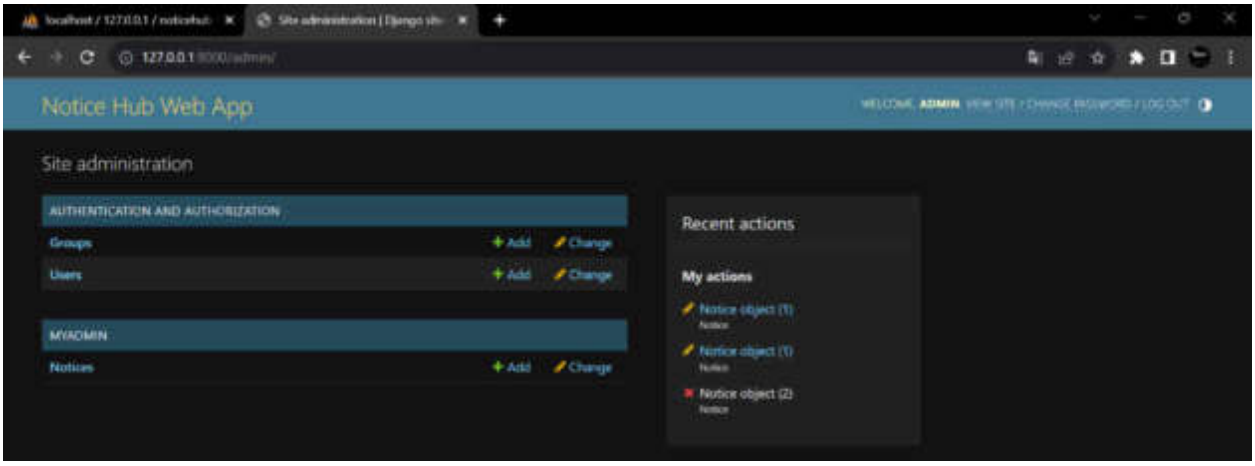


Fig. 12.2.1 Admin Panel

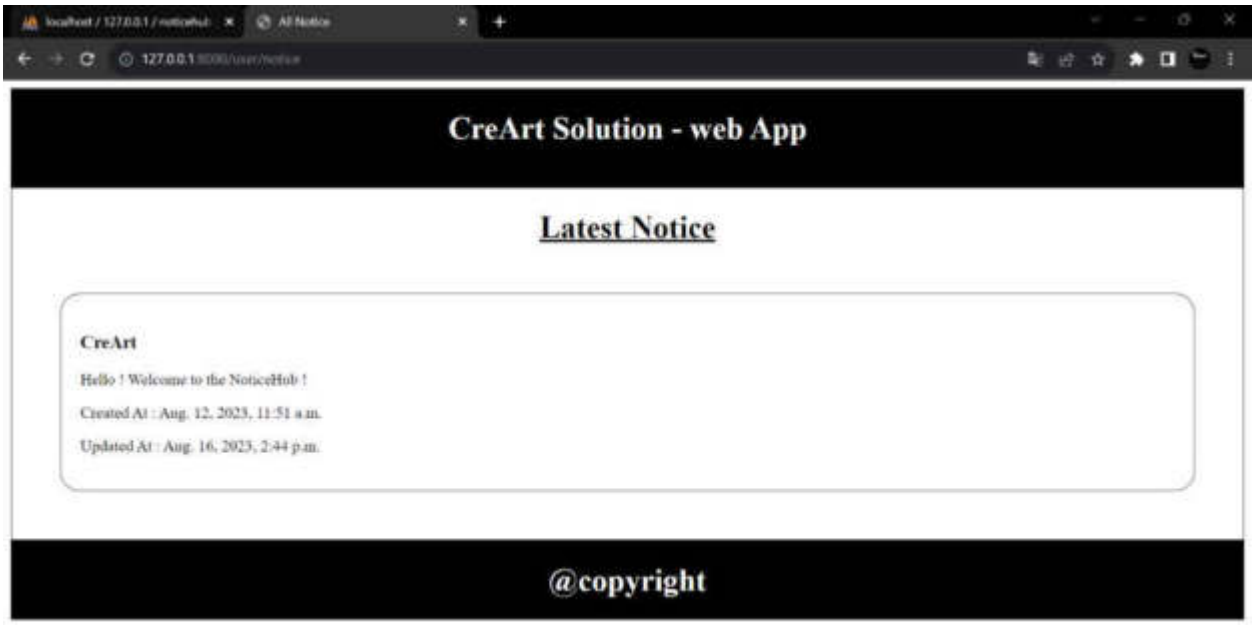


Fig. 12.2.2 User Panel

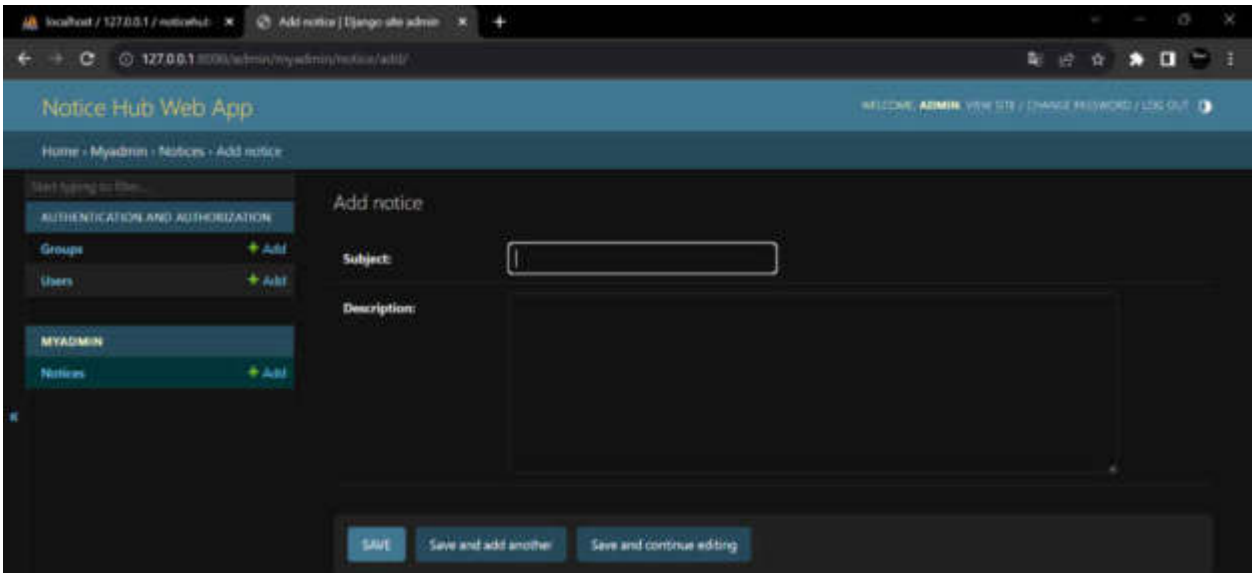


Fig. 12.2.3 Create New Notice

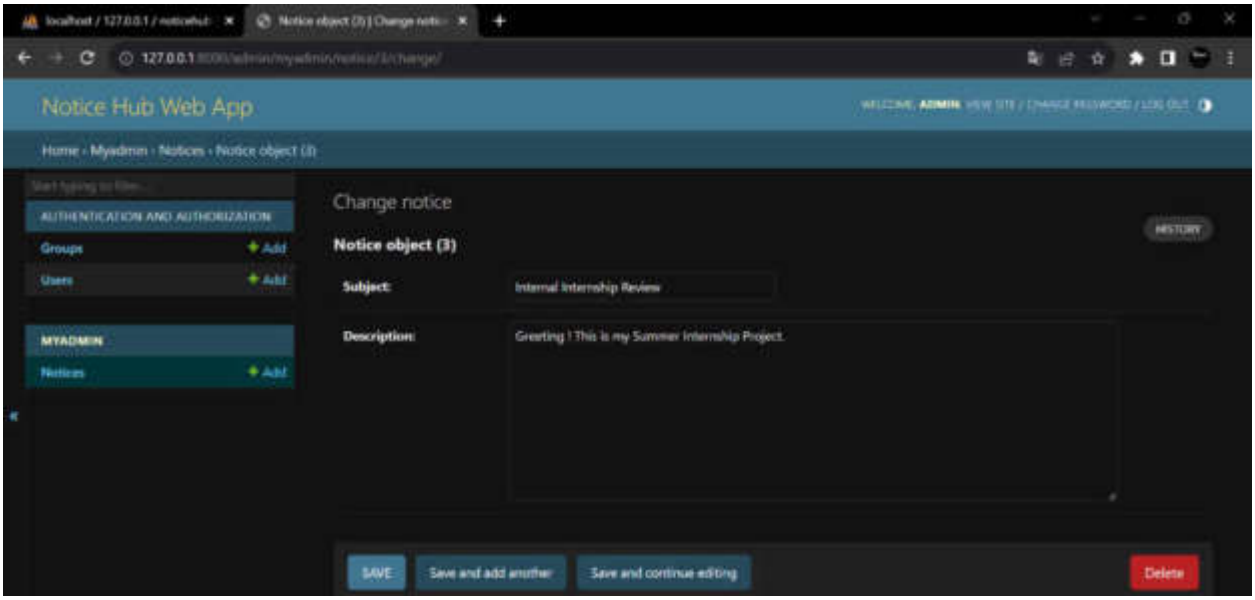


Fig. 12.2.4 Write Notice & Submit Notice



Fig. 12.2.6 Output of New Notice

* * *

INTERNSHIP AT CODSOFT

AN INTERNSHIP REPORT

Submitted by

Chirag Jayantibhai Solanki

200390116053

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CODSOFT** has been carried out by **Chirag Jayantibhai Solanki** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. Akshay Kansara
Internal Guide	Head of Department

Internship Offer Letter

CodSoft
Code.Create.Succeed

INTERNSHIP OFFER LETTER

Date : **17/07/2023** **ID:CS07WX10230**

Dear,

Chirag Solanki

We would like to congratulate you on being selected for the " **Python Programming**" internship position with "**CodSoft**". We at **CodSoft** are excited that you will join our team.

The duration of the internship will be of **4 weeks**, starting from **20 July 2023 to 20 August 2023** The internship is an educational opportunity for you hence the primary focus is on learning and developing new skills and gaining hands-on knowledge. We believe that you will perform all your tasks/projects.

As an intern, we expect you to perform all assigned tasks to the best of your ability and follow any lawful and reasonable instructions provided to you.

We are confident that this internship will be a valuable experience for you, we look forward to working with you and helping you achieve your career goals.

Best of Luck!

Thank You!

Team CodSoft

CodSoft IT SERVICE

CERTIFIED ISO 9001:2015 COMPANY

MSME

MSME Registered

www.codsoft.in
contact@codsoft.in

Internship Certificate



C.ID: 0b52723

CodSoft

CERTIFICATE

OF COMPLETION
PROUDLY PRESENTED TO

Chirag Solanki

has successfully completed 4 weeks of a virtual internship program in
Python Programming
with wonderful remarks at **CODSOFT** from **20/07/2023 to 20/08/2023.**
We were truly amazed by his/her showcased skills and invaluable contributions to the tasks and projects throughout the internship.

Founder

contact@codsoft.in www.codsoft.in Date: 22/08/2023





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Codsoft** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName & FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Chirag Jayantibhai Solanki

_____

ACKNOWLEDGMENT

I would like to express my sincere gratitude to Codsoft for providing me with the opportunity to undertake my internship at their esteemed organization. This experience has been invaluable in enhancing my understanding of the practical applications of Python programming and has contributed significantly to my professional growth. I am deeply thankful to , my internship supervisor, for his/her guidance, support, and mentorship throughout my internship journey. The insights and expertise shared by [Supervisor's Name] have been instrumental in shaping my skills and knowledge in Python programming.

Your Sincerely

Chirag Solanki

Abstract

This report contains the work done by the author during his internship at ***Codsoft***. It shows the work I did in the company during my internship period. In the report, the author discusses the process of manufacturing and steps of assembly of the machines. The author also discusses the structure of the company, all the departments and their work . It also explains what the author learned during this internship period.

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Abbreviations

QA	Quality Assurance
QC	Quality Control
MCU	Machine Control Unit
HMC	Horizontal Machining Center
CNC	Computerized Numerical Control.
VMC	Vertical Machining Center
PDI	Pre dispatch inspection

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Scanned attendance sheet if any
Any supporting documents in scanned copy

Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

- CodSoft are IT services and IT consultancy that specializes in creating innovative solutions for businesses. We are passionate about technology and believe in the power of software to transform the world. Our internship program is just one of the ways in which we are investing in the future of the industry.

- At CodSoft, we believe practical knowledge is the key to success in the tech industry. Our aim is to help students lacking basic skills by offering hands-on learning through live projects and real-world examples.

- It is a top company that offers internships in different technology fields. They provide internships in web development, app development, software development, and Java programming.

- They understand the importance of practical experience for aspiring tech professionals. That's why their internship program offers hands-on learning, where students work on real projects under the guidance of experienced mentors.

- Their team consists of industry experts who are dedicated to equipping interns with the knowledge and skills needed to succeed in their careers. They foster an inclusive and supportive environment that encourages learning, growth, and creativity.

1.2 MISSION AND VISION OF THE COMPANY:

1.We Provide All Exclusive services For Clients.
2.We build websites and web applications.
3.Today, every business should have a website.
4.No matter how small or large your business, having a website is must have at this time.
5.Having a website help you to maintain your online presence.

1.3 INTERNSHIP OBJECTIVES:

The primary objectives of my internship were to:
1. Gain hands-on experience in Python programming.
2. Contribute to real-world projects that utilize Python.
3. Enhance my problem-solving skills by tackling challenges in programming.

Chapter 2. ACTIVITIES AND PROJECTS

2.1 OVERVIEW OF PYTHON PROGRAMMING:

- What is Python?

  Python is a high-level, interpreted programming language known for its simplicity, readability, and versatility. Created by Guido van Rossum and first released in 1991, Python emphasizes code readability and clean syntax, making it a popular choice for beginners and experienced developers alike. It is widely used in various domains, including web development, scientific computing, data analysis, artificial intelligence, automation, and more.

- Why Python is Popular?

  Python's popularity can be attributed to several key factors that make it a preferred programming language among developers:

  1)Readability and Simplicity

  2)Versatility

  3)Large Standard Library

  4)Strong Community Support

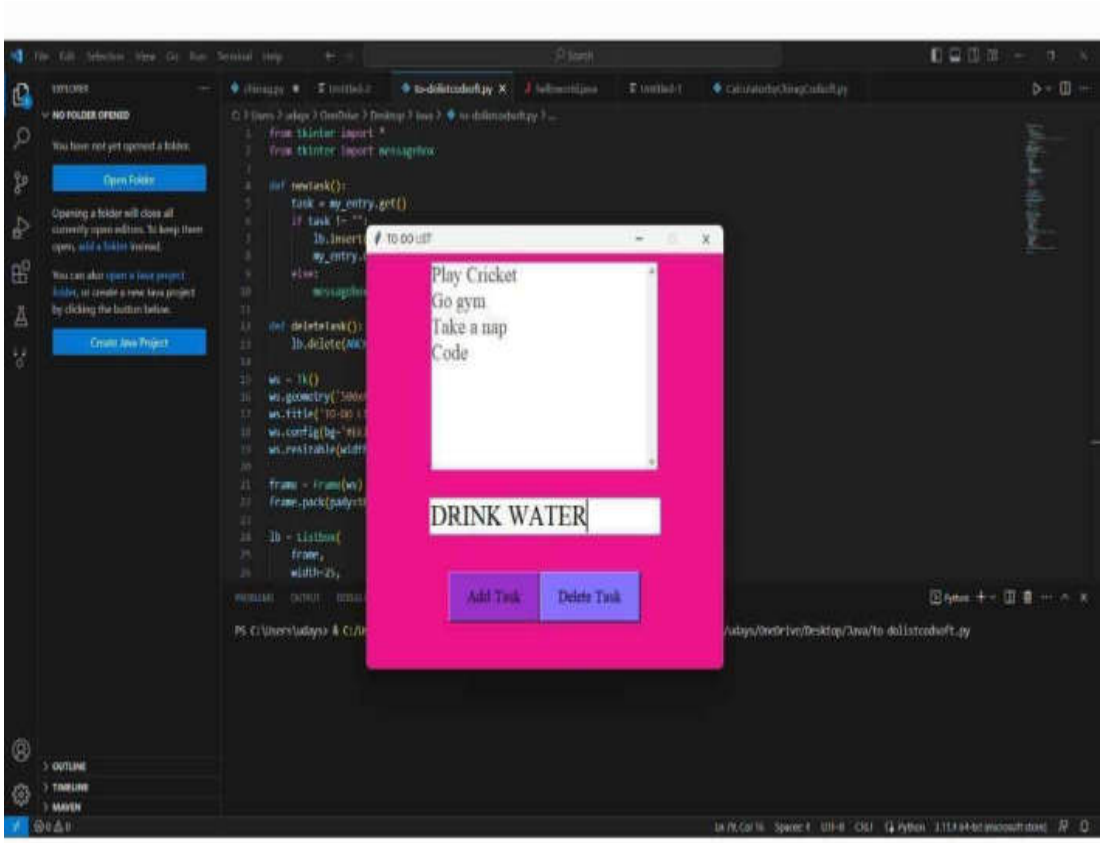
  5)Strong Support for Data Science and AI

- Python's Applications:

  1) Web Development
  2) Data Science and Analytics
  3) Machine Learning and AI
  4) Scientific Computing
  5) Cybersecurity

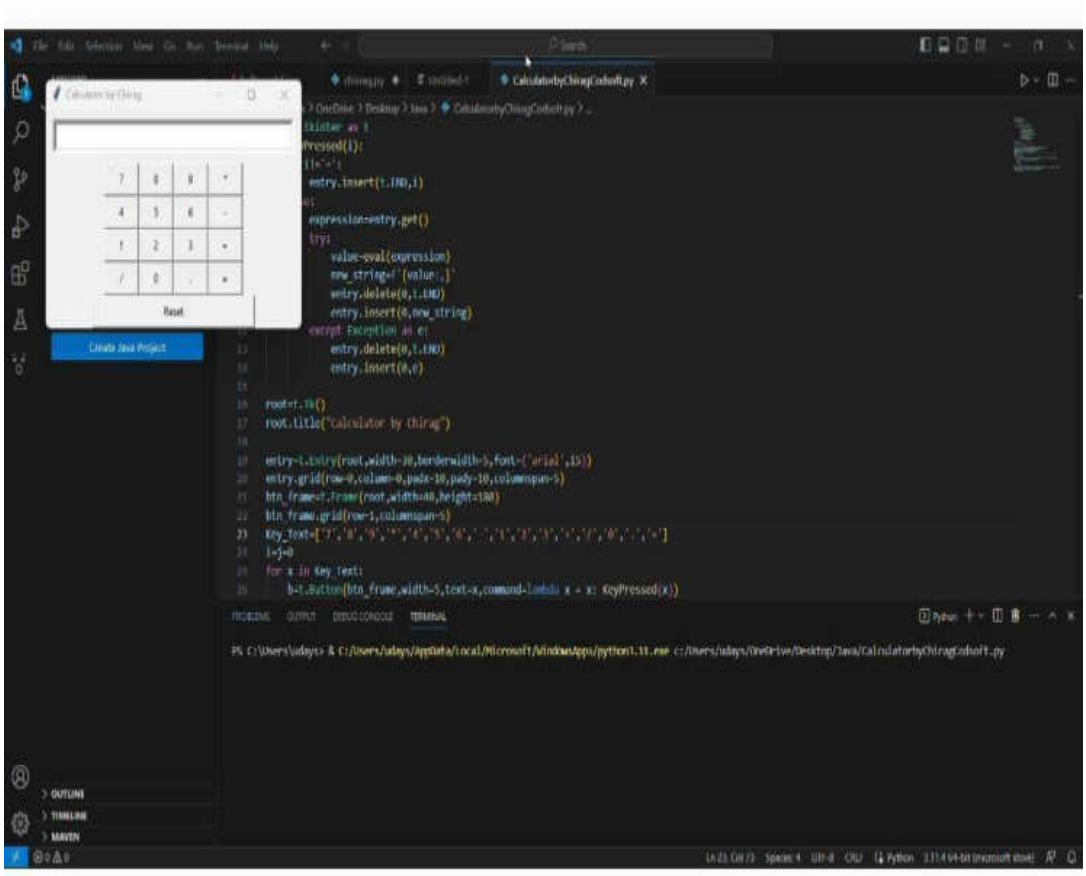
1. Project 1: To-Do list Application

- I have created this GUI application using Python tkinter.
- The application performs the add and delete task operations.



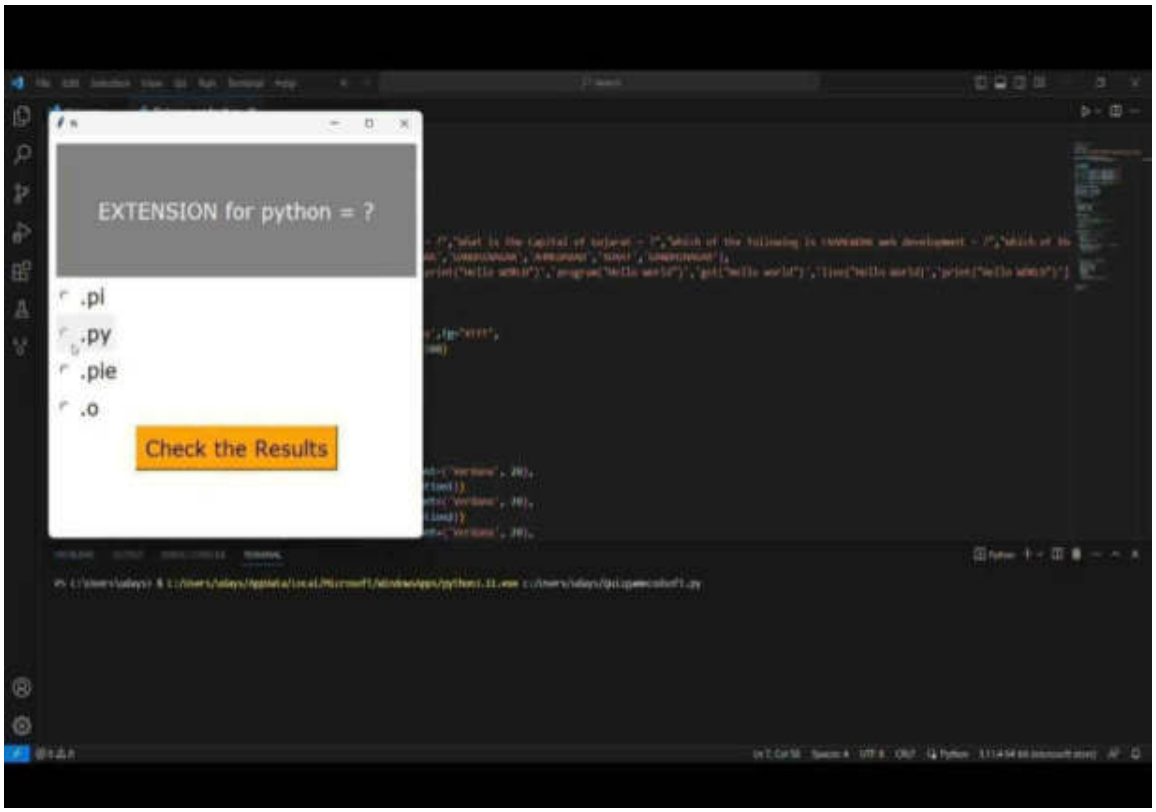
2. Project 2: Calculator Application

- A Calculator Application that performs basic arithmetic operations such as addition, subtraction, multiplication, and Division.



3. Project 3: Quiz Game Application

- I made this Quiz Game Application using GUI Framework Tkinter which is used to develop fast and easy GUI applications.The Quiz game asks the player questions and
- They have to answer the correct one from the four options to score a point.



CHAPTER 3. LEARNING AND EXPERIENCE

3.1 TOPICS THAT I EXPLORED DURING MY INTERNSHIP:

1. Python Basics:

- Introduction to Python and its history
- Installation and setup of Python environment
- Understanding Python syntax and indentation
- Variables, data types, and type conversion
- Basic input and output operations

2. Control Structures:

- Conditional statements (if, elif, else)
- Looping structures (for and while loops)
- Iteration and control flow

3. Functions and Modules:

- Defining functions and their importance
- Parameters, return values, and scope
- Creating and using modules
- Standard library modules and their applications

4. Data Structures:

- Lists, tuples, and dictionaries
- Sets and their properties
- Manipulating data structures
- List comprehensions and other advanced techniques

5. Object-Oriented Programming (OOP):

- Concepts of OOP (classes and objects)
- Encapsulation, inheritance, and polymorphism
- Implementing OOP principles in Python

6. File Handling:

- Reading and writing text files
- Working with CSV and JSON files
- Exception handling and error management

7. Libraries and Frameworks:

- Introduction to popular Python libraries (e.g., NumPy, pandas)
- Exploring data manipulation and analysis using libraries
- Basics of web development with Flask or Django

8. Intermediate Topics:

- Regular expressions and pattern matching
- Decorators and generators
- Context managers and the 'with' statement

9. Debugging and Testing:

- Identifying and debugging common errors
- Unit testing using the 'unittest' framework

10. Data Visualization:

- Introduction to data visualization libraries (e.g., Matplotlib, Seaborn)
- Creating plots, graphs, and charts

11. Advanced Python Concepts:

- Memory management and performance optimization
- Concurrency and parallelism using threads and multiprocessing
- Asynchronous programming using 'asyncio'

12. Best Practices and Coding Standards:

- Writing clean and readable code
- Following PEP 8 guidelines
- Code documentation and comments

3.2 SKILLS ACQUIRED:

During my internship, I developed the following skills:

- Proficiency in Python programming, including syntax, data structures, and object-oriented concepts.
- Knowledge of key Python libraries such as pandas, NumPy, Beautiful Soup, and Requests.
- Problem-solving abilities through tackling real-world programming challenges.
- Collaborative skills by working in a team-oriented environment.

3.3.CHALLENGES FACED:

- Adapting to different Python libraries and understanding their functionalities.
- Debugging and troubleshooting code to ensure its correctness and efficiency.
- Balancing multiple projects and tasks while meeting deadlines.

3.4 KEY TAKEAWAYS:

- A deep understanding of Python programming and its diverse applications.
- Improved problem-solving skills through hands-on experience.
- Enhanced collaboration and teamwork abilities by working alongside experienced

professionals.

3.5 CONCLUSION:

- My internship at [Company Name] was a transformative experience that provided me with invaluable insights into Python programming. I gained practical skills, faced challenges head-on, and contributed to meaningful projects. This experience has solidified my passion for programming and equipped me with the skills necessary to excel in future endeavors.

- I am immensely grateful for the guidance and mentorship provided by the team at [Company Name], and I look forward to applying the knowledge and skills I've acquired in my future career.

3.6 ACKNOWLEDGMENTS:

- I would like to express my gratitude to [Mentor's Name] and the entire team at [Company Name] for their continuous support, guidance, and the opportunity to be a part of their dynamic work environment.

References

[1] Stack Overflow https://stackoverflow.com/
[2] GitHub Repositories :
https://github.com/chirragsolanki/CBTCIP/blob/main/rockpaperscissorprojectbychirag.py
https://github.com/chirragsolanki/CBTCIP/blob/main/paymentrecieptbychirag.py
https://github.com/chirragsolanki/CodsoftInternshippythontask/blob/main/to-dolistcodsoft.py
[3] Python.org
[4] Codecademy
[5] Python Weekly Newsletter

Appendix

Scanned copies of Company Offer Letter
Scanned Copies of Report
Scanned copy of Completion Certificate
Other scanned supporting documents etc.

INTERNSHIP AT CODSOFT

AN INTERNSHIP REPORT

Submitted by

Kewal Shah

200390116054

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mahesana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CODSOFT** has been carried out by **Kewal Shah** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Akshay Kansara

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Internship Certificate



C.ID: 7faa6c8

CodSoft

CERTIFICATE

OF COMPLETION
PROUDLY PRESENTED TO

Kewal Shah

has successfully completed 4 weeks of a virtual internship program in
Python Programming
with wonderful remarks at **CODSOFT** from **20/07/2023 to 20/08/2023.**

We were truly amazed by his/her showcased skills and invaluable contributions to the tasks and projects throughout the internship.

Founder

contact@codsoft.in www.codsoft.in Date: **22/08/2023**





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Codsoft** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Guide** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
Kewal Shah	_____

ACKNOWLEDGMENT

CodSoft:
I wish to express my sincere gratitude to Codsoft for granting me the privilege of participating in an enriching internship within their esteemed organization. This invaluable experience has profoundly deepened my comprehension of the real-world implementations of Python programming, making a substantial contribution to my professional advancement.

My heartfelt appreciation also extends to company, whose unwavering guidance, support, and mentorship have gracefully guided me through this transformative journey. The invaluable insights and wealth of expertise shared have been instrumental in refining my proficiency and expertise in the realm of Python programming.

Saffrony Institute of Technology:
I would like to acknowledge Saffrony Institute of Technology for providing me with the academic foundation that has enabled me to translate classroom learning into practical skills during my internship.

Once again, I express my sincere thanks to Saffrony Institute of Technology and Codsoft for this exceptional internship opportunity.

Your Sincerely
Kewal Shah
En. No: 200390116054

Abstract

This report contains the work done by the author during his internship at ***Codsoft***, with a focus on Python programming. It provides an insightful overview of the tasks undertaken and skills honed during the internship duration. Within the report, the author delves into Python programming processes, highlighting coding practices and problem-solving methodologies. The report culminates in an elucidation of the valuable insights and lessons acquired by the author through this immersive Python programming internship experience.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

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- It is a top company that offers internships in different technology fields. They provide internships in web development, app development, software development, and Java programming.

- They understand the importance of practical experience for aspiring tech professionals. That's why their internship program offers hands-on learning, where students work on real projects under the guidance of experienced mentors.

- Their team consists of industry experts who are dedicated to equipping interns with the knowledge and skills needed to succeed in their careers. They foster an inclusive and supportive environment that encourages learning, growth, and creativity.

1.2 MISSION AND VISION OF THE COMPANY:

1.We Provide All Exclusive services For Clients.
2.We build websites and web applications.
3.Today, every business should have a website.
4.No matter how small or large your business, having a website is must have at this time.
5.Having a website help you to maintain your online presence.

1.3 INTERNSHIP OBJECTIVES:

The primary objectives of my internship were to:
1. Gain hands-on experience in Python programming.
2. Contribute to real-world projects that utilize Python.
3. Enhance my problem-solving skills by tackling challenges in programming.

Chapter 2. ACTIVITIES AND PROJECTS

2.1 OVERVIEW OF PYTHON PROGRAMMING:

- What is Python?
- Why is Python Popular?
- Python's Applications

1. Project 1: To-Do list Application

- I have created this GUI application using Python tkinter.
- The application performs the add, delete and edit task operations.
- Github Repo: https://github.com/KewalShah619/CodSoft-2023-Internship-Task/blob/main/To-Do_List.ipynb

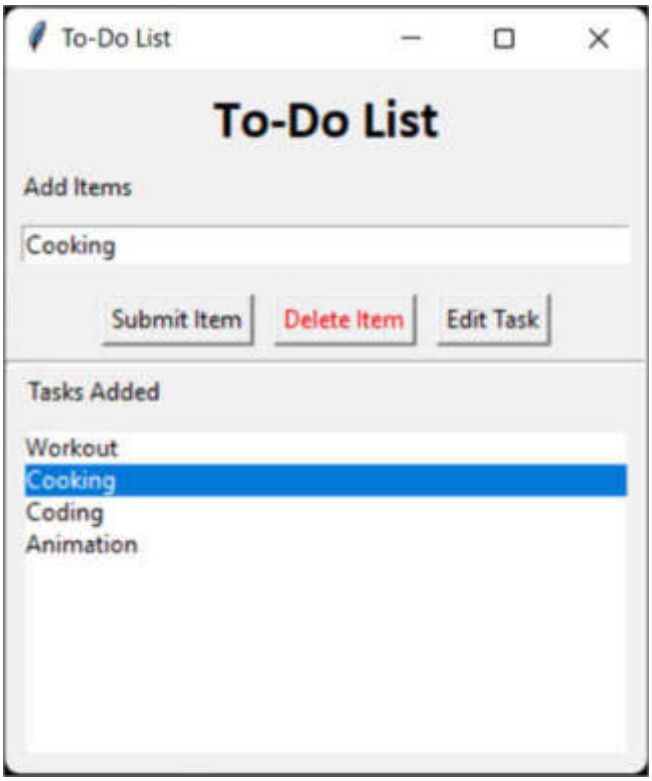


Fig. 2.1 To-Do List

2. Project 2: Calculator Application

- A Calculator Application that performs basic arithmetic operations such as addition, subtraction, multiplication, and Division.
- Handle any errors occured and inform them of user
- Github Repo: https://github.com/KewalShah619/CodSoft-2023-Internship-Task/blob/main/Calculator.ipynb

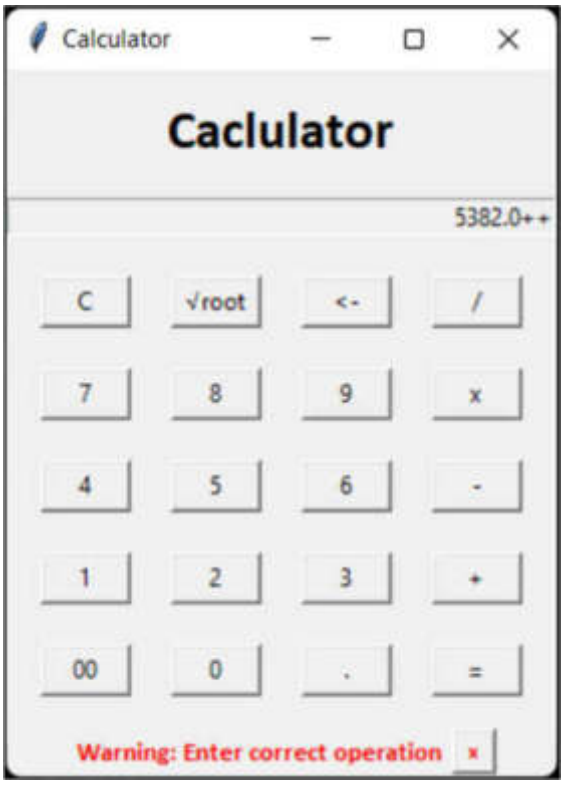


Fig. 2.2 Calculator

3. Project 3: Password Generator

- Take User Input: Prompt the user to specify the desired length of the password
- Generate Password: Use a combination of random characters to generate a password of the specified length
- Display the Password: Print the generated password on the screen
- Github Repo: https://github.com/KewalShah619/CodSoft-2023-Internship-Task/blob/main/Password_Generator.ipynb



Fig 2.3 Password Generator

CHAPTER 3. LEARNING AND EXPERIENCE

3.1 TOPICS I EXPLORED DURING MY INTERNSHIP:

1. Python Basics:

- Introduction to Python and its history
- Installation and setup of Python environment
- Understanding Python syntax and indentation
- Variables, data types, and type conversion
- Basic input and output operations

2. Control Structures:

- Conditional statements (if, elif, else)
- Looping structures (for and while loops)
- Iteration and control flow

3. Functions and Modules:

- Defining functions and their importance
- Parameters, return values, and scope
- Creating and using modules
- Standard library modules and their applications

4. Data Structures:

- Lists, tuples, and dictionaries
- Sets and their properties
- Manipulating data structures
- List comprehensions and other advanced techniques

5. Object-Oriented Programming (OOP):

- Concepts of OOP (classes and objects)
- Encapsulation, inheritance etc.
- Implementing OOP principles in Python

6. File Handling:

- Reading and writing text files
- Working with CSV and JSON files
- Exception handling and error management

7. Libraries and Frameworks:

- Introduction to popular Python libraries (e.g., NumPy, tkinter)
- Exploring data manipulation and analysis using libraries

8. Best Practices and Coding Standards:

- Writing clean and readable code
- Code documentation and comments

3.2 SKILLS ACQUIRED:

During my internship, I developed the following skills:

- Proficiency in Python programming, including syntax, data structures, and object-oriented concepts.
- Knowledge of key Python libraries such as pandas, NumPy, Tkinter, Requests etc.
- Problem-solving abilities through tackling real-world programming challenges.

3.3.CHALLENGES FACED:

- Adapting to different Python libraries and understanding their functionalities.
- Debugging and troubleshooting code to ensure its correctness and efficiency.
- Balancing multiple projects and tasks while meeting deadlines.

3.4 KEY TAKEAWAYS:

- A deep understanding of Python programming and its diverse applications.
- Improved problem-solving skills through hands-on experience.

3.5 CONCLUSION:

- My internship at CodSoft was a transformative experience that provided me with invaluable insights into Python programming. I gained practical skills, faced challenges head-on, and contributed to meaningful projects. This experience has solidified my passion for programming and equipped me with the skills necessary to excel in future endeavors.

- I am immensely grateful for the guidance and mentorship provided by the team at CodSoft, and I look forward to applying the knowledge and skills I've acquired in my future career.

3.6 ACKNOWLEDGMENTS:

- I would like to express my gratitude to the entire team at CodSoft for their continuous support, guidance, and the opportunity to be a part of their dynamic work environment.

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD

AN INTERNSHIP REPORT

Submitted by

Patel Rahul Mahendrabhai

200390116055

Web development using Python django

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Patel Rahul Mahendrabhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 6th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof.	Prof.
Internal Guide	Head of Department

CERTIFICATE OF COMPLETION

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116055
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Patel Rahul Mahendrabhai .

In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework

We wish Patel Rahul Mahendrabhai all the best for future endeavors.



Ms. Twinkle Shah
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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at INFOLABZ** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

_____

COMPANY PROFILE

Established in 2016, incorporated with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services, etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers who are always willing to take on new challenges and looking forward to learning new things, are the heart of this company.

Our objective is to sustain with exponential growth in the IT industry. Our mission is to deliver the best with top-notch quality every quarter and our vision is to develop a product with one of its kind concept which could be used by millions of people

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Week 1

27 JULY 2023

- **Introduction to Django:**

Django is an open-source web framework for building web applications using the Python programming language. It follows the Model-View-Controller (MVC) architectural pattern and emphasizes rapid development, clean code, and reusability.

Django provides a wide range of tools and features, including an Object-Relational Mapping (ORM) system for database interaction, a templating engine for rendering dynamic content, built-in user authentication, and a powerful admin interface for managing application data. It promotes the "Don't Repeat Yourself" (DRY) principle and encourages best practices for security and scalability. Django is widely used by developers to create a variety of web applications, from simple websites to complex web platforms.

- **Django Environment setup**:

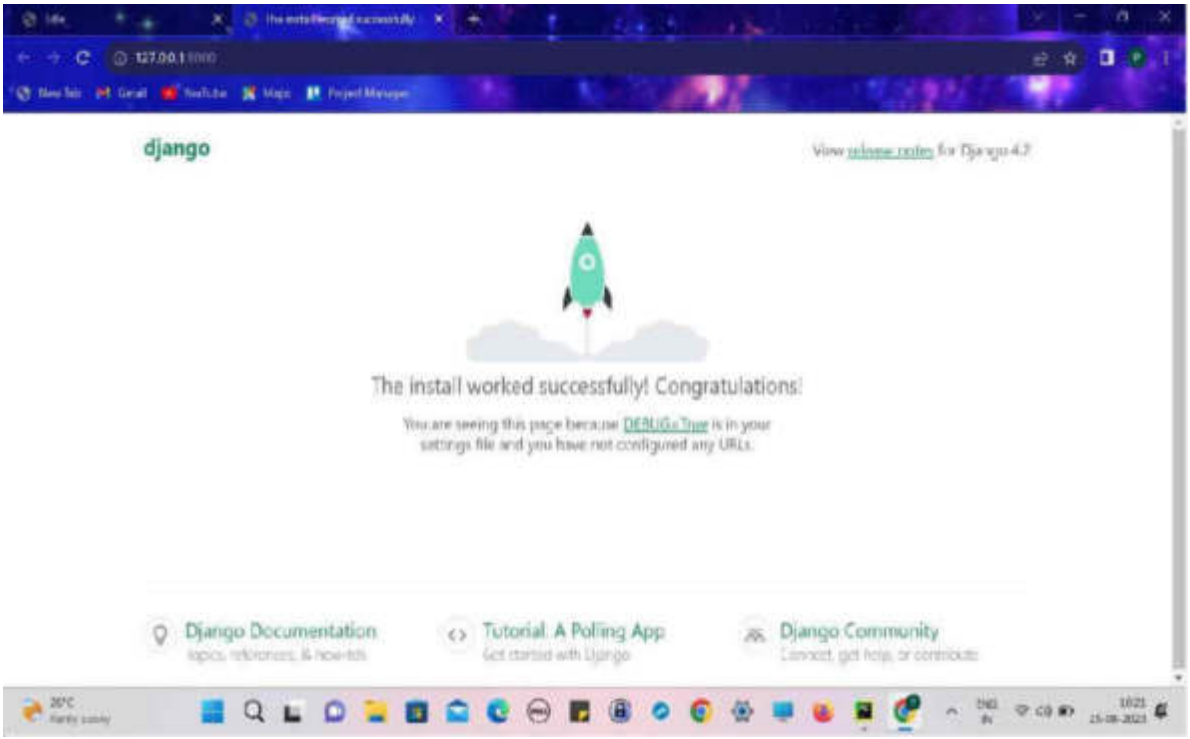
  - Install Python.
  - Install PyCharm community edition.
  - Install SQLite database browser.

- **Django Project Creation**:

Type the following commands or install dependencies in the terminal.

  - pip install django
  - django-admin startproject project name .
  - python manage.py makemigrations
  - python manage.py migrate In Django, makemigrations is a command used to create files that capture changes in your app's data structure.
  - python manage.py runserver

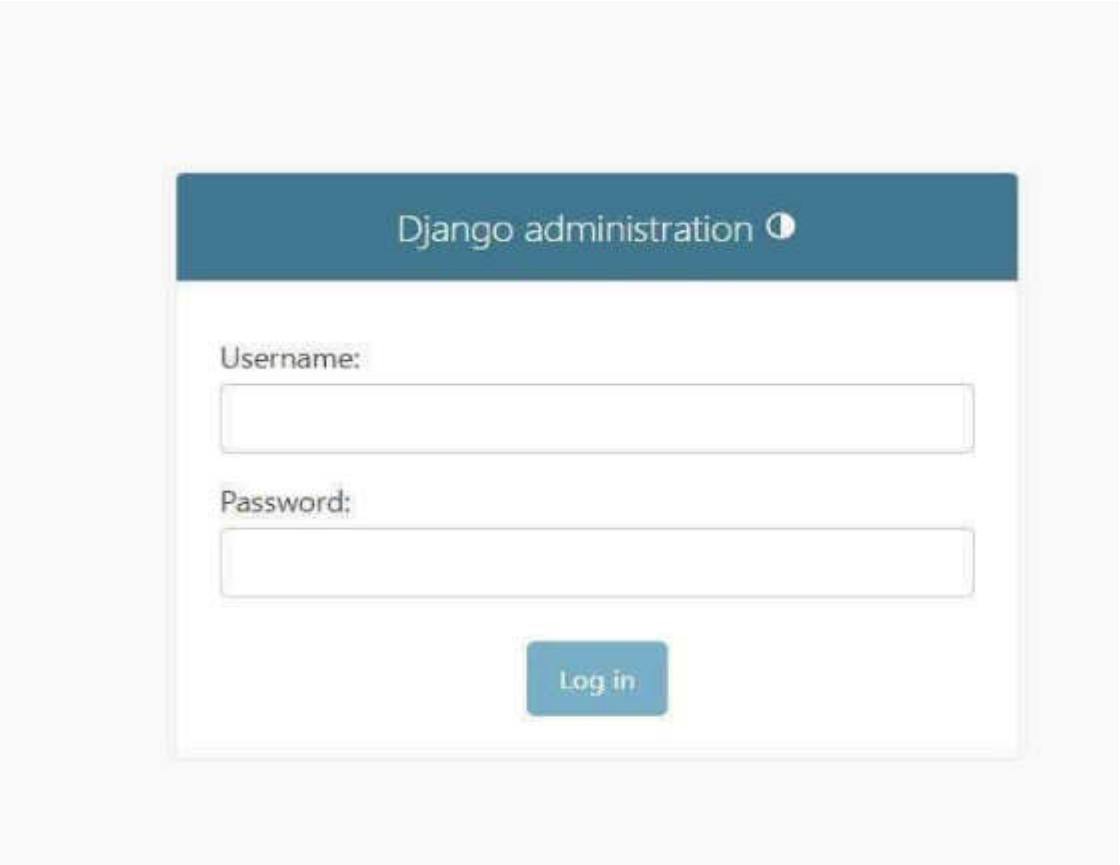
Make Migrations & Migrate: In Django, **makemigrations** is a command used to create files that capture changes in your app's data structure. These changes are then applied to the database using the migrate command, ensuring your code and database remain in sync.



- **Superusers in Django:**

In Django, a superuser is a user account with administrative privileges that can access and manage the admin interface. Superusers have the ability to add, edit, and delete records across the application's models through the Django admin panel. They play a crucial role in managing the backend of a Django-powered website or application.

When you write /admin after the user page address you will see a login or admin panel.
http://127.0.0.1:8000/admin/login/?next=/admin/

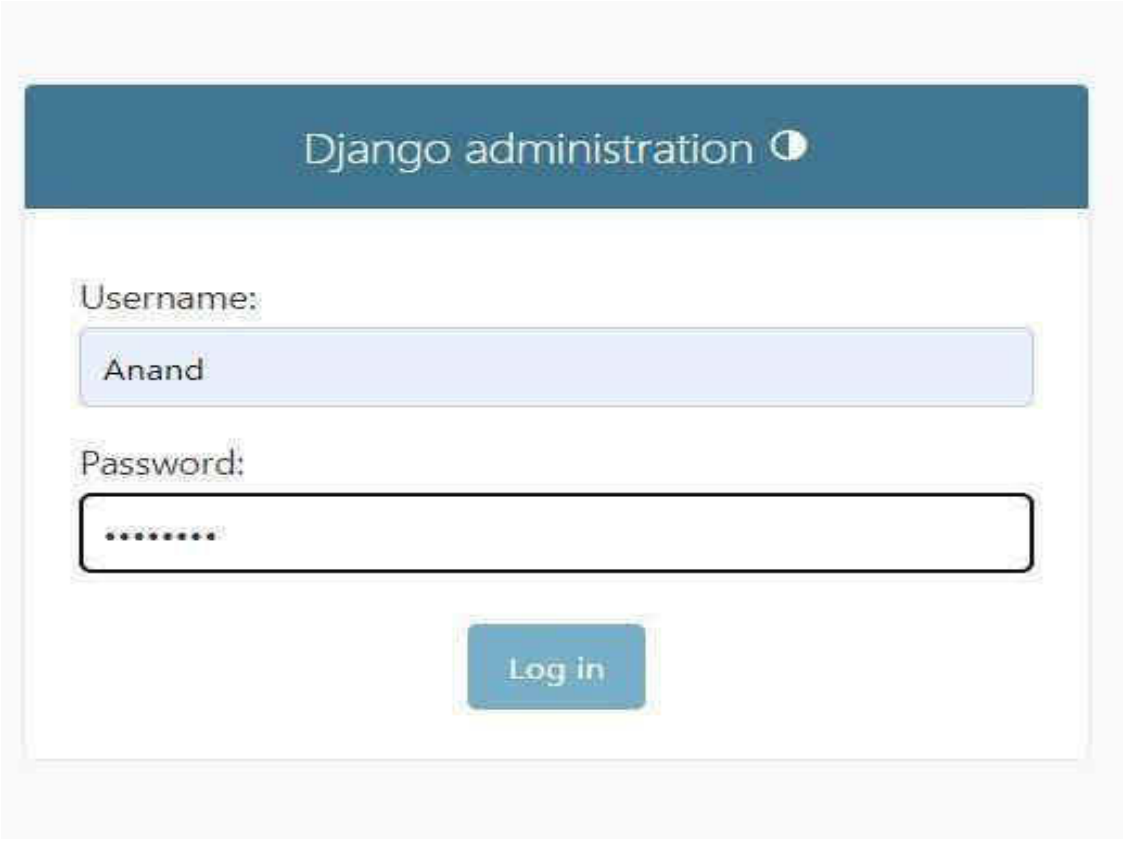


- **Creating Superuser**:

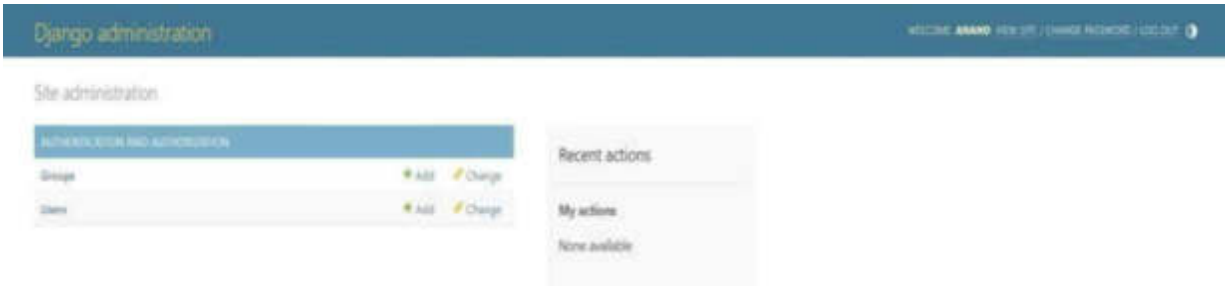
To create superuser you have to type the command in the terminal python maange.py createsuperuser
This will execute and give the following output

```
(venv) PS C:\Users\gurus\PycharmProjects\Internship practice 10> python manage.py createsuperuser
Username (leave blank to use 'gurus'): Anand
Email address: and@gmail.com
Password:
Password (again):
Superuser created successfully.
```

- Now for login you have to use the superuser name and password. You can create more than one superuser.



- After login you will see the following page.

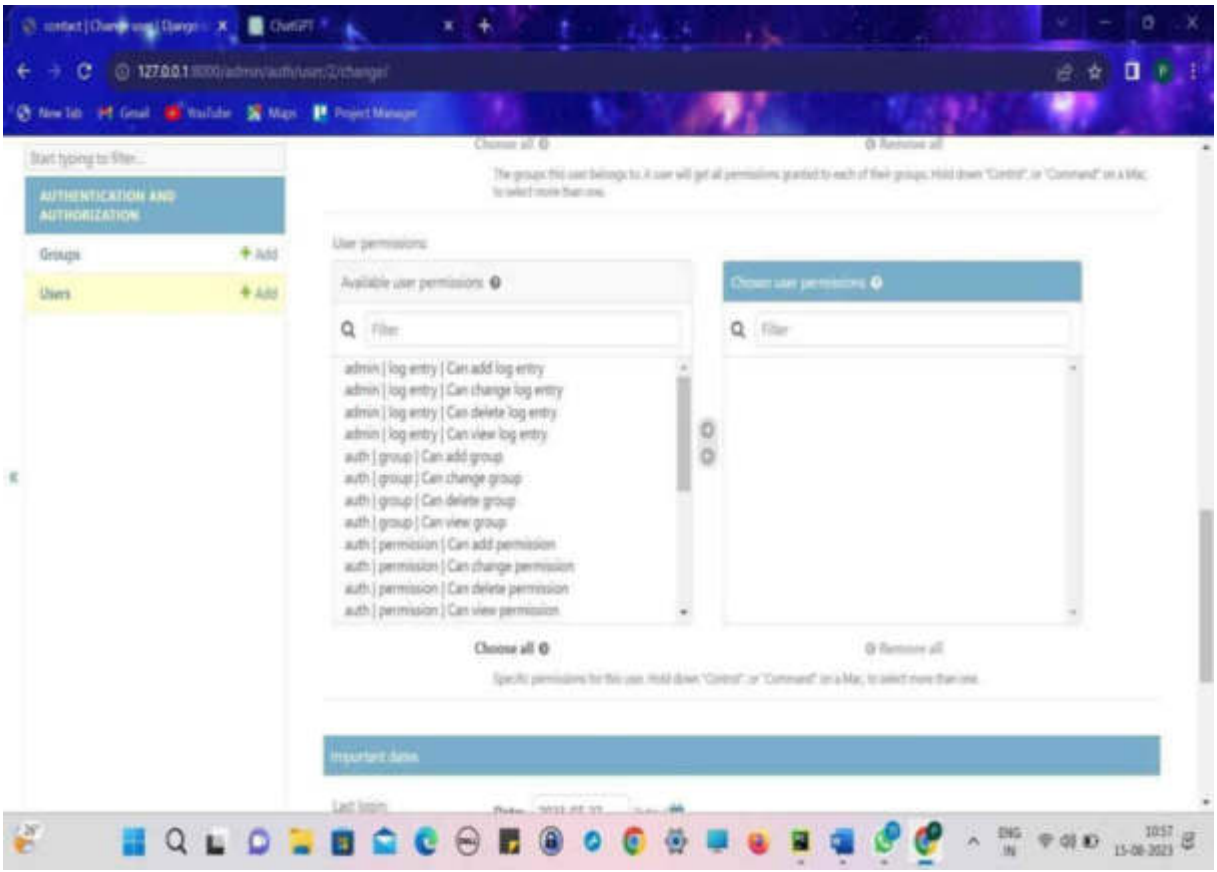


Week 1

28 JULY 2023

- **Superuser permissions :**

In Django, "Superuser permissions" refer to the highest level of administrative access granted to a user. Superusers have complete control over the application, allowing them to manage and modify all aspects of the system, including creating, editing, and deleting user accounts, managing content, and performing administrative tasks. These permissions are essential for maintaining and overseeing the entire Django application.



- After setting the permission when the user login again it will have the following permissions that are been given.
- Because the user was given the login and view other users' permission, it can be seen in the above-mentioned figure.



- **Introduction to SQLite 3:**

SQLite3 is the default database backend used by Django, a popular Python web framework. It provides an easy and efficient way to store and retrieve data for web applications. Django abstracts the database interactions, allowing developers to work with models and query data using Python code. While suitable for development and smallscale applications, it's recommended to switch to more robust databases like PostgreSQL or MySQL for larger and production-level projects due to their scalability and advanced features.

- **CRUD Operations in Django:**

1. **Delete Operation**: Use Django admin's built-in interface to select and delete records. Registered models in the admin panel allow easy record deletion.

2. **Insert Operation**: In the admin panel, use the "Add" button to input data and create new records.

3. **Update Operation**: Modify records via the admin panel by selecting them, making changes, and saving the updates.

For the read operation you have to use the ORM (Object Relational Mapping) because using it you can call the objects directly.

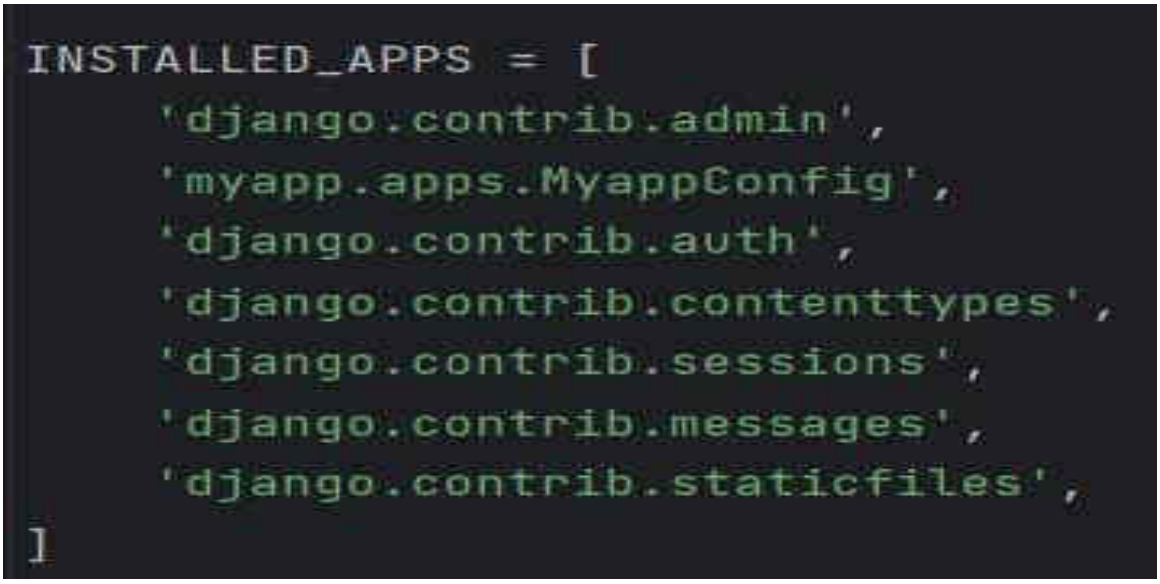
- **Apps in Django:**

In Django, apps are modular components that encapsulate specific functionalities or features of a web application. Each app focuses on a particular aspect of the project, such as user authentication, blog posts, comments, etc. Apps promote code organization, reusability, and maintainability. They consist of models, views, templates, and other supporting files needed for that specific feature. Apps can be reused across projects, fostering a modular and scalable approach to web development.

For creating the apps in the django you have to type the following command in the terminal.

- django-admin startapp appname
- The app contains model.py, admin.py, view.py etc. inbuilt files.

After that you have to register the app in the settings.py installed apps of the main project.





- **Creating Database:**

We create the database in the apps folder in the preinstalled files models.py and admin.py. The information for the same using e.g., is provided below. For performing the crud operation in database, we will use model.py and admin.py file of app we create.

- **Models.py:**

In Django, the models.py file is where you define the structure and behavior of your application's data. It contains Python classes, called models, that represent the various entities and their attributes in your database. These models define the data schema, relationships, and constraints. By creating models in models.py, you're essentially creating a blueprint for how your data will be stored, retrieved, and manipulated in the database.

The simple database created in models.py is shown in below figure.

- **Admins.py:**

In Django, the admins.py file is used to configure and customize the admin interface for managing your application's data. You can register your models with the admin site, which allows you to easily perform CRUD operations on your data through a userfriendly web interface. By customizing admins.py, you control how your models are displayed, filtered, and edited in the admin panel, enhancing the management and manipulation of your application's data without needing to build custom views or templates.

```python
from django.db import models

# create your models here.
2 usages
class product(models.Model):
    name = models.CharField(max_length=50)
    price = models.IntegerField()

2 usages
class category(models.Model):
    name = models.CharField(max_length=60)
    description = models.TextField()
```

Fig : models.py

```python
from django.contrib import admin
from .models import product,category

# Register your models here.
1 usage
class productdisplay(admin.ModelAdmin):
    list_display = ['name', 'price']

admin.site.register(product,productdisplay)

1 usage
class categorydisplay(admin.ModelAdmin):
    list_display = ['name', 'description']

admin.site.register(category,categorydisplay)
```

Fig : admin.py

- The database looks in the following way in the website and sqlite3 database.



id	name	price
Filter	Filter	Filter
1	Parker pen	20
2	Pencil	10
3	Pilot Pen	50

id	name	description
Filter	Filter	Filter
1	Pen	there are wide options for ball pen an...
2	Books	There are many inspiring and ...

Week 1

31 JULY 2023

- **Multiple Database Tables with different Fields :**

Multiple databases refer to the practice of using and managing more than one separate database within a single software application or system. This can involve utilizing different database systems, instances, or schemas to store and manage various sets of data or to achieve specific performance, security, or scalability goals. It's commonly used in scenarios where an application needs to handle diverse types of data or distribute data storage across multiple resources.

- **Multiple Database in Django:**

In Django, multiple databases refer to the capability of using and managing more than one distinct database within a single Django project. This feature allows you to define and interact with multiple database connections using the same codebase. Each atabase connection can use a different database engine, such as SQLite, PostgreSQL, MySQL, etc., and may serve different purposes within your application. This is useful for scenarios where you need to segregate data or use different databases for different parts of your application, such as separating user data from analytics data.

The multiple databases are created using the same format as done in the single database but more than one database is created. The above e.g., explains the below.

```python
from django.db import models

# Create your models here.
2 usages
class contactus(models.Model):
    name = models.CharField(max_length=30)
    email = models.CharField(max_length=50)
    phone = models.IntegerField()
    message = models.TextField()

2 usages
class userinfo(models.Model):
    name = models.CharField(max_length=30)
    email = models.EmailField()
    phone = models.CharField(max_length=11)
    linkedin = models.URLField()
    description = models.TextField()
    addedon = models.DateTimeField(auto_now_add=True)
```

```python
CITY_CHOICES = [
    ('1', 'Anand'),
    ('2', 'Surat'),
    ('3', 'Rajkot')
]

2 usages
class address(models.Model):
    name = models.CharField(max_length=30)
    add = models.TextField()
    city = models.CharField(choices=CITY_CHOICES,max_length=30)
```

```python
from django.contrib import admin
from .models import contactus, userinfo, address

# Register your models here.
1 usage
class showcontact(admin.ModelAdmin):
    list_display = ['name', 'email', 'phone', 'message']

admin.site.register(contactus,showcontact)

1 usage
class showuserinfo(admin.ModelAdmin):
    list_display = ['name', 'email', 'phone', 'linkedin', 'description', 'addedon']

admin.site.register(userinfo,showuserinfo)
```

```python
class showaddress(admin.ModelAdmin):
    list_display = ['name', 'add', 'city']

admin.site.register(address,showaddress)
```

Table: info_userinfo

Filter in any column

	id	name	email	phone	linkedin	description	addedon
	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	1	prit	prit@gmail.com	9512074713	http://www.linkdin.prit	this is good	2023-07-31 09:54:16.797559

Week 1

1 August 2023

- **Foreign Key Concept:**

A foreign key is a link between two database tables. In Django models, it's a field that connects one model to another. It maintains data integrity and enables you to navigate between related data. For example, a book model might have a foreign key to an author model, creating a connection between the two. It gives the following functionalities.

- Model Relationships.
- Database Integrity.
- Navigation.
- Data Integrity.

The e.g., of foreign key shown using the bank database e.g.

```
2 usages
class movie(models.Model):
    name = models.CharField(max_length=50)
    description = models.TextField()
    moviecategory = models.ForeignKey(moviecategory,on_delete=models.CASCADE)
    maleactor = models.ForeignKey(male_actor,on_delete=models.CASCADE)
    femaleactress = models.ForeignKey(female_actor,on_delete=models.CASCADE)
```

```
3 usages
class moviecategory(models.Model):
    name = models.CharField(max_length=50)
    description = models.TextField()
    def __str__(self):
        return self.name


3 usages
class male_actor(models.Model):
    name = models.CharField(max_length=50)
    dob = models.DateField()
    description = models.TextField()
    def __str__(self):
        return self.name

3 usages
class female_actor(models.Model):
    name = models.CharField(max_length=50)
    dob = models.DateField()
    description = models.TextField()
    def __str__(self):
        return self.name
```

Week 1

2 August 2023

- **Assignment 1 :** Create multiple database tables for the user (role, City, Country, State, Bank _details, User_address , User_details) White use of foreign key.

```python
from django.db import models

# Create your models here.
2 usages
class role(models.Model):
    user_typename = models.CharField(max_length=50)

USER_STATE_CHOICES = [
    ('1', 'ACTIVE'),
    ('2', 'INACTIVE')
]
2 usages
class user_detail(models.Model):
    user_name = models.CharField(max_length=50)
    user_password = models.CharField(max_length=40)
    user_email = models.EmailField()
    user_phone = models.CharField(max_length=40)
    user_type = models.CharField(max_length=20)
    user_state = models.CharField(choices=USER_STATE_CHOICES, max_length=40)
3 usages
class country(models.Model):
    country_name = models.CharField(max_length=40)

def __str__(self):
```

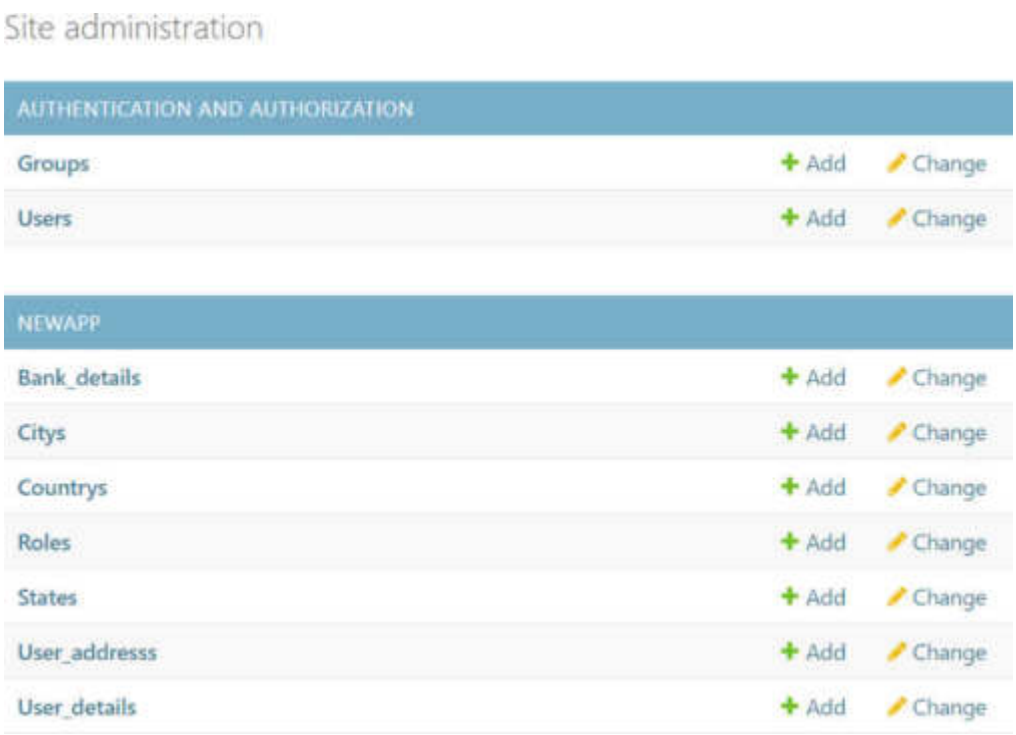
```python
2 usages
class bank_detail(models.Model):
    user_id = models.ForeignKey(user_address,on_delete=models.CASCADE)
    bank_name = models.CharField(max_length=40)
    digit_no = models.IntegerField()
    end_month = models.IntegerField(choices=ENDMONTH_CHOICES)
    end_year = models.IntegerField(choices=ENDYEAR_CHOICES)
```

```
    return self.country_name
3 usages
class state(models.Model):
    country_id = models.ForeignKey(country, on_delete=models.CASCADE)
    state_name = models.CharField(max_length=50)

def __str__(self):
    return self.state_name

3 usages
class city(models.Model):
    state_id = models.ForeignKey(state, on_delete=models.CASCADE)
    city_name = models.CharField(max_length=50)

def __str__(self):
    return self.city_name
3 usages
class user_address(models.Model):
    user_id = models.CharField(max_length=40)
    building_name = models.CharField(max_length=50)
    street_name = models.CharField(max_length=50)
    city_name = models.ForeignKey(city,on_delete=models.CASCADE)
    pincode = models.IntegerField()
```



Week 2

3 August 2023

Loading HTML Page in Django:

In Django, HTML (Hypertext Markup Language) is used to structure the content and layout of web pages. HTML templates in Django allow you to dynamically generate HTML content by embedding Python code within HTML markup. This allows you to create dynamic web pages that display data from the backend, adapt to user interactions, and maintain a consistent layout across your application.

- **Steps for Templates:**

Here are the basic steps for creating HTML file in Django using templates folder. 1. Create an app: python manage.py startapp myapp

2. Configure myapp/templates/my_template.html.
3. Define a view function in myapp/views.py.
4. Map a URL to the view in myapp/urls.py.
5. Access template variables and logic in my_template.html.
6. Run the development server: python manage.py runserver.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
</head>
<body>
        <h1>Hello</h1>
</body>
</html>
```

```python
from django.shortcuts import render

# Create your views here.
1 usage
def index(request):
    return render(request, template_name: 'index.html')
```

- The above-mentioned steps then have to be followed further for creating urls.py file for app path and then installing or registering it in the project urls.py file.

```python
from django.urls import path
from .import views
urlpatterns = [
    path('', views.index, name="indexfile"),
]
```

Week 2

4 August 2023

- **Implementation of Static folder (CSS, JS & IMAGES) in Djnago:**

CSS and JS in Django:

CSS: In Django, CSS (Cascading Style Sheets) is used to style and format the visual appearance of web pages. It allows you to define how the HTML elements on your web pages should be presented, including aspects like colors, fonts, spacing, and layout. CSS helps make your Django web application more visually appealing and user-friendly.

JavaScript: JavaScript in Django refers to the use of the JavaScript programming language within a Django web application. Django is a Python web framework, and JavaScript is a client-side scripting language primarily used to enhance interactivity and functionality in web browsers.

Steps for CSS:

1. Create Directory: Make a "static" directory inside your app's folder.

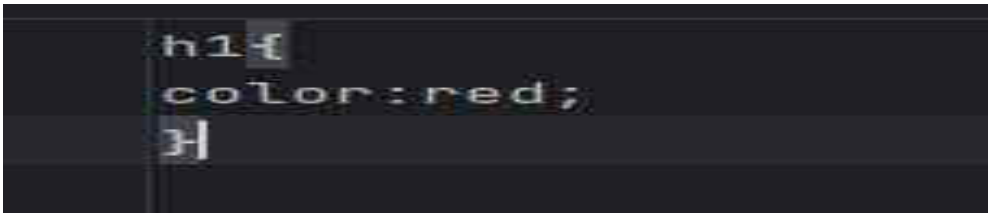
2. Add CSS File: Place your CSS file in "static/app_name/".

3. Link in Template: In your HTML template, load static files with {% load static %} and use {% static 'path_to_css_file' %} to create the CSS URL.

4. Apply Styles: Define styles in the CSS file and use class names or IDs to apply them to HTML elements in your template.

5. Run Development Server: Start Django's development server to see your CSS changes locally.

- Here is the simple sample code for CSS attached as a figure below.



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
  </head>
<body>
  <h1>Welcome to about us page</h1>
  <a href="{% url 'indexfile' %}">GO TO HOME PAGE</a><br>
    <table border="1" class="table table-striped table-hover">
        <tr>
            <th>Header 1</th>
            <th>Header 2</th>
            <th>Header 3</th>
            <th>Header 4</th>
```

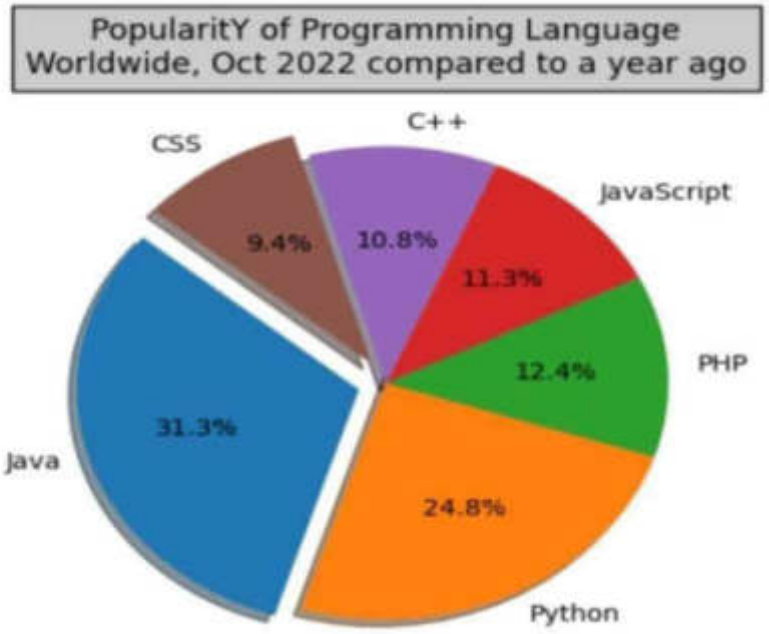
Welcome to home page

- **Steps for JS:**
  1. Create Directory: Make a "static" directory inside your app's folder.
  2. Add JavaScript File: Place your JavaScript file in "static/app_name/".
  3. Link in Template: In your HTML template, use the <script> tag with the file's URL to incorporate the JavaScript.
  4. Write JavaScript Code: Inside your JavaScript file, write the client-side code you want to execute.
  5. Run Development Server: Start Django's development server to test your JavaScript locally.
  - Here is the simple sample code for JavaScript attached as a figure below.

```
function viewmsg(){
    alert("IMAGE CLICKED");
}
```

```
<!DOCTYPE html>
<html lang="en">
{% load static %}
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="{% static 'css/style.css' %}">
    <script src="{% static 'js/demo.js' %}"></script>
</head>
<body>
  <h1>Welcome to home page</h1>
    <a href="{% url 'aboutusfile' %}">Go to aboutus page </a><br>
    <img src="{% static 'images/intft.png' %}" height="500px" width="700px" onclick="viewmsg();" />
</body>
</html>
```

Go to project page



- **Bootstrap:**

In the context of Django, integrating Bootstrap means bringing in the Bootstrap front-end framework to improve the appearance and user interface of web applications. Bootstrap offers a collection of pre-designed elements and styles that simplify the process of building responsive and visually appealing web pages. This integration allows Django developers to create modern and user-friendly interfaces without needing to craft extensive custom design and layout code.

1. Setup Project: Create a Django project and app if you haven't already.
2. Static Files: Configure static file settings in settings.py.
3. Bootstrap Files: Download Bootstrap or use a CDN for CSS and optionally JavaScript.
4. Templates: Create HTML templates in your app's templates directory.
5. Apply Bootstrap: Use Bootstrap classes in your templates to style elements.
6. Add Components: Integrate Bootstrap components like forms, navigation bars, etc.
7. Customize (Optional): Customize styles with custom CSS if needed.

Here is the simple sample code for bootstrap attached as a figure below.



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
  </head>
<body>
  <h1>Welcome to about us page</h1>
  <a href="{% url 'indexfile' %}">GO TO HOME PAGE</a><br>
    <table border="1" class="table table-striped table-hover">
        <tr>
            <th>Header 1</th>
            <th>Header 2</th>
            <th>Header 3</th>
            <th>Header 4</th>
```

Week 2

7 August 2023

- **API in Django:**

In Django, an API (Application Programming Interface) is a mechanism that enables different software components to communicate. In web development, it typically involves exposing specific functions and data of a web application, allowing external systems to interact with and control the application remotely over the internet. This is often done through endpoints that handle requests and responses, facilitating actions like retrieving, creating, updating, and deleting data. There are specifically two types of API in Django.

RESTful API: A RESTful API in Django, using the Django REST framework, exposes your app's data and services to external systems. It follows HTTP methods (GET, POST, PUT, DELETE) for actions on resources. For example, you can create an API to list, create, update, and delete articles. Endpoints like /articles/ and /articles/<article_id>/ handle these actions.

Internal Modular API: An internal modular API in Django improves code organization by facilitating effective communication between different parts of the application. For instance, you could have a user management module communicating with an authentication module via well-defined internal APIs. This separation enhances maintainability and code reuse. These APIs serve distinct purposes: one for external interaction and the other for internal modularity, yet both create interfaces for components to communicate within a Django app.

- **Dictionaries in API:**

Dictionaries in Python are a collection of key-value pairs, where each key is unique and associated with a value. They are often used to store and manage data in a structured way. In the context of Django, you might use dictionaries for various purposes, such as passing data to templates, handling form data, or processing JSON data from APIs.

Here is the sample basic code for python dictionary usage in the below figure.

```python
# curly bracket
# key (left) : value (right)
# to access value key is required.
mydata = {"Ahmedabad":100,"Surat":200,"Rajkot":300}
print(mydata["Rajkot"])
mydata1 = {"Ahmedabad":100,"Surat":[200,250,1],"Rajkot":300}
print(mydata1["Surat"][1])

mydata2 = {"Ahmedabad":[{"date":"5 Aug 2023","cases":15},
                        {"date":"6 Aug 2023","cases":25},
                        {"date":"7 Aug 2023","cases":35}],
           "Surat":[200,250,1],
           "Rajkot":300}
print(mydata2["Ahmedabad"][1]["date"])
print(mydata.keys())
```

```
"C:\Users\gurus\PycharmProjects\Internship practice 9\venv\Scripts\python.exe" "C:\Users\gurus\PycharmProjects\Internship practice 9\dictionary.py"
100
250
6 Aug 2023
dict_keys(['Ahmedabad', 'Surat', 'Rajkot'])

Process finished with exit code 0
```

- We are given some handfuls tasks on the different API links to learn more about working and integrating of API that I am attaching with name, output in below topics in form of figure as an e.g.

- **Different API Tasks:**

1. COVID.py

```python
import requests

url = requests.get("https://data.covid19india.org/data.json")
mydata = url.json()

print(mydata.keys())
print(mydata["cases_time_series"][0]["date"])
print(len(mydata["cases_time_series"]))
```

```
"C:\Users\gurus\PycharmProjects\Internship practice 9\venv\Scripts\python.exe" "C:\Users\gurus\PycharmProjects\Internship practice 9\covid.py"
dict_keys(['cases_time_series', 'statewise', 'tested'])
30 January 2020
565

Process finished with exit code 0
```

2. Bitcoin.py

```python
# pip install requests

import requests

url = requests.get("https://api.coindesk.com/v1/bpi/currentprice.json")
mydata = url.json()

print(type(mydata))
print(mydata["bpi"]["USD"]["rate"])
print(mydata.keys())
```

```
"C:\Users\gurus\PycharmProjects\Internship practice 9\venv\Scripts\python.exe" "C:\Users\gurus\PycharmProjects\Internship practice 9\bitcoin.py"
<class 'dict'>
29,346.5558
dict_keys(['time', 'disclaimer', 'chartName', 'bpi'])

Process finished with exit code 0
```

Week 2

8 August 2023

- **API Integration in Webpages using Django Framework**

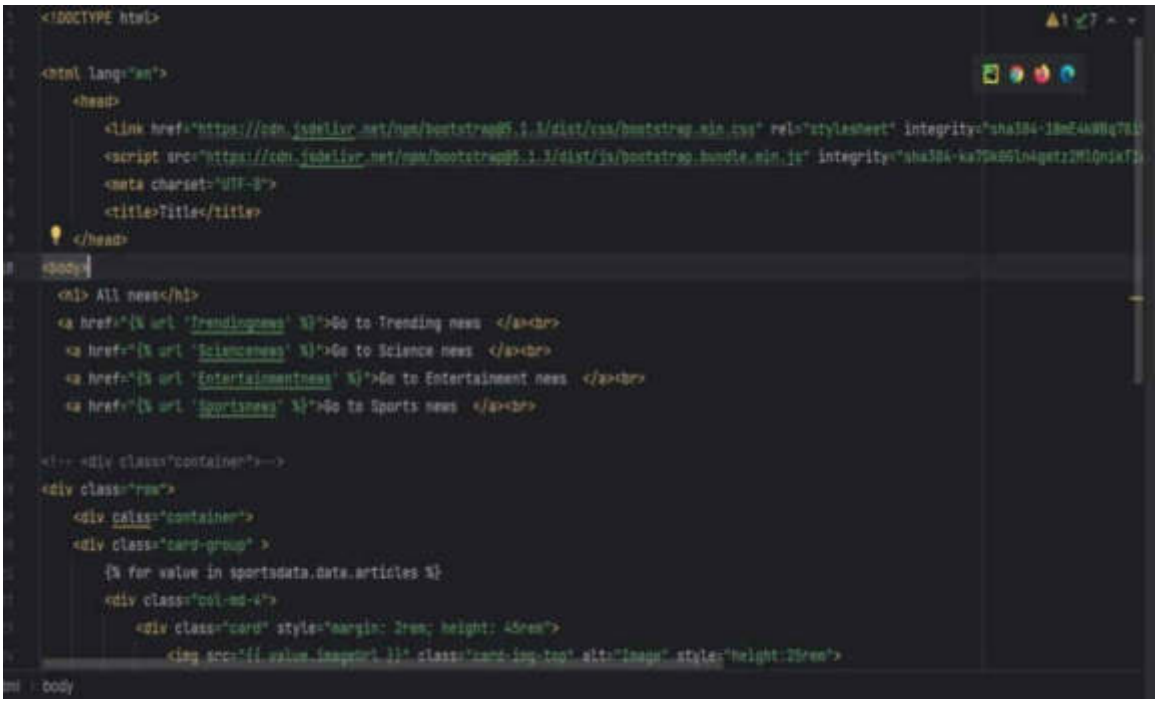
API integration in webpages using the Django framework involves incorporating external data and functionality into your web application by connecting to external APIs (Application Programming Interfaces). Django's robust capabilities allow developers to seamlessly interact with APIs, retrieve data, and display it on webpages. This integration enhances your website with dynamic content, such as real-time updates, third-party services, and data synchronization. By leveraging Django's built-in features and libraries, you can easily manage API requests, responses, and data processing, creating a richer and more interactive user experience.



Week 2

9 August 2023

- **Assignment 2 :** Develop one news website with different pages of news categories .





```python
def index(request):
    records = {}
    url = requests.get("https://inshorts.me/news/all?offset=0&limit=21")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, template_name: 'index.html',records)
1 usage
def Sciencenews(request):
    records = {}
    url = requests.get("https://inshorts.me/news/topics/science")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, template_name: 'Sciencenews.html',records)
1 usage
def Entertainmentnews(request):
    records = {}
    url = requests.get("https://inshorts.me/news/topics/entertainment")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, template_name: 'Entertainmentnews.html',records)
1 usage
def Sportsnews(request):
    records = {}
    url = requests.get("https://inshorts.me/news/topics/sports")
```

Week 2

10 August 2023

- **Conclusion :**

- These past 15 days of internship have been an enriching and dynamic experience. I am delighted to have had the opportunity to work with INFOLABZ and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved.
- Throughout these 15 days, I've had the privilege of working alongside experienced professionals who have generously shared their knowledge and insights. I've gained exposure to Webpages using Django Framework, which has significantly expanded my skill set.
- During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.
- In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and am committed to making the most of this internship experience. Thank you for this incredible opportunity.

INTERNSHIP AT JBS IT INSTITUTE

AN INTERNSHIP REPORT

Submitted by

Sakariya Himay Kiritbhai

200390116056

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the Web Development **Internship at JBS IT INSTITUTE** has been carried out by **Sakariya Himay Kiritbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Akshay Kansara

Internal Guide

Prof. Akshay Kansara

Head of Department

Company Certificate



S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I, **Sakariya Himay Kiritbhai**, hereby solemnly affirm that the Internship report submitted alongside the Internship In **Web-Development** at **JBS IT INSTITUTE** is being presented as part of the requisite fulfillment for the degree of Bachelor of Engineering in Information Technology Engineering at Gujarat Technological University, Ahmedabad.

I certify that this report stands as an authentic and original representation of the project work I undertook that no segment of this report has been replicated verbatim from any fellow student's submissions or procured from any external source without the appropriate and duly acknowledged referencing.

The content of this report, including data, information, and conceptual frameworks, accurately represents the comprehensive scope and accomplishments of my internship. I assume complete responsibility for the accuracy and integrity of the enclosed content. I am wholly dedicated to ethical standards set forth by **Gujarat Technological University.**

Name of the Student	Sign of Student
Sakariya Himay Kiritbhai	

ACKNOWLEDGMENT

I would like to extend my sincere gratitude and appreciation to everyone who has contributed to my journey in completing the Web Development Course.

First, I would like to express my deepest thanks to Mr.Monil Kakadiya, our course instructor. Your expertise and guidance for web development have been instrumental in shaping my understanding of the subject. Your commitment to providing clear explanations and real-world examples has truly enriched my learning experience.

I extend my thanks to JBS IT INSTITUTE for providing the comprehensive materials and tools that formed the foundation of my learning. The interactive exercises, coding challenges, and practical projects were crucial in helping me apply theoretical knowledge to real-world scenarios.

Thank you once again to everyone who has been a part of this learning experience.

Sincerely,
[Himay Sakariya]

Abstract

This report contains the work done by the me during my internship at ***JBS IT INSTITUTE***. I started working with basic Html, CSS and JavaScript to construct demo web pages. Then I learned the background animation with html and CSS to make websites more attractive. In the last week of the internship my task was to create one functionally working website which I created with the help of online platform. I learned to structure the web pages that is better approach for web developer to start developing websites. I also learned background animation for website with CSS and JavaScript function.

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Week-1

1.1 Basics of Web Development:

1. Front-End Development:
Front-end development focuses on the user interface and user experience of a website. It involves creating the visual elements that users interact with directly.

HTML (Hypertext Markup Language): HTML is the standard markup language used to structure content on the web. It defines the layout and hierarchy of elements on a webpage using tags.

CSS (Cascading Style Sheets): CSS is used to style HTML elements, controlling aspects such as layout, colors, fonts, and spacing. It separates the presentation from the content.

JavaScript: JavaScript is a scripting language that allows you to add interactivity to web pages. It can be used for animations, form validation, dynamic content updates, and more.

2. Back-End Development:
Back-end development involves building the server-side logic and databases that power the website. It handles data processing, storage, and business logic.

Server-side Languages: Common server-side languages include Python, Ruby, PHP, Java, and Node.js (JavaScript). These languages handle requests, process data, and generate dynamic content.

Databases: Databases are used to store and manage data for web applications. Popular databases include MySQL, PostgreSQL, MongoDB, and SQLite.

Server: A web server (e.g., Apache, Nginx) handles incoming requests from users and serves the appropriate responses generated by the back-end.

3. Full-Stack Development:
Full-stack developers are proficient in both front-end and back-end development. They can build entire web applications from the user interface to the server logic.

4. Version Control:
Version control systems like Git help developers manage changes to their codebase, collaborate with others, and track revisions over time.

5. Responsive Design:
With the wide range of devices accessing websites, responsive design is crucial. It involves designing websites that adapt and look good on various screen sizes, from desktops to smartphones.

6. Web Hosting and Deployment:
Once a website is developed, it needs to be hosted on a web server. Deployment involves making the website live on the internet. Services like AWS, Heroku, and Netlify provide hosting and deployment solutions.

7. Frameworks and Libraries:
There are numerous frameworks (e.g., React, Angular, Vue.js) and libraries (e.g., jQuery) available that provide pre-built components and functionality to streamline development.

1.2 Structuring Web Pages:

Defining the structure of a web page is a crucial step in creating a well-organized and user-friendly online experience. Here are some important notes to consider when defining the structure of a web page:

1. Content Hierarchy:
   Establish a clear hierarchy for your content. Determine the main topics and subtopics that your web page will cover. This hierarchy will guide the placement of headings and subheadings within your content.

2. Semantic HTML:
   Use semantic HTML elements to define the structure of your content. Semantic elements like `<header>`, `<nav>`, `<main>`, `<section>`, `<article>`, and `<footer>` provide meaning and context to different parts of your page, aiding both search engines and assistive technologies.

3. Navigation Menus:
   Plan and design navigation menus that are intuitive and easy to use. Consider including a main menu for primary navigation and possibly submenus or sidebar menus for secondary navigation.

4. Responsive Design:
   Design your web page to be responsive, meaning it adapts gracefully to different screen sizes and devices. Test your page on various devices and use CSS media queries to adjust the layout as needed.

5. Grid Systems:
   Utilize grid systems to create consistent and organized layouts. Grids help align elements and content in a visually pleasing manner, aiding readability and aesthetics.

Here are examples of different web page structures, each with a distinct layout:

1. Simple Blog Post:

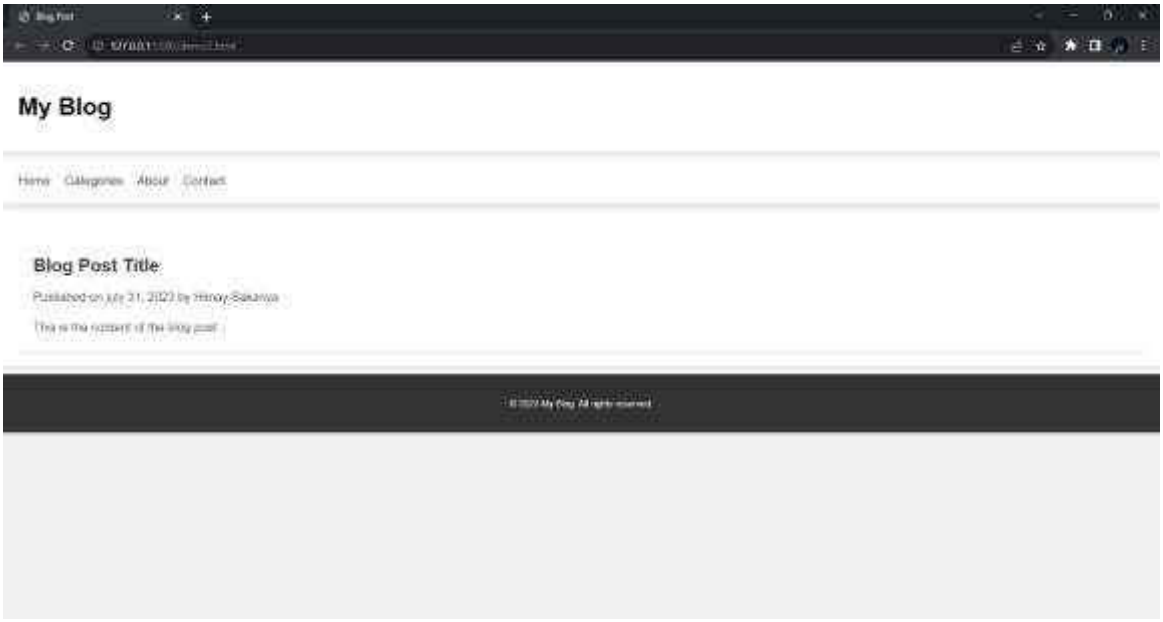
2. E-Commerce Page:

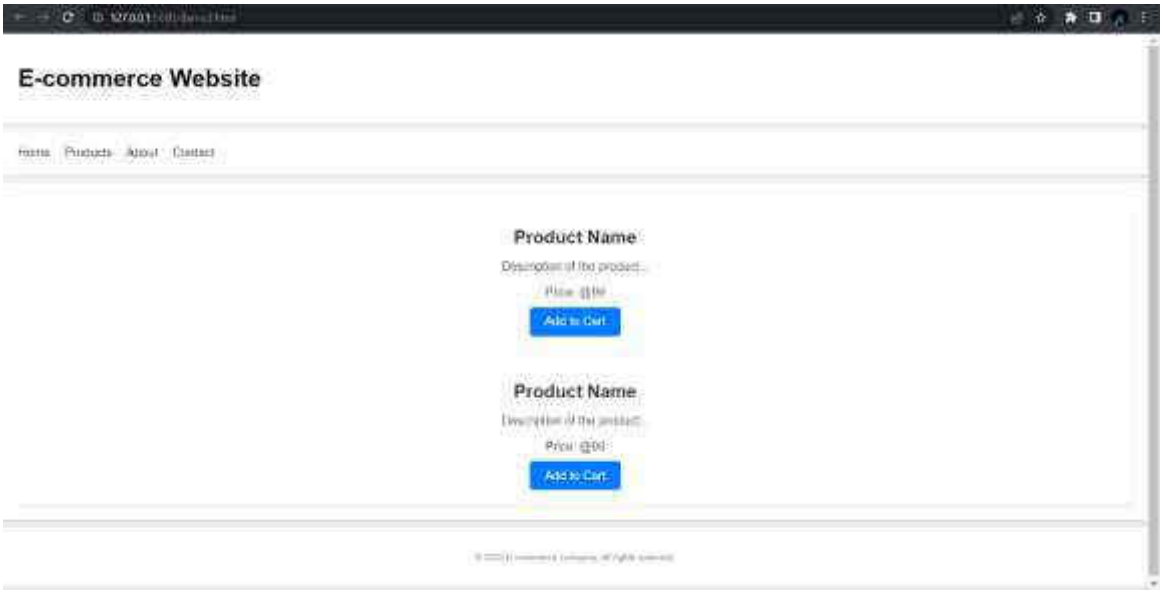
3. Portfolio Page:

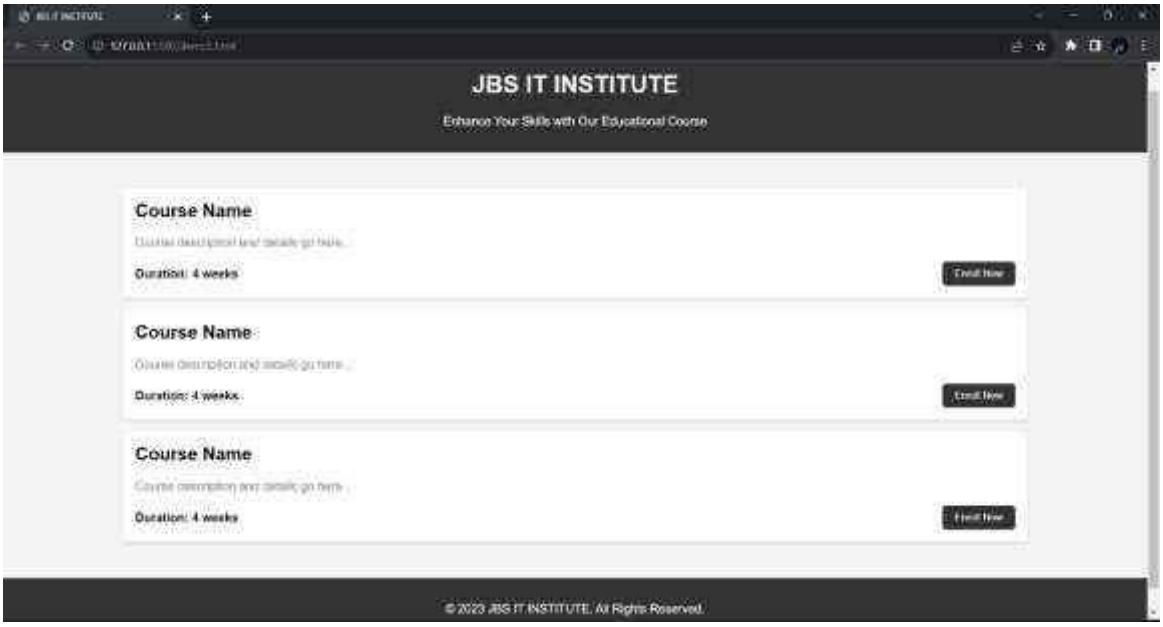
4. News/Magazine Article:

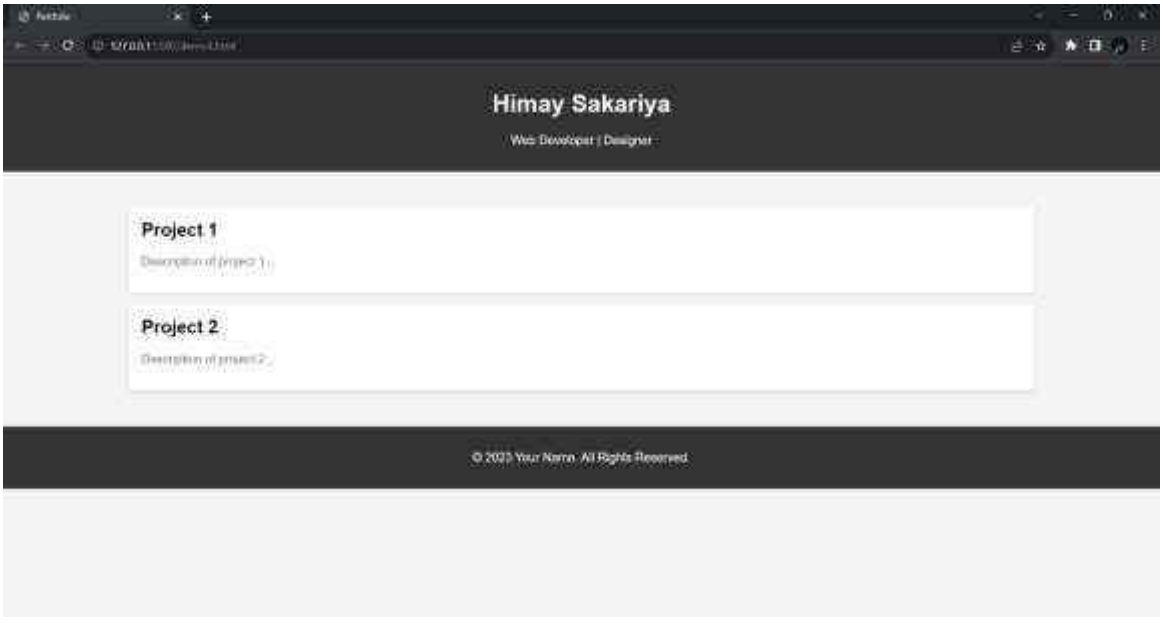
6. Educational Course Page:

1.3 Demo Web Pages:

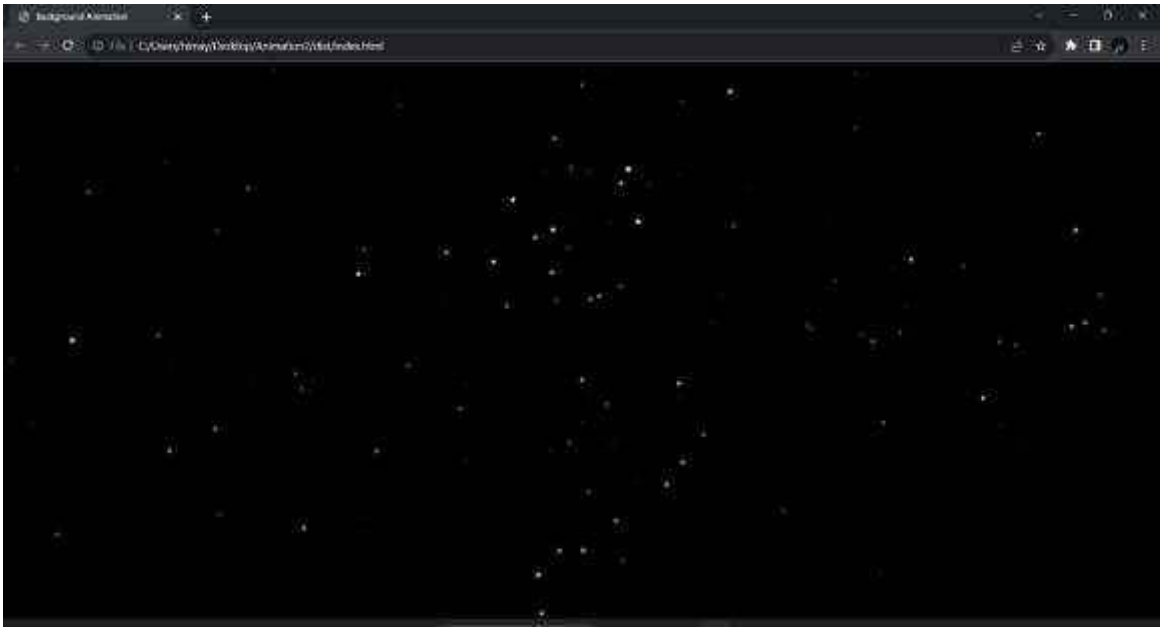


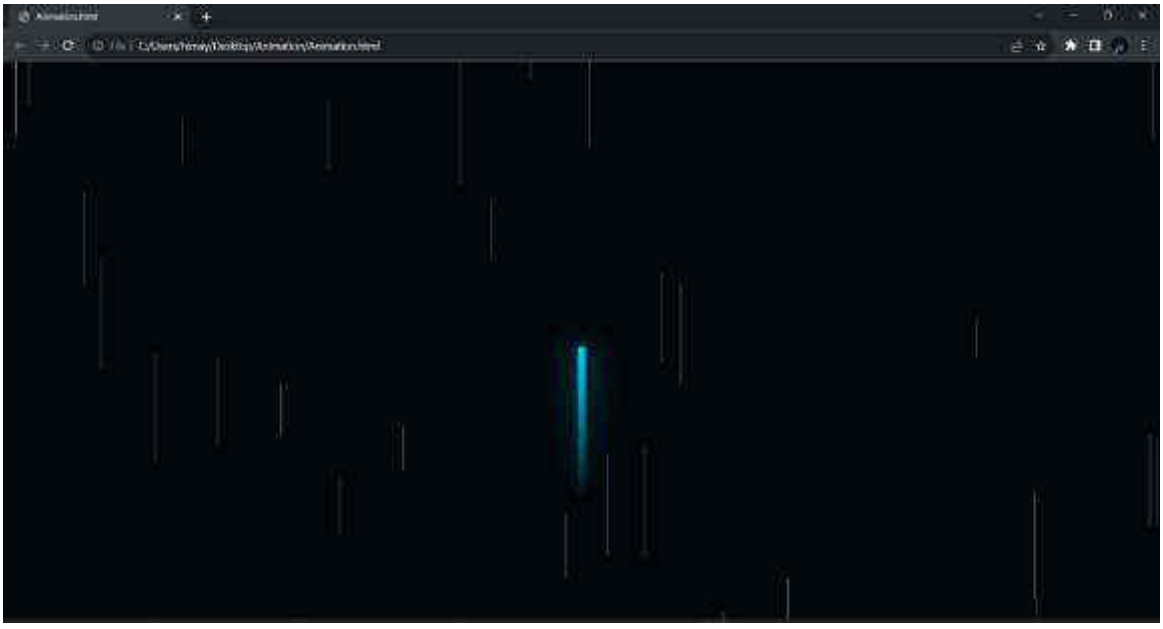



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Himay Sakariya
Web Developer | Designer
Project 1
Project 2
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1.4 Background Animation:





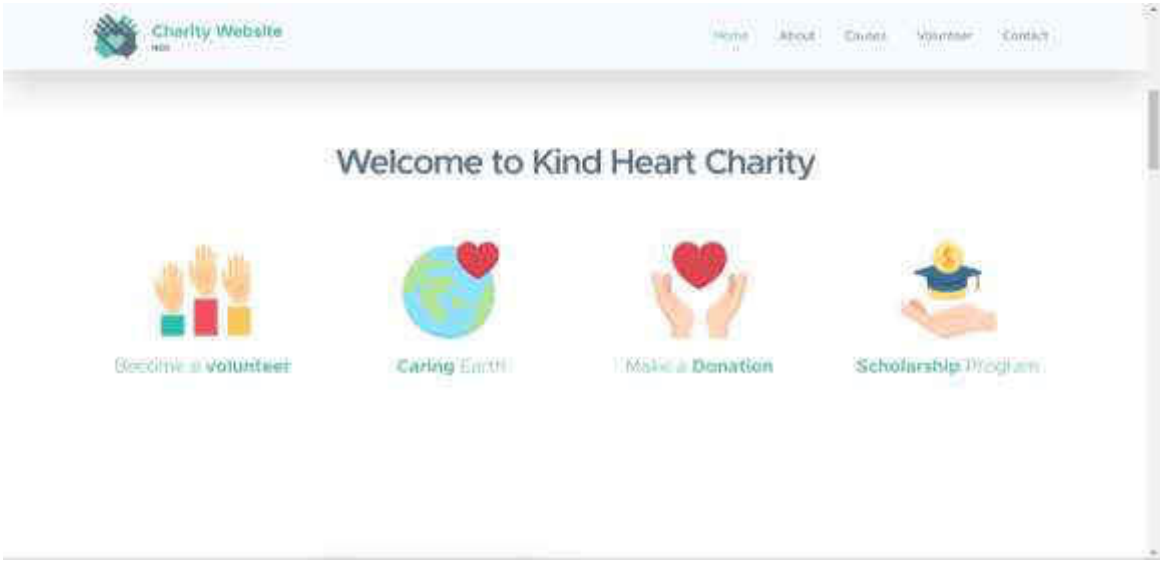
Week-2

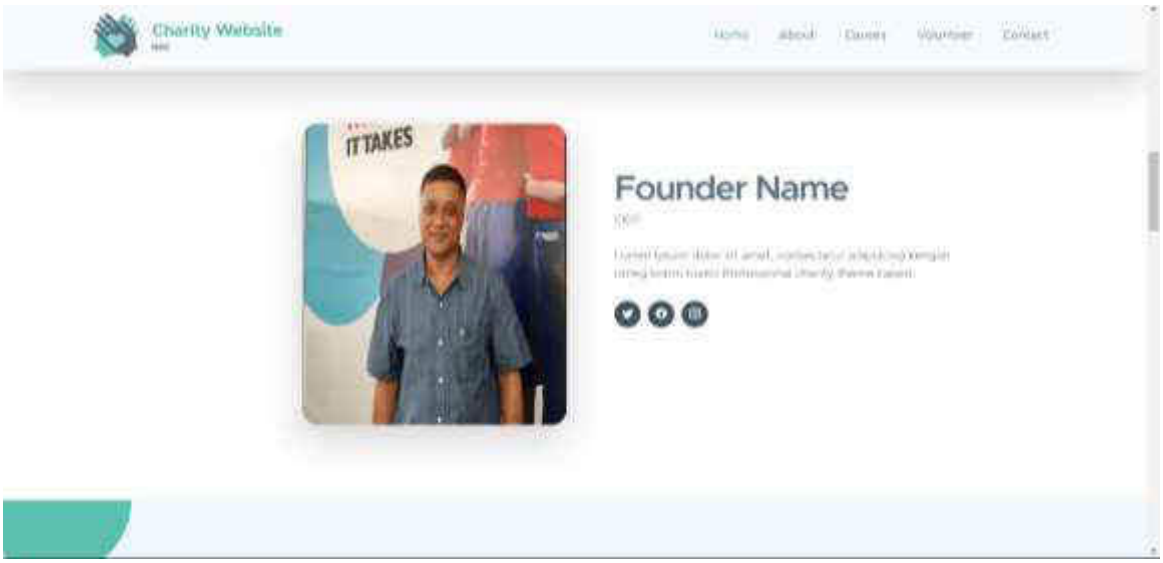
1.1 Developing Website:

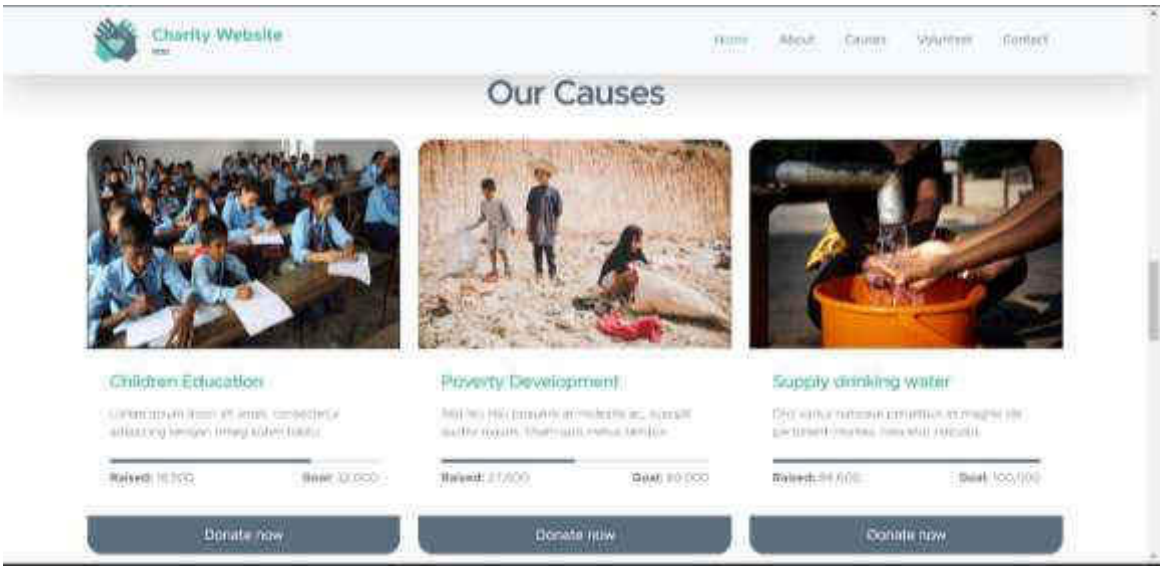
Languages:

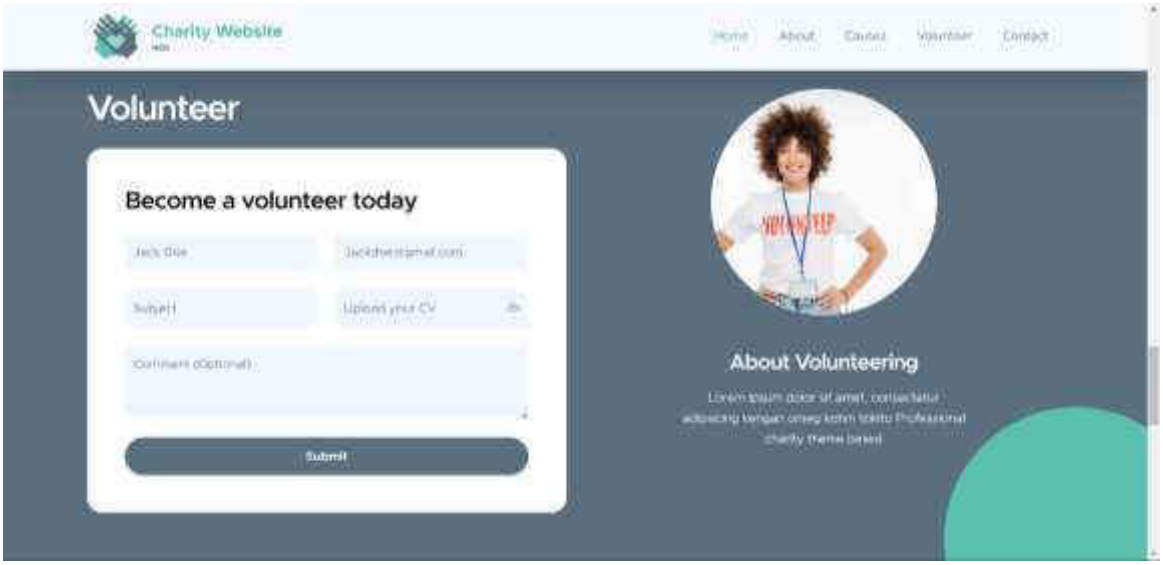
- Html
- CSS
- JavaScript
- Bootstrap

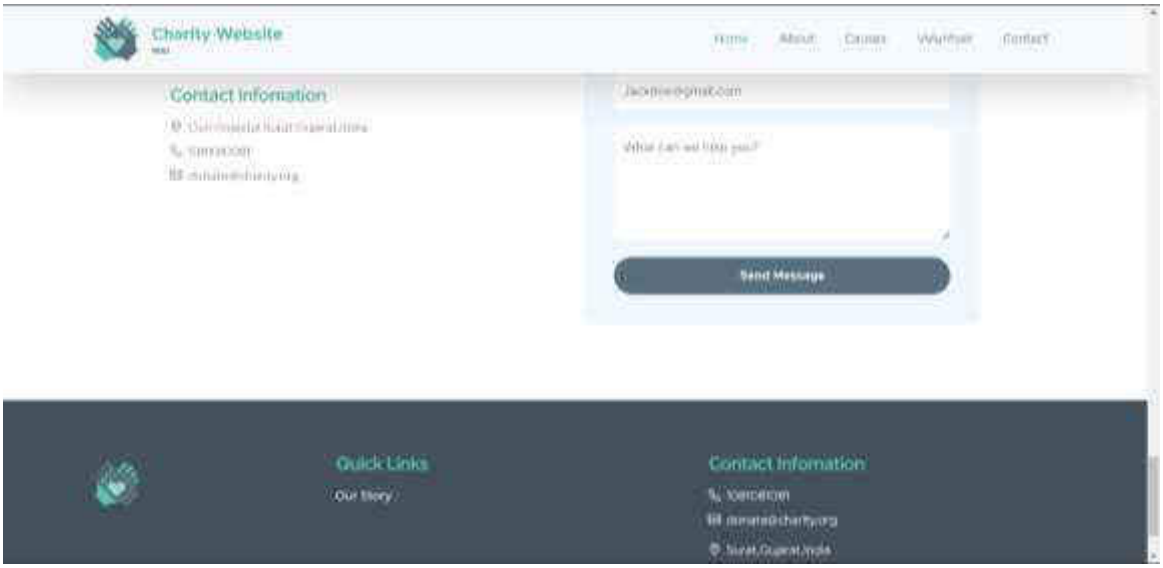





Charity Website
Home
About
Causes
Volunteer
Contact
IT TAKES
Founder Name


Charity Website
Home
About
Causes
Volunteer
Contact
Our Causes
Children Education
Poverty Development
Supply drinking water
Donate now
Donate now
Donate now


Charity Website
Home
About
Causes
Volunteer
Contact
Volunteer
Become a volunteer today
Submit
About Volunteering


Charity Website
Home
About
Causes
Volunteer
Contact
Contact Information
Send Message
Quick Links
Our Story
Contact Information

References

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[2] Mr.Kanani (Web Developer guide, [31july – 12 Aug]). Professor At JBS IT Institute, Manager at Infosys.

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[5] https://youtube.com/

[6] https://github.com/

INTERNSHIP AT CODSOFT

AN INTERNSHIP REPORT

Submitted by

Anuj Mukesh Shukla

200390116058

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mahesana





Gujarat Technological University, Ahmedabad

August, 2023





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Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CODSOFT** has been carried out by **Anuj Mukesh Shukla** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. Akshay Kansara
Internal Guide	Head of Department

Internship Certificate







S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Codsoft** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Guide** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student — Sign of Student

Anuj Mukesh Shukla — _____

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ACKNOWLEDGMENT

CodSoft:
I want to convey my utmost appreciation to CodSoft for affording me the opportunity to engage in a highly rewarding internship within their prestigious AI research institution. This priceless experience has significantly enhanced my understanding of the practical applications of artificial intelligence, making a substantial impact on my career development.

I also want to extend my sincere gratitude to the organization, whose steadfast guidance, support, and mentorship have expertly steered me through this transformative AI expedition. The invaluable insights and wealth of expertise generously shared have played a pivotal role in honing my skills and knowledge in the field of artificial intelligence.

Saffrony Institute of Technology:
I would like to acknowledge Saffrony Institute of Technology for providing me with the academic foundation that has enabled me to translate classroom learning into practical skills during my internship.

Once again, I express my sincere thanks to Saffrony Institute of Technology and Codsoft for this exceptional internship opportunity.

Your Sincerely
Anuj Mukesh Shukla
En. No: 200390116058

Abstract

In this comprehensive internship experience at CodSoft, a renowned IT services and consultancy firm, I delved into the world of artificial intelligence (AI) and Python programming. CodSoft, a company passionate about technology and dedicated to develop software for transformative solutions, provided an enriching platform for my professional growth.

The company's commitment to practical knowledge and hands-on learning was evident throughout the internship. CodSoft's team of industry experts served as invaluable mentors, guiding interns through this transformative journey. Their unwavering support and commitment to fostering an inclusive and supportive environment enabled me to gain a deep understanding of Python programming and AI implementation.

During my internship, I actively engaged in diverse AI projects, including developing a Python-based chatbot with rule-based responses, creating an unbeatable Tic-Tac-Toe AI using Python and the Minimax algorithm, and designing an Attendance system incorporating face detection and recognition using deep learning techniques.

Throughout this journey, I explored a wide range of AI-related topics, honing my skills in Python programming, mastering AI libraries, and enhancing problem-solving abilities. Challenges were met head-on, whether adapting to different Python libraries, debugging code, or managing multiple projects while meeting deadlines.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

- CodSoft are IT services and IT consultancy that specializes in creating innovative solutions for businesses. We are passionate about technology and believe in the power of software to transform the world. Our internship program is just one of the ways in which we are investing in the future of the industry.

- At CodSoft, we believe practical knowledge is the key to success in the tech industry. Our aim is to help students lacking basic skills by offering hands-on learning through live projects and real-world examples.

- It is a top company that offers internships in different technology fields. They provide internships in web development, app development, software development, Artificial Intelligence and Java programming.

- They understand the importance of practical experience for aspiring tech professionals. That's why their internship program offers hands-on learning, where students work on real projects under the guidance of experienced mentors.

- Their team consists of industry experts who are dedicated to equipping interns with the knowledge and skills needed to succeed in their careers. They foster an inclusive and supportive environment that encourages learning, growth, and creativity.

1.2 MISSION AND VISION OF THE COMPANY:

1. We Provide All Exclusive Services for Clients.
2. We build websites and web applications.
3. Today, every business should have a website.
4. No matter how small or large your business, having a website is must have at this time.
5. Having a website help you to maintain your online presence.

1.3 INTERNSHIP OBJECTIVES:

The primary objectives of my internship were to:
1. Gain hands-on experience in Python programming.
2. Contribute to real-world projects that utilize Python.
3. Enhance my problem-solving skills by tackling challenges in programming.

Chapter 2. ACTIVITIES AND PROJECTS

2.1 OVERVIEW OF ARTIFICIAL INTELLIGENCE:

2.1.1 What is artificial intelligence?

Artificial Intelligence (AI) is the emulation of human-like intelligence in machines, enabling them to perform tasks that usually require human cognition. This encompasses a wide range of functions, from basic pattern recognition to complex decision-making and problem-solving. AI systems learn from experience, adapt, and enhance their performance over time. They rely on algorithms and models that replicate human intelligence through data analysis and pattern recognition. AI's subfields include machine learning, natural language processing, and robotics, with the potential to revolutionize industries and drive technological innovation.

2.1.2 Why is artificial intelligence Popular?

Artificial Intelligence (AI) has gained immense popularity due to its transformative potential across various domains. Its popularity stems from its ability to automate tasks, enhance efficiency, and provide insights from vast datasets. AI-driven advancements in industries like healthcare, finance, and manufacturing offer improved decision-making and personalized experiences. Additionally, AI's applications in virtual assistants, recommendation systems, and autonomous vehicles captivate users' attention. The allure of AI lies in its capacity to revolutionize industries, improve convenience, and drive innovation, making it a pivotal force in shaping the present and future technological landscape.

2.1.3 Artificial intelligence's Applications

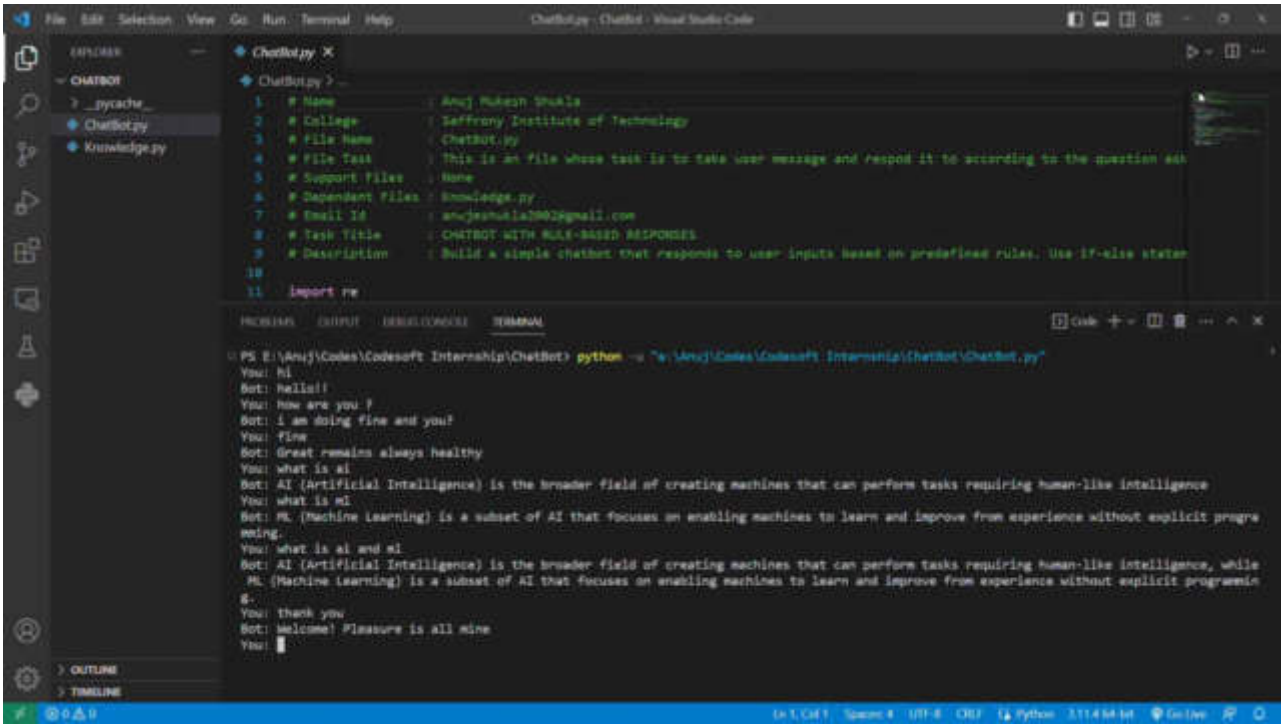
Artificial Intelligence (AI) finds applications across diverse sectors, revolutionizing industries and daily life. In healthcare, AI aids in diagnostics, drug discovery, and personalized treatments. Financial institutions leverage AI for fraud detection, risk assessment, and algorithmic trading. AI-powered virtual assistants streamline tasks and enhance user experiences. Autonomous vehicles utilize AI for navigation and collision avoidance. AI-driven recommendation systems personalize content in entertainment and e-commerce. Moreover, AI's role in language translation, image recognition, and robotics showcases its wide-ranging impact. These applications underscore AI's capacity to optimize processes, innovate services, and reshape how we interact with technology and the world.

2.2 Project Details:

2.2.1 Chatbot with Rule-Based Responses.

I have successfully developed a Python-based chatbot. This chatbot comprises a comprehensive knowledge base and an intricate system that meticulously matches user inputs against pre-defined strings, thus generating precise and contextually fitting responses. Within its knowledge base, an array of distinct messages is stored. Employing the maximum likelihood technique, the system adeptly identifies the most suitable response corresponding to the user's input text. This combination of a sophisticated knowledge repository and advanced response selection mechanism has culminated in the creation of an efficient and user-friendly chatbot, showcasing my proficiency in Python programming and AI development.

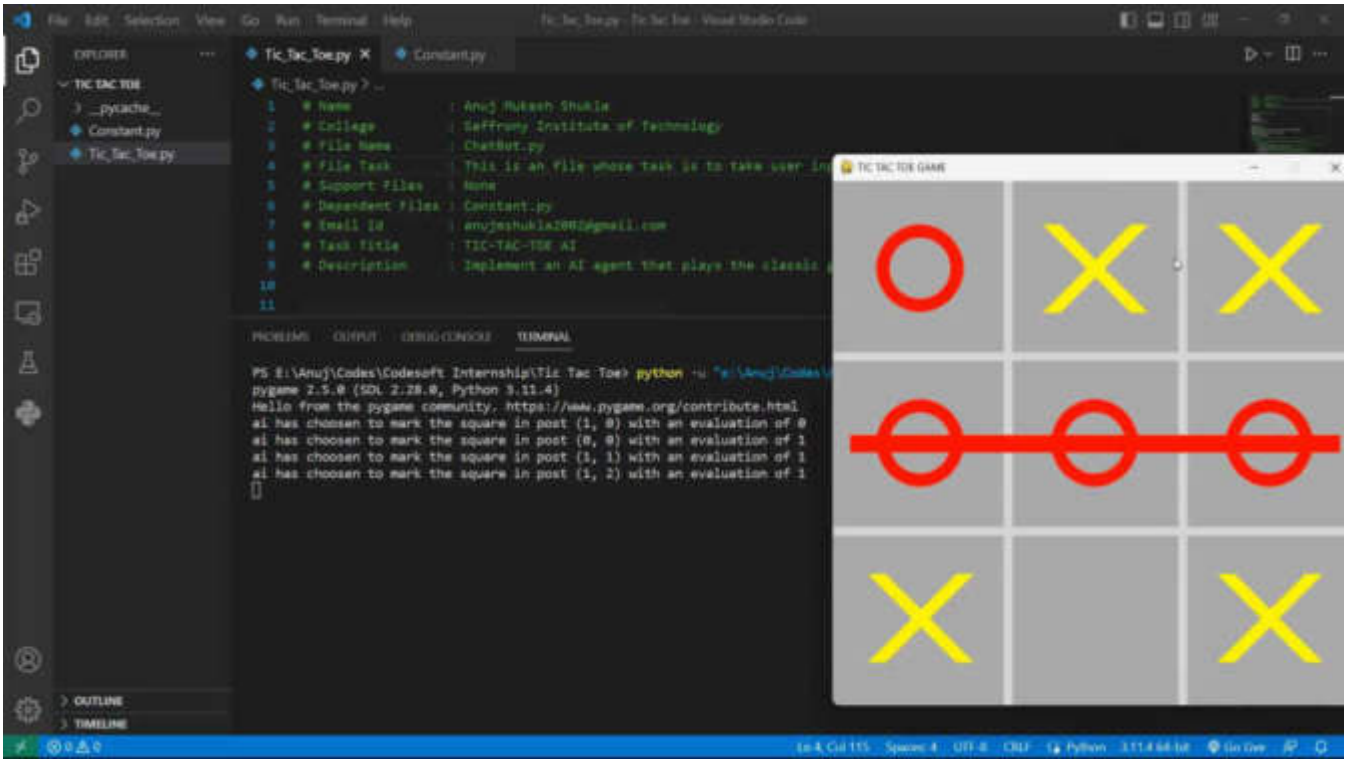
User Input: Prompt
System Output: Answer for the question asked
Process: String: Matching with strict conditions matching
GitHub: [GitHub - anujmshukla/Codsoft-Internship: This is the repository of project done during the Summer internship provided by the codsoft]



2.2.2 Tic-Tac-Toe AI

I accomplished creating a compelling "TIC-TAC-TOE AI" during my internship with Codsoft. With Python and pygame, I crafted an interactive game board using pygame. The AI player is powered by the Minimax algorithm which making it unbeatable. This project allowed me to explore game theory and basic search algorithms, enhancing my skills in AI and game development

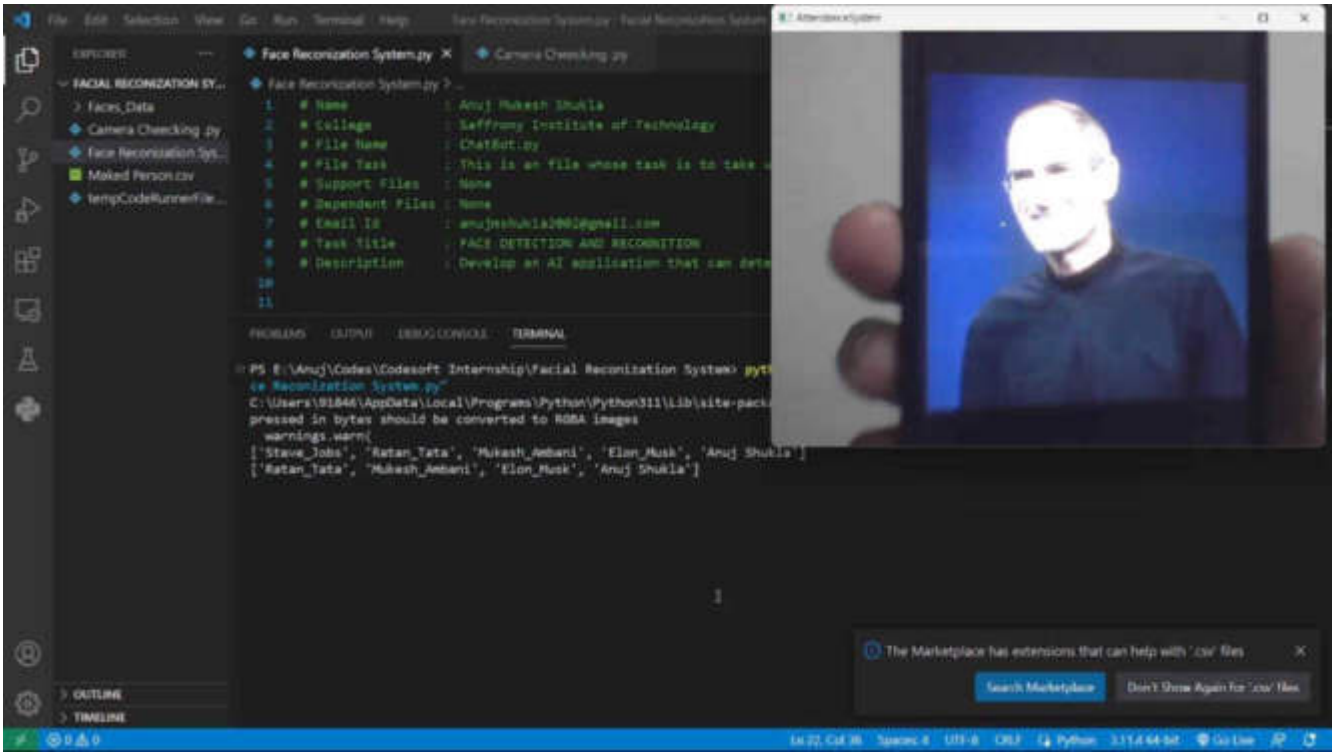
User Input: Click on the cell too mark
System Output: Mark on the cell which has minimum loss
Process: Min Max Algorithm
GitHub: [GitHub - anujmshukla/Codsoft-Internship: This is the repository of project done during the Summer internship provided by the codsoft]



2.2.3 Face Detection and Recognition

In this project, I have developed an Attendance system using a face detection and recognition system. I utilized a deep learning model for face detection and the Siamese technique for face recognition. The code first detects the face in an image and then converts it into numerical form. After that, it computes the Euclidean distance with all the faces stored in the database. It marks individuals whose Euclidean distance is less than the threshold value and is the least among all the distances. Additionally, the system records the name, time and date of appearance in a .csv file.

User Input: Face
System Output: Mark as present
Process: Siamese technique for face recognition
GitHub: [GitHub - anujmshukla/Codsoft-Internship: This is the repository of project done during the Summer internship provided by the codsoft]



CHAPTER 3. LEARNING AND EXPERIENCE

3.1 TOPICS I EXPLORED DURING MY INTERNSHIP:

3.1.1 Artificial Intelligence Basics:

- Introduction to Python and its history
- Installation and setup of Python environment
- Understanding Python syntax and indentation
- Variables, data types, and type conversion
- Basic input and output operations
- What is AI and its open source library

3.1.2 Control Structures:

- Conditional statements (if, elif, else)
- Looping structures (for and while loops)
- Iteration and control flow

3.1.3 Functions and Modules:

- Defining functions and their importance
- Parameters, return values, and scope
- Creating and using modules
- Standard library modules and their applications

3.1.4 Object-Oriented Programming (OOP):

- Concepts of OOP (classes and objects)
- Encapsulation, inheritance etc.
- Implementing OOP principles in Python

3.1.5. File Handling:

- Reading and writing text files
- Working with CSV and JSON files
- Exception handling and error management

3.1.6 Libraries and Frameworks:

- Introduction to popular Python libraries (e.g., NumPy, pygame, face recognition)
- Exploring data manipulation and analysis using libraries

3.1.7 Best Practices and Coding Standards:

- Writing clean and readable code
- Code documentation and comments

3.2 SKILLS ACQUIRED:

During my internship, I developed the following skills:

- Proficiency in Python programming, including syntax, data structures, and object-oriented concepts.
- Knowledge of key Python libraries such as pandas NumPy, pygame, face recognition etc.
- Problem-solving abilities through tackling real-world programming challenges.
- Natural Language Processing
- Game playing Algorithm
- Face Reconization

3.3. CHALLENGES FACED:

- Adapting to different Python libraries and understanding their functionalities.
- Debugging and troubleshooting code to ensure its correctness and efficiency.
- Balancing multiple projects and tasks while meeting deadlines.

3.4 KEY TAKEAWAYS:

- A deep understanding of Python programming and Artificial Intelligence implementation using python.
- Improved problem-solving skills through hands-on experience.

3.5 CONCLUSION:

- My internship at CodSoft was a transformative experience that provided me with invaluable insights into artificial intelligence. I gained practical skills, faced challenges head-on, and contributed to meaningful projects. This experience has solidified my passion for programming and equipped me with the skills necessary to excel in future endeavors.

- I am immensely grateful for the guidance and mentorship provided by the team at CodSoft, and I look forward to applying the knowledge and skills I've acquired in my future career.

3.6 ACKNOWLEDGMENTS:

- I would like to express my gratitude to the entire team at CodSoft for their continuous support, guidance, and the opportunity to be a part of their dynamic work environment.

INTERNSHIP AT INFOLABZ IT SERVICES PVT. LTD

AN INTERNSHIP REPORT

Submitted by

Patel Manav Satishbhai

200390116059

Web development using Python django

BACHELOR OF ENGINEERING

In

Information Technology Department

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Patel Manav Satishbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 6th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof.	Prof.
Internal Guide	Head of Department

CERTIFICATE OF COMPLETION

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116059
Semester: 7th, Information Technology
S.p.b Patel Engineering College (saffrony Institute Of Technology)

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Patel Manav Kumar Satish Kumar .

In this internship tenure, we have covered the fundamentals of the Django framework along with an understanding of MVC architecture. We have also worked on JSON structures as well as different API(s) and API fetching in web pages using the Django framework

We wish Patel Manav Kumar Satish Kumar all the best for future endeavors.



Ms. Twinkle Shah
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Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

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Name of the Student Sign of Student

_____

COMPANY PROFILE

Established in 2016, incorporated with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make its own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services, etc.

In the span of seven years, we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced and hard-working developers. Our developers who are always willing to take on new challenges and looking forward to learning new things, are the heart of this company.

Our objective is to sustain with exponential growth in the IT industry. Our mission is to deliver the best with top-notch quality every quarter and our vision is to develop a product with one of its kind concept which could be used by millions of people

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Week 1

27 JULY 2023

- **Introduction to Django:**

Django is an open-source web framework for building web applications using the Python programming language. It follows the Model-View-Controller (MVC) architectural pattern and emphasizes rapid development, clean code, and reusability.

Django provides a wide range of tools and features, including an Object-Relational Mapping (ORM) system for database interaction, a templating engine for rendering dynamic content, built-in user authentication, and a powerful admin interface for managing application data. It promotes the "Don't Repeat Yourself" (DRY) principle and encourages best practices for security and scalability. Django is widely used by developers to create a variety of web applications, from simple websites to complex web platforms.

- **Django Environment setup**:

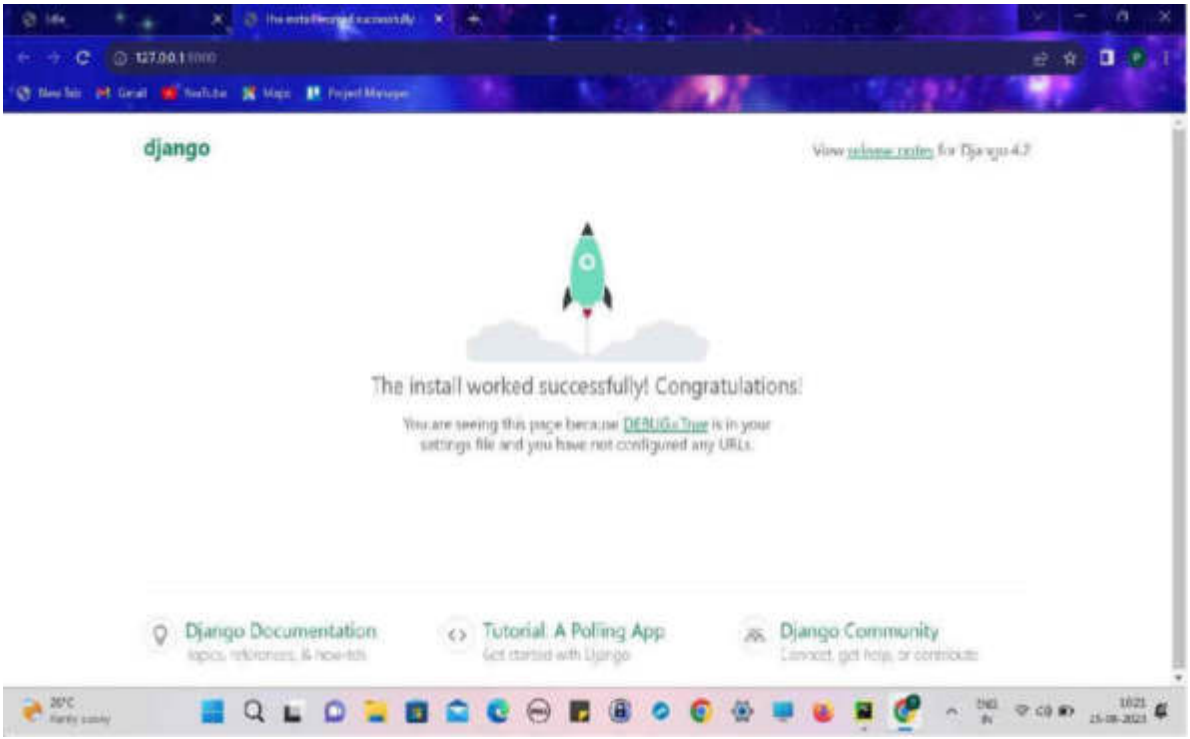
  - Install Python.
  - Install PyCharm community edition.
  - Install SQLite database browser.

- **Django Project Creation**:

Type the following commands or install dependencies in the terminal.

  - pip install django
  - django-admin startproject project name .
  - python manage.py makemigrations
  - python manage.py migrate In Django, makemigrations is a command used to create files that capture changes in your app's data structure.
  - python manage.py runserver

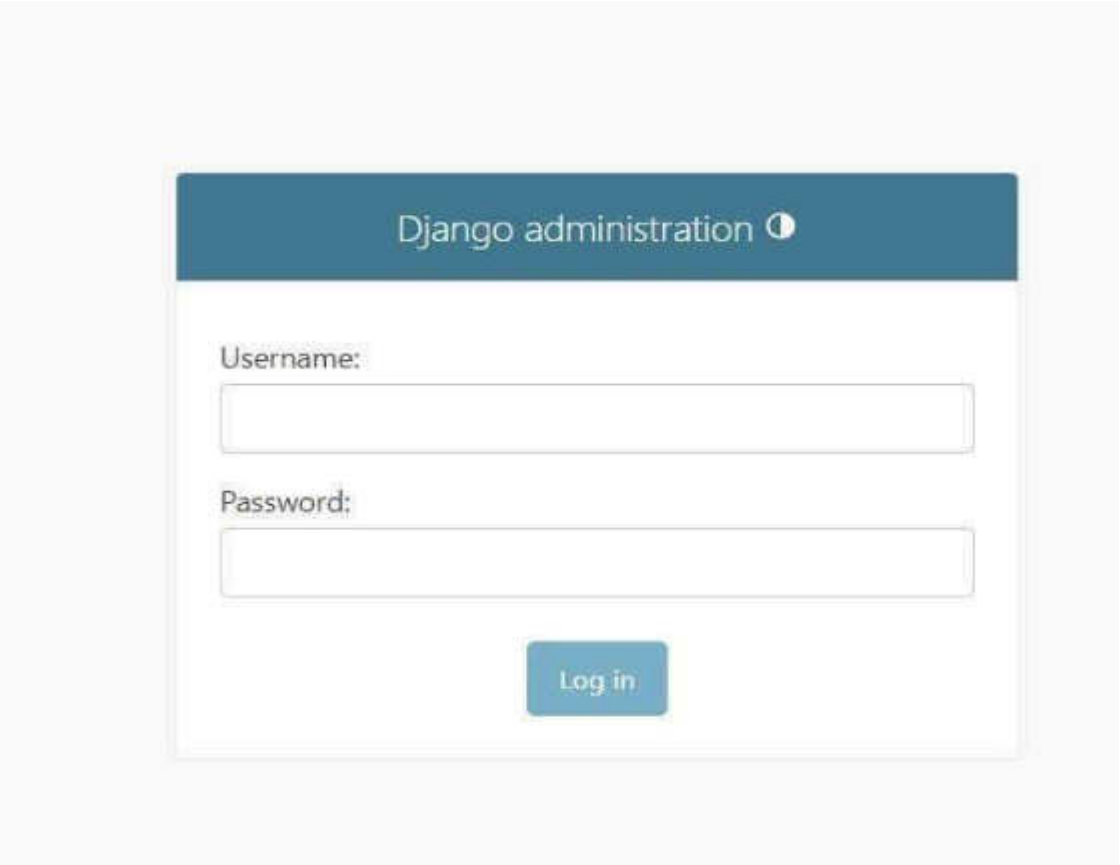
Make Migrations & Migrate: In Django, **makemigrations** is a command used to create files that capture changes in your app's data structure. These changes are then applied to the database using the migrate command, ensuring your code and database remain in sync.



- **Superusers in Django:**

In Django, a superuser is a user account with administrative privileges that can access and manage the admin interface. Superusers have the ability to add, edit, and delete records across the application's models through the Django admin panel. They play a crucial role in managing the backend of a Django-powered website or application.

When you write /admin after the user page address you will see a login or admin panel.
http://127.0.0.1:8000/admin/login/?next=/admin/

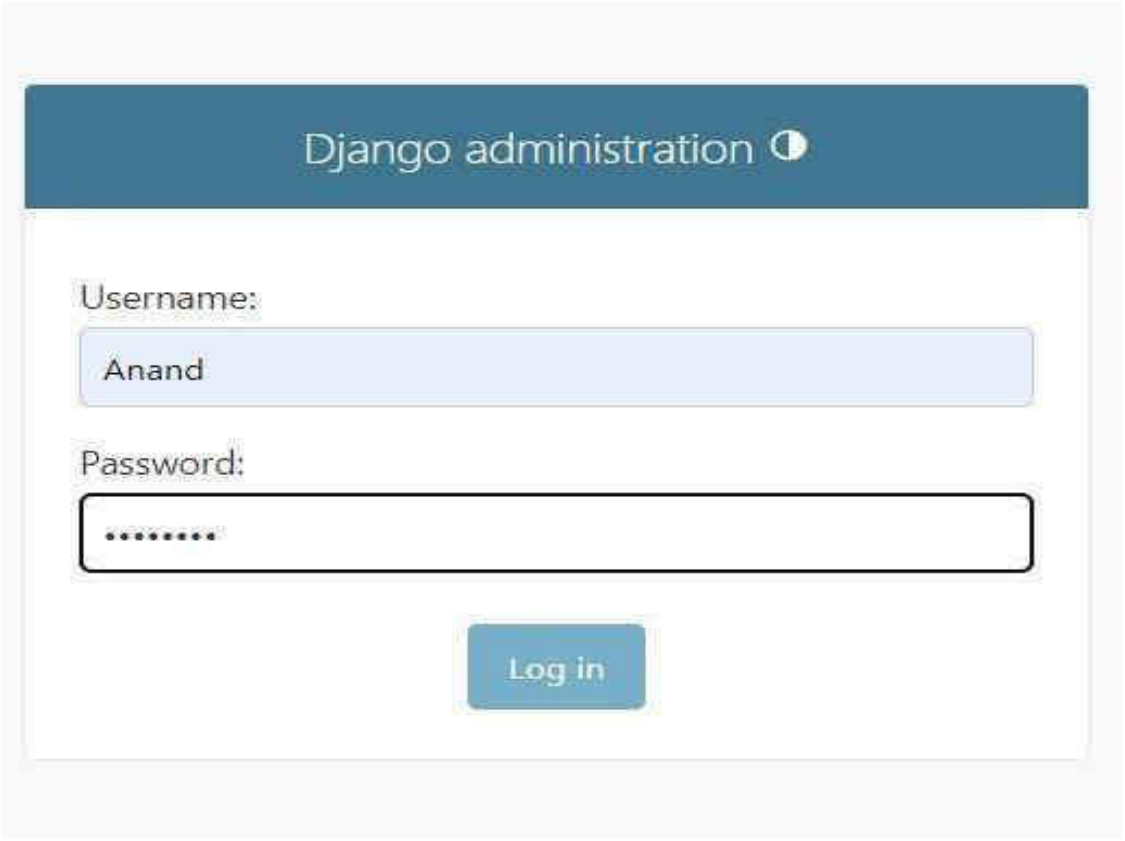


- **Creating Superuser**:

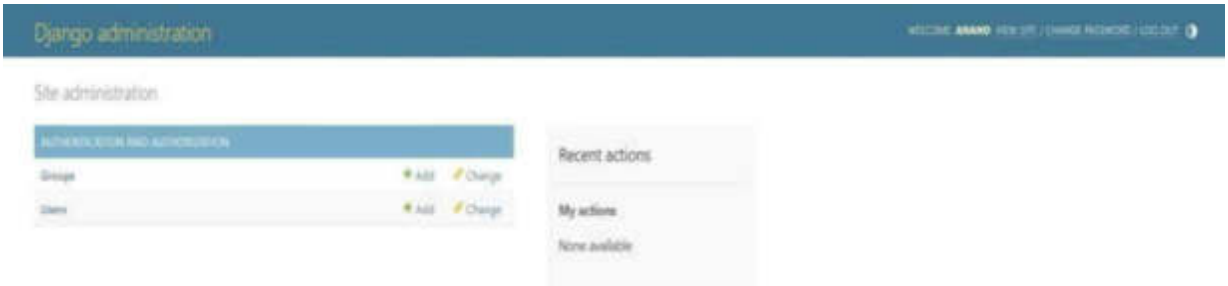
To create superuser you have to type the command in the terminal python maange.py createsuperuser
This will execute and give the following output

```
(venv) PS C:\Users\gurus\PycharmProjects\Internship practice 10> python manage.py createsuperuser
Username (leave blank to use 'gurus'): Anand
Email address: and@gmail.com
Password:
Password (again):
Superuser created successfully.
```

- Now for login you have to use the superuser name and password. You can create more than one superuser.



- After login you will see the following page.

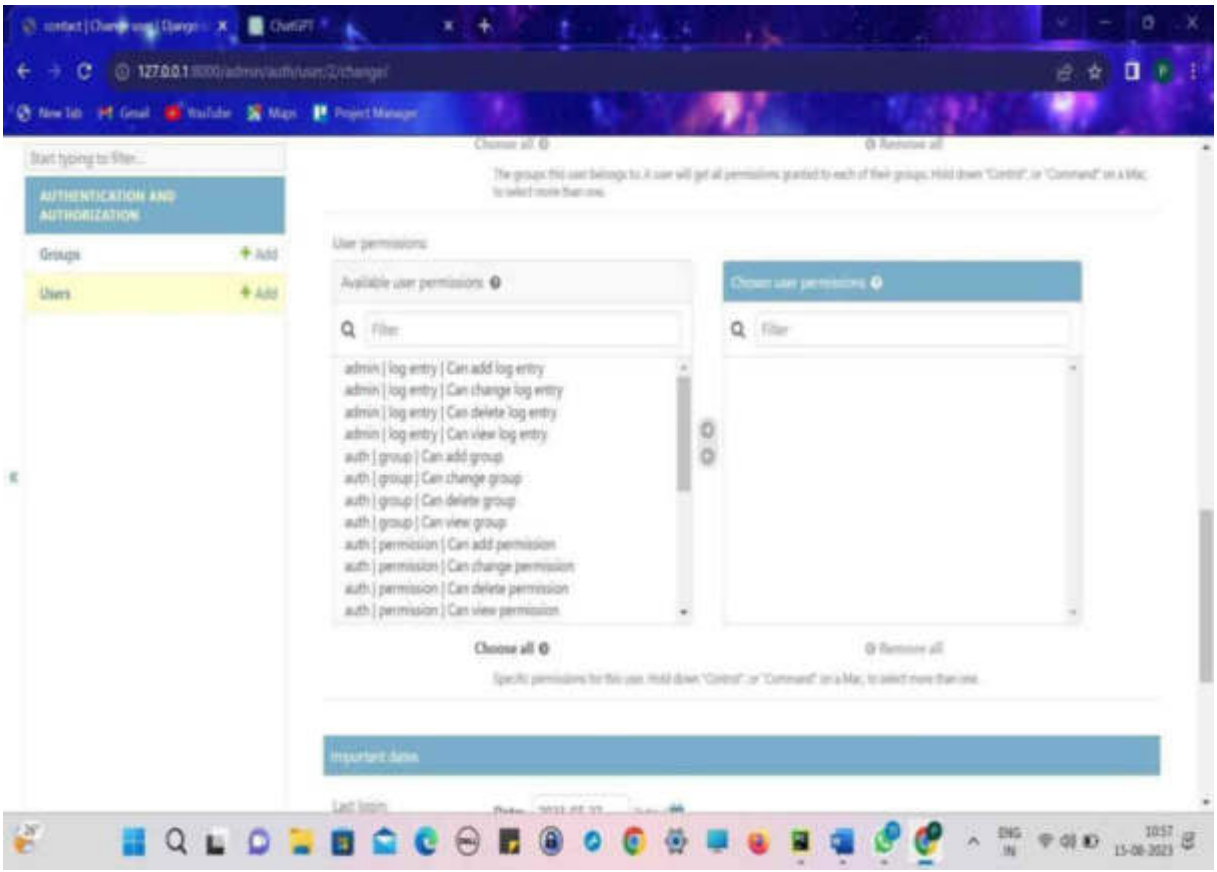


Week 1

28 JULY 2023

- **Superuser permissions :**

In Django, "Superuser permissions" refer to the highest level of administrative access granted to a user. Superusers have complete control over the application, allowing them to manage and modify all aspects of the system, including creating, editing, and deleting user accounts, managing content, and performing administrative tasks. These permissions are essential for maintaining and overseeing the entire Django application.



- After setting the permission when the user login again it will have the following permissions that are been given.
- Because the user was given the login and view other users' permission, it can be seen in the above-mentioned figure.



- **Introduction to SQLite 3:**

SQLite3 is the default database backend used by Django, a popular Python web framework. It provides an easy and efficient way to store and retrieve data for web applications. Django abstracts the database interactions, allowing developers to work with models and query data using Python code. While suitable for development and smallscale applications, it's recommended to switch to more robust databases like PostgreSQL or MySQL for larger and production-level projects due to their scalability and advanced features.

- **CRUD Operations in Django:**

1. **Delete Operation**: Use Django admin's built-in interface to select and delete records. Registered models in the admin panel allow easy record deletion.

2. **Insert Operation**: In the admin panel, use the "Add" button to input data and create new records.

3. **Update Operation**: Modify records via the admin panel by selecting them, making changes, and saving the updates.

For the read operation you have to use the ORM (Object Relational Mapping) because using it you can call the objects directly.

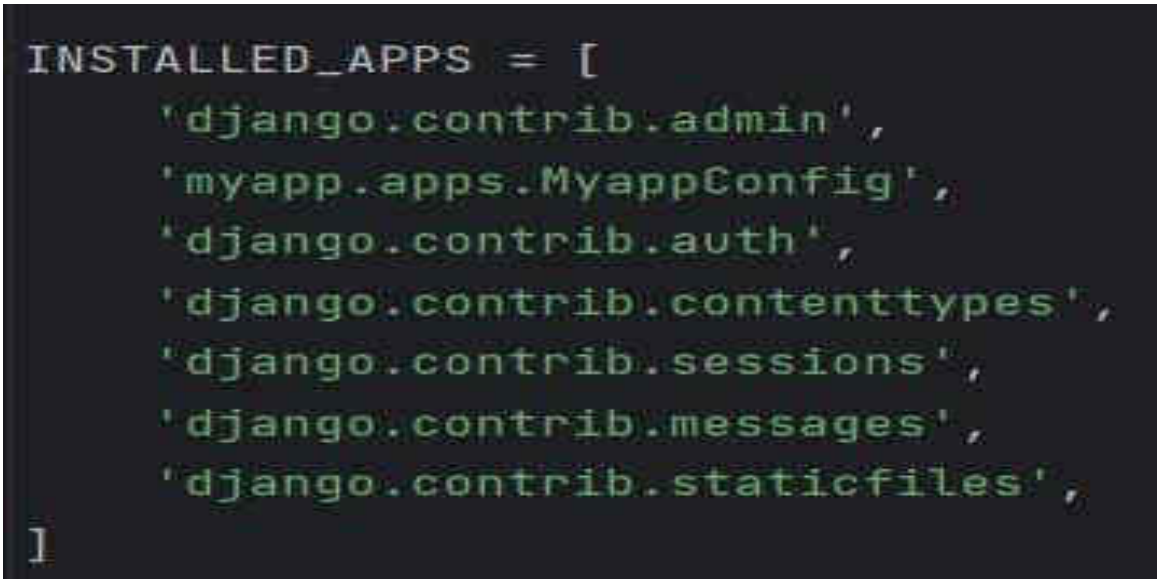
- **Apps in Django:**

In Django, apps are modular components that encapsulate specific functionalities or features of a web application. Each app focuses on a particular aspect of the project, such as user authentication, blog posts, comments, etc. Apps promote code organization, reusability, and maintainability. They consist of models, views, templates, and other supporting files needed for that specific feature. Apps can be reused across projects, fostering a modular and scalable approach to web development.

For creating the apps in the django you have to type the following command in the terminal.

- django-admin startapp appname
- The app contains model.py, admin.py, view.py etc. inbuilt files.

After that you have to register the app in the settings.py installed apps of the main project.





- **Creating Database:**

We create the database in the apps folder in the preinstalled files models.py and admin.py. The information for the same using e.g., is provided below. For performing the crud operation in database, we will use model.py and admin.py file of app we create.

- **Models.py:**

In Django, the models.py file is where you define the structure and behavior of your application's data. It contains Python classes, called models, that represent the various entities and their attributes in your database. These models define the data schema, relationships, and constraints. By creating models in models.py, you're essentially creating a blueprint for how your data will be stored, retrieved, and manipulated in the database.

The simple database created in models.py is shown in below figure.

- **Admins.py:**

In Django, the admins.py file is used to configure and customize the admin interface for managing your application's data. You can register your models with the admin site, which allows you to easily perform CRUD operations on your data through a userfriendly web interface. By customizing admins.py, you control how your models are displayed, filtered, and edited in the admin panel, enhancing the management and manipulation of your application's data without needing to build custom views or templates.

```python
from django.db import models

# create your models here.
2 usages
class product(models.Model):
    name = models.CharField(max_length=50)
    price = models.IntegerField()

2 usages
class category(models.Model):
    name = models.CharField(max_length=60)
    description = models.TextField()
```

Fig : models.py

```python
from django.contrib import admin
from .models import product,category

# Register your models here.
1 usage
class productdisplay(admin.ModelAdmin):
    list_display = ['name', 'price']

admin.site.register(product,productdisplay)

1 usage
class categorydisplay(admin.ModelAdmin):
    list_display = ['name', 'description']

admin.site.register(category,categorydisplay)
```

Fig : admin.py

- The database looks in the following way in the website and sqlite3 database.



id	name	price
Filter	Filter	Filter
1	Parker pen	20
2	Pencil	10
3	Pilot Pen	50

id	name	description
Filter	Filter	Filter
1	Pen	there are wide options for ball pen an...
2	Books	There are many inspiring and ...

Week 1

31 JULY 2023

- **Multiple Database Tables with different Fields :**

Multiple databases refer to the practice of using and managing more than one separate database within a single software application or system. This can involve utilizing different database systems, instances, or schemas to store and manage various sets of data or to achieve specific performance, security, or scalability goals. It's commonly used in scenarios where an application needs to handle diverse types of data or distribute data storage across multiple resources.

- **Multiple Database in Django:**

In Django, multiple databases refer to the capability of using and managing more than one distinct database within a single Django project. This feature allows you to define and interact with multiple database connections using the same codebase. Each atabase connection can use a different database engine, such as SQLite, PostgreSQL, MySQL, etc., and may serve different purposes within your application. This is useful for scenarios where you need to segregate data or use different databases for different parts of your application, such as separating user data from analytics data.

The multiple databases are created using the same format as done in the single database but more than one database is created. The above e.g., explains the below.

```python
from django.db import models

# Create your models here.
2 usages
class contactus(models.Model):
    name = models.CharField(max_length=30)
    email = models.CharField(max_length=50)
    phone = models.IntegerField()
    message = models.TextField()

2 usages
class userinfo(models.Model):
    name = models.CharField(max_length=30)
    email = models.EmailField()
    phone = models.CharField(max_length=11)
    linkedin = models.URLField()
    description = models.TextField()
    addedon = models.DateTimeField(auto_now_add=True)
```

```python
CITY_CHOICES = [
    ('1', 'Anand'),
    ('2', 'Surat'),
    ('3', 'Rajkot')
]

2 usages
class address(models.Model):
    name = models.CharField(max_length=30)
    add = models.TextField()
    city = models.CharField(choices=CITY_CHOICES,max_length=30)
```

```python
from django.contrib import admin
from .models import contactus, userinfo, address

# Register your models here.
1 usage
class showcontact(admin.ModelAdmin):
    list_display = ['name', 'email', 'phone', 'message']

admin.site.register(contactus,showcontact)

1 usage
class showuserinfo(admin.ModelAdmin):
    list_display = ['name', 'email', 'phone', 'linkedin', 'description', 'addedon']

admin.site.register(userinfo,showuserinfo)
```

```python
class showaddress(admin.ModelAdmin):
    list_display = ['name', 'add', 'city']

admin.site.register(address,showaddress)
```

Table: info_userinfo

Filter in any column

	id	name	email	phone	linkedin	description	addedon
	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	1	prit	prit@gmail.com	9512074713	http://www.linkdin.prit	this is good	2023-07-31 09:54:16.797559

Week 1

1 August 2023

- **Foreign Key Concept:**

A foreign key is a link between two database tables. In Django models, it's a field that connects one model to another. It maintains data integrity and enables you to navigate between related data. For example, a book model might have a foreign key to an author model, creating a connection between the two. It gives the following functionalities.

- Model Relationships.
- Database Integrity.
- Navigation.
- Data Integrity.

The e.g., of foreign key shown using the bank database e.g.

```
2 usages
class movie(models.Model):
    name = models.CharField(max_length=50)
    description = models.TextField()
    moviecategory = models.ForeignKey(moviecategory,on_delete=models.CASCADE)
    maleactor = models.ForeignKey(male_actor,on_delete=models.CASCADE)
    femaleactress = models.ForeignKey(female_actor,on_delete=models.CASCADE)
```

```
3 usages
class moviecategory(models.Model):
    name = models.CharField(max_length=50)
    description = models.TextField()
    def __str__(self):
        return self.name


3 usages
class male_actor(models.Model):
    name = models.CharField(max_length=50)
    dob = models.DateField()
    description = models.TextField()
    def __str__(self):
        return self.name

3 usages
class female_actor(models.Model):
    name = models.CharField(max_length=50)
    dob = models.DateField()
    description = models.TextField()
    def __str__(self):
        return self.name
```

Week 1

2 August 2023

- **Assignment 1 :** Create multiple database tables for the user (role, City, Country, State, Bank _details, User_address , User_details) White use of foreign key.

```python
from django.db import models

# Create your models here.
2 usages
class role(models.Model):
    user_typename = models.CharField(max_length=50)

USER_STATE_CHOICES = [
    ('1', 'ACTIVE'),
    ('2', 'INACTIVE')
]
2 usages
class user_detail(models.Model):
    user_name = models.CharField(max_length=50)
    user_password = models.CharField(max_length=40)
    user_email = models.EmailField()
    user_phone = models.CharField(max_length=40)
    user_type = models.CharField(max_length=20)
    user_state = models.CharField(choices=USER_STATE_CHOICES, max_length=40)
3 usages
class country(models.Model):
    country_name = models.CharField(max_length=40)

def __str__(self):
```

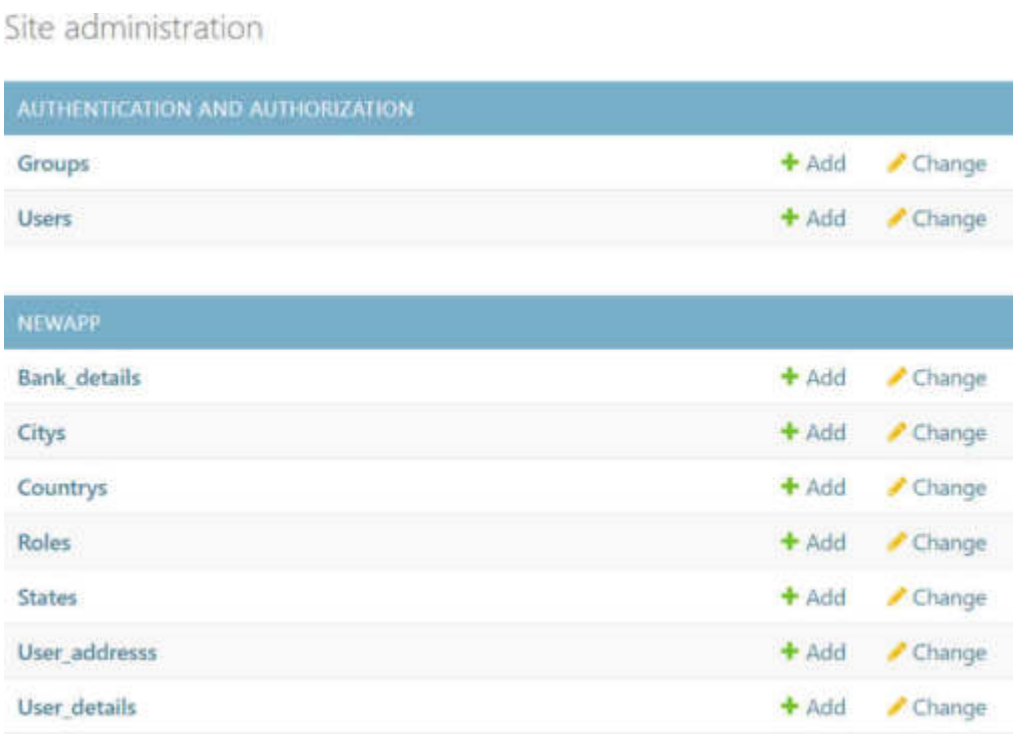
```python
2 usages
class bank_detail(models.Model):
    user_id = models.ForeignKey(user_address,on_delete=models.CASCADE)
    bank_name = models.CharField(max_length=40)
    digit_no = models.IntegerField()
    end_month = models.IntegerField(choices=ENDMONTH_CHOICES)
    end_year = models.IntegerField(choices=ENDYEAR_CHOICES)
```

```
    return self.country_name
3 usages
class state(models.Model):
    country_id = models.ForeignKey(country, on_delete=models.CASCADE)
    state_name = models.CharField(max_length=50)

def __str__(self):
    return self.state_name

3 usages
class city(models.Model):
    state_id = models.ForeignKey(state, on_delete=models.CASCADE)
    city_name = models.CharField(max_length=50)

def __str__(self):
    return self.city_name
3 usages
class user_address(models.Model):
    user_id = models.CharField(max_length=40)
    building_name = models.CharField(max_length=50)
    street_name = models.CharField(max_length=50)
    city_name = models.ForeignKey(city,on_delete=models.CASCADE)
    pincode = models.IntegerField()
```



Week 2

3 August 2023

Loading HTML Page in Django:

In Django, HTML (Hypertext Markup Language) is used to structure the content and layout of web pages. HTML templates in Django allow you to dynamically generate HTML content by embedding Python code within HTML markup. This allows you to create dynamic web pages that display data from the backend, adapt to user interactions, and maintain a consistent layout across your application.

- **Steps for Templates:**

Here are the basic steps for creating HTML file in Django using templates folder. 1. Create an app: python manage.py startapp myapp

2. Configure myapp/templates/my_template.html.
3. Define a view function in myapp/views.py.
4. Map a URL to the view in myapp/urls.py.
5. Access template variables and logic in my_template.html.
6. Run the development server: python manage.py runserver.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
</head>
<body>
        <h1>Hello</h1>
</body>
</html>
```

```python
from django.shortcuts import render

# Create your views here.
1 usage
def index(request):
    return render(request, template_name: 'index.html')
```

- The above-mentioned steps then have to be followed further for creating urls.py file for app path and then installing or registering it in the project urls.py file.

```python
from django.urls import path
from .import views
urlpatterns = [
    path('', views.index, name="indexfile"),
]
```

Week 2

4 August 2023

- **Implementation of Static folder (CSS, JS & IMAGES) in Djnago:**

CSS and JS in Django:

CSS: In Django, CSS (Cascading Style Sheets) is used to style and format the visual appearance of web pages. It allows you to define how the HTML elements on your web pages should be presented, including aspects like colors, fonts, spacing, and layout. CSS helps make your Django web application more visually appealing and user-friendly.

JavaScript: JavaScript in Django refers to the use of the JavaScript programming language within a Django web application. Django is a Python web framework, and JavaScript is a client-side scripting language primarily used to enhance interactivity and functionality in web browsers.

Steps for CSS:

1. Create Directory: Make a "static" directory inside your app's folder.

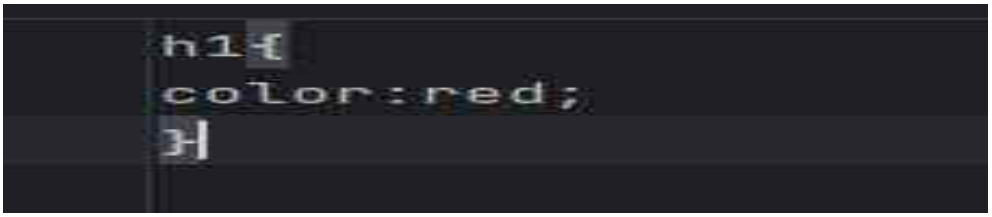
2. Add CSS File: Place your CSS file in "static/app_name/".

3. Link in Template: In your HTML template, load static files with {% load static %} and use {% static 'path_to_css_file' %} to create the CSS URL.

4. Apply Styles: Define styles in the CSS file and use class names or IDs to apply them to HTML elements in your template.

5. Run Development Server: Start Django's development server to see your CSS changes locally.

- Here is the simple sample code for CSS attached as a figure below.



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
  </head>
<body>
  <h1>Welcome to about us page</h1>
  <a href="{% url 'indexfile' %}">GO TO HOME PAGE</a><br>
    <table border="1" class="table table-striped table-hover">
        <tr>
            <th>Header 1</th>
            <th>Header 2</th>
            <th>Header 3</th>
            <th>Header 4</th>
```

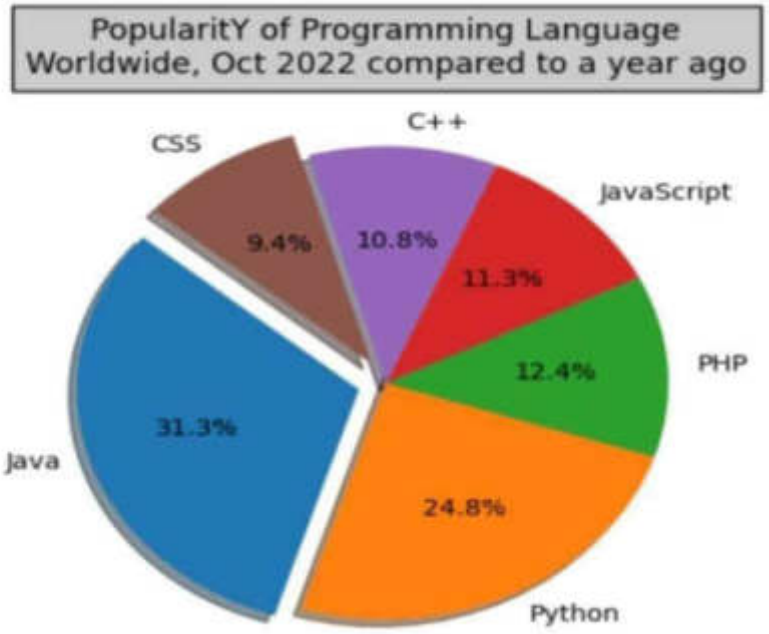
Welcome to home page

- **Steps for JS:**
  1. Create Directory: Make a "static" directory inside your app's folder.
  2. Add JavaScript File: Place your JavaScript file in "static/app_name/".
  3. Link in Template: In your HTML template, use the <script> tag with the file's URL to incorporate the JavaScript.
  4. Write JavaScript Code: Inside your JavaScript file, write the client-side code you want to execute.
  5. Run Development Server: Start Django's development server to test your JavaScript locally.
  - Here is the simple sample code for JavaScript attached as a figure below.

```
function viewmsg(){
    alert("IMAGE CLICKED");
}
```

```
<!DOCTYPE html>
<html lang="en">
{% load static %}
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="{% static 'css/style.css' %}">
    <script src="{% static 'js/demo.js' %}"></script>
</head>
<body>
  <h1>Welcome to home page</h1>
    <a href="{% url 'aboutusfile' %}">Go to aboutus page </a><br>
    <img src="{% static 'images/intft.png' %}" height="500px" width="700px" onclick="viewmsg();" />
</body>
</html>
```

Go to project page



- **Bootstrap:**

In the context of Django, integrating Bootstrap means bringing in the Bootstrap front-end framework to improve the appearance and user interface of web applications. Bootstrap offers a collection of pre-designed elements and styles that simplify the process of building responsive and visually appealing web pages. This integration allows Django developers to create modern and user-friendly interfaces without needing to craft extensive custom design and layout code.

1. Setup Project: Create a Django project and app if you haven't already.
2. Static Files: Configure static file settings in settings.py.
3. Bootstrap Files: Download Bootstrap or use a CDN for CSS and optionally JavaScript.
4. Templates: Create HTML templates in your app's templates directory.
5. Apply Bootstrap: Use Bootstrap classes in your templates to style elements.
6. Add Components: Integrate Bootstrap components like forms, navigation bars, etc.
7. Customize (Optional): Customize styles with custom CSS if needed.

Here is the simple sample code for bootstrap attached as a figure below.



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
  </head>
<body>
  <h1>Welcome to about us page</h1>
  <a href="{% url 'indexfile' %}">GO TO HOME PAGE</a><br>
    <table border="1" class="table table-striped table-hover">
        <tr>
            <th>Header 1</th>
            <th>Header 2</th>
            <th>Header 3</th>
            <th>Header 4</th>
```

Week 2

7 August 2023

- **API in Django:**

In Django, an API (Application Programming Interface) is a mechanism that enables different software components to communicate. In web development, it typically involves exposing specific functions and data of a web application, allowing external systems to interact with and control the application remotely over the internet. This is often done through endpoints that handle requests and responses, facilitating actions like retrieving, creating, updating, and deleting data. There are specifically two types of API in Django.

RESTful API: A RESTful API in Django, using the Django REST framework, exposes your app's data and services to external systems. It follows HTTP methods (GET, POST, PUT, DELETE) for actions on resources. For example, you can create an API to list, create, update, and delete articles. Endpoints like /articles/ and /articles/<article_id>/ handle these actions.

Internal Modular API: An internal modular API in Django improves code organization by facilitating effective communication between different parts of the application. For instance, you could have a user management module communicating with an authentication module via well-defined internal APIs. This separation enhances maintainability and code reuse. These APIs serve distinct purposes: one for external interaction and the other for internal modularity, yet both create interfaces for components to communicate within a Django app.

- **Dictionaries in API:**

Dictionaries in Python are a collection of key-value pairs, where each key is unique and associated with a value. They are often used to store and manage data in a structured way. In the context of Django, you might use dictionaries for various purposes, such as passing data to templates, handling form data, or processing JSON data from APIs.

Here is the sample basic code for python dictionary usage in the below figure.

```
# curly bracket
# key (left) : value (right)
# to access value key is required.
mydata = {"Ahmedabad":100,"Surat":200,"Rajkot":300}
print(mydata["Rajkot"])
mydata1 = {"Ahmedabad":100,"Surat":[200,250,1],"Rajkot":300}
print(mydata1["Surat"][1])

mydata2 = {"Ahmedabad":[{"date":"5 Aug 2023","cases":15},
                        {"date":"6 Aug 2023","cases":25},
                        {"date":"7 Aug 2023","cases":35}],
           "Surat":[200,250,1],
           "Rajkot":300}
print(mydata2["Ahmedabad"][1]["date"])
print(mydata.keys())
```

```
"C:\Users\gurus\PycharmProjects\Internship practice 9\venv\Scripts\python.exe" "C:\Users\gurus\PycharmProjects\Internship practice 9\dictorinary.py"
100
250
6 Aug 2023
dict_keys(['Ahmedabad', 'Surat', 'Rajkot'])

Process finished with exit code 0
```

- We are given some handfuls tasks on the different API links to learn more about working and integrating of API that I am attaching with name, output in below topics in form of figure as an e.g.

- **Different API Tasks:**

1. COVID.py

```
import requests

url = requests.get("https://data.covid19india.org/data.json")
mydata = url.json()

print(mydata.keys())
print(mydata["cases_time_series"][0]["date"])
print(len(mydata["cases_time_series"]))
```

```
"C:\Users\gurus\PycharmProjects\Internship practice 9\venv\Scripts\python.exe" "C:\Users\gurus\PycharmProjects\Internship practice 9\covid.py"
dict_keys(['cases_time_series', 'statewise', 'tested'])
30 January 2020
565

Process finished with exit code 0
```

2. Bitcoin.py

```python
# pip install requests

import requests

url = requests.get("https://api.coindesk.com/v1/bpi/currentprice.json")
mydata = url.json()

print(type(mydata))
print(mydata["bpi"]["USD"]["rate"])
print(mydata.keys())
```

```
"C:\Users\gurus\PycharmProjects\Internship practice 9\venv\Scripts\python.exe" "C:\Users\gurus\PycharmProjects\Internship practice 9\bitcoin.py"
<class 'dict'>
29,346.5558
dict_keys(['time', 'disclaimer', 'chartName', 'bpi'])

Process finished with exit code 0
```

Week 2

8 August 2023

- **API Integration in Webpages using Django Framework**

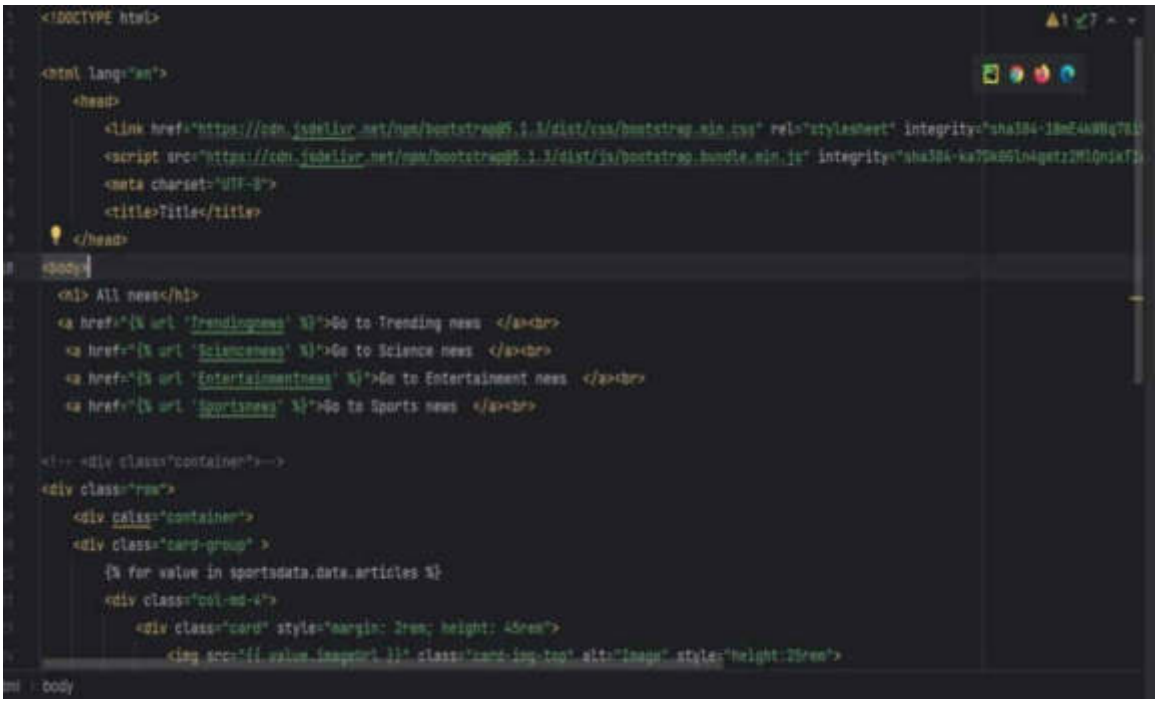
API integration in webpages using the Django framework involves incorporating external data and functionality into your web application by connecting to external APIs (Application Programming Interfaces). Django's robust capabilities allow developers to seamlessly interact with APIs, retrieve data, and display it on webpages. This integration enhances your website with dynamic content, such as real-time updates, third-party services, and data synchronization. By leveraging Django's built-in features and libraries, you can easily manage API requests, responses, and data processing, creating a richer and more interactive user experience.



Week 2

9 August 2023

- **Assignment 2 :** Develop one news website with different pages of news categories .





```python
def index(request):
    records = {}
    url = requests.get("https://inshorts.me/news/all?offset=0&limit=21")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, template_name: 'index.html',records)
1 usage
def Sciencenews(request):
    records = {}
    url = requests.get("https://inshorts.me/news/topics/science")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, template_name: 'Sciencenews.html',records)
1 usage
def Entertainmentnews(request):
    records = {}
    url = requests.get("https://inshorts.me/news/topics/entertainment")
    inshorts_data = url.json()
    records['sportsdata'] = inshorts_data
    return render(request, template_name: 'Entertainmentnews.html',records)
1 usage
def Sportsnews(request):
    records = {}
    url = requests.get("https://inshorts.me/news/topics/sports")
```

Week 2

10 August 2023

- **Conclusion :**

- These past 15 days of internship have been an enriching and dynamic experience. I am delighted to have had the opportunity to work with INFOLABZ and contribute to various projects during this time. As I conclude this initial phase of my internship, I want to take a moment to reflect on what I have learned and achieved.
- Throughout these 15 days, I've had the privilege of working alongside experienced professionals who have generously shared their knowledge and insights. I've gained exposure to Webpages using Django Framework, which has significantly expanded my skill set.
- During these 15 days, I encountered various challenges that required creative thinking and perseverance. Overcoming these challenges and achieving milestones and has boosted my confidence and reinforced my determination to excel.
- In conclusion, these 15 days have been transformative, educational, and inspiring. I am excited about what the future holds and am committed to making the most of this internship experience. Thank you for this incredible opportunity.

INTERNSHIP AT

GRITXI TECHOLOGIES Pvt Ltd

AN INTERNSHIP REPORT

Submitted by

Mihir Patel

200390116060

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mahesana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

August, 2023

S.P.B. PATEL
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S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at GRITXI TECHOLOGIES Pvt Ltd** has been carried out by **Mihir Patel** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. Akshay Kansara
Internal Guide	Head of Department

Internship Certificate

GritXi

The Global Odoo Solutions Provider

TO WHOM IT MAY CONCERN

Date :- **19-August-2023**

This is to certify that **Mr. Mihir Patel** has completed his internship in the field of Python from **25th July 2023** to **18th August 2023** under the guidance of Mr. Dharmik Raval.

His internship activities include Python Training

During the period of his internship program with us, He is exposing to different processes and found diligent, and inquisitive.

We wish him every success in his life and career.

GritXi Technologies Pvt. Ltd.

Dharmik S. Raval

GRITXI TECHNOLOGIES PVT. LTD. AHMEDABAD

Mr. Dharmik Raval

(Team Leader)

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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at GRITXI TECHOLOGIES Pvt Ltd** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Guide** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student — Sign of Student

Mihir Patel _____

ACKNOWLEDGMENT

GRITXI TECHOLOGIES Pvt Ltd:

I am immensely thankful to Gritxi Technologies Pvt Ltd for offering me an invaluable opportunity to delve into the realm of Python-based programming and real-world problem-solving. Their unwavering support and mentorship have provided me with a clear path to explore and enhance my programming skills in a practical context.

Under the guidance of Gritxi Technologies, I have been able to grasp the intricacies of Python programming and its application in addressing real-world challenges. Their experienced team has not only shared their technical expertise but has also fostered an environment of learning and growth.

This experience has not only honed my coding skills but has also ignited a passion for problem-solving in practical scenarios. I am truly grateful for the exposure to industry-relevant challenges that Gritxi Technologies has provided me, enabling me to bridge the gap between theoretical knowledge and its real-world implementation.

As I continue to progress in my programming journey, I credit Gritxi Technologies for being the catalyst that has set me on this path of exploration and growth. Their support has been instrumental, and I look forward to embracing more challenges and opportunities under their guidance

Your Sincerely
Mihir Patel
En. No: 200390116060

Abstract

This report contains the work done by the author during his internship at ***GRITXI TECHOLOGIES Pvt Ltd***, with a focuson Python programming. It provides an insightful overview of the tasks undertaken and skills honed during the internship duration. Within the report, the author delves into Python programming processes, highlighting coding practices and problem-solving methodologies. The report culminates in an elucidation of the valuable insights and lessons acquired by the author through this immersive Python programming internship experience.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

We are an Odoo based ERP service provider located in Gujarat, India.
With a prolific sixteen-year tenure in implementing Odoo ERP systems, our objective is to furnish small to medium-sized businesses with a strategic edge by renovating their current infrastructures.
We assist companies in streamlining their vital business operations through the utilization of a unified ERP system encompassing CRM, eCommerce, POS, inventory management, supply chain management, manufacturing, HR management, project management and more.

They Believe in We believe great service is great for business.

1.2 MISSION AND VISION OF THE COMPANY:

ERP Solutions:
1. Empowered by core team's experience and Odoo expertise.
2. Focus on delivering top-notch ERP solutions.
3. Solutions are reliable, cost-effective, and user-friendly.
4. Tailored to meet individual client needs.

Industry Leadership:
1. Dedication to leading the industry.
2. Offering a diverse range of cutting-edge IT solutions.
3. Commitment to sustainability and social responsibility.
4. Contributing to a brighter future for customers, employees, and communities.

1.3 INTERNSHIP OBJECTIVES:

The primary objectives of my internship were to:

1. Improve Python proficiency through practice and learning.
2. Apply Python skills to solve practical challenges.
3. Develop solutions following industry standards.
4. Enhance creative and efficient problem-solving.
5. Collaborate with experts to learn and create.
6. Connect theory with real-world applications effectively.
7. Continuously improve solutions based on feedback.
8. Create a diverse Python project portfolio.
9. Contribute to innovative Python-based projects.
10. Prepare for Python-related career opportunities.
11. Share knowledge and foster learning.

Chapter 2. ACTIVITIES AND PROJECTS

2.1 OVERVIEW OF PYTHON PROGRAMMING:

- What is Python?
- Why is Python Popular?
- Python's Applications

1. Project 1: To-Do list Application

- I have created this application on Google Colab.
- The application performs the Show Tasks, Add Task, Remove Task and Quit operations.

Google Colab:

https://colab.research.google.com/drive/1GO02Op7B5lU_ScSv4hi1o3EcN_Wmvl5O

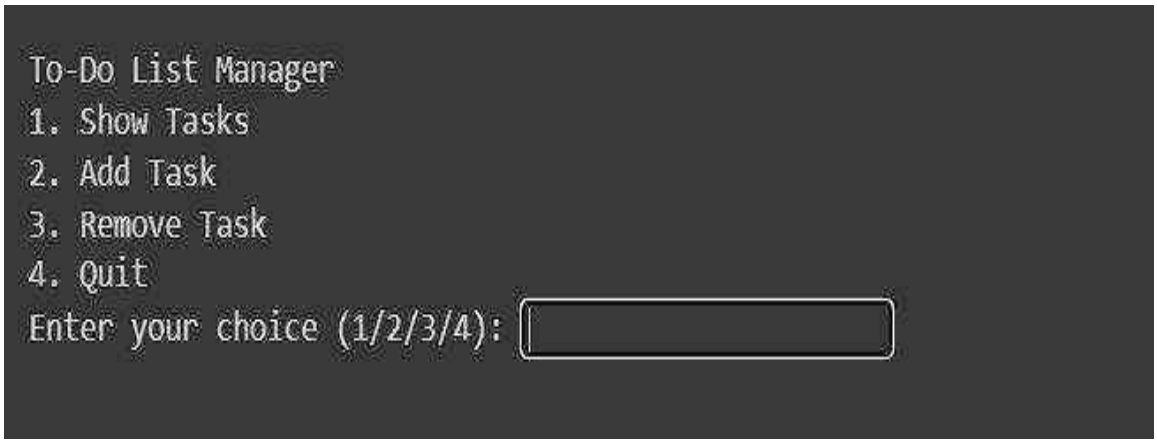


Fig. 2.1 To-Do List

2. Project 2: A Temperature/Measurement Convert.

- This code us to performs covertion of Temperature/Measurement.
- It helps to convert

1. Celsius to Fahrenheit
2. Fahrenheit to Celsius
3. Celsius to Kelvin
4. Kelvin to Celsius
5. Fahrenheit to Kelvin
6. Kelvin to Fahrenheit

- Google Colab: https://colab.research.google.com/drive/1mM6vH0jUaktLJw3s0B5gBwn617KpdQSQ



Fig. 2.2 Calculator

CHAPTER 3. LEARNING AND EXPERIENCE

3.1 TOPICS I EXPLORED DURING MY INTERNSHIP:

1. Python Basics:

- Introduction to Python and its history
- Installation and setup of Python environment
- Understanding Python syntax and indentation
- Variables, data types, and type conversion
- Basic input and output operations

2. Control Structures:

- Conditional statements (if, elif, else)
- Looping structures (for and while loops)
- Iteration and control flow

3. Functions and Modules:

- Defining functions and their importance
- Parameters, return values, and scope
- Creating and using modules
- Standard library modules and their applications

4. Data Structures:

- Lists, tuples, and dictionaries
- Sets and their properties
- Manipulating data structures
- List comprehensions and other advanced techniques

5. Object-Oriented Programming (OOP):

- Concepts of OOP (classes and objects)
- Encapsulation, inheritance etc.
- Implementing OOP principles in Python

6. File Handling:

- Reading and writing text files
- Working with CSV and JSON files
- Exception handling and error management

7. Libraries and Frameworks:

- Introduction to popular Python libraries (e.g., NumPy, tkinter)
- Exploring data manipulation and analysis using libraries

8. Best Practices and Coding Standards:

- Writing clean and readable code
- Code documentation and comments

3.2 SKILLS ACQUIRED:

During my internship, I developed the following skills:

- Proficiency in Python programming, including syntax, data structures, and object-oriented concepts.
- Knowledge of key Python libraries such as pandas, NumPy, Tkinter, Requests etc.
- Problem-solving abilities through tackling real-world programming challenges.

3.3.CHALLENGES FACED:

- Adapting to different Python libraries and understanding their functionalities.
- Debugging and troubleshooting code to ensure its correctness and efficiency.
- Balancing multiple projects and tasks while meeting deadlines.

3.4 KEY TAKEAWAYS:

- A deep understanding of Python programming and its diverse applications.

- Improved problem-solving skills through hands-on experience.

3.5 CONCLUSION:

- My internship at GRITXI TECHOLOGIES Pvt Ltd was a transformative experience that provided me with invaluable insights into Python programming. I gained practical skills, faced challenges head-on, and contributed to meaningful projects. This experience has solidified my passion for programming and equipped me with the skills necessary to excel in future endeavors.

- I am immensely grateful for the guidance and mentorship provided by the team at GRITXI TECHOLOGIES Pvt Ltd, and I look forward to applying the knowledge and skills I've acquired in my future career.

3.6 ACKNOWLEDGMENTS:

- I would like to express my gratitude to the entire team at GRITXI TECHOLOGIES Pvt Ltd for their continuous support, guidance, and the opportunity to be a part of their dynamic work environment.

INTERNSHIP AT OIL AND NATURAL GAS CORPORATION

AN INTERNSHIP REPORT

Submitted by

Rathod Pinkal Vijaybhai

200390116061

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Engineering

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023

S.P.B. PATEL ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at ONGC(OIL AND NATURAL GAS CORPORATION)** has been carried out by **Pinkal Rathod** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Mechanical Engineering, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign

Prof. Rachita Mohanty

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

ओएनजीसी

ONGC

ऑयल एण्ड नेचुरल गैस कॉरपोरेशन लिमिटेड
Oil and Natural Gas Corporation Limited

मेहसाना परिसम्पत्ति / Mehsana Asset

केडीएम भवन, पालवासणा, मेहसाणा - ३८४ ००३ / KDM Bhavan, Palavasana, Mehsana - 384 003
दूरभाष : (०२७६२) २६२००० फैक्स : (०२७६२) २२५७०५ / Phone : (02762) 262000 Fax : (02762) 225705

TO WHOM IT MAY CONCERN

This is to certify that Mr./Ms. Rathod Pinkal V., a student of B.E. (IT) of S.P.B. Patel Engineering College, Linch, has completed internship at ONGC Mehsana Asset in Infocom Services. The duration of the internship was from 27.07.2023 to 10.08.2023.

We hope his time spent at ONGC Mehsana Asset was fruitful. We wish him all the success in his future.

Date: 23.08.2023

OIL AND NATURAL GAS CORPORATION LTD. MEHSANA

(Hemant Kumar)
GM (HR)
हेमंत कुमार / HEMANT KUMAR
महाप्रबंधक (मा.सं.) / General Manager (HR)
सी.पी.एफ. सं. ९४३३५ / CPF No. 94335
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ONGC, Mehsana Asset

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at ONGC(OIL AND NATURAL GAS CORPORATION)** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student | Sign of Student

1.**Rathod Pinkal Vijaybhai**



ACKNOWLEDGMENT

I would like to express my sincere gratitude and appreciation to the entire team at Oil and Natural Gas Corporation (ONGC) for providing me with the opportunity to undergo a rewarding 15-day internship in the field of Information Technology. I extend my heartfelt thanks to my mentor, Mr. Shrikant sir, for his invaluable guidance and dedicated efforts in imparting his knowledge of the Laravel programming language. His support and mentorship played a pivotal role in enhancing my understanding and skills in web development. I am also thankful to the entire IT department for their warm welcome, constant encouragement, and the collaborative learning environment they provided throughout my internship journey. The experience gained during this internship has undoubtedly contributed to my personal and professional growth, and I am truly grateful for the insights and practical exposure that I have gained.

Abstract

The internship project at ONGC involves creating a comprehensive system to streamline well department operations. A key component is developing an authentication-enabled website where users can log in securely. Upon successful login, user data is authenticated, while login errors are appropriately handled. The project also focuses on efficient data collection from the well department, encompassing the assessment of various parameters critical to ONGC's operations. The gathered data is then stored within a structured database. The administrative functionality is limited to authorized personnel who can add or delete data entries. The system culminates in an organized presentation of data, displayed in a user-friendly table format for easy interpretation. By addressing these aspects, the project aims to enhance data management, security, and accessibility within ONGC's well department, contributing to streamlined operations and decision-making.

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Chapter 1. INTRODUCTION

1.1 COMPANY PROFILE:

Oil and Natural Gas Corporation Limited (ONGC) is a prominent Indian multinational energy company engaged in the exploration, production, and development of oil and natural gas resources. Established in 1956, ONGC has played a pivotal role in the growth of India's hydrocarbon sector and has established itself as a leading player in the global energy industry.

ONGC is the largest crude oil and natural gas Company in India, contributing around 71 per cent to Indian domestic production. Crude oil is the raw material used by downstream companies like IOC, BPCL, HPCL and MRPL (Last two are subsidiaries of ONGC) to produce petroleum products like Petrol, Diesel, Kerosene, Naphtha, and Cooking Gas LPG.

Headquartered in Dehradun, India, ONGC operates in diverse areas of the energy value chain, including upstream exploration and production, downstream refining and marketing, and petrochemicals. The company's primary focus lies in the exploration and extraction of oil and natural gas reserves, both onshore and offshore. ONGC's operations encompass various geographical regions, including India and several international locations.

ONGC's contributions extend beyond its core business, as the company actively participates in various corporate social responsibility initiatives, focusing on areas such as education, healthcare, and community development. It also collaborates with other national and international energy companies to foster knowledge sharing and cooperation within the energy sector.

Over the years, ONGC has achieved significant milestones, both in terms of production output and technological achievements. It continues to play a vital role in ensuring India's energy security and economic growth, while also contributing to global energy markets.

1.2 MISSION AND VISION OF THE COMPANY:

World Class

- Dedicated to excellence by leveraging competitive advantages in R&D and technology with involved people.
- Imbibe high standards of business ethics and organizational values.
- Abiding commitment to safety, health and environment to enrich quality of community life.
- Foster a culture of trust, openness and mutual concern to make working a stimulating and challenging experience for our people.
- Strive for customer delight through quality products and services.

Integrated In Energy Business

- Focus on domestic and international oil and gas exploration and production business opportunities.
- Provide value linkages in other sectors of energy business.
- Create growth opportunities and maximize shareholder value.

Dominant Indian Leadership

- Retain a dominant position in the Indian petroleum sector and enhance India's energy availability.

Carbon Neutrality

- Strive to reduce CO2 emissions across the activity chain with the objective of achieving carbon neutrality.

Chapter 2. Training and Task Briefly Week1

2.1 Week 1 (27/07/2023 , 28/07/2023):-

- In the initial two days,during the first week we went to the Infocom Department where we met different staff members and asked for our interest. And then I first got assigned to the Scada Team which mostly works for controlling equipments.Where I learn how ONGC works.
- Scada is a software tool which accounts for the level of tank oil and checks whether it is full or not.Here RTU Controllers are used which act like sensors and indicate all types of parameter.Their data get analyzed by watching on their official website.
- Data is collected by server from GGS and there are 26 groups like that for which there is a website , this website is made with PHP which gathers data and visualizes it.
- On the second day They teach us what is switch and how to configure OS and VM(Virtual Machine) for fetch data by calling API.Also we get to know more information about Junos OS which they are using for calling API , its features and specification is good for providing security.
- There I observed different switches and gained in-depth knowledge about L2 and L3 switches, comprehending their operational mechanisms and data transmission processes. Furthermore, we extensively covered various cable connections, exploring their interconnections and functionalities. Notably, during this period, we had the opportunity to observe the Juniper L3 switch in action.
- **L1 Switch (Physical Layer):** Connects devices within a network and manages the physical connections, like plugging devices into sockets.
- **L2 Switch (Data Link Layer):** Uses MAC addresses to forward data within a local network, like directing traffic within a single neighborhood.
- **L3 Switch (Network Layer):** Routes data between different networks using IP addresses, like guiding traffic between different cities or regions.

Juniper L3 switch:



Fig:2.1 Juniper L3 switch

- Juniper switches offer low latency and advanced functionality such as software-defined wide-area networking (SD-WAN) support. They can route packets to both Layer 2 (Ethernet) and Layer 3 (IP) addresses. In a switching context, Layer 2 refers to forwarding data packets to a certain switch port based on what's known as a media access control (MAC) address, while Layer 3 refers to forwarding data packets based on IP address. Each packet's destination is calculated using LUTs such as Address Resolution Protocol (ARP) routing tables.
- Juniper switches and routers are supported by Mist AI™, which uses a combination of artificial intelligence (AI), machine learning, and data science techniques to optimize operations across multiple network domains.

Juniper L3 switches, like many other networking devices, consist of several key components that work together to provide routing and switching capabilities. While the specific components may vary based on the model and series of the Juniper L3 switch, here are some common parts typically found in Juniper L3 switches:

1. Processor (CPU): The processor is the brain of the switch, responsible for executing control plane functions, handling routing protocols, and managing the switch's overall operation.
2. Memory: Various types of memory are used in a Juniper L3 switch, including RAM (Random Access Memory) for temporary data storage and caching, and flash memory for storing the operating system and configuration files.
3. Switching Fabric: The switching fabric is a high-speed internal bus or architecture that allows data packets to be switched and forwarded between different ports and interfaces.
4. Network Interfaces: These are the physical ports on the switch that connect to devices, servers, routers, and other networking equipment. They can include Ethernet ports of different speeds (e.g., 1Gbps, 10Gbps, 40Gbps, 100Gbps) and may support various types of connectors (e.g., RJ-45, SFP, QSFP).

5. Routing Engine: The routing engine handles control plane functions, including running routing protocols, maintaining routing tables, and making routing decisions.

6. ASICs (Application-Specific Integrated Circuits): ASICs are specialized hardware components designed to accelerate specific networking functions. In an L3 switch, ASICs may be used to perform packet forwarding, routing lookups, and other processing tasks, improving performance and efficiency.

7. Power Supply Units (PSUs): These components provide electrical power to the switch. High-end switches may have redundant power supply units for increased reliability.

8. Cooling System: Juniper L3 switches are equipped with fans and cooling mechanisms to maintain optimal operating temperatures and prevent overheating.

9. Management Interfaces: These interfaces allow network administrators to configure, monitor, and manage the switch. They can include console ports, Ethernet management ports, and out-of-band management options.

10. Operating System (Junos): Juniper L3 switches run the Junos operating system, which provides the software framework for routing, switching, security, and management features.

11. CLI (Command Line Interface) and Management Software: Network administrators use the CLI and management software to configure the switch, monitor its performance, and troubleshoot issues.

12. Redundancy Features: High-end Juniper L3 switches often include redundancy features such as Virtual Chassis or Virtual Chassis Fabric, which allow multiple switches to operate as a single logical unit, enhancing fault tolerance and availability.

working of juniper L3 switch :

1. Routing Intelligence: A Juniper L3 switch starts by knowing where different parts of the network are located. It compiles a list of paths (routing table) that tells it the best ways to reach different destinations.

2. Packet Checkpoint: When data arrives, the switch checks its "address label" (destination IP) to figure out where it should go.

3. Smart Decision: Using its routing table, the L3 switch decides the quickest path for the data. Imagine choosing the fastest route on a map.

4. Physical Address: If the data needs to go to another "neighborhood" (subnet), the switch finds the recipient's "house number" (MAC address) through a quick lookup (ARP).

5. Packet Packing: The switch carefully wraps the data in a new package with the correct "neighborhood address" (MAC). It's like putting the data in the right envelope.

6. Onward Journey: The switch then sends the newly packaged data on its way, following the optimal path it selected earlier.
7. VLAN Magic: If there are different "parts of town" (VLANs), the L3 switch can help the data travel between them, like building virtual bridges.
8. Traffic Control: The switch can act like a traffic cop, using rules (ACLs) to allow or stop data based on instructions.
9. Priority Treatment: To keep things fair, the switch can also give important data a "green light" (QoS), ensuring it gets through quickly.

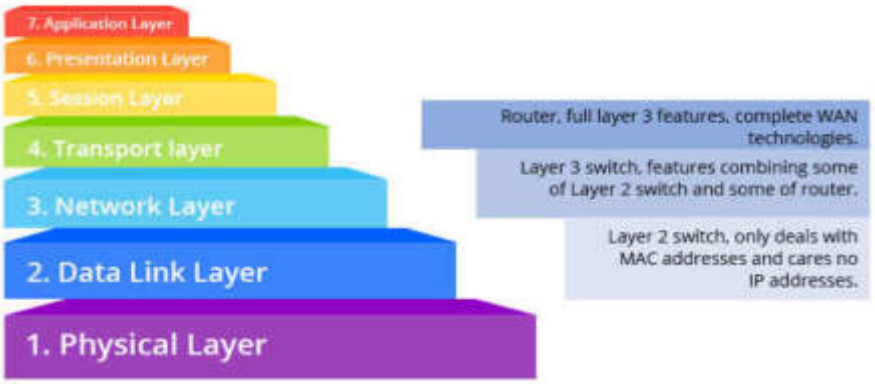


Fig:2.2 OSI Layer

Chapter 3. Training and Task Briefly Week2

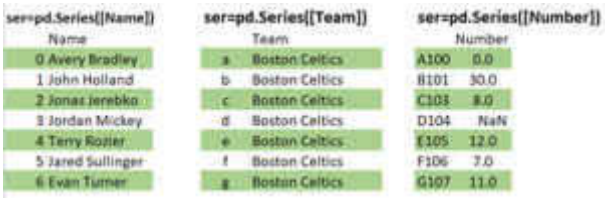
3.1 Week 2 (31/07/2023 To 04/08/2023) :-

- On the weekend we have a task to know about Rest API's which we have done and revived by Shreekant Sir.
- Representational State Transfer (REST) is an architectural style that defines a set of constraints to be used for creating web services. REST API is a way of accessing web services in a simple and flexible way without having any processing.



Fig:3.1 REST API Structure

- In HTTP there are five methods that are commonly used in a REST-based Architecture i.e., POST, GET, PUT, PATCH, and DELETE. These correspond to create, read, update, and delete (or CRUD) operations respectively. There are other methods which are less frequently used like OPTIONS and HEAD.
- After that I got assigned to the Men's Power Task where we were given a task to make a python file by performing some data manipulation techniques by using Pandas libraries.



ser=pd.Series([Name])

	Name
0	Avery Bradley
1	John Holland
2	Jonas Jerebko
3	Jordan Mickey
4	Terry Rozier
5	Jared Sullinger
6	Evan Turner

ser=pd.Series([Team])

	Team
a	Boston Celtics
b	Boston Celtics
c	Boston Celtics
d	Boston Celtics
e	Boston Celtics
f	Boston Celtics
g	Boston Celtics

ser=pd.Series([Number])

	Number
A100	0.0
B101	30.0
C103	8.0
D104	NaN
E105	12.0
F106	7.0
G107	11.0

Fig:3.2 Pandas Rows and Columns

- Pandas is a Python library used for working with data sets.
- It has functions for analyzing, cleaning, exploring, and manipulating data.
- Pandas allows us to analyze big data and make conclusions based on statistical theories.
- Pandas can clean messy data sets, and make them readable and relevant.
- Relevant data is very important in data science.
- We started our work with a new OS which is Ubuntu, Ubuntu is a Linux-based operating system. I installed Ubuntu on my laptop, and set up everything inside ubuntu. I Install all necessary tools like vscode inside ubuntu.



Fig:3.3 Ubuntu



Fig:3.4 PHP

- We learn the basics of php, because our main task is to update the website(dpr), store data in the database, fetching data from database and maintain all the dpr(Daily Production Report) of ONGC. and all the dpr we have to update using laravel language which is the framework of php.
- php:- PHP is a widely-used scripting language designed for web development and server-side programming. It boasts a user-friendly syntax that simplifies creating dynamic and interactive web applications. PHP operates seamlessly with HTML, allowing developers to embed PHP code directly within web pages. It supports variables, enabling the storage of data, and employs data types such as integers, strings, and arrays. Control structures like loops and conditional statements facilitate decision-making and iterative processes.



- One of PHP's standout features is its robust support for database interaction. It can effortlessly connect to various databases, enabling the storage and retrieval of data. Functions and libraries are integral to PHP, offering pre-built code snippets for common tasks. Moreover, PHP's object-oriented capabilities empower developers to structure code logically and reuse components. The language also facilitates seamless file manipulation, making it easy to read, write, and modify files. In essence, PHP serves as a

versatile tool for crafting dynamic web applications, boasting features like form handling, session management, and secure authentication mechanisms.

- Now we learn about laravel framework:
- Laravel is a sophisticated and widely-used PHP web framework renowned for its elegant design and developer-friendly features. Operating on the Model-View-Controller (MVC) architectural pattern, Laravel facilitates the organization of code into distinct components: Models, responsible for data handling and interaction with databases; Views, managing the presentation layer; and Controllers, governing application logic and user interactions.

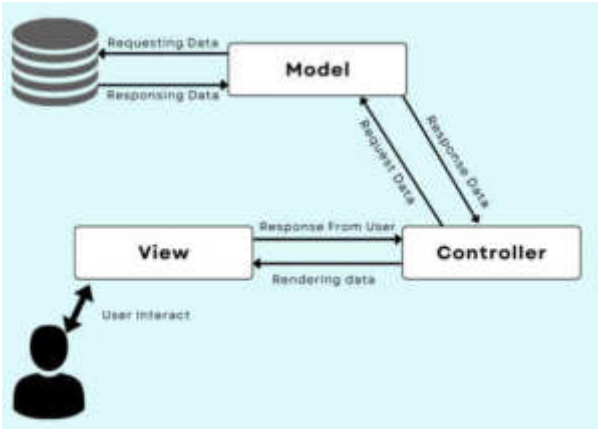


Fig:3.5 MVC Architecture

MVC architecture

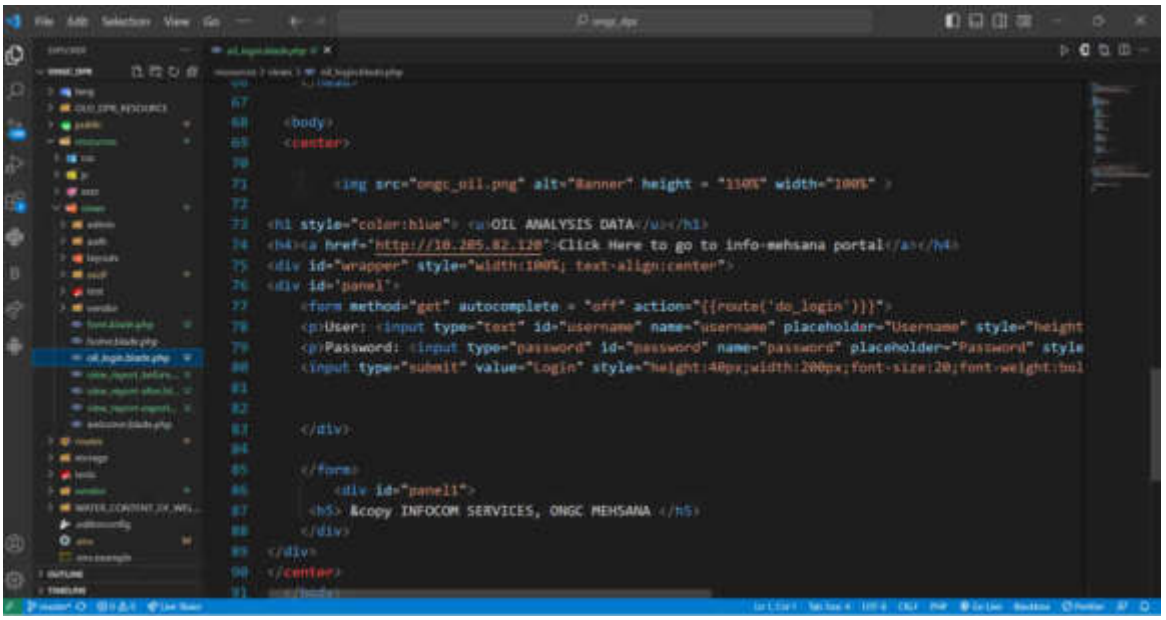
- Beyond its architectural prowess, Laravel comes equipped with a multitude of built-in tools and functionalities that expedite web development. Its routing system provides a straightforward way to define endpoints and handle HTTP requests, while the Blade templating engine offers expressive and reusable views. Laravel's authentication and security mechanisms ensure the safeguarding of user data, while the Eloquent ORM simplifies database interactions through an intuitive, object-oriented syntax.
- Furthermore, Laravel's extensive ecosystem is enriched by Composer, a package manager that allows seamless integration of third-party libraries. Its vibrant community continually contributes to the framework's growth and evolution, offering a wealth of resources, tutorials, and forums. Overall, Laravel empowers developers to create feature-rich and maintainable web applications efficiently, making it a preferred choice within the realm of modern web development.

- We are working with a phpmyadmin tool for managing and administering MySQL or MariaDB databases. Developed in PHP, phpMyAdmin provides a web-based interface that enables users to perform a wide range of database-related tasks, including creating, modifying, and deleting databases, tables, and records, as well as executing SQL queries, importing and exporting data, and managing user privileges. Its intuitive interface makes it accessible to both beginners and experienced database administrators, facilitating efficient database management without requiring extensive knowledge of command-line tools

3.2 Task 1 :-

OIL CONTENT OF WELL HEAD SAMPLES (DPR)

login1.blade.php:



```
<body>
<center>

    <img src="ongc_oil.png" alt="Banner" height = "150%" width="100%" >

<h1 style="color:blue"> <u>OIL ANALYSIS DATA</u></h1>
<h4><a href="http://10.205.82.120">Click Here to go to info-mehsana portal</a></h4>
<div id="wrapper" style="width:100%; text-align:center">
<div id="panel">
    <form method="get" autocomplete = "off" action="{{route('do_login')}}">
    <p>User: <input type="text" id="username" name="username" placeholder="Username" style="height
    <p>Password: <input type="password" id="password" name="password" placeholder="Password" style
    <input type="submit" value="Login" style="height:40px;width:200px;font-size:20;font-weight:bol


    </div>

    </form>
        <div id="panel1">
    <h5> &copy INFOCOM SERVICES, ONGC MEHSANA </h5>
    </div>
</div>
</center>
```

Fig:3.6 Login1.html

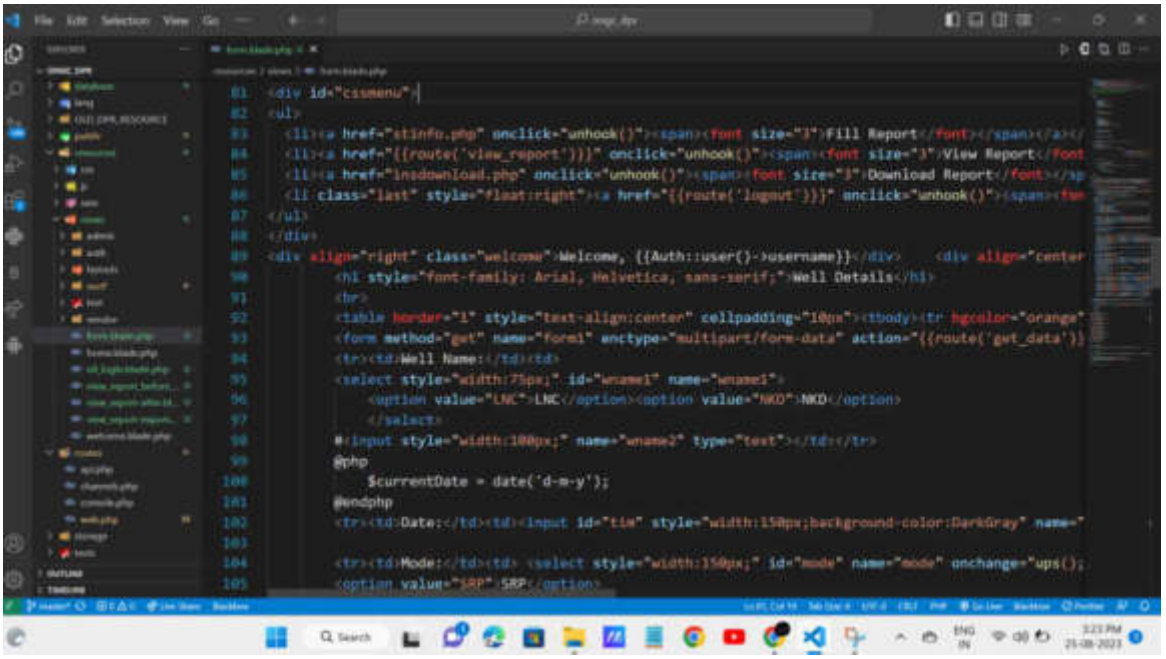


Fig:3.7 Form.php

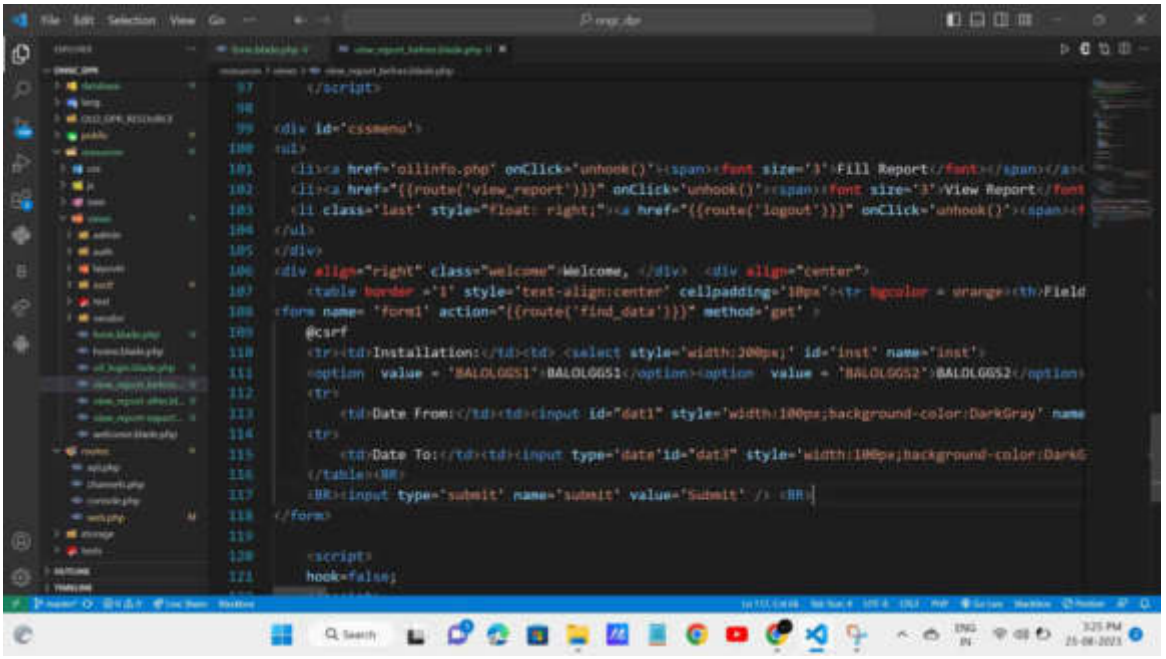


Fig:3.8 view-report.html

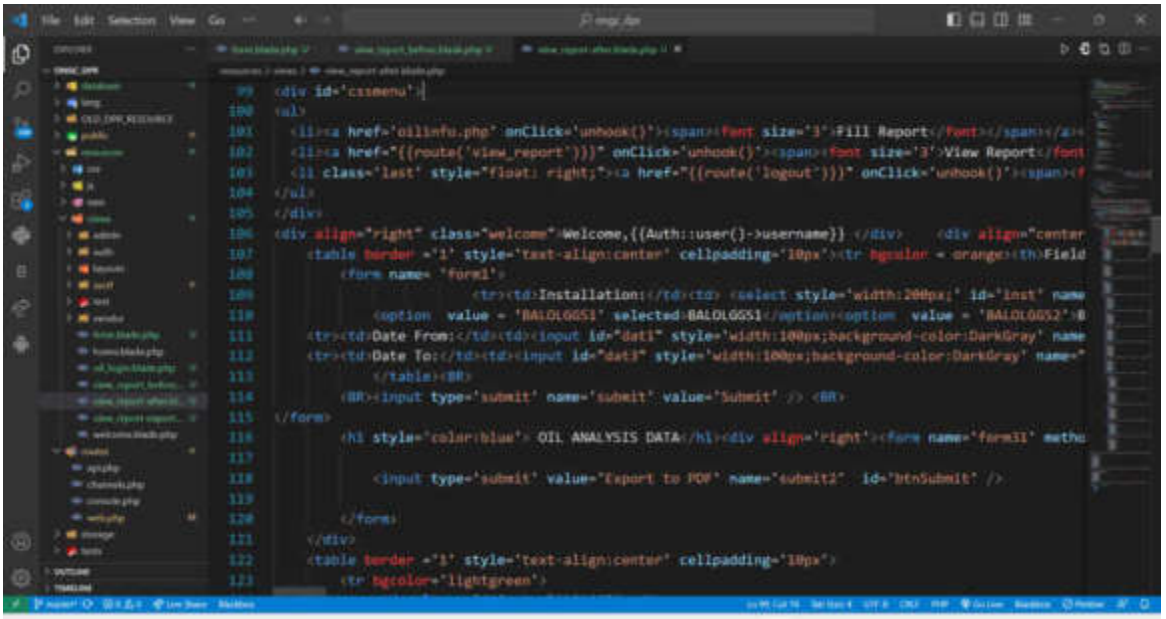


Fig:3.9 Table-format.php

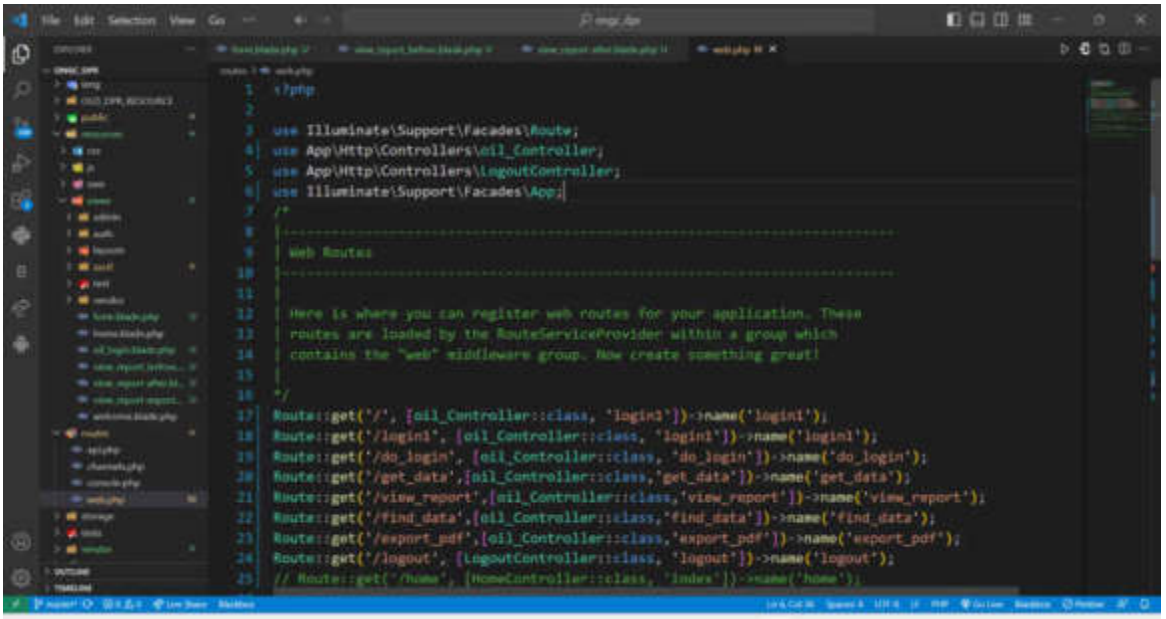
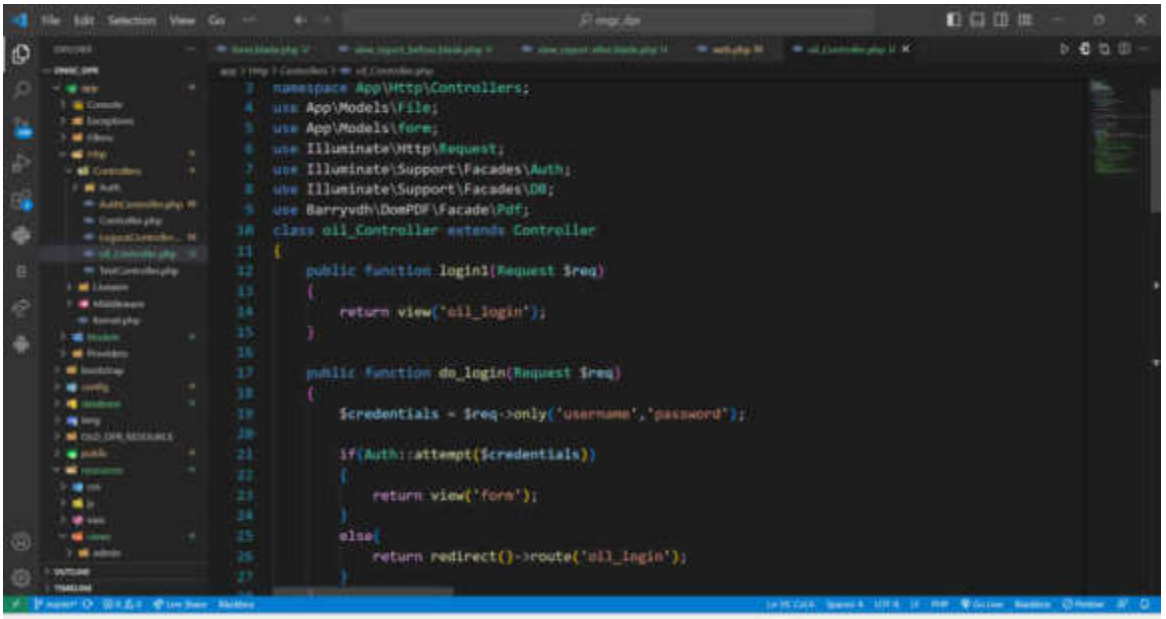


Fig:3.10 web-routing.php

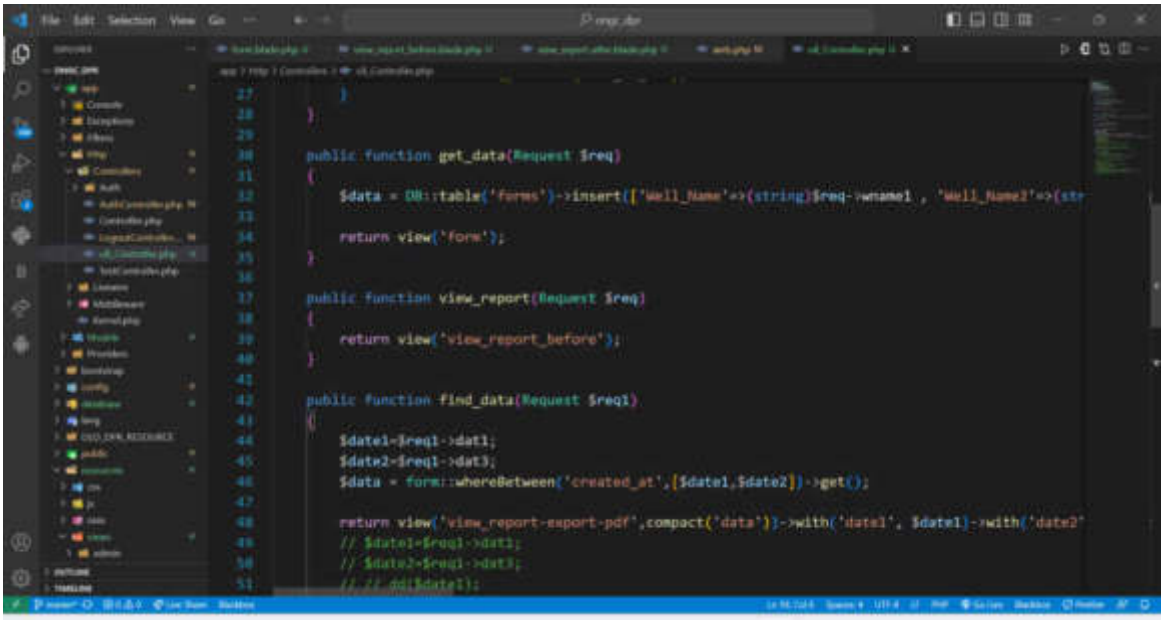


```php
namespace App\Http\Controllers;
use App\Models\File;
use App\Models\form;
use Illuminate\Http\Request;
use Illuminate\Support\Facades\Auth;
use Illuminate\Support\Facades\DB;
use Barryvdh\DomPDF\Facade\Pdf;
class oil_Controller extends Controller
{
    public function login1(Request $req)
    {
        return view('oil_login');
    }

    public function do_login(Request $req)
    {
        $credentials = $req->only('username','password');

        if(Auth::attempt($credentials))
        {
            return view('form');
        }
        else{
            return redirect()->route('oil_login');
        }
```

Fig:3.11 Oil-Controller.php



```php
    }

    public function get_data(Request $req)
    {
        $data = DB::table('forms')->insert(['Well_Name'=>(string)$req->wname1 , 'Well_Name2'=>(str

        return view('form');
    }

    public function view_report(Request $req)
    {
        return view('view_report_before');
    }

    public function find_data(Request $req1)
    {
        $date1=$req1->dat1;
        $date2=$req1->dat3;
        $data = form::whereBetween('created_at',[$date1,$date2])->get();

        return view('view_report-export-pdf',compact('data'))->with('date1', $date1)->with('date2'
        // $date1=$req1->dat1;
        // $date2=$req1->dat3;
        // // dd($date1);
```

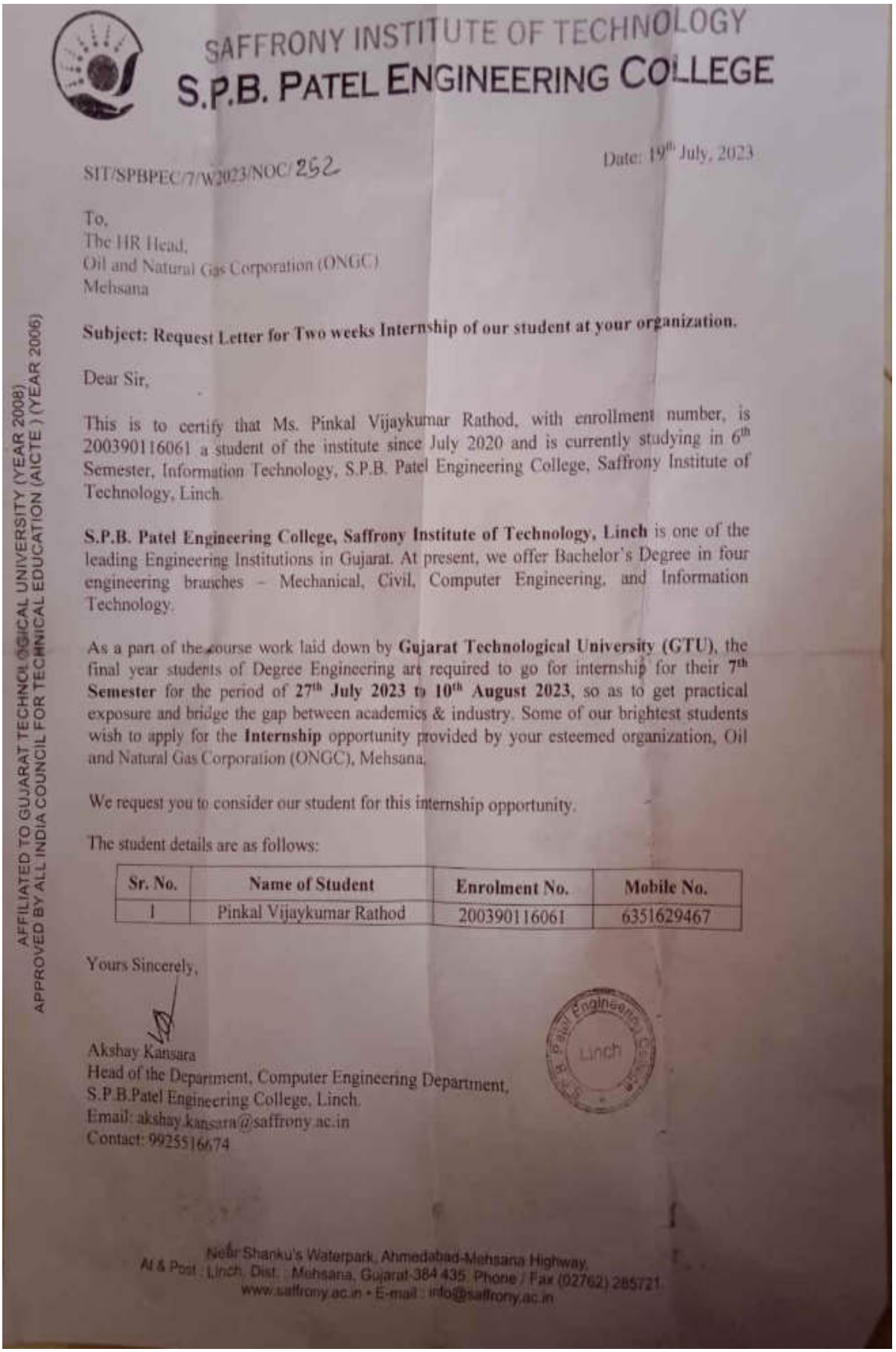
Fig:3.12 Oil-Controller.php

Chapter 3. Training and Task Briefly Week3

3.1 Week 3 (7/08/2023 To 11/08/2023) :-

- This whole week we work on tasks and DPR assigned individually where first we get to learn about database connectivity with laravel and make a user login form with authentication and also retrieve data from the database by showing in Table.
- And then we were given a Group Project about Infocom DPR(Daily Product). The Project is about getting IP addresses who are in the network and check whether they are available for sending data or not.And have to make a website includes login form,and also if new user are added then it make new entry or admin can delete or add it , by assigning a role to it.
- This weekend we also went for an industrial visit and was also received by the head and then we got reviewed by the head manager of ONGC where they took an interview of ours and what we had done in all these days.

Appendix



SAFFRONY INSTITUTE OF TECHNOLOGY
S.P.B. PATEL ENGINEERING COLLEGE

AFFILIATED TO GUJARAT TECHNOLOGICAL UNIVERSITY (YEAR 2008)
APPROVED BY ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE) (YEAR 2006)

SIT/SPBPEC/7/W2023/NOC/252

Date: 19th July, 2023

To,
The HR Head,
Oil and Natural Gas Corporation (ONGC)
Mehsana

Subject: Request Letter for Two weeks Internship of our student at your organization.

Dear Sir,

This is to certify that Ms. Pinkal Vijaykumar Rathod, with enrollment number, is 200390116061 a student of the institute since July 2020 and is currently studying in 6th Semester, Information Technology, S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch.

S.P.B. Patel Engineering College, Saffrony Institute of Technology, Linch is one of the leading Engineering Institutions in Gujarat. At present, we offer Bachelor's Degree in four engineering branches – Mechanical, Civil, Computer Engineering, and Information Technology.

As a part of the course work laid down by **Gujarat Technological University (GTU)**, the final year students of Degree Engineering are required to go for internship for their **7th Semester** for the period of **27th July 2023 to 10th August 2023**, so as to get practical exposure and bridge the gap between academics & industry. Some of our brightest students wish to apply for the **Internship** opportunity provided by your esteemed organization, Oil and Natural Gas Corporation (ONGC), Mehsana.

We request you to consider our student for this internship opportunity.

The student details are as follows:

Sr. No.	Name of Student	Enrolment No.	Mobile No.
1	Pinkal Vijaykumar Rathod	200390116061	6351629467

Yours Sincerely,

Akshay Kansara
Head of the Department, Computer Engineering Department,
S.P.B.Patel Engineering College, Linch.
Email: akshay.kansara@saffrony.ac.in
Contact: 9925516674

S.P.B. Patel Engineering College Linch

Near Shanku's Waterpark, Ahmedabad-Mehsana Highway,
At & Post : Linch, Dist. : Mehsana, Gujarat-384 435. Phone / Fax (02762) 285721.
www.saffrony.ac.in • E-mail : info@saffrony.ac.in

INTERNSHIP AT RK INFOTECH

AN INTERNSHIP REPORT

Submitted by

Joshi Mihir Kaushikbhai

200390116062

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology Engineering

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at RK Infotech** has been carried out by **Joshi Mihir Kaushikbhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology Engineering, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Prof. Rachita Mohanty
Internal Guide

Prof. Akshay Kansara
Head of Department

Offer Letter



Offer Letter

20 July 2023

Dear, Joshi Mihir Kaushikbhai
Congratulation & Welcome !

I hope this letter finds you in good health and high spirits. We are thrilled to offer you an exciting opportunity to join **RK Infotech** as an intern in our brand building department. Your talent and potential have caught our attention, and we believe that your skills will be a valuable addition to our team.

During your internship, you will be working closely with our seasoned professionals, who will provide you with guidance and mentorship throughout the program. This internship aims to offer you real-world insights into the brand building process, Web Designing, and the opportunity to contribute creative ideas to our marketing campaigns.

Internship Details:
- Internship Position: Brand Building & Web Design Intern
- Internship Duration: 20 Days (Starting from July 25 to 15 August)
- Stipend: INR 2,500

We are eager to welcome you to the **RK Infotech** team and look forward to witnessing your contribution to our brand's success.

Congratulations once again on this opportunity, and we eagerly anticipate your positive response.

Best regards,
RK Infotech

79843 25539 rkinfotekh@gmail.com Rajkot

Certificate



S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I, **Joshi Mihir Kaushikbhai**, hereby solemnly affirm that the Internship/Project report submitted alongside the Internship In **Brand Building & Web-Designing** "Internship at **RK Infotech**" is being presented as part of the requisite fulfillment for the degree of Bachelor of Engineering in Information Technology Engineering at Gujarat Technological University, Ahmedabad.

I certify that this report stands as an authentic and original representation of the project work I undertook, operating under the guidance of **Jr. Designer Shreya Saparia & Sr. Viraj Bhalala** I further assert that no segment of this report has been replicated verbatim from any fellow student's submissions or procured from any external source without the appropriate and duly acknowledged referencing.

The content of this report, including data, information, and conceptual frameworks, accurately represents the comprehensive scope and accomplishments of my internship. I assume complete responsibility for the accuracy and integrity of the enclosed content. I am wholly dedicated to ethical standards set forth by **Gujarat Technological University.**

Name of the Student Sign of Student

Joshi Mihir

ACKNOWLEDGMENT

I would like to express my heartfelt appreciation to the leadership team of **RK Infotech** for their instrumental roles in making my internship experience both enriching and rewarding.

To the Company of **C.E.O. Sanjay Togadiya**, thank you for fostering an environment that encourages growth and innovation. Your vision for the company has inspired me and given me insights into the larger industry landscape.

A special note of gratitude goes to my Learner as well as guide, **Jr. Designer Shreya Saparia & Sr. Viraj Bhalala** Your mentorship has been the cornerstone of my learning during this internship. Your patience, expertise, and willingness to share knowledge have provided me with a deeper understanding of Branding , Designing & Development.

I also want to extend my appreciation to the entire team at **RK Infotech**. The collaborative and inclusive work culture has made my journey here truly memorable.

I am truly grateful for the opportunities **RK Infotech** has provided me.

Abstract

Throughout my **virtual internship** at **RK Infotech**, I have been actively involved in a diverse range of tasks. These include comprehensive analyses of the company's ecosystem, contributing to logo design for brand identity, exploring marketing strategies and social networking avenues, creating user-friendly web interfaces, and integrating them into functional Web-applications. This hands-on experience, coupled with the invaluable guidance of **RK Infotech's** mentorship, has significantly enriched my understanding of the industry and enhanced my technical proficiencies. Grateful for the trust invested in me, I eagerly anticipate making further meaningful contributions to the team's accomplishments as my internship progresses.

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Company Overview

RK Infotech is a One stop solution for all your technological diverse requirements. We develop efficient, easy-to-use and business responsive website designing and development, Cost effective and interactive mobile apps for Android, iOS, Unique and versatile Graphic design and Printing services. We also provide easy and effective software for online exams, lead management and fees management.

Vision & Mission

- To provide the best innovative solutions in various segments by using our skills and experience for attaining excellence in what we deliver.

- To be the best global IT Solution Company by providing exceptional cost effective solutions and services to our clients, surpassing their expectations and enhancing revenues at the same time.

Work - Flow

This internship presents a comprehensive workflow detailing the steps taken to advance technology within the **Bharat manufacturing industry**. The workflow is structured into five integral parts, each contributing uniquely to the goal of technological enhancement and innovation.

The following paragraphs provide an overview of each phase of the workflow:

1. Company/Organisation Analysis & Brainstorming
2. Logo Designing & Brand Recognition
3. Different Factors of Marketing Strategies & Social Networking
4. Web UI Designing
5. Implementation to Web-App

This report chronicles the transformative journey of integrating technology within the Bharat manufacturing industry. By synergizing company analysis, branding, marketing strategies, UI design, and web application development, this workflow showcases a holistic approach towards driving innovation and growth in the sector.

1.0 Company Analysis & Brainstorming

The Bharat Manufacturing Industry stands as a significant entity within the sector, boasting a diverse portfolio of companies spanning various domains. With a widespread presence across different states and diverse sectors including oil & gas, chemicals, agriculture, automotive, and mechanical & civil manufacturing, it plays a pivotal role in the nation's industrial landscape.

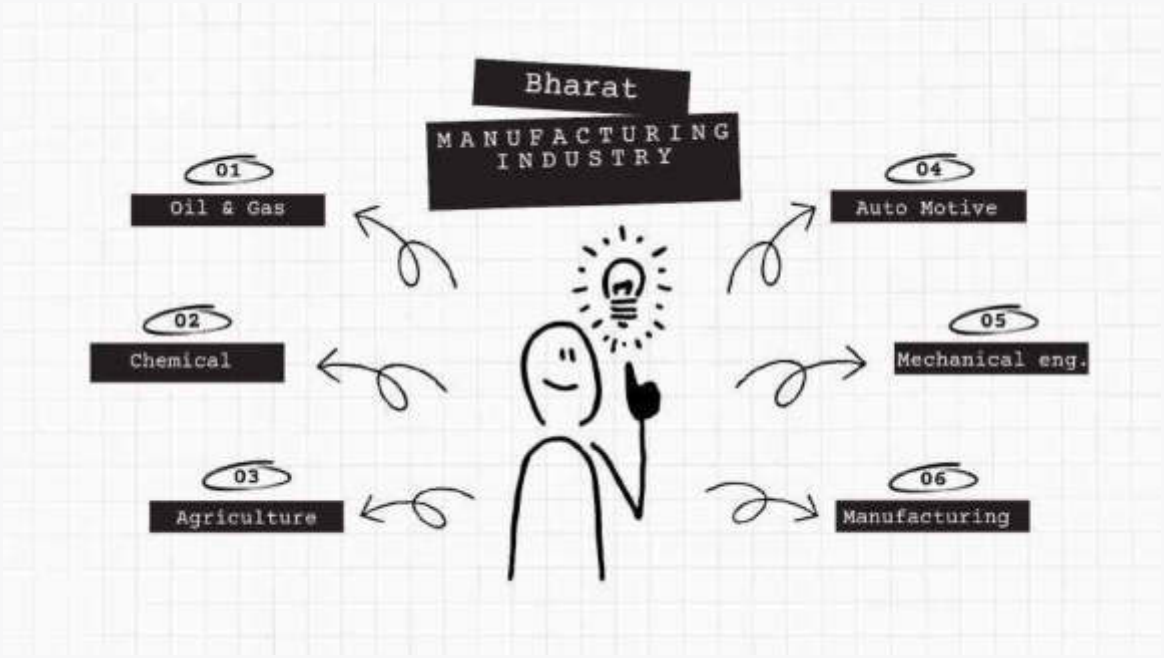


Fig 1.1 Different factors of company Diagram

1.1 Vision , Mission & Values



- **Vision:**

Our vision at Bharat Manufacturing Industry is to revolutionize the manufacturing sector in Bharat by seamlessly integrating technology and design. We envision a landscape where every industry and factory harnesses the power of innovation to drive efficiency, sustainability, and growth.

- **Mission:**

Our mission is to provide a platform that empowers Manufacturing Industries to showcase their expertise with a unique online presence. We aim to bridge the gap between traditional industrial practices and modern digital solutions, fostering growth and visibility for businesses across Bharat. Through our template, we strive to enable seamless client engagement, efficient knowledge sharing, and dynamic representation of your capabilities.

- **Values:**

Innovation: We thrive on pushing the boundaries of what's possible, constantly seeking innovative solutions that redefine the manufacturing landscape.

Integrity: We operate with unwavering honesty, transparency, and ethical practices, fostering trust within our industry and among our clients.

Collaboration: We believe in the power of collaboration, working closely with our clients and partners to co-create exceptional solutions that drive mutual success.

Excellence: Our pursuit of excellence is unwavering. We strive for quality in every aspect, ensuring that our template and services reflect the highest standards.

Client-Centric: Our clients are at the heart of everything we do. We are committed to understanding their needs and delivering tailored solutions that exceed expectations.

With a deep understanding of the industry's needs, the Bharat Manufacturing Industry template encapsulates our unwavering dedication to excellence. By embracing this template, businesses can amplify their online footprint and establish a strong digital identity that resonates with their core values and aspirations. Together, let's journey towards a new era of manufacturing prowess and technological advancement.

1.2 Brainstorming

Our analysis and brainstorming efforts delve into the core of this conglomerate. Through comprehensive research and evaluation, we aim to dissect the strengths, weaknesses, opportunities, and challenges that characterize each sector and location. Collaborating with experts across the spectrum, we endeavor to identify novel strategies and innovative approaches that can further propel Bharat Manufacturing Industry's growth and influence.

This analysis not only serves to understand the intricate dynamics of the industry but also sets the stage for fostering brainstorming sessions. By harnessing the collective wisdom and expertise of our teams, we aim to uncover fresh perspectives, innovative solutions, and forward-looking strategies. Through these collaborative sessions, we aspire to drive positive change, enhance operational efficiency, and position Bharat Manufacturing Industry at the forefront of each sector it operates in.

The journey of analysis and brainstorming promises to be an exciting one, brimming with opportunities to learn, innovate, and contribute to the continued success of Bharat Manufacturing Industry and the wider industrial landscape of the nation.



Fig 1.2 Brainstorming Diagram

1.2 SWOT Analysis

WHAT IS A SWOT ANALYSIS ?

A SWOT analysis is a strategic framework that provides a comprehensive understanding of a company's internal strengths and weaknesses, as well as external opportunities and threats. In the context of Bharat Manufacturing Industry, this analysis sheds light on critical aspects that influence our trajectory.

Strengths :

Our company possesses a wealth of technological expertise, anchored by a team of professionals well-versed in the latest manufacturing technologies. This proficiency empowers us to craft innovative solutions tailored precisely to the needs of the industry. Moreover, our comprehensive template stands as a testament to our commitment, offering an all-encompassing online presence that includes essential features such as galleries, blogs, testimonials, team introductions, and appointment pages. This holistic approach enhances client engagement and visibility in the digital realm.

Weaknesses:

While our template's array of features is extensive, we acknowledge that businesses with intricate requirements may seek a higher degree of customization. Addressing this aspect by providing avenues for more tailored solutions could widen our market appeal. Additionally, for those less familiar with online platforms, there might be a learning curve in effectively harnessing all the capabilities our template offers.

Opportunities:

The ongoing digital transformation sweeping through the manufacturing sector represents a promising opportunity. As more businesses embrace technology, we are well-positioned to deliver solutions that seamlessly align with evolving industry dynamics. Furthermore, the emergence of novel industries within manufacturing presents a fertile ground for customization, allowing us to tailor our template to the distinct demands of these nascent sectors.

Threats:

Amid the swiftly changing digital landscape, competition looms as a potential threat. Fending off rival entities, both established and new, requires our commitment to constant innovation, ensuring that our offerings remain fresh and appealing. Additionally, the rapid pace of technological advancements demands our vigilant attention. Keeping our template in sync with the latest trends is essential to guard against obsolescence and maintain our industry relevance.

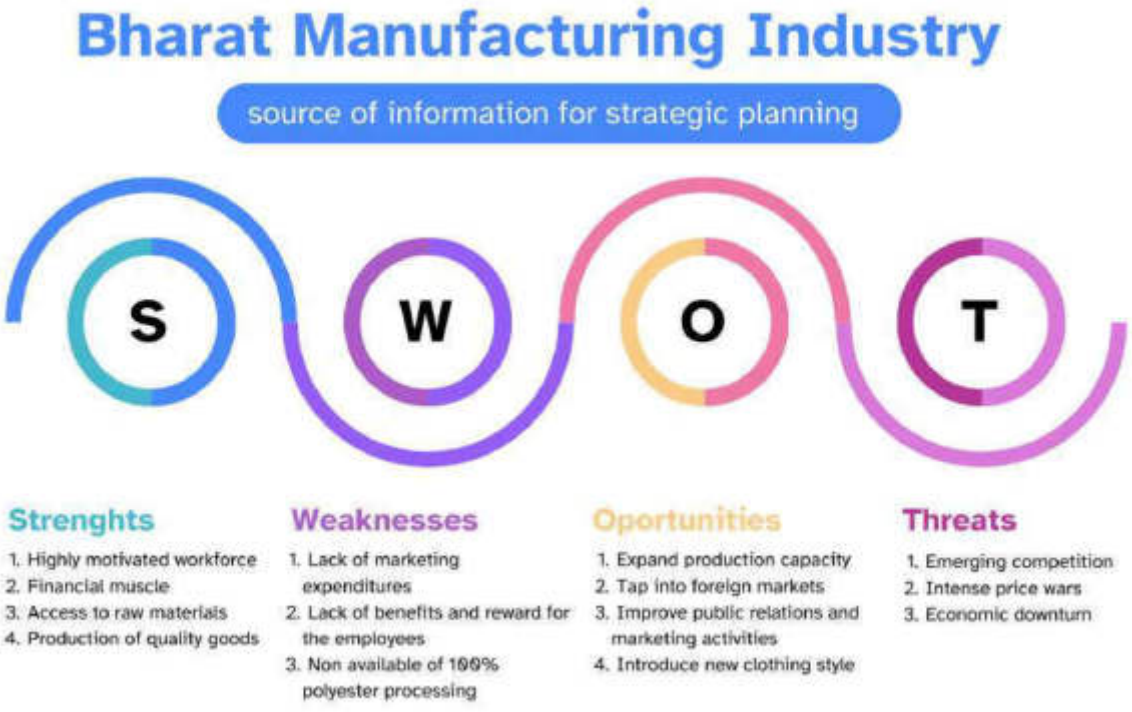


Fig 1.3 SWOT Analysis Diagram

2.0 Logo Designing & Brand Recognition

2.1 What is logo design in brief ?

A logo design brief is a comprehensive document encompassing vital information about the logo design project. This document is prepared or completed by the business, owner, or company and then shared with the designer to provide a clear understanding of the desired logo's characteristics.

Logo design briefs take various formats, ranging from simple notes and concepts to intricate details such as precise color tones or preliminary sketches. What matters most is the effective communication of the project's essence, ensuring that all essential details are conveyed clearly and comprehensively.

The content and structure of logo design briefs can vary widely, yet the overarching objective remains the same: to establish a unified vision for the logo design. Whether through organized outlines or vivid descriptions, these briefs guide designers in creating logos that encapsulate the brand's essence and aspirations without infringing upon any existing content.

Mainly 4 step of follow to Best Logo Design :

1. Research and Understanding Of company
2. Define your Logo style
3. Sketching and Drafting
4. Digital Rendering

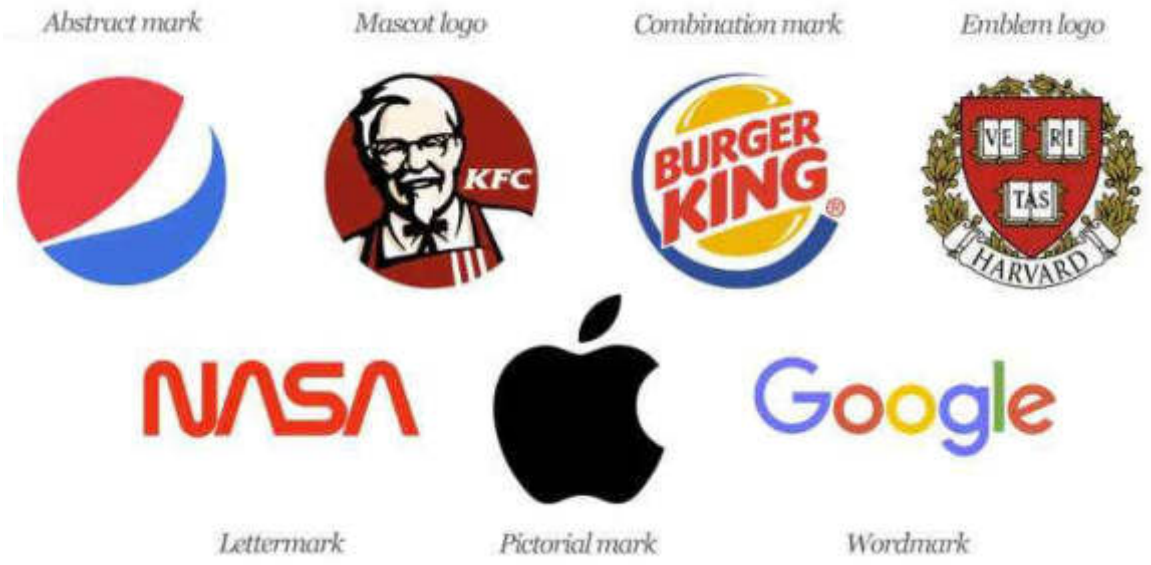


Fig 2.1 Types of Logo

2.2 Sketching & Drafting

In the process of logo design, I am introducing a distinctive lettermark featuring the letter **"A"** for **BHARAT**. This creative approach involves a fusion with "Steel Industries" to encapsulate the essence of air drops and chemicals, symbolizing a groundbreaking innovation. The paramount focus is on a font that is both exceptional and innovative, seamlessly harmonizing with the conceptual direction.

Lettermark "A" is chosen as a representation of BHARAT. This letter's shape provides an intriguing foundation for creativity. Integration of "Steel Industries" around the lettermark "A" signifies the specific domain while maintaining a balanced and visually appealing composition. Essence of Air Drops and Chemicals design aims to subtly depict the concept of air drops and chemicals, hinting at the industry's innovative nature. Innovative font selection is pivotal. An innovative, bespoke font is chosen to infuse the logo with uniqueness and to resonate with the forward-thinking theme.

During the sketching phase, multiple iterations are explored to capture the ideal balance between the lettermark and the "Steel Industries" text. Different arrangements, orientations, and alignments are experimented with to achieve visual harmony. The sketching process emphasizes the integration of air drops and chemicals in a subtle yet impactful manner.

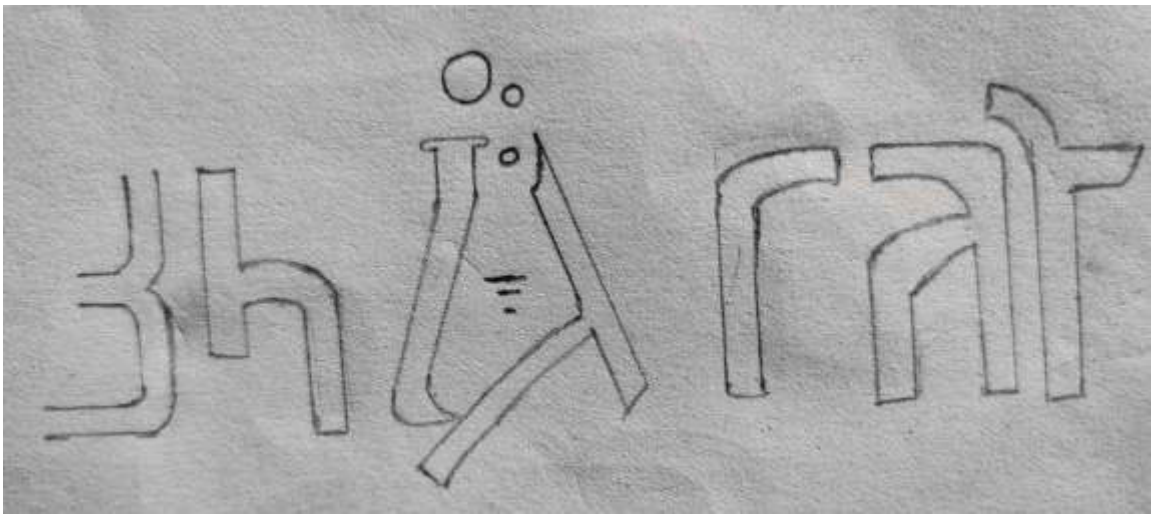


Fig 2.2 Bharat Sketching

2.2.1 Design Evaluation

Following the initial creation of the logo design, a comprehensive review was conducted to ensure alignment with all pertinent aspects of the industry. The primary objective was to craft a logo that not only embodied the core essence of BHARAT Steel Industries but also addressed key factors within the gas and oil sectors.

During the review process, it became evident that the logo design required refinement to encompass the industry's breadth comprehensively. To achieve this, the following steps were taken:

Providing Solutions for Gas and Oil Industries

The revised logo design serves as a holistic representation of BHARAT Steel Industries, encapsulating its prowess in providing comprehensive solutions for the gas and oil sectors. It speaks to the company's commitment to precision, innovation, and reliability.

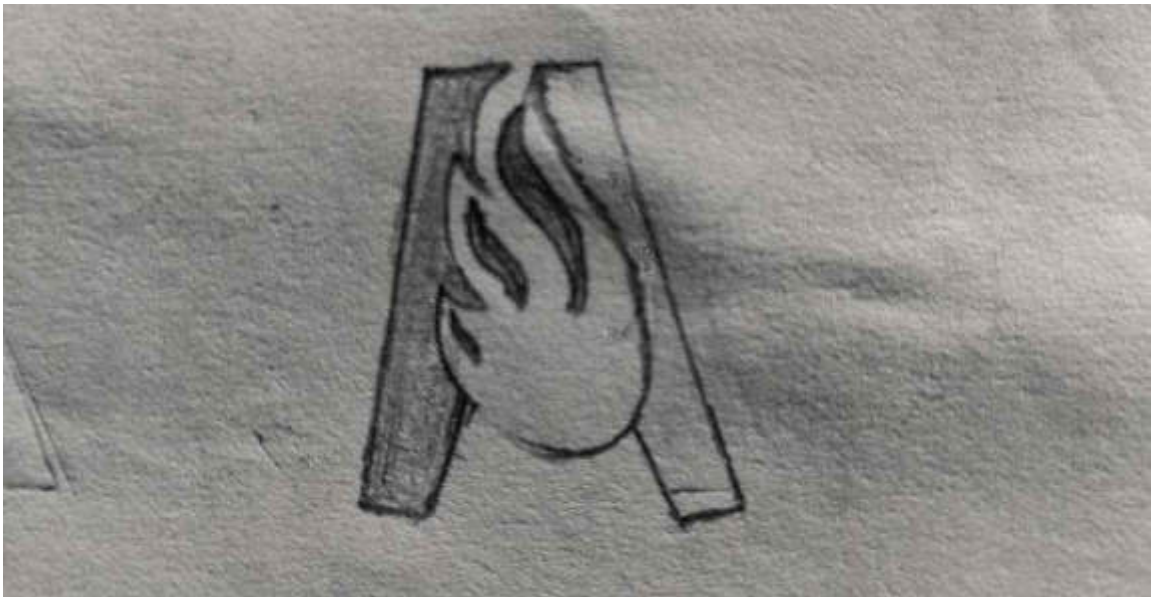


Fig 2.3 After Evaluation “A” Sketching

2.3 Digital Rendering

The journey of transforming a preliminary sketch into a sophisticated line art logo design was a meticulous endeavor guided by a blend of **CorelDRAW** and **Adobe Illustrator.** Commencing with the foundational sketch, the intricate detailing and organic strokes were carefully preserved as Corel DRAW's vector capabilities came into play. This stage allowed for precise tracing, shaping, and refining of each element while retaining the initial handcrafted essence. The subsequent transition to Adobe Illustrator seamlessly continued this creative evolution. Illustrator's potent vector tools further honed the design, ensuring its adaptability across various contexts and sizes without compromising on quality. This strategic synchronization of CorelDRAW and Illustrator culminated in a logo that harmoniously fused hand-drawn aesthetics with digital precision. The end result is a visually compelling and infinitely scalable line art logo that aptly encapsulates the ethos of BHARAT Steel Industries, embodying both the organic spirit of innovation and the professionalism of a well-crafted brand identity.

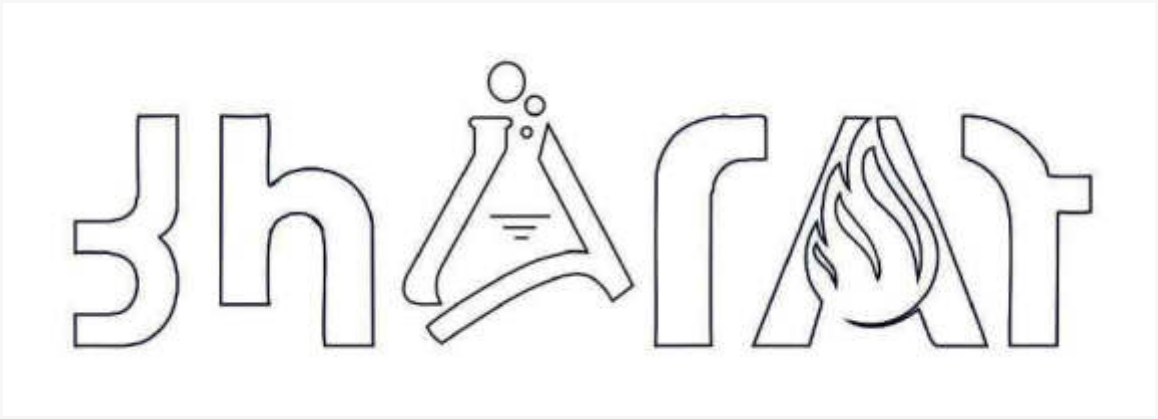


Fig 2.4 Art of Line

The culmination of an intricate journey, the final logo for Bharat Manufacturing Industry is now complete, a testament to the harmonious fusion of creativity and strategic execution. Every element has been meticulously woven to mirror the industry's core identity, the essence of Bharat's rich heritage, and the dynamic sectors it encompasses.

The logo's color palette masterfully intertwines the hues emblematic of the manufacturing landscape – bold steel grays reflecting industrial strength, vibrant oil and gas blues representing energy and innovation, and subtle touches of earthy tones symbolizing the

grounding influence of Bharat's agricultural legacy. This convergence of colors forms a visual symphony, encapsulating the diverse facets of Bharat Manufacturing Industry.

The design's meticulous construction extends beyond aesthetics. The choice of fonts resonates with both modern professionalism and the timeless essence of our nation. The seamless integration of the company name "Bharat Manufacturing Industry" signifies the industry's expansive reach, while the bold underline underscores its robust presence.

Throughout the design process, careful consideration has been given to symbolism. The logo's elements evoke the essence of gears in motion, representing progress and synergy. This, combined with subtle geometric patterns reminiscent of pipelines, pays homage to the oil and gas sectors, illustrating Bharat Manufacturing Industry's holistic approach.

The logo's composition is the result of rigorous visualization and strategic brainstorming, meticulously mapping each element to embody the essence of Bharat Manufacturing Industry. The convergence of industry-related colors, the nod to Bharat's identity, and the representation of oil and gas sectors ultimately culminate in a logo that exudes innovation, strength, and unity.



Fig 2.5 Logo



Fig 2.6 Icon of Logo



Fig 2.7 Logo Mockup

2.4 Brand Recognition vs Awareness

Creating and enhancing brand awareness is a fundamental pillar of your digital strategy. It serves as the cornerstone upon which you will construct your forthcoming campaigns and acts as the means through which you will introduce your distinct personality, voice, and principles to the global audience.

However, it's crucial to grasp a nuanced distinction at this juncture. While the terms "brand awareness" and "brand recognition" might appear interchangeable, they actually represent two distinct components within your branding framework.

Brand "recognition" constitutes an integral facet of brand awareness. It collaborates with brand recall to elevate your company into a memorable household name. In contrast, brand awareness pertains to your standing in the market and the capacity of your clientele to identify the factors that set your enterprise apart.



In contrast, brand awareness delves deeper into subtleties. It signifies that your patrons won't merely retain your logo and company name; they'll also discern the essence of your product, comprehend your unique attributes, and acknowledge why you stand as the optimal resolution to their concerns.

Some of the strategies key points.

- Identify Your Audience
- Leverage Social Media
- Highlight Differentiation
- Harness Word of Mouth
- Prioritize Consistency



Fig 2.8 Brand recognition

3.0 Different factors of Marketing strategies & Social Networking

3.1 Marketing strategies

Strategic marketing planning serves as a structured approach to steer business owners away from impulsive decisions. This method involves methodically collecting marketing data and integrating it into a comprehensive analysis to project long-term marketing objectives. While your strategic marketing plan should encompass an extensive time frame, it must also account for the inevitability of change and embed flexibility.



Fig 3.1 Different Marketing Strategies

The advantages of strategic marketing planning are closely tied to the prosperity of your business:

Define Direction: A strategic marketing plan outlines your business's desired trajectory. It establishes concrete, measurable goals that provide specifics—such as timeframes, costs, profits, products, and customer-centric aims.

Enhance Focus: Strategic marketing planning weeds out unproductive endeavors, allowing you to concentrate on pivotal elements, much like pruning unnecessary branches from a tree.

Structured Framework: This process furnishes a meticulously crafted framework that serves as a guide for budget allocation, customer service, and decision-making.

Comprehensive Insight: A strategic marketing plan offers profound insights into your target markets and clientele. This knowledge forms the bedrock for strategic, lasting choices.

Economic Advantage: In the current challenging economic climate, dedicating time and effort to a well-constructed marketing plan can mark the distinction between a triumphant marketing campaign and an unsuccessful one.

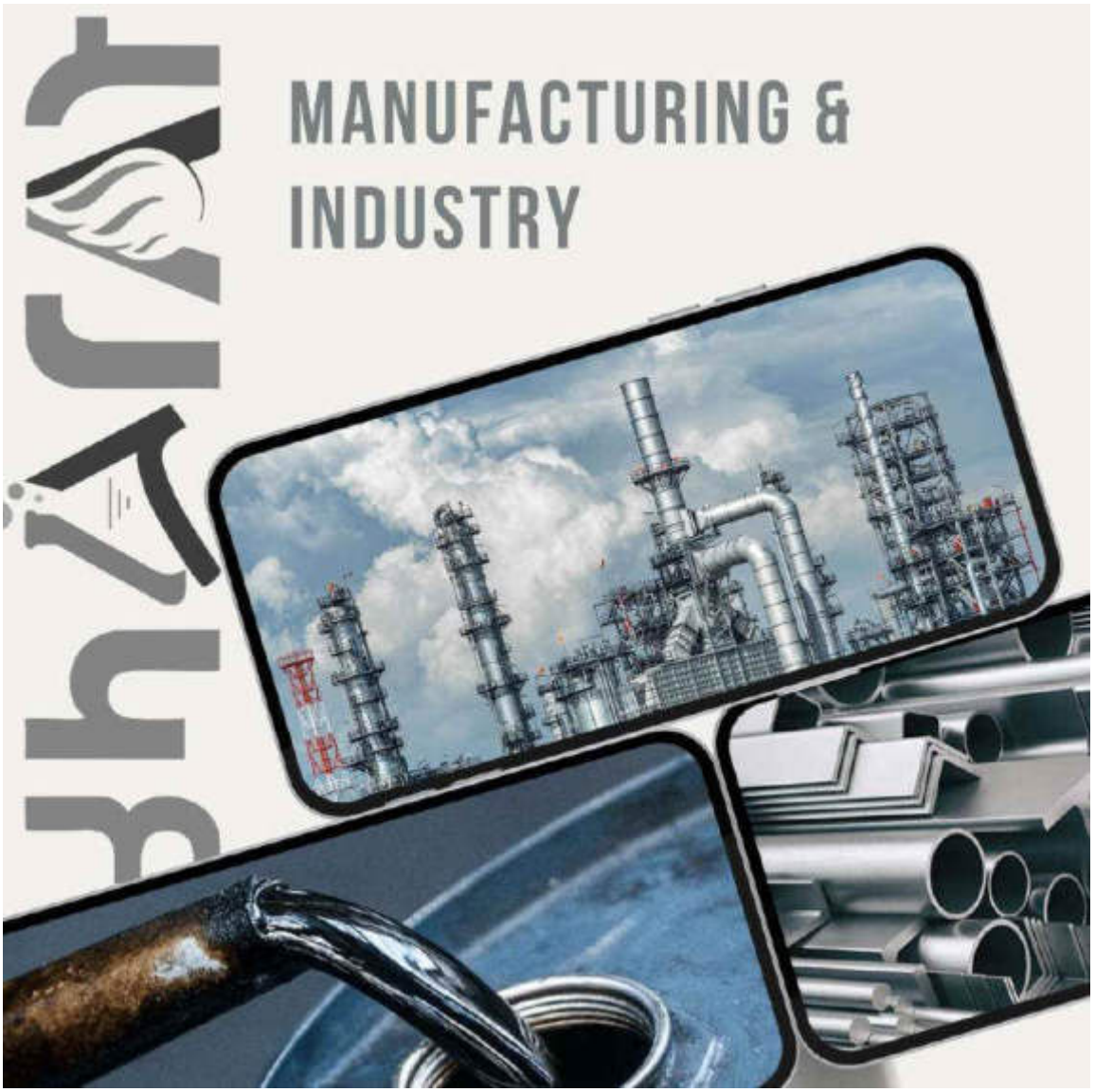


Fig 3.2 Marketing Mockup



Fig 3.3 Marketing Mockup



Fig 3.3 Marketing Mockup



Fig 3.4 Marketing Mockup



Fig 3.5 Full Mockup

3.2 What is Social Networking ?

It seems like you're looking for information about different types of social networks and how brands can connect with their audiences on each platform. I'd be happy to provide you with an overview of each category and some insights on how brands can effectively engage their audience on these platforms while ensuring plagiarism-free content.

Traditional Social Networks

Examples: Facebook, Twitter, LinkedIn

Media Sharing Networks

Examples: Instagram, Pinterest, Snapchat

Discussion Networks

Examples: Reddit, Quora

Social Blogging Networks

Examples: Medium, Tumblr

Review Networks

Examples: Yelp, TripAdvisor



4.0 UI Design

4.1 Home page UI Design

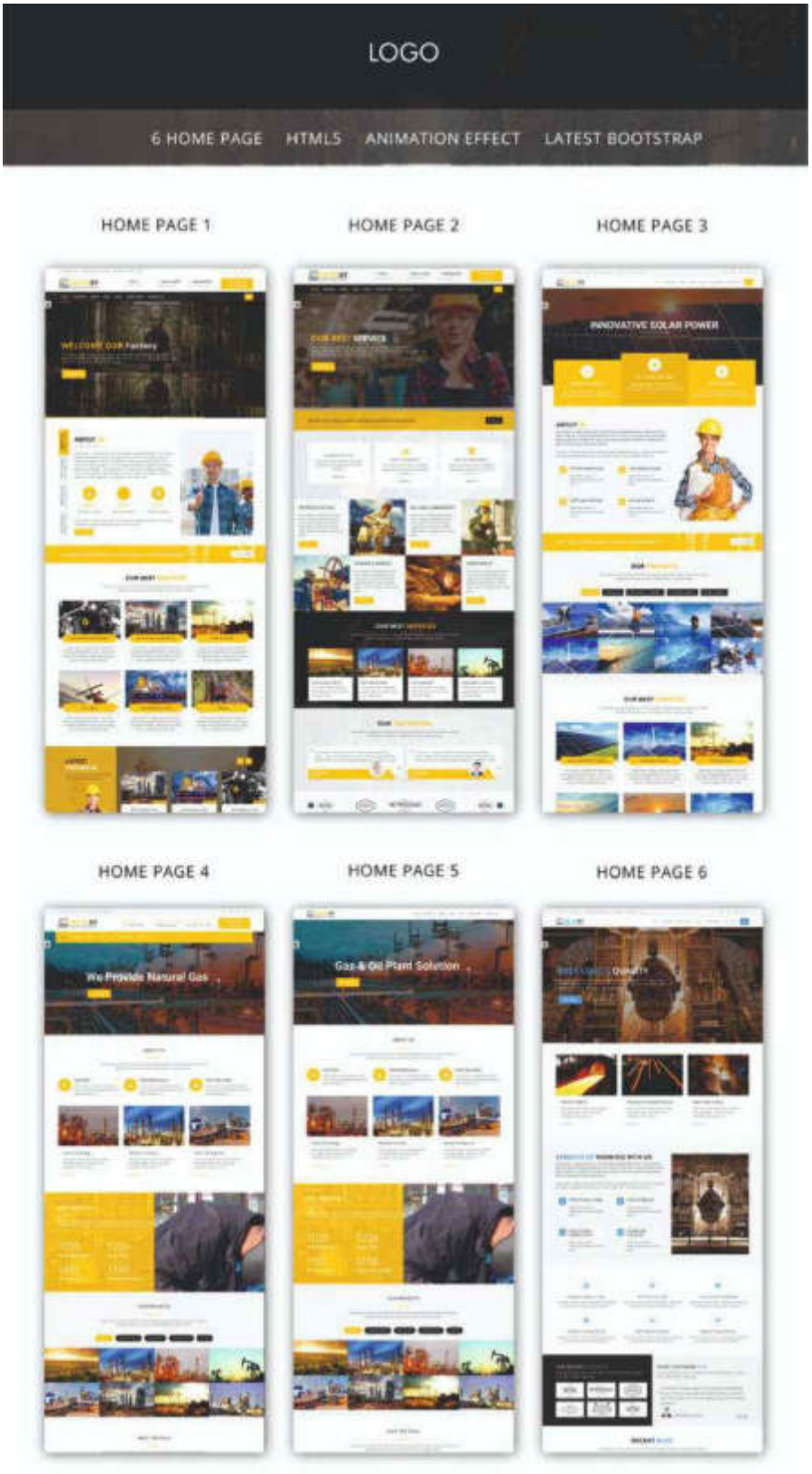


Fig 4.1 Home page UI Design

4.2 Key Component

Discover a design masterpiece meticulously crafted in **Figma**, where each element embodies reliability and elegance. This web UI design exemplifies the synergy between aesthetics and functionality, offering a user-centric experience that leaves a lasting impact.

This **Figma-crafted UI design** is more than a visual treat; it's a testament to the fusion of creativity and practicality. With unmatched reliability, aesthetic precision, and an array of purposeful tools, this design serves as a blueprint for digital experiences that captivate, inform, and engage users in remarkable ways.

It looks like you're providing an overview of the features for the Bharat-MI Design. Here's a more concise breakdown of the features you've listed:

- **Responsive Layout Design:**

The Bharat-MI Design ensures that your website will display correctly on all types of devices, maintaining a consistent and visually appealing layout.

- **Awesome Owl Carousel:**

With Owl Carousel, you can easily create captivating slide shows with various animation effects to enhance the visual appeal of your website.

- **Bootstrap Framework:**

The Bharat-MI Design is built using the Bootstrap framework, a highly popular toolkit for creating responsive and mobile-first web projects using HTML, CSS, and JavaScript.

- **27+ Useful Page Examples:**

The Bharat-MI Design offers a range of pre-designed page examples, including about, services, contact, FAQ, careers, company history, partners, shop, testimonials, and more. These examples can save you time and effort in designing and structuring your website.

Overall, the Bharat-MI Design provides a responsive layout, engaging slideshow capabilities, utilizes the Bootstrap framework for modern design, and includes numerous premade page templates to streamline your website development process.

Which Icon to use ?





Which Font to use ?





Features List : -

- 100% Fluid Responsive – Fits any device perfectly
- Three Home page Examples
- Tested on real devices
- Working PHP AJAX Contact Form.
- Flexible Layout
- Unlimited Sidebars
- Flat, modern and clean design.
- Retina Optimised
- Google Map with multiple location
- Social Links
- Bottom Footer Widgets
- Clean & Commented Code
- Advanced Typography
- Custom Font Support
- Unlimited Page Included
- Pixel Perfect Design
- Built on Bootstrap 4
- Valid HTML5 & CSS3 Files
- Cross Browser Compatibility
- Detailed Oriented Listing
- Parallax effect
- Awesome Unique Look
- Unique effects and functionality
- Well Documented & More….

4.3 UI Design

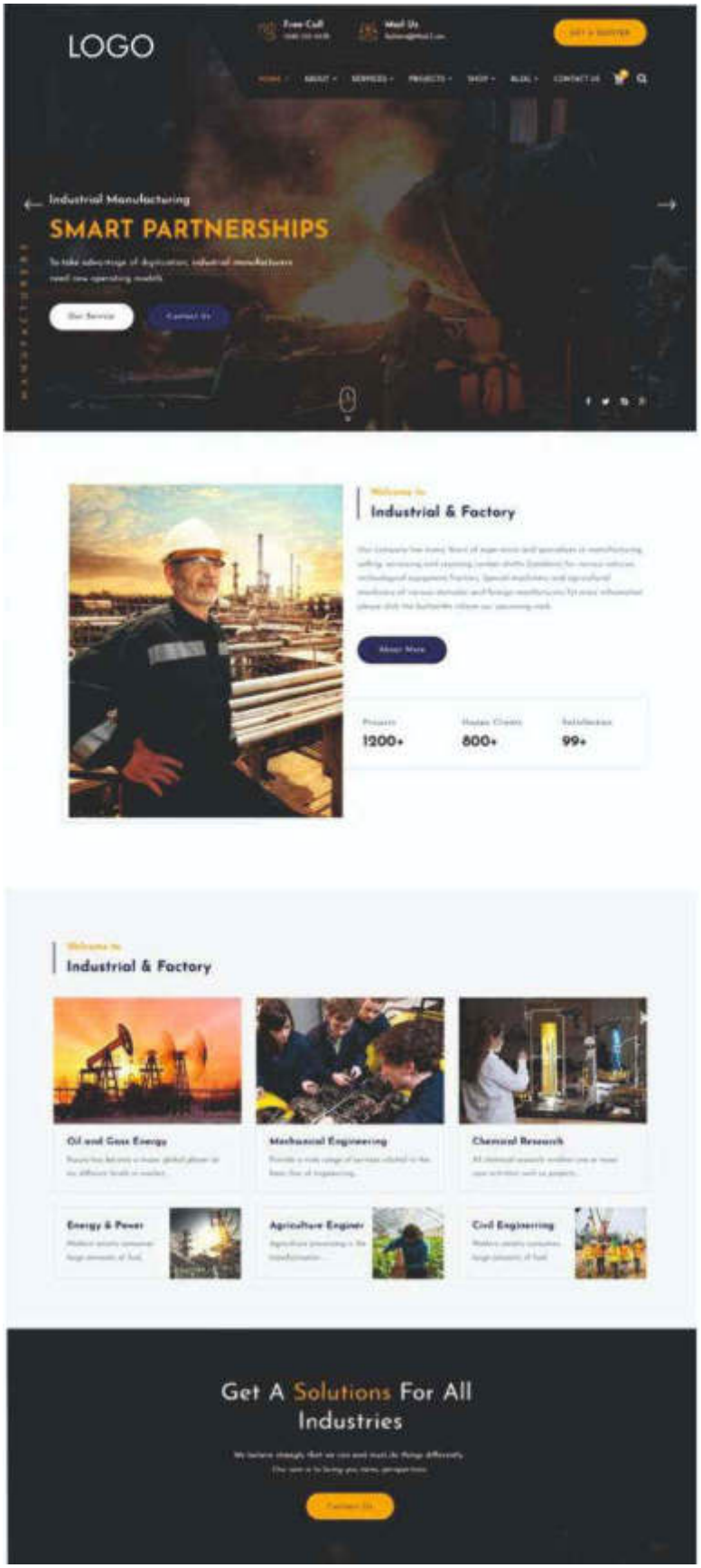


Fig 4.2 UI Design



Fig 4.3 UI Design

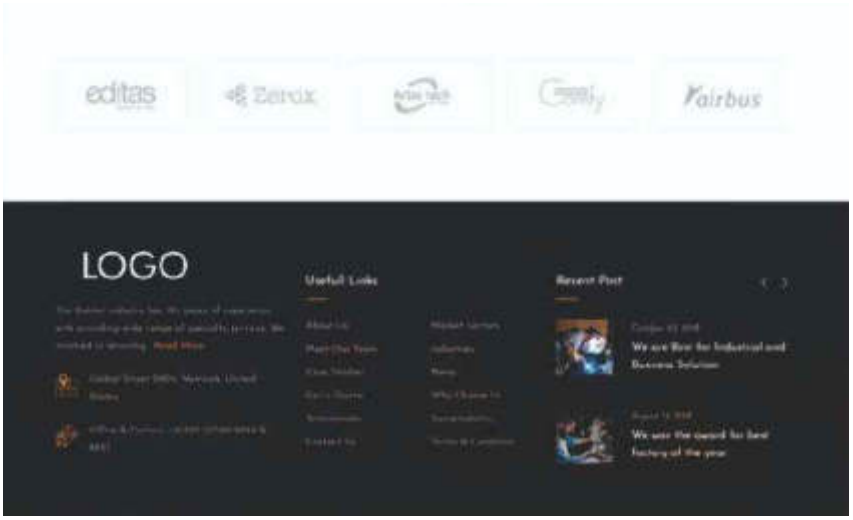


Fig 4.4 UI Design

5.0 Implementation to Web-app

5.1 Structure

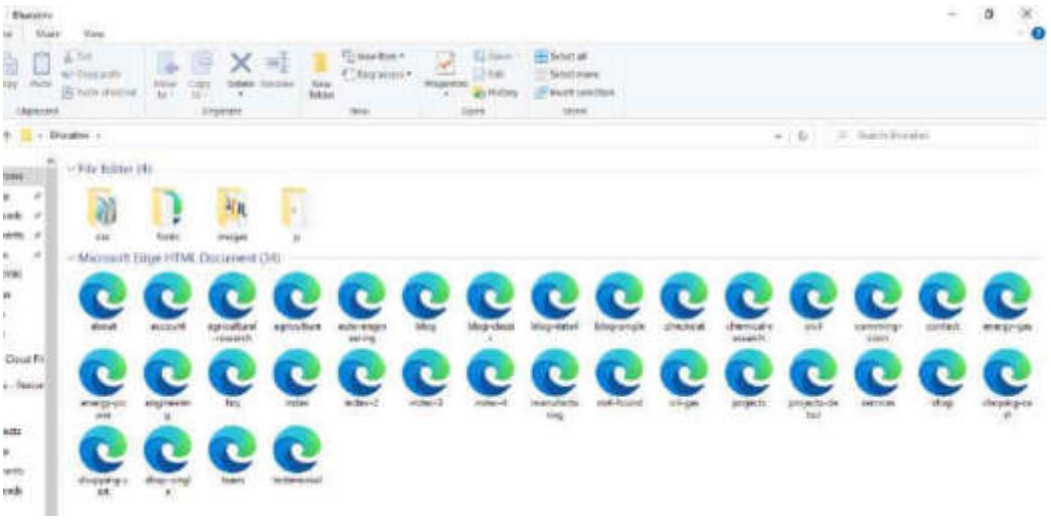


Fig 5.1 Structure of coding

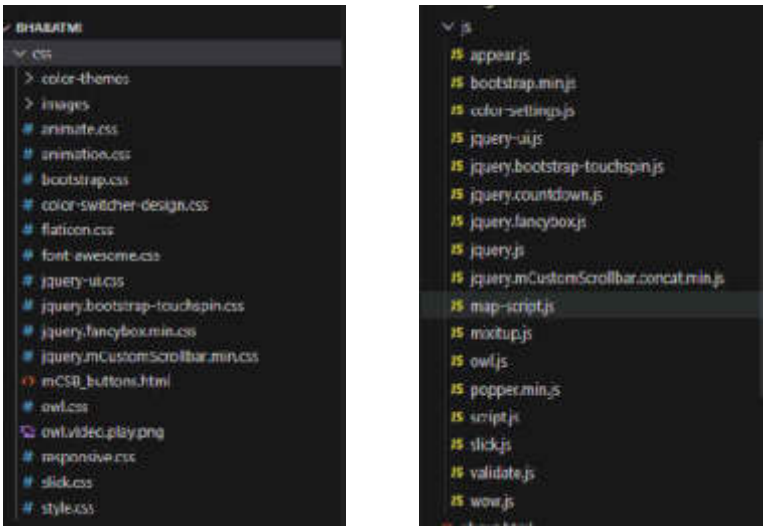


Fig 5.2 Structure of file





5.2 Which coding languages to use ?

In website development, a comprehensive approach is employed to create modern and feature-rich web applications. This involves harnessing various technologies and tools to ensure a seamless and engaging user experience.

HTML5 forms the foundation of the web content structure, allowing developers to create well-organized and semantic layouts. **CSS3** complements HTML5 by enabling sophisticated styling and visual enhancements, resulting in aesthetically pleasing designs. **JavaScript**, a powerful scripting language, empowers interactivity and dynamic behavior, transforming static websites into interactive applications that respond to user actions.

Bootstrap, a popular front-end framework, simplifies the design process by offering a range of pre-designed components and responsive grids. This ensures that websites adapt gracefully to different screen sizes and devices, providing an optimal viewing experience, whether on a desktop, tablet, or smartphone.

Integration of **mapping APIs** (Application Programming Interfaces) allows the inclusion of interactive maps and location-based services, enhancing user engagement by providing real-time geographical information.

PHP, a server-side scripting language, facilitates dynamic content generation and database interaction. It enables the creation of complex web applications by processing data and performing various backend functions.

Ajax (Asynchronous JavaScript and XML) enables seamless data exchange between the client and server without requiring a page reload. This leads to smoother user experiences as information can be updated in the background without interrupting the user's workflow.

The implementation of new functionalities and advanced features elevates the website's capabilities. This can include user authentication systems, content management systems **(CMS)**, e-commerce platforms, real-time chat, video streaming, and more. These features cater to the diverse needs of users and provide value-added services.

A paramount consideration is the development of responsive web applications that seamlessly adapt to various devices and screen sizes. This entails using media queries and flexible design principles to ensure consistent usability and aesthetics across platforms.

Technologies Use :-







5.3 Live Demo

Website link :- https://bharatmi.netlify.app/

Source code :- https://github.com/mihir763/Bharatmi/

Appendix



Fig 6.1 RK Infotech Documentation

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RK Infotech employees ([25 July - 15 Aug])
workload & time management during working hours.

INTERNSHIP AT INFOLABZ

AN INTERNSHIP REPORT

Submitted by

Kathiriya Devarshi Sanjaybhai

200390116063

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Kathiriya Devarshi Sanjaybhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technoloy, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Prof. Akshay Kansara	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate

INFOLABZ IT SERVICES PVT. LTD.
WEB DEVELOPMENT | APP DEVELOPMENT | DATA SCIENCE | IOT

COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116063
Semester: 7th, Information Technology
Saffrony Institute Of Technology

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Devarshi Kathiriya .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Devarshi Kathiriya all the best for future endeavors.



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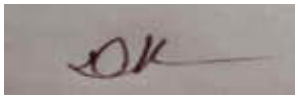
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S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at InfoLabz** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technoloy** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Akshay Kansara(External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
Devarshi Kathiriya	

ACKNOWLEDGMENT

I extend my heartfelt gratitude to those who have contributed to the successful completion of my internship. My sincere appreciation goes to **Mr.CHINTAN NAGRECHA** for their invaluable guidance, expertise, andmentorship, which have profoundly shaped my understanding of **ReactJS**. I am also thankful to the **InfoLabz** team for their warm welcome, and **S.P.B. Patel Engineering College** for facilitating this opportunity. I'm honored to have undertaken this enriching internship, and I am deeply grateful for the experiences and lessons it has provided.

Abstract

During my 15-day internship at Infolabz Company, I was immersed in a captivating project focused on developing a dynamic news application that retrieves real-time data from news APIs. This immersive experience provided me with a comprehensive grasp of pivotal concepts, including ES6 arrow functions, asynchronous programming, user input handling, and data visualization. Throughout the internship, I delved deep into the intricacies of modern JavaScript, honing my proficiency in leveraging ES6 features like arrow functions for succinct coding and effectively utilizing async functions to manage asynchronous operations. Additionally, I refined my ability to craft user-friendly interfaces that ensure smooth interactions and efficient data management. Beyond its practical exposure to API integration, the project also afforded me insights into thecomplexities of real-time data retrieval, processing, and presentation. This experience not only enhanced my technical skills but also reinforced my capacity for innovative problem-solving. In essence, my tenure at Infolabz has been an illuminating journey of transformation. Through hands-on application, I have not only mastered essential programming concepts but also elevated my aptitude for creating user-centric applications. This report stands as a testament to the comprehensive growth and heightened expertise I attained during this enriching internship.

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Chapter 1 : INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced andhard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concept which could be used by millions of people.

Chapter 2 : JS AND ES6 CONCEPTS

2.1 INTRODUCTION TO JS:-

JavaScript (JS) is a programming language that powers interactivity and dynamic features on websites. It's primarily used in web development to create animations, form handling, and real-time updates within users' web browsers. With a syntax resembling Java and C++, it enables developers to respond to user actions, making web pages more engaging. JavaScript's versatility extends beyond the web, into mobile and desktop app development. It operates on the principle of event-driven programming, triggering actions based on user interactions. Libraries like jQuery and frameworks like React enhance its capabilities. Asynchronous programming allows tasks to occur without blocking others, crucial for smooth user experiences. JavaScript's ecosystem includes various tools and frameworks, and with Node.js, it's even used for server-side programming. However, challenges like browser compatibility and security vulnerabilities persist. Despite this, JavaScript's evolution has transformed it from a simple scripting language into a vital tool for modern web development, enabling dynamic and responsive user experiences.

2.2 INTRODUCTION TO ES6:-

- ECMAScript 2015 (ES6), launched in 2015, marks a substantial evolution in JavaScript. It brings a wealth of new features and improved syntax to enhance programming capabilities. With innovations like arrow functions, block-scoped variables (let and const), template literals for flexible string handling, and class syntax for better object-oriented programming, ES6 boosts code readability and organization. Additionally, it introduces promises for streamlined asynchronous operations. ES6 has since become the bedrock of modern JavaScript development, offering developers an array of tools to write efficient and clean code.

2.3 OBJECTS:-

- JavaScript objects are core data structures used to group related data and behaviors. They're composed of key-value pairs, where keys are strings representing property names, and values can be various data types like objects, functions, or primitives. Objects are central to JavaScript, crucial for creating organized data structures. Objects are made with curly braces `{}` or `new Object()`. Access properties using dot or bracket notation. Methods, functions defined as properties, enable objects to perform related actions. Nested objects allow hierarchical structures. Prototypes establish inheritance between objects for object-oriented programming. Loop through object properties with `for...in` or `Object.keys()`. JSON format is used for data exchange via `JSON.stringify()`.In modern JS, ES6 introduced object destructuring and shorthand property syntax for concise coding.Objects are vital for structured data and encapsulating behavior, making code modular and organized.

2.4 TASK 1 : PRINT THE DATA FROM JSON API INTO TABLE

Code:

table.html > ...

```
<!DOCTYPE html>
<head>
<style>
    table{
        font-family: Arial, sans-serif; border-collapse: collapse;width: 80%;margin: 20px auto;
    }
    th,td{border: 1px solid #dddddd;text-align: left;padding: 8px;}
    th{background-color: #f2f2f2;}
    tr:nth-child(even){background-color: #f2f2f2;}
</style></head>
<body><script>
    var cases = {"ahmedabad":[1500,1600,2],"rajkot":[500,600,1],"vapi":[100,50,0]};
    document.write("<h3>Cases Data:</h3>");
    document.write("<table>");
    document.write("<tr><th>City</th><th>New Cases</th><th>Recoverd Cases</th><th>Death Cases</th></tr>");
    for(var i in cases){
        document.write("<tr><td>" + i + "</td><td>" + cases[i][0] + "</td><td>" + cases[i][1] + "</td><td>" +
            cases[i][2] + "</td><td>");
    }
    document.write("</table>");
</script></body></html>
```

Fig 2.1 JSON API Data To Table

Output:

127.0.0.1:5500/table.html

Cases Data:

City	New Cases	Recoverd Cases	Death Cases
ahmedabad	1500	1600	2
rajkot	500	600	1
vapi	100	50	0

Fig 2.2 Output Of JSON API Data To Table

Chapter 3 : JS FUNCTIONS

3.1 JS FUNCTIONS & ARROW FUNCTIONS:-

- JavaScript functions serve as reusable blocks of code designed for specific tasks. They encapsulate a set of instructions, callable by using the function's name and any required arguments. Functions boost code modularity and maintainability by breaking down complex tasks into manageable units. They process data, accept inputs, and produce outputs, forming a core aspect of JavaScript programming.

- Introduced in ES6, arrow functions offer a concise and expressive alternative for creating functions. They present a streamlined syntax that often requires fewer lines compared to traditional function expressions. Arrow functions automatically inherit the surrounding context (`this` value), simplifying code in some scenarios. While powerful for writing elegant code, they might not suit every situation, especially when advanced function behavior or dynamic context handling is needed. It's important to assess whether arrow functions align with the specific needs of your codebase.

3.2 ASYNC FUNCTION :

- In JavaScript, an async function, introduced in ES2017, is a specialized function designed to manage asynchronous operations in a more structured manner. By utilizing the `async` keyword before the function declaration, it inherently transforms the function into one that returns a Promise. This adjustment simplifies the handling of asynchronous code sequences.

- Within an async function, the `await` keyword plays a significant role. It halts the function's execution until the awaited Promise is resolved. This feature proves valuable for handling asynchronous tasks like fetching data from servers or executing time-intensive computations. The result is a more streamlined and readable codebase that retains clarity and order in managing asynchronous actions.

- By employing async functions, the development process is greatly facilitated. Code becomes more organized, readable, and maintainable, leading to the creation of applications that are both efficient and responsive.

3.3 TASK 2: FETCH LIVE DATA FROM BITCOIN API.

Code:

bitcoin.html > ...

```
<!DOCTYPE html>
<head></head>
<body><script>
        async function load(){
            let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
            let myobject = await (await fetch(url)).json();
            document.write(myobject["bpi"]["USD"]["rate"]);}
        load();
    </script></body>
</html>
```

Fig 3.1 Fetch Data From API

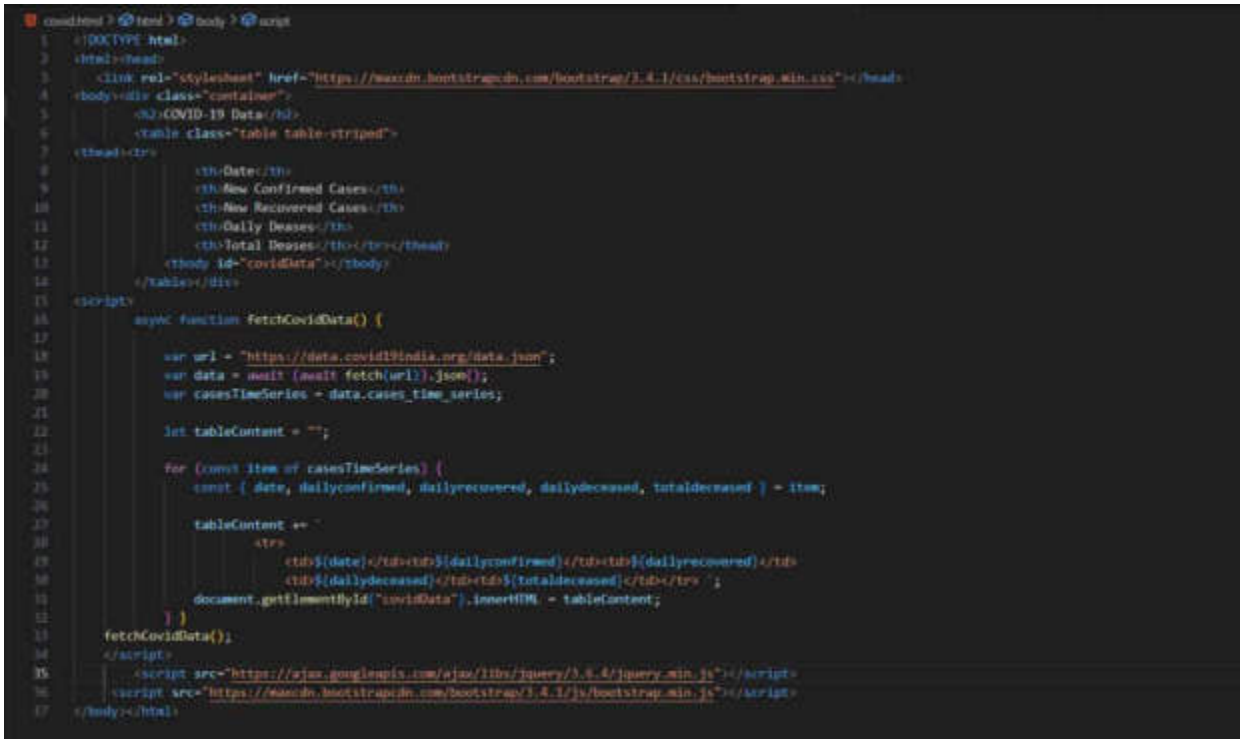
Output:



Fig 3.2 Live Rate Of BitCoin

3.4 TASK 3: FETCH THE DATA FROM THE COVID-19 API AND PRINT IT IN THE TABLE

Code:



```
<!DOCTYPE html>
<html><head>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css"></head>
<body><div class="container">
        <h2>COVID-19 Data</h2>
        <table class="table table-striped">
<thead><tr>
                <th>Date</th>
                <th>New Confirmed Cases</th>
                <th>New Recovered Cases</th>
                <th>Daily Deases</th>
                <th>Total Deases</th></tr></thead>
            <tbody id="covidData"></tbody>
        </table></div>
<script>
        async function fetchCovidData() {

            var url = "https://data.covid19india.org/data.json";
            var data = await (await fetch(url)).json();
            var casesTimeSeries = data.cases_time_series;

            let tableContent = "";

            for (const item of casesTimeSeries) {
                const { date, dailyconfirmed, dailyrecovered, dailydeceased, totaldeceased } = item;

                tableContent +=
                        `<tr>
                            <td>${date}</td><td>${dailyconfirmed}</td><td>${dailyrecovered}</td>
                            <td>${dailydeceased}</td><td>${totaldeceased}</td></tr> `;
                document.getElementById("covidData").innerHTML = tableContent;
            } }
    fetchCovidData();
    </script>
        <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js"></script>
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>
</body></html>
```

Fig 3.3 Fetch Covid-19 Data From API

Output:



COVID-19 Data

Date	New Confirmed Cases	New Recovered Cases	Daily Deases	Total Deases
30 January 2020	1	0	0	0
31 January 2020	0	0	0	0
1 February 2020	0	0	0	0
2 February 2020	1	0	0	0

Fig 3.4 Output Of Covid-19 API Data To Table

Chapter 4 : JS INPUT METHODS

4.1 COVID API – DATA FETCHING AND MAPPING:-

Code:

```
covid3.html > html > body > script > load
<!DOCTYPE html>
<html>
<head></head>
<body>
 <script>
        async function load() {

            var url = "https://data.covid19india.org/data.json";
            var myobject = await (await fetch(url)).json();
            var days=0;
            document.write(myobject["cases_time_series"][0]["date"] + "<br>");
            document.write("Total number of days : " + myobject["cases_time_series"].length);
            document.write("<table border='1' width='100%'>");
            for (var i = 0; i < myobject["cases_time_series"].length; i++) {
                if(myobject["cases_time_series"][i]["dailyconfirmed"]>=100000)
                {
                document.write("<tr style='color:red'><td>" + myobject["cases_time_series"][i]["date"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailyconfirmed"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailydeceased"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailyrecovered"] +
                    "</td></tr>");
                    days=days+1;
                }
                else{
                    document.write("<tr><td>" + myobject["cases_time_series"][i]["date"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailyconfirmed"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailydeceased"] +
                    "</td><td>" + myobject["cases_time_series"][i]["dailyrecovered"] +
                    "</td></tr>");}
            document.write("</table>");
            document.write("Total number of days with more than 1 lac cases: "+days);
            load();
    </script></body>
</html>
```

Fig 4.1 Code Of Covid-19 API Data

Output:

30 January 2020
Total number of days : 565

30 January 2020	1	0	0
31 January 2020	0	0	0
1 February 2020	0	0	0
2 February 2020	1	0	0
3 February 2020	1	0	0
4 February 2020	0	0	0
5 February 2020	0	0	0
6 February 2020	0	0	0
7 February 2020	0	0	0
8 February 2020	0	0	0
9 February 2020	0	0	0
10 February 2020	0	0	0
11 February 2020	0	0	0
12 February 2020	0	0	0
13 February 2020	0	0	1
14 February 2020	0	0	0
15 February 2020	0	0	0
16 February 2020	0	0	1
17 February 2020	0	0	0
18 February 2020	0	0	0
19 February 2020	0	0	0
20 February 2020	0	0	1
21 February 2020	0	0	0
22 February 2020	0	0	0

Fig 4.2 Output Of Covid-19 API Data To Table

4.2 JS POP UP BOXES:-

JavaScript provides three types of pop-up boxes:

1. Alert: Used to display a message for notifications. It includes an OK button for the user to acknowledge the information. Syntax: `alert("Message");`

2. Confirm: Presents a message along with OK and Cancel buttons. It's often used for user confirmation actions. Syntax: `const result = confirm("Confirm?");`

3. Prompt: Displays a message alongside an input field, enabling users to provide input. Syntax: `const input = prompt("Enter something:");`

While these pop-up boxes serve their purpose, they can sometimes disrupt user experience and offer limited customization. In modern development, alternatives like CSS frameworks or custom modals tend to provide a more tailored and user-friendly interaction approach.

4.3 USER INPUT : FORM TO VARIABLE:-

Code:

formtovariable.html > body > script > check

```
<!DOCTYPE html>
<head></head>
<body>
    <script>
        function check(form){
            var name = form.uname.value;
            var Surname = form.usurname.value;


        document.getElementById("msg").innerHTML = "User name is " + name + " Surname is " + Surname;
        }
        </script>
        <form>
            Name : <input type="text" name="uname"> <br>
            Surname : <input type="text" name="usurname"> <br>

            <input type="submit" onclick="check(this.form); return false;">
        </form>
        <mark id="msg"></mark>

</body>
</html>
```

Fig 4.3 Form To Variable

Output:

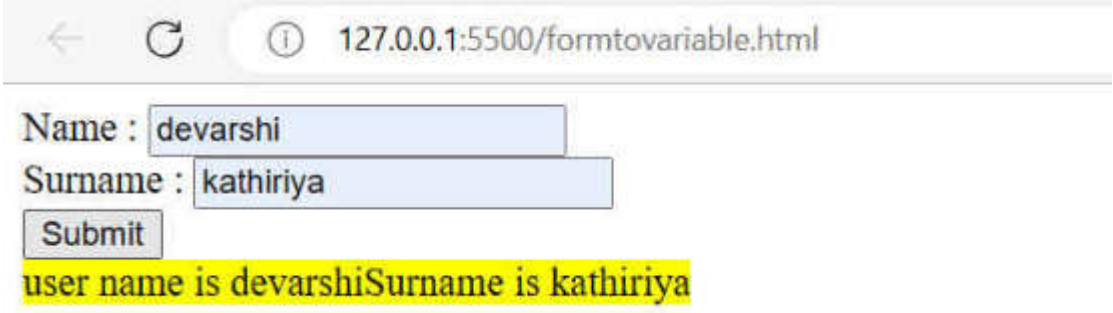


Fig 4.4 Output Of Form To Variable

4.4 TASK 4 :- GET THE INPUT FROM THE USER AND PRINT THE DATA IN THE FORM OF TABLE.

Code:

:

```html
<!DOCTYPE html>
<head></head>
<body>
    <script>
        function check(form) {
            var name = form.name.value;
            var email = form.email.value;
            var phone = form.phone.value;
            var address = form.address.value;
            var gender = form.gender.value;
            var city = form.cityDropdown.value;
            var table = document.getElementById("dataDisplay");
            var newRow = table.insertRow(table.rows.length);
            var cell1 = newRow.insertCell(0);
            var cell2 = newRow.insertCell(1);
            var cell3 = newRow.insertCell(2);
            var cell4 = newRow.insertCell(3);
            var cell5 = newRow.insertCell(4);
            var cell6 = newRow.insertCell(5);
            cell1.innerHTML = name;
            cell2.innerHTML = email;
            cell3.innerHTML = phone;
            cell4.innerHTML = address;
            cell5.innerHTML = gender;
            cell6.innerHTML = city;
            form.reset();
        }
    </script>
    </script>
    <form>
        Name: <input type="text" name="name"><br>
        Email: <input type="text" name="email"><br>
        Phone: <input type="number" name="phone"><br>
        Address: <input type="textarea" name="address"><br>
        Gender: <label for="male">Male</label>
        <input type="radio" id="male" name="gender" value="male">
        <label for="female">Female</label>
        <input type="radio" id="female" name="gender" value="female">
        <label for="other">Other</label>
        <input type="radio" id="other" name="gender" value="other"><br>
        City: <label for="cityDropdown"></label>
        <select id="cityDropdown">
          <option value="Ahmedabad">Ahmedabad</option>
          <option value="Surat">Surat</option>
          <option value="Bhavnagar">Bhavnagar</option>
        </select><br>
          <input type="submit" onclick="check(this.form); return false;">
    </form>
    <table border="2" width="100%">
            <thead>
                <tr>
                    <th>Name</th>
                    <th>Email</th>
                    <th>Phone</th>
                    <th>Address</th>
                    <th>Gender</th>
                    <th>City</th>
                </tr>
            </thead>
            <tbody id="dataDisplay"></tbody>
        </table>
</body>
</html>
```

Fig 4.5 Form To Table

Output:



Fig 4.6 Output Of Form To Table

Chapter 5 : JS ARRAYS

5.1 INTRODUCTION TO ARRAYS :-

- JavaScript arrays serve as dynamic and versatile data structures, designed to hold collections of values. These values span diverse data types, including numbers, strings, objects, and even other arrays. Defined with square brackets `[]`, arrays arrange elements sequentially, each assigned an index that begins at zero. This index-based organization facilitates efficient data access and manipulation.

- Arrays offer a suite of built-in methods for tasks like adding, removing, and modifying elements. These capabilities are vital for data processing, iteration, and organizing related information. Arrays are instrumental in JavaScript due to their adaptability and functionality, enabling developers to efficiently manage and manipulate datasets within their code. As fundamental components, arrays empower programmers to handle and process data sets with agility and precision.

Code :

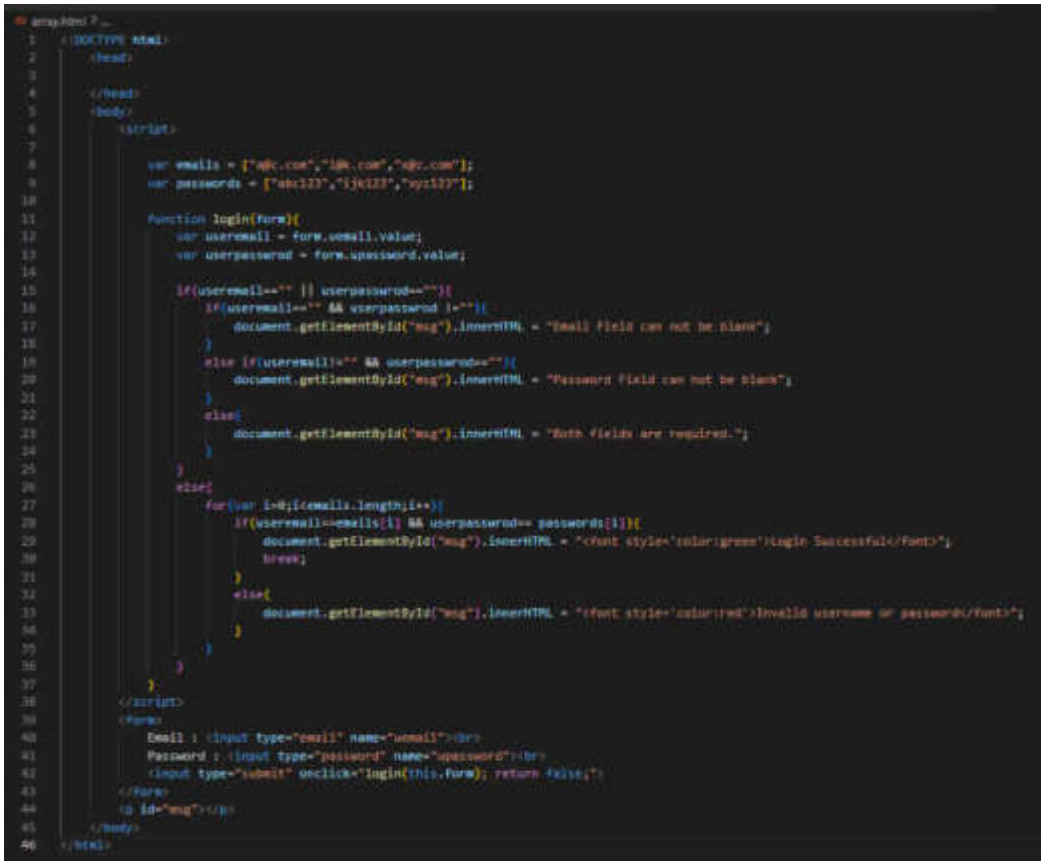


Fig 5.1 Authentication Using Array

Output：

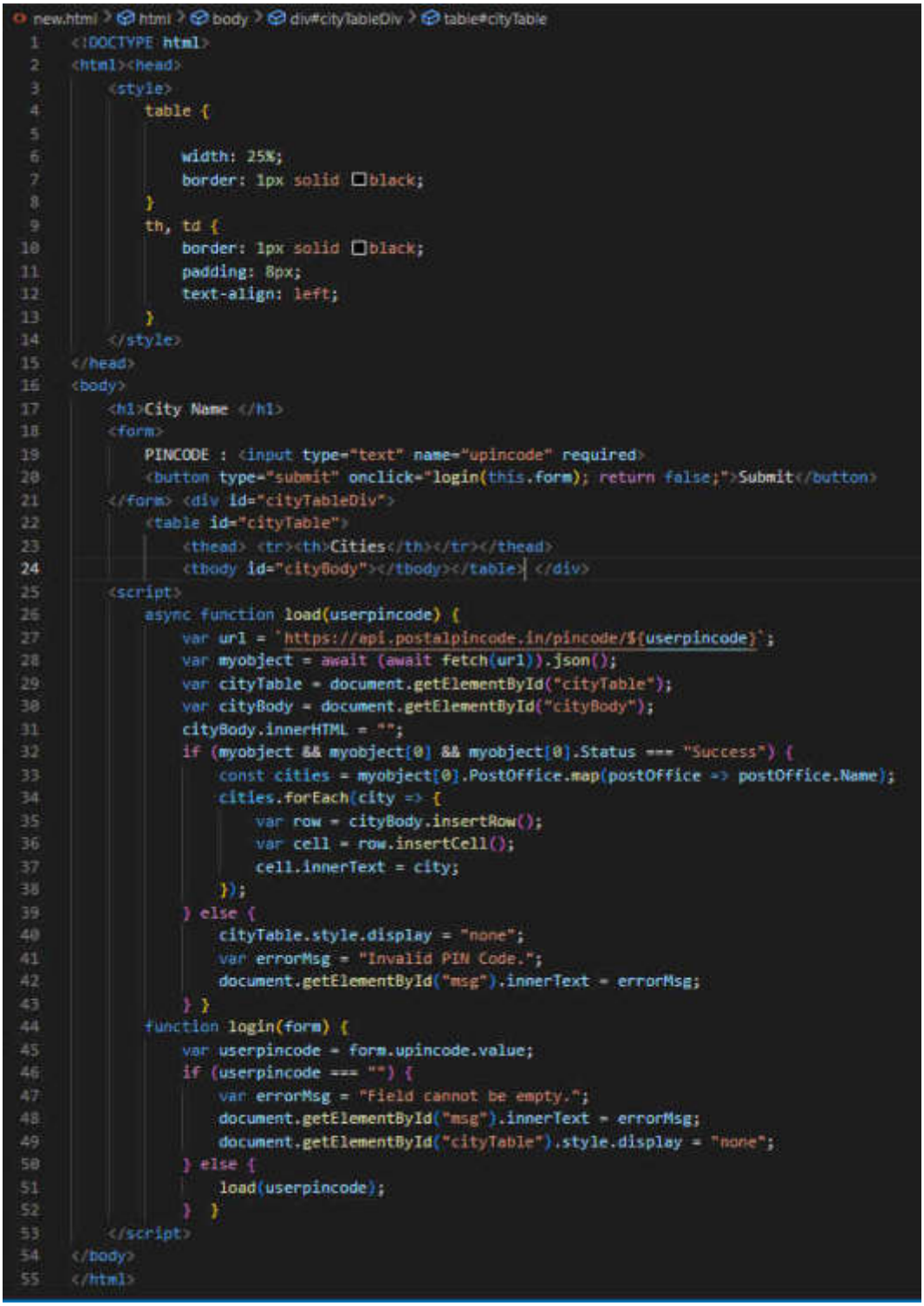


Fig 5.2 Output Of Authentication Using Array

5.2 FORM TO TABLE :-

5.2.1 Task 5 : Fetch Data from API and Get the User value print in the form of Table.

Code:



```
new.html > html > body > div#cityTableDiv > table#cityTable
<!DOCTYPE html>
<html><head>
    <style>
        table {

            width: 25%;
            border: 1px solid black;
        }
        th, td {
            border: 1px solid black;
            padding: 8px;
            text-align: left;
        }
    </style>
</head>
<body>
    <h1>City Name </h1>
    <form>
        PINCODE : <input type="text" name="upincode" required>
        <button type="submit" onclick="login(this.form); return false;">Submit</button>
    </form> <div id="cityTableDiv">
        <table id="cityTable">
            <thead> <tr><th>Cities</th></tr></thead>
            <tbody id="cityBody"></tbody></table> </div>
    <script>
        async function load(userpincode) {
            var url = `https://api.postalpincode.in/pincode/${userpincode}`;
            var myobject = await (await fetch(url)).json();
            var cityTable = document.getElementById("cityTable");
            var cityBody = document.getElementById("cityBody");
            cityBody.innerHTML = "";
            if (myobject && myobject[0] && myobject[0].Status === "Success") {
                const cities = myobject[0].PostOffice.map(postOffice => postOffice.Name);
                cities.forEach(city => {
                    var row = cityBody.insertRow();
                    var cell = row.insertCell();
                    cell.innerText = city;
                });
            } else {
                cityTable.style.display = "none";
                var errorMsg = "Invalid PIN Code.";
                document.getElementById("msg").innerText = errorMsg;
            } }
        function login(form) {
            var userpincode = form.upincode.value;
            if (userpincode === "") {
                var errorMsg = "Field cannot be empty.";
                document.getElementById("msg").innerText = errorMsg;
                document.getElementById("cityTable").style.display = "none";
            } else {
                load(userpincode);
            } }
    </script>
</body>
</html>
```

Fig 5.3 Form To Table

Output:



Fig 5.4 Cities Names From Respected PINCODE

Chapter 6 : BASICS OF REACT

6.1 INTRODUCTION TO REACT :-

- React, a JavaScript library developed by Facebook, is at the forefront of modern web development. It is designed for creating dynamic and interactive user interfaces, focusing on building reusable UI components. React's declarative approach makes it efficient for handling complex UI updates by efficiently managing component rendering.

  Key points about React:

  1. Component-Based: React revolves around the concept of breaking down user interfaces into reusable components. Each component encapsulates its own logic, rendering, and state, promoting modularity and maintainability.
  2. Virtual DOM: React uses a virtual representation of the actual DOM. When changes occur, React efficiently updates only the necessary parts of the DOM, minimizing performance overhead and enhancing user experience.
  3. Declarative Syntax: React employs a declarative approach, allowing developers to describe how a UI should look based on its current state. This contrasts with imperative programming, where developers specify exact steps for changes.
  4. Unidirectional Data Flow: Data in React flows in one direction, from parent to child components. This ensures predictability and simplifies debugging as the data flow remains controlled.
  5. JSX: React utilizes JSX (JavaScript XML) syntax, which enables the embedding of HTML-like code within JavaScript. JSX enhances readability and simplifies the creation of component structures.
  6. State Management: React enables local state management within components, allowing them to hold and manage their own data. Additionally, it's often used in conjunction with state management libraries like Redux or MobX for handling complex application-wide state.
  7. Component Lifecycle:React components have a lifecycle with various methods that allow developers to perform actions at specific points during a component's existence, such as initialization, updates, and unmounting.
  8. Ecosystem:React has a vast ecosystem, including tools like React Router for handling routing, and React Native for building native mobile applications using similar principles.
  9. Community: React has a thriving community that contributes to its growth. The community provides resources, libraries, and best practices, making it easier for developers to learn and build with React.

  React's efficiency, reusability, and focus on user interface make it a preferred choice for developing modern web applications. Its influence has expanded beyond web development, impacting areas like server-side rendering (Next.js) and mobile app development (React Native), making it an essential skill for today's developers.

6.2 INTRODUCTION TO NODE.JS :

- Node.js is an open-source runtime environment that enables JavaScript to run on servers. It's built on Chrome's V8 engine, offering fast and scalable server-side development. Key features include asynchronous I/O handling, event-driven architecture, and a vast package ecosystem through NPM. Node.js excels in real-time applications, supports frameworks like Express.js, and has a strong developer community. Its unification of languages and efficient handling of concurrent connections make it a powerful tool for modern server-side development.

6.3 FIRST REACT APP :

Code :

App.js M

first > src > App.js > App

```
1  import React from 'react';
2  import './App.css';
3
4  function App() {
5    return (
6      <div className="App">
7        <h1>Hello , Devarshi Kathiriya</h1>
8      </div>
9    );
10 }
11
12 export default App;
13
```

Fig 6.1 App.js Component

Output:



Fig 6.2 First React App

6.3.1Functional Components :

- The first and recommended component type in React is functional components. A functional component is basically a JavaScript/ES6 function that returns a React element (JSX). According to React's official docs, the function below is a valid functional component:

```
function welcome(props) {
 return <h1> hello Devarshi, {props.name}</h1>;
}
```

Fig 6.3 Functional Component

6.3.2Class Components :

- The second type of component is the class component. Class components are ES6 classes that return JSX. Below, you see our same Welcome function, this time as a class component:

```
class Welcome extends React.Component{
  render(){
    return<h1>Hello Devarshi, {this.props.name}</h1>
  }
}
```

Fig 6.4 Class Component

Chapter 7 : MAP IN REACT

7.1 INTRODUCTION TO MAP :-

- In React, the `map()` function stands as a potent tool for iterating through arrays and generating new arrays of transformed elements. It finds its common use in rendering dynamic content. By applying a provided function to each array item, `map()` empowers the creation of JSX elements or components that align with the data. This streamlined process enables the efficient construction of various dynamic content structures such as lists or tables, effectively mapping data to their corresponding UI representations.

- `map()` significantly enhances the development of React applications by facilitating the creation of data-driven user interfaces. It promotes code modularity and simplifies the task of displaying dynamic content. This function plays a pivotal role in rendering diverse content types in a streamlined manner, contributing to improved user experience and code readability.

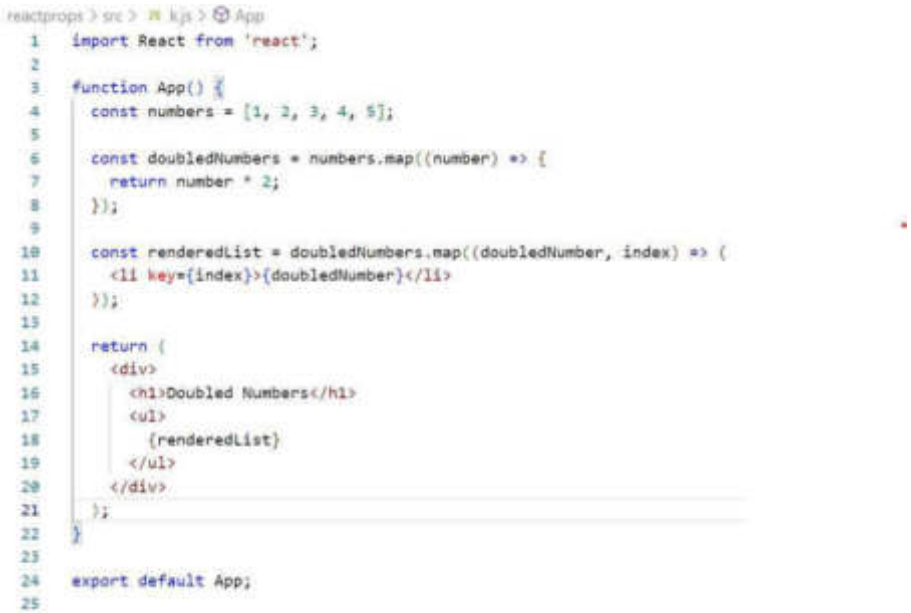


Fig 7.1 Structure Of Map()

7.2 VARIABLE DATA MAP :

- In React, the concept of "variable data mapping" refers to dynamically rendering components or elements based on data stored in a variable, typically an array. This involves using methods like the `map()` function to iterate through the data and generate corresponding UI representations. By mapping variable data to components or elements, developers can create dynamic and flexible user interfaces that adapt to changes in the data. This approach enhances code reusability and modularity, allowing for efficient display of lists, grids, or other structured content while maintaining a clear separation between data and presentation in React applications.

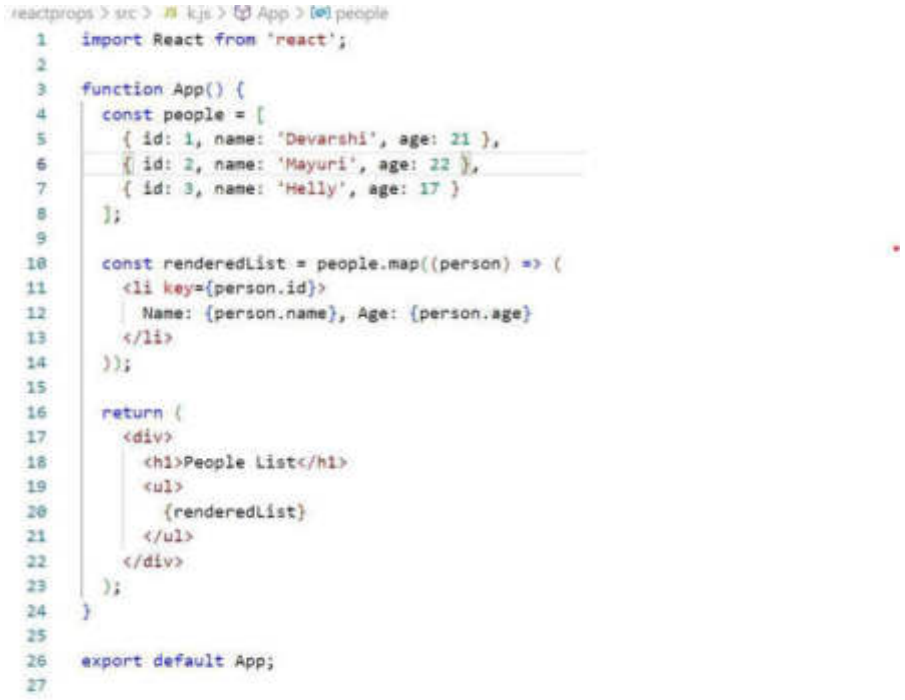


Fig 7.2 Variable Data Map

7.3 OBJECT MAP :

7.3.1 Task 6 : Map the Object data and print in the form of Table.

Code :

```
st > src > SpacecraftTable.js > ...
1   import React from 'react';
2   import './SpacecraftTable.css';
3
4   function SpacecraftTable({ spacecraftData }) {
5     return (
6       <table className="spacecraft-table">
7         <thead>
8           <tr>
9             <th>Name</th>
10            <th>Type</th>
11            <th>Year of Launch</th>
12          </tr>
13        </thead>
14        <tbody>
15          {spacecraftData.map((spacecraft, index) => (
16            <tr key={index}>
17              <td>{spacecraft.name}</td>
18              <td>{spacecraft.type}</td>
19              <td>{spacecraft.year}</td>
20            </tr>
21          ))}
22        </tbody>
23      </table>
24    );
25  }
26
27  export default SpacecraftTable;
28
```

Fig 7.3 Object Map

Output :



Fig 7.4 SpaceCrafts Data From Object To Table

Chapter 8 : PROPS AND HOOKS

8.1 INTRODUCTION OF PROPS :

- In React, "props" (short for properties) serve as a foundational concept for transmitting data from parent components to their child components. They establish a vital mechanism for intercommunication within a React application. With props, information can be efficiently shared between distinct segments of the application.

- Props, by design, are read-only. They offer a means to configure and personalize child components by furnishing them with designated values or functions. This empowers the creation of adaptable, reusable components capable of displaying data, reacting to user interactions, and sustaining a clear distinction of roles within the component hierarchy. This structure significantly contributes to the maintainability and modularity of React applications, enhancing code quality and facilitating the management of complex user interfaces.

  Code :

App.js

```
import logo from './logo.svg';
import './App.css';
import Details,{Multipledata} from './propscomponents';

function App() {
  return (
    <div className="App">
      <h>Heyy Devarshi</h>
    </div>
  );
}

function New(){
  return(
    <div>
      <h1>New component added.</h1>
      <Details name="Devarshi" />
      <Details name="GTU" />
      <Details name="Ahmedabad" />
      <Multipledata  name="Devarshi" email="devarshikathiriya@gmail.com" />
        </div>
  );
}

export default App;
export {New};
```

Fig 8.1 App,js Component

Output :

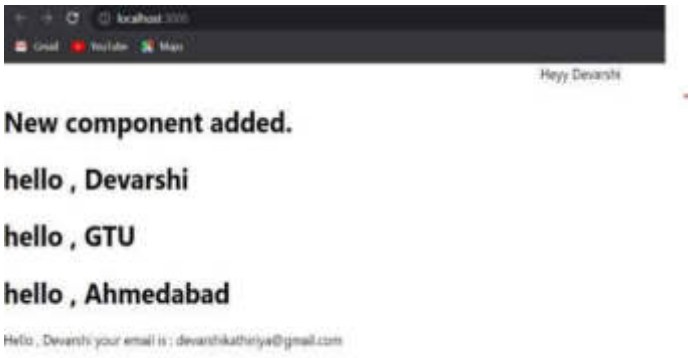


Fig 8.2 Output After Passing Props

8.2 INTRODUCTION OF HOOKS:

- Hooks represent a revolutionary advancement in React, enabling developers to embed state and lifecycle functionalities within functional components. This innovation reduces the necessity for class components in numerous scenarios. Introduced in React 16.8, Hooks provide an elegant solution for managing local component state, handling side effects, and utilizing context in functional components, leading to a more succinct and comprehensible code structure.

- By furnishing functions such as `useState` and `useEffect`, Hooks empower developers to seamlessly integrate state management and lifecycle behavior directly into functional components. This amalgamation simplifies the development process and amplifies code reusability. The advent of Hooks signifies a transformative shift in React development, paving the way for more modular and maintainable applications. While achieving this, Hooks still uphold React's hallmark qualities of flexibility and high performance, reaffirming React's status as a dynamic and efficient framework for building modern user interfaces.

8.3 REACT BOOTSTRAP :

- React Bootstrap is a front-end framework that seamlessly integrates the power of Bootstrap, a popular CSS framework, with the flexibility and component-based architecture of React. By combining these technologies, React Bootstrap empowers developers to build responsive, visually appealing, and interactive user interfaces with ease. It provides a collection of pre-designed, customizable components such as navigation bars, buttons, modals, and forms, eliminating the need to write complex CSS and JavaScript from scratch. React Bootstrap simplifies the process of creating modern web applications by offering a comprehensive set of UI components that adhere to best practices, while also enabling seamless integration with existing React projects for enhanced efficiency and consistency in design and functionality.

Chapter 9 : ASSIGNMENTS

9.1 ASSIGNMENT 1 :

9.1.1 Task 7 : Datewise Covid data search from API and Print into Table Format.

Code :

```
<!DOCTYPE html>
    <head></head>
    <body>
        <script>
            async function load(){
                let url = "https://data.covid19india.org/data.json";
                let myobject = await (await fetch(url)).json();
                var days=0;
                document.write(myobject["cases_time_series"][0]["date"]+"<br>");
                document.write("Total Number of Days : "+myobject["cases_time_series"].length);
                document.write("<table border='1' width='100%'>");
                for(var i=0;i<myobject["cases_time_series"].length;i++){
                    if(myobject["cases_time_series"][i]["dailyconfirmed"]>=100000){
                        document.write("<tr style='color:red'><td>"+myobject["cases_time_series"][i]["date"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                                "</td><td>"+myobject["cases_time_series"][i]["dailyrecovered"]+
                                    "</td></tr>");
                        days = days+1;
                    }
                    else{
                        document.write("<tr><td>"+myobject["cases_time_series"][i]["date"]+
                        "</td><td>"+myobject["cases_time_series"][i]["dailyconfirmed"]+
                            "</td><td>"+myobject["cases_time_series"][i]["dailydeceased"]+
                                "</td><td>"+myobject["cases_time_series"][i]["dailyrecovered"]+
                                    "</td></tr>");
                    }

                }
                document.write("</table>");
                document.write("Total number of days with more than 1 lac cases :"+days);
            }
            load();
        </script>

    </body>
</html>
```

Fig 9.1 Covid Data Fetch From API

Output :

Date : 13 March 2020 Submit

NEW CASES	10
NEW DEATHS	0

Fig 9.2 Datewise Covid Data Into Table Format

9.1.2 Task 8: Print the Total number of Schemes available from API of Mutual Fund.

Code :

```
<!DOCTYPE html>
<head></head>
<body>
<script>
        async function clickHandle(form) {
            var scode = form.scode.value;
            if (scode == "") {
                document.getElementById("msg").innerHTML = "<span class='text-danger'>Please enter the <strong>Scheme Code</st
            } else {
                let url = "https://api.mfapi.in/mf";
                let myMFData = await (await fetch(url)).json();
                for (let i = 0; i < myMFData.length; i++) {
                    if (myMFData[i]["schemeCode"] == scode) {
                        console.log(1);
                        document.getElementById("msg").innerHTML = "<span class='text-success'><strong>" +
                            myMFData[i]["schemeName"] + "</strong></span>";break; }
                        else {console.log(2);
                        document.getElementById("msg").innerHTML = `<strong class='text-danger'>
                            The entered Scheme code ${scode} not found</strong>`;}}
                document.getElementById("totalScheme").innerHTML = "<span class='text-primary'>The total number of Scheme avai
                    myMFData.length + "</strong></span>"; } } </script>

<div class="container my-2 text-center"> <h2> Mutual Fund</h2>
<form>
            <div class="mb-3 ms-auto me-auto" style="width: 50%">
                <label for="scode" class="form-label"><strong>Scheme Code</strong></label>
                <input type="number" class="form-control" name="scode" id="scode" required> </div>
            <div class="ms-auto me-auto" style="width: 10%;">
                <button type="button" class="btn btn-primary" onclick="clickHandle(this.form);">Show Fund</button></div>
            <p id="msg" class="my-3"></p> <p id="totalScheme"></p>
 </form></div></body>
</html>
```

Fig 9.3 Fetch The Data From Mutual Fund API

Output :

Mutual Fund

Scheme Code 100081

Show Fund

DSP Equity & Bond Fund- Regular Plan - Growth

The total number of Scheme available in this API is **45509**

Fig 9.4 Show Available Scheme From API

9.2 ASSIGNMENT 2 : Develop one web page in react with professional card layouts of react bootstrap using API.

App Name : News App

Code:

App.jsx | Navbar.jsx | Footer.jsx | News.jsx

news-app-main > src > App.jsx > App

```jsx
import React from 'react'
import Footer from "./components/Footer";
import Navbar from "./components/Navbar";
import News from "./components/News";
import { BrowserRouter, Routes, Route } from "react-router-dom";

const App = () => {

  const apiKey = process.env.REACT_APP_NEWS_API;

  return (
    <>
      <BrowserRouter>
        <Navbar />
        <Routes>
          <Route exact path="/" element={<News country="in" category="general" pageSize="6" apiKey={apiKey} />}></Route>
          <Route path="/business" element={<News key="business" country="in" category="business" pageSize="6" apiKey={apiKey} />
          <Route path="/entertainment" element={<News key="entertainment" country="in" category="entertainment" pageSize="6" ap
          <Route path="/health" element={<News key="health" country="in" category="health" pageSize="6" apiKey={apiKey} />}></
          <Route path="/science" element={<News key="science" country="in" category="science" pageSize="6" apiKey={apiKey} />}
          <Route path="/sports" element={<News key="sports" country="in" category="sports" pageSize="6" apiKey={apiKey} />}></
          <Route path="/technology" element={<News key="technology" country="in" category="technology" pageSize="6" apiKey={ap
        </Routes>
        <Footer />
      </BrowserRouter>
    </>
  )
}

export default App
```

Fig 9.5 App.js Component

news-app-main > src > components > Footer.jsx > Footer

```jsx
import React from 'react'

const Footer = () => {
    return (
        <>
            <footer className='pt-4'>
                <ul className="nav justify-content-center py-4 border-top">
                    <li className="nav-item">
                        © 2023 News Inc
                    </li>
                </ul>
            </footer>
        </>
    )
}

export default Footer
```

Fig 9.6 Footer.js Component

```jsx
import React from 'react'
import { Link } from 'react-router-dom';

const Navbar = () => {
  return (
    <>
      <nav classNameName="navbar fixed-top navbar-expand-lg bg-body-tertiary px-4 shadow">
        <div classNameName="container-fluid">
          <Link classNameName="navbar-brand" to="/">News</Link>
          <button classNameName="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarSupportedContent"
            <span classNameName="navbar-toggler-icon"></span>
          </button>
          <div classNameName="collapse navbar-collapse" id="navbarSupportedContent">
            <ul classNameName="navbar-nav me-auto mb-2 mb-lg-0">
              <li classNameName="nav-item">
                <Link classNameName="nav-link" aria-current="page" to="/">General</Link>
              </li> (property) React.HTMLAttributes<T>.classNameName?: string | undefined
              <li classNameName="nav-item">
                <Link classNameName="nav-link" aria-current="page" to="/business">Business</Link>
              </li>
              <li classNameName="nav-item">
                <Link classNameName="nav-link" aria-current="page" to="/entertainment">Entertainment</Link>
              </li>
              <li classNameName="nav-item">
                <Link classNameName="nav-link" aria-current="page" to="/health">Health</Link>
              </li>
              <li classNameName="nav-item">
                <Link classNameName="nav-link" aria-current="page" to="/science">Science</Link>
              </li>
              <li classNameName="nav-item">
                <Link classNameName="nav-link" aria-current="page" to="/sports">Sports</Link>
              </li>
              <li classNameName="nav-item">
                <Link classNameName="nav-link" aria-current="page" to="/technology">Technology</Link>
              </li>
            </ul>
            <form classNameName="d-flex" role="search">
              <input classNameName="form-control me-2" type="search" placeholder="Search" aria-label="Search" />
              <button classNameName="btn btn-outline-primary" type="submit">Search</button>
            </form>
          </div>
```

Fig 9.7 navbar.js Component

- Similarly ScinceNews, BusinessNews And HealthNews components created.

Output :

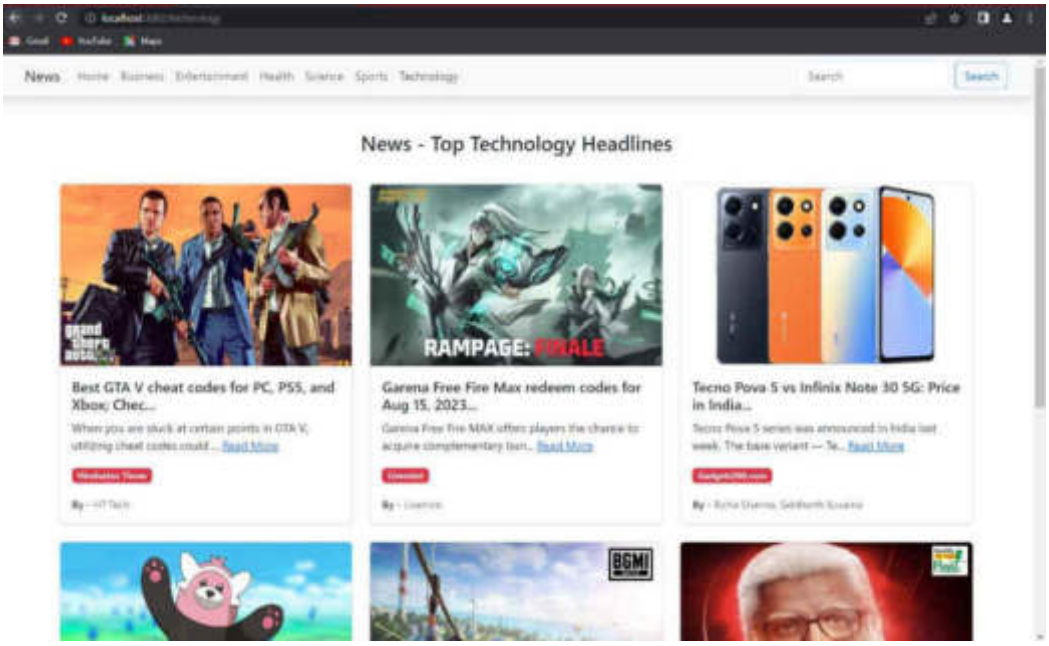


Fig 9.8 Technology

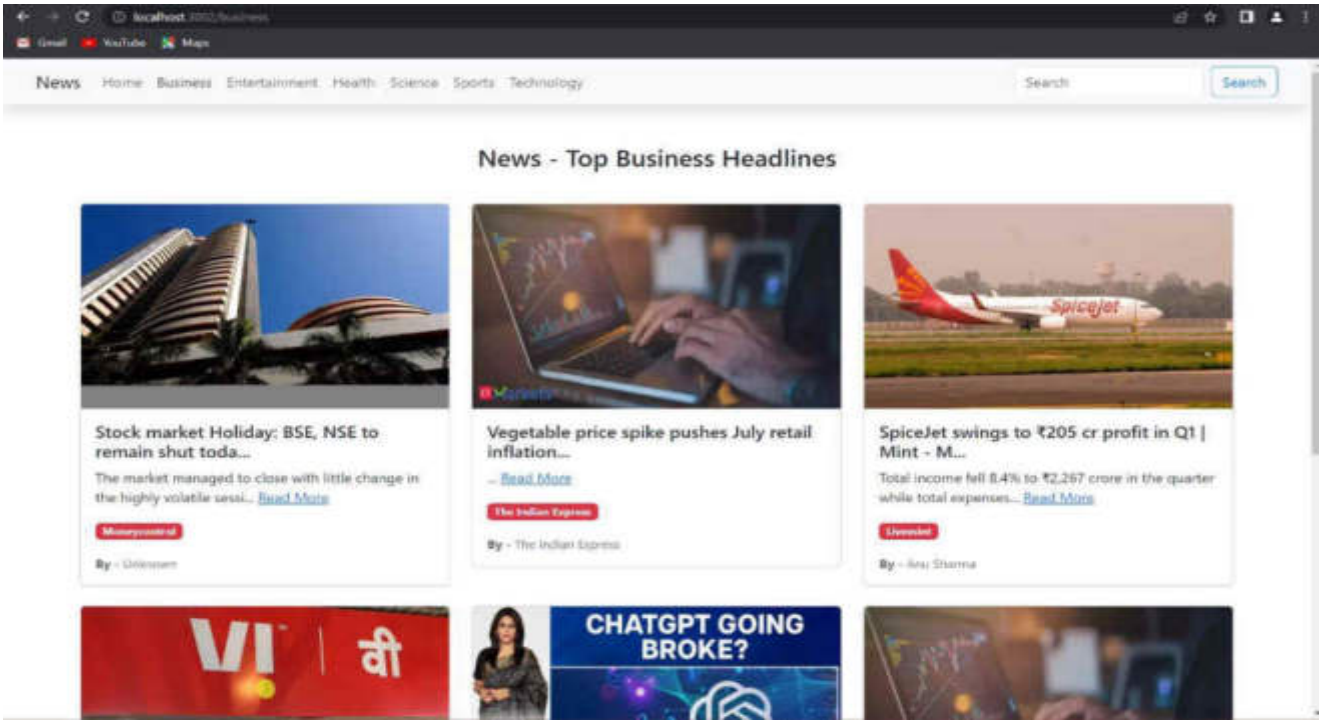


Fig 9.9 Business

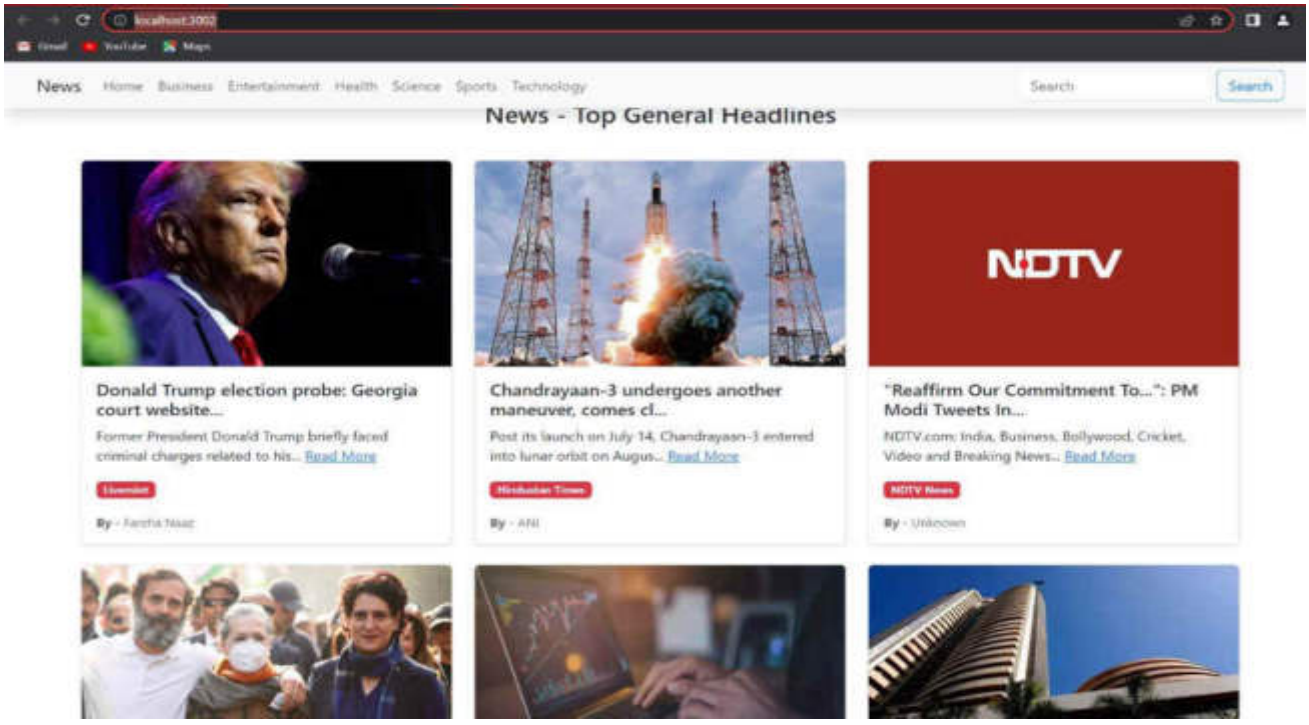


Fig 9.10 General

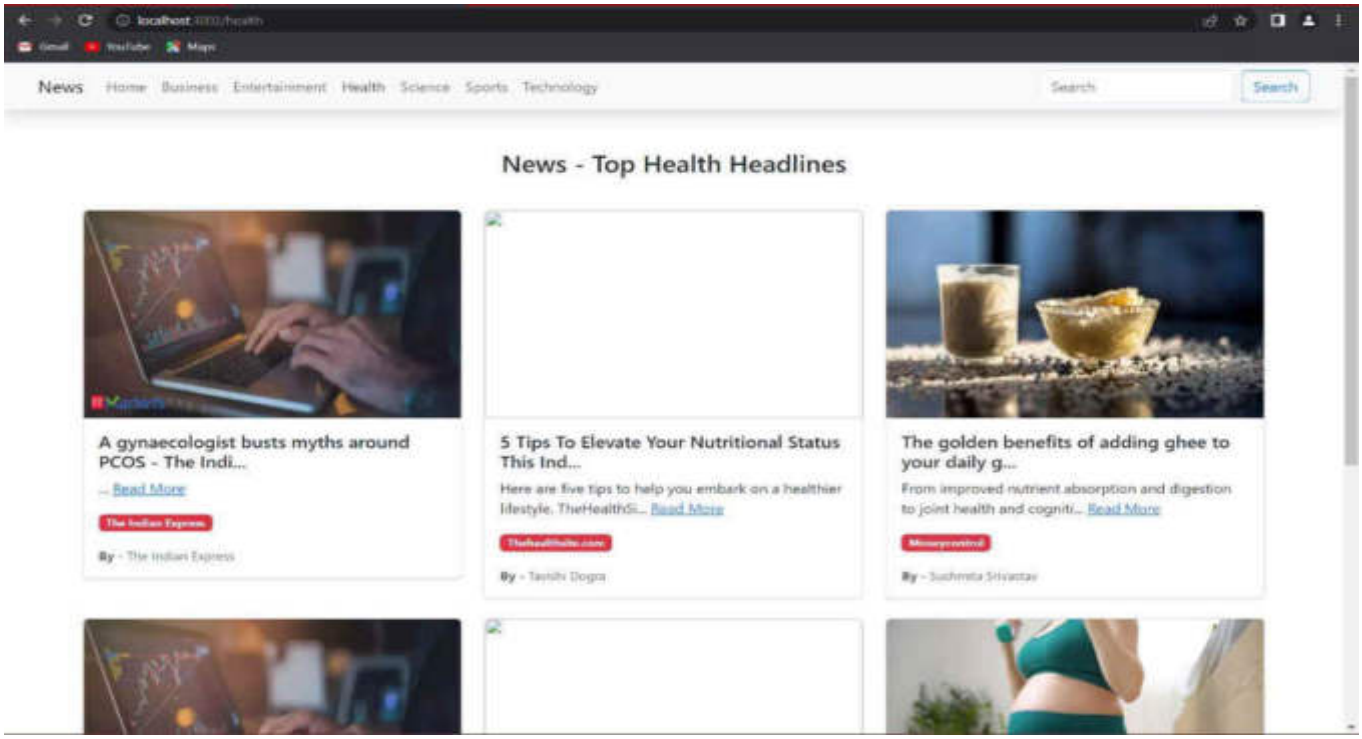


Fig 9.11 Health News

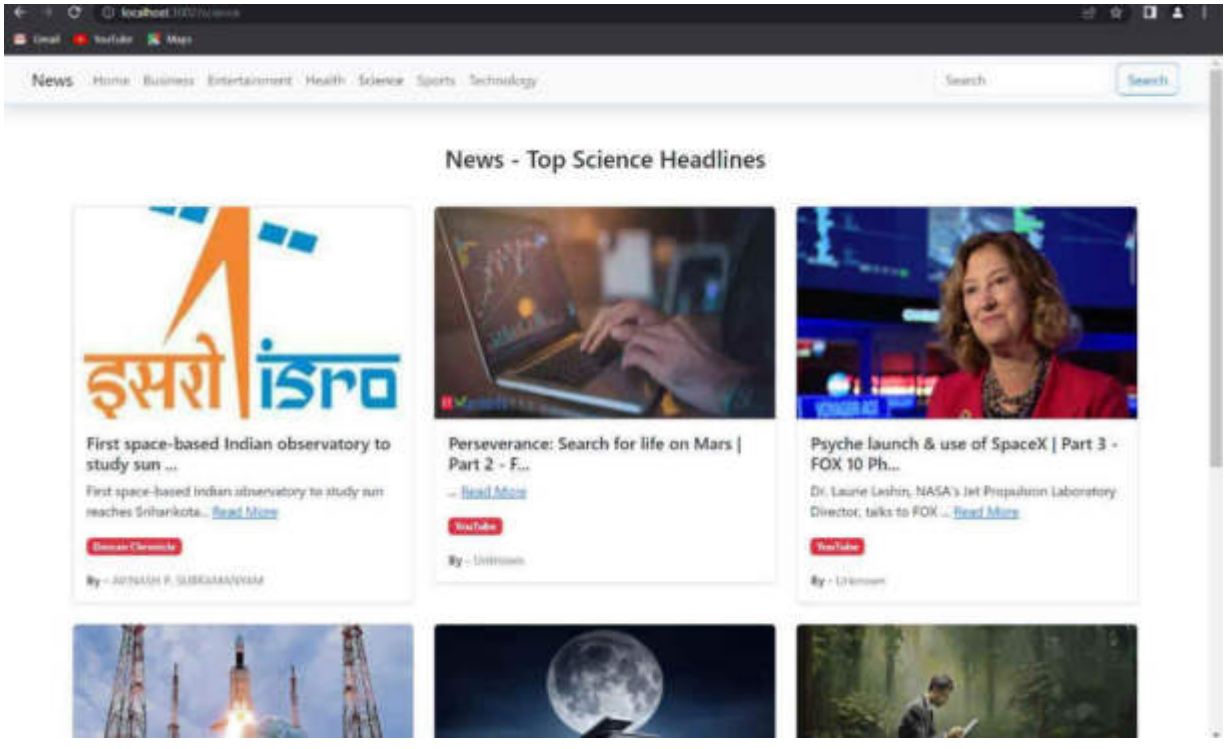


Fig 9.12 Science News

INTERNSHIP AT INFOLABZ

AN INTERNSHIP REPORT

Submitted by

Kanpariya Helly Vijaybhai

200390116064

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

August, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at INFOLABZ** has been carried out by **Kanpariya Helly Vijaybhai** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technoloy, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign	Sign
Prof. First Name Last Name	Prof. Akshay Kansara
Internal Guide	Head of Department

Company Certificate

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COMPLETION CERTIFICATE OF SUMMER INTERNSHIP

Date: 12-08-2023

Enrollment: 200390116064
Semester: 7th, Information Technology
S.p.b. Patel Engineering College

To whom it may concern,

We are delighted to provide this certificate for the successful completion of the requirements and work performed during the two-week free internship (27 July 2023 to 10 August 2023) by Helly Kanpariya .

In this internship tenure, we have covered the fundamentals of JS And ES6. We have also worked on the React framework along with API integration and developed an API-based React application.

We wish Helly Kanpariya all the best for future endeavors.

Ms. Twinkle Shah
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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at InfoLabz** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technoloy** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. FirstName LastName** & **FirstName LastName (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

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Abstract

During my 15-day internship at Infolabz Company, I was immersed in a captivating project focused on developing a dynamic news application that retrieves real-time data from news APIs. This immersive experience provided me with a comprehensive grasp of pivotal concepts, including ES6 arrow functions, asynchronous programming, user input handling, and data visualization. Throughout the internship, I delved deep into the intricacies of modern JavaScript, honing my proficiency in leveraging ES6 features like arrow functions for succinct coding and effectively utilizing async functions to manage asynchronous operations. Additionally, I refined my ability to craft user-friendly interfaces that ensure smooth interactions and efficient data management. Beyond its practical exposure to API integration, the project also afforded me insights into thecomplexities of real-time data retrieval, processing, and presentation. This experience not only enhanced my technical skills but also reinforced my capacity for innovative problem-solving. In essence, my tenure at Infolabz has been an illuminating journey of transformation. Through hands-on application, I have not only mastered essential programming concepts but also elevated my aptitude for creating user-centric applications. This report stands as a testament to the comprehensive growth and heightened expertise I attained during this enriching internship.

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Chapter 1 : INTRODUCTION

1.1 COMPANY PROFILE:

Established in 2016, incorporation with our parent IT company, INFOLABZ IT SERVICES PVT. LTD. has managed to make it's own position in IT Sector. We are involved in Web Development, App Development, Progressive Web Application Development, IOT solutions, Graphics & Designing, Digital Marketing, Domain & Hosting services, SMS services etc.

In the span of seven years we have managed to deliver all projects on time with utmost accuracy to our clients across the globe. We have dedicated teams of experienced andhard working developers. Our developers who are always willing to take new challenges and looking forward to learn new things, are heart of this company.

Our objective is to sustain with exponential growth in IT industry. Our mission is to deliver the best with top notch quality every quarter and vision is to develop a product with one of its kind concept which could be used by millions of people.

Chapter 2 : JS AND ES6 CONCEPTS

2.1 INTRODUCTION TO JS:-

JavaScript (JS) is a programming language that powers interactivity and dynamic features on websites. With a syntax resembling Java and C++, it enables developers to respond to user actions, making web pages more engaging. JavaScript's versatility extends beyond the web, into mobile and desktop app development. It operates on the principle of event-driven programming, triggering actions based on user interactions. Libraries like jQuery and frameworks like React enhance its capabilities. Asynchronous programming allows tasks to occur without blocking others, crucial for smooth user experiences. JavaScript's ecosystem includes various tools and frameworks, and with Node.js, it's even used for server-side programming. However, challenges like browser compatibility and security vulnerabilities persist. Despite this, JavaScript's evolution has transformed it from a simple scripting language into a vital tool for modern web development, enabling dynamic and responsive user experiences. It plays a crucial role in creating modern, user-friendly web experiences. Developed by Netscape in the mid-1990s, JavaScript has evolved over the years to become one of the fundamental technologies of web development. In conclusion, JavaScript is a foundational technology for creating interactive and dynamic web experiences. Its ability to manipulate the DOM, handle events, and communicate with servers makes it an essential tool for modern web development.

2.2 INTRODUCTION TO ES6:-

- ECMAScript 6 (ES6), also known as ECMAScript 2015, is a significant update to the JavaScript language specification that was released in 2015. It introduced several new features, syntax enhancements, and improvements to the language, making JavaScript development more efficient, readable, and powerful. ES6 brought many changes to the way developers write JavaScript code and paved the way for modern JavaScript development practices. ES6 introduced block-scoped variable declarations using the `let` and `const` keywords. These declarations have a more predictable scope behavior compared to the older `var` keyword. Arrow functions provide a concise syntax for defining functions. Template literals allow you to embed variables and expressions inside strings using backticks (`) instead of quotes. ES6 introduced the `async` and `await` keywords, which provide a more readable and synchronous-like syntax for working with asynchronous code.

2.3 OBJECTS:-

- In JavaScript, objects are fundamental data structures that allow you to store and organize related data and functionality in a single container. Objects are used to model real-world entities, concepts, or data structures, and they play a central role in the language. There are multiple ways to create objects in JavaScript. One common way is using object literal notation, where you enclose key-value pairs within curly braces `{}`. You can access object properties using dot notation (.) or square bracket notation[]. Object properties can also be functions, known as methods. Methods allow objects to encapsulate behavior.JavaScript objects are versatile and powerful, serving as a foundation for organizing and managing data in web development.

Chapter 3 : JS FUNCTIONS

3.1 JS FUNCTIONS & ARROW FUNCTIONS:-

- JavaScript functions serve as reusable blocks of code designed for specific tasks. They encapsulate a set of instructions, callable by using the function's name and any required arguments. Functions boost code modularity and maintainability by breaking down complex tasks into manageable units. They process data, accept inputs, and produce outputs, forming a core aspect of JavaScript programming.

- Introduced in ES6, arrow functions offer a concise and expressive alternative for creating functions. They present a streamlined syntax that often requires fewer lines compared to traditional function expressions. Arrow functions automatically inherit the surrounding context (`this` value), simplifying code in some scenarios. While powerful for writing elegant code, they might not suit every situation, especially when advanced function behavior or dynamic context handling is needed. It's important to assess whether arrow functions align with the specific needs of your codebase.

3.2 ASYNC FUNCTION :

- In JavaScript, an async function, introduced in ES2017, is a specialized function designed to manage asynchronous operations in a more structured manner. By utilizing the `async` keyword before the function declaration, it inherently transforms the function into one that returns a Promise. This adjustment simplifies the handling of asynchronous code sequences.

- Within an async function, the `await` keyword plays a significant role. It halts the function's execution until the awaited Promise is resolved. This feature proves valuable for handling asynchronous tasks like fetching data from servers or executing time-intensive computations. The result is a more streamlined and readable codebase that retains clarity and order in managing asynchronous actions.

- By employing async functions, the development process is greatly facilitated. Code becomes more organized, readable, and maintainable, leading to the creation of applications that are both efficient and responsive.

3.3 TASK 1: FETCH LIVE DATA FROM BITCOIN API.

Code:

bitcoin.html > ...

```
<!DOCTYPE html>
<head></head>
<body><script>
        async function load(){
            let url = "https://api.coindesk.com/v1/bpi/currentprice.json";
            let myobject = await (await fetch(url)).json();
            document.write(myobject["bpi"]["USD"]["rate"]);}
        load();
    </script></body>
</html>
```

Fig 3.1 Fetch Data From API

Output:

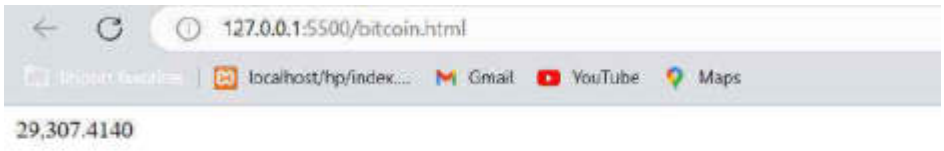


Fig 3.2 Live Rate Of BitCoin

3.4 TASK 2: FETCH THE DATA FROM THE COVID-19 API AND PRINT IT IN THE TABLE

Code:



Fig 3.3 Fetch Covid-19 Data From API

Output:

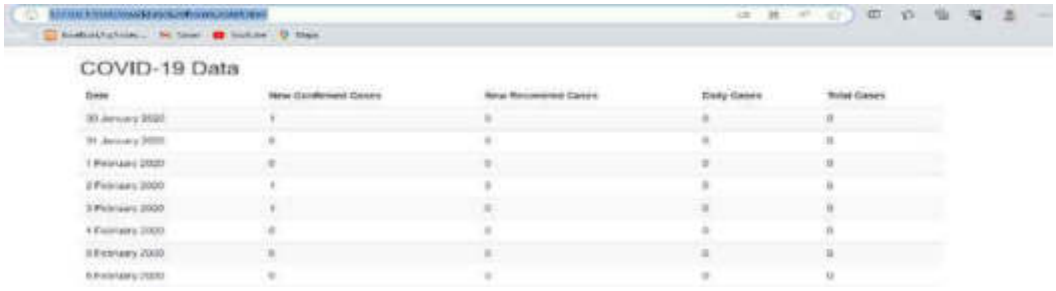


Fig 3.4 Output Of Covid-19 API Data To Table

Chapter 4 : JS INPUT METHODS

4.1 COVID API – DATA FETCHING AND MAPPING:-

Code:

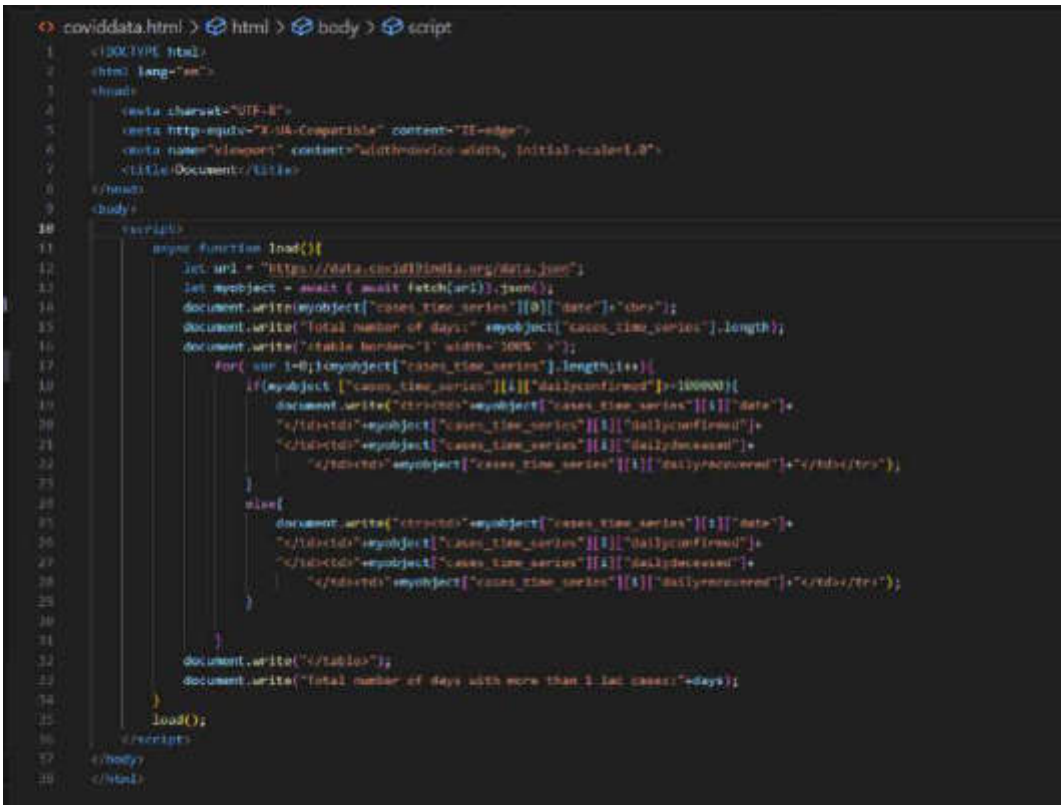


Fig 4.1 Code Of Covid-19 API Data

Output:

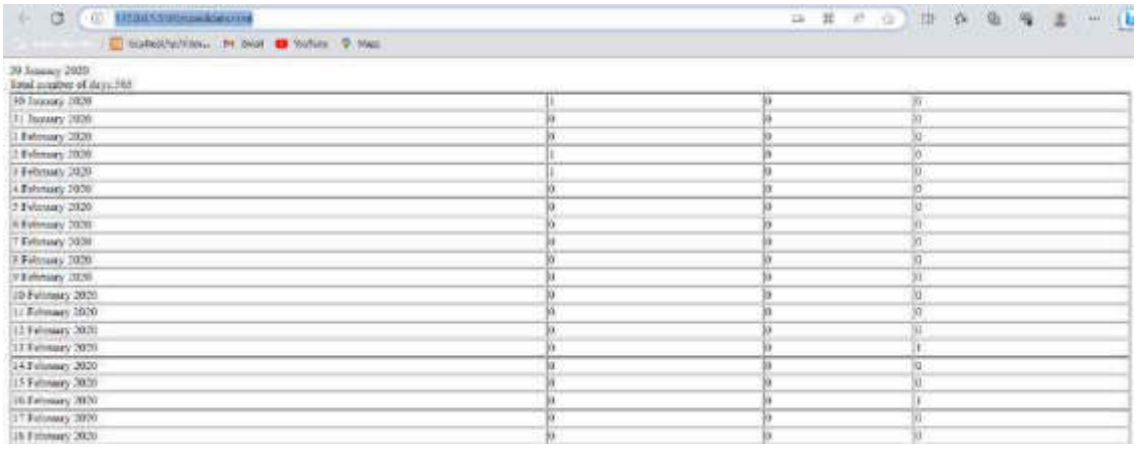


Fig 4.2 Output Of Covid-19 API Data To Table

4.2 JS POP UP BOXES:-

JavaScript provides three types of pop-up boxes:

1. Alert: Used to display a message for notifications. It includes an OK button for the user to acknowledge the information. Syntax: `alert("Message");`

2. Confirm: Presents a message along with OK and Cancel buttons. It's often used for user confirmation actions. Syntax: `const result = confirm("Confirm?");`

3. Prompt: Displays a message alongside an input field, enabling users to provide input. Syntax: `const input = prompt("Enter something:");`

While these pop-up boxes serve their purpose, they can sometimes disrupt user experience and offer limited customization. In modern development, alternatives like CSS frameworks or custom modals tend to provide a more tailored and user-friendly interaction approach.

4.3 USER INPUT : FORM TO VARIABLE:-

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
    <script>
        function check(form){
            var name = form.uname.value;
            var surname = form.usurname.value;
            document.getElementById('msg').innerHTML = "username is" +name+ "surname is"+surname;
        }
    </script>
        <form>
            Name: <input type="text" name="uname"><br>
            Surname: <input type="text" name="usurname"><br>
            <input type="submit" onclick="check(this.form); return false;">

            </form>
            <mark id="msg"></mark>

</body>
</html>
```

Fig 4.3 Form To Variable

Output:

Name: helly

Surname: kanpariya

Submit

username ishellysurname iskanpariya

Fig 4.4 Output Of Form To Variable

4.4 TASK 4 :- GET THE INPUT FROM THE USER AND PRINT THE DATA IN THE FORM OF TABLE.

Code:



```
formtotable.html > html > body > script > addData
</table>

<script>
function addData() {
    var name = document.getElementById("name").value;
    var password = document.getElementById("password").value;
    var city = document.getElementById("city").value;

    if (name && password && city) {
        var table = document.getElementById("dataTable");
        var newRow = table.insertRow(-1); // -1 inserts at the end

        var cell1 = newRow.insertCell(0);
        var cell2 = newRow.insertCell(1);
        var cell3 = newRow.insertCell(2);

        cell1.innerHTML = name;
        cell2.innerHTML = password;
        cell3.innerHTML = city;

        document.getElementById("name").value = "";
        document.getElementById("password").value = "";
        document.getElementById("city").value = "";
    } else {
        alert("Please enter all name and password and city");
    }
}
</script>

</body>
```

Fig 4.5 Form To Table

Output:



Enter Information

Name:

Password:

City: Submit

Table

Name	Password	City
Helly kanpariya	ABCD@1234	ADI
John Sharma	defv@2345	RJT
Muskan Patel	cdfdx$356	ST

Fig 4.6 Output Of Form To Table

Chapter 5 : JS ARRAYS

5.1 INTRODUCTION TO ARRAYS :-

- JavaScript arrays serve as dynamic and versatile data structures, designed to hold collections of values. These values span diverse data types, including numbers, strings, objects, and even other arrays. Defined with square brackets `[]`, arrays arrange elements sequentially, each assigned an index that begins at zero. This index-based organization facilitates efficient data access and manipulation.

- Arrays offer a suite of built-in methods for tasks like adding, removing, and modifying elements. These capabilities are vital for data processing, iteration, and organizing related information. Arrays are instrumental in JavaScript due to their adaptability and functionality, enabling developers to efficiently manage and manipulate datasets within their code. As fundamental components, arrays empower programmers to handle and process data sets with agility and precision.

Code :

```
array.html > html > body > script
    <script>
        var emails = ["a@b.com", "i@j.com", "x@y.com"];
        var passwords = ["abc123", "ijk123","xyz123"];
        function login(form){
            var useremail = form.uemail.value;
            var userpassword = form.upassword.value;
            if(useremail=="" || userpassword==""){
                if(useremail=="" && userpassword !=""){
                    document.getElementById("msg").innerHTML = "Email field can not be blank";
                }
                else if(useremail!="" || userpassword==""){
                    document.getElementById("msg").innerHTML = "Password field can not be blank";
                }
                else{
                    document.getElementById("msg").innerHTML = "Both feild are requried.";
                }
            }
            else{
               for(var i=0;i<emails.length;i++){
                if(useremail==emails[i] && userpassword== passwords[i]){
                    document.getElementById("msg").innerHTML =
                     "<font style='color:green'>Login Successful</font>";
                    break;
                }
                else{
                    document.getElementById("msg").innerHTML =
                    "<font style='color:red'>Invalid username or password</font>";
                }
               }
            }
```

Fig 5.1 Authentication Using Array

Output：



Fig 5.2 Output Of Authentication Using Array

5.2 FORM TO TABLE :-

5.2.1 Task 5 : Fetch Data from API and Get the User value print in the form of Table.

Code:

f1.html > html > body > script

```
<body>
    <h1>City Name</h1>
    <label for="pincode">Enter Pincode:</label>
    <input type="text" id="pincode" placeholder="Enter a pincode">
    <button onclick="getAreaAndCity()">Submit</button>
    <div id="result"></div>

    <script >
      function getAreaAndCity() {
    const pincode = document.getElementById("pincode").value;
    if (pincode.length !== 6 || isNaN(pincode)) {
        alert("Please enter a valid 6-digit pincode.");
        return;
    }
    const apiUrl = `https://api.zippopotam.us/IN/${pincode}`;
    fetch(apiUrl)
        .then(response => response.json())
        .then(data => {
            const areaName = data.places[0]["place name"];
            displayResult(pincode, areaName, );
        })
        .catch(error => {
            console.error("Error fetching data:", error);
            displayResult(pincode, "Area or City not found or an error occurred.", "");
        });
}
function displayResult(pincode, areaName, ) {
    const resultDiv = document.getElementById("result");
    resultDiv.innerHTML = `
        <h2>Result</h2>
        <table border='2'>
            <tr>
                <th>Pincode</th>
                <th>Area Name</th></tr>
            <tr>
                <td>${pincode}</td>
                <td>${areaName}</td></tr></table>`;
}
</script>
</body>
</html>
```

Fig 5.3 Form To Table

Output:



Fig 5.4 Cities Names From Respected PINCODE

Chapter 6 : BASICS OF REACT

6.1 INTRODUCTION TO REACT :-

- React is an open-source JavaScript library used for building user interfaces, particularly for single-page applications (SPAs) and mobile applications. It was developed by Facebook and is widely used in web development to create dynamic, responsive, and interactive UIs. React follows a component-based architecture, which promotes reusability, modularity, and efficient rendering of UI elements.

Key Concepts in React:

1. Components: React applications are built using components. A component is a self-contained, reusable unit of UI that encapsulates logic, structure, and styling. Components can be composed together to create complex UIs. There are two types of components: functional components (using functions) and class components (using classes).

2. JSX (JavaScript XML): JSX is a syntax extension for JavaScript that allows you to write HTML-like code within your JavaScript code. JSX makes it easier to define UI elements and component structures. React components return JSX to describe what should be rendered on the screen.

3. State: State represents the data that can change within a component. It allows components to manage and update their internal data over time, enabling dynamic and interactive UIs. State is usually used within class components, while functional components can use the `useState` hook to achieve similar functionality.

4. Props (Properties): Props are inputs that a parent component passes to its child components. They allow data to flow from parent to child components, enabling the customization and configuration of components based on external values.

5. Virtual DOM (Document Object Model): React uses a Virtual DOM to improve performance by reducing the need to directly manipulate the actual browser DOM. The Virtual DOM is a lightweight representation of the actual DOM, and React efficiently updates the real DOM based on changes in the Virtual DOM.

6. Lifecycle Methods (Class Components): Class components have lifecycle methods that allow you to hook into various stages of a component's existence. These methods include `componentDidMount`, `componentDidUpdate`, and `componentWillUnmount`, among others. They can be used to perform actions like fetching data, updating state, and cleaning up resources.

7. Hooks: Introduced in React 16.8, hooks are functions that allow you to "hook into" React state and lifecycle features from functional components. Hooks like `useState`, `useEffect`, and `useContext` provide a more concise and cohesive way to manage state and side effects in functional components.

8. Redux: Redux is a state management library that can be used with React to manage complex application states in a predictable and centralized manner. It provides a single source of truth for your application's data and simplifies data flow.

React's popularity and active community have led to a vast ecosystem of libraries, tools, and resources that make it easier to build powerful and feature-rich applications. Whether you're building a small personal project or a large-scale application, React provides the foundation for creating modern and engaging user interfaces.

6.2 INTRODUCTION TO NODE.JS :

- Node.js is an open-source and cross-platform JavaScript runtime environment. Node.js runs the V8 JavaScript engine, the core of Google Chrome, outside of the browser. This allows Node.js to be very performant. A Node.js app runs in a single process, without creating a new thread for every request. Node.js provides a set of asynchronous I/O primitives in its standard library that prevent JavaScript code from blocking and generally, libraries in Node.js are written using non-blocking paradigms, making blocking behavior the exception rather than the norm. Its unification of languages and efficient handling of concurrent connections make it a powerful tool for modern server-side development.

6.3 FIRST REACT APP :

Code :

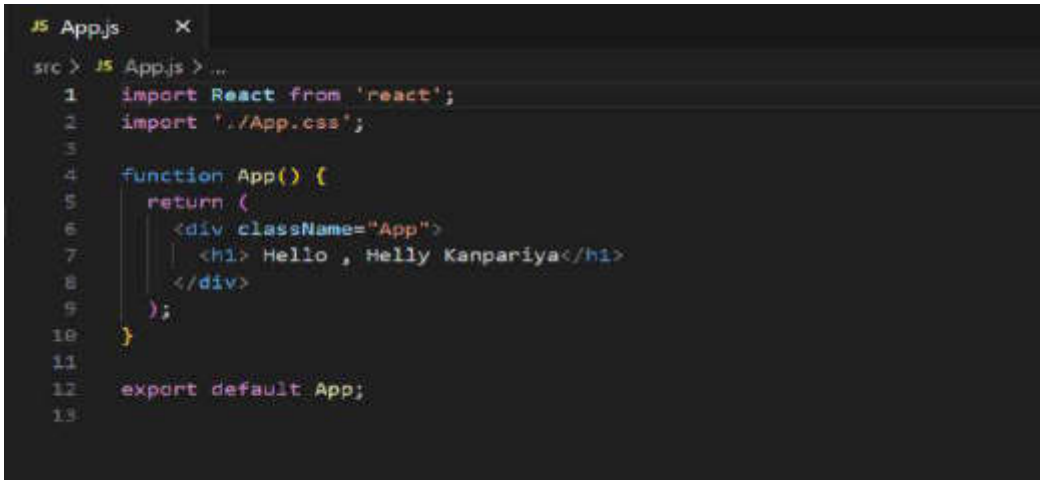


Fig 6.1 App.js Component

Output:



Fig 6.2 First React App

6.3.1Functional Components :

- The first and recommended component type in React is functional components. A functional component is basically a JavaScript/ES6 function that returns a React element (JSX). According to React's official docs, the function below is a valid functional component:

```
function welcome(props) {
  return <h1> hello, Helly, {props.name}</h1>;
   }
```

Fig 6.3 Functional Component

6.3.2Class Components :

- The second type of component is the class component. Class components are ES6 classes that return JSX. Below, you see our same Welcome function, this time as a class component:

```
class welcome extends React.Component{
render() {
  return <h1> hello, Helly, {this.props.name}</h1>;
   }
  }
```

Fig 6.4 Class Component

Chapter 7 : MAP IN REACT

7.1 INTRODUCTION TO MAP :-

- In React, the `map()` function stands as a potent tool for iterating through arrays and generating new arrays of transformed elements. `map()` commonly refers to the process of rendering a list of items dynamically within a component. A map is a data collection type where data is stored in the form of pairs. It contains a unique key. The value stored in the map must be mapped to the key. We cannot store a duplicate pair in the map(). It is because of the uniqueness of each stored key. It is mainly used for fast searching and looking up data. This streamlined process enables the efficient construction of various dynamic content structures such as lists or tables, effectively mapping data to their corresponding UI representations.

- `map()` provides a flexible and efficient way to generate UI elements based on data. This function plays a pivotal role in rendering diverse content types in a streamlined manner, contributing to improved user experience and code readability.

Code:

src > JS App.js > App

```
import React from 'react';


function App() {
  const numbers = [1, 2, 3, 4, 5];
  const doubledNumbers = numbers.map((number) => {
    return number * 2;
  });
  const renderedList = doubledNumbers.map((doubledNumbers, index) => {
    <li key={index}>{doubledNumbers}</li>
  });
  return (
   <div>
    <h1>Doubled Numbers</h1>
    <ul>
      {renderedList}
    </ul>
   </div>
  );
}

export default App;
```

Fig 7.1 Structure Of Map()

7.2 VARIABLE DATA MAP :

- In React, the concept of "variable data mapping" refers to dynamically rendering components or elements based on data stored in a variable, typically an array. This involves using methods like the `map()` function to iterate through the data and generate corresponding UI representations. By mapping variable data to components or elements, developers can create dynamic and flexible user interfaces that adapt to changes in the data. This approach enhances code reusability and modularity, allowing for efficient display of lists, grids, or other structured content while maintaining a clear separation between data and presentation in React applications.

Code:

```jsx
import React from 'react';


function App() {
  const people = [
    {id: 1, name: 'Holly', age: 20},
    {id: 2, name: 'Jency', age: 18},
    {id: 3, name: 'Devarshi', age: 21}
  ];

  const renderedList = people.map((person) => {
    <li key={person.id}>
      Name: {person.name}, Age: {person.age}
    </li>
  });
  return (
   <div>
    <h1>People List</h1>
    <ul>
      {renderedList}
    </ul>
   </div>
  );
}

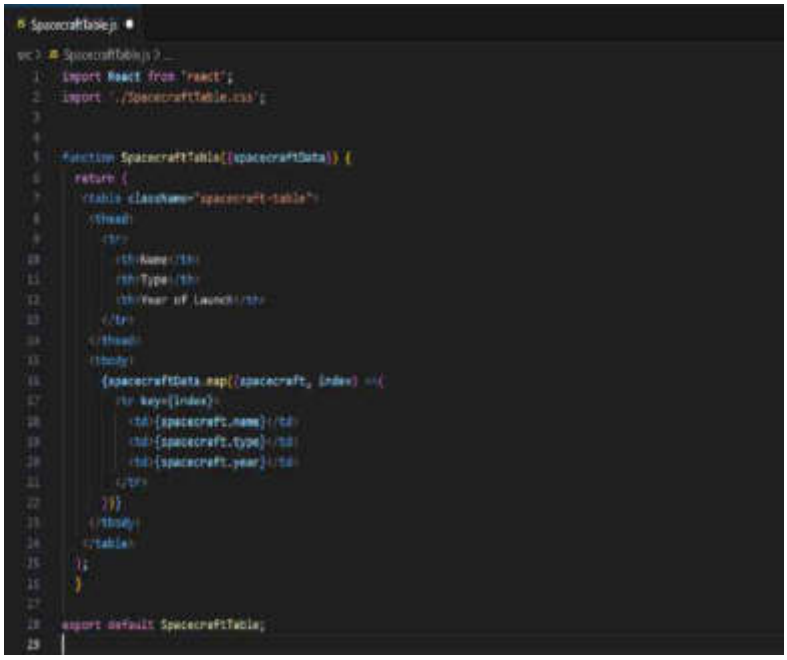
export default App;
```

Fig 7.2 Variable Data Map

7.3 OBJECT MAP :

7.3.1 Task 6 : Map the Object data and print in the form of Table.

Code :



```
import React from 'react';
import './SpacecraftTable.css';

function SpacecraftTable({spacecraftData}) {
  return (
    <table className="spacecraft-table">
      <thead>
        <tr>
          <th>Name</th>
          <th>Type</th>
          <th>Year of Launch</th>
        </tr>
      </thead>
      <tbody>
        {spacecraftData.map((spacecraft, index) => (
          <tr key={index}>
            <td>{spacecraft.name}</td>
            <td>{spacecraft.type}</td>
            <td>{spacecraft.year}</td>
          </tr>
        ))}
      </tbody>
    </table>
  );
}

export default SpacecraftTable;
```

Fig 7.3 Object Map

Output :



Fig 7.4 SpaceCrafts Data From Object To Table

Chapter 8 : PROPS AND HOOKS

8.1 INTRODUCTION OF PROPS :

- In React, "props" (short for properties) serve as a foundational concept for transmitting data from parent components to their child components. They establish a vital mechanism for intercommunication within a React application. With props, information can be efficiently shared between distinct segments of the application.

- Props, by design, are read-only. They offer a means to configure and personalize child components by furnishing them with designated values or functions. This empowers the creation of adaptable, reusable components capable of displaying data, reacting to user interactions, and sustaining a clear distinction of roles within the component hierarchy. This structure significantly contributes to the maintainability and modularity of React applications, enhancing code quality and facilitating the management of complex user interfaces.

Code :

App.js

```
src > App.js > ...
1   import logo from './logo.svg';
2   import './App.css';
3   import Details,{Multipledata} from './propscomponents';
4
5   function App() {
6     return (
7       <div className="App">
8         <h1>Hello Helly</h1>
9       </div>
10    );
11  }
12
13  function New(){
14    return(
15      <div>
16        <h1>New component added.</h1>
17        <Details name="Helly" />
18        <Details name="GTU" />
19        <Details name="xyz" />
20        <Multipledata  name="Helly" email="hellykanpariya23@gmail.com" />
21
22      </div>
23    );
24  }
25
26  export default App;
27  export {New};
```

Fig 8.1 App,js Component

Output :

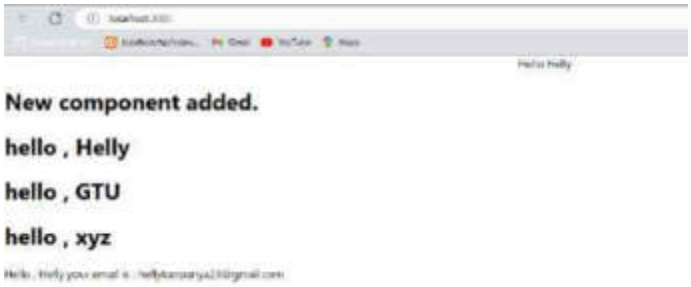


Fig 8.2 Output After Passing Props

8.2 INTRODUCTION OF HOOKS:

- Hooks represent a revolutionary advancement in React, enabling developers to embed state and lifecycle functionalities within functional components. This innovation reduces the necessity for class components in numerous scenarios. Introduced in React 16.8, Hooks provide an elegant solution for managing local component state, handling side effects, and utilizing context in functional components, leading to a more succinct and comprehensible code structure.

- By furnishing functions such as `useState` and `useEffect`, Hooks empower developers to seamlessly integrate state management and lifecycle behavior directly into functional components. This amalgamation simplifies the development process and amplifies code reusability. The advent of Hooks signifies a transformative shift in React development, paving the way for more modular and maintainable applications. While achieving this, Hooks still uphold React's hallmark qualities of flexibility and high performance, reaffirming React's status as a dynamic and efficient framework for building modern user interfaces.

8.3 REACT BOOTSTRAP :

- React Bootstrap is a front-end framework that seamlessly integrates the power of Bootstrap, a popular CSS framework, with the flexibility and component-based architecture of React. By combining these technologies, React Bootstrap empowers developers to build responsive, visually appealing, and interactive userinterfaces with ease. It provides a collection of pre-designed, customizable components such as navigation bars, buttons, modals, and forms, eliminating the need to write complex CSS and JavaScript from scratch. React Bootstrap simplifies the process of creating modern web applications by offering a comprehensive set of UI components that adhere to best practices, while also enabling seamless integration with existing React projects for enhanced efficiencyand consistency in design and functionality.

8.4 TASK 7: USING HOOKS AND REACT BOOTSTRAP CREATE A APP WITH CARDS.

Code :

```
src > News.js > News
import React, { useState, useEffect } from 'react'
import { Container, Card, Row, Col } from 'react-bootstrap';

const News = () => {
    const [myData, setData] = useState([]);
    const apiget = () => {
        fetch('https://inshortsapi.vercel.app/news?category=science')
            .then((response) => response.json())
            .then((json) => { console.log(json);
                setData(json.data) }); }
        useEffect(() => {
        apiget();
        const interval = setInterval(() => { apiget(); }, 50000);
        return () => clearInterval(interval); }, []);
return (
        <Container fluid>
            <h5 className="text-center my-3">API data fetch with React</h5>
            <Row className='mt-4 g-4' xs={1} md={3}> {
                myData.map((value) => {
                    return ( <>
                            <Col><Card> <Card.Img variant="top" src={value.imageUrl} style={{ height: 350 }} />
                                <Card.Body> <Card.Title>{value.title}</Card.Title>
                                    <Card.Text> {value.content}</Card.Text></Card.Body>
                                    <Card.Footer> <small className="text-muted">{value.date} {value.time}</small>
                                        </Card.Footer></Card> </Col> </> ) })  }
    </Row> </Container>)

export default News;
```

Fig 8.4 useState And useEffect Hooks

Output:

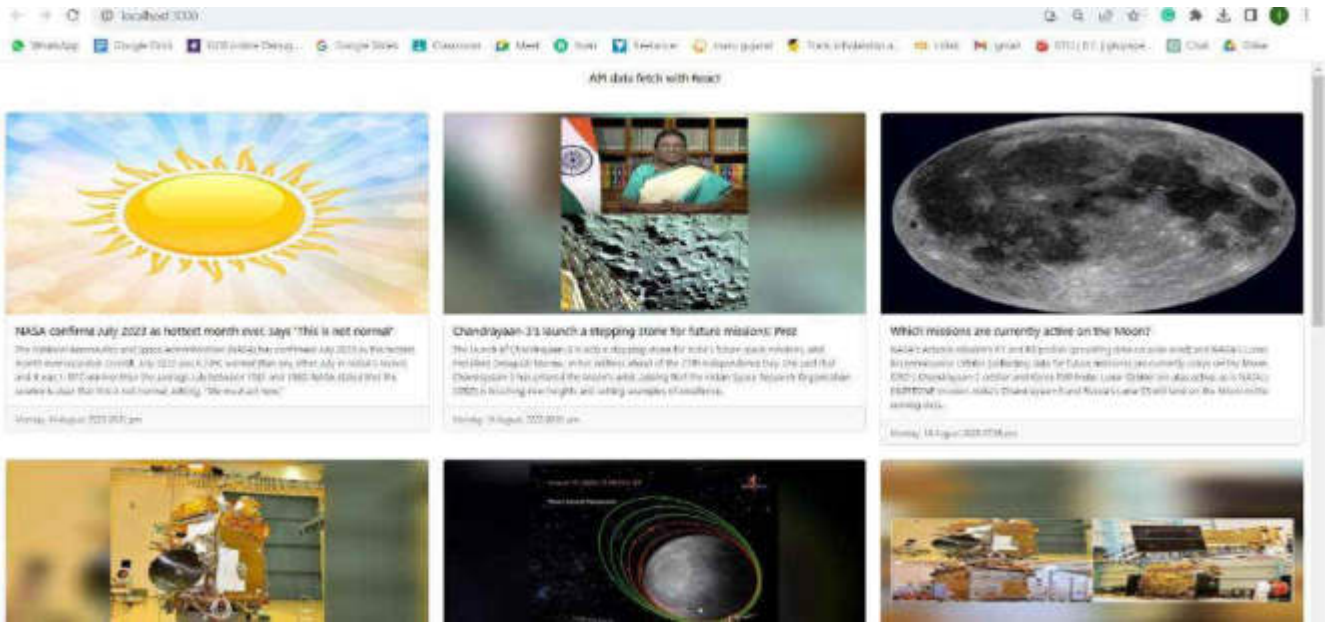


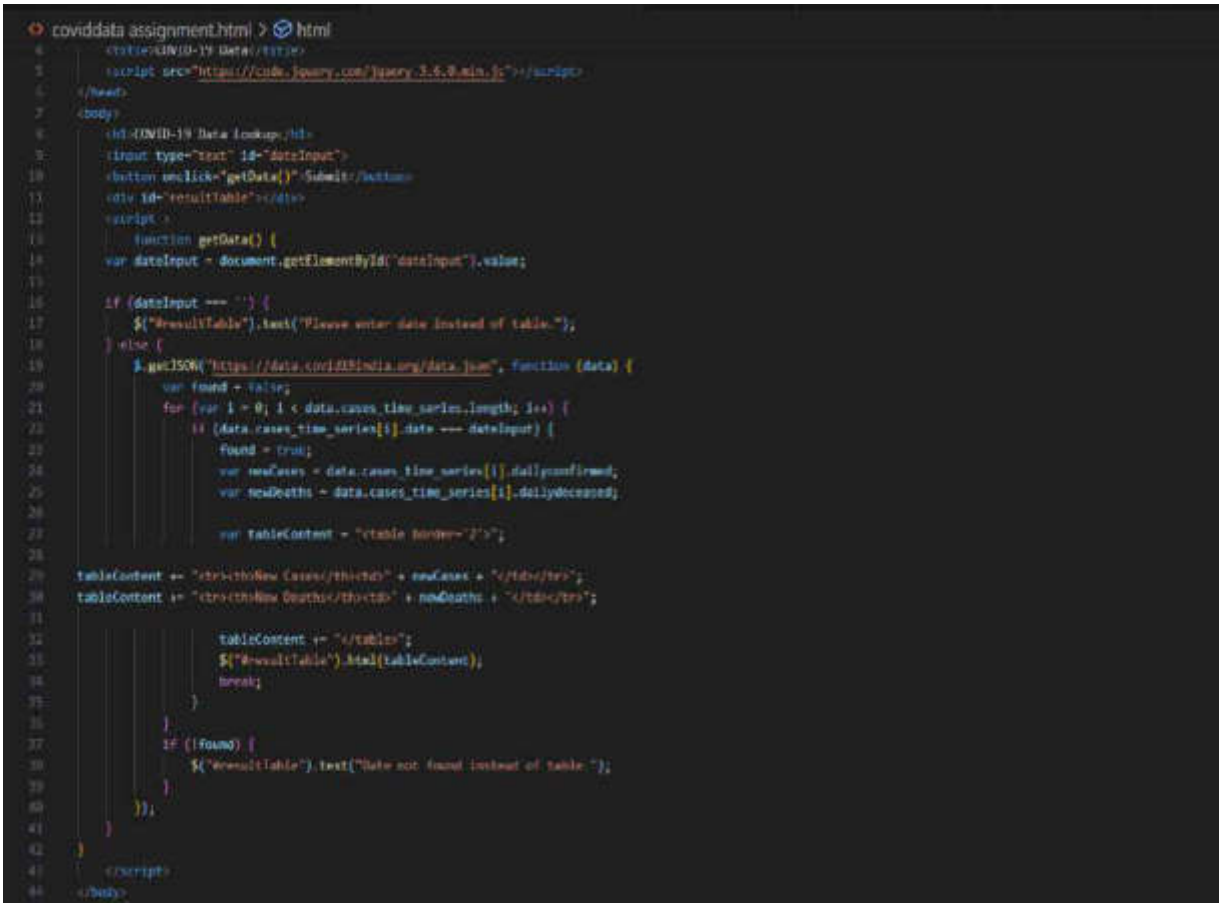
Fig 8.5 Single Page Using Hooks

Chapter 9 : ASSIGNMENTS

9.1 ASSIGNMENT 1 :

9.1.1 Task 8 : Datewise Covid data search from API and Print into Table Format.

Code :



```
coviddata assignment.html > html
    <title>COVID-19 Data</title>
    <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>
</head>
<body>
    <h1>COVID-19 Data Lookup</h1>
    <input type="text" id="dateInput">
    <button onclick="getData()">Submit</button>
    <div id="resultTable"></div>
    <script>
        function getData() {
    var dateInput = document.getElementById("dateInput").value;

    if (dateInput === '') {
        $("#resultTable").text("Please enter date instead of table.");
    } else {
        $.getJSON("https://data.covid19india.org/data.json", function (data) {
            var found = false;
            for (var i = 0; i < data.cases_time_series.length; i++) {
                if (data.cases_time_series[i].date === dateInput) {
                    found = true;
                    var newCases = data.cases_time_series[i].dailyconfirmed;
                    var newDeaths = data.cases_time_series[i].dailydeceased;

                    var tableContent = "<table border='2'>";

tableContent += "<tr><th>New Cases</th><td>" + newCases + "</td></tr>";
tableContent += "<tr><th>New Deaths</th><td>" + newDeaths + "</td></tr>";

                    tableContent += "</table>";
                    $("#resultTable").html(tableContent);
                    break;
                }
            }
            if (!found) {
                $("#resultTable").text("Date not found instead of table.");
            }
        });
    }
}
    </script>
</body>
```

Fig 9.1 Covid Data Fetch From API

Output :

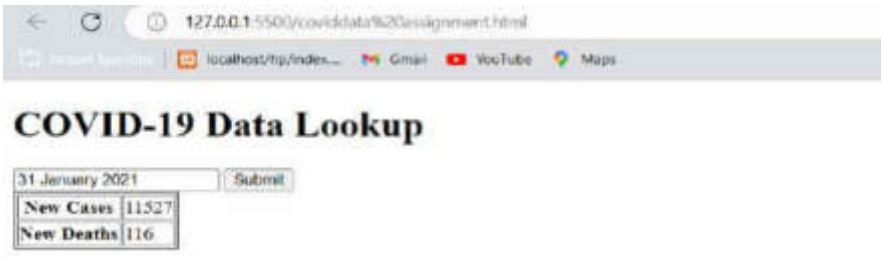


Fig 9.2 Datewise Covid Data Into Table Format

9.1.2 Task 9: Print the Total number of Schemes available from API of Mutual Fund.

Code :

```
<!DOCTYPE html>
<head></head>
<body>
<script>
        async function clickHandle(form) {
            var scode = form.scode.value;
            if (scode == "") {
                document.getElementById("msg").innerHTML = "<span class='text-danger'>Please enter the <strong>Scheme Code</strong></span>";
            } else {
                let url = "https://api.mfapi.in/mf";
                let myMFData = await (await fetch(url)).json();
                for (let i = 0; i < myMFData.length; i++) {
                    if (myMFData[i]["schemeCode"] == scode) {
                        console.log(1);
                        document.getElementById("msg").innerHTML = "<span class='text-success'><strong>" +
                            myMFData[i]["schemeName"] + "</strong></span>";break; }
                        else {console.log(2);
                        document.getElementById("msg").innerHTML = '<strong class='text-danger'>
                            The entered Scheme code ${scode} not found</strong> ;}}
                document.getElementById("totalScheme").innerHTML = "<span class='text-primary'>The total number of Scheme available in this API is <
                    myMFData.length + "</strong></span>"; } } </script>

<div class="container my-2 text-center"> <h2> Mutual Fund</h2>
<form>
            <div class="mb-3 ms-auto me-auto" style="width: 50%">
                <label for="scode" class="form-label"><strong>Scheme Code</strong></label>
                <input type="number" class="form-control" name="scode" id="scode" required> </div>
            <div class="ms-auto me-auto" style="width: 10%;">
                <button type="button" class="btn btn-primary" onclick="clickHandle(this.form);">Show Fund</button></div>
            <p id="msg" class="my-2"></p> <p id="totalScheme"></p>
</form></div></body>
</html>
```

Fig 9.3 Fetch The Data From Mutual Fund API

Output :

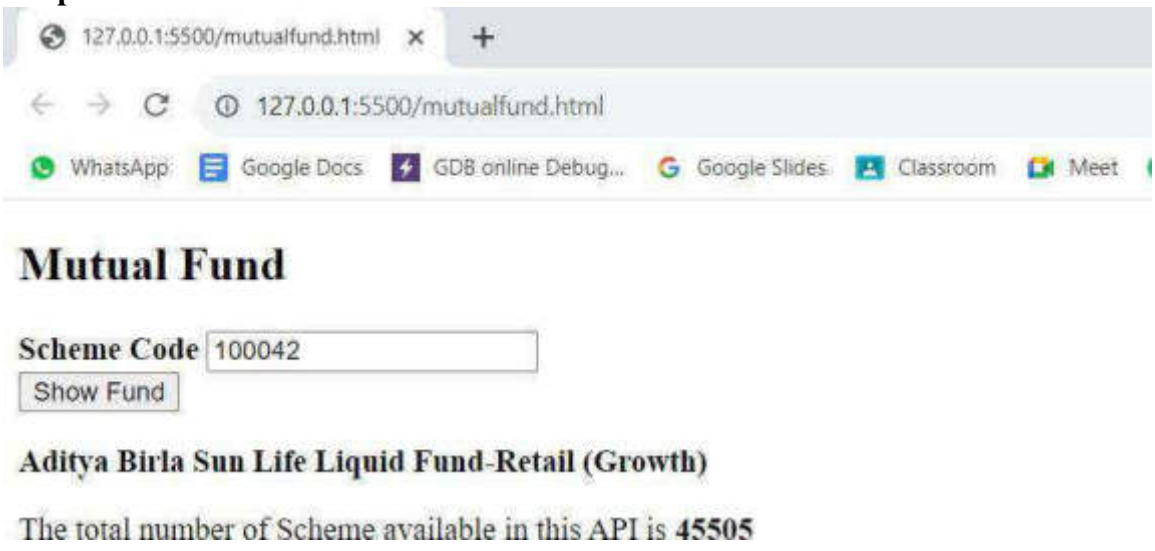


Fig 9.4 Show Available Scheme From API

9.2 ASSIGNMENT 2 : Develop one web page in react with professional card layouts of react bootstrap using API.

App Name : BHARAT NEWS

Code :

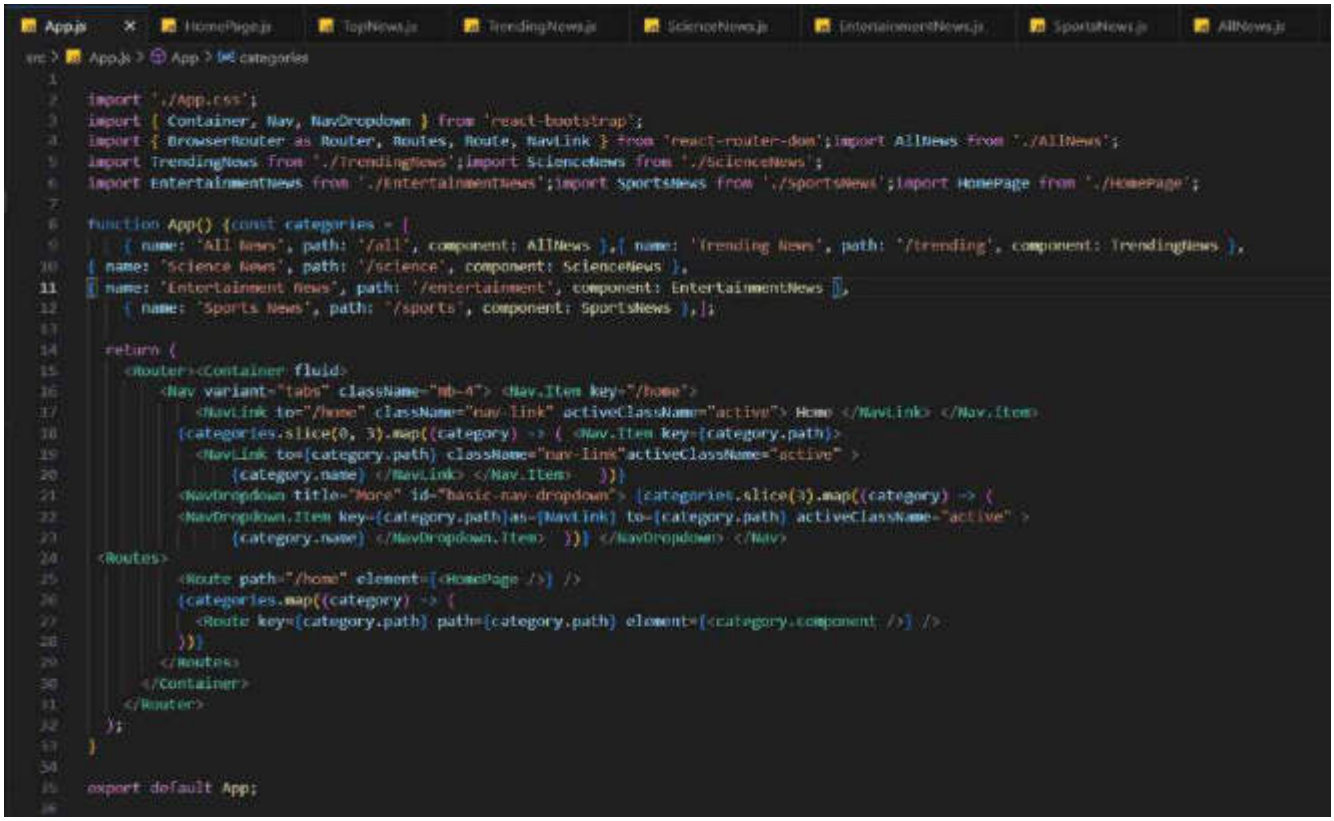


Fig 9.5 App.js Component

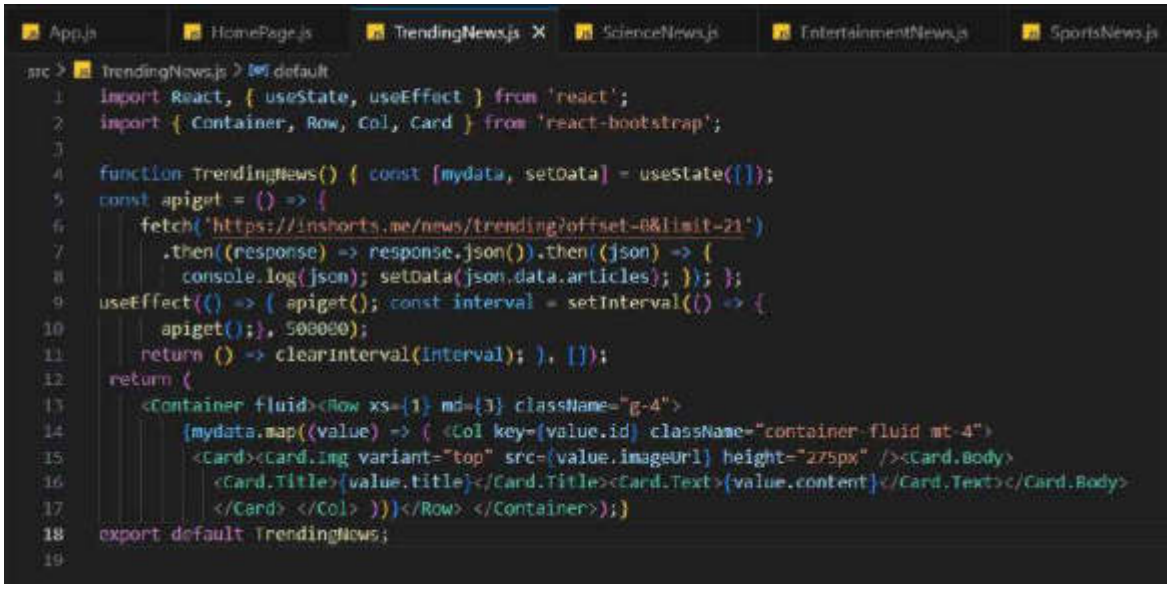


Fig 9.6 TrendingNews.js Component

```jsx
import React from 'react';
import './HomePage.css';

function HomePage() {
  return (
    <div className="home-page">
      <header className="header">
        <h1>BHARAT NEWS </h1>
        <p>Your Source for Up-to-date News</p>
        <p classNam="subtext">Stay Informed. Stay Updated.</p>


      </header>
      <div className="home-page-content">
        <h2>Welcome to the BHARAT NEWS </h2>
        <p>
          Stay updated with the latest news from various categories such as All News, Top News,
          Trending News, Science News, Entertainment News, and Sports News.
        </p>
        <p>
          Explore each category to find the latest headlines and stay informed about what's happening
          around the world.
        </p>
      </div>
      <footer className="footer">
        <p>&copy; 2023 BHARAT NEWS . All rights reserved.</p>
      </footer>
    </div>
  );
}

export default HomePage;
```

Fig 9.7 HomePage.js Component

- Similarly ScinceNews, EntertainmentNews And SportsNews components created.

Output :

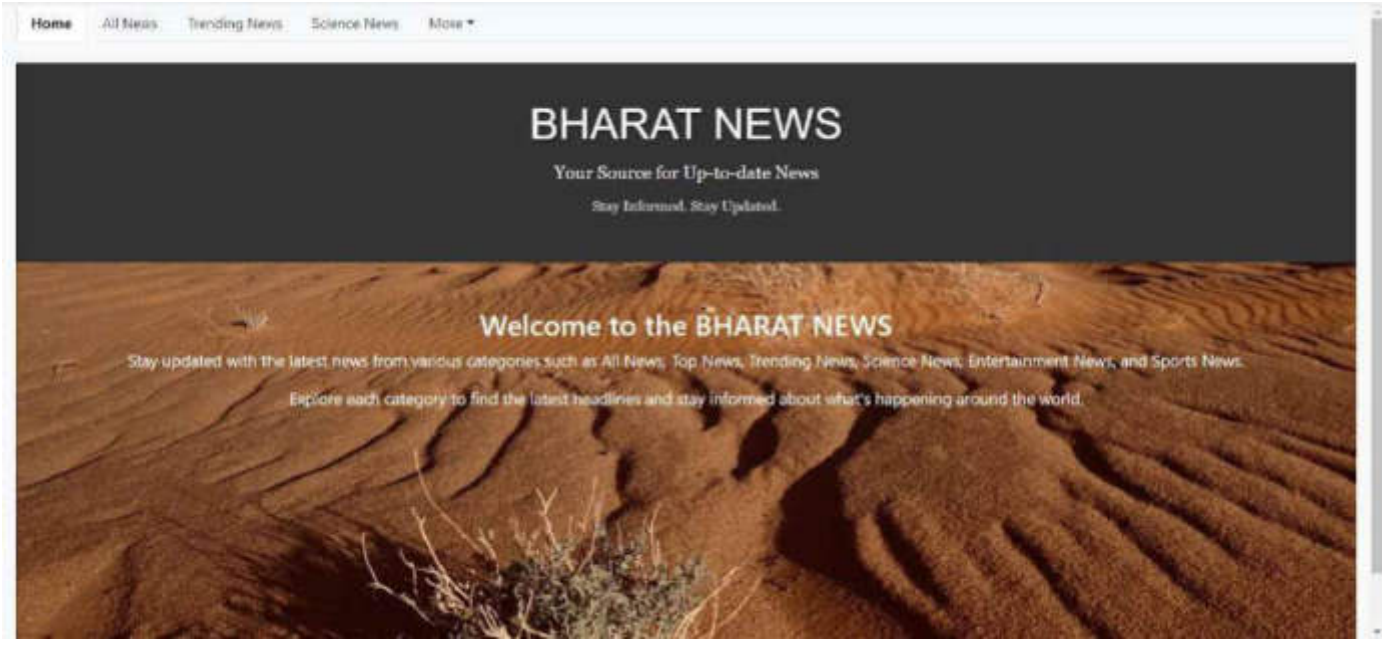


Fig 9.8 Home

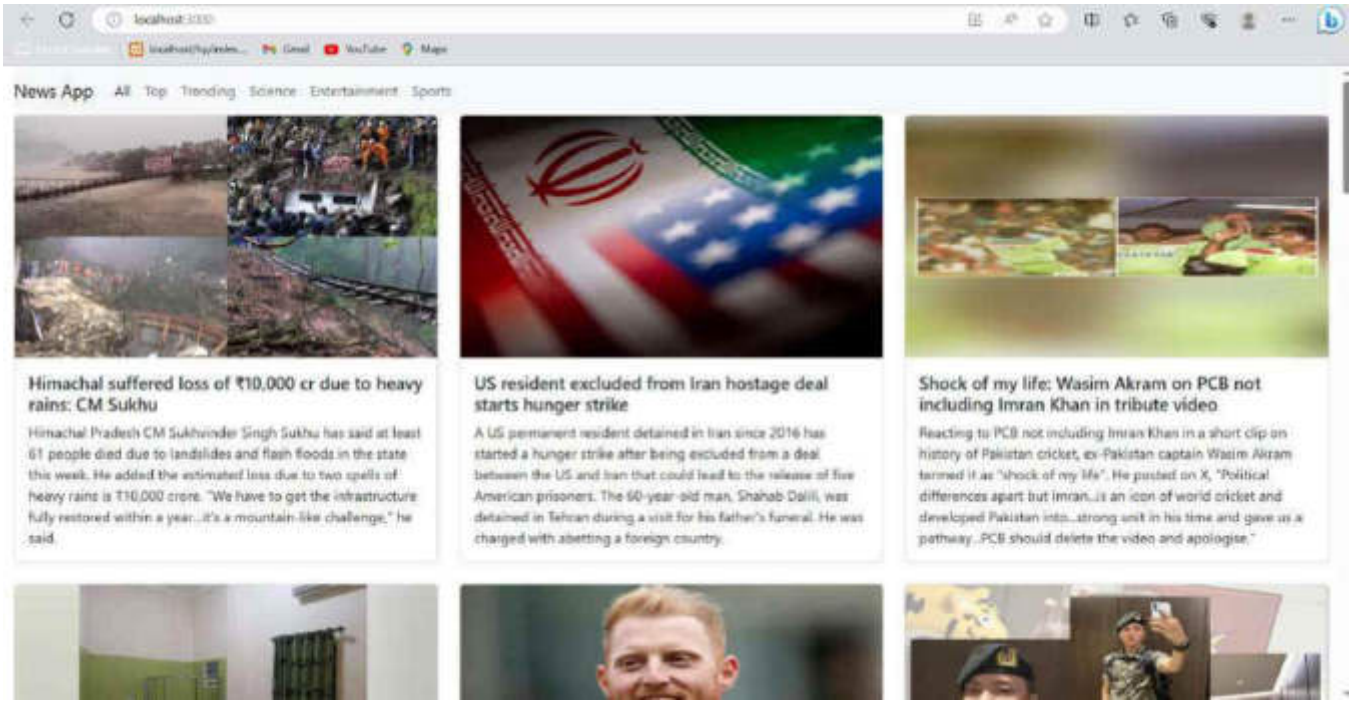


Fig 9.9 All News

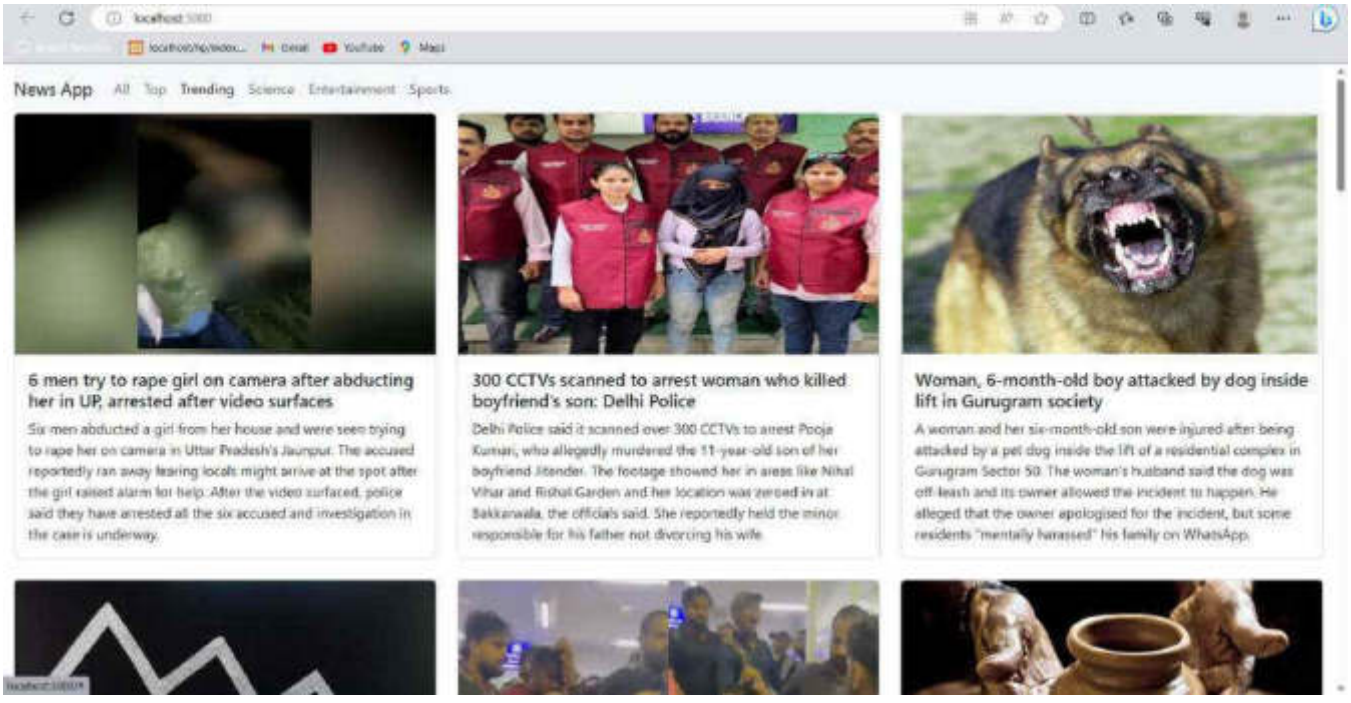


Fig 9.10 Trending News

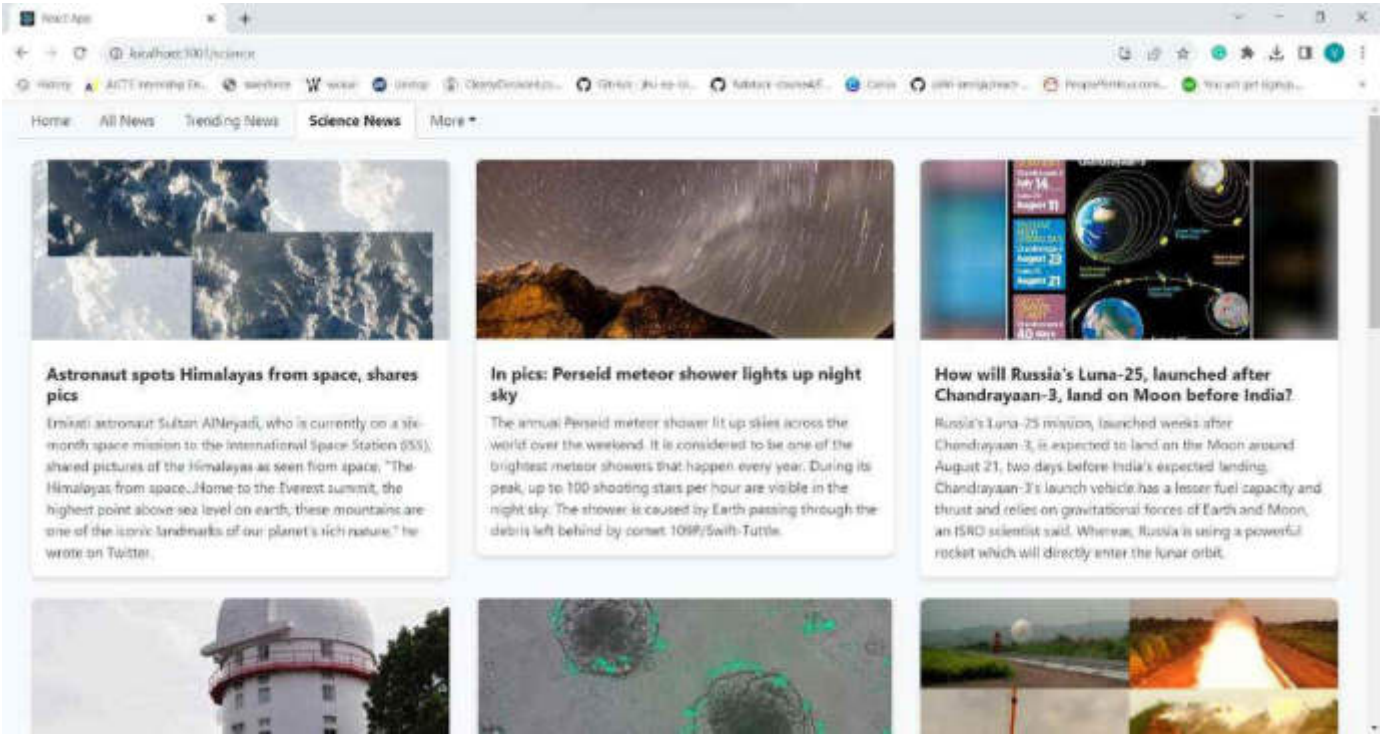


Fig 9.11 Science News

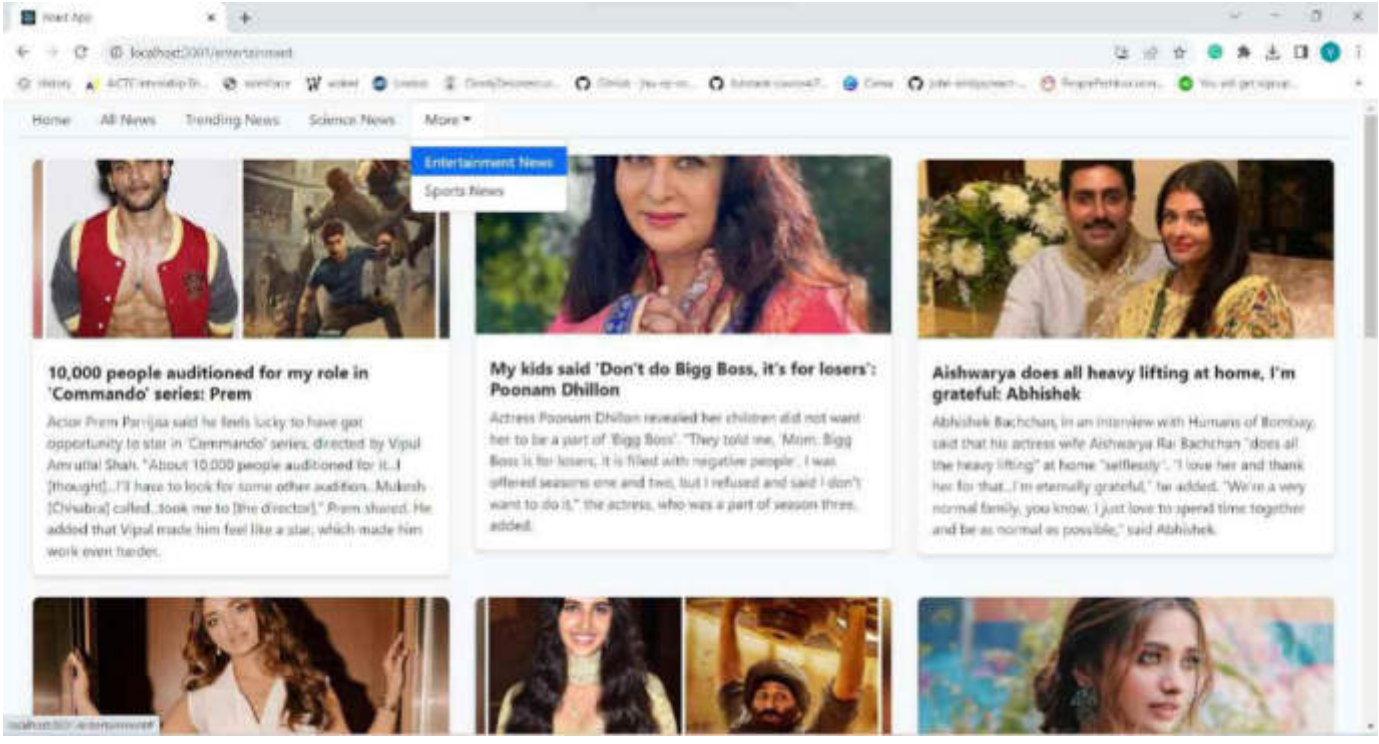


Fig 9.12 Entertainment News

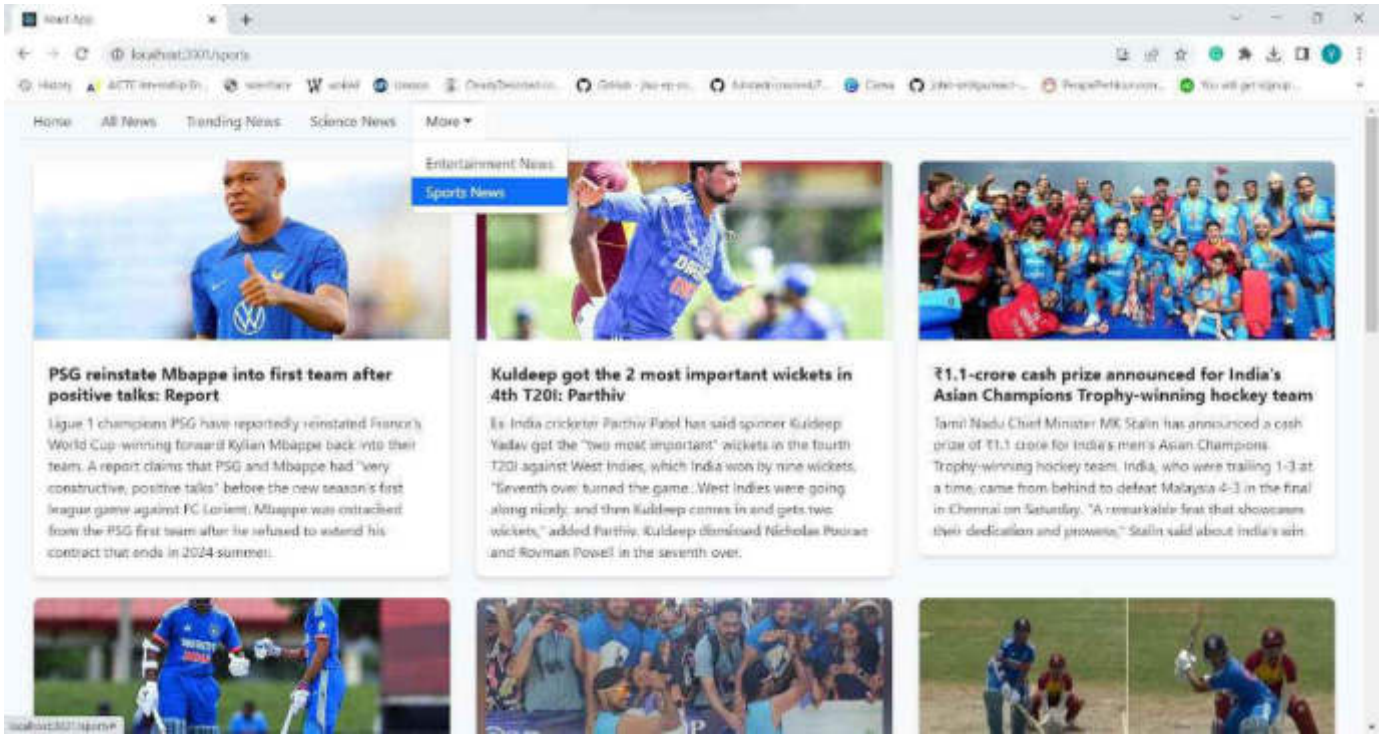


Fig 9.13 Sports News

INTERNSHIP AT CREART SOLUTIONS

AN INTERNSHIP REPORT

Submitted by

Komal Kumari

200390116065

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2024





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at CREART SOLUTIONS** has been carried out by **Komal Kumari** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 7th Semester of Gujarat Technological University, Ahmedabad during the academic year 2023-24.

Sign

Prof. Rachita Mohanty

Internal Guide

Sign

Prof. Akshay Kansara

Head of Department

Company Certificate

Joining Letter



CREART

INTERNSHIP JOINING LETTER

Date: 27th July 2023

This is to certify that

Mr/Ms. KOMAL KUMARI
Enrollment No : 200390116065
College : S.P.B. Patel Engineering College, Mehsana

has been selected for the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at CreArt Solutions, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

Completion Letter



CREART

INTERNSHIP COMPLETION LETTER

Date: 10th August 2023

This is to certify that

Mr/Ms. KOMAL KUMARI
Enrollment No : 200390116065
College : S.P.B. Patel Engineering College, Mehsana

has successfully completed the 15 day's of summer intership from 27th July 2023 to 10th August 2023 at CreArt Solutions, Ahmedabad.

We wish him/her all the best for his future endeavours

CREART SOLUTIONS AHMEDABAD

Krishnamohan Gupta
Director

CreArt Solutions PVT LTD.
202, Heritage Horizon, Opp Hotel Dev Corporate, C G Road,
Ahmedabad, Gujrat, India - 380009
www.creart.in | hello@creart.in | **Office Location:** INDIA | USA | UK

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Creart Solutions** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Rachita Mohanty** & **Akshay Kansara (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
Komal Kumari	_Komal Kumari_

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4	**Give details of your work responsibilities during the internship (Day-1 to Day-14)**	8
5	**Discuss the skills you learn and the experience you had**	25
6	**Create a sample model/ program working on experiences you have learned**	26
7	**Conclusion**	27.
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ACKNOWLEDGMENT

I would like to express my deepest gratitude to all those who provided me the possibility to the completion of the internship. A special gratitude of thanks I give to our Assistant Professor, Prof. Rachita Mohanty, whose contribution in stimulating suggestions and encouragement, helped me to coordinate the internship especially in drafting this report.

Furthermore, I would also like to acknowledge with much appreciation the crucial role of the Head of Department, Prof. Akshay Kansara, who gave the permission to use all required equipment and the necessary material to fulfil the task. Last but not the least, many thanks go to the teachers and my friends and families who have invested their full effort in guiding us in achieving the goal.

Also I appreciate the guidance given by the developer at Creart Solution , Mr. Alkesh as well as the panels especially for the internship that has advised me and gave guidance at every moment of the internship.

Python and D'Jango is playing the most significant role today covering every industry in the market. For e.g., finance, e-commerce, business, education, government.

Abstract

This report is describing the work I completed as a Information Technology Engineering intern at **Creart Solutions Pvt. Ltd.** During July-August of 2023. It provides an overview of the company. An overview of my role and the project I worked on at the company.

The report presents the project completed during internship at **Creart Solutions Pvt. Ltd.** which is **"Notice Hub using Python and its framework Django"**

This project has been completed successfully and result was according to expectations. Further details and description accordingly to daily task are described below in the report.

List of Figures

Fig	Figures	Page no.
a	Day 1	8
b, c,d	Day 2	9
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l,m	Day 8	16
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x	Day14	23
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3	model	25

Abbreviations

IDE	Integrated Development Environment
GUI	Graphical User Interface
CLI	Command-Line Interface
HTML	Hypertext Markup Language
CSS	Cascading Style Sheets

Company Profile



Company Name: CREART SOLUTION

Address: 202,Heritage Horizone, Umashankar Joshi Marg, Vasant Vihar, Navrangpura, Ahmedabad, Gujarat 380009

Contact No: +91 9016647480

Email Id : alkesh@creart.in

Website: www.creart.in

About Us:

CreArt is a privately owned venture of IT Solutions and IT Consultants formed in 2013. We always aspire to create a resistant future. We believe in bringing Business, People and Technology together in the way forward. CreArt is focused on rigorous development and comprehensive quality.
CreArt is dedicated towards perfection in every aspect. Professionalism is the main ingredient of CreArt. We strongly believe in delivering the best services to the clients till their satisfaction. Main objective of CreArt is to provide professional , qualitative , innovative and accessible services in every possible form.

Vision:

We strongly believe in delivering the best services to the clients till their satisfaction When the business have an idea but they do not have the resources to run that business at that time the Dedicated Team model comes into force. This business model makes clients to hire a team of developers who work exclusively on their business approach and deliver the outcomes to the clients with their full satisfaction and their success glories. Our promise? This model is now a days into trends as this model leads the clients to take full control of the planning of their project. We offers this model to the clients by making sure of what the client needs and in what time span we can deliver it. We maintains the integrity in terms of time and material and it will use the least time and resources to deliver the project in the most organized way.

System Information

Tools: Laptop/Internet, XAMPP, Subline text(IDE), Chrome Browser, Gmail, Command Prompt.

Technologies: HTML, CSS, python-Django , MySQL.

DAY – 1:

Task: BASIC INTRODUCTION AND DOMAIN KNOWLEDGE

Explain about work flow of whole internship. Also discuss some basic domain knowledge introduction about field.

i) Discuss some basic point about python, working of python, advantages of python for working in D'Jango.

AIM: Give basic idea about how to we deal with python and D'Jango and what study during 15 days intership and give brief idea about company and mentor and helping us to install apps and tools which is use in internship .

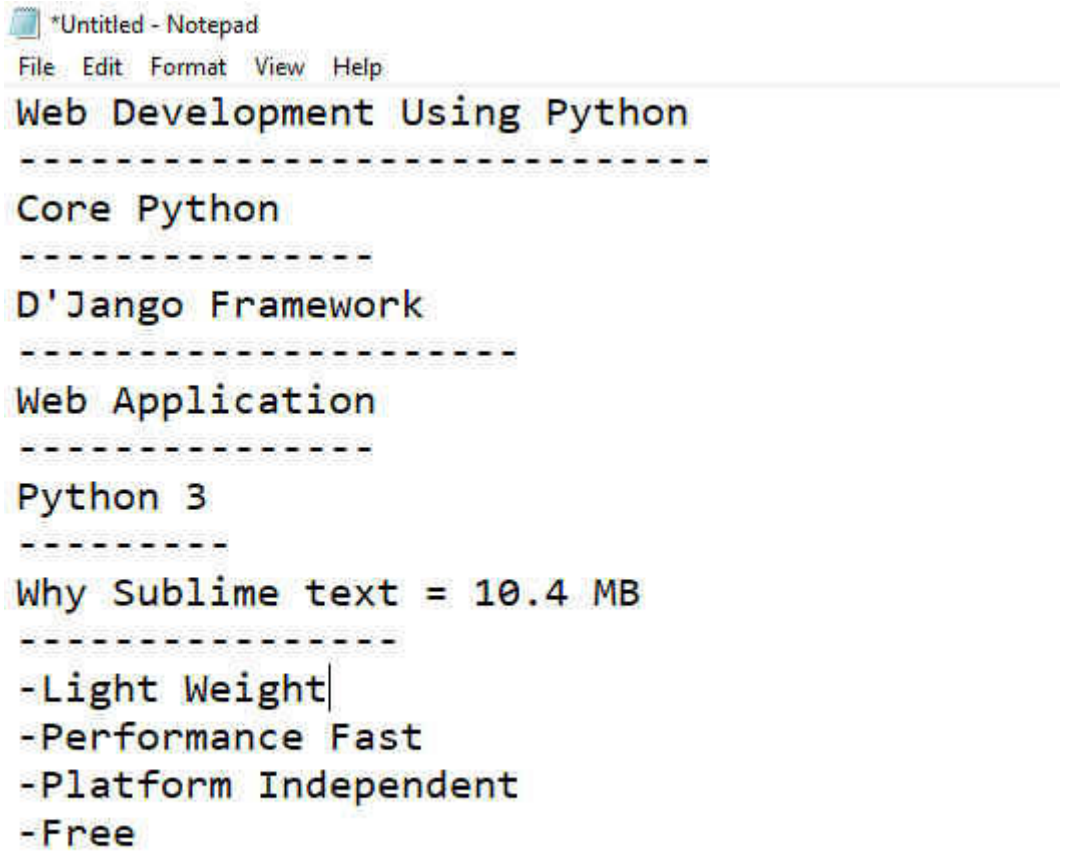
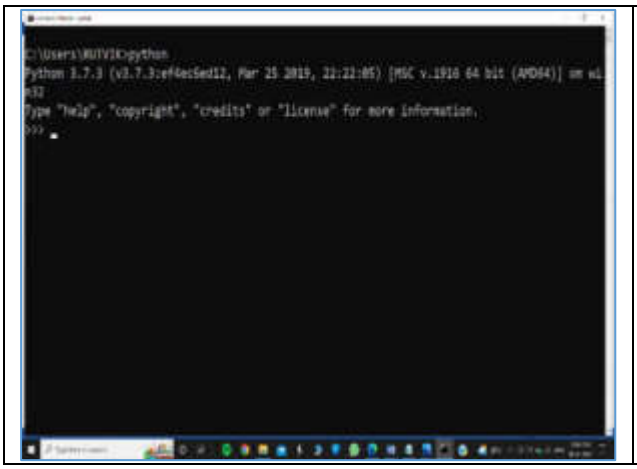


Fig. a

DAY – 2

Task: Also explained how to install and run python and subline text editor and other useful tools? And how to run python file and basic print hello world program.

First step it will explain how to install python 3.7.3 and basic steps after installation How to check which python version install in your system.



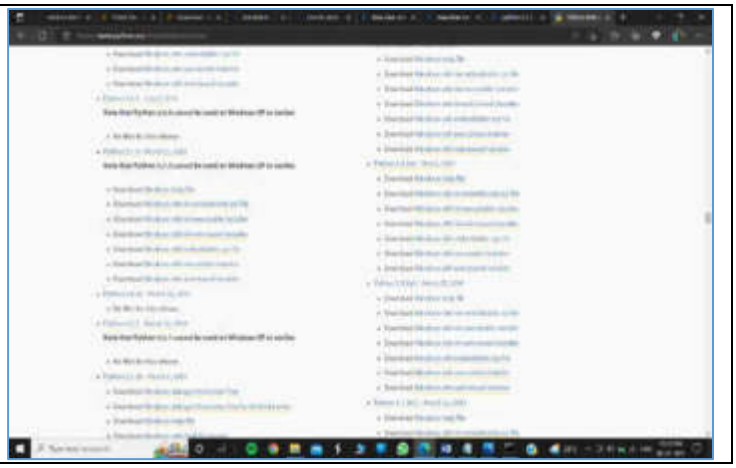


Fig. b **Fig. c**

Photo 2 show that python 3.7.3 version download page after successfully download We install it

After successfully install python we check in cmd python install or not using “python” Command and photo 1 show that also we verify pip was install using “pip –V” Command in cmd .

Program of simple hello word print:

print(“hello world”)

Output:

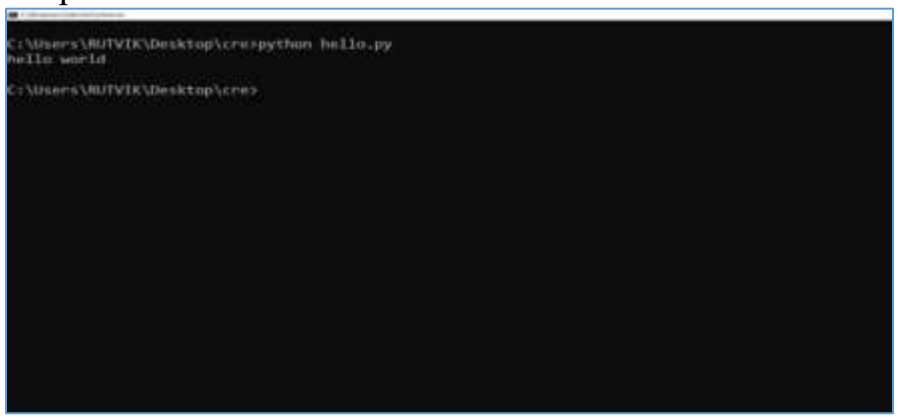


Fig. d

DAY - 3

Task: List out the methods used commonly in list, set, tuple, dictionary with their rules and also explain how to get input from user.

Data Types in Python

1.str: A string data type is traditionally a sequence of characters, either as a literal constant or as some kind of variable. The latter may allow its elements to be mutated and the length changed, or it may be fixed (after creation).

2.Numbers: Int, float, complex and long integers are numeric data types. We can store real number values in int, floating point values in float and complex numbers in complex data types and long for integers of unlimited size.

3.Lists are the build-in data-types in python that are used to store multiple items in a single variables. The data is stored in [ ].

4.Sets are also used to store multiple items in a single variables. In set there is no order and no index. Data stored between { }.

5.Tuples: Similar to list the tuples are ordered and similar to set the tuples are immutable. Stored in ( ).

6.Dictionary: Storing of values ,Ordered , changeable(mutable) , doesn't allow change of values.

LIST:

Example: a= ['rut','vi','k']

Lists are the build-in data-types in python that are used to store multiple items in a single variables. The plus point of list is that the order of list does not change, and the items in the list are changeable (mutable) and the last point as the list allows duplicate values too.

LIST Methods:

- .append(x) : Add an item to the end of the list
- .insert(i, x): Inserting an item at a given position
- .remove(x) : removing the first item from the list whose value is equal to x
- copy(): Copying of the list
- count(): Number of elements with the specified value
- reverse() : reverse the list

SET

Example: a== {'a', 'e', 'i', 'u'}

- Sets are also used to store multiple items in a single variables.
- In set there is no order and no index.

- The down point of set data type is the value cannot be changed once the set is createdimmutable
- Repetition of values are not allowed in set.

Sets Methods:

a. add(): adds element to a set

b. discard(): Removes an Element from The Set

c. isdisjoint(): Checks Disjoint Sets

d. issubset(): Checks if a Set is Subset of Another Set

e. union(): Returns the union of sets

f. update(): Add elements to the set

g. clear(): remove all elements from a set

TUPLE

Example: a== ('a', 'e', 'i', 'u')

- Storing of multiple items in one variable
- Similar to list the tuples are ordered and similar to set the tuples are immutable.Tuples also allow duplicates.

Sets Methods:

a. count( ): Returns the number of times a specified value occurs in a tuple.

b. index( ): Searches the tuple for a specified value and returns the position of where it wasfound.

Dictionaries:

Example: a={'name' :'rutvik','age':21}

- Storing of values

- Ordered , changeable(mutable) , doesn't allow change of values Dictionary Methods

a. get() - Returns the value of the specified key

b. items() - Returns a list containing a tuple for each key value pair keys() - Returns a list containing the dictionary's key

c. pop() - Removes the element with the specified key popitem() - Removes the last inserted key-value pair

d.

Analysis: Applying different variable of python. Also try somemethods.

DAY – 4

Task: Learn about how get input from user using python.

Analysis: Use input() function of python. Also apply some functions.

Simple Program of get user input and print it :

```
#take user input
user =input("enter user name ")

#print user input
print ("user name is "+ user )
```

Output:

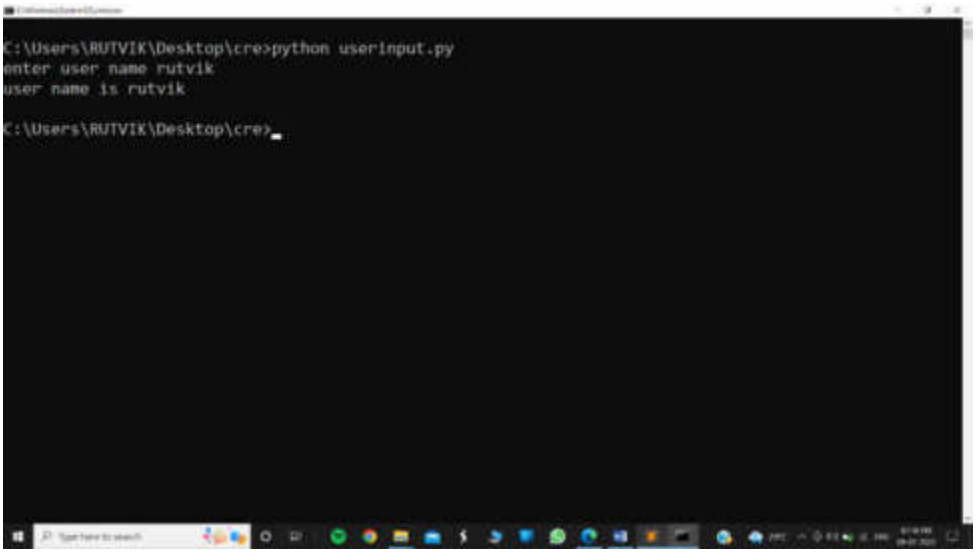


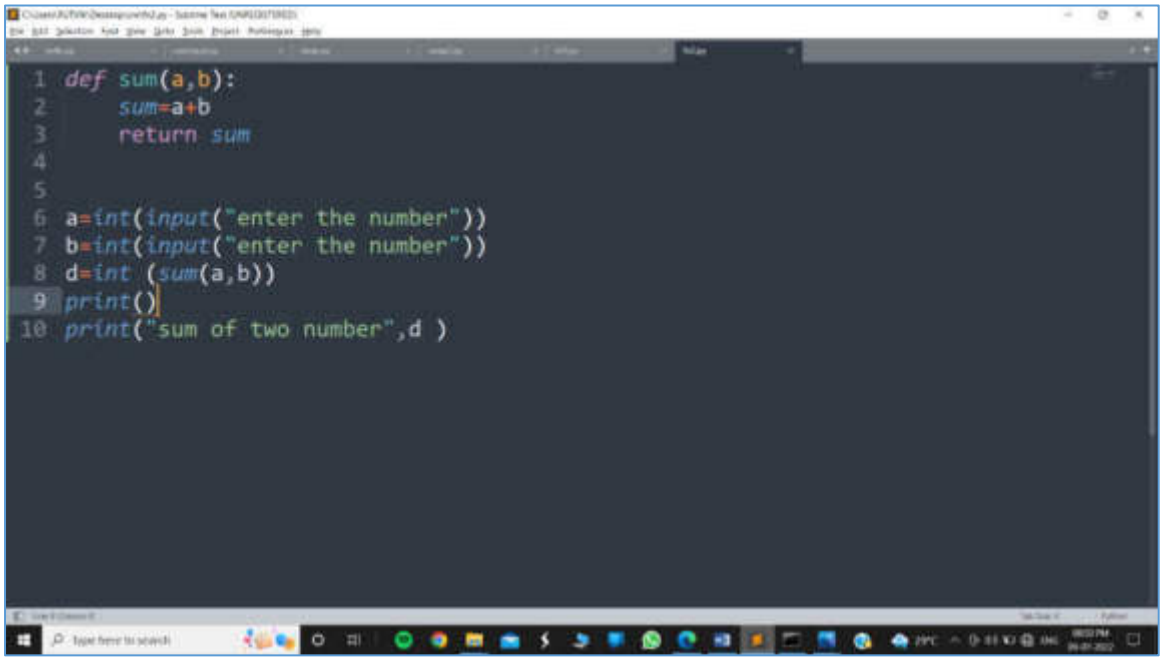
Fig. e

DAY – 5

Task: Learn about function in python

Analysis: Using function we can reduce repetition of code .

Program:

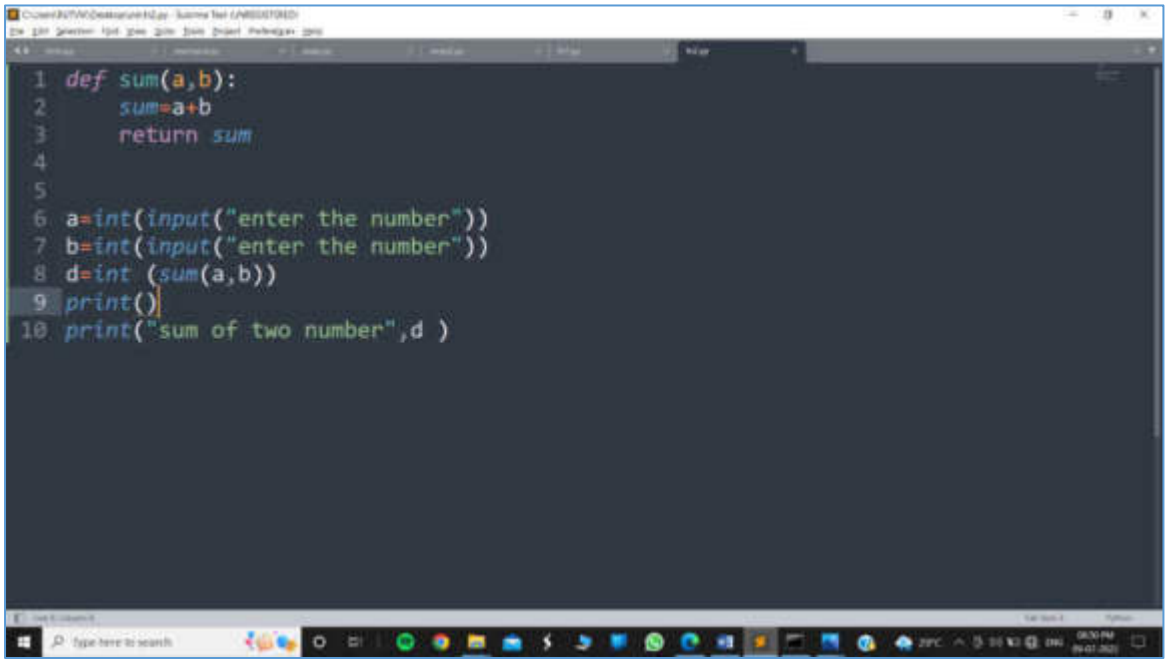


```
def sum(a,b):
    sum=a+b
    return sum


a=int(input("enter the number"))
b=int(input("enter the number"))
d=int (sum(a,b))
print()
print("sum of two number",d )
```

Fig. f

Output:



```
def sum(a,b):
    sum=a+b
    return sum


a=int(input("enter the number"))
b=int(input("enter the number"))
d=int (sum(a,b))
print()
print("sum of two number",d )
```

Fig. g

DAY – 6

Task: Learn about basic of D'Jango and it's virsion

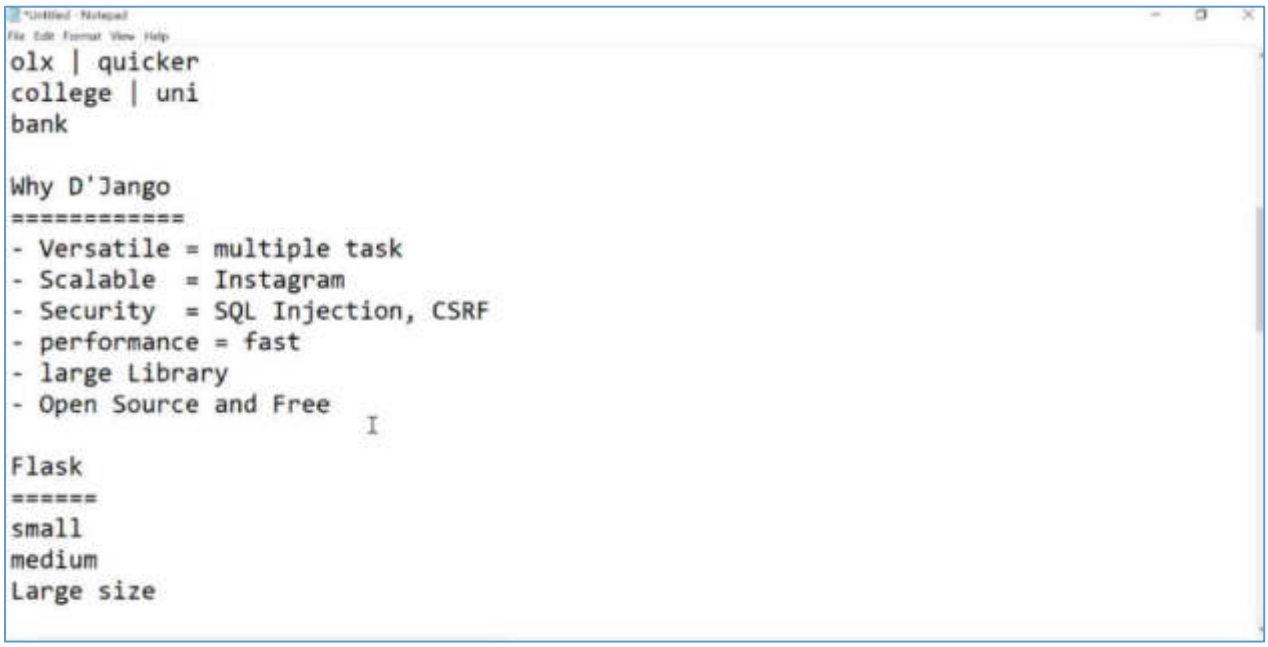


Fig. h

Analysis: understand what is Django and how does Django work and advantages of Django

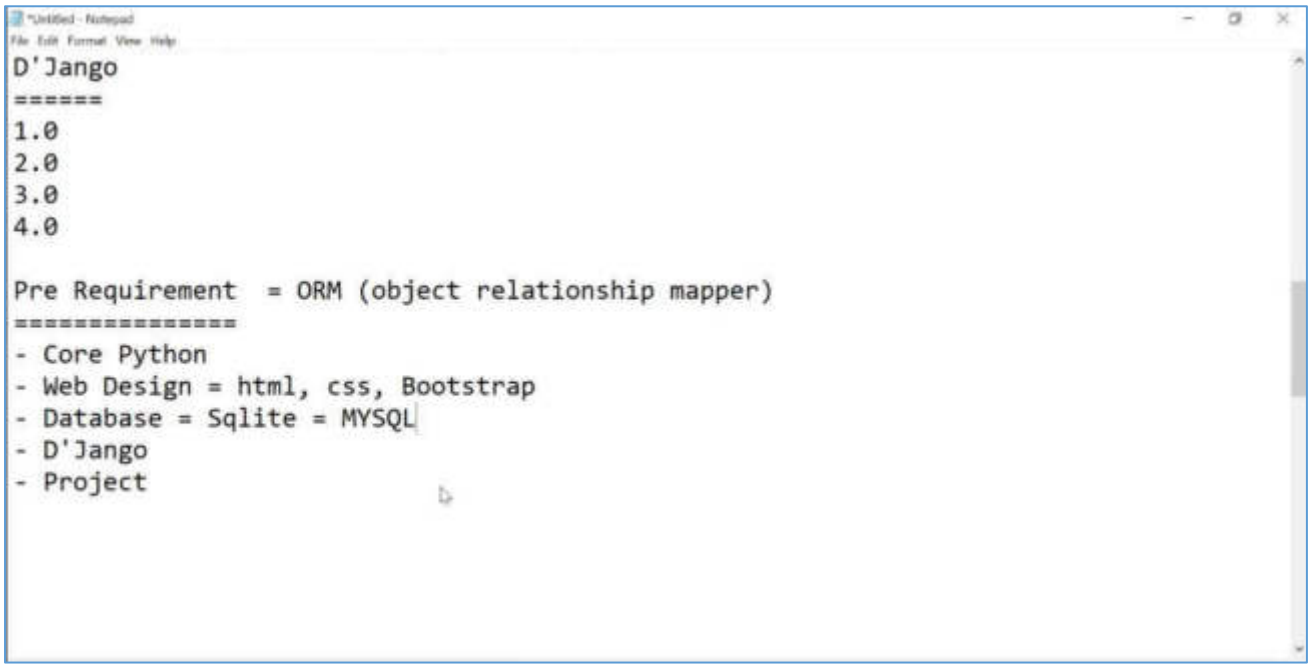


Fig. i

DAY – 7

Task: Create virtual environment using Common prompt.

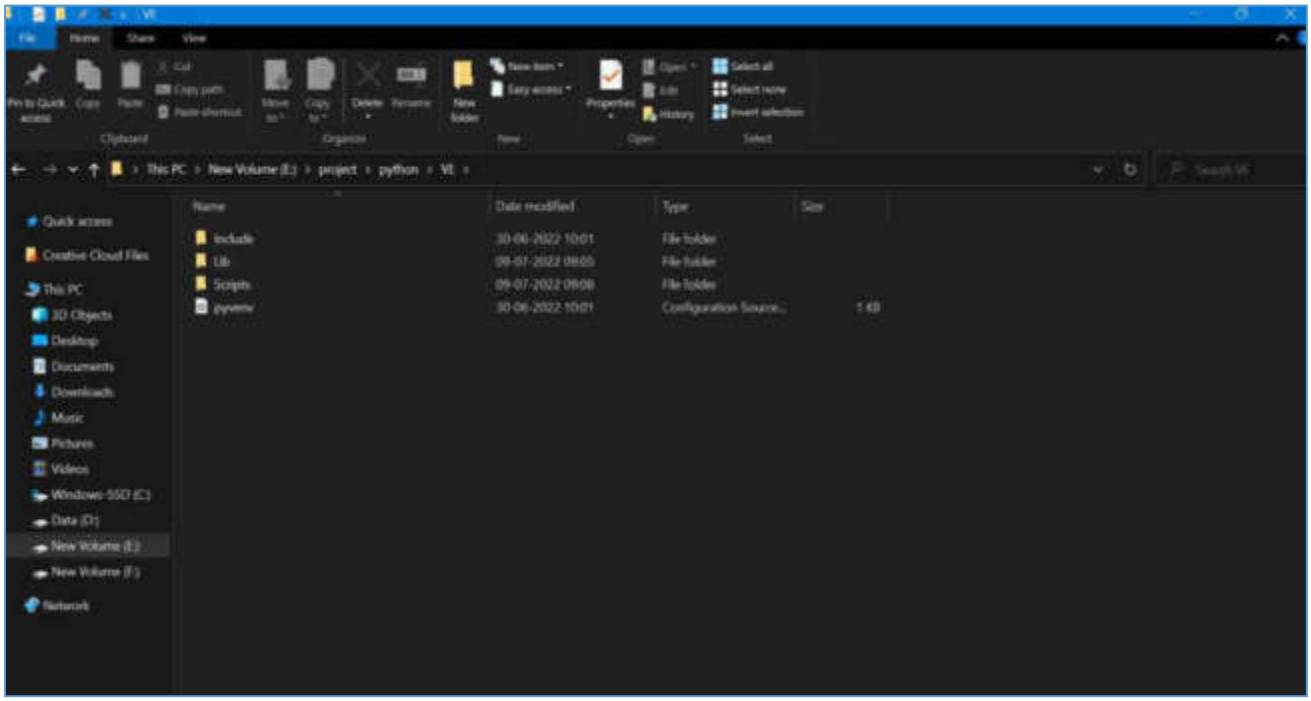


Fig. j

Analysis: Using common prompt we can create virtual environment and activate virtual environment.

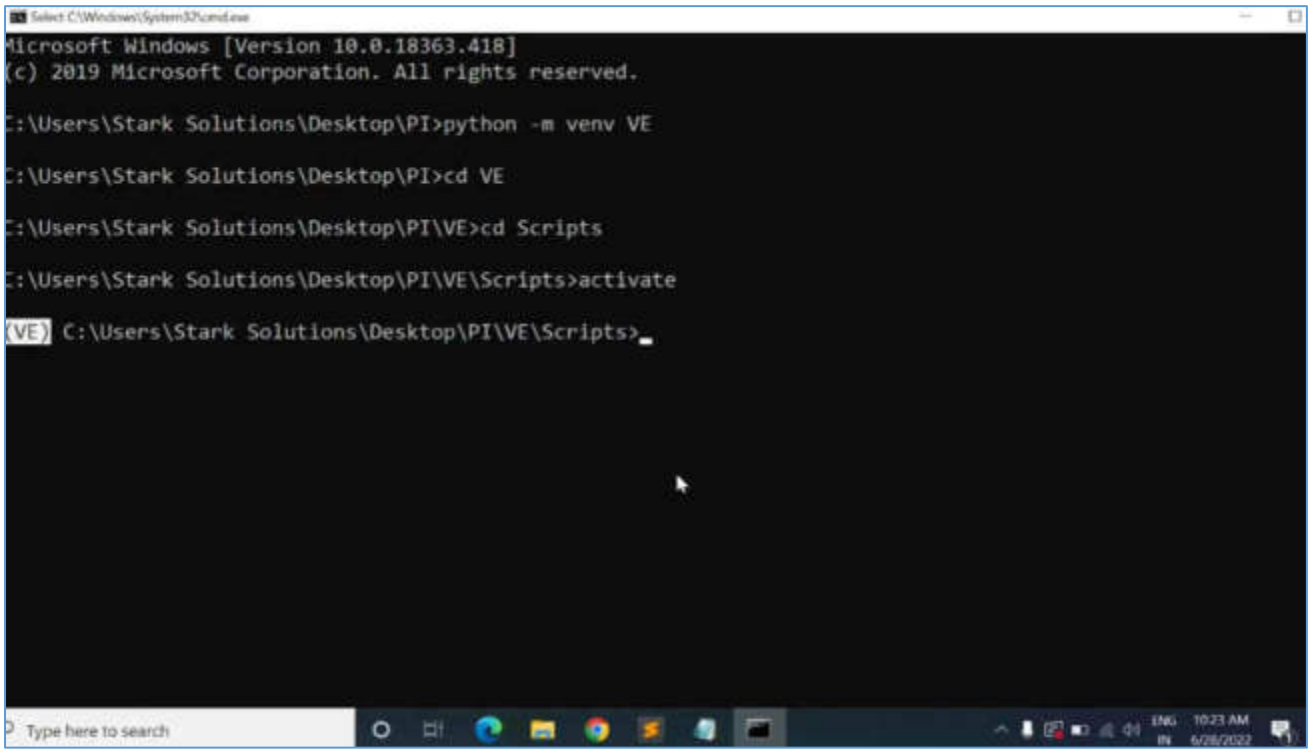


Fig. k

DAY – 8

Task: Create demo project (eShopping) & learn about practical implementation steps.

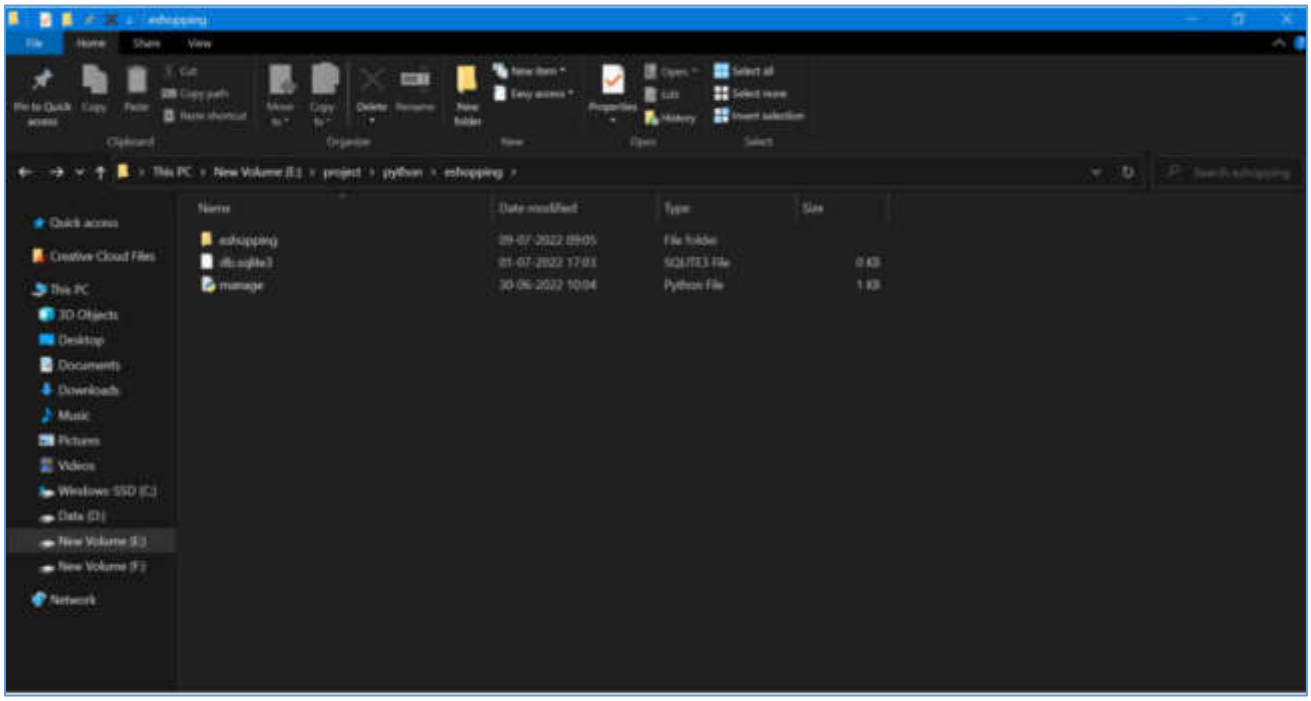
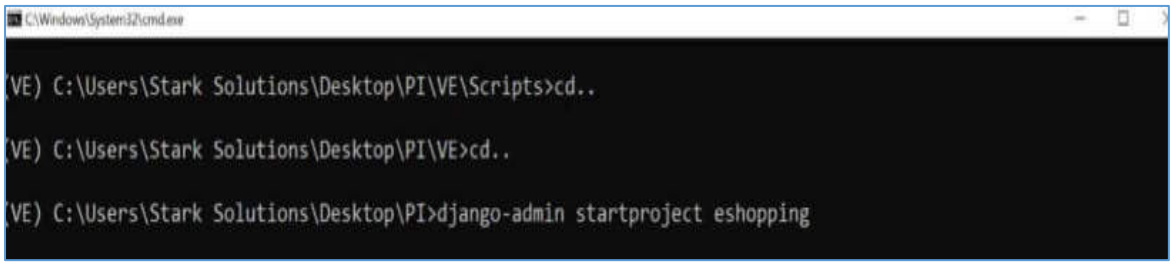


Fig. l

Analysis: Using command prompt we create & run project.



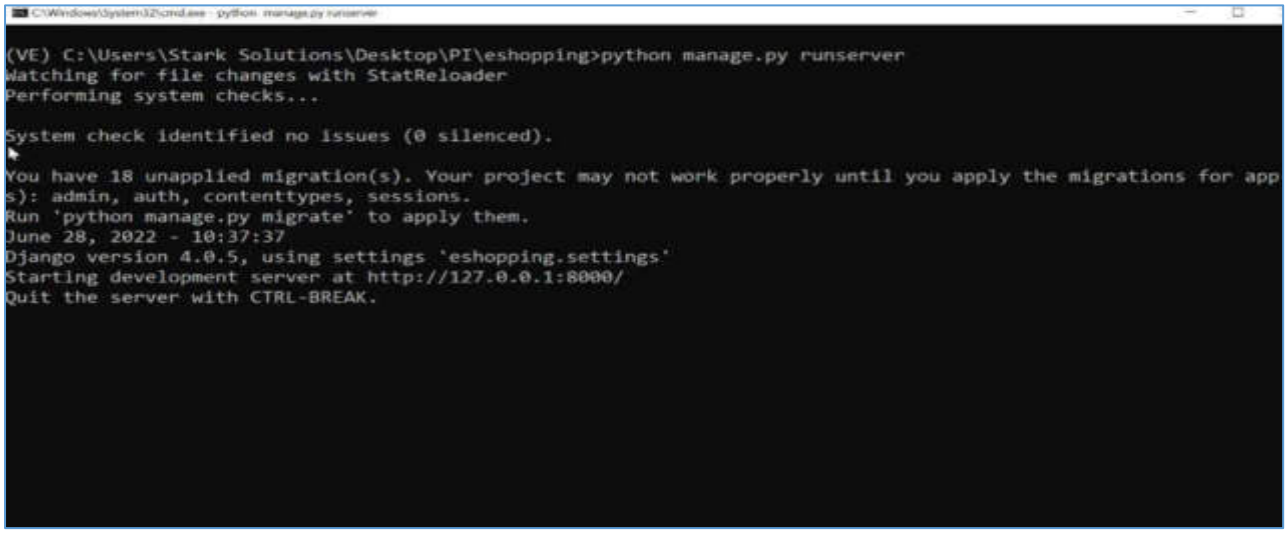


Fig. m

DAY – 9

Task: Create super user & learn about Django administration.

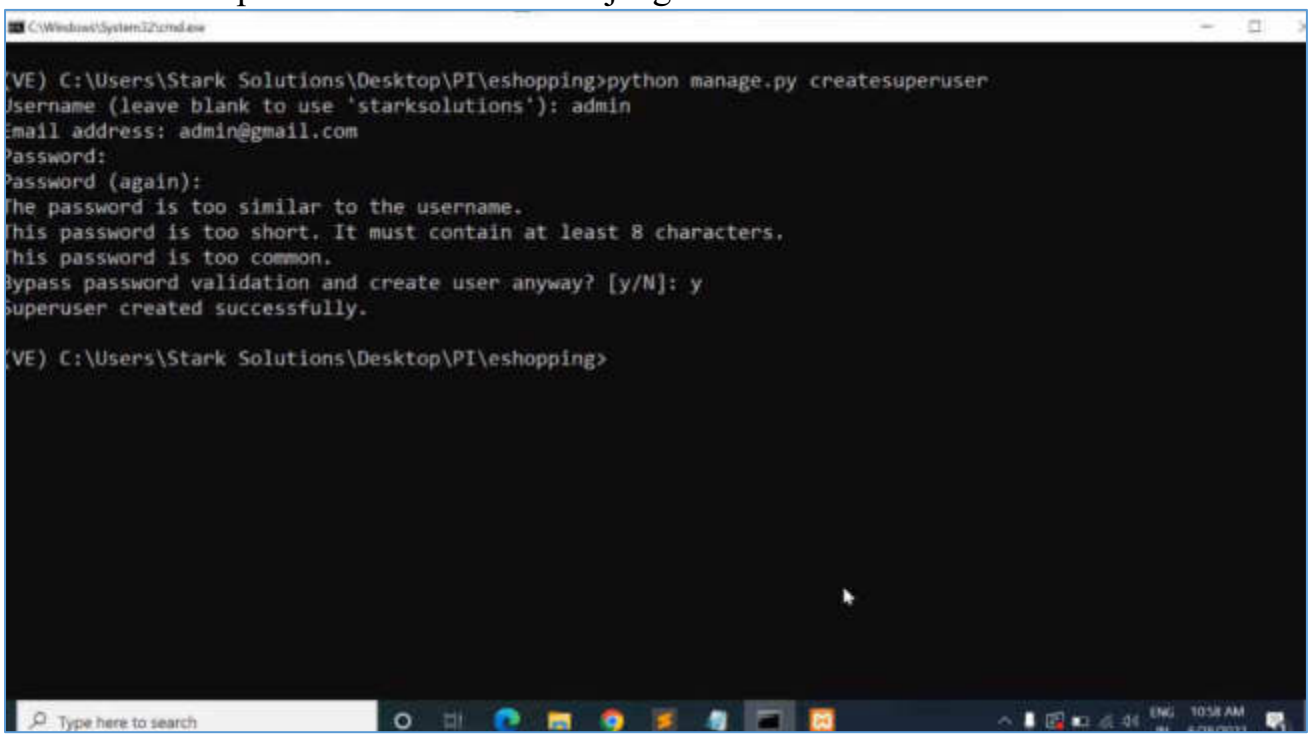


Fig. n

Analysis: Using command prompt we create & run project.

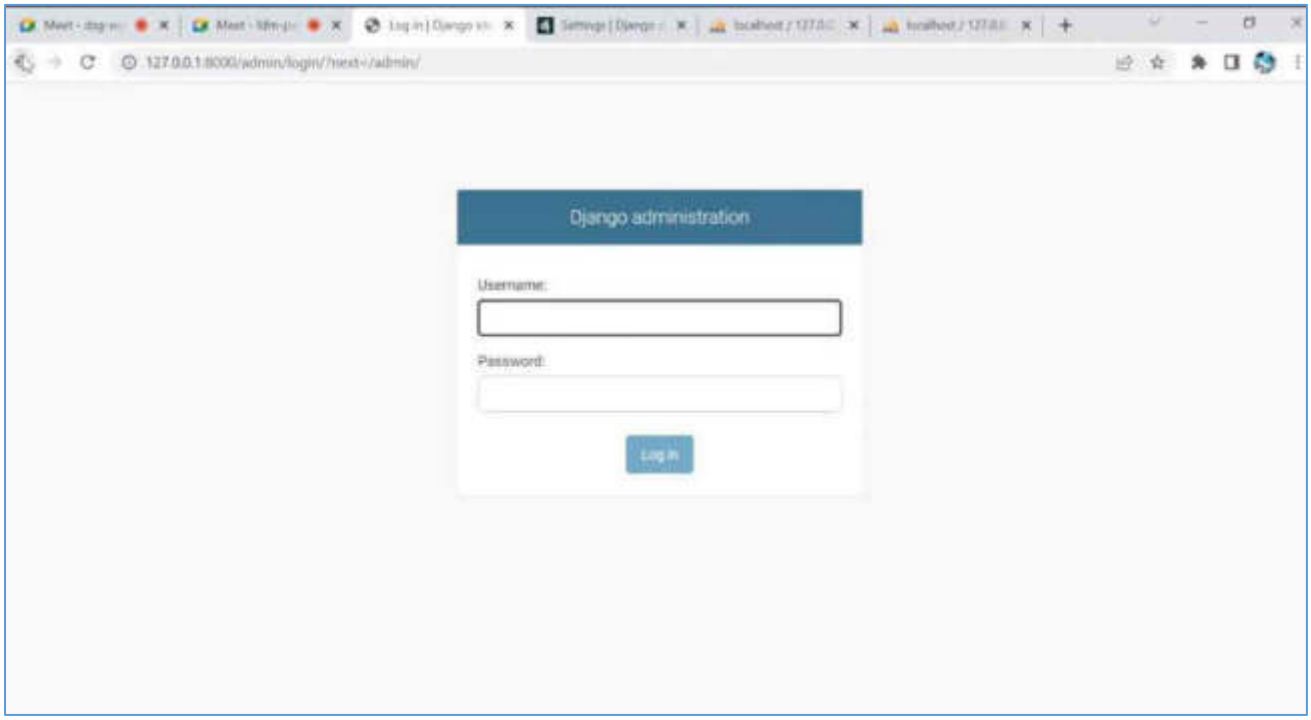
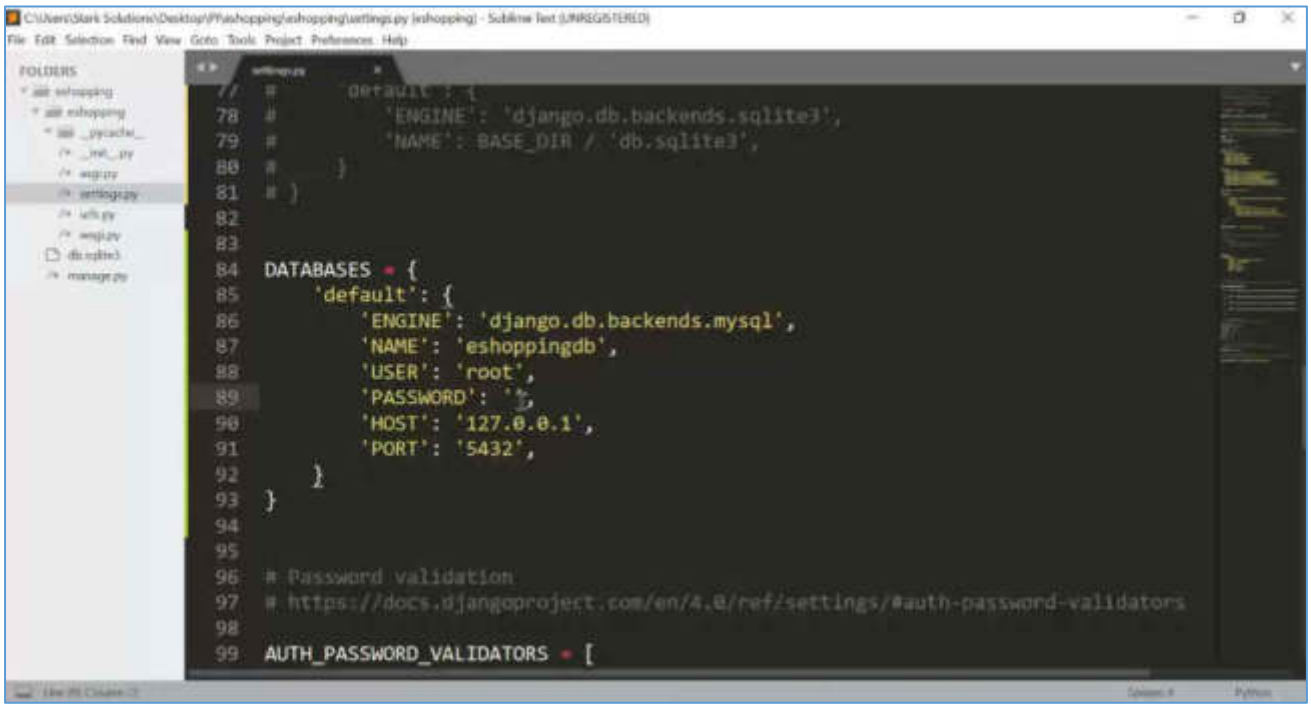


Fig. o

DAY – 10

Task: Change default settings of sqlite database of Django into mysql.
Download & Install Xampp server and mysql.



```
# 'default': {
#     'ENGINE': 'django.db.backends.sqlite3',
#     'NAME': BASE_DIR / 'db.sqlite3',
# }
# }

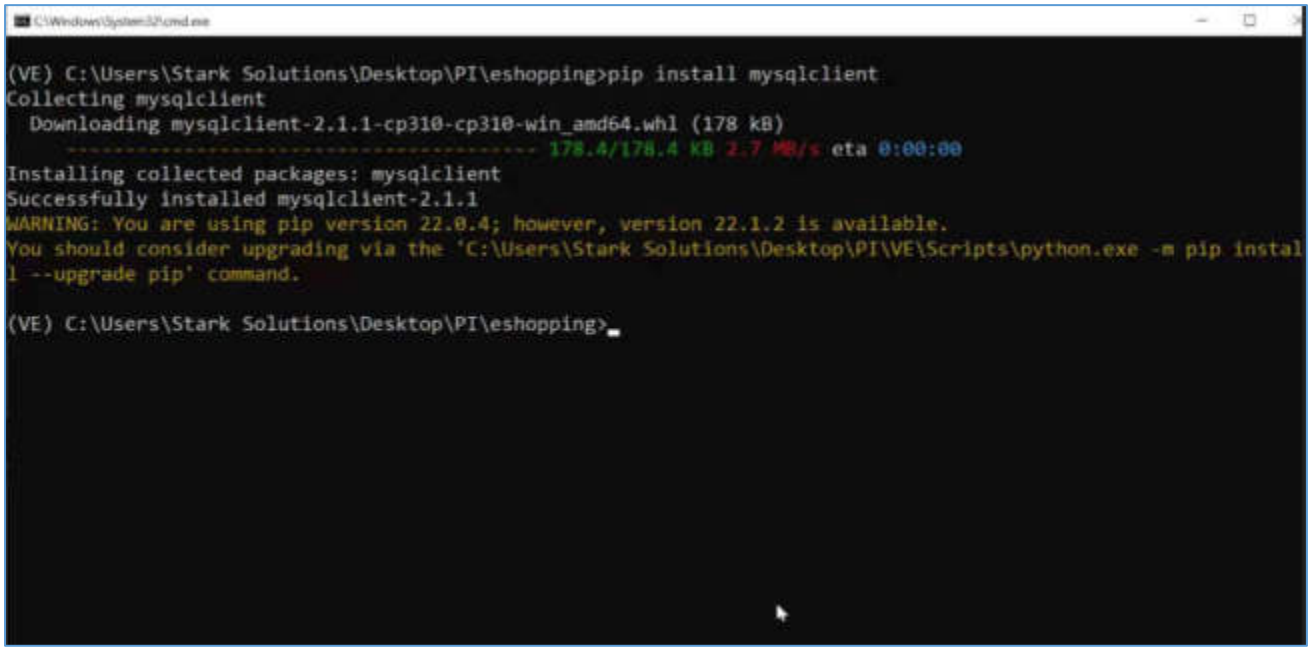

DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.mysql',
        'NAME': 'eshoppingdb',
        'USER': 'root',
        'PASSWORD': '',
        'HOST': '127.0.0.1',
        'PORT': '5432',
    }
}


# Password validation
# https://docs.djangoproject.com/en/4.0/ref/settings/#auth-password-validators

AUTH_PASSWORD_VALIDATORS = [
```

Fig. p

Analysis:



```
(VE) C:\Users\Stark Solutions\Desktop\PI\eshopping>pip install mysqlclient
Collecting mysqlclient
  Downloading mysqlclient-2.1.1-cp310-cp310-win_amd64.whl (178 kB)
     ---------------------------------------- 178.4/178.4 KB 2.7 MB/s eta 0:00:00
Installing collected packages: mysqlclient
Successfully installed mysqlclient-2.1.1
WARNING: You are using pip version 22.0.4; however, version 22.1.2 is available.
You should consider upgrading via the 'C:\Users\Stark Solutions\Desktop\PI\VE\Scripts\python.exe -m pip instal
l --upgrade pip' command.

(VE) C:\Users\Stark Solutions\Desktop\PI\eshopping>
```

Fig. q

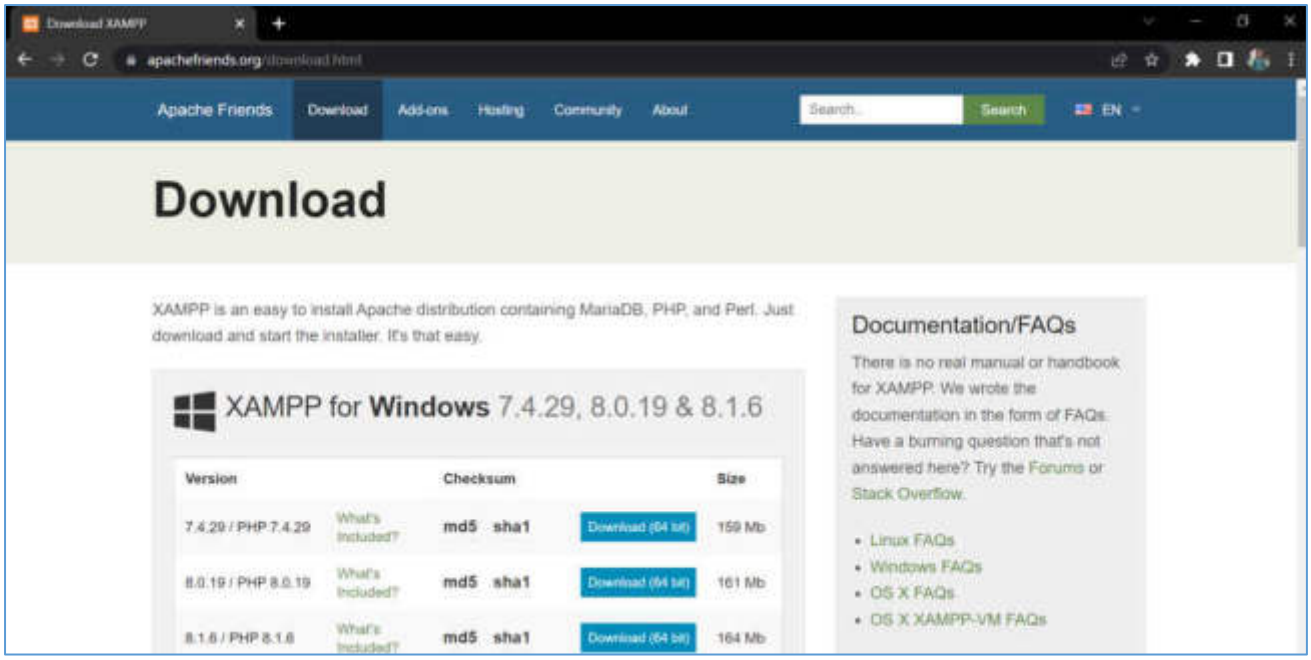

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Apache Friends
Download
Add-ons
Hosting
Community
About
Search...
Search
EN
Download
XAMPP is an easy to install Apache distribution containing MariaDB, PHP, and Perl. Just download and start the installer. It's that easy.
XAMPP for Windows 7.4.29, 8.0.19 & 8.1.6
Version
Checksum
Size
7.4.29 / PHP 7.4.29
What's included?
md5 sha1
Download (64 bit)
159 Mb
8.0.19 / PHP 8.0.19
What's included?
md5 sha1
Download (64 bit)
161 Mb
8.1.6 / PHP 8.1.6
What's included?
md5 sha1
Download (64 bit)
164 Mb
Documentation/FAQs
There is no real manual or handbook for XAMPP. We wrote the documentation in the form of FAQs. Have a burning question that's not answered here? Try the Forums or Stack Overflow.
Linux FAQs
Windows FAQs
OS X FAQs
OS X XAMPP-VM FAQs

Fig. r

DAY – 11:

Task: Create models.py file and run makemigrations and migrate command to build table in Database.

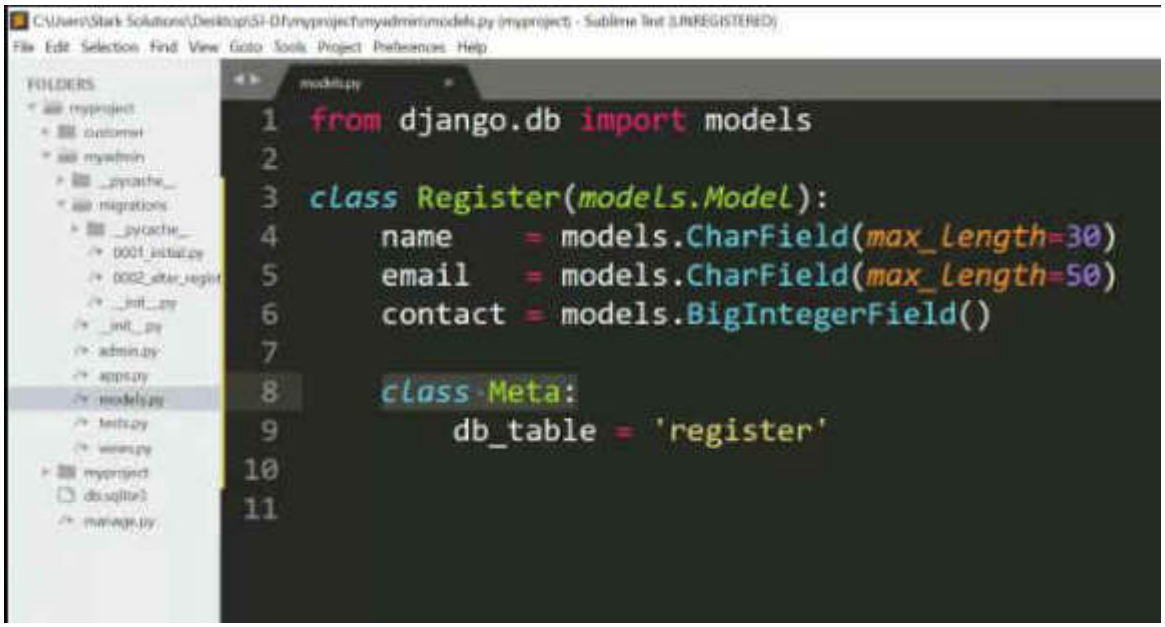


Fig. r

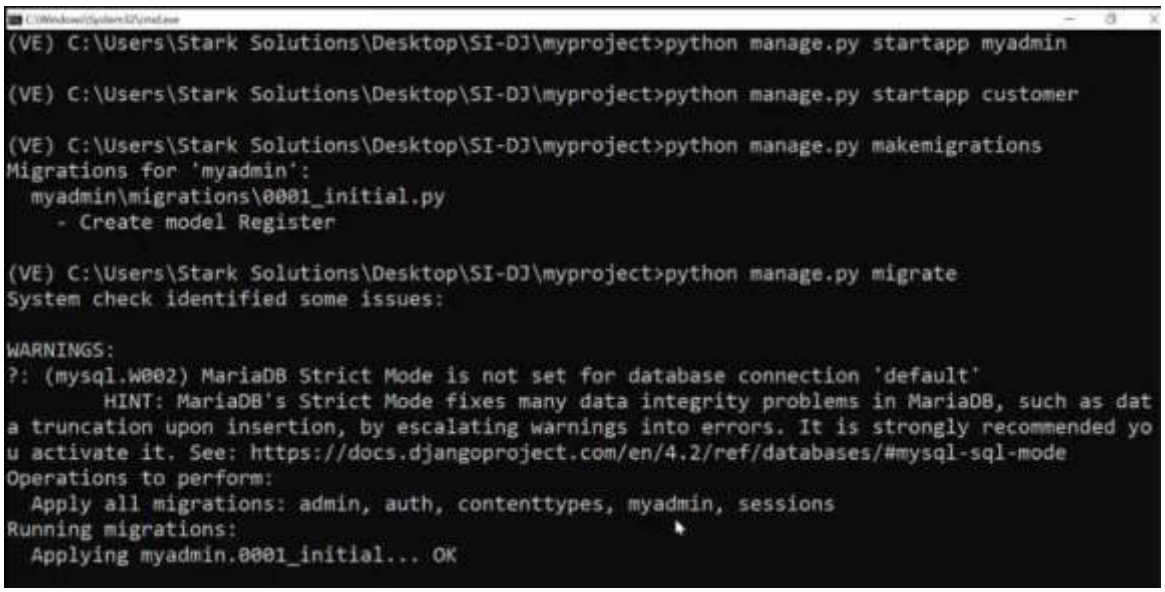


Fig. s

DAY – 12:

Task: Generation of form by writing the code in admin.py file and import the register from model.py file and set up all the paths in settings.

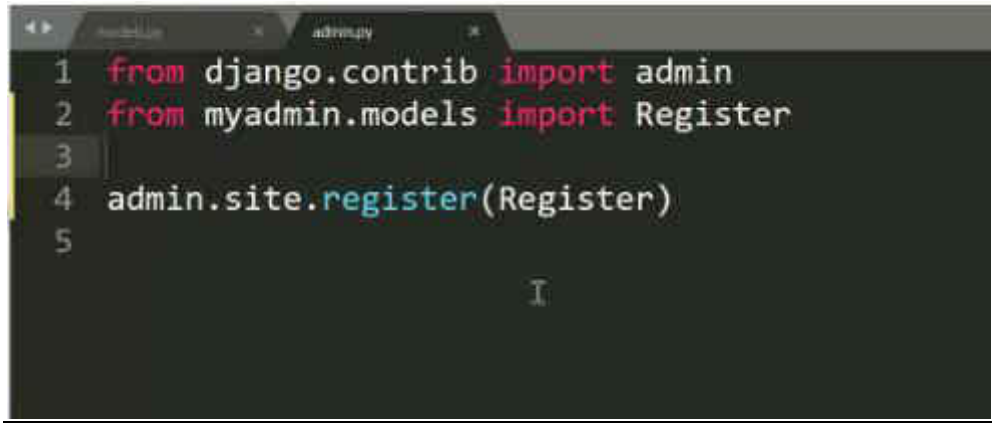


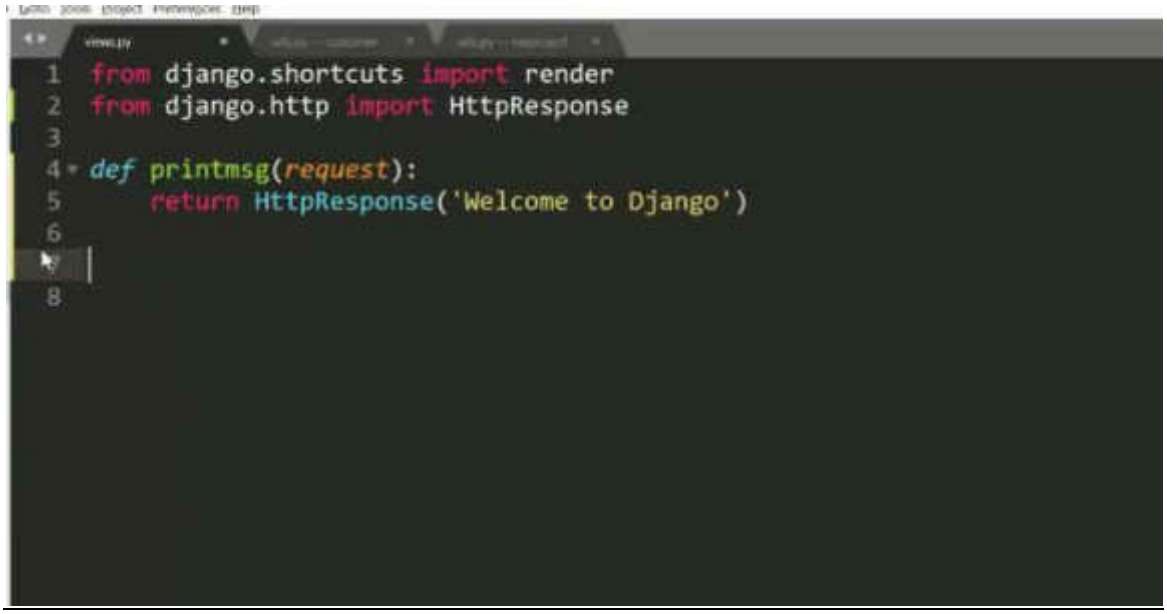
Fig. t



Fig. u

DAY – 13:

Task: Building Frontend Part (Userside) in D'Jango and making functions in view.py file and function calling by making url.py file and set up all the paths.

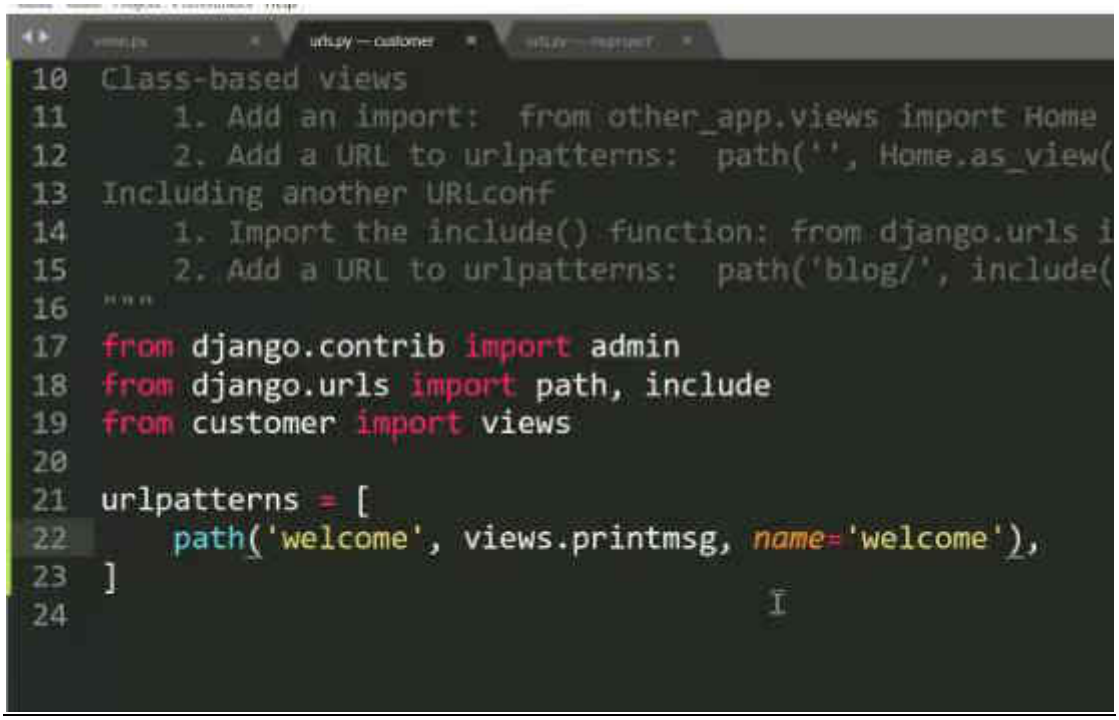


```
from django.shortcuts import render
from django.http import HttpResponse

def printmsg(request):
    return HttpResponse('Welcome to Django')

```

Fig. v



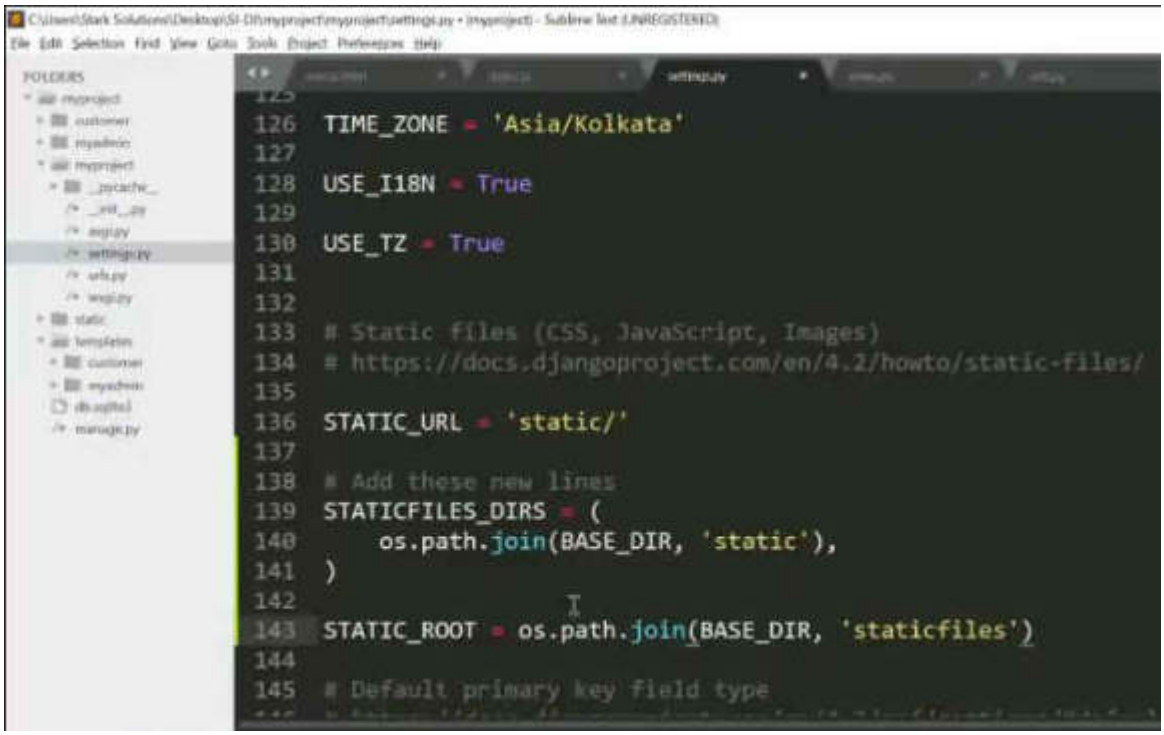
```
Class-based views
    1. Add an import:  from other_app.views import Home
    2. Add a URL to urlpatterns:  path('', Home.as_view(
Including another URLconf
    1. Import the include() function: from django.urls i
    2. Add a URL to urlpatterns:  path('blog/', include(
"""
from django.contrib import admin
from django.urls import path, include
from customer import views

urlpatterns = [
    path('welcome', views.printmsg, name='welcome'),
]
```

Fig. w

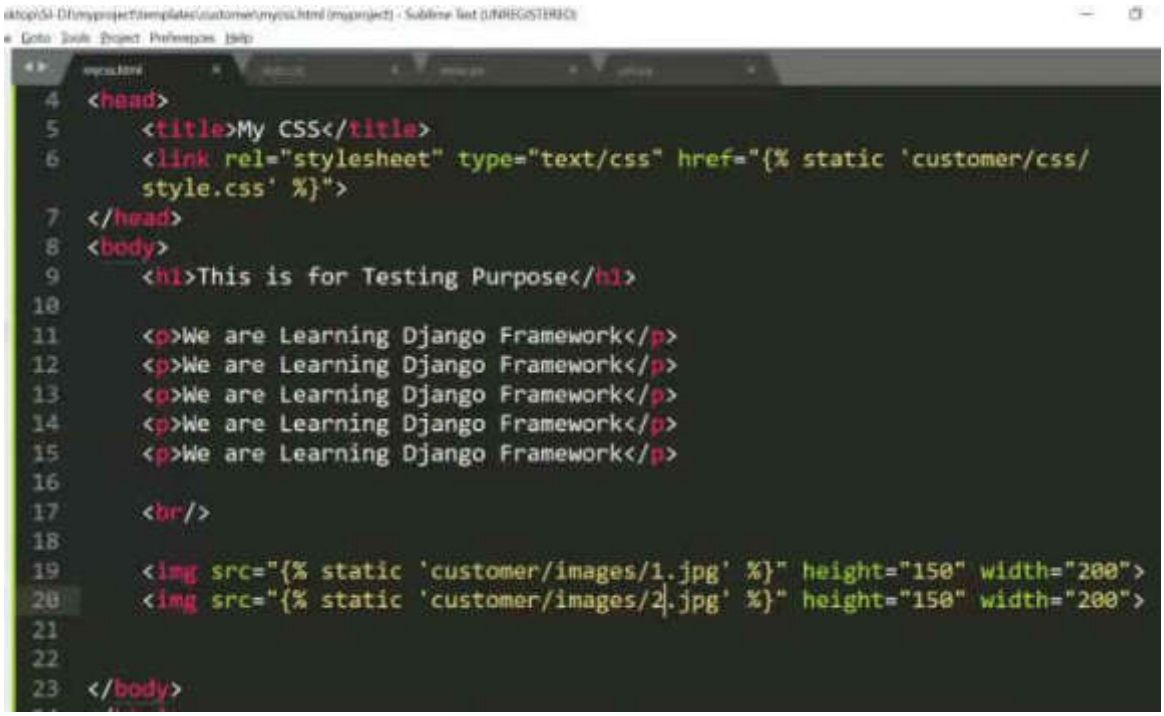
DAY – 14:

Task: Learning HTML & CSS in D'Jango by changing the settings and making different folders for set up.



```
126 TIME_ZONE = 'Asia/Kolkata'
127
128 USE_I18N = True
129
130 USE_TZ = True
131
132
133 # Static files (CSS, JavaScript, Images)
134 # https://docs.djangoproject.com/en/4.2/howto/static-files/
135
136 STATIC_URL = 'static/'
137
138 # Add these new lines
139 STATICFILES_DIRS = (
140     os.path.join(BASE_DIR, 'static'),
141 )
142
143 STATIC_ROOT = os.path.join(BASE_DIR, 'staticfiles')
144
145 # Default primary key field type
```

Fig. x



```
4  <head>
5      <title>My CSS</title>
6      <link rel="stylesheet" type="text/css" href="{% static 'customer/css/
       style.css' %}">
7  </head>
8  <body>
9      <h1>This is for Testing Purpose</h1>
10
11     <p>We are Learning Django Framework</p>
12     <p>We are Learning Django Framework</p>
13     <p>We are Learning Django Framework</p>
14     <p>We are Learning Django Framework</p>
15     <p>We are Learning Django Framework</p>
16
17     <br/>
18
19     <img src="{% static 'customer/images/1.jpg' %}" height="150" width="200">
20     <img src="{% static 'customer/images/2.jpg' %}" height="150" width="200">
21
22
23 </body>
```

Fig. y

DAY – 15:

➢ Implementation in Project :

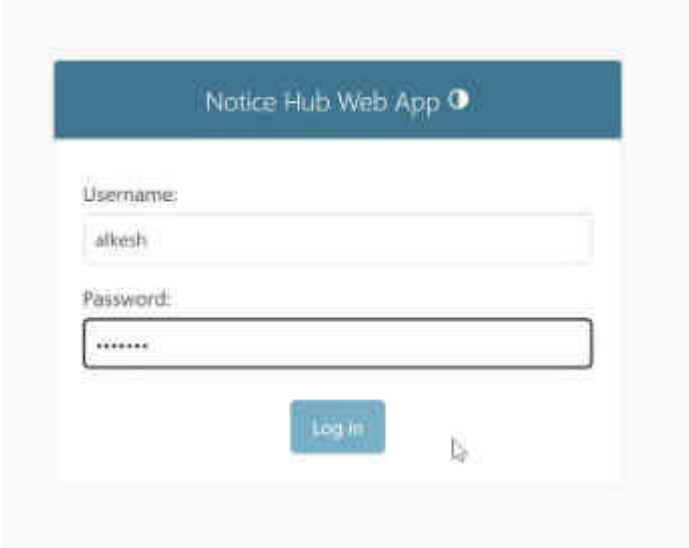


Fig. 1

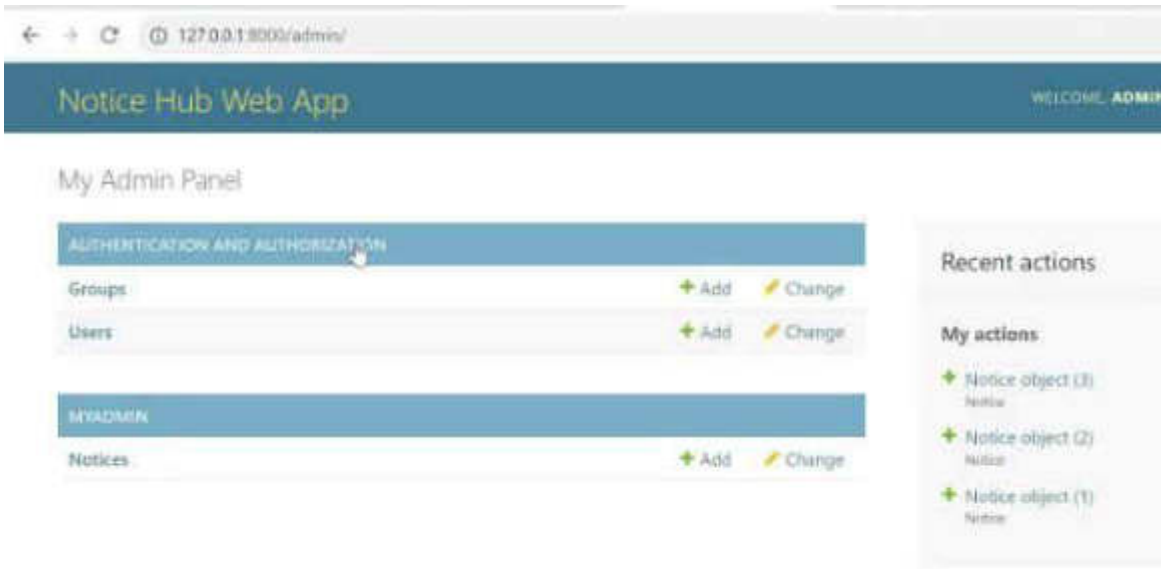


Fig. 2

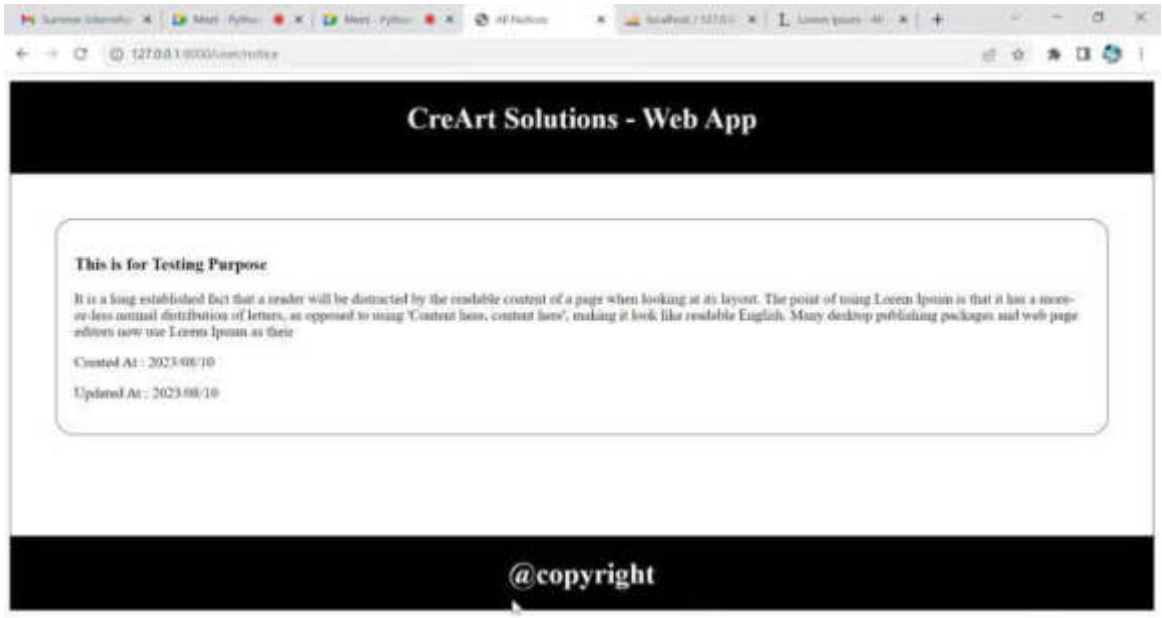

CreArt Solutions - Web App
This is for Testing Purpose
It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lorem Ipsum is that it has a more-or-less normal distribution of letters, as opposed to using 'Content here, content here', making it look like readable English. Many desktop publishing packages and web page editors now use Lorem Ipsum as their
Created At : 2023/08/10
Updated At : 2023/08/10
@copyright

Fig. 3

7. Conclusion

- As working with Python and Django , I have learned to work with backend side.
- I learned more about Web Development.
- By this 15 days of Internship at CreArt Solutions, they taught me to learn basics of Python from basics and also learned Django Framework.
- By advancing more in Python-Django using MySQL, I am interested to carry forward my career in this field.
- After that, I would like to learn more about Django framework.

8. References

- www.w3schools.com
- creart.in
- www.djangoproject.com
- www.python.org

INTERNSHIP AT QUEST INFOSENSE PVT LTD.

AN INTERNSHIP REPORT

Submitted by

Sneh Rahulbhai Bhatt

190390116001

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana

S.P.B. PATEL
ENGINEERING COLLEGE
SAFFRONY INSTITUTE OF TECHNOLOGY

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at Quest Infosense Pvt Ltd** has been carried out by **Sneh Rahulbhai Bhatt** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information Technology, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Prof. Upasana Leela — Internal Guide

Prof. Akshay Kansara — Head of Department

Company Certificate

QUEST Infosense +91 - 7878388709 info@questinfosense.com www.questinfosense.com

Date: 06.05.2023

To whomsoever it may concern

This is to certify that **Sneh Bhatt** has done his internship in **React.Js** at **Quest Infosense Pvt. Ltd**, Gandhinagar, from 07.02.2023 to 05.05.2023 (Total Number of Weeks: 12) under the guidance of Mr.Pratik Gothaliya.

He has worked on a project titled **WIMB**. This project was aimed at All in one Lifestyle Management Service providing platform. As part of the project, he has covert figma design to React.JS Template and manages the master modules in Backend Panel.

During his internship, he has demonstrated his skills with self-motivation to learn new skills. His performance exceeded our expectations and he was able to complete the project on time.

We wish him all the best for his upcoming career.

Yours faithfully,

AUTHORIZED SIGNATORY

QUEST INFOSENSE PVT. LTD.

B 221 Siddharaj Zori Sargasan Circle, S. G. Highway Gandhinagar - 382423





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Quest Infosense Pvt Ltd** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information Technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Devsi Odedra** & **Pratik Gothaliya (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. **Sneh Rahulbhai Bhatt**	_____

ACKNOWLEDGMENT

I am grateful to Pratik Gothaliya Founder & CTO (Quest Infosense Pvt Ltd) for giving me this opportunity to work the guidance of renowned people of the field of Web Based Portal also providing me with the required resources in the company.

I would like to express my endless thanks to my external guide and Co-Guide Mr. Pratik Gothaliya & Devsi Odedra for their sincere and dedicated guidance throughout the project development.

Also, my heartiest gratitude to our Head of Department, Prof. Akshay Kansara and our internal guide Prof. Upasana Leela for giving me encouragement and technical support on the project.

I would like to express my heartfelt appreciation to my parents for their unwavering support and desires, which have served as a major source of motivation for me to see this project through to completion.

I am ensuring that this project was done by me and not copied from anywhere.

Abstract

*This report contains the work done by the author during his internship at **Quest Infosense Pvt Ltd**. It shows the work I did in the company during my internship period.*

All in one Lifestyle Management Service providing platform refers to the process of managing the flow of data and operations between different components in a React application. The basic concept is to break down the application into smaller components that can be managed individually, making it easier to maintain and scale the application. In a typical React workflow, Each component is responsible for rendering its own UI based on the props it receives. Any user interactions trigger events that are handled by the respective components or passed up to the parent component for further processing, I had gained valuable hands-on experience in software development, as well as a deeper understanding of the software development process.

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Chapter 1. INTRODUCTION



Fig. 1.1 Quest Infosense Logo

1.2 COMPANY PROFILE:

Quest Infosense: one-stop solution for mobile, web and software is a top-notch software development company in the field of mobile and web application development using PHP, NodeJS, AngularJS, WordPress and other latest tools. Quest Infosense founded in the year 2015. It headquartered at Gandhinagar, India and other two branches are situated in Canada and USA. Presently, we have three fully functional development centers at this two branch and we operate from these two places.

With the successful completion of many projects, we build our strength and get tremendous applause from clients all over the globe. The main reason for our success is a dedicated team of experts in various categories, who are passionate about their work. Graphic designers, web designers, SEO specialist, PHP programmers, CSS experts are just a few titles, and the list is endless.We provide the following services in an area of mobile and web application development:

Mobile application development:

- Android Application Development
- iPhone Application Development
- iPad Application Development
- Windows Application Development
- IoT App Development

Web application development:

- PHP Development
- WordPress Development
- Joomla Development
- HTML5 Development
- JAVA Development

1.2 MISSION AND VISION OF THE COMPANY:

MISSION
To become the leader in the development and technology in the field of web applications by delivering maximum value to customers worldwide by our model works, and create a better tomorrow compare to today. To provide the best output, inspire our employee to become the member of the best team.

VISION
To become the best web Development Company in the world by providing the most practical and technology friendly solution to the clients thereby improving and sustaining a healthy and mutually beneficial business relationship by building trust.

QUEST INFOSENSE - BE THE PART OF OUR BUSINESS

ETHICS

We at Quest Infosense are governed by the professional ethics to deliver quality services with maximum efficiency for every project undertaken. A strong belief that client's success is ours has led us to pave the path of the comprehensive Business success stories leveraging us to a place amongst the best web and mobile development companies in India. Some key principles we stand on are Understanding Client's Needs: Understanding your needs first without jumping to conclusions and thereby suggesting suitable best practices in the industry, relevant to your requirements. Long-Term Commitments: We strive to be your trusted Long-Term Partner and leave no stone unturned to achieve the true relationship where you can rely on us as a trusted IT Development company in India. Assuring Your Privacy: We respect the client's privacy and through our privacy policy take all possible comprehensive steps to secure all your personal as well as Business related information, going an extra mile to keep our promises intact. Best Services to

the community: We believe in improving the quality and protecting the integrity of the Global IT Fraternity we work for, and our core values gave the impetus to offer highly professionalized and transparent client satisfactory services. So, Get on Board to experience the most wonderful and reliable Business relationship with us!

1.3 Values

Why Choose Quest Infosense?

MULTI-PURPOSE

We are the one who can help you in different aspects, starting from app development to enterprise solutions.

CODER FRIENDLY

We are a coder friendly bunch of website developers, designers that help you in any condition and requirement.

EXCELLENT READABILITY

Our graphics and UI/UX interface, keep it compact and nonstop to the point so that it can attract the users.

EASY TO USE

We develop the apps that are easy to use with user-friendly interface and easy to navigate even for the novices.

1.4 Company's METHODOLOGY

Agile

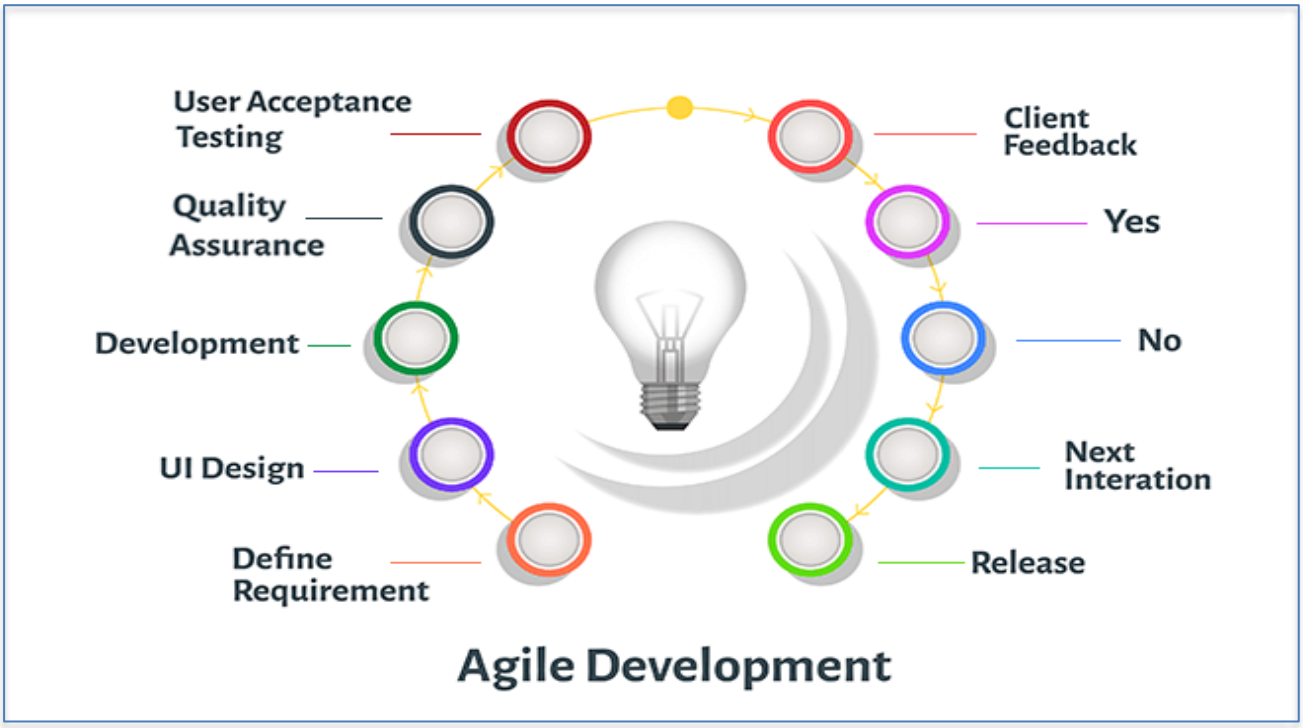


Fig. 1.2 Agile Lifecycle

Agile Testing can start at the beginning of the project with a continuous alliance between testing and development. Agile Testing is continuous but not sequential. The agile team works towards a common objective of achieving Quality as a single team. Agile Testing has shorter time frames from one to four weeks which is called iterations, release, or delivery driven approach. The motto of agile testing is to give a better prediction of the functional products in short duration of time.

Waterfall

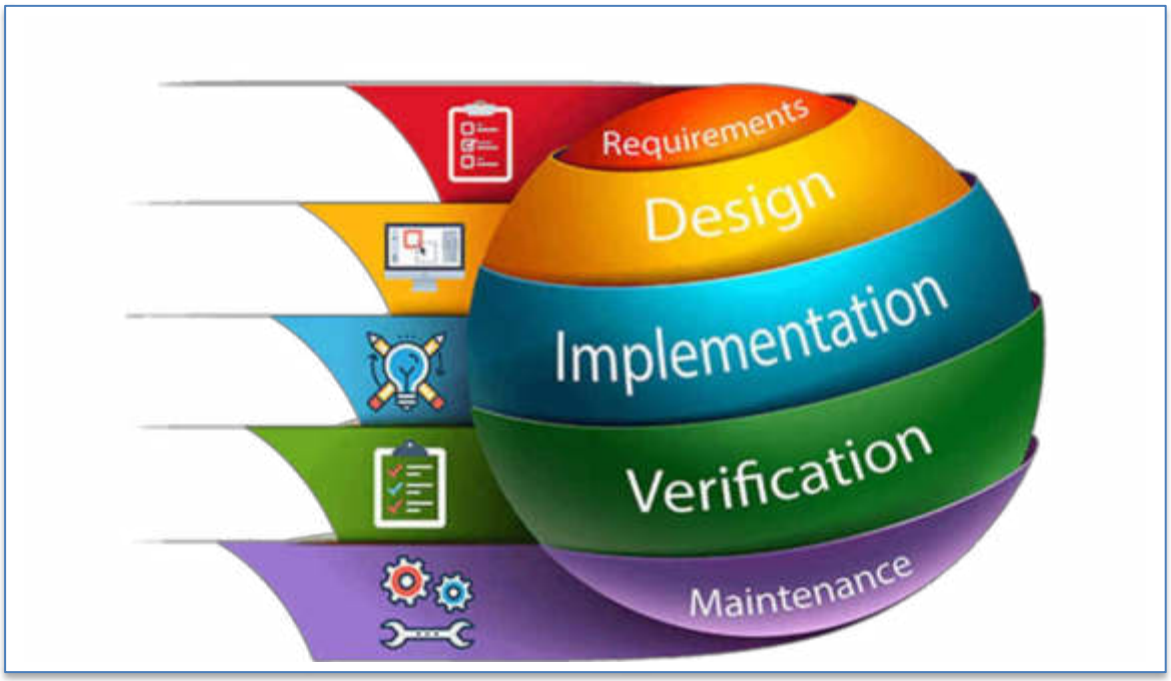


Fig. 1.3 Waterfall Model

Waterfall Model is very easy to understand and use. In this model, each phase completed before the next step begins and there is no overlapping in the stages. In the Waterfall approach, the whole software development process divided into separate phases. This model is sequential which means after completion of the previous stage the next stage begins. It is also known as a Linear-Sequential Life Cycle Model due to its representation of the software development process in a subsequent linear flow.

The agile method used when very limited planning required in a short time with change. The scrum method used when you have to complete any complex task in a fixed deadline. Waterfall method used when the requirements are very well known, clear and fixed with stable product definition.

Scrum

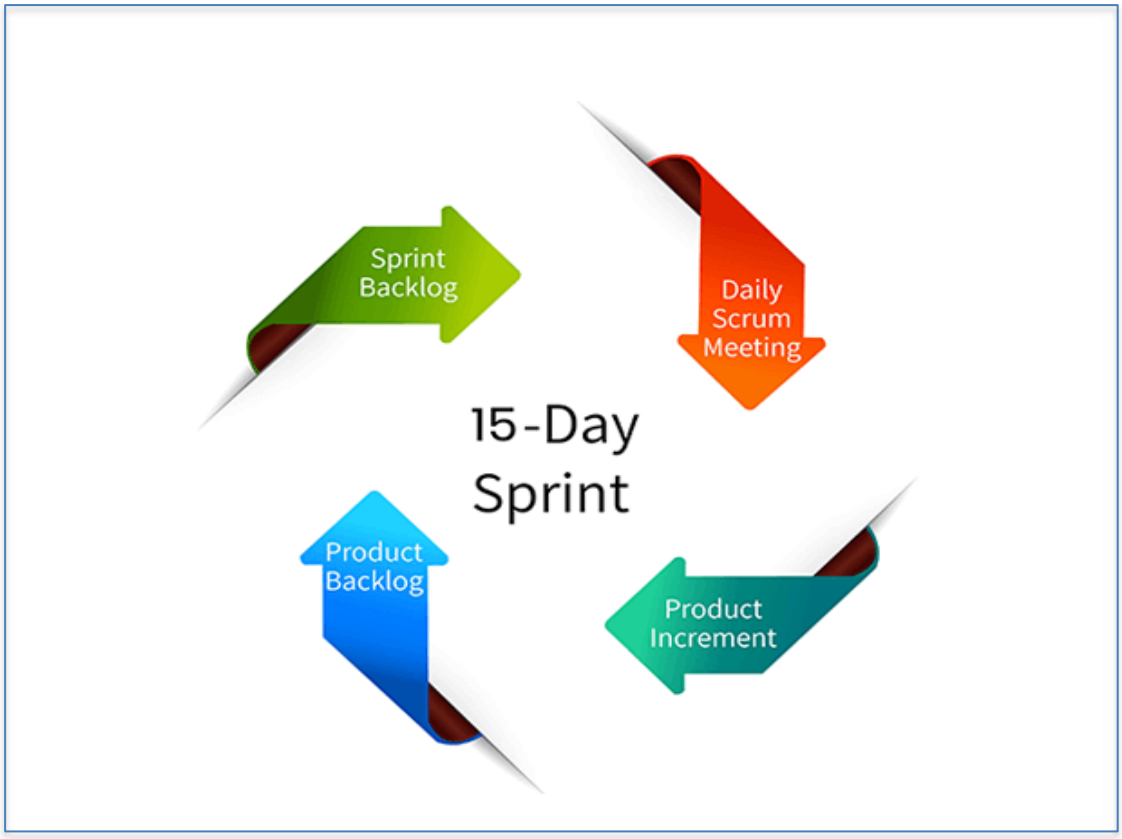


Fig. 1.4 Scrum

Scrum is a useful agile process for product development, especially software development. It applies to the project with complex needs, aggressive deadlines. It helps the development team to concentrate on all phases of the product like quality, performance, usability and much more. Scrum has a short fixed plan of release cycles with adjustable scope known as sprints. Each project and release have multiple Release Cycles and sprint respectively.

1.5 Services

1.5.1 MOBILE APP DEVELOPMENT

Pioneer in app development and accomplished various projects for small to large industries

- 6+ Year of experience in Mobile app development
- Assure for the quality of work
- Provide work on an hourly rate
- Experienced team of Professional App Developer & UI/UX designer
- Development with Strategic planning & industry's terms in the market



IPHONE APP

Quest Infosense is a full-service iOS app development company which provides a solution for the complete range of iOS devices using powerful tools l ike Swift, Objective C, and X code.



ANDROID APP

Quest Infosense develops the best android application for different industries with user-friendly features and using programming languages like Java & Kotlin.



CROSS-PLATFORM APPS

Quest Infosense develops various cross-platform apps which can run on multiple mobile devices and like Android and iOS devices using the same IDE, language, and APIs.



INTERNET OF THINGS

Quest Infosense works to make possible for the objects to communicate with each other through data exchange or sensor using the different communication means and works as a bridge enables physical devices to communicate with each other.

1.5.2 Windows Mobile App Development Services

Quest Infosense is one of the mobile app developers that provide the right apps for the users of Windows phones we provide various services, some of these includes:

- Custom Windows Mobile Application Development
- Windows App Conceptualization & Design
- Web-based Windows Mobile Application Development
- Windows Apps QA & Testing
- Windows Apps Porting & Migration
- Windows App Support, Maintenance & Upgrade

In short, all of our Windows mobile apps come with a unique finesse and ease of use that helps us deliver nothing but the best to our clients.

1.5.3 MOBILE GAME DEVELOPMENT

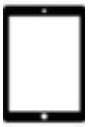
Build 2D, 3D, and AR/VR Supportive Android & iOS Game application by Gamer among a developer

- 4+ Year of Exp in Game App Development
- Assure for the Quality of Game Development Work
- Provide work on Affordable hourly rate
- Experienced Team of Professional App Developer & UI/UX designer
- Unity 3D Game application Development with AR and VR experiences



IPHONE GAME

Experienced in iOS development framework enables us to build high-grade iOS game application to provide the superb experience.



IPAD GAME

A Reputed iPad game development company help clients to build a highly interactive and engaging gaming application offering seamless playing experience.



ANDROID GAME

Having vast experience in coding the feature-rich Android game application featuring different scenarios for varied users.



AR/VR GAME

We do hold immense potential to create ground-breaking experiences in AR/VR games for mobiles, smart glasses, and headsets.

1.5.4 PCB CAM Services

PCB Scripting & HyperTooling

- **Scripting –** This enables the customer to acquire the necessary scripts they need for their production requirements in their Genesis system.

- **HyperTooling –** This is a JAVA based program that can be developed to be used in UCAM to automate some routine tasks in tooling.

- **Tooling –** This is accomplished through a pool of engineers who are able to process design data from data input, perform cleanup, carry out DRC/DFM and board edits, and perform any tasks up to the output.

PCB CAM Services

• Full-fledged and dedicated CAM facility for the post-processing of Gerber data (Pre Manufacturing)

• 24/7 services to cater to the requirements of customers worldwide

• State of the art Software/Hardware and Communication infrastructure

• Single-layer to multi-layer as per IPC standard

• Surface mount, Ball Grid Array & Through-hole design with blind and buried vias

• Split ground planes and power planes for mixed signals

• High-speed design, early analysis and design optimization

• Post layout analysis for signal integrity, impedance match

• Netlist Analysis

• Reliability Analysis

• Thermal Analysis

• Editing and Optimization

• Rout and retain

• Step and repeat with break-away tabs

• Slots, Scoring, V-cuts, Routing

• Tear dropping

• Multiple circuit panelization

• Creation of test coupons

PCB Design Rule Checks /Analysis

We run an exhaustive list of design rule checks for all boards to avoid an error that can possibly cause board scrap. All features are thoroughly checked for violations before the board is panelized.

Some of the checks are:

- A mismatch between Fabrication Drawing and Gerber.
- The separation between segments.
- Minimum track width.
- Open trace/Hanging traces.
- Power to ground short detection.
- Annular ring verification.
- Distance between holes to the copper segment.
- Expose Trace.

1.6 Focus Industries

The Quest Infosense team's diverse skill set allows us to expertly tailor our services to match your exact needs. We help our clients launch the best apps & websites possible.



2. Learning

2.1 PROGRAMMING LANGUAGE

2.1.1 JavaScript

JavaScript (**JS**) is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions. While it is most well-known as the scripting language for Web pages, many non-browser environments also use it, such as Node.js, Apache CouchDB and Adobe Acrobat. JavaScript is a prototype-based, multi-paradigm, single-threaded, dynamic language, supporting object-oriented, imperative, and declarative (e.g. functional programming) styles.

JavaScript's dynamic capabilities include runtime object construction, variable parameter lists, function variables, dynamic script creation (via eval), object introspection (via for...in and Object utilities), and source-code recovery (JavaScript functions store their source text and can be retrieved through toString()).

JavaScript is a client-side language, meaning that it runs on the user's browser rather than on the server. This makes it ideal for adding interactivity to websites, such as form validation, dynamic content, and animations. It can also be used on the server side, using technologies like Node.js, to build scalable and high-performance web applications.

JavaScript also has a vast community of developers and enthusiasts who contribute to libraries and frameworks like React, Angular, and Vue.js. This active community has helped make JavaScript one of the most popular programming languages in the world.

In addition to being an important skill for web developers, JavaScript is also used in many other industries and applications. For example, it is used in client-side programming with React.js.

Overall, JavaScript is a powerful and versatile programming language that is widely used and highly valued in the tech industry.

2.1.2 JSX

JSX is a JavaScript code with a combination of xml syntax in it. JSX tag has tag name, attributes and children which make it look like xml.

React uses JSX for templating instead of regular JavaScript. It is not necessary to use it, however, following are some pros that come with it.

- It is faster because it performs optimization while compiling code to JavaScript.
- It is also type-safe and most of the errors can be caught during compilation.
- It makes it easier and faster to write templates, if you are familiar with HTML.
- Instead of separating technologies by putting markup and logic in separate files, React uses components that contain both. We will learn components in a further section.

React JSX is an extension to JavaScript. It enables developer to create virtual DOM using XML syntax. It compiles down to pure JavaScript (React.createElement function calls). Since it compiles to JavaScript, it can be used inside any valid JavaScript code.

Using JavaScript expressions in JSX: In React we are allowed to use normal JavaScript expressions with JSX. To embed any JavaScript expression in a piece of code written in JSX we will have to wrap that expression in curly braces { }

JSX (**JavaScript Syntax Extension** and occasionally referred as **JavaScript XML**) is an extension to the JavaScript language syntax which provides a way to structure component rendering using syntax familiar to many developers commonly used in React. It is similar in appearance to HTML.

React components are typically written using JSX, although they do not have to be as components may also be written in pure JavaScript. JSX is created by Meta (formerly Facebook). It is similar to another extension syntax created by Meta for PHP called XHP.

2.2 WEB FRAMEWORK

2.2.1 React.js

React (also known as **React.js** or **ReactJS**) is a free and open-source front-end JavaScript library for building user interfaces based on components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies.

React can be used to develop single-page, mobile, or server-rendered applications with frameworks like Next.js. Because React is only concerned with the user interface and rendering components to the DOM, React applications often rely on libraries for routing and other client-side functionality.

React code is made of entities called components. These components are modular and reusable. React applications typically consist of many layers of components. The components are be rendered to a root element in the DOM using the React DOM library. When rendering a component, values are passed between components through *props* (short for "properties"). Values internal to a component are called its *state*.

React was created by Jordan Walke, a software engineer at Meta, who released an early prototype of React called "FaxJS". He was influenced by XHP, an HTML component library for PHP. It was first deployed on Facebook's News Feed in 2011 and later on Instagram in 2012. It was open-sourced at JSConf US in May 2013.

React Native, which enables native Android, iOS, and UWP development with React, was announced at Facebook's React Conf in February 2015 and open-sourced in March 2015.

On April 18, 2017, Facebook announced React Fiber, a new set of internal algorithms for rendering, as opposed to React's old rendering algorithm, Stack. React Fiber was to become the foundation of any future improvements and feature development of the React library. The actual syntax for programming with React does not change; only the way that the syntax is executed has changed. React's old rendering system, Stack, was developed at a time when the focus of the system on dynamic change was not understood. Stack was slow to draw complex animation, for example, trying to accomplish all of it in one chunk. Fiber breaks down animation into segments that can be spread out over multiple frames. Likewise, the structure of a page can be broken into segments that may be maintained and updated separately. JavaScript functions and virtual DOM objects are called "fibers", and each can be operated and updated separately, allowing for smoother on-screen rendering.

On September 26, 2017, React 16.0 was released to the public. On August 10, 2020, the React team announced the first release candidate for React v17.0, notable as the first major release without major changes to the React developer-facing API.

On March 29, 2022, React 18 was released which introduced a new concurrent renderer, automatic batching and support for server side rendering with Suspense.

2.3 DATABASE

2.3.1 SQL

SQL was initially developed at IBM by Donald D. Chamberlin and Raymond F. Boyce after learning about the relational model from Edgar F. Codd in the early 1970s. This version, initially called SEQUEL (Structured English Query Language), was designed to manipulate and retrieve data stored in IBM's original quasirelational database management system, System R, which a group at IBM San Jose Research Laboratory had developed during the 1970s.

SQL is a standard database language used to access and manipulate data in databases. SQL stands for Structured Query Language. SQL was developed by IBM Computer Scientists in the 1970s. By executing queries SQL can create, update, delete, and retrieve data in databases like MySQL, Oracle, PostgreSQL, etc. Overall SQL is a query language that communicates with databases.

SQL is a domain-specific language used in programming and designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS). It is particularly useful in handling structured data, i.e. data incorporating relations among entities and variables.

SQL offers two main advantages over older read–write APIs such as ISAM or VSAM. Firstly, it introduced the concept of accessing many records with one single command. Secondly, it eliminates the need to specify how to reach a record, e.g. with or without an index.

Originally based upon relational algebra and tuple relational calculus, SQL consists of many types of statements, which may be informally classed as sublanguages, commonly: a data query language (DQL), a data definition language (DDL), a data control language (DCL), and a data manipulation language (DML). The scope of SQL includes data query, data manipulation (insert, update, and delete), data definition (schema creation and modification), and data access control. Although SQL is essentially a declarative language (4GL), it also includes procedural elements.

SQL was one of the first commercial languages to use Edgar F. Codd's relational model. The model was described in his influential 1970 paper, "A Relational Model of Data for Large Shared Data Banks". Despite not entirely adhering to the relational model as described by Codd, it became the most widely used database language.

SQL became a standard of the American National Standards Institute (ANSI) in 1986 and of the International Organization for Standardization (ISO) in 1987. Since then, the standard has been revised to include a larger set of features. Despite the existence of standards, most SQL code requires at least some changes before being ported to different database systems.

2.4 TESTING

2.4.1 Postman

Postman started in 2012 as a side project of software engineer Abhinav Asthana, who wanted to simplify API testing, after working at Yahoo Bangalore. He launched Postman as a free app in the Chrome Web Store. As the app's usage grew, Abhinav recruited former colleagues Ankit Sobti and Abhijit Kane to help create Postman Inc. The three co-founders lead the company today, with Abhinav serving as CEO and Sobti as CTO.

In 2022, Postman was ranked #28 on the Forbes Cloud 100 list, up from #54 the previous year.

Postman is an API Platform for developers to design, build, test and iterate their APIs. As of February 2023, Postman reports having more than 25 million registered users and 75,000 open APIs, which it says constitutes the world's largest public API hub.[3] The company is headquartered in San Francisco and maintains an office in Bangalore, where it was founded.

Products

- API repository: Allows users to store, catalog, and collaborate around API artifacts in a central platform within public, private, or partner networks.
- API builder: Helps implement an API design workflow through specifications including OpenAPI, GraphQL, and RAML. Integrates varied source controls, CI/CD, gateways, and APM solutions.
- Tools: API client, API design, API documentation, API testing, mock servers, and API detection.
- Intelligence: Security warnings, API repository search, workspaces, reporting, API governance.
- Workspaces: Personal, team, partner, and public workspaces allow developers to collaborate internally and externally.

3 PROJECT : WIMB

3.1 OVERVIEW

This project was aimed at All in one Lifestyle Management Service providing platform. As part of the project, I cover React Bootstrap design to React.JS Template and manages the master modules in Backend Panel using API calls.

3.2 FEATURES

In this Project Crud operation successfully managed using dynamic data updating. This project was aimed at All in one Lifestyle Management Service providing platform by updating events.

3.3 IMPLEMENTATION

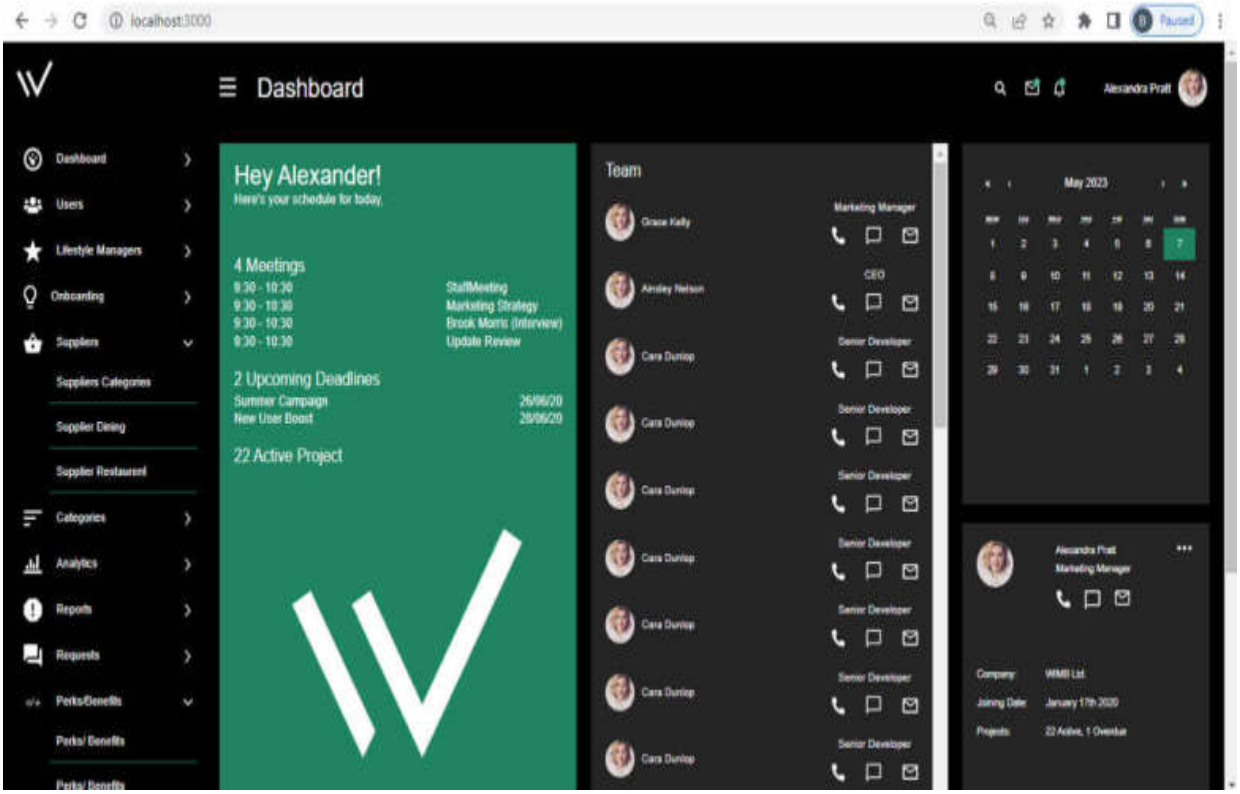


Fig. 3.1 Dashboard Page

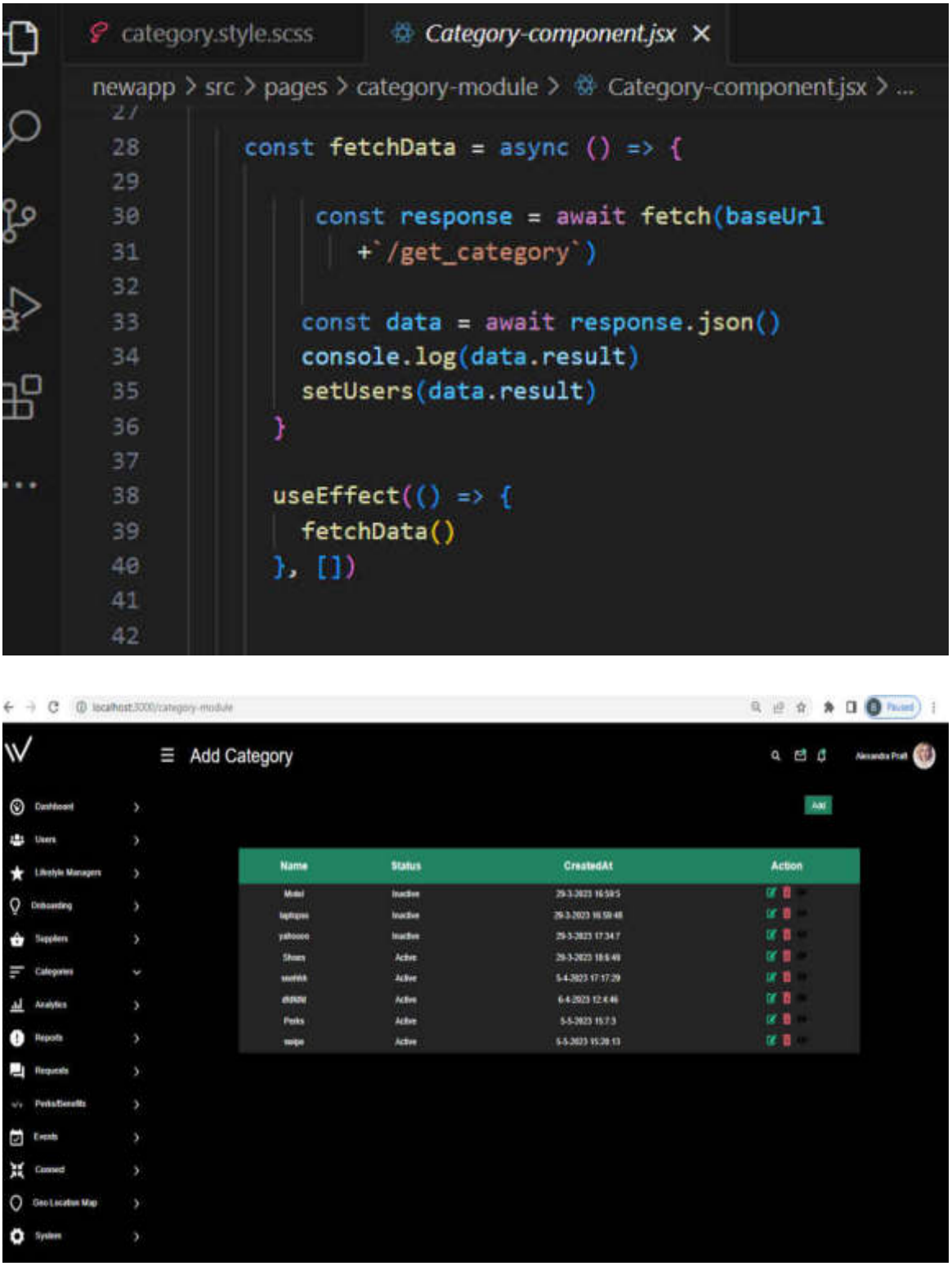


Fig. 3.2 Get Category-list using API

```
function handleSubmit(event){
    event.preventDefault()

    const userData = {
        name: state.name,
        status: state.status
      };
    // axios.post('http://192.168.1.8:8001/api/v1/category/add', {post}, config

    axios.post(baseUrl+`/category/add`, userData).then((response) => {
      console.log(response.status, response.data);
    });
```

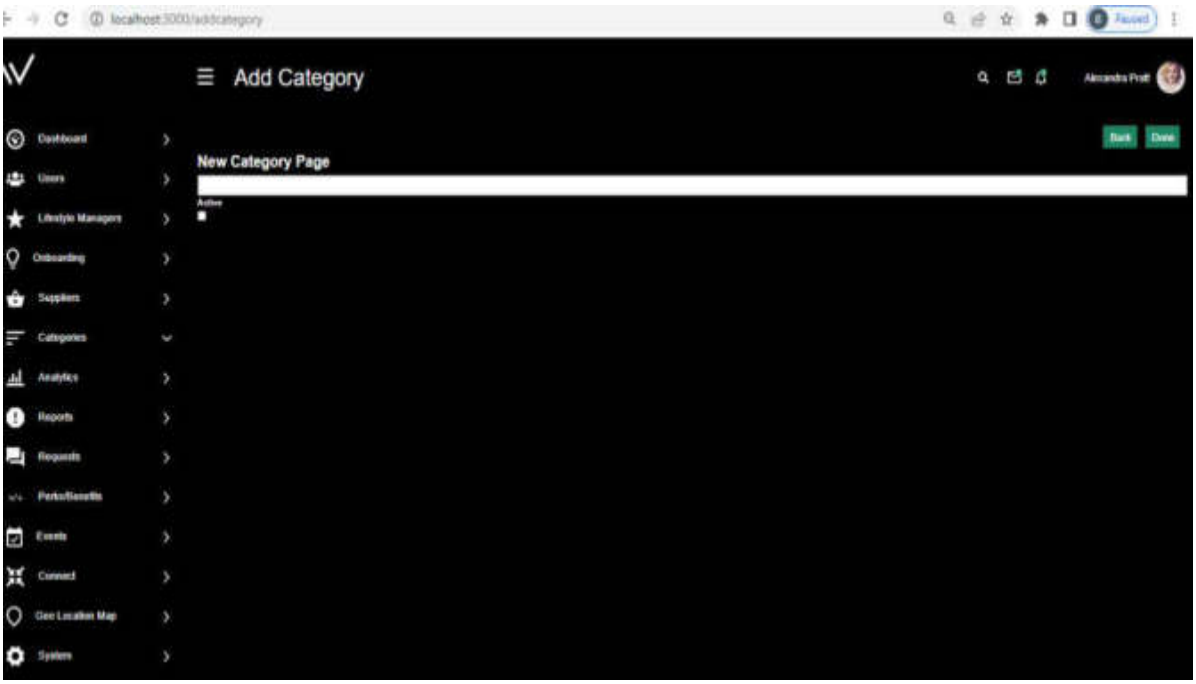


Fig. 3.3 Add Category Create Api

```
const updateOption = {

  method: 'POST',
  headers: { 'Content-Type': 'application/json' },
  body: JSON.stringify({ "category_id": id, "name": category.name, "status": category.status })
};
const response = await fetch(baseUrl
  + '/category/edit', updateOption)


const data = await response.json()
setCategory(data.result)


navigatecat();
}
```

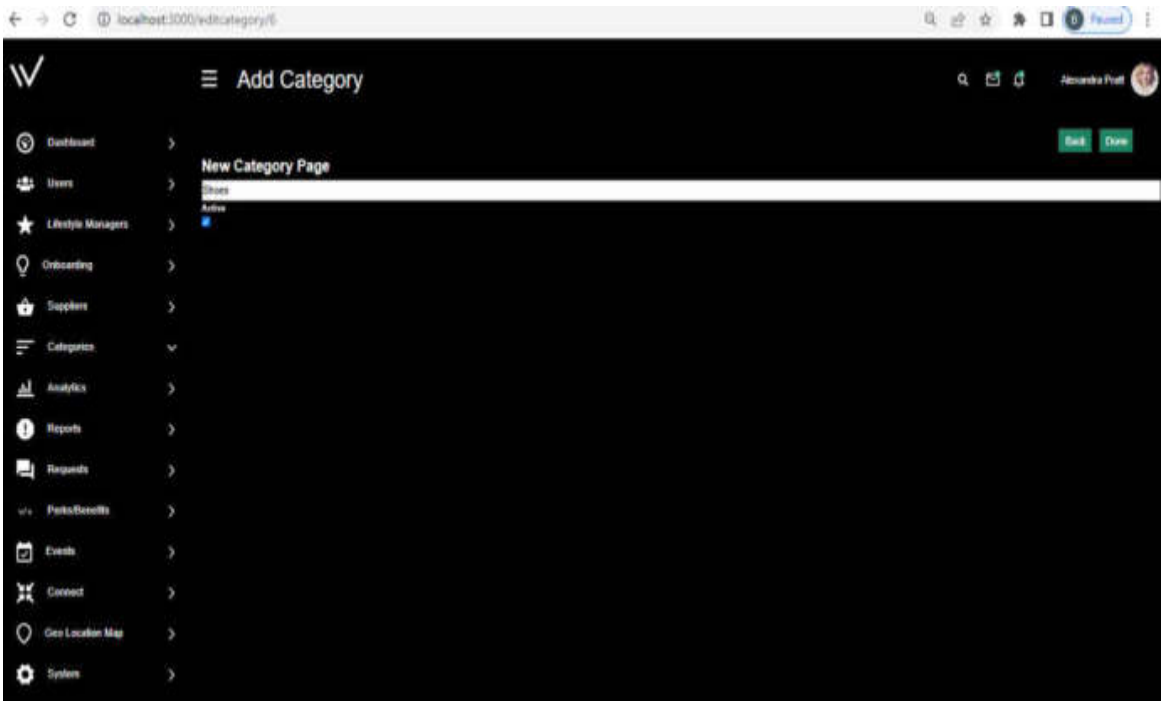


Fig. 3.4 Edit Category

```
const viewSingledata = async () => {

  const requestOptions = {
    method: 'POST',
    headers: { 'Content-Type': 'application/json' },
    body: JSON.stringify({ "category_id": id})
  };

  const response = await fetch(baseUrl
    + `/category/getSingleCategory`, requestOptions)


  const data = await response.json()
  setViewcategory(data.result)
console.log(data.result);


}



useEffect(() => {
  viewSingledata()
}, [])
```

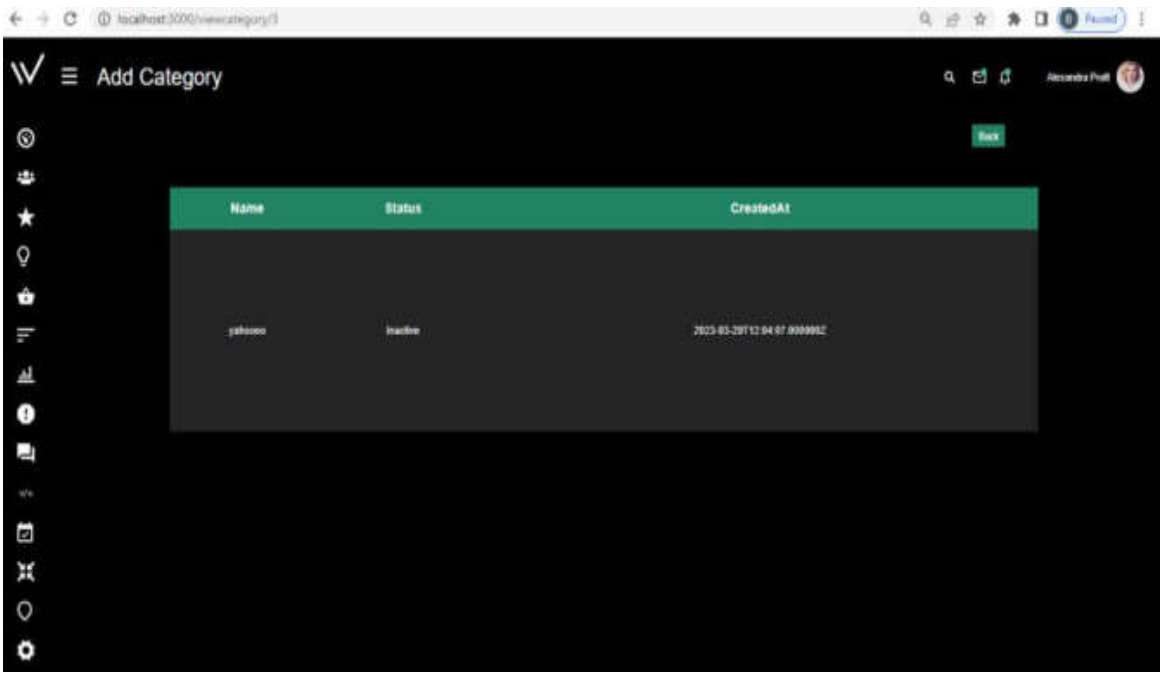


Fig. 3.5 View Category Read Operation

```
        <div className="events__main--body">

        {Object.keys(popular).length > 0 && (

                    <ItemWrapper heading='Most Popular' item='Shushi Masterclass' image={SushiMasterClass} datas={popular} />

            )}

        {Object.keys(upcoming).length > 0 && (
                    <ItemWrapper heading='Upcoming' item='Shushi Masterclass' image={SushiMasterClass} datas={upcoming} />
                )}

                {Object.keys(endingsoon).length > 0 && (
                  <ItemWrapper heading='EndingSoon' item='Shushi Masterclass' image={SushiMasterClass} datas={endingsoon}/>
                )}
            {/* <ItemWrapper heading='Upcoming' item='Shushi Masterclass' image={SushiMasterClass} /> */}

            </div>


</div>
```

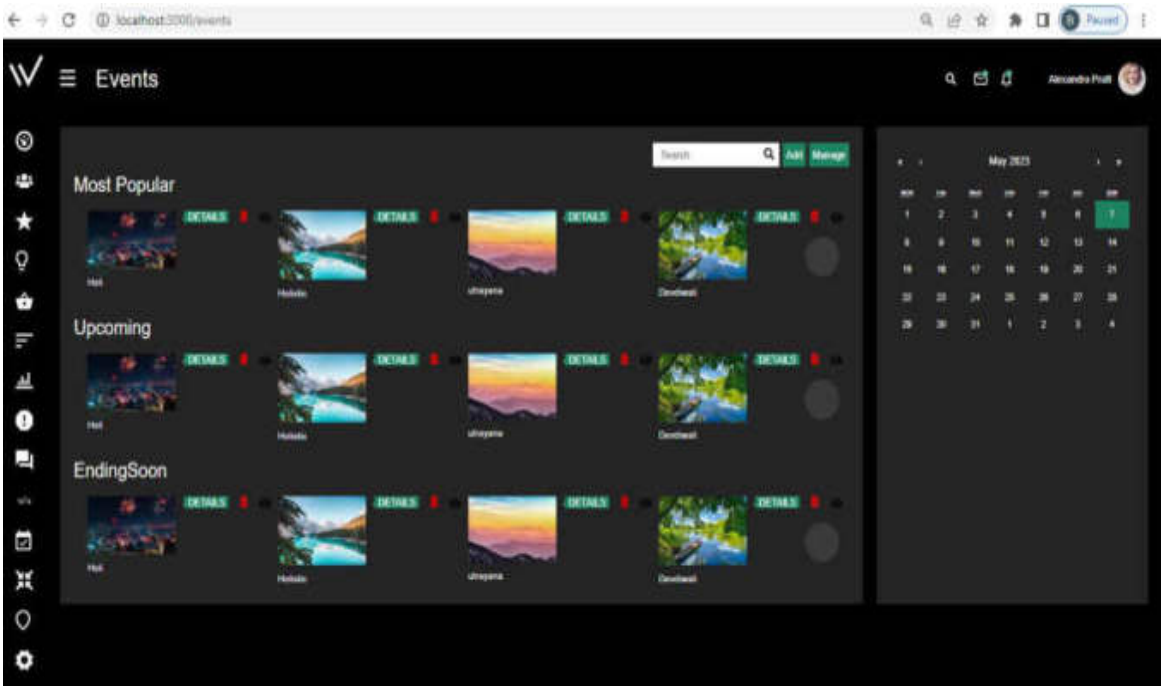


Fig. 3.6 Event-Sliders Dynamic Data

```
const eventData = {
  title: eventcategory.title,
  event_id: id,
  active: eventcategory.active,
  description: eventcategory.description,
  /*    images: state.images, */
  start_date: eventcategory.start_date,
  end_date: eventcategory.end_date,
  price: eventcategory.price,
  city: eventcategory.city,
  category: event.target.category.value,
/*   images: file.name, */
  location: eventcategory.location,
  tag: event.target.tag.value,
  max_ticket_allowed: eventcategory.max_ticket_allowed,


};


/*     console.log(event.target.category.value); */
axios.post(baseUrl + `/event/edit`, eventData).then((response) => {

  console.log(response.status, response.data);
  /*   console.log(response.data.result); */



});
```

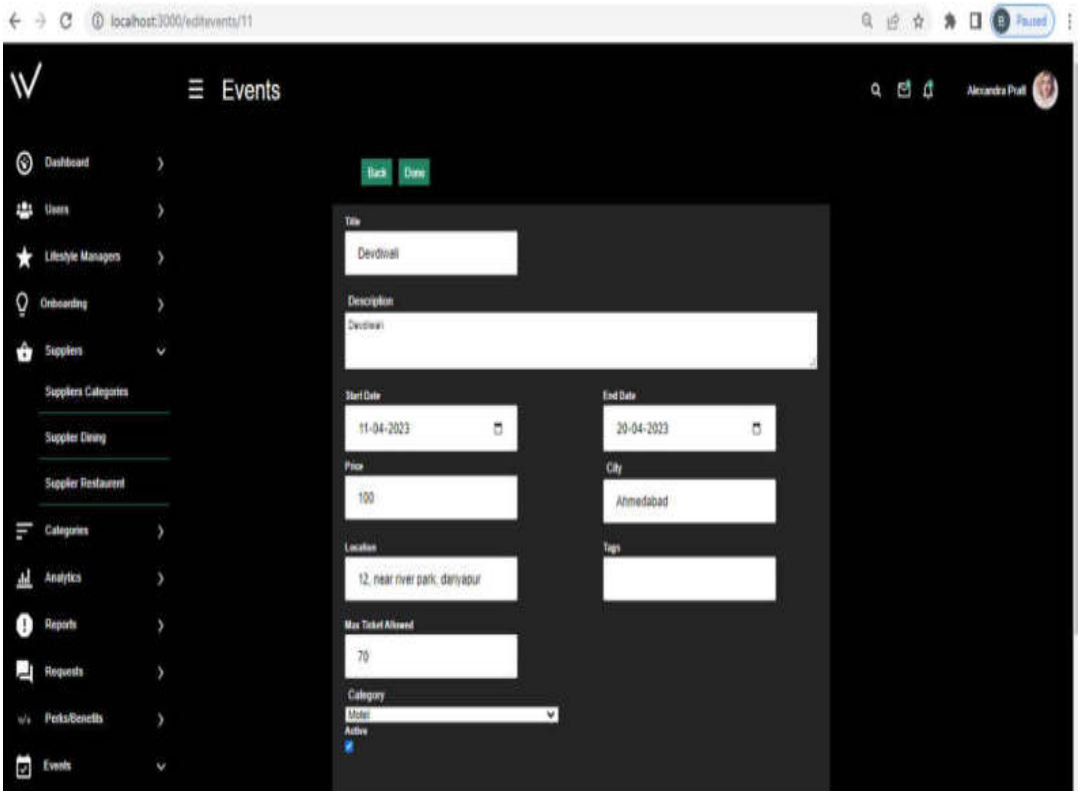


Fig. 3.7 Edit Events

```
const getEventData = async () => {

  const requestOptions = {
    method: 'POST',
    headers: { 'Content-Type': 'application/json' },


    body: JSON.stringify({ "id": id })
  };

  const response = await fetch(baseUrl
    + `/event/getSingleEvent`, requestOptions)


  const data = await response.json()
  setEventcategory(data.result)
}
useEffect(() => {

  getEventData();
}, []);
```

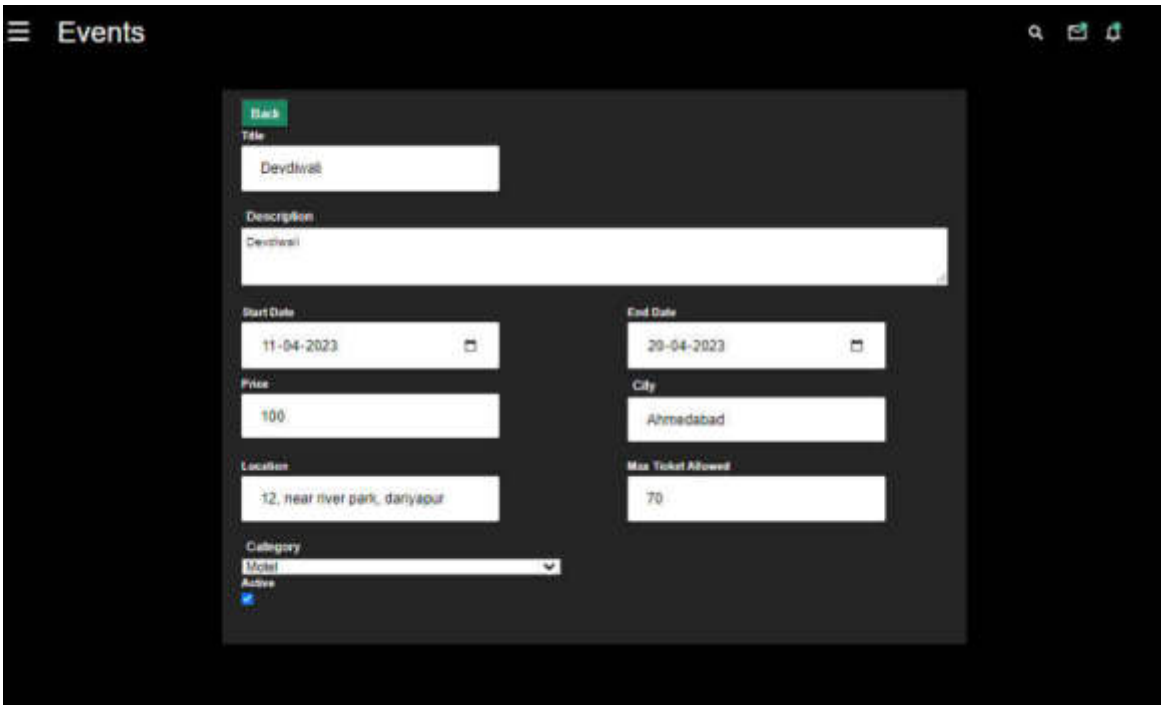


Fig. 3.8 View events

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INTERNSHIP AT TECHEINHUB PVT. LTD.

AN INTERNSHIP REPORT

Submitted by

Bhimani Nipesh Ravilal

190390116002

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at TechEinHub Technologies Pvt. Ltd.** has been carried out by **Bhimani Nipesh Ravilal** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Computer Engineering, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign

Prof. Upasana Leela
Internal Guide

Sign

Prof. Akshay Kansara
Head of Department

COMPANY CERTIFICATE



TECHEINHUB

TecheinHub Technologies Pvt Ltd.

INTERNSHIP CERTIFICATE

Nipesh Bhimani

This is to certify that **Nipesh Bhimani** has completed the **Internship** at **TecheinHub Technologies Pvt Ltd** Ahmedabad from **1st Feb** 2023 to **1st May 2023** as a **ReactJS Developer.**

During his stay in the company as an Intern, he displays enthusiasm, leadershop, self-discipline, and self-motivation

We wish him a good life and great success in all his future endeavors.

TechEinHub Technologies Pvt Ltd

Director: Hiren Patel

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GUJARAT TECHNOLOGICAL UNIVERSITY

CERTIFICATE FOR COMPLETION OF ALL ACTIVITIES AT ONLINE PROJECT PORTAL

B.E. SEMESTER VIII, ACADEMIC YEAR 2022-2023

Date of certificate generation : 20 May 2023 (11:14:30)

This is to certify that, ***Bhimani Nipesh Ravilalbhai*** (Enrolment Number - 190390116002) working on project entitled with ***Intership at TechEinHub Technologies*** from ***Information Technology*** department of ***S. P. B. PATEL ENGINEERING COLLEGE, MEHSANA*** had submitted following details at online project portal.

Internship Project Report	**Completed**

Name of Student : Bhimani Nipesh Ravilalbhai

Name of Guide : Mr. Akshay Rameshchandra Kansara

Signature of Student : _____

*Signature of Guide : _____

Disclaimer :
This is a computer generated copy and does not indicate that your data has been evaluated. This is the receipt that GTU has received a copy of the data that you have uploaded and submitted as your project work.

*Guide has to sign the certificate, Only if all above activities has been Completed.





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

I hereby declare that the Internship report submitted along with the Project entitled **Hotel Management System** submitted in partial fulfilment for the degreeof Bachelor of Engineering in Information Technology to Gujarat TechnologicalUniversity, Ahmedabad. is a bonafide record of original project work carried out by me at **TechEinHub Technologies Pvt. Ltd.** under the supervision of Internal guide **Prof. Upasana Leela** and External guide **Mr. Jaydeep Purohit** and that no part of this report has been directly copied from any students' report or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Bhimani Nipesh Ravilal

ACKNOWLEDGEMENT

It's my proud privilege to release the feelings of my gratitude to several persons who helped me directly or indirectly to conduct this internship.

First, I would like to thank **TechEinHub Technologies Pvt. Ltd.** for giving me the opportunity to do an internship within the organization. I express my heartful indebtedness and owe a deep sense of regard to my external mentor **Mr. Jaydeep Purohit** for their sincere enlightenment and inspiration during his internship. I extend thanks to my faculty guide, **Prof. Upasana Leela** for their sincere guidance during this Internship.

I am highly indebted to **Prof. Akshay Kansara** for his guidance and constant supervision as wellas for providing necessary information regarding the Internship.

It's my honor to thank the **Saffrony Institute Of Technology** and **Gujarat Technological University** for providing such kind of opportunity for students to broaden their perception of howthe real world works the field of Computer engineering looks like as well organizing the whole internship program and its effort to make sure that the whole internship program to achieve its desired goals.

ABSTRACT

The Hotel Management System is a web based Application. The main objective of Hotel Management System is to streamline and automate various process involved in managing a Hotel or hospitality establishment. The maintenance and management of the different Hotels that are available in the Culinary world. The system provides the information regarding the different Hotels Locations (of single hotel chain) and Information about its rooms that are available and their status specific to availability.

Customers should be able to know the availability of the rooms on a particular date to reserve in hotel. The Receptionist can visit the site and register Customers with the required information that is expected by the system. The Admin hands the booking information of customers. The Admins can register and log into the system. The Guests are scheduled with the information of the availability of the units for they have requested the time.

The hotel department maintain the seat availability and booking details in certain database. This project provides high security to Admin and user information. Main functionality of this website (Hotel management system) is to make reservations for the guests and there is another functionality that guests can visit various places of Gujarat with the speciality of that particular place.

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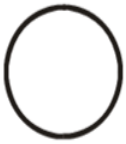
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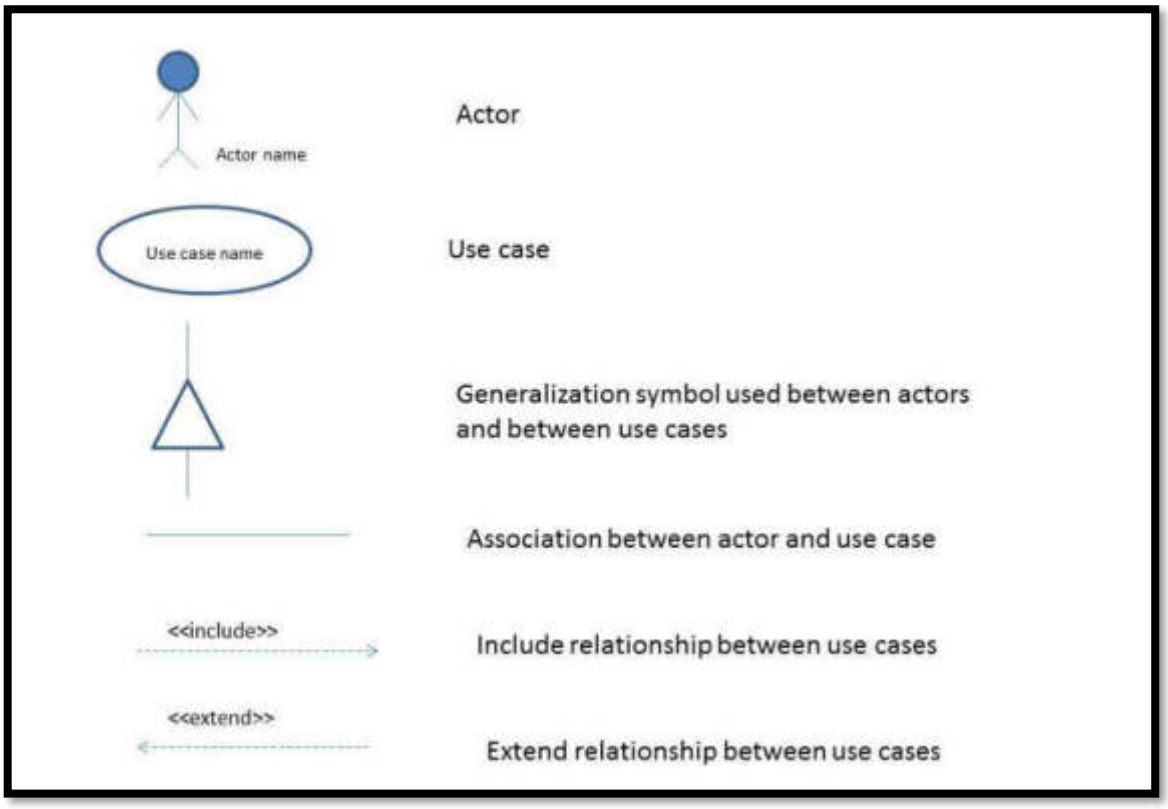
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LIST OF SYMBOLS

	dataflow	Arrows showing direction of flow
	process	circles
	file	horizontal pair of lines
	data-source, sink	rectangular box



ABBREVIATIONS

Docs	Documents
IDE	Integrated Development Environment
SQL	Structured Query Language
JS	JavaScript
HTML	Hyper Text Markup Language
CSS	Cascading Style Sheet
DBA	Database Administrator
DBMS	Database Management System
HR	Human resources

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1. OVERVIEW OF THE COMPANY

==========

1.1 History

1.2 Different Products & Services

1.3 Organization chart

1.4 Organization capacity

==========

1.1 History

TechEinHub Technologies Pvt Ltd is a renowned mobile app development company & the best IT Software Solutions provider based in India, USA & Australia, established in 2016. Apart from this, we also have sales offices in USA & Australia.

TechEinHub Technologies Pvt Ltd is consistently serving global clients for web & mobile app development services. For all possible technology platforms, we have qualified resources to work with..

1.2 Different Products & Services

- **Products**

  TechEinHub is product as well as Service based company. Our products are Managed Analytics by **EZlytix** , Retail Omni-Channel ERP **control, Diamond ERP,** university management system of **inKnowledge , Digital Asset Profanity (eUnagi), auro CRM, PowerBI Managed Analytics, ALM, HRMS and many more..**

- **Services**

  Various ERP and CRM Srevices and Solutions are being provided by our company. And mainly we also provides solutions to the well known companies like Amazon, Walmart, ebay, alokozay, and many more.



Fig. 1.1 Clients

1.3 Different Department

- **Web Development:**

  TechEinHub provides comprehensive web development services, including custom website development, e-commerce website development, CMS development, and more. Their web development team is proficient in a variety of programming languages and frameworks and uses the latest technologies to build responsive, scalable, and secure websites.

- **Mobile App Development:**

  TechEinHub has expertise in developing mobile apps for both iOS and Android platforms. They offer end-to-end mobile app development services, including app ideation, design, development, testing, and deployment. Their mobile app development team stays up-to-date with the latest trends and technologies to build high-performance, feature-rich, and user-friendly mobile apps.

- **Game Development:**

  TechEinHub has a team of experienced game developers who specialize in developing 2D and 3D games for mobile, desktop, and web platforms. They use Unity, Unreal Engine, and other game development technologies to create engaging and immersive gaming experiences.

- **UI/UX Design:**

TechEinHub provides UI/UX design services that focus on delivering user-centric and aesthetically pleasing designs. Their team of designers works closely with clients to understand their requirements, conduct research, and create wireframes and prototypes before finalizing the design. They also provide design support for web and mobile apps.

1.4 Details About The Work Being Carried Out In Each Department:

- **Client:**

A client is someone who request for a software either of personal or professional use. The client is the person who specifies the requirements in the product and is responsible for the user stories.

- **Project Manager:**

Project managers are accountable for planning, organizing, and cheerleading the employees. These gate keepers ensure customer satisfaction, push documentation, and efficiently optimize the workflow.

- **Business Analyst:**

Although the responsibilities of business analysts can differ on the waterfall and agile projects, strive to help guide businesses. They do this by gathering, analysing, developing, and documenting business requirements. In a broader sense, they bridge the gap between the business and IT to improve efficiency.

- **Quality Assurance engineers:**

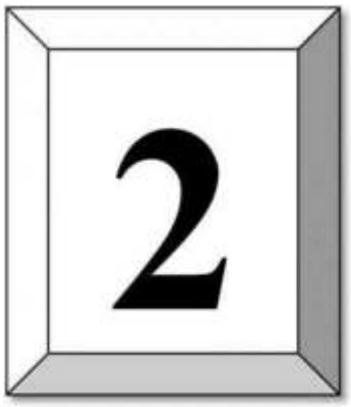
They are more than just testing a feature or a product. These specialists advocate for the quality of a product by monitoring each stage of software development, debugging, and defining corrective measures.

- **Designer:**

UI/UX designer creates user-friendly and intuitive interactions by building a route that logically flows from one stage to the next. A user interface designer focuses on the user's visual experience that goes with that route.

- **Developer:**

  Software developers are the creative, brainstorming eminence grise that power computer programs of all kinds. Among their daily duties are software development and testing, upgrading, quality monitoring, and documenting all processes for future reference.



==========

2. OVERVIEW OF DIFFERENT DEPARTMENT OF THE ORGANIZATION

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2.1 Work carried out in each departments

2.2 Technical specification of equipment

2.3 sequence of operations

2.4 Production Stages

==========

2.1 Work carried out in each Departments

- **HR Department**

A HR department is tasked with maximizing employee productivity and protecting the company from any issues that may arise within the workforce. HR responsibilities include compensation and benefits, recruitment, firing, and keeping up to date with any laws that may affect the company and its employees**.**

- **Digital Marketing Department**

Digital marketing, also called online marketing, is the promotion of brands to connect with potential customers using the internet and other forms of digital communication.

- **Sales Department**

A sales department is responsible for selling products or services for a company. The department comprises a sales team that works together to make sales, increase profitability and build and maintain relationships with customers to encourage repeat purchases and brand loyalty.

- **Technical Departments**

There are total of 33 Departments but mainly 5 technical departments are there

  - Mobile Application Department
  - Microsoft
  - Open Source
  - Ecommerce
  - Systems.

2.2 Technical specifications of equipment

- Desktop computers
- Processor: intel core i5
- Ram: 8Gb
- Storage: HDD or SSD 1TB
- Video card: Nvidia

2.3 Sequence of Operations

Software Development Process Steps

The software development process consists of four major steps. Each of these steps is detailed below.

- Step 1: Planning
- Step 2: Implementing
- Step 3: Testing
- Step 4: Deployment and Maintenance

- **Step 1: Planning**

An important task in creating a software program is Requirements Analysis. Customers typically have an abstract idea of what they want as an end result, but not what software should do.

- **Step 2: Implementation**

Implementation is the part of the process where software engineers actually program the code for the project.

- **Step 3: Testing**

Software testing is an integral and important phase of the software development process. This part of the process ensures that defects are recognized as soon as possible.

- **Step 4: Deployment and Maintenance**

Deployment starts after the code is appropriately tested, approved for release, and sold or distributed into a production environment. This may involve installation, customization, testing, and possibly an extended period of evaluation.

2.4 Production stages

- It is same as the sequence mentioned above. Ours has software as product so development stages are same.



==========

3. INTRODUCTION TO PROJECT

==========

3.1 Internship and Project Summary

3.2 Purpose

3.3 Objective

3.4 Scope

3.5 Technical & literature review

==========

3.1 Internship & Project Summary

- **Importance of an Internship**
  - An internship provides a variety of benefits for young workers who want to broaden their chances for landing a job and jump-starting their careers.
  - Internships give you a taste of what a profession is like, help you build your resume and let you meet people who can help you in your career.
  - Another benefit of an internship is developing business contacts.
  - These people can help you find a job later, act as references or help you with projects after you are hired somewhere else.
  - Meet the people who have jobs you would like some day and ask them if you can take them to lunch. Ask them how they started their careers, how they got to where they are now and if they have any suggestions for you to improve your skills.

- **Project Summary**

Project Title	Hotel management system	
Aim	A Website made for admins who manages the work on backend and customers or guests. And it has been made to help mainly receptionists and guests and their admins too.	
Field	Culinary world	
Project Category	Web site	
Tools	IDE	Visual Studio Code
	Languages/Frameworks	Html, CSS, Java script, PHP, Bootstrap ,MySQL,Xampp
	Database	MySQL
Duration	12 Weeks (1 February 2023 to 30 April 2023)	

Table 3.1 Project summary

3.2 Purpose

- The purpose of this website is to make the process of booking of rooms in hotels well planned and systematic and it helps to do so and make the process smooth and error free.

3.3 Objective

- It seeks to improve efficiency and operational process performance, strategies are established so that a hotel can be differentiated from what its competitors offer, better ways are sought to improve user experience and customer satisfaction, etc.

3.4 Scope

- Scope of the Project The introducing software, Hotel Management System which is going to be implemented for Hotel will automate the major operations of the hotel. The Reservation System is to keep track in room reservation and check availability.

3.5 Technology and Literature review

- **Front end HTML, CSS, Java script:**

1. HTML:

- HTML (HyperText Markup Language) is the most basic building block of the Web. It defines the meaning and structure of web content.
- Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/behavior (JavaScript).
- "Hypertext" refers to links that connect web pages to one another, either within a single website or between websites.
- Links are a fundamental aspect of the Web. By uploading content to the Internet and linking it to pages created by other people, you become an active participant in the World Wide Web.

2. CSS:

- Cascading Style Sheets (CSS) is a stylesheet language used to describe the presentation of a document written in HTML or XML (including XML dialects such as SVG, MathML or XHTML).
- CSS describes how elements should be rendered on screen, on paper, in speech, or on other media.
- CSS is among the core languages of the open web and is standardized across Web browsers according to W3C specifications.
- Previously, development of various parts of CSS specification was done synchronously, which allowed versioning of the latest recommendations. You might have heard about CSS1, CSS2.1, CSS3. However, CSS4 has never become an official version.

3. JavaScript:

- JavaScript often abbreviated JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS.[11] Over 97% of websites use JavaScript on the client side for web page behavior,[12] often incorporating third-party libraries.[13] All major web browsers have adedicated JavaScript engine to execute the code on users' devices.
- JavaScript is a high-level, often just-in-time compiled language that conforms tothe ECMAScript standard. It has dynamic typing, prototype-based object-orientation, and first-class functions.
- It is multi-paradigm, supporting event-driven, functional, and imperative programming styles. It has application programming interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM).

Back end and tools:

1. My SQL Database

- MySQL is a database system used by many websites on the Internet. It is based on SQL. Many ways of doing things in SQL are similar in MySQL.
- The data is structured in tables in MySQL. And to extract data from the tables queries are used. And in this Hotel Management system the MYSQL is used to store the data entered on the whole SPA (single page application) and the admin page.
- To simplify, MySQL is compatible with many major programming languages. The most common one is PHP. An ODBC interface (called My ODBC) has been made so that users of Microsoft's ASP language can use MySQL.

2. Visual Studio Code:

- A Visual Studio Code, also commonly referred to as VS Code, is a source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.
- Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality. android Studio is the official integrated development environment I have used it to make the SPA via PHP CSS HTML and Java script.
- Visual Studio Code is a source-code editor that can be used with a variety of programming languages, including Java, JavaScript, Go, Node.js, Python, C++ and Fortran. Out of the box, Visual Studio Code includes basic support for most common programming languages.
- This basic support includes syntax highlighting, bracket matching, code folding, and configurable snippets. Visual Studio Code also ships with IntelliSense for JavaScript, TypeScript, JSON, CSS, and HTML, as well as debugging support for Node.js.
- Support for additional languages can be provided by freely available extensions on the VS Code Marketplace.

3. XAMPP Server

- XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.
- Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.
- XAMPP's ease of deployment means a WAMP or LAMP stack can be installed quickly and simply on an operating system by a developer, with the advantage that common add-in applications such as WordPress and Joomla! can also be installed with similar ease using Bitnami.
- XAMPP is regularly update to the latest releases of Apache, MariaDB, PHP and Perl. It also comes with a number of other modules including OpenSSL, phpMyAdmin, MediaWiki, Joomla, WordPress and more.
- Self-contained, multiple instances of XAMPP can exist on a single computer, and any given instance can be copied from one computer to another. XAMPP is offered in both a full and a standard version (Smaller version).I have used Xampp as a local server and ran PHP practicals.

4. PHP:

- PHP started out as a small open source project that evolved as more and more people found out how useful it was. Rasmus Lerdor f unleashed the first version of PHP way back in 1994.
- PHP is a recursive acronym for "PHP: Hypertext Preprocessor".
- PHP is a server side scripting language that is embedded in HTML.
- It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.
- It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.
- PHP is pleasingly zippy in its execution, especially when compiled as an Apache module on the Unix side.

- The MySQL server, once started, executes even very complex queries with huge result sets in record-setting time.
- PHP supports a large number of major protocols such as POP3, IMAP, and LDAP. PHP4 added support for Java and distributed object architectures (COM and CORBA), making n-tier development a possibility for the first time.
- PHP is forgiving: PHP language tries to be as forgiving as possible.
- PHP Syntax is C-Like.
- Common uses of PHP
- PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.
- PHP can handle forms, i.e. gather data from files, save data to a file, through email you can send data, return data to the user.
- You add, delete, modify elements within your database through PHP.
- Access cookies variables and set cookies.
- Using PHP, you can restrict users to access some pages of your website.
- It can encrypt data.

- **Five important characteristics make PHP's practical nature possible**
    - Simplicity
    - Efficiency
    - Security
    - Flexibility
    - Familiarity



4. SYSTEM ANALYSIS

4.1 Study of current system

4.2 Problem and weakness of current system

4.3 Requirement of new system

4.4 System feasibility

4.5 Use Case Diagram

4.6 List of main modules

4.7 Features of new system

4.8 Data Flow Diagram

4.9 Selection of Hardware and software

4.1 Study of current system

- Current system is where Receptionists have to book different bookings manually and manage a ledger or a data register to save or secure the booking details which can be hectic due to human error, less accuracy and other challenges like time issues.

4.2 Problem and weakness of current system

- Time consuming
- Hectic
- High chances of errors
- Maintaining record is difficult

4.3 Requirement of new System

- Need to make a system which can work on one platform.
- System which works on all operating systems such as pc or mac.
- User-friendly system .The main objective of the new system is to have user-friendly system so that it become easy to understand by the nonprofessional.
- Less Time Consumption.
- Easy To Use.
- Easy GUI.
- Easy Maintenance.
- Search and sort to easily find booking, current bookings etc.…
- Responsive Website for any device like laptop , mobile etc..

4.4 SYSTEM FEASIBILITY

- **Does The System Contribute to The Overall Objectives of The Organization?**
  - Yes, the system contributes to the overall objectives of the organization.

- **Can The System Be Implemented Using the Current Technology and Within the Given Cost and Schedule Constraints?**
  - Yes, the system can be implemented using the current technology and within thegiven cost and schedule constraints.
- **Can The System Be Integrated with Other Systems Which Are Already inPlace?**
  - Yes, the system can be integrated with other systems which are already in place.

4.5 Use Case Diagram

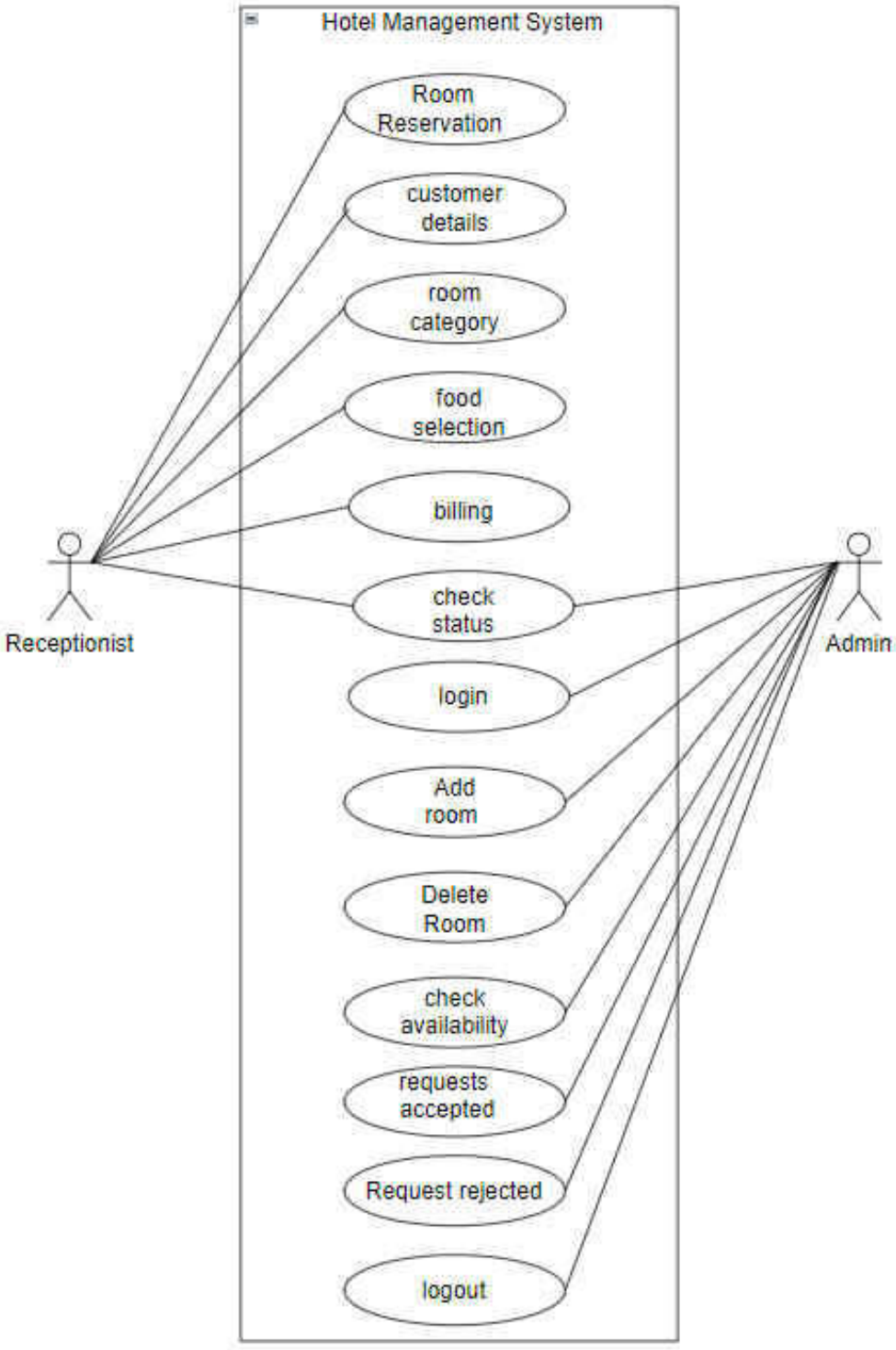


Fig. 4.1 Use case diagram

4.6 List of main modules

- **System consists mainly three main modules:**
  - **Guest:** Guest visit the website and can read news letter and contact the persons.
  - **Customer/ Receptionist:** Receptionist can book the rooms on the customer demand and make the database so it would help.
  - **Admin:** Admin is responsible to approve/reject bookings and categories, filters, locations, rooms, food products, products on the web app, etc.

4.7 Feature

- Features of new system
  - Time saving and convenient
  - Accurate
  - Record keeping is convenient like bookings and payments
  - User friendly user interface
  - Easy to understand and use
  - Can be implemented in different locations
  - Customers/guests gets smooth flow of booking rooms.

4.8 Data flow Diagram

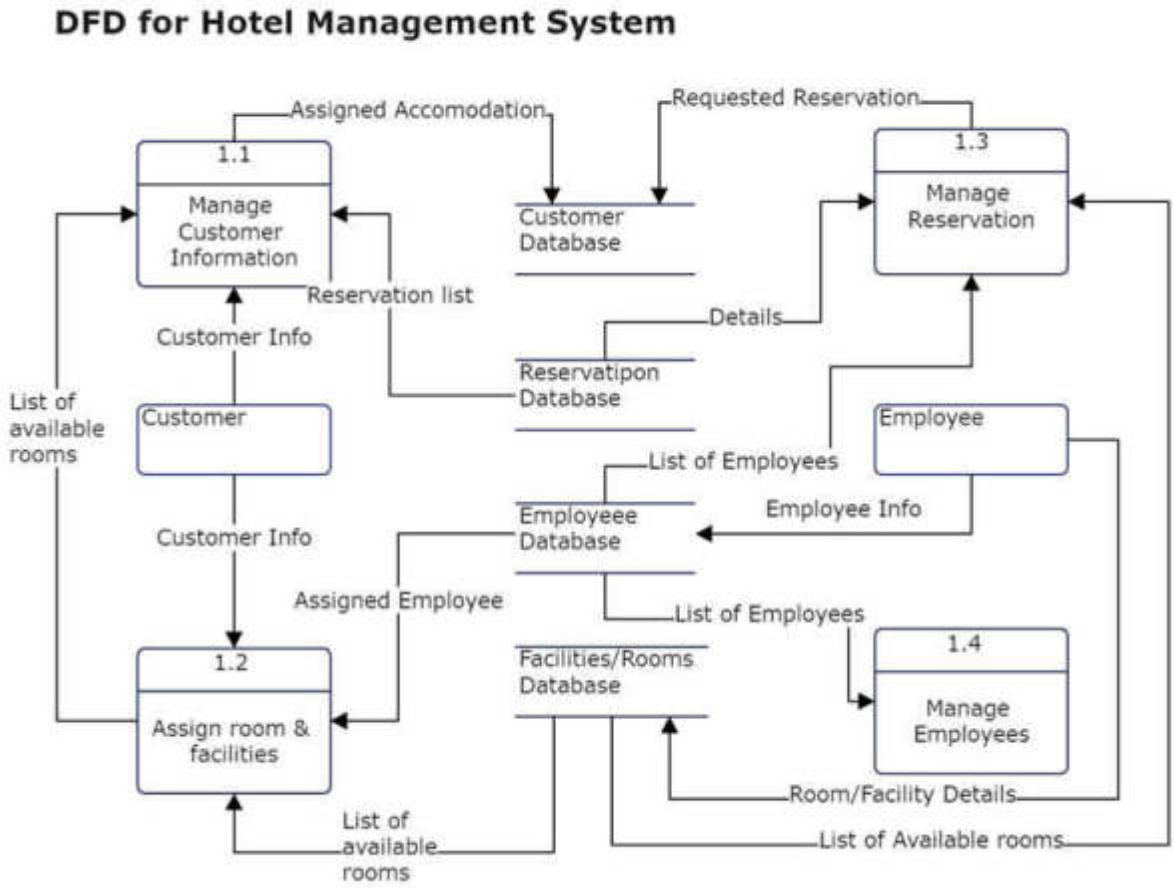


Fig. 4.2 Data flow diagram

4.9 Selection of Hardware and Software

- **RAM**
  - To run VS Code studio , it is Important for your computer to have an adequate amount of RAM. For running software, make sure you have at least 4GB of RAM but preferably 8GB or higher.

- **CPU Speed**
  - Make sure your computer's CPU speed is adequate. The QGIS system requirements recommend: "2.2 GHz minimum; Hyper-threading (HHT) or Multi-core".

- **Hard Drive Storage**
  - Make sure your hard drive is large enough to store GIS data. If you are working with a large geographic area for hotel, you will need plenty of space to store GIS data that can easily be 1GB or larger. A SSD drive has been reported by many GIS users to be a more robust option.

- **64-bit Processing**
  - Starting with version of VS code and XAMPP can now perform 64 bit background processing. To use this, your machine will need to be have a 64-bit operating system.

- **Software Requirements And Code editor:**
  - XAMPP SERVER
  - MYSQL DATA BASE
  - V.S.Code



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5. SYSTEM DESIGN

==========

5.1 System Design and methodology

5.2 Interface design

==========

5.1 SYSTEM DESIGN & METHODOLOGY

- We are using Incremental Methodology in development process. Incremental Model is a process of software development where requirements divided into multiple standalone modules of the software development cycle. In this model, each module goes through the requirements, design, implementation and testing phases. Every subsequent release of the module adds function to the previous release. The process continues until the complete system achieved.

Incremental Methodology & Process

- **The various phases of incremental model are as follows:**
  - **Requirement analysis:**

    In the first phase of the incremental model, the product analysis expertise identifies the requirements. And the system functional requirements are understood by the requirement analysis team. To develop the software under the incremental model, this phase performs a crucial role. Like in hotel management system to reduce anomalies and mistakes we are going to use it.

  - **Design & Development:**

    In this phase of the Incremental model of SDLC, the design of the system functionality and the development method are finished with success. When software develops new practicality, the incremental model uses style and development phase.

  - **Testing:**

    In the incremental model, the testing phase checks the performance of each existing function as well as additional functionality. In the testing phase, the various methods are used to test the behavior of each task.

- **Implementation:**

  Implementation phase enables the coding phase of the development system. It involves the final coding that design in the designing and development phase and tests the functionality in the testing phase. After completion of this phase, the number of the product working is enhanced and upgraded up to the final system product.

5.2 Screen shots of Actual Website (Interface Design)

- **5.2.1 SPA Diagram**

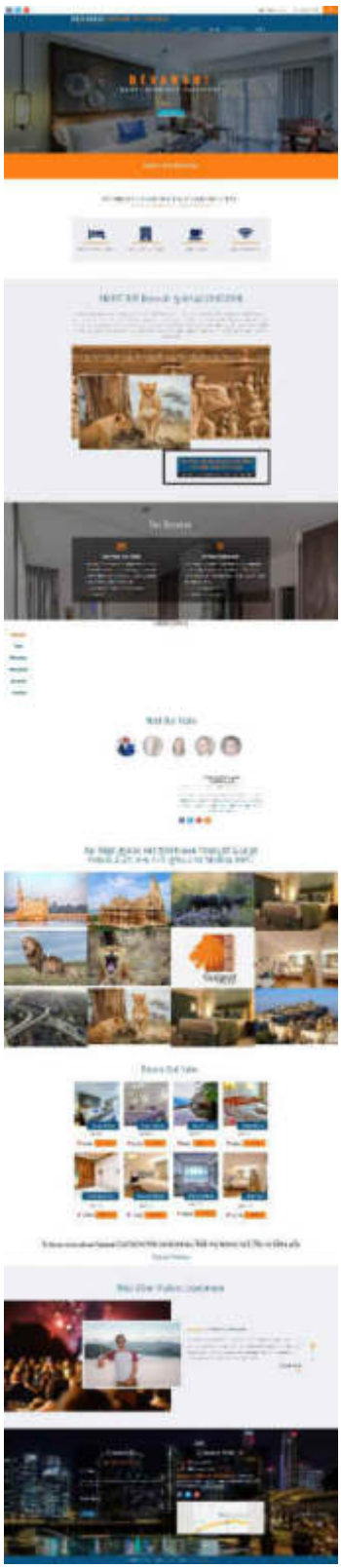


Fig 5.2.1 Whole SPA Diagram

- **Home screen**



Fig 5.2.2 Home screen

- **Specialty and attributes**



Fig 5.2.3 Specialty and attributes

- **Control panel (Attributes):**

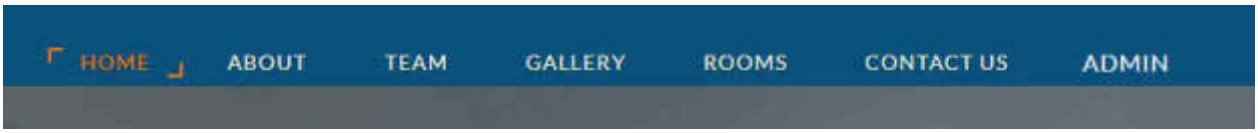


Fig 5.2.4 Control panel (Attributes):

- **5.2.5 About AND Learn More Page**:

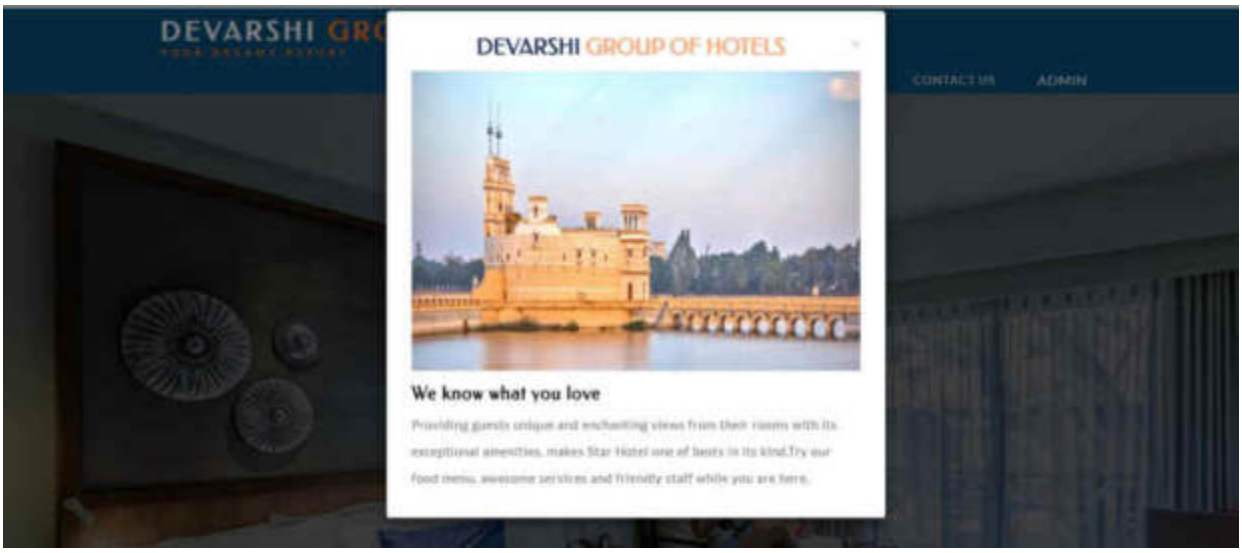


Fig 5.2.5 About AND Learn More Page

- **5.2.6 Team introduction**:

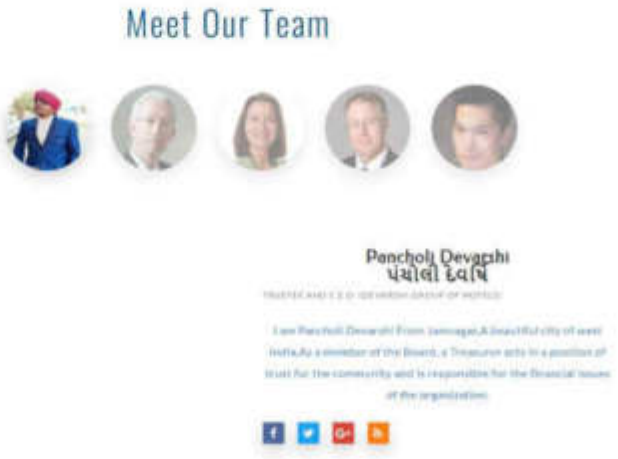


Fig 5.6 Team

- **5.2.7 Services**

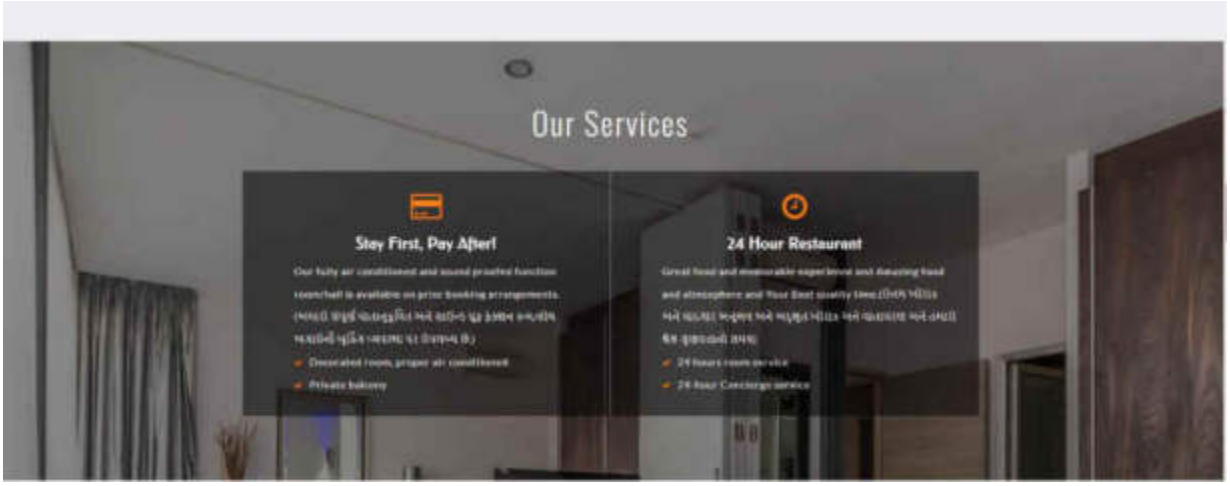


Fig 5.7 services

- **5.2.8 Room rates and classes:**

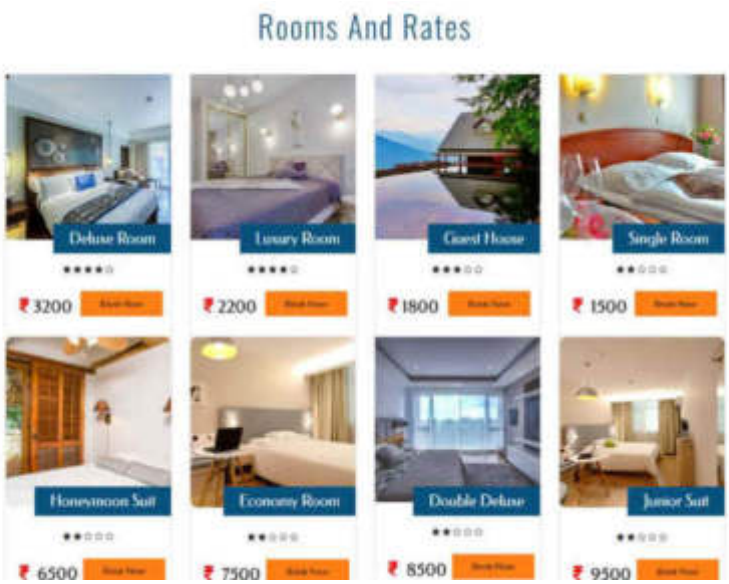


Fig 5.8 room rates

- **5.2.9 Booking (reservation page)**

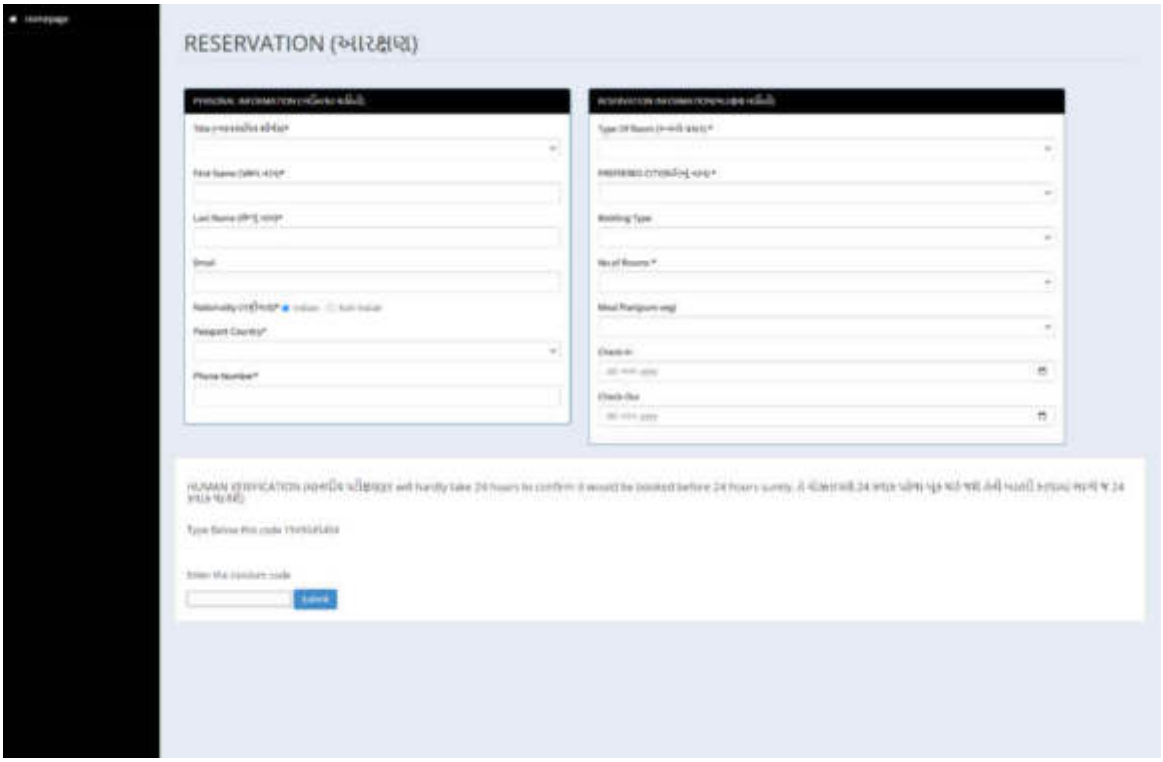


Fig 5.9 Reservation Page

- **5.2.10 learn more**

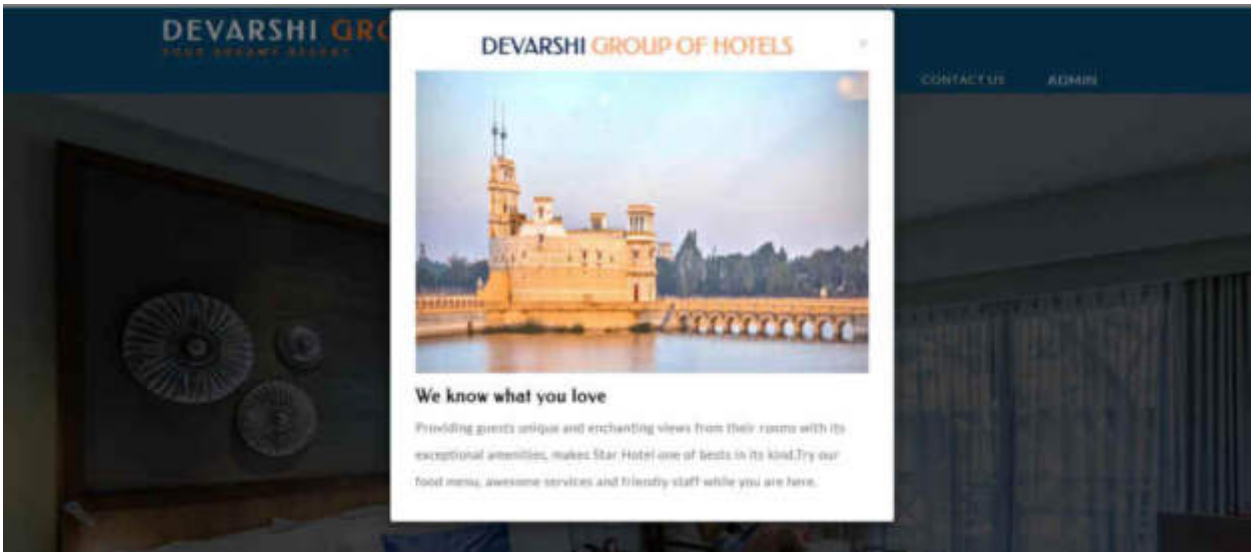


Fig 5.10 learn more page

- **5.2.11 About Us and Contact Us department:**

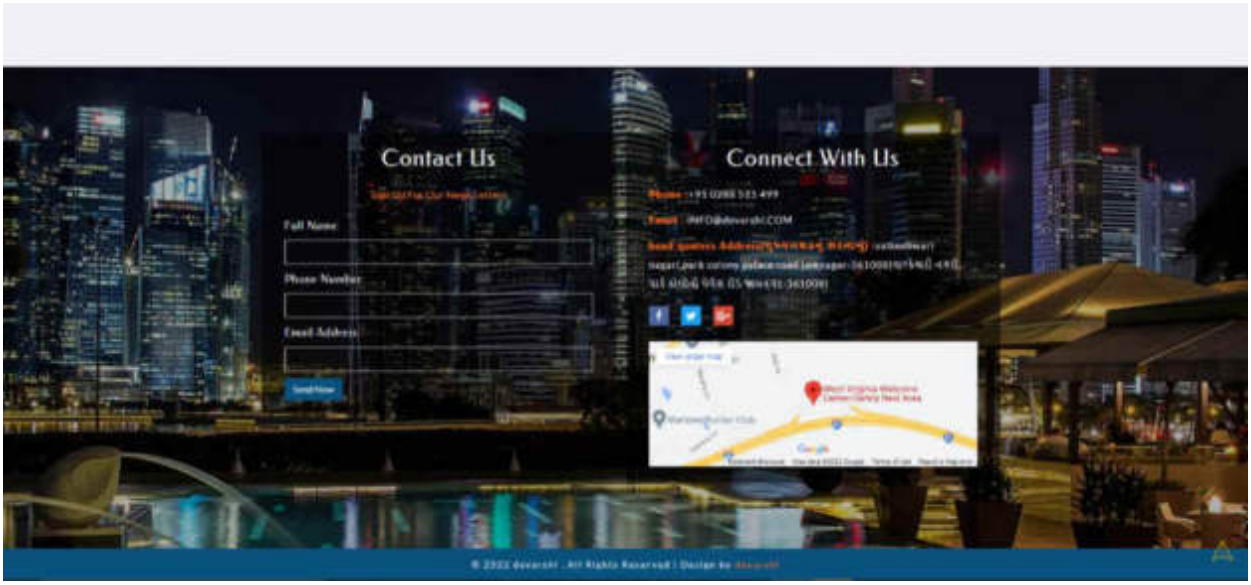


Fig 5.11 About Us and Contact Us department:

- **5.2.12 Feedback:**



Fig 5.12 Feed back

- **5.2.13 Administrative Department:**

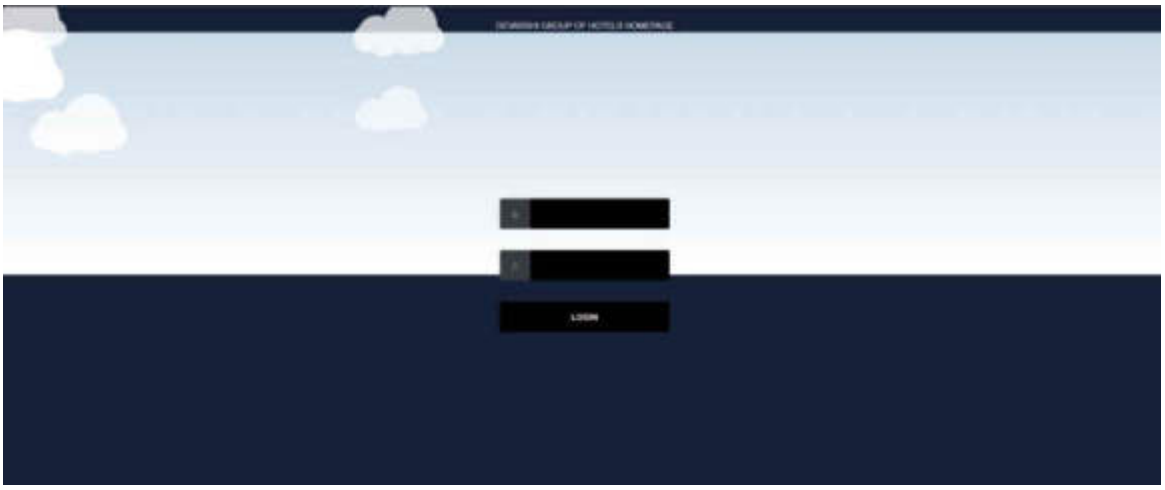


Fig 5.13 Admin Department

- **5.2.14 Admin page**

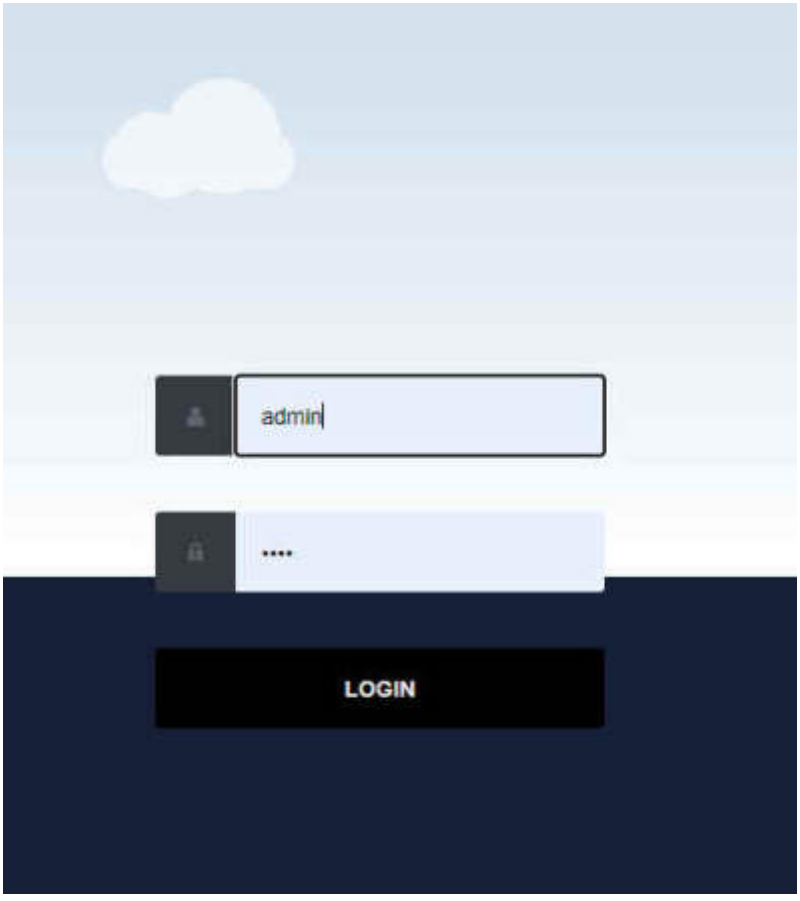


Fig 5.14 Admin page

- **5.2.15 Admin home page**

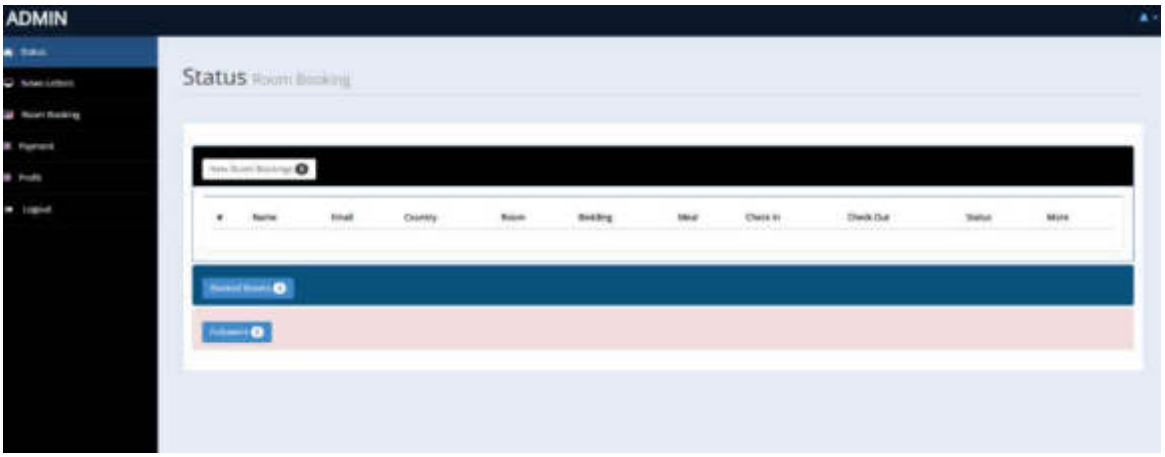


Fig 5.15 Admin Home page

- **5.2.16 Password and User Id**

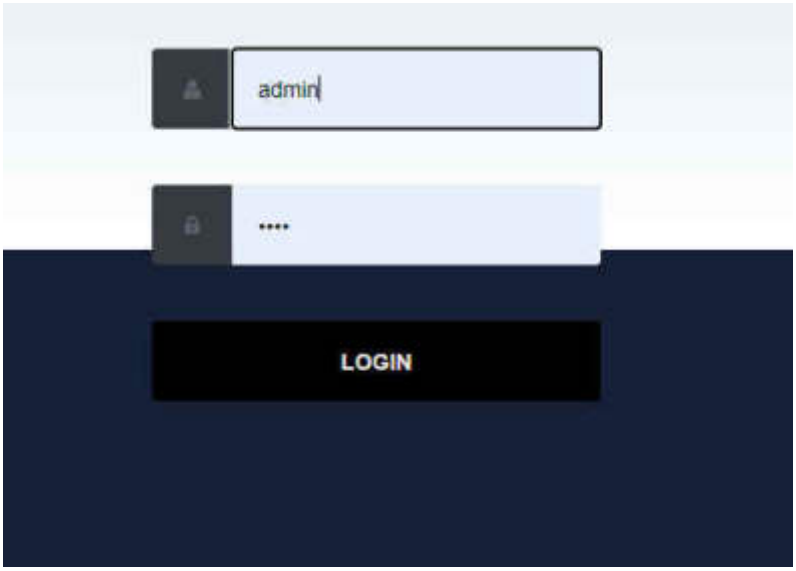


Fig 5.16 Password And User Id

- **5.2.17 News Letter**

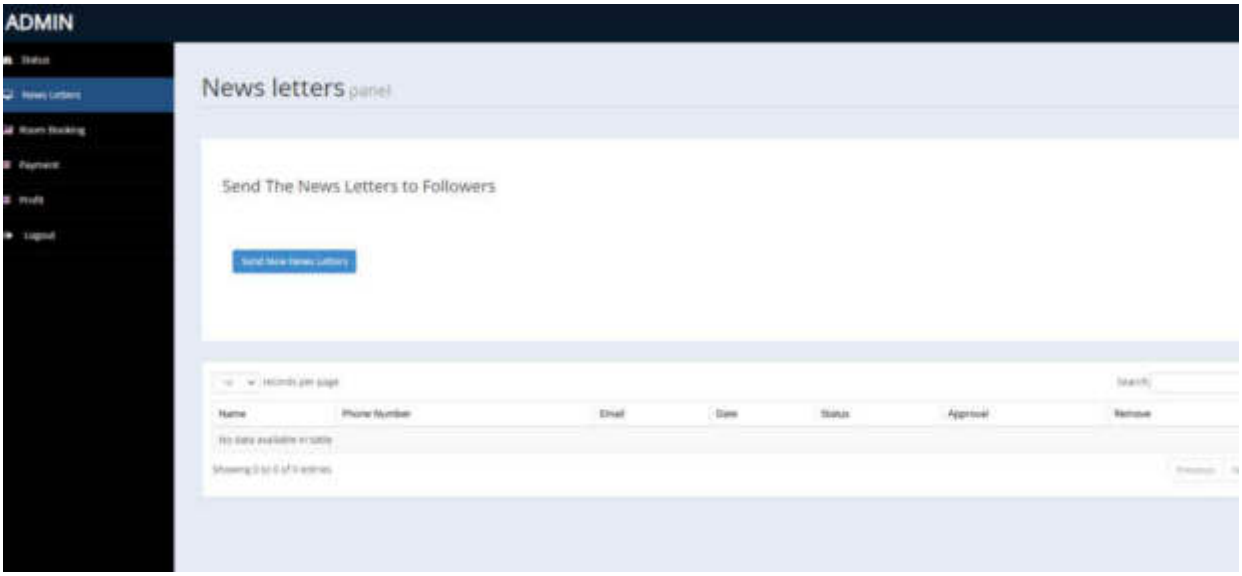


Fig 5.17 News letter

- **5.2.18 Room Booking**

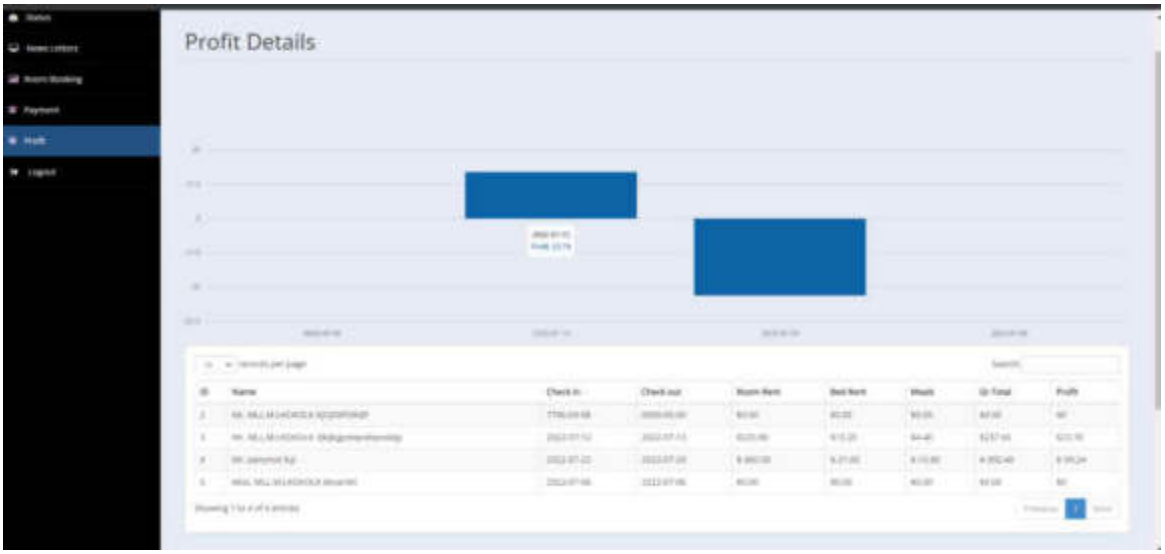


Fig 5.18 Room Booking

- **5.2.19 Profit Details**

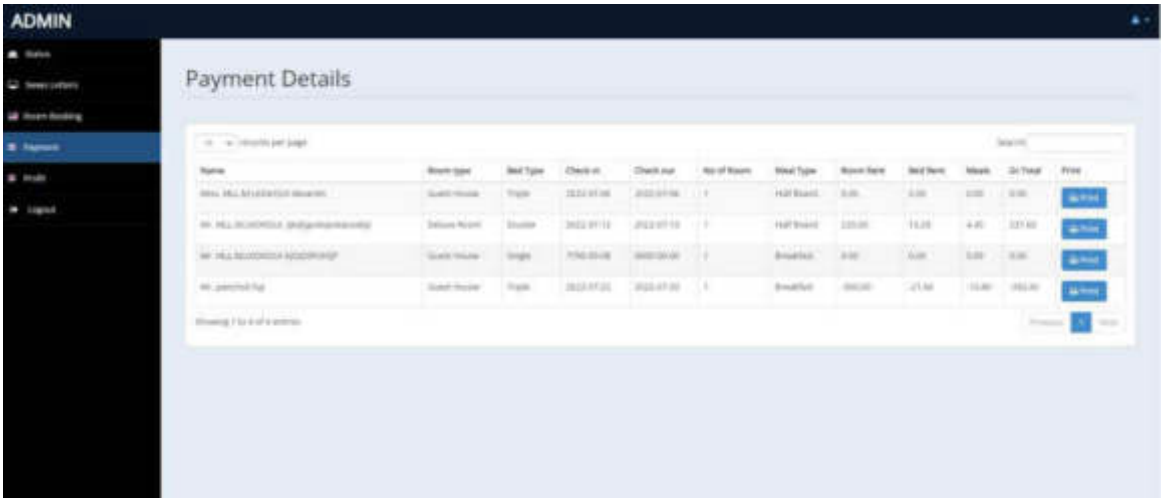


Fig 5.19 Profit Details

- **5.2.20 logout**

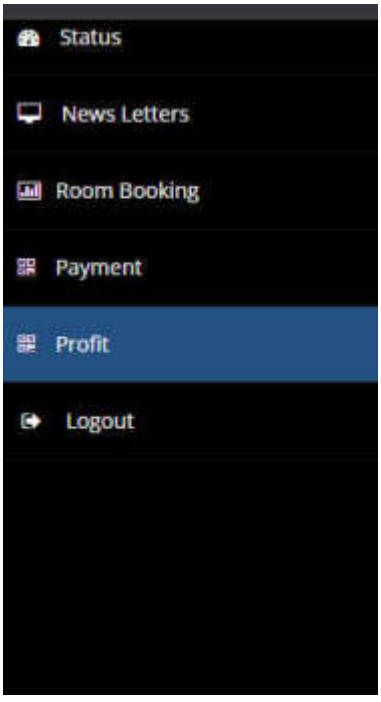


Fig 5.20 logout

- **5.2.21 Administrative profile**

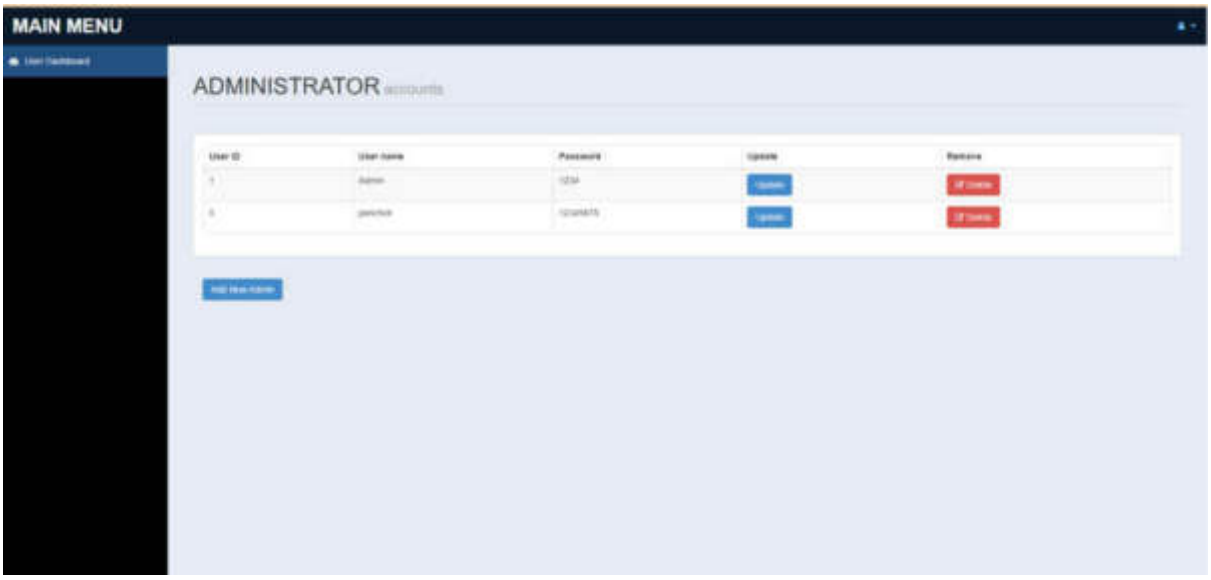


Fig 5.21 Admin Profile

- **5.2.22 Availability of rooms**

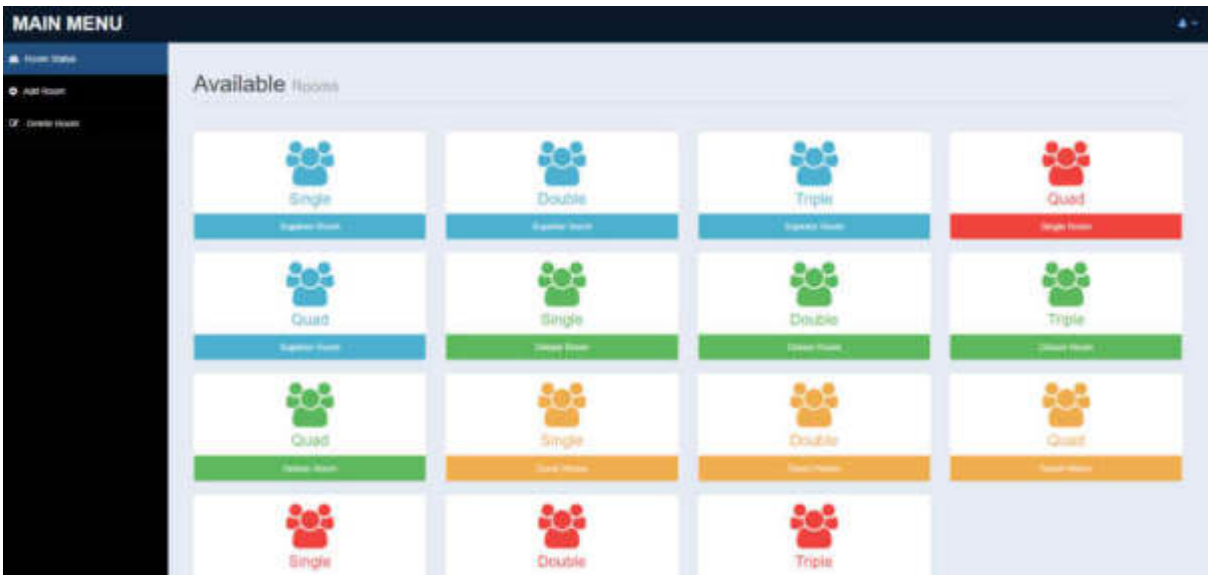


Fig 5.22 available rooms

- **5.2.23 Add room**

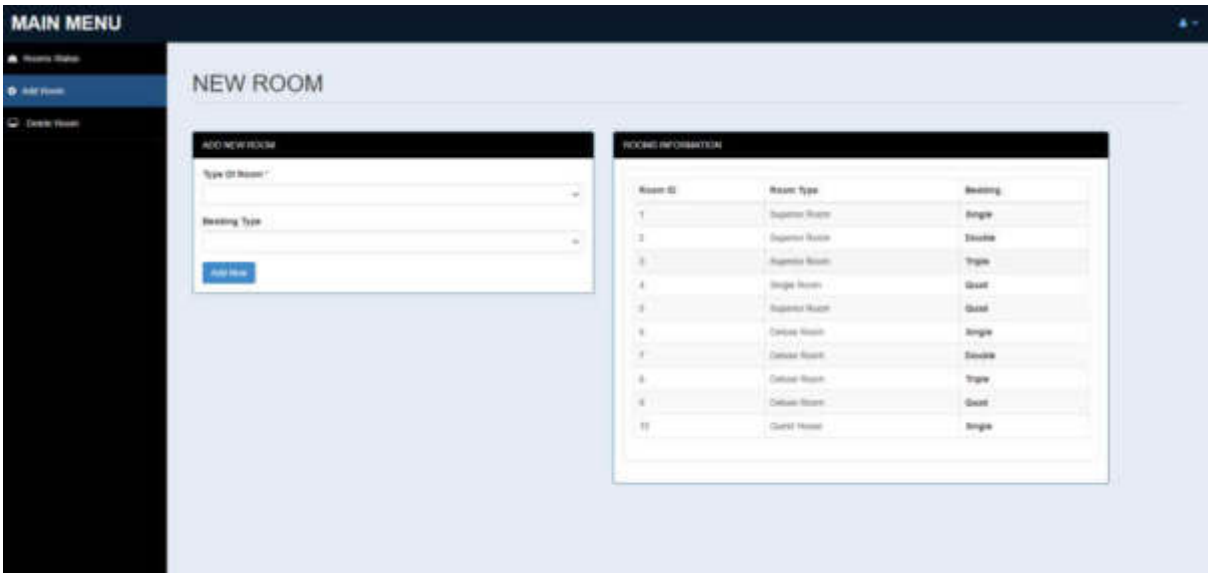


Fig 5.23 Add rooms

- **5.2.24 Delete room**



Fig 5.24 Delete rooms



==========

6. IMPLEMENTATION

==========

6.1 Implementation Platform/ Environment

6.2 Modules Specification(s)

6.3 Finding Results

==========

6.1 Implementation Platform/ Environment

- **Single vs Multi-user**

  As the " Hotel Management System" going to be developed is web application, at the time of implementation it should be kept in mind that system will be used concurrently. So the development approach would remain for the concurrent use like other city's receptionists can also use that at a time.

- **GUI vs Non-GUI:**

  Here HTML, CSS, Bootstrap, Javascript is used for providing GUI, while php and sql is used for making business level logic. My SQL as a platform of Database.

6.2 Module specifications(s)

This website is going to be used by mainly 3 kinds of user that deals with this application:

- **Customers**
- **Admin**
  - **Customer/ Receptionist:**

    Customers can book the rooms and banquets on the customer demand and make the database so it would help.

  - **Admin:**

    Admin is responsible to approve/reject bookings and categories, filters, locations, rooms, food products, products on the web app, etc.

6.3 Findings/results

- **6.3.1 Home Page**

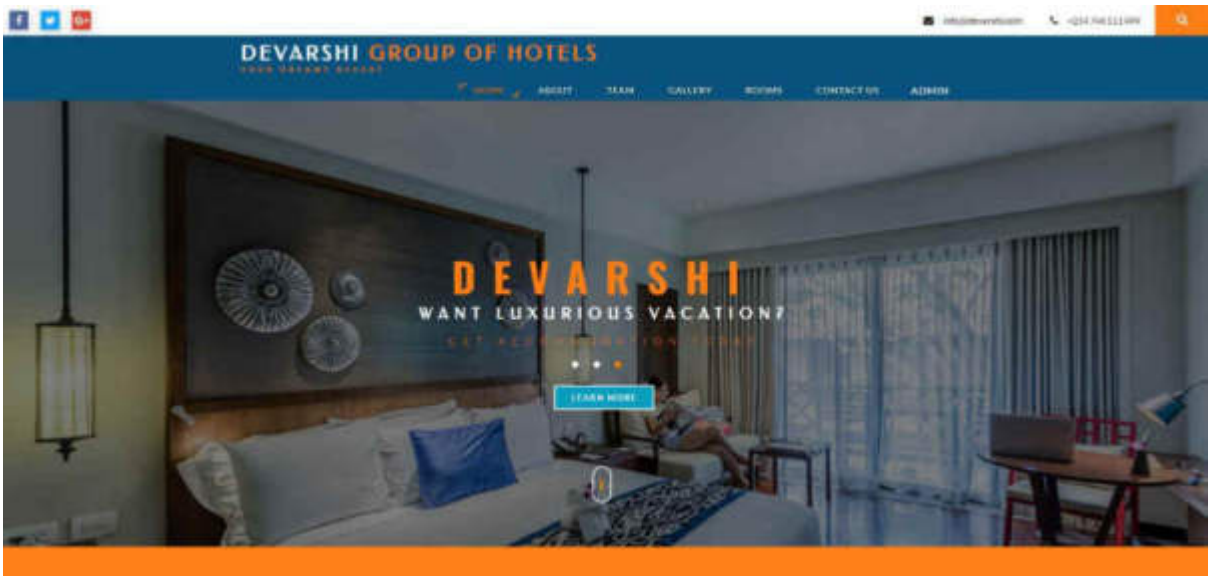


Fig 6.1 Home Page

- **6.3.2 booking section of whole Page**

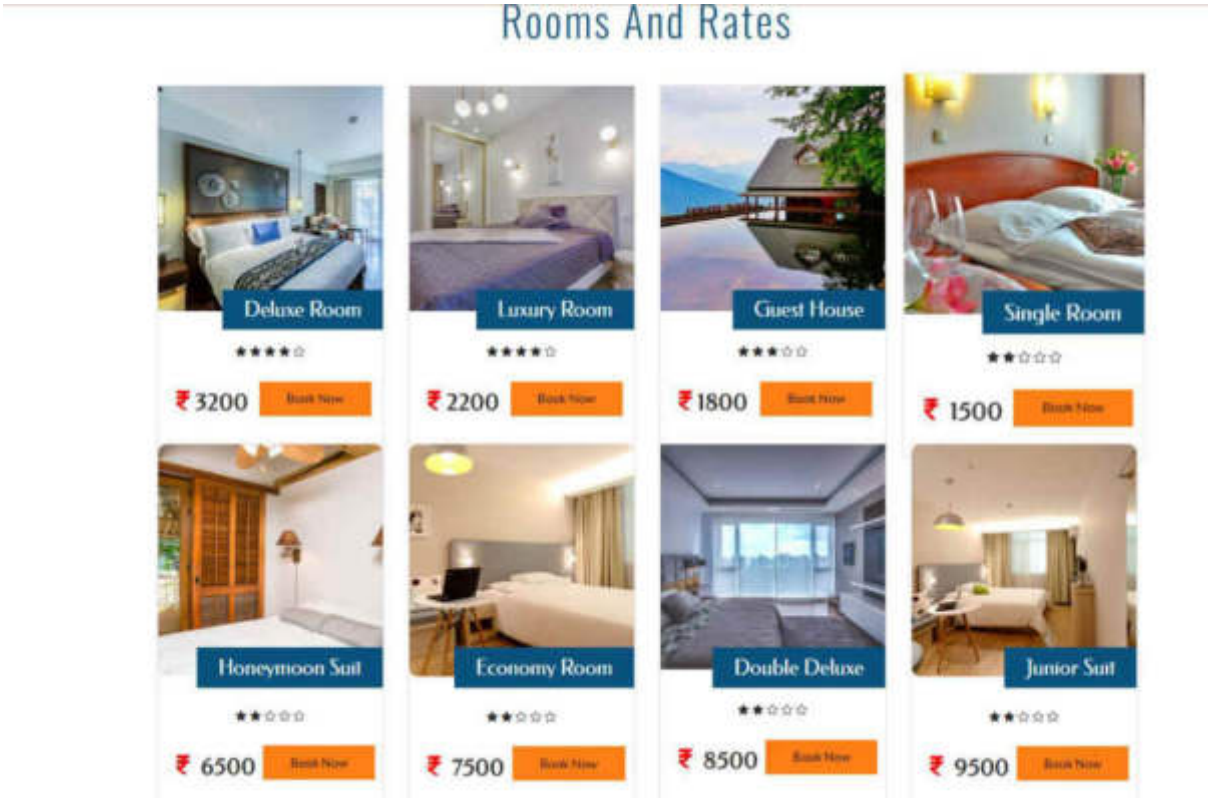


Fig 6.2 booking

- **6.3.3 Reservation Page where the details are to be added**

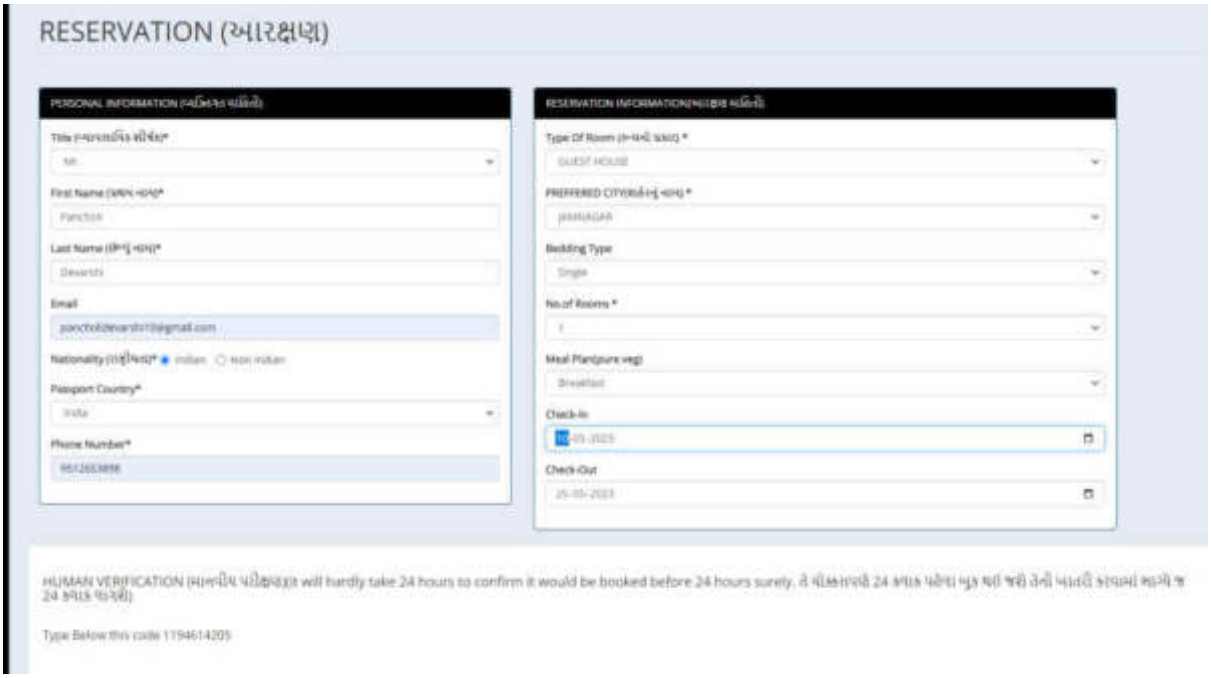


Fig 6.3 Reservation

- **6.3.4 by submitting the details you will get a prompt**

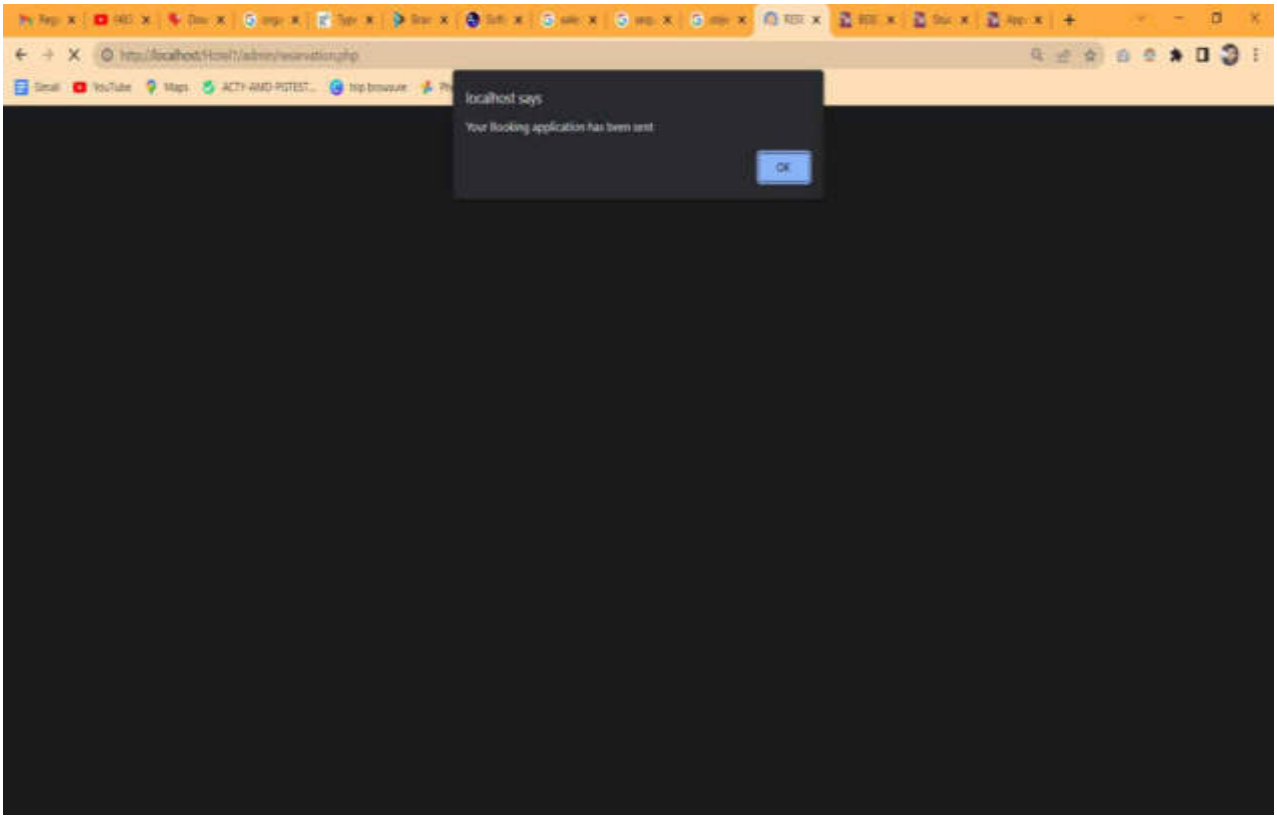


Fig 6.4 submission prompt

- **6.3.5 Go to Admin Panel**

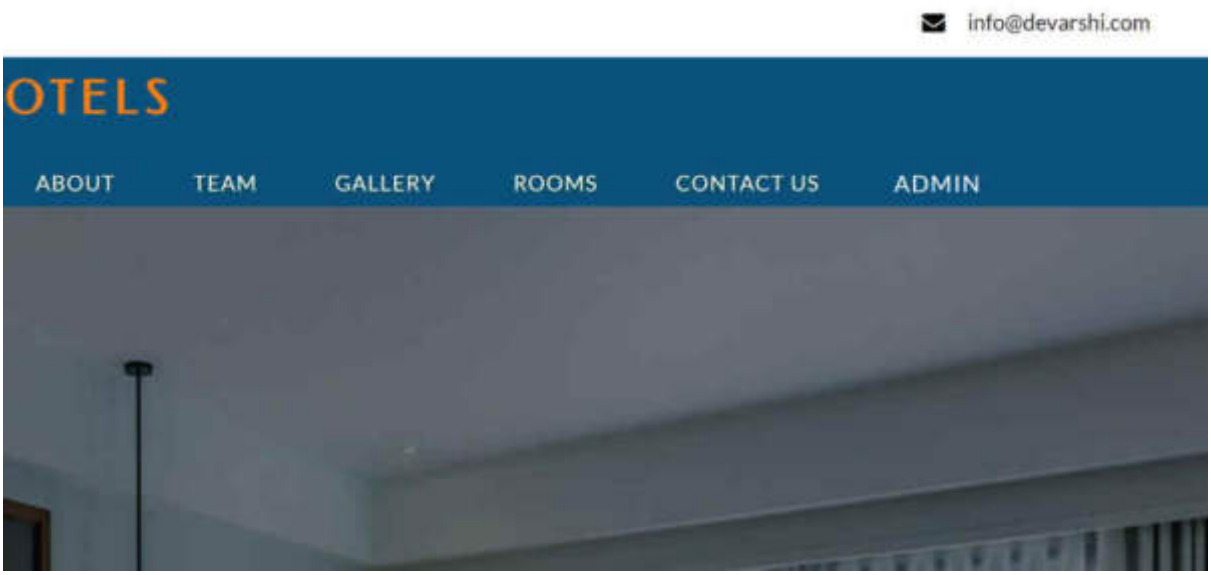


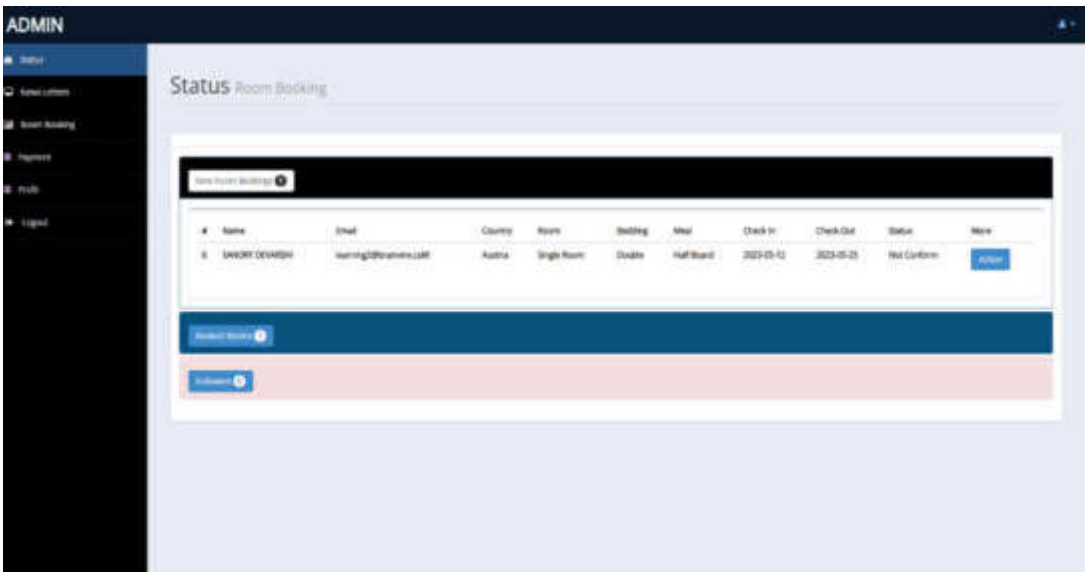
Fig 6.5 Admin panel

- **6.3.6 Admin panel login page**



Fig 6.6 login Page

- **6.3.7 the action can be taken by admin**



z

Fig 6.7 Action taken

- **6.3.8 confirmation can be given (currently rejection can not be done)**

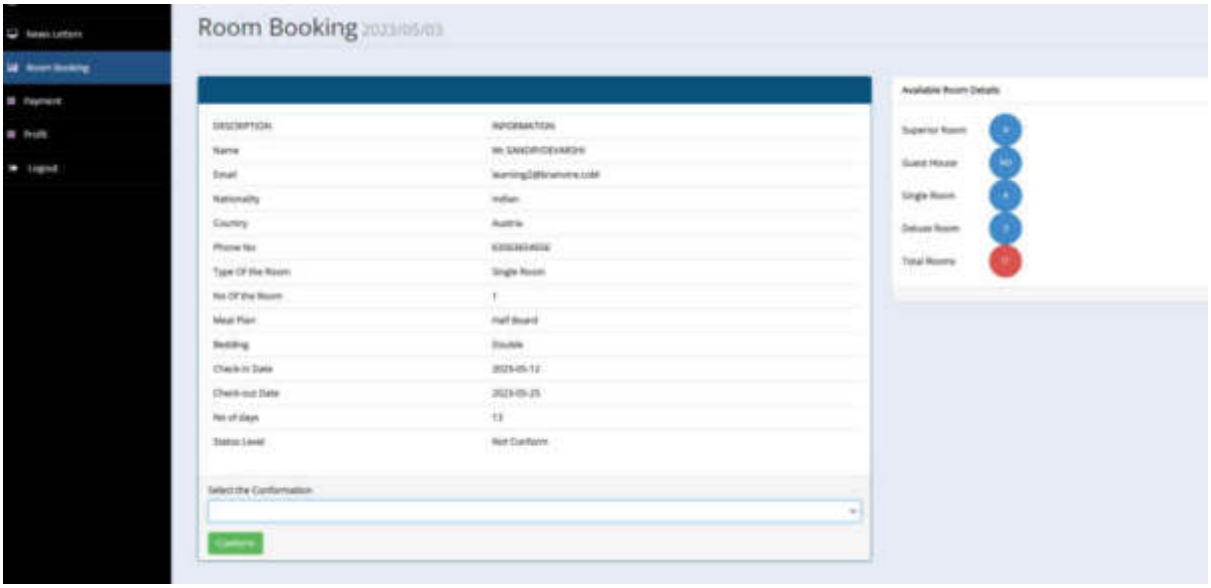


Fig 6.8 Confirm or reject

- **6.3.9 if room is not available then prompt comes**

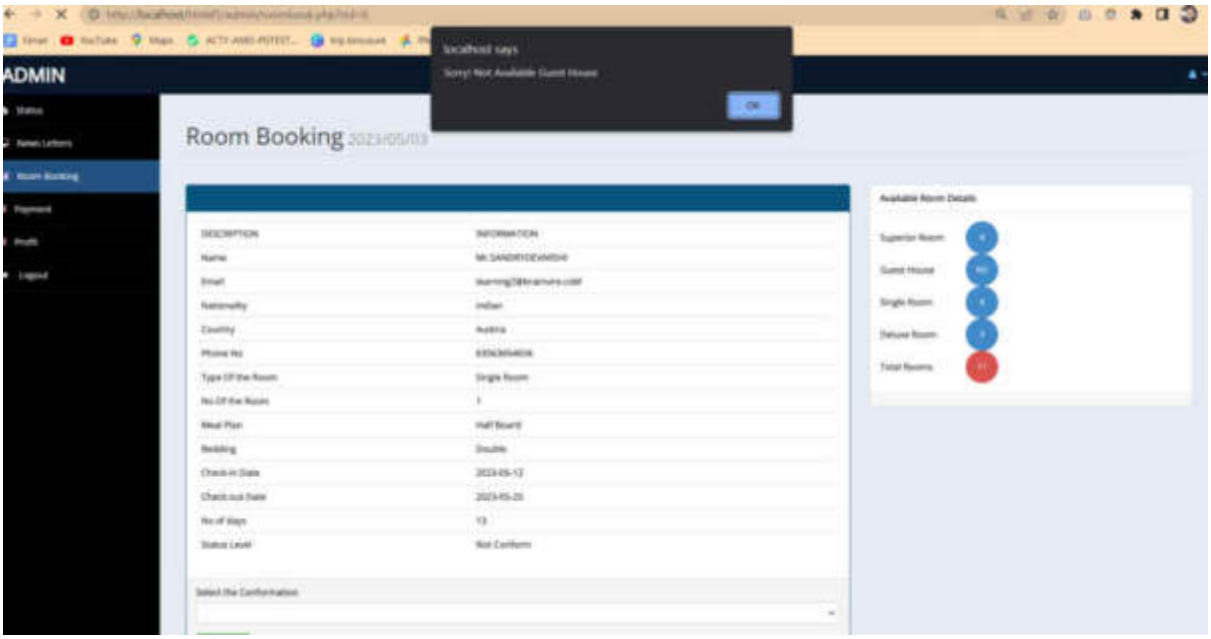


Fig 6.9 Room Availability Page

- **6.3.10 receipts can be printed and bookings can be seen**

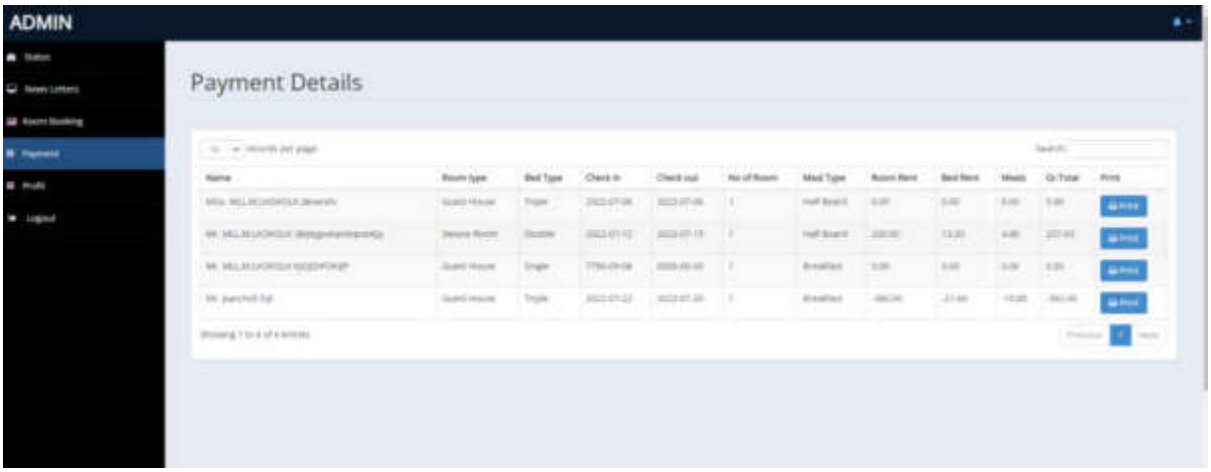


Fig 6.10 Receipt booking Page



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7. TESTING

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7.1 Testing plan/ strategy

7.2 The result and analysis

==========

7.1 Testing plan/ strategy

Unit Testing

- Unit testing involves the testing of each unit or an individual component of the software application.
- It is the first level of functional testing. The aim behind unit testing is to validate unit components with its performance.
- A unit is a single testable part of a software system and tested during the development phase of the application software.
- Unit testing is a software development process in which the smallest testable parts of an application, called units, are individually scrutinized for proper operation.
- Software developers and sometimes QA staff complete unit tests during the development process.
- The purpose of unit testing is to test the correctness of isolated code.
- A unit component is an individual function or code of the application. White box testing approach used for unit testing and usually done by the developers.
- Whenever the application is ready and given to the Test engineer, he/she will start checking every component of the module or module of the application independently or one by one, and this process is known as Unit testing or components testing.

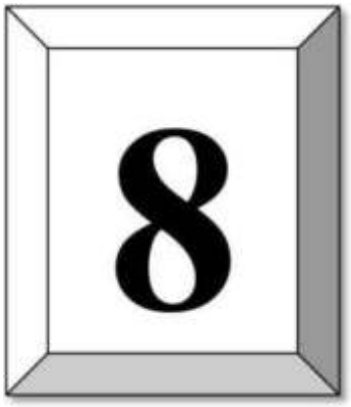
7.2 Test Results and Analysis

Step	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)
1	Book now button	Blank Fields	Give the message of mandatory field	Give Validation message to enter mandatory field	**PASS**
2	Enter all data	Enter All Data Name : first and last Email nationality, passport, phone number, type of room, preferred city Room regarding details	Give the message of Register Successfully	Register Successfully	**PASS**

Table 7.1 Test Case 01 – Registration of new guest

Step	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)
1	Enter User Id and password	Blank Fields	Give the path of admin field	Give Details of booking	**PASS**
2	Action Booking done or not	Blank fields	Give the data	Booked successfully	**PASS**

Table 7.2 Test Case 02 – Admin Login



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8. CONCLUSION AND REFERENCES

==========

8.1 Overall Analysis of Internship / Project Viabilities

8.2 Problem Encountered and Possible Solutions

8.3 Summary of Internship/ Project work

8.4 Limitations And Future Enhancements

8.5 References

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8.1 Overall Experiences of Internship

An internship is a hired introductory position for a defined period.

- They can be paid or unpaid, as the main purpose is for the intern to gain experience.
- You typically apply for an internship during undergraduate or graduate studies in your chosen field, and then work for a company for one or more months, either full-time or part-time.
- You might work as an intern over a summer or during a semester or quarter with your classes. Some internships allow you to receive college credit upon completion.
- Internships are useful for developing soft skills such as interpersonal skills, professionalism, confidence and self-efficacy.
- Interpersonal skills are valued by employers and interns are perceived to require less need for socialization or training to help them adjust to the work environment.
- IT interns in the UK state that the combination of institutional learning and practical work experience is necessary to develop technical and problem-solving skills.
- Internships were particularly useful for enhancing communication skills, team working, customer service skills and creativity among IT interns
- Internships increase the probability of finding employment, but decrease the likelihood of postgraduate studies
- Internships have a positive impact on earnings.
- Internships provide useful labour at low cost to employers .
- Recruitment and training costs can be reduced by employing interns.
- Internships have the potential to facilitate professional networking and knowledge sharing, but there is little evidence that this has occurred.
- Knowledge sharing is more likely to occur if interns who join professional communities are assisted by well–connected mentors who can help them integrate into the community.

8.2 Problem Encountered and Possible Solutions

- At Some part I had some issues with database and some part of php so I took help of mentors and the problems were solved.

8.3 Summary of internship/project work

Project Title	Hotel management system	
Aim	A Website made for admins who manages the work on backend and customers or guests. And it has been made to help mainly receptionists and guests and their admins too.	
Field	Culinary world	
Project Category	Web site	
Tools	IDE	Visual Studio Code
	Languages/Frameworks	Html, CSS, Java script, PHP, Bootstrap, MySQL, Xampp
	Database	MySQL
Duration	3 12 Weeks (1February 2023 to 30 April 2023)	

Fig 8.1 summary

8.4 Limitations And Future Enhancements

Limitations

- There are few limitations in the website like registration of receptionist and many features are not currently available. Getting timely update by notifications of any news letters.On admin panel we cant delete the previous records. Only Cash on delivery payment option is available as of now.

Future Enhancements:

- Will provide automatic booking solutions, provide Payment modes feature to the customer and do proper integration Customer directly module in future enhancement.
- Registration page for the receptionists and tie up with various payment platforms for exclusive discounts and offers.

8.5 References:

- About Visual Studio 2010 Technology :http://en.wikipedia.org/wiki/Microsoft_Visual_Studio_2010#Visual_Studio_2010
- About Microsoft SQL Server Technology: https://en.wikipedia.org/wiki/MySQL
  Link: https://www.mysql.com/downloads/
- CSS Bootstrap: https://www.google.com/search?q=css+bootstrap+link&oq=css+bootstrap+link&aqs=chrome..69i57.6913j0j7&sourceid=chrome&ie=UTF-8
- XAMPP Server: https://rb.gy/ajxuc
- Youtube: https://www.youtube.com/watch?v=Gl2CjTgweFE&list=PL5JtwPJY734LqBXeOCJxblN85nrATORWS

INTERNSHIP AT Yudiz solutions

AN INTERNSHIP REPORT

Submitted by

Jaimin Mukeshbhai Darji

190390116003

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information technology Engineering

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at Yudiz solutions** has been carried out by **Jaimin Mukeshbhai Darji** under my guidance in partial fulfillment for the degree of Bachelor of Engineering in Information technology, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign	Sign
Prof. Upasna Leela	Prof. Akshay Kansara
Internal Guide	Head of Department

yudiz
Solutions Limited

Date: 28th April, 2023

To whom so ever It May Concern

This is to certify that **Mr. Jaimin Darji** a student of **Saffrony Institute Of Technology** is working as a Trainee/Intern with our Company for the duration of six months starting from 1st February, 2023 to till date, as a **Web Development Trainee** and working on a project **"Online Flower Selling Website".**

His exposure in these areas is very good. During his tenure with us, he ably handled major responsibilities and we found him to be hardworking, creative and very productive.

We have found him to be self-starter who is motivated, duty bound, and a highly committed team player with strong conceptual knowledge.

The company will not provide any type of Source Code outside the premises. We wish him good luck for his future endeavours.

Sincerely,

Kinjal Shah

Functional Manager- HR





S.P.B. Patel Engineering College, Mehsana

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Yudiz solutions** submitted in partial fulfillment for the degree of Bachelor of Engineering in **Information technology** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Upasna Leela** & **Mr. Kirtan Gajjar (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student	Sign of Student
1. Jaimin mukeshbhai Darji	_____

ACKNOWLEDGMENT

Acknowledgement is just a way to express gratitude, something so deep that it cannot be expressed fully. Nobody is complete on its own. He/She needs someone's help in his/her life. The best way to have a good idea is to have lots of ideas. We have a sincere feeling that the credit of the project could not be narrowed down. It is a great sense of satisfaction that we present our real venture in practical computing in the form of project work. It is also a matter of privilege and an honor for us to work on the project "**Online Flower selling website**". We wish to express our heart full thanks to all who assisted us during the project.

Certainly, the project could not have been completed without valuable suggestions and guidance from various sources. Very special thanks to the entire faculty and especially, who helped us to create such a system. We are very grateful to **S.P.B. Patel Engineering College** and to our college **Department of Information Technology Engineering** in which we are going to submit our project.

Abstract

This project is about an online flower selling system. It is developed for flower business and to buy flowers online from anywhere across the world and clients get delivery of flowers at their desired time so flexibility in order also extra comment can be added if there are any special requirements. This project also can be adopted for other services like its decoration service and festival offers that are available on the website for a limited time and special discount if you buy in that time. so this website will result in easy availability of flowers and decorations services and improve their experience of flower shopping.

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Abbreviations

QA	Quality Assurance
QC	QualityControl
VS code	visual studio code
PHP	Hypertext preprocessor

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Any supporting documents in scanned copy

CHAPTER 1. INTRODUCTION OF COMPANY

1.1 COMPANY PROFILE:



OUR MISSION

Who we are?

We are digital transformation catalysts offering web, mobile, game and blockchain solutions for your business!

An ISO 9001:2015 certified IT development company, Yudiz is an ideal digital transformation and technology services company for your needs. Right from ideation to execution, we have consistently delivered the competitive edge in the form of robust, fore- sighted, and qualitative solutions.

Awarded as the best mobile app development company in Gujarat in 2015 by GESIA, Yudiz continues to offer exceptional all-round IT services that is testimony toour top-notch offerings and commitment to excellence. With our agile, collaborative approach,

we have provided tailored domain-specific IT solutions that have successfully resolved different business issues. Our deep expertise in mobile app development, game development, Block chain, AR/ VR, and web development has helped us retain numerous clients for years.

1.2 SERVICES PROVIDES BY THE COMPANY:

- Web Development
- Game Development
- UI/UX design
- Blockchain Development
- AR/VR Development
- Social Media marketing

CHAPTER 2: INTRODUCTION OF PROJECT

- Websites have become a much-needed and most feasible way of spreading any business or idea. A lot of developers are working hard to maintain the performance and standards of a variety of applications. In this internship, I got the opportunity to learn such technologies and work on some great products. During the training period, interns are exposed to a variety of activities in the field of duties, even though the job is not done entirely by interns for security or regular students were briefed and clear guidance and useful enough as a piece of general knowledge, as well as exposed to the real working environment and can learn social skills such as communication and Teamwork.

2.1 PROJECT SUMMARY

- This website is about an online flower selling system and also has features to use in other ways.
- As the name suggests it is a website which is built for selling flowers online across the world anywhere. Just the customer needs to select flower by search name and color and order it by place order and make payment. Also, extra comments can be added and delivery time also can be decided by the client.

2.2 PURPOSE

- The website should be easy to navigate and visually appealing to visitors. To achieve this, the website's layout should be designed to showcase the seller products and services.
- The website's navigation should be simple and intuitive, allowing visitors to quickly find the information they need. The use of clear headings, subheadings, and drop-down menus can help organize the website's content and make it easier to navigate.

2.3 OBJECTIVE

- Architects can showcase their expertise by providing detailed descriptions of their past projects, including sketches, floor plans, and photographs. They can also include blog posts that discuss current trends in architecture and design.

2.4 TECHNOLOGY PREVIEW

1. VS code:

- Vs code is an IDE for writing code to build websites; it supports a variety of extensions for use according to requirements. It supports code optimization and code refactoring. In addition, it also can format your code document. it has a feature of auto detect language so if you don't know it can automatically detect language of code. It has the feature of a live server so your code changes will be applied to browsers in live coding.

2. Xampp server:

- It is a server that is used for local hosting of server.It also supports Apache server, MySQL , Tomcat etc. so using this server user can check performance of website and evaluate changes.

2.5 TECHNOLOGY AND TOOLS

Backend	:	PHP and JavaScript
Frontend	:	HTML, CSS, JavaScript
Database	:	MySQL

Table 2.5.1 Technology and Tools

CHAPTER 3: PROJECT MANAGEMENT

3.1 PROJECT DEVELOPMENT STEPS

- We follow a simple step for making this website, firstly we visit so many sites and observe their process for creating our project. Later on, we collect all required resources and utilize them in a proper manner. The company instructs us on how to make it.
- The First step for our project is creating a data dictionary. After that we create a use case diagram for the project. After that we started implementation of our project.

3.2 PROJECT COST ESTIMATION

- The answer to this question really depends on what kind of website you are trying to build. A typical personal website can cost as low as $100. The cost of a business website can range from anywhere between $100 per year to as high as $30,000 per year.

3.3 PROJECT SCHEDULING

- For scheduling this project or any other project we can divide the whole project into individual small objectives and specify who will do what work and give a deadline for each objective to complete and it is necessary to deliver a working product to the client on specified time. We also check for resources availability to complete each objective of the project. There are various scheduling techniques also available for scheduling projects and risk evaluation and feasibility studies are also part of project Scheduling. Project scheduling can also vary according to size of project and importance of project. Techniques like Gantt chart are very useful for scheduling of project

CHAPTER 4: SYSTEM ANALYSIS

4.1 SYSTEM FEASIBILITY

- The system feasibility of a website is an essential part to consider when developing a website. It involves the technical, economic, and operational aspects of the website to determine whether it can be developed within the time, budget, and resources.

4.1.1 Financial Analysis

- A financial analysis is an important part of any feasibility study. We need to determine the costs associated with creating a WordPress website and whether it is financially able.

- The costs include the web hosting fees, domain registration, website design and development, content creation, and ongoing maintenance. We also need to estimate the potential revenue that the website could generate.

4.1.2 Technical Requirements

- Creating a website requires certain technical knowledge. We need to make sure that we have the necessary skills and resources to complete the project successfully.

- Some of the technical requirements include knowledge of HTML, CSS, and PHP, and with web hosting and domain registration. We also need to ensure that the website is optimized for search engines and mobile devices.

4.1.3 Market Analysis

- Before creating any project, it's important to make a market analysis to determine if there is a demand for the product and service or not. In the case of a Flower selling website, there are certain factors to consider.

- Firstly, we need to identify the target audience for the website. This will help us to determine what kind of content to create and how to structure the site.

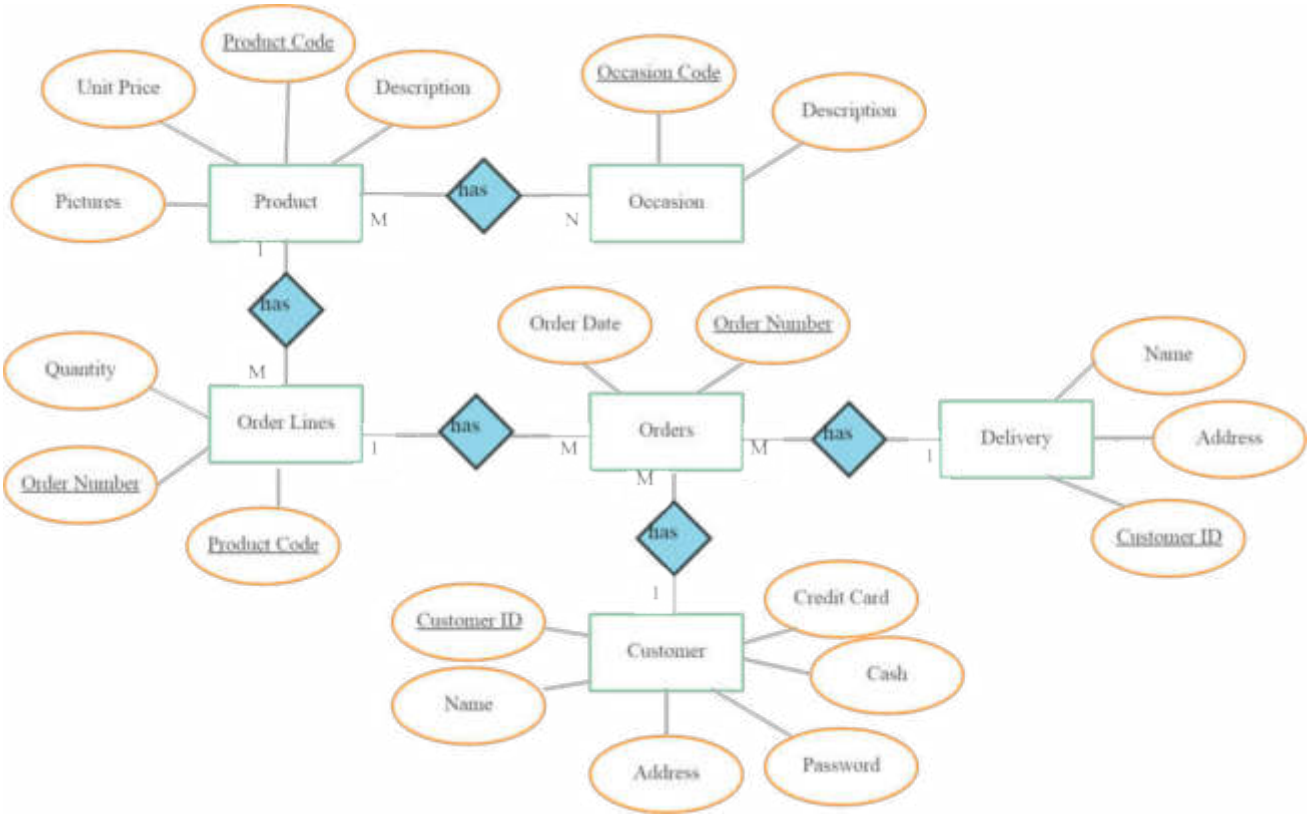
4.2 ACTIVITIES IN NEW PROPOSED SYSTEM

- User information management system
- Delivery management
- Product management
- Admin and their roles assignment
- Payment and checkout management

4.2.1. Use case diagram



4.2.2. E-R diagram



4.2.3 LIST MAIN MODULES / COMPONENTS / SYSTEM

1. Home Page:

- categories of flowers with its images and product details
- Services Provide by website
- Contact Detail of host

2. Flower category:

- Fresh flowers
- Long life Rose
- Orchids
- Faux flowers and services

3. Payment page:

- Delivery address
- Add to cart
- Add comments
- select Delivery time

4. Contact page:

- Email address

  Telephone

5. About US:

- Vision and purpose of website.

4.3 SELECTION OF HARDWARE / SOFTWARE / METHODOLOGY / TECHNIQUES /

- **Software Requirement**

    - Web server : WAMP/MAMP/XAMPP
    - Disk space : At least 1 GB
    - PHP : Version 7.4 or higher upto 8.1
    - Database : MySQL 5.015 or higher (An alternative is Maria DB, version 10.1 or higher)

- **Hardware Requirement**

    - RAM (Random Access Memory) : At least 512 MB
    - CPU (Central Processing Unit) : At least 1.0 GHz
    - Support for HTTPS

Table 4.5.1 Software and Hardware Requirement

CHAPTER 6: IMPLEMENTATION

6.1 IMPLEMENTATION PLATFORM

- Working platform: VSCODE
- Programming language: HTML, CSS, PHP, JavaScript, AJAX
- Web server: Apache
- Database: MySQL

6.2 MODULE SPECIFICATION

- **Admin Module:** This module is maintained by the admin and only he/she can manage and have access to every account. Admin can add or delete the customer and site details. They can modify the functionalities of the system, too. Admin will be like a super user having control over each and everything which makes the Website more secure and with single security control. It also manages user, roles, blogs, product management, Tag management, Users, General settings etc.

- **Login module:** In this module Individual users are able to login to their profile. Also, login available for admin so it can manage everything.

- **Payment Module:** This module handles payment done by customers and provides a payment summary before final checkout. It also handles carts so at last moment items can be updated before final payment.

- **Product Management Module:** It is a admin side module kind of sub module that keep track of available products such as availability of customers required flowers and make sure it is in stock

- **Profile Module:** It is both side modules, in other words if say when a new client comes to the website first, they have to register before login to account and the other side admin is also assigned login credentials according to their roles and rights.

- **Tag Management Module**: It is a module that handles special offers of website. when any festival session so admin will assign offer through tag management and its expiry date so that it will be appear on website for particular time and will destroy when expiry date exceed.

- **Blog module**: when any new product comes, the admin will prepare an article about it and attach a banner to the blog and publish it on the website to inform customers about the new product and its shapes, colors and categories.

- **Franchise module:** In this module when any person wants to introduce partnership for current business or wants to open a same name shop with reference to the current shop so the person must have to request franchise to the website. This inquiry section is available on the home page of the website so a person can mail for such inquiries.

- **FAQ (Frequently Asked Questions) Module:** It is a module that provides answers to basic questions like guide of website navigation and basic technical information about drives through all features of a website or if a client faces some other issues. This section is also totally managed by the admin side.
- **Carriers Module:** It is a module that provides information about current available vacancy to nearby flower stores or any kind of opportunity to join with a website organizer.

6.4 SEO (Search Engine Optimization)

What Is SEO?

- SEO stands for **search engine optimization**, which is a set of practices designed to improve the appearance and positioning of web pages in organic search results. Because organic search is the most important way for people to discover and access online content, a good SEO strategy is essential for improving the quality and quantity of traffic to your website.

- The key difference between SEO and paid advertising is that SEO involves "organic" ranking, which means you don't pay to be in that space. To make it a bit simpler, search engine optimization means taking a piece of online content and optimizing it so search engines like Google show it towards the top of the page when someone searches for something.

- When it comes to broader SEO, there are two equally important paths: **on-page SEO** and **off-page SEO.**

6.5 SOME IMPORTANT TERMS USED FOR PROJECT

6.4.1 DOMAIN

- A domain name refers to the URL people type in a web browser's address bar to access your site. In other words, domain names offer a convenient way for people to access websites. The numerical label assigned to every website and server on the internet, also known as an **IP address**.
- Generally, domain names are comprised of two main parts – a **second-level domain** (SLD) and a **top-level domain** (TLD). Second-level domains usually consist of words or phrases, while top-level domains are the predetermined extensions that follow. For example, in the case of **google.com**, the second-level domain is **google**, and **.com** is the TLD.

6.4.2 HOSTING

- Web hosting services allow you to publish the website on the internet. If you buy a hosting service from a provider, you will have a portion of their web servers to store your website's files and data.
- Besides, a hosting provider usually offers customer support, server maintenance, and website builders to help users create and maintain their site. In addition to storing website files, a web host protects the server and your website files from malicious attacks.

- Some web hosting companies, such as Hosting, also provide domain registration to help you create a website even quicker and more efficiently.

CHAPTER 7: TESTING

7.1 TESTING PLAN

- The testing plan serves as a roadmap for the testing team and helps to ensure that all testing activities are executed efficiently and effectively.
- Testing should be documented to provide efficient resource control monitoring.
- Test Plan: A test plan is a document that consists of all future testing-related activities. It is prepared at the project level and in general, it defines work products to be tested, how they will be tested, and test type distribution among the testers.
- It acts as a quick guide for the testing process.
- It determines the time, cost and effort.
- Avoid lengthy paragraphs.
- Update plan.
- Don’t use outdated documents.

7.2 TEST RESULT AND ANALYSIS

- Test results and analysis are an essential part of the testing process. After executing that, the testing team analyzes the test results to identify any defects, issues and other problems with the software application or system under test.
- Collect test results: The first step is to collect the test results generated during the testing process. This includes test case execution results.
- Identify defects: Review the test results to identify any defects or issues with the application or system under test.
- Analyze defects: Analyze each defect in detail to determine its solution.
- Report defects: Report the defects to the development team using a defect tracking tool.
- Retest defects: After the defects have been fixed, the testing team should retest them to ensure that they have been resolved correctly.
- Provide feedback: Provide feedback to the development team.

7.3 THE BENEFITS OF WEB APPLICATION TESTING

Compatibility across browsers:

- Every user uses different browsers while surfing websites. The practice of web application testing helps the apps to function the same for every user using different browsers.

Improves website performance:

- The methodology of web application testing successfully helps to overcome the slow app performance. Applications with slow performance are not the choice for any user and Google even. Web app testing helps to resolve the load time delays because of the graphics, code, etc.

Secures App from vulnerabilities:

- Security is an important factor for every application. Day-by-day the rate of website hacks is increasing, so there is a need for all enterprises web app testing to make sure they are free from the different kinds of threats.

Ensures high quality of the application:

- The end-to-end testing practice effectively helps in enhancing the performance and functionality of the app. And, this way of testing helps to find and resolve the bugs at earliest. Thus, a high-quality app will be achieved before the release.

Reduces the Time and Cost Consumption:

- This will help the enterprises to achieve quality results with reduced time and cost.

CHAPTER 8: CONCLUSION AND DISCUSSION

8.1 OVERALL ANALYSIS OF INTERNSHIP

- The project is for selling flowers online. The software takes care of all the requirements of the process and is capable of providing easy and effective storage of information related to customers and owners that come up to the system. In this system customers can easily view some special one site design. And they can find all types of architecture sites according to their needs. In this system admin can provide preference according to the customer's needs.

- I have learnt so many things such as managing URLs, database queries and many more.

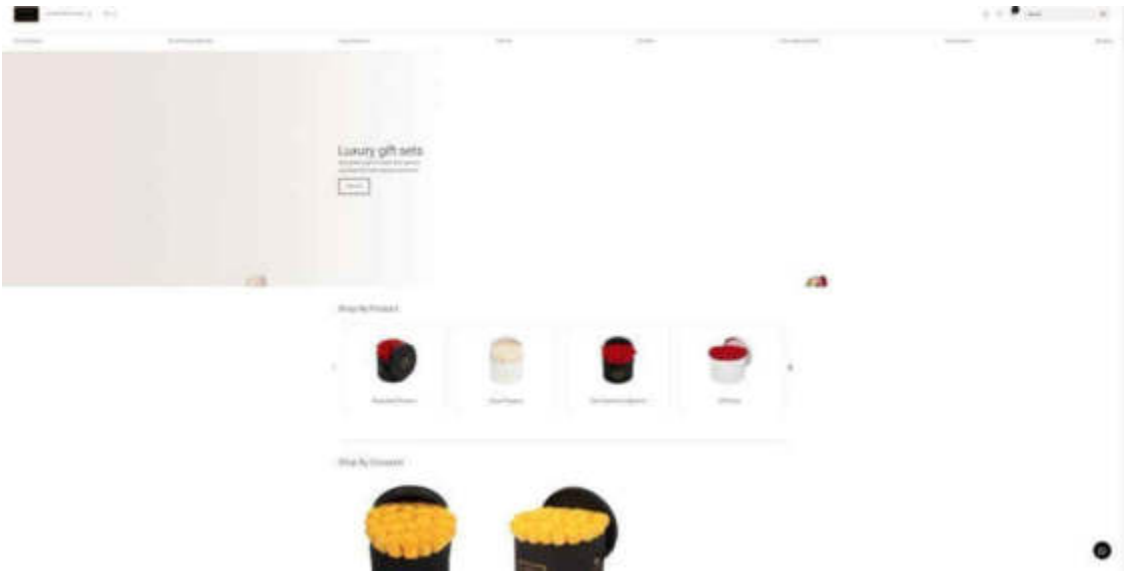
8.2 SUMMARY OF INTERNSHIP WORK

- On the whole, this internship was a useful experience. I have gained some knowledge and skills. I achieved several of my learning goals, however for some conditions it was not permitted. I got insight into professional practice. Related to my study I learned more about how to make projects with Vscode and XAMPP. There is still a lot to discover & to improve.

- The internship was also good to find out what my strengths and weaknesses are. This helped me to define what skills and knowledge I have to improve in the coming time. However, I could perform certain tasks in research better if I practice more than I learn new things in my subject.

8.3 Images of website

Fig 8.3.1 Home Page



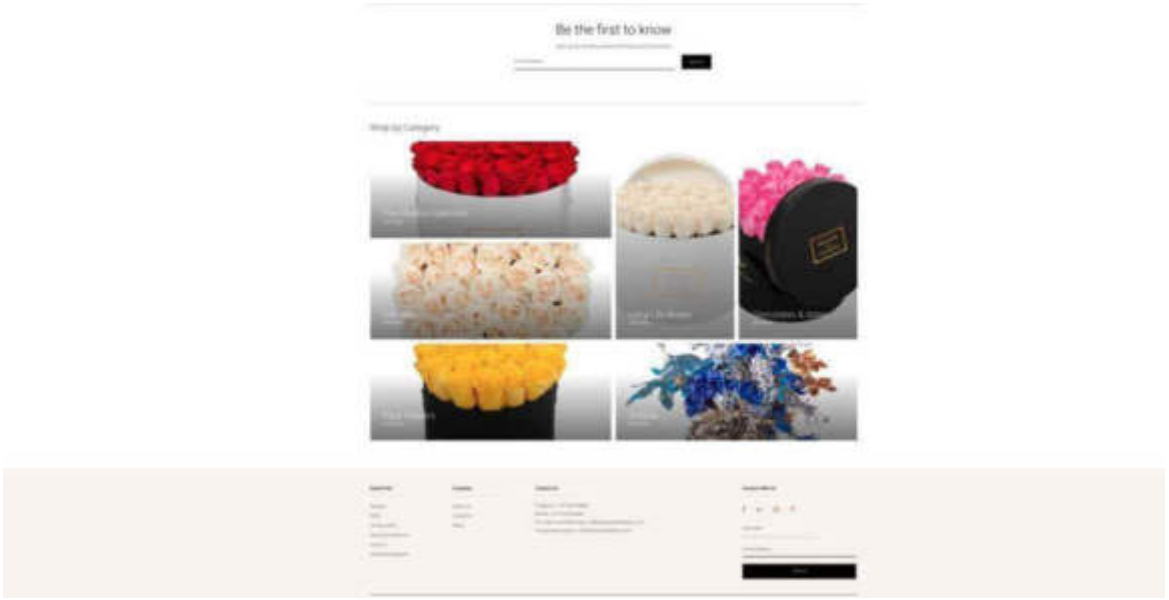
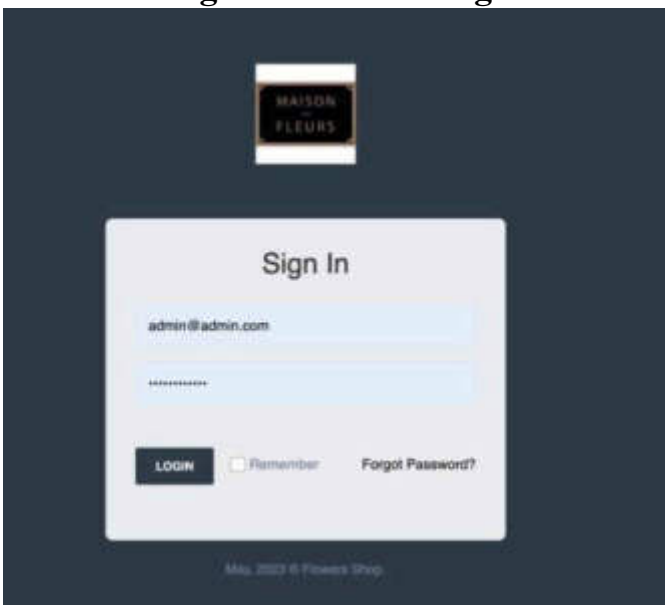


Fig 8.3.1 Home Page 2

Fig 8.3.2 Admin Login



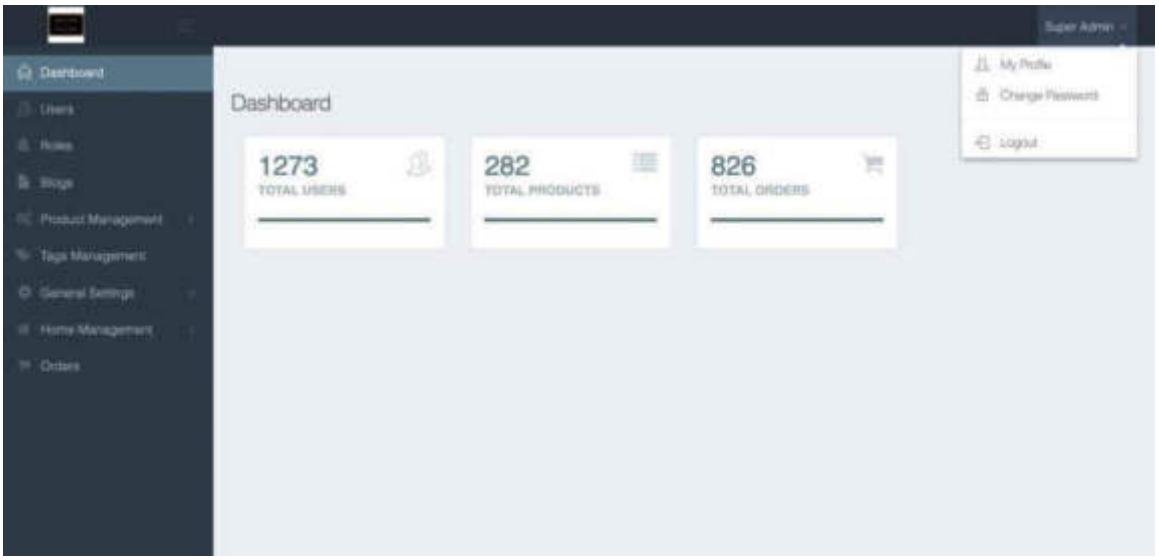


Fig 8.3.3 Admin dashboard

Fig 8.3.4 About us page

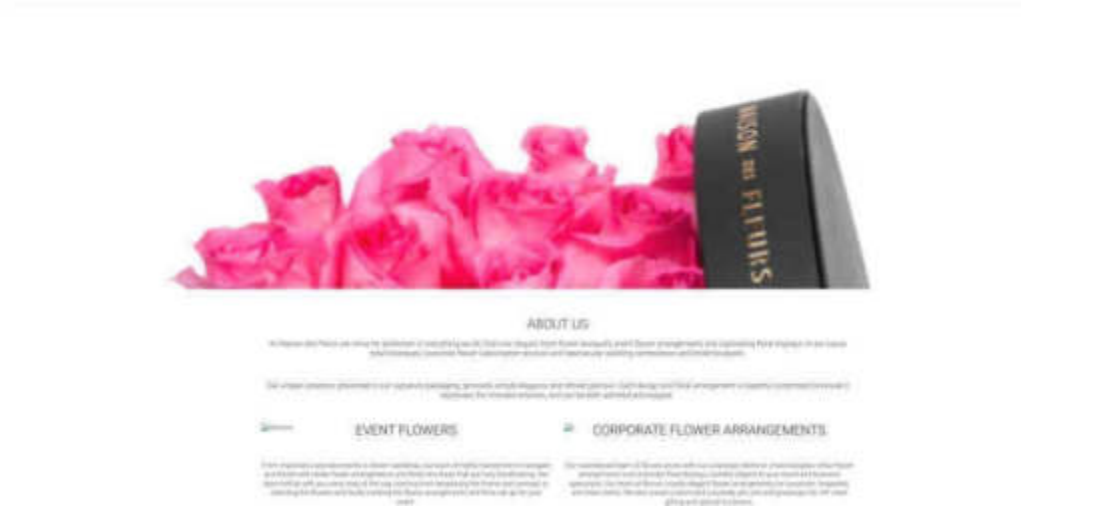
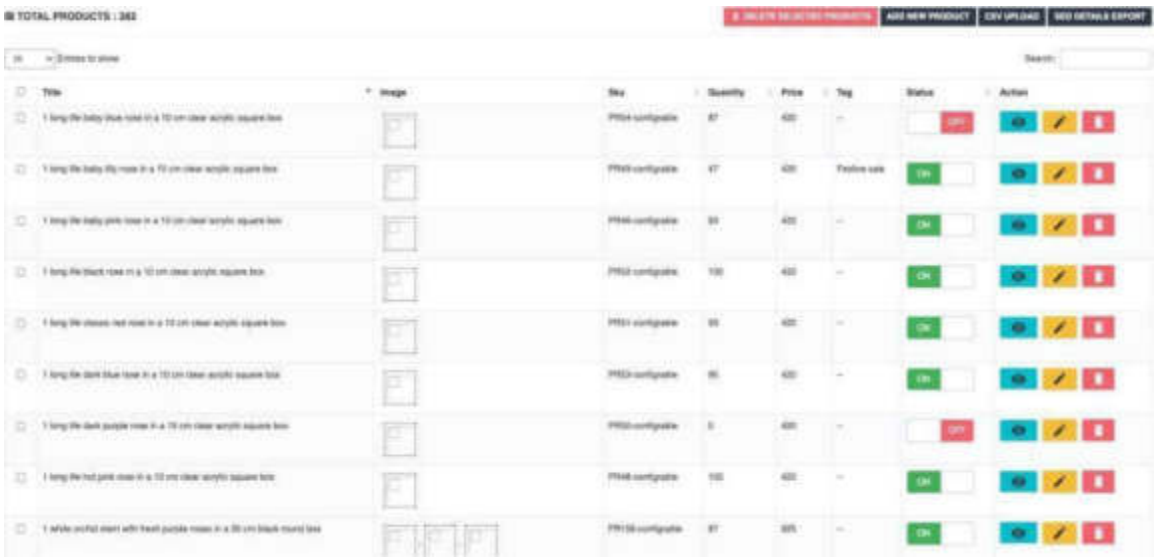


Fig 8.3.6 Payment module



Fig 8.3.7 Sub modules of Admin panel







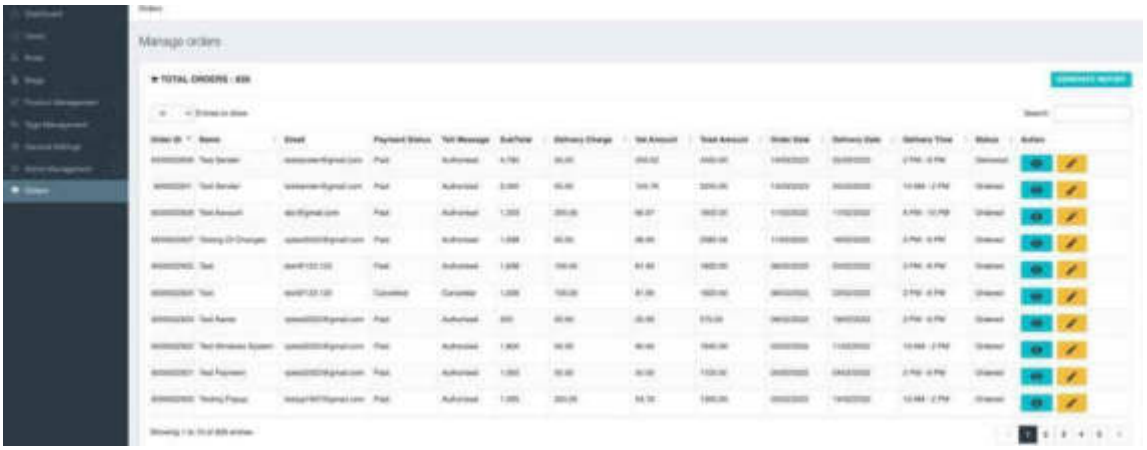
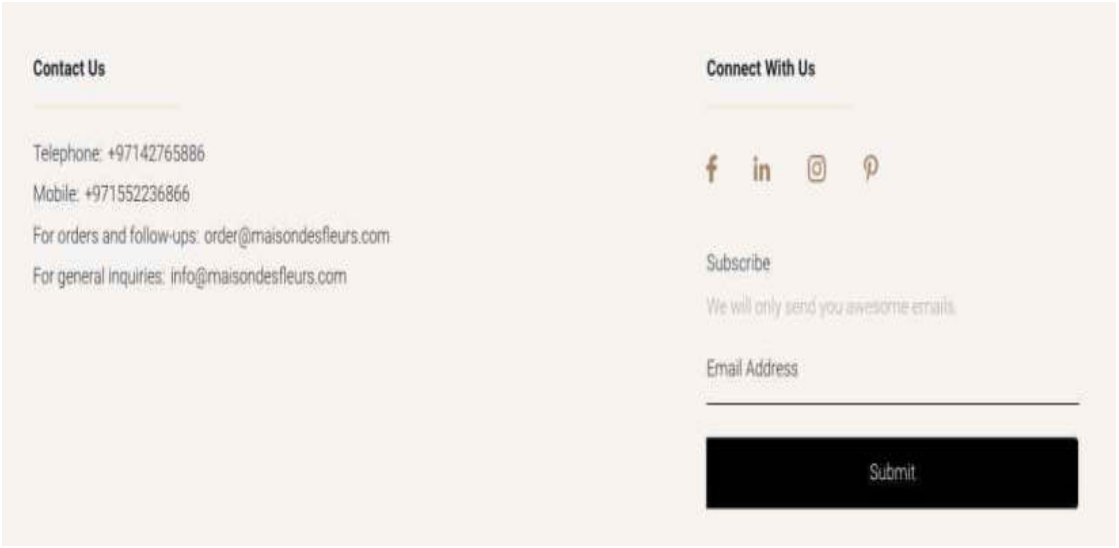


Fig 8.3.8 Service module



Fig 8.3.9 Contact Page



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INTERNSHIP AT YUDIZ SOLUTIONS PRIVATE LIMITED

AN INTERNSHIP REPORT

Submitted by

Kaushal Kanubhai Gandhi

190390116004

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

In

Information Technology

S.P.B. Patel Engineering College, Mehsana





Gujarat Technological University, Ahmedabad

May, 2023





S.P.B. Patel Engineering College

Near Shanku's Water Park, Ahmedabad – Mehsana Highway, Linch, Gujarat

CERTIFICATE

This is to certify that the project report submitted along with the project entitled **Internship at YUDIZ SOLUTIONS PRIVATE LIMITED** has been carried out by **Kaushal Gandhi** under my guidance in partial fulfillment forthe degree of Bachelor of Engineering in Information Technology, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Sign	Sign
Prof. Upasna Leela	Prof. Akshay Kansara
Internal Guide	Head of Department

COMPANY CERTIFICATE



yudiz
Solutions Limited

Date: 28th April, 2023

To whom so ever It May Concern

This is to certify that **Mr. Kaushal Gandhi** a student of **Saffrony Institute Of Technology** is working as a Trainee/Intern with our Company for the duration of six months starting from 1st February, 2023 to till date, as a **Web Development Trainee** and working on a project **"Choco-Shopping".**

His exposure in these areas is very good. During his tenure with us, he ably handled major responsibilities and we found him to be hardworking, creative and very productive.

We have found him to be self-starter who is motivated, duty bound, and a highly committed team player with strong conceptual knowledge.

The company will not provide any type of Source Code outside the premises. We wish him good luck for his future endeavours.

Sincerely,

Kinjal Shah

Functional Manager- HR

YUDIZ SOLUTIONS LIMITED
formerly, Yudiz Solutions Private Limited
CIN : U72900GJ2011PLC067088

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DECLARATION

We hereby declare that the Internship / Project report submitted along with the Internship / Project entitled **Internship at Yudiz solution Limited** submittedin partial fulfillment for the degree of Bachelor of Engineering in **Information Technology Engineering** to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me under the supervision of **Prof. Upasna Leela** & **Ms. Kirtan Gajjar (External Guide)** and that no part of this report has been directly copied from any students' reports or taken from any other source, without providing due reference.

Name of the Student Sign of Student

Kaushal Gandhi

ACKNOWLEDGMENT

I wish to express our sincere gratitude to our External guide **Mr. Kirtan Gajjar** for continuously guiding me at the company and answering all my doubts with patience.

I would also like to thank my Internal Guide **Prof. Upasna Leela** for helping us through our internship by giving us the necessary suggestions and advices along withtheir valuable coordination in completing this internship.

I also thank My friends for, precious support and encouragement which they had provided in completion of my work. In addition to that, I would also liketo mention the company personals who gave us the permission to use and experience the valuable resources required for the internship.

Thus, In conclusion to the above said, I once again thank the staff members of Company for their valuable support in completion of the project.

Thank You

With Sincere Regards,

Kaushal Gandhi

ABSTRACT

*This report contains the work done by Kaushal Gandhi during his internship at **Yudiz Solutions Limited**. The objective of the project is to make a web application on the WordPress platform to purchase chocolates from the existing factory. To build such a web application complete web support need to be provided. A complete and efficient web application that can provide an online shopping experience is the basic objective of the project. The web application can be implemented in the form of a website and can be further converted to an application using web view functionality. The project's best practice is to sell chocolates based on requirements from different origins of the world the project requirement is to make the user much more efficient and helps to reach products to be sold in the terms of bulk way and also in the terms of single chocolate at a time so that users can get a choice whether to buy single or in a bulk with some additional features in the specific.*

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CHAPTER 1. COMPANY INTRODUCTION

1.1 Company Profile:

Yudiz Solution is a private limited service-based company established in August 2009 and situated in Ahmedabad Gujarat.
The company offers development services such as Website, Game Development, User Interface, User design, Blockchain, App Development, augmented reality, virtual reality, content management systems, artificial intelligence, search engine optimization, Cloud-based service, and many more.

Yudiz solution has different branches in different countries other than India. Yudiz's employee size is approximately more than 300+ and still motivated to increase its company size and also looking forward to completing any task smartly and programmatically.
Almost 80% of clients are repeated and always satisfied with the work delivered by Yudiz employees.

1.2 Mission And Vision of The Company:

Yudiz believes in creativity and doesn't miss any chances in terms of opportunity. And the work culture is very supportive so that every new employee gets settled down in the company very easily and comfortably. The company is seeking to help prospects so that everybody gets a chance to showcase their talents in the company and carry it towards their performance prospect.

Yudiz Solutions is recognized as an eminent company in the software industry that offers the best-in-class digital solutions and impressive services that stand out globally. The company has many campaigns such as sports leagues, donating campaigns, traveling campaigns, fitness campaigns, health campaigns, and many more.

We live every moment delightfully and enjoy every prospect very satisfied and make every moment memorable. Yudiz defines itself as a family and everybody is a family in this work culture and tries to help each other at their best and learn new things whenever and wherever possible.

1.3 Website Link and images:

Company's Website: Mobile Game & Blockchain App Development Company - Yudiz

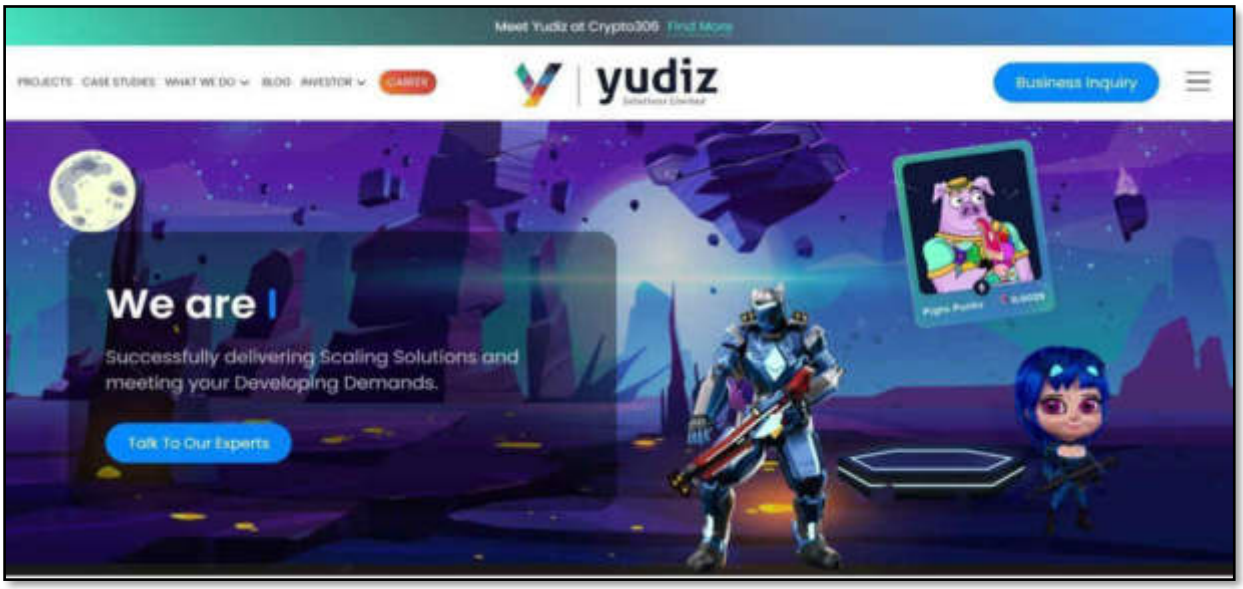


Figure 1. Company Introduction page

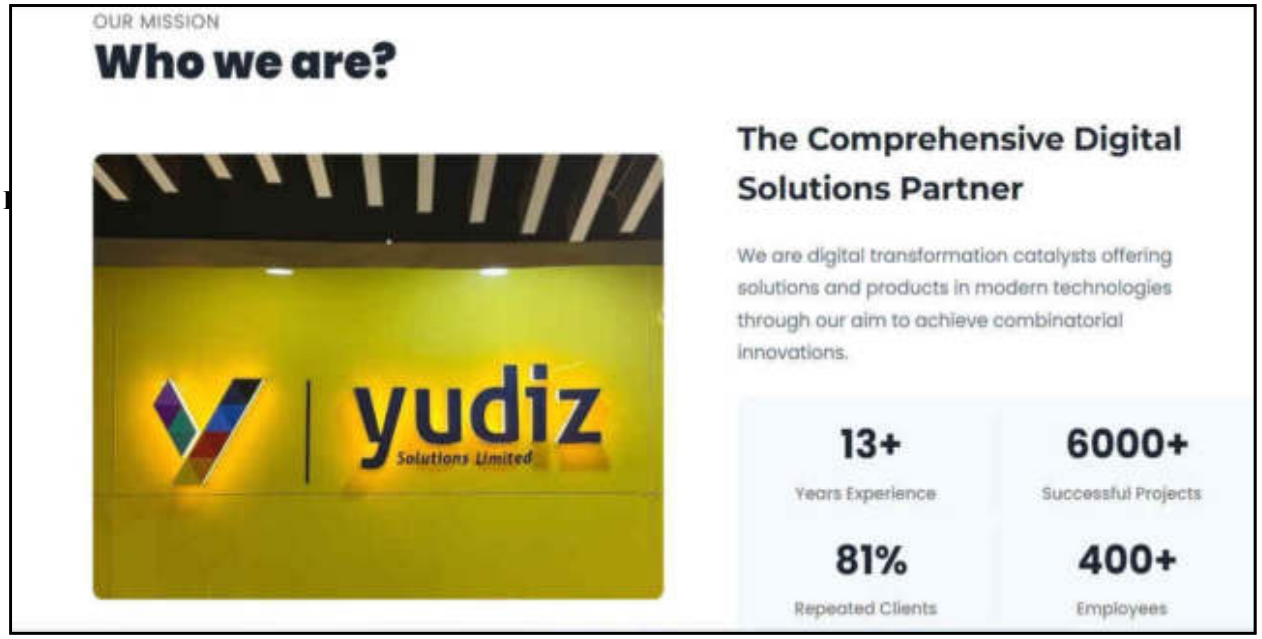


Figure 2. Company Introduction page

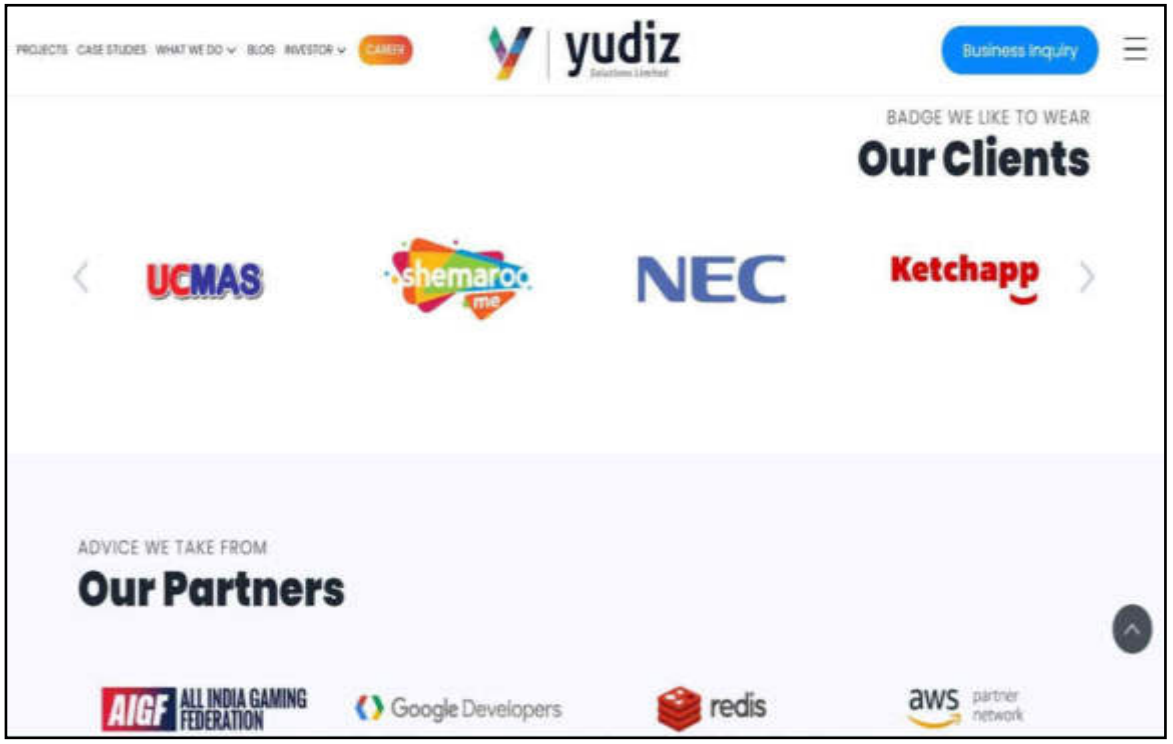


Figure 3. Company Project Client

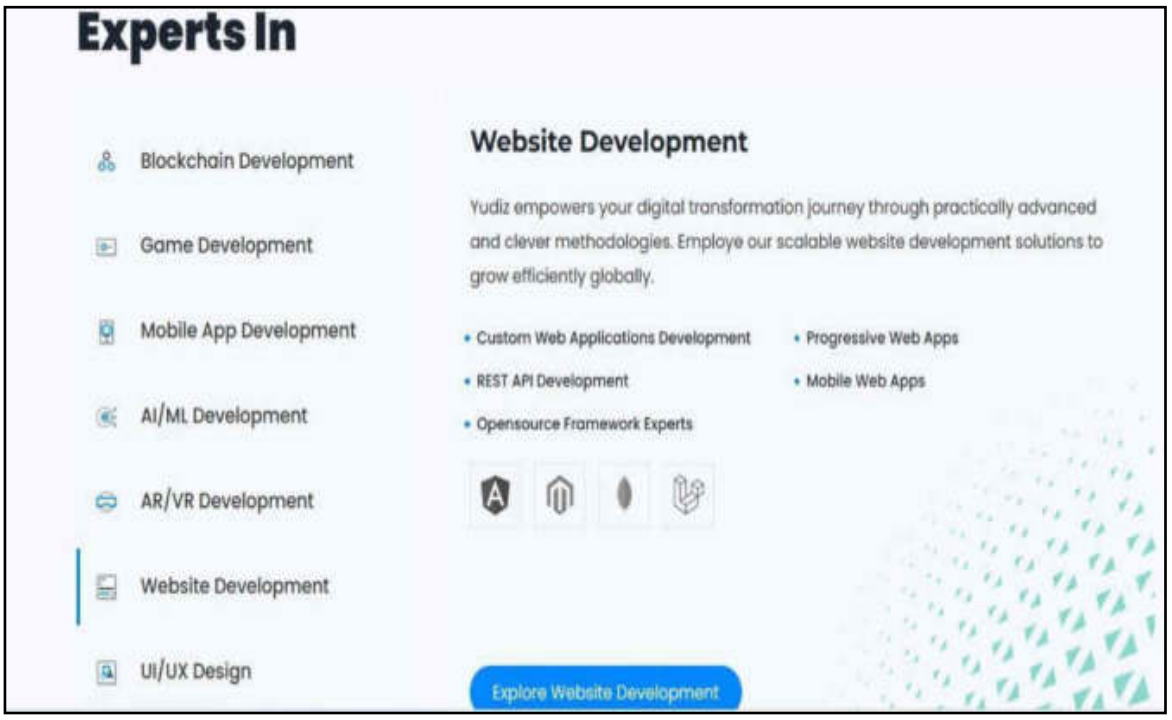


Figure 4. Company work department

1.4Aim and objectives of the Internship

During our internship course, we were taught about various concepts of the JavaScript and Nodejs Framework from very basic.

We covered different important basic concepts which are used in every programming language. The goals to be achieved during whole internship course were as follows:

1. Basic Programming (Common Training)
2. JavaScript Concepts
3. Node JS Framework
4. Make project

CHAPTER 2. INTODUCTION

2.1 Project Introduction

This project is a web-based shopping system for an existing shop. The project objective is to deliver the online shopping application into a web application platform. Online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. This project is an attempt to provide the advantages of online shopping to customers of a real shop. It helps to buy the products in the shop anywhere through the internet by using any portable devices. Thus the customer will get the service of online shopping and home delivery from his favorite shop.

2.2 Project Summary

The objective of the project is to make a web application on the WordPress platform to purchase chocolates from the existing factory. To build such a web application complete web support need to be provided. A complete and efficient web application that can provide an online shopping experience is the basic objective of the project. The web application can be implemented in the form of a website and can be further converted to an application using web view functionality.

The project's best practice is to sell chocolates based on requirements from different origins of the world the project requirement is to make the user much more efficient and helps to reach products to be sold in the terms of bulk way and also in the terms of single chocolate at a time so that users can get a choice whether to buy single or in a bulk with some additional features in the specific.

2.3 Project Purpose

The central concept of the application is to allow the customer to shop virtually using the Internet and allow customers to buy specific chocolate and candy of their desire from the store.

The information about the products is stored on an RDBMS at the server side (store). The Server process the customers and the items are shipped to the address submitted by them. The website was designed into two modules first is for the customers who wish to buy the products. The second is for the storekeepers who maintain and update the information about the products and those of the customers.

The end-user of this product is a departmental store where the application is hosted on the web and the administrator maintains the database. In the application which is deployed at the customer database, the details of the items are brought forward from the database for the customer view based on the selection through the menu and the database of all the

products are updated at the end of each transaction.

Data entry into the application can be done through various screens designed for various levels of users. Once the authorized personnel feed the relevant data into the system, several reports could be generated as per the security.

2.4 Project Scope

E-Commerce has bloomed over the years and is one of the fastest-growing domains in the online world. Though it took some time for this to be accepted by end-users today we are at a point where the majority of people love to shop online.

The scope of the project is optimistic because If the client wants to upgrade with additional functionality like making more products and country-oriented then market capitalization can increase based on that and can gain more profits and it's flexible with browser oriented means if the domain needs to get shifted than easily can be done based on requirements.

CHAPTER 3. PROJECT MANAGEMENT

3.1 Project Planning And Scheduling

3.1.1 Project Development Approach

The project development approach from our end is the SCRUM approach in which our team focuses on combining their knowledge and efforts to build and deliver high-quality ready for use projects.

It starts by discussing the main objectives and main requirements of the client. The SCRUM approach uses sprints and each sprint creates a ready-to-use product that is later improved in the next sprints. Short meetings are conducted daily to review the progress, discuss the problems, and plan the tasks for the day. Since a lot of attention is paid to teamwork, it becomes important that every team member has adequate experience and is ready to quickly respond to challenges.

3.1.2 Project Plan

- The project plan goes like the following:
- Competitor Analysis
- Clear Tracking Goals with Grippling Metrics
- Laying Out a Workflow Process
- Tracking Time
- Cost Management
- Continuous Iterating and Testing

3.2 Risk Management

3.2.1 Risk Identification

• Data Privacy and Online Security Risks
• Unauthorized Access
• Exploitation of Vulnerabilities
• Human Error
• Platform Downtime
• Bad CSV Files
• Non-Compliance
• Incompatible Software and Plugins
• Poor CX

3.2.2 Risk Analysis

The major risk analysis which we identified as user and admin prospects are as follows:

- The first is with popular places which get to be known where users are interested. So, to check that there should be no broken backlinks that can affect this kind of cases majority.

- Secondly is browsing kind of issue like small cases which won't be there if user checkout and during payment gateway and login pop-up just like that.

- The buyer journey throughout the web application is one of the crucial points.

- Buyer personas are to be also kept in mind for our project

- Privacy and security are also a major concern

- The browser and mobile compatibility also need to be a major concern.

- Sales and promotion are to be kept in mind from the revenue point of view of the client.

3.2.3 RISK PLANNING

- Implement protocols like two-factor authentication (2FA) to add an extra layer of accountability.

- Enforce password updates across your network to mitigate unauthorized access.

- Remove and uninstall incompatible plugins and themes immediately. Enable firewalls and virus protection—but don’t rely 100% on your device settings. Look into more comprehensive solutions based on your data protection needs.

- Deploy a backup and recovery solution like Rewind.

- Use software plugins and add-ons from reputable vendors. Do your research before you deploy. Update and audit regularly to ensure there are no issues.

- The idea is to make it as easy as possible for your customers to do business with you. Good CX translates to loyalty, which means more sales. And that’s always the bottom line.

- Design and implement a disaster recovery plan (DRP) that covers every possible scenario.

CHAPTER 4. SYSTEM REQUIREMENT STUDY

4.1 User Characteristics

- Any user can easily use this application by just surfing the internet because there is no special requirement.
- It's a kind of application that provides a facility to buy different products and gets products without additional requirements.

4.2 Hardware and Software Requirements

4.2.1 Minimum Hardware Requirements:

- CPU: for web 1,6 GHz, for web and database 4 x 1,6 GHz CPU.
- RAM: 4GB.
- Minimum database space: 10GB.
- CPU: Quad 2GHz+ CPU.
- RAM: 6GB.
- Minimum database space: 10GB

4.2.2 Minimum Software Requirements:

- HTML, CSS, jQuery & JavaScript
- PHP 7.3 or greater
- MySQL
- Figma
- API's
- WordPress 5.3.2 or greater
- WooCommerce
- Networking Protocols.
- VS Code / Sublime Text Editor

CHAPTER 5. SYSTEM ANALYSIS

The process of gathering information, diagnosing the problems, then interpreting facts is known as System analysis. It also includes recommending system improvements needed, based on the same data. The system is observed as a whole, the inputs need to be identified first before running them and then the system is subjected to study as a whole to identify the problem areas.

Although tunning any system as a whole is a complex procedure, tunning individual statements is not the best as something correct for one input may hurt another input's performance. The solutions are given as a proposal. The suggestion is revised on user request and optimal changes are made. This loop terminates as soon as the user is gratified with the proposal.

So, on the whole, system analysis is done to improve the system performance by monitoring it and obtaining the best throughput possible from it. Therefore, system analysis plays a crucial role in designing any system.

5.1 Study of the current system

The present scenario for shopping is to visit the shops and market manually and then from the available product list one needs to choose the item he or she wants and then pay for the same item mainly in cash mode is done, as not every society is well educated and aware to use net banking or card modes or wallets etc.

5.2 Problems and weaknesses of the current system

This system is not much user-friendly as one needs to go to the market physically and then select items only from the available list. So mostly it is difficult to get the product as per our desire. Description About the products is less available and are mostly verbal only. For this type of shopping, one needs to have an ample amount of free time.

Also, not good markets exist everywhere, so many times good markets become out of reach for certain people. In the proposed system customers need not go to the shops for purchasing the products. He/she can order the product he/she wishes to buy through the use of this system. The shop owner can be the admin of the system.

The shop owner can appoint officials particularly to handle this, who will help the owner in managing the customers and product orders. The system also endorses a home delivery system for delivering the purchased products.

5.3 Requirements of the new system

- Enhanced Shopping Cart.
- Flexible Return Policy.
- Mobile-Friendly Website.
- Highly Customizable Themes.
- Content management system.
- Email Marketing tools.
- Social media integration.
- Third-party shipment integration.

5.4 Functions of the system.

- Content management capabilities
- Promotion & discount code tools
- An easy-to-use checkout
- SEO friendly code and layout
- Advanced eCommerce SEO capabilities
- Reporting tools & custom report features
- An integrated blog or articles section
- Email marketing features or integration
- Multiple payment options (Credit card, PayPal, Stripe, PO, Terms, etc.)
- The ability to scale & add new eCommerce features.

5.4.1 Use Cases Of system

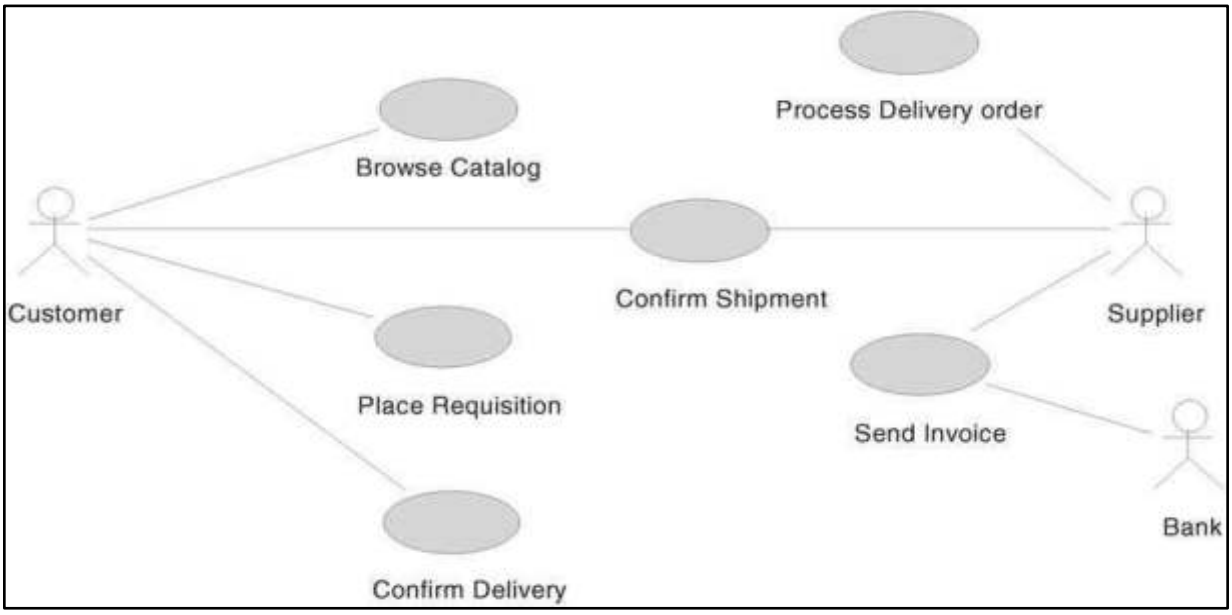


Figure 5. use case Diagram

5.5 Data Modeling

5.5.1 Data Dictionary

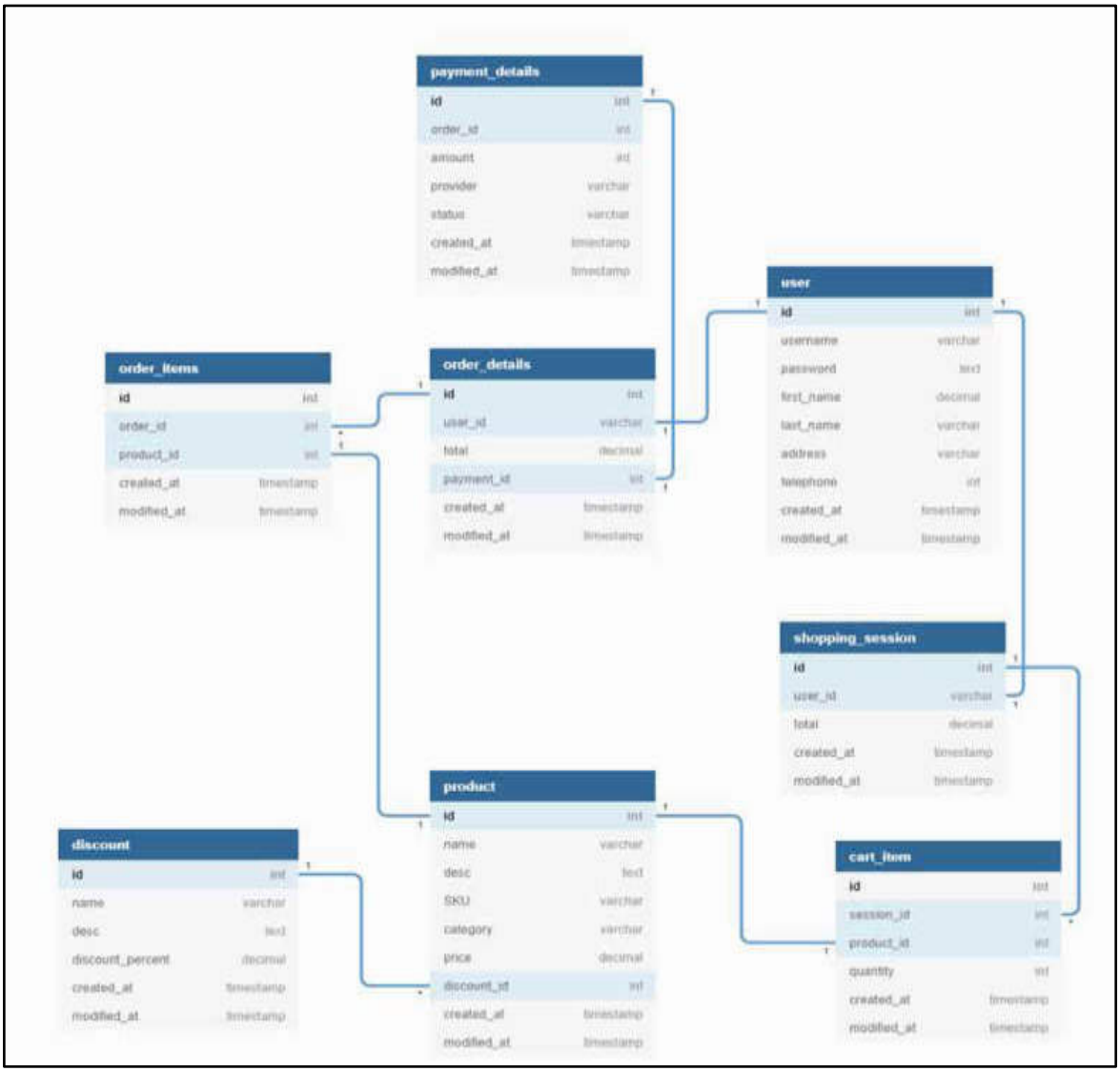


Figure 6. Data dictionary

5.4.2 E-R Diagram

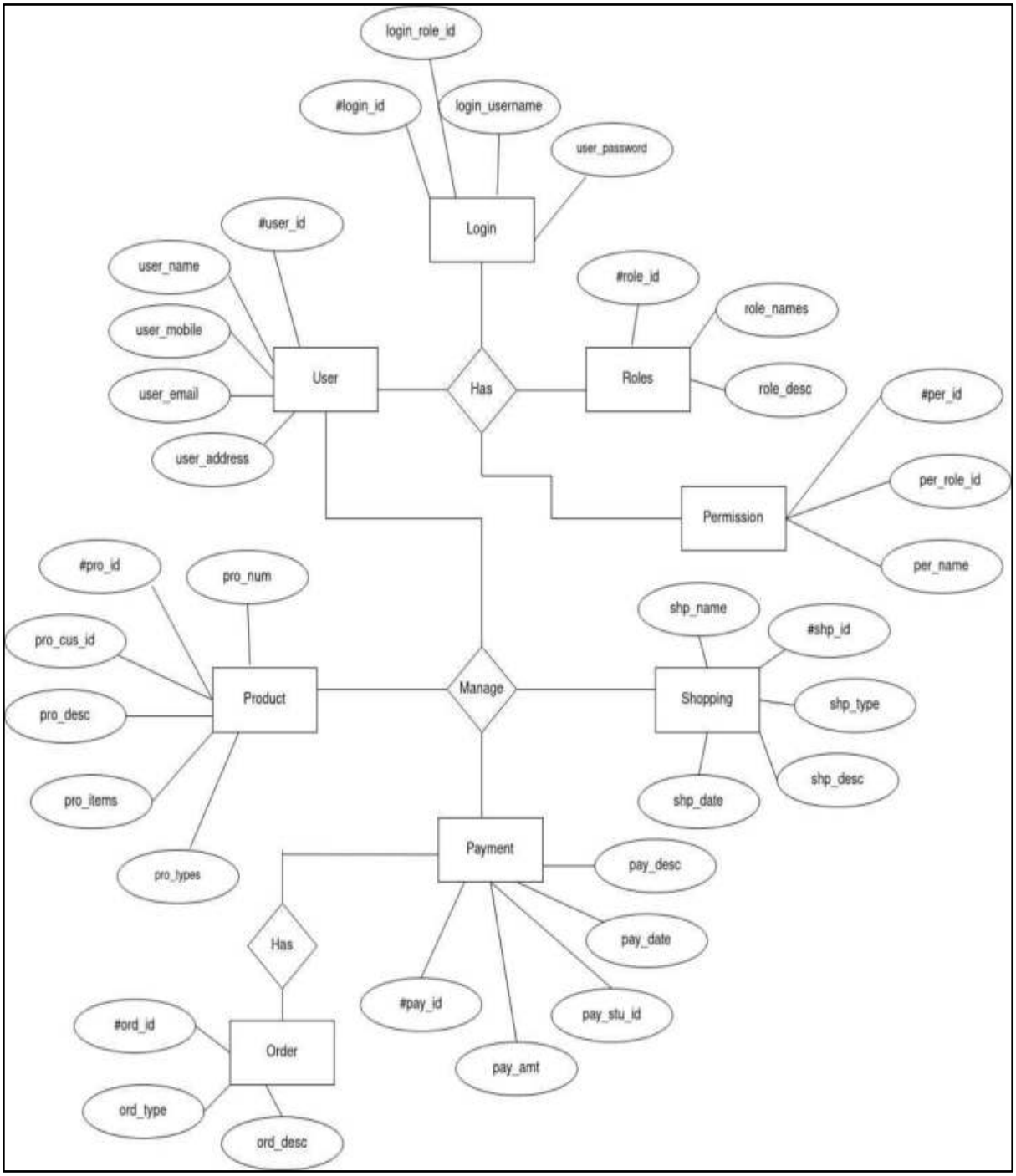


Figure 7. E-R Diagram

5.4.3 Class Diagram

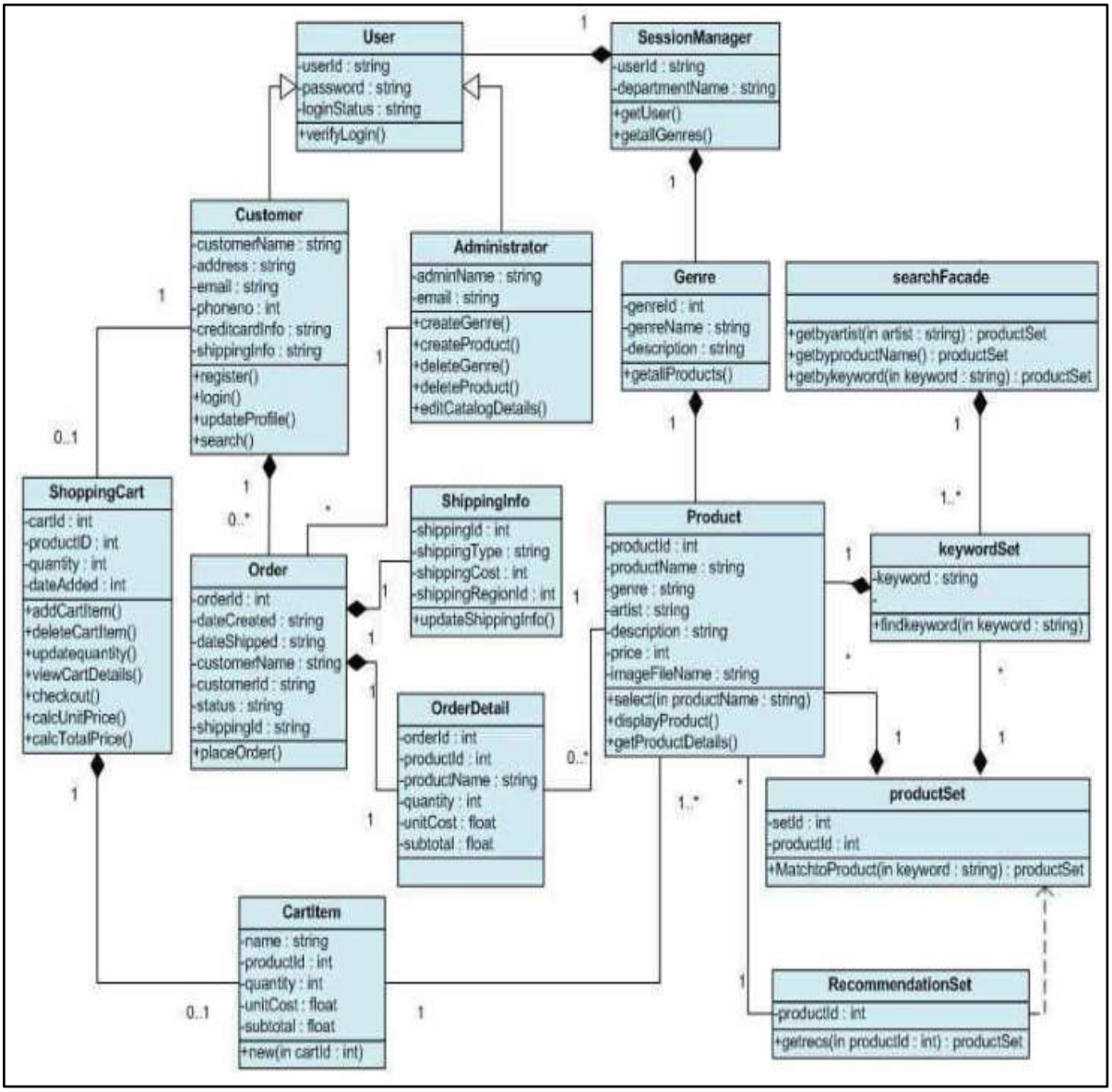


Figure 8. Class Diagram

5.4.4 Data Flow Diagram

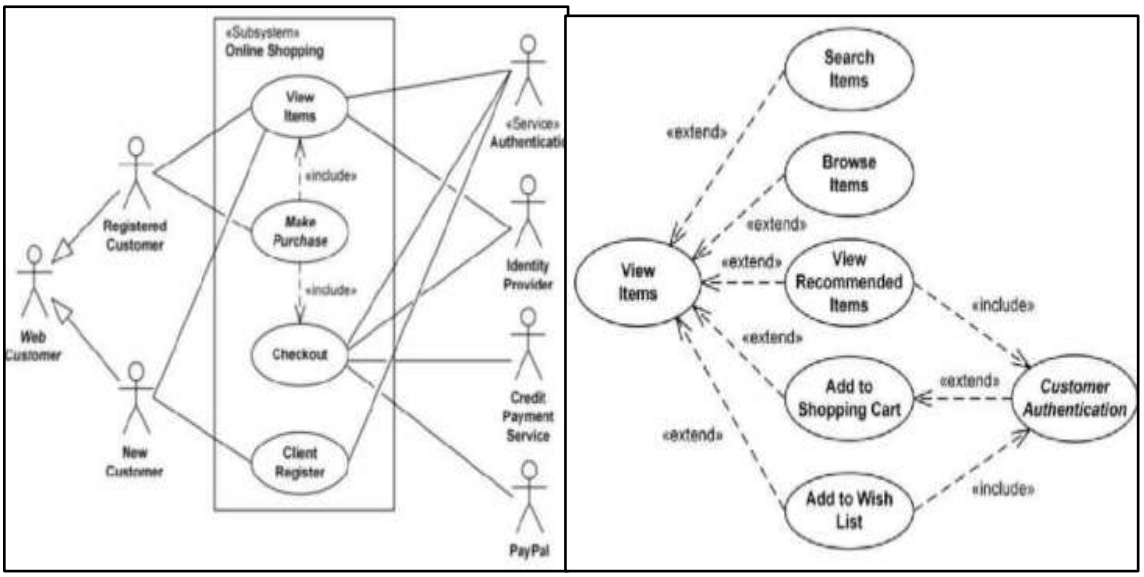


Figure 9. Data Flow Diagram-1

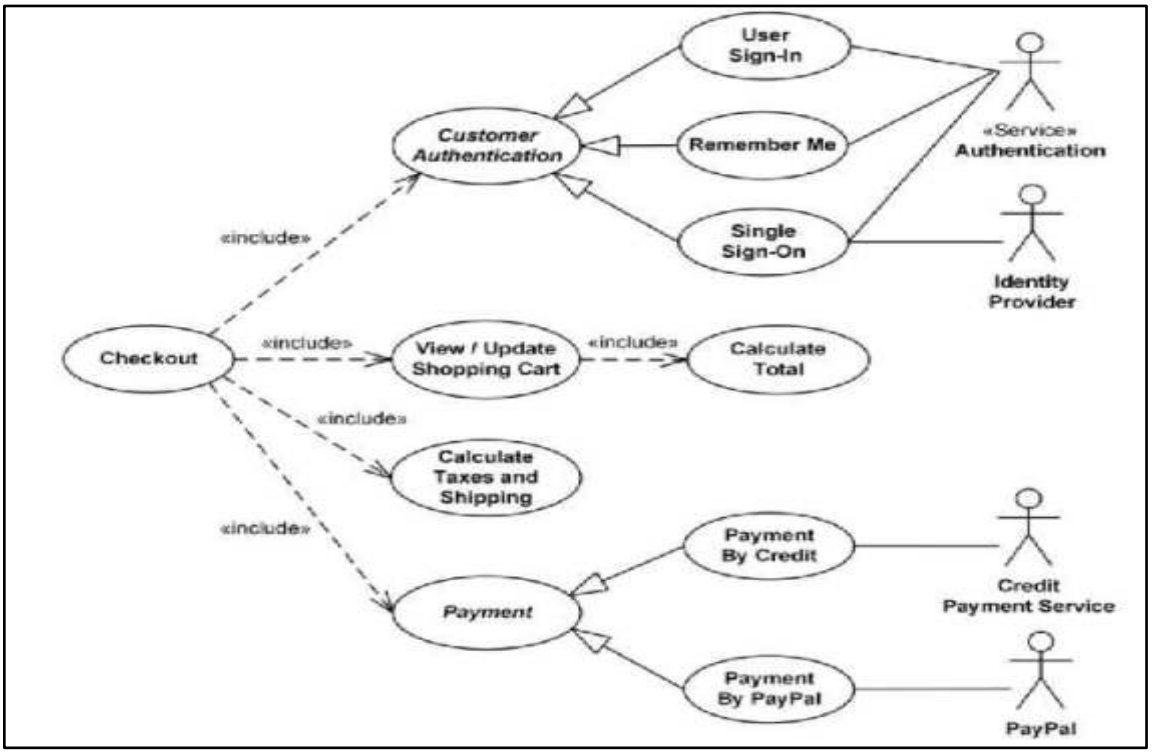


Figure 10. Data Flow Diagram-2

5.6 Main Module of New System

- The main module of the new system has many new features like automated discount generation via the help of the admin back-end side.

- The main feature is that the user can buy a single product from the distributed product list and categorize it as per his need and can sum it up by that particular product.

- The system gets much faster and SEO friendly as per the user's point of view it’s been very attractive from the user’s end.

CHAPTER 6. ARCHITECTURE

6.1 System Architecture

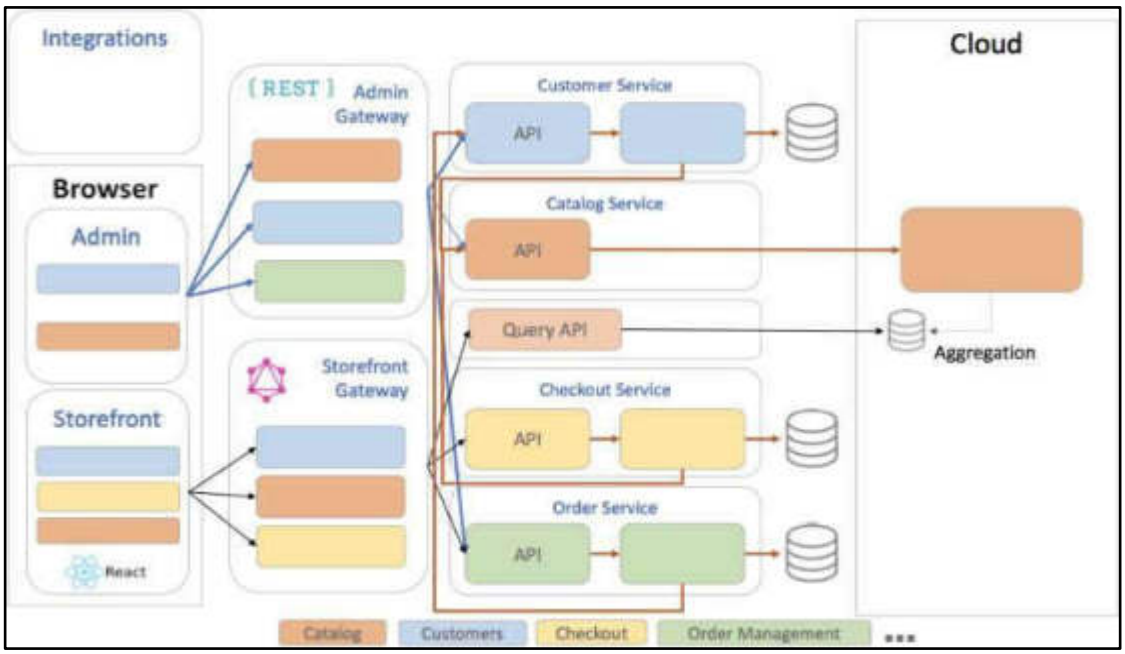


Figure 11. System Architecture-1

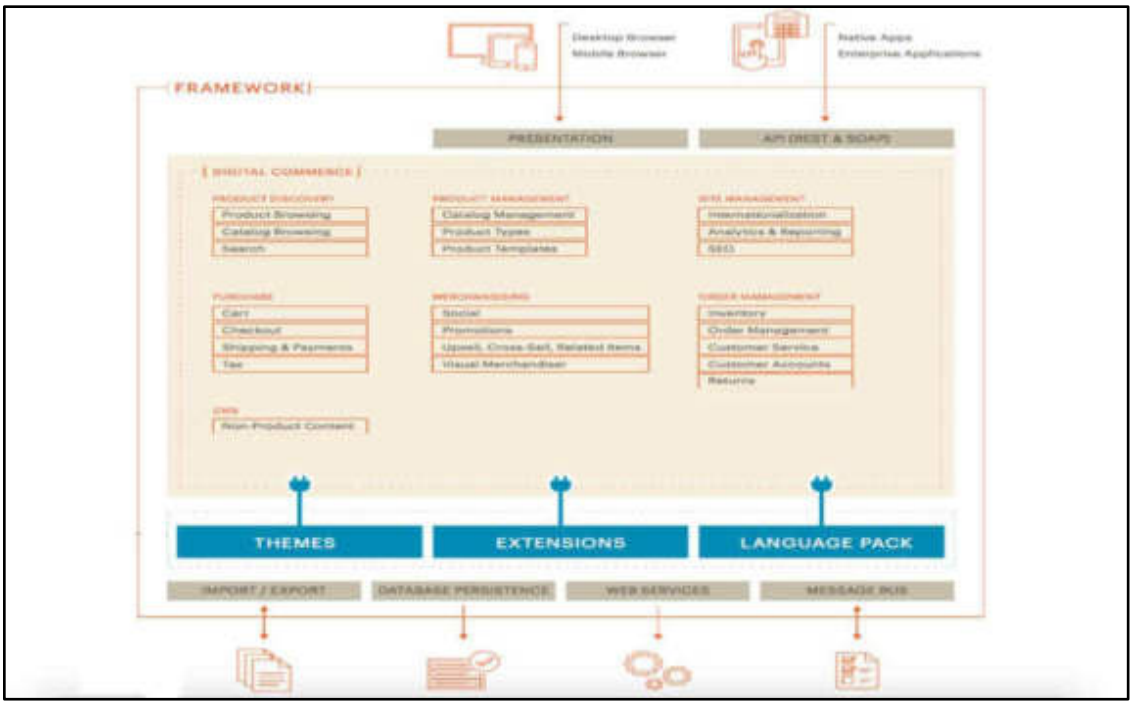


Figure 12. System Architecture-2

CHAPTER 7. TESTING

7.1 Test Plan

7.1.1 The Testing Process

Developer tests the software process activity such as design, implementation, and requirement engineering. Because design errors are very costly to repair when the system has been started to operate. Therefore, it is quite obvious to repair them at an early stage of the system. So, analysis is the most important process of any project.

7.1.2 Requirements Tractability

As the most interesting portion is whether the system is meeting its requirements or not, that testing should be planned so that all requirements are individually tested. Develop checked the output of certain combinations of input, which gives desirable results, or not. Strictly stick to our requirements specifications, give you the path to get desirable results from the system.

7.2 Testing Strategy

- A test strategy is an outline that describes the testing approach of the software development cycle. It is created to inform project managers, testers, and developers about some key issues of the testing process.
- This includes the testing objective, methods of testing new functions, total time and resources required for the project, and the testing environment.
- Test strategies describe how the product risks of the stakeholders are mitigated at the test level, which types of tests are to be performed, and which entry and exit criteria apply.
- They are created based on development design documents. System design documents are primarily used and occasionally, conceptual design documents may be referred to.
- Design documents describe the functionality of the software to be enabled in the upcoming release. For every stage of development design, a corresponding test strategy should be created to test the new feature sets.

CHAPTER 8. SCREENSHOTS

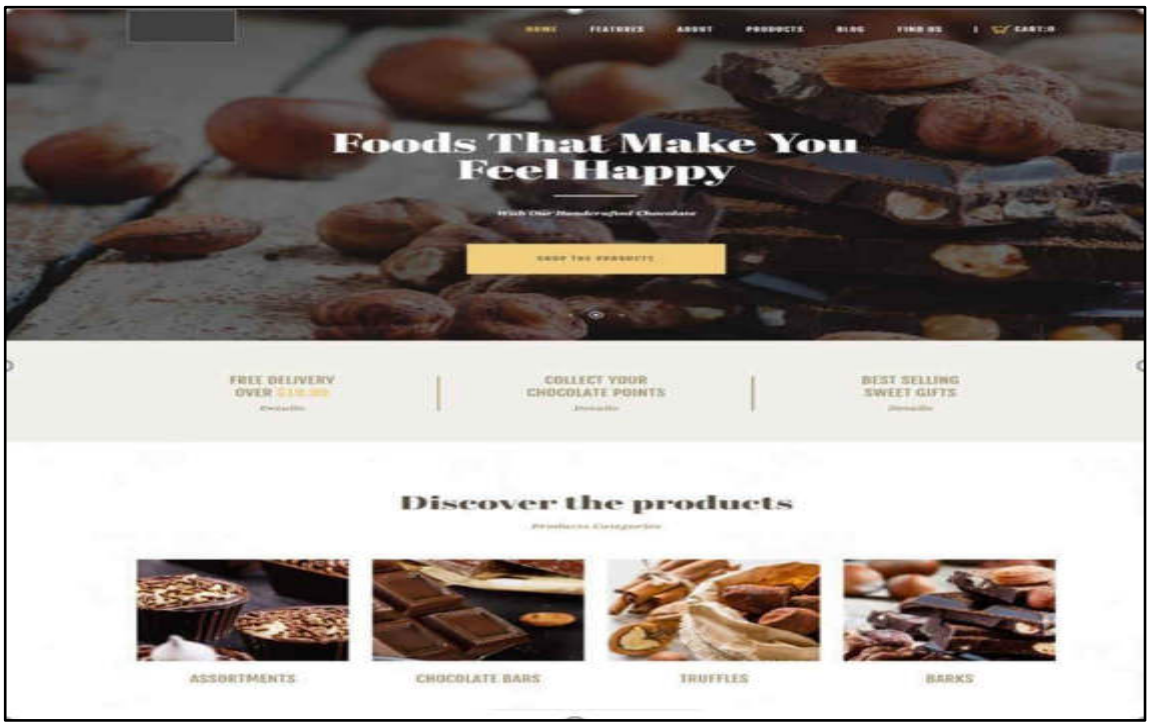


Figure 13. Home Screen

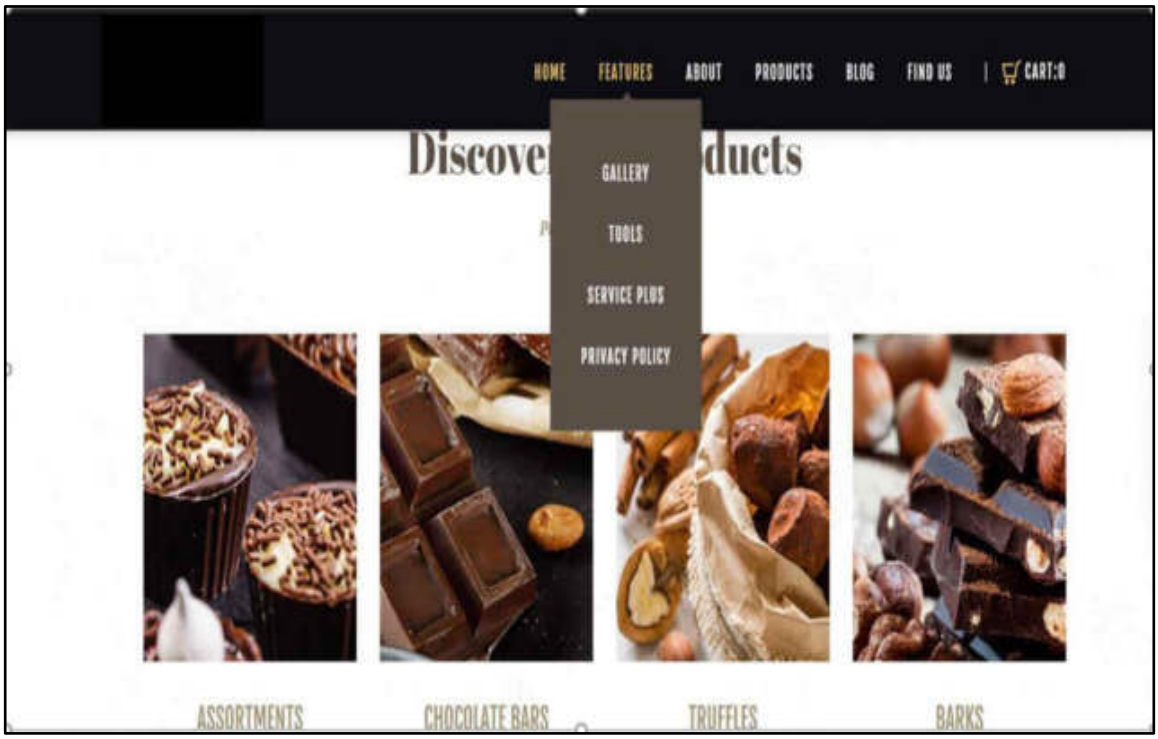


Figure 14. Store Screen

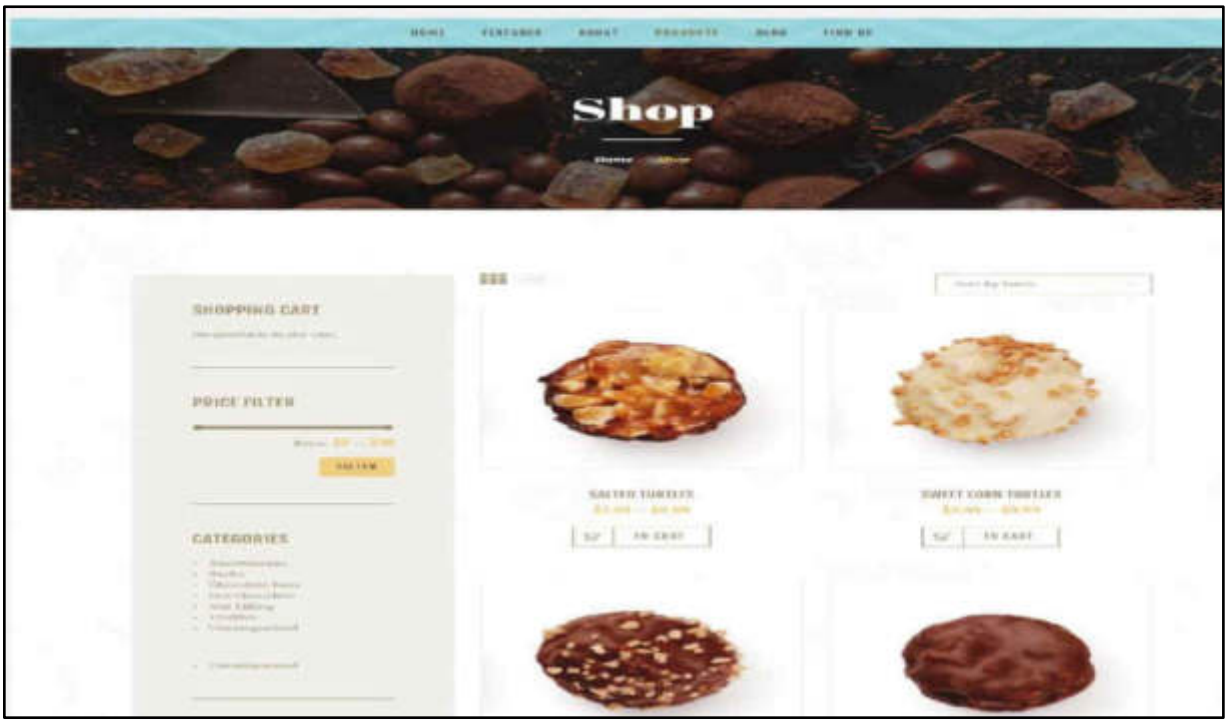


Figure 15. Shop Screen

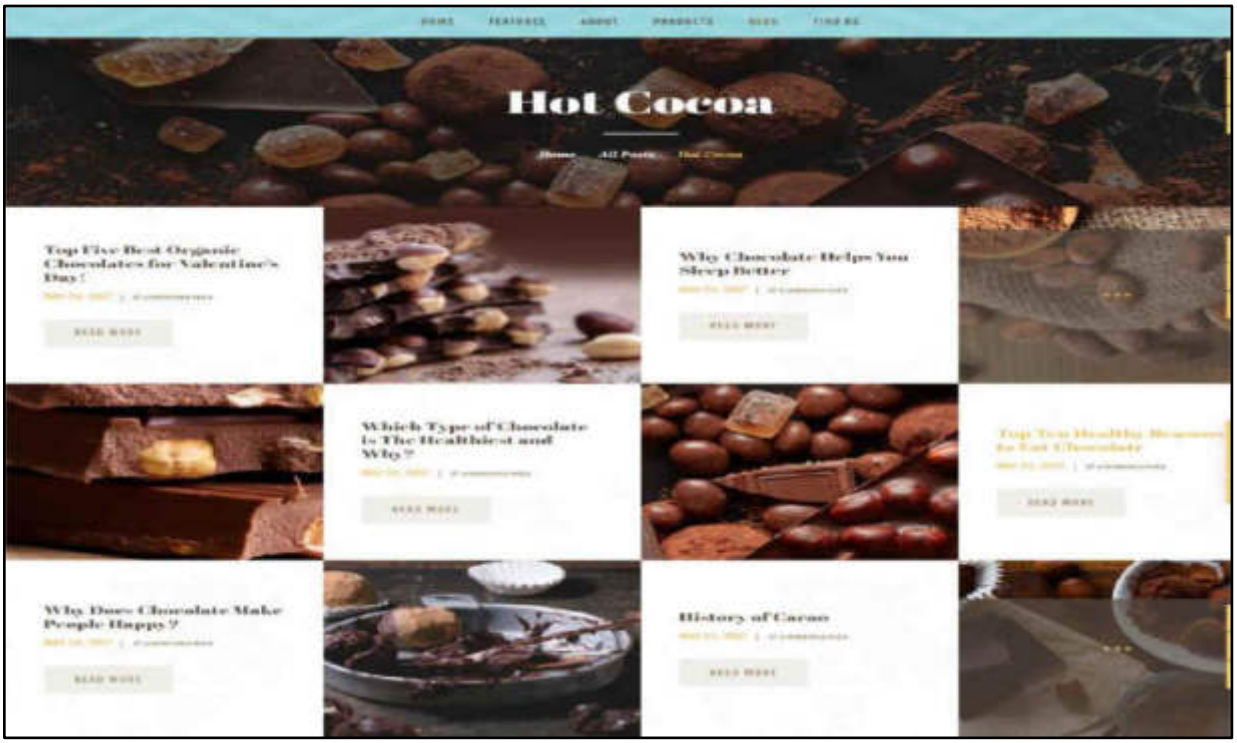


Figure 16. Blog Screen



Figure 17. Single Product Screen

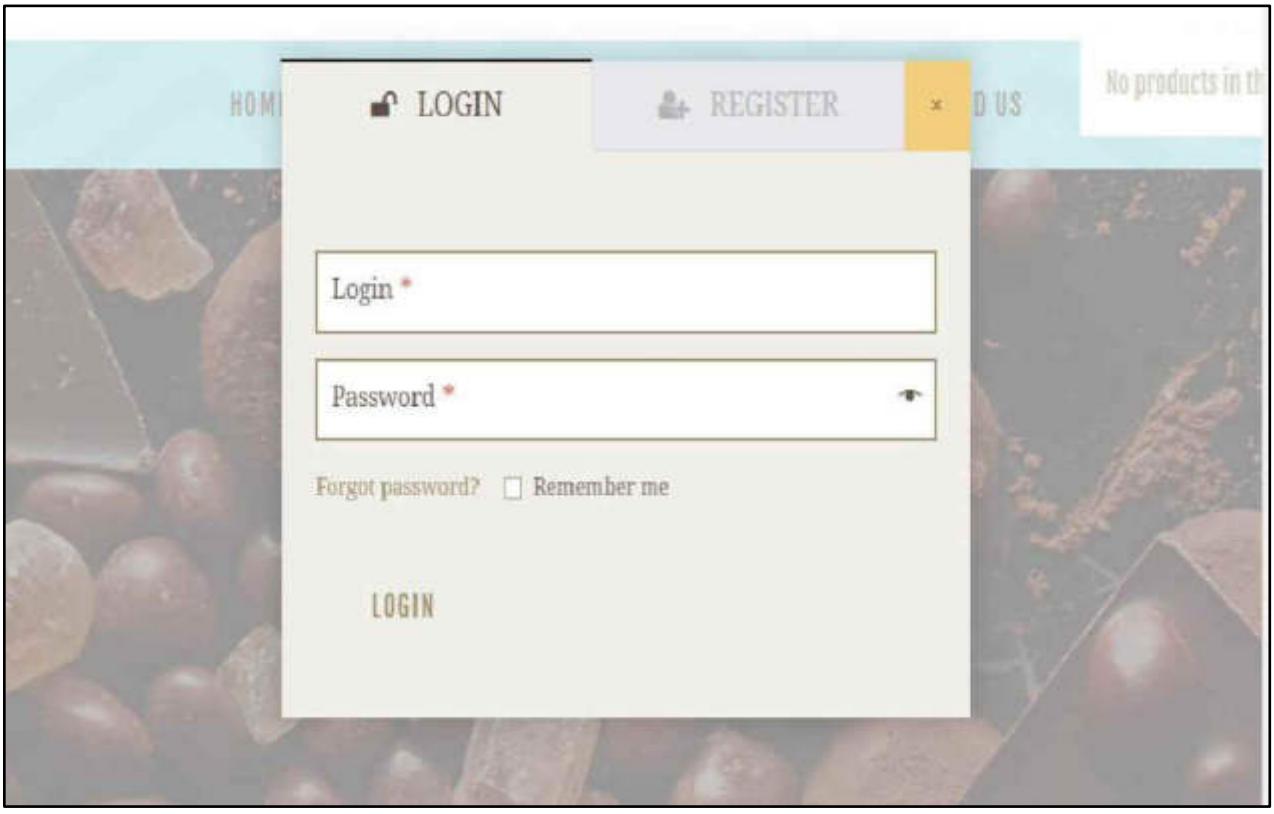


Figure 18. Login Screen

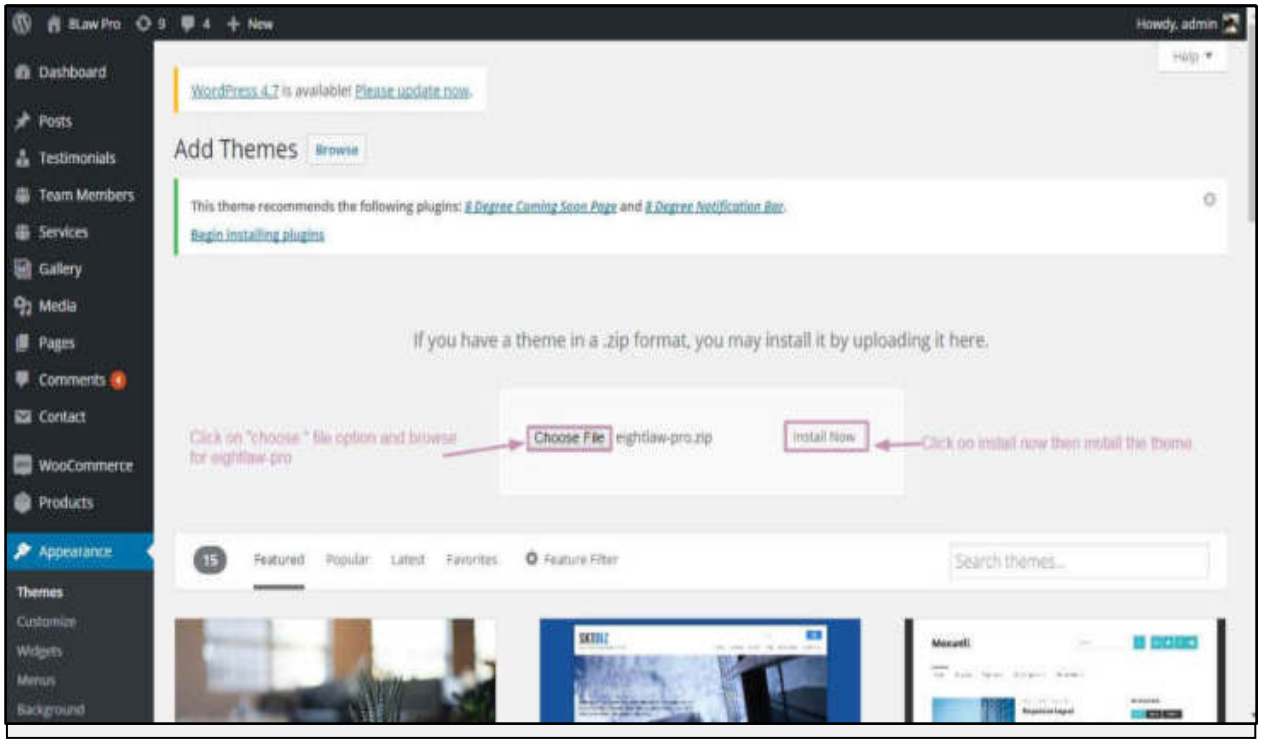


Figure 19. WordPress Screen

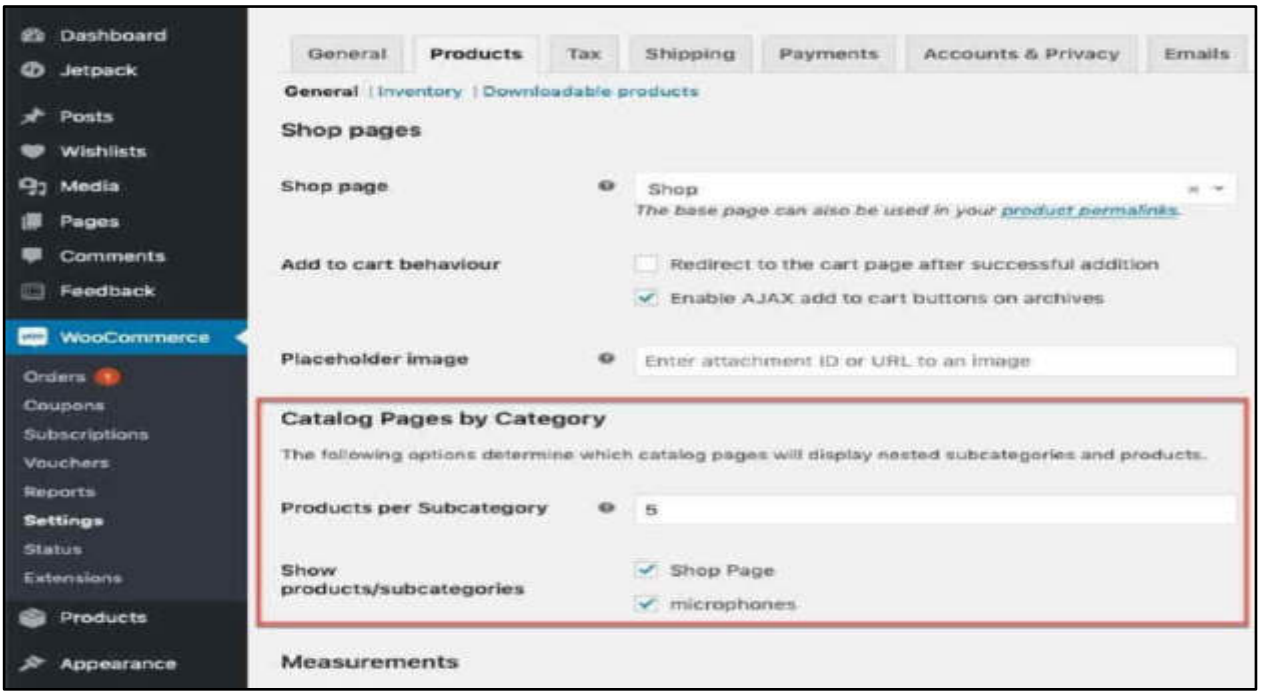


Figure 20. WooCommerce Screen

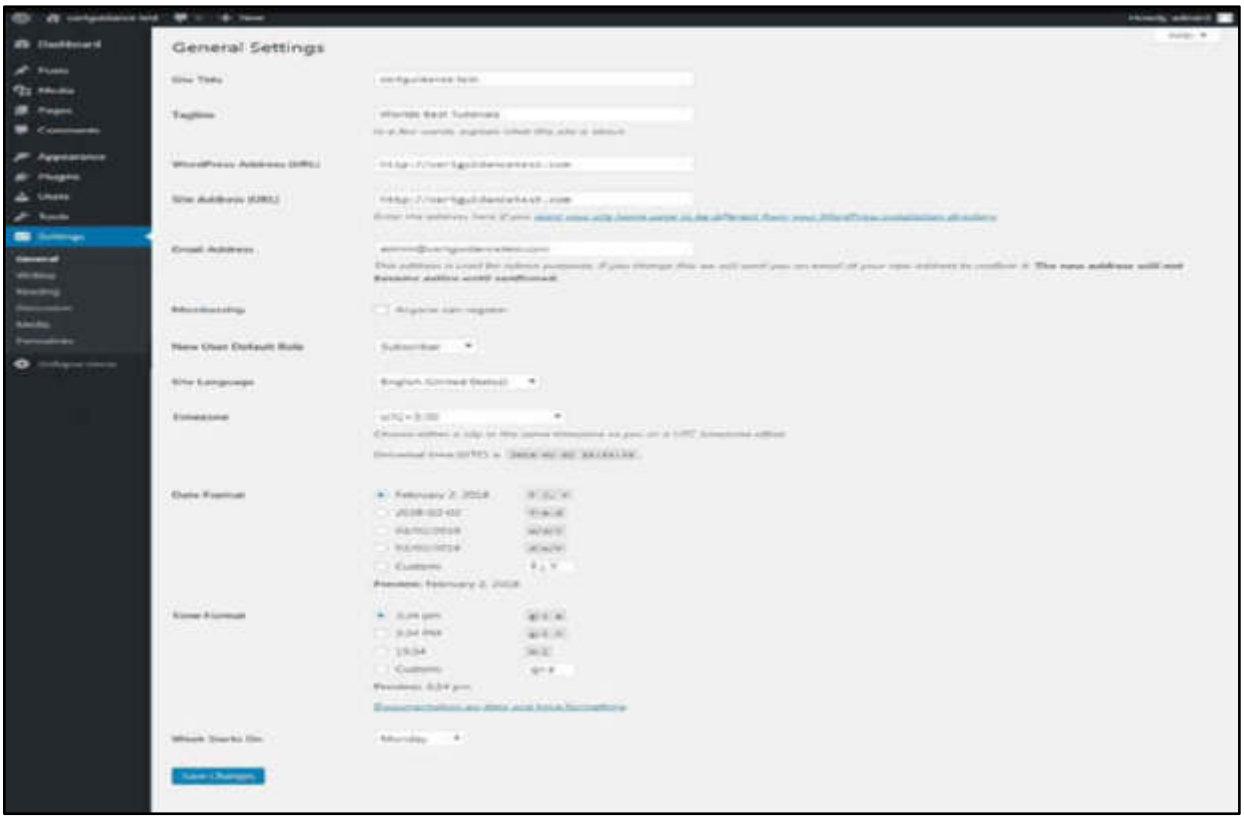


Figure 21. General Settings Screen

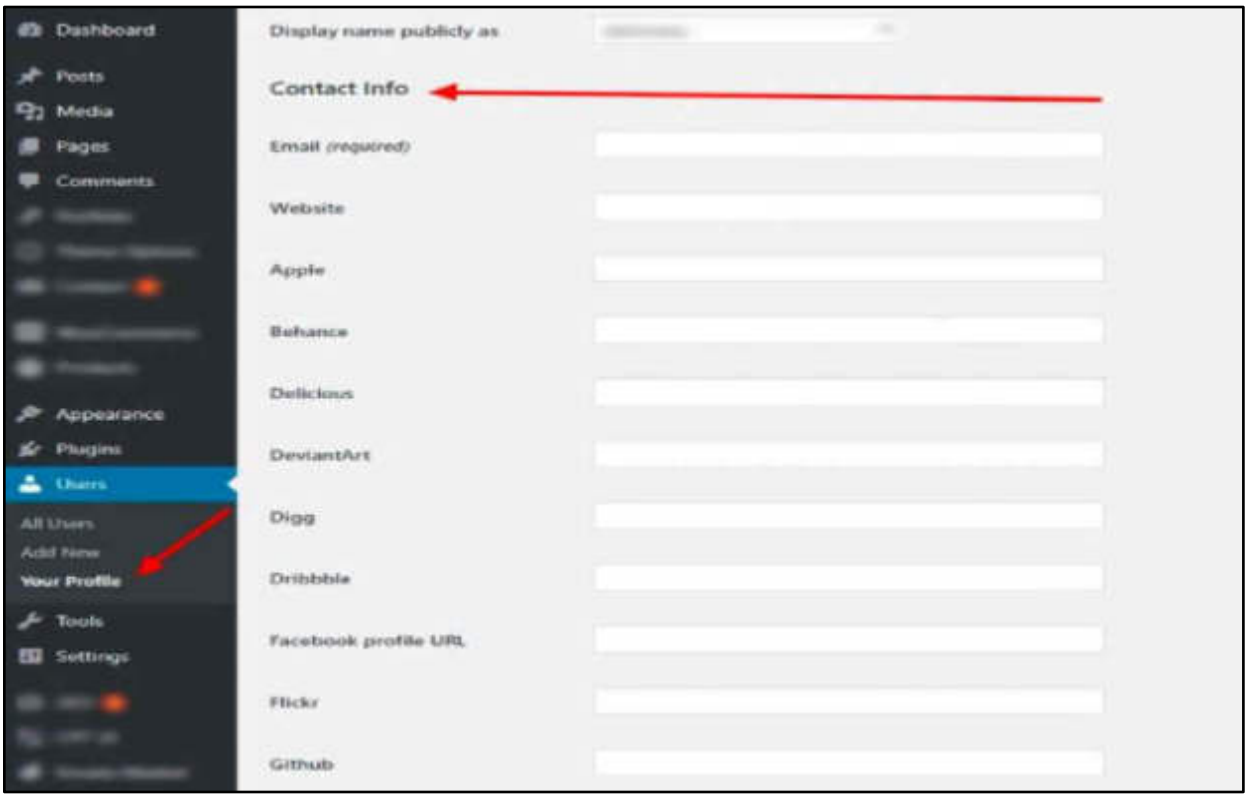


Figure 22. User Profile Screen

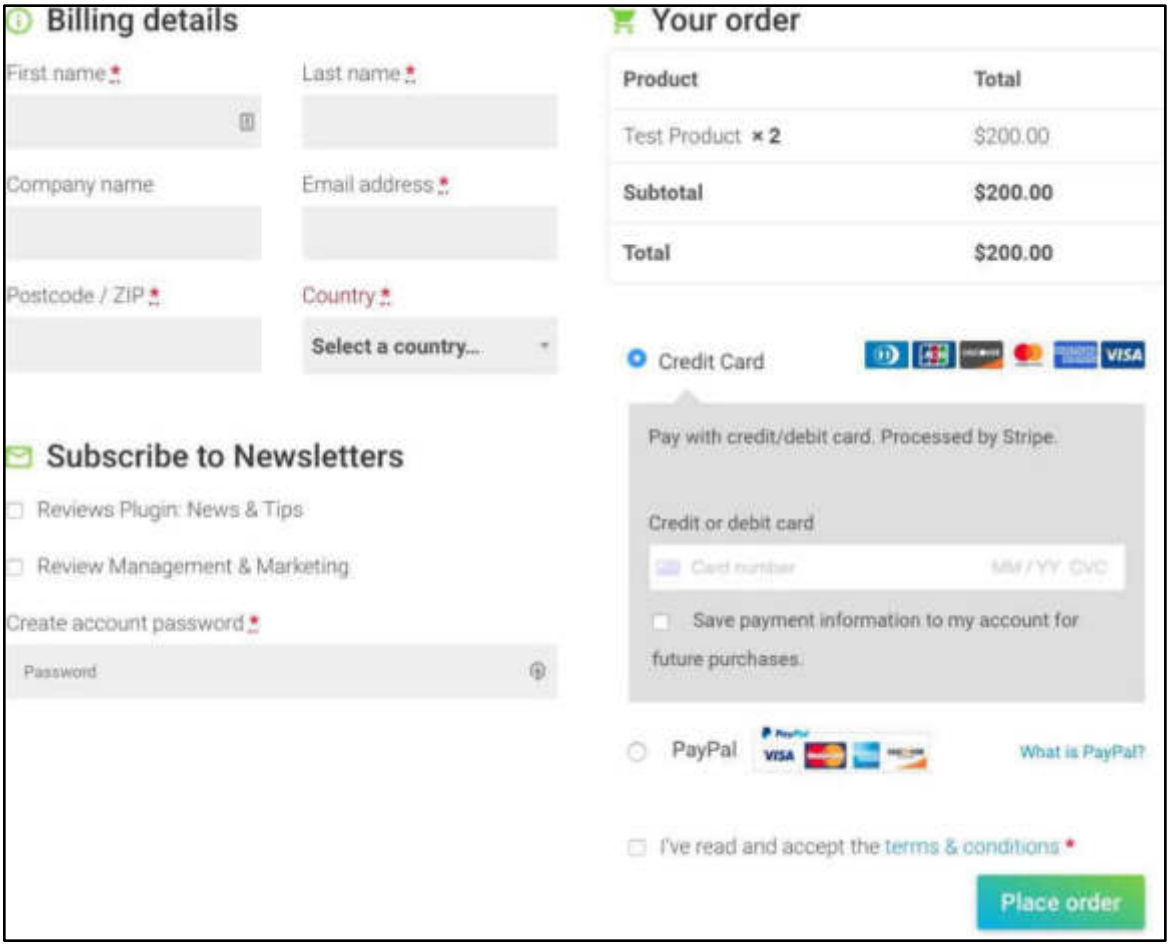


Figure 23. Checkout Screen

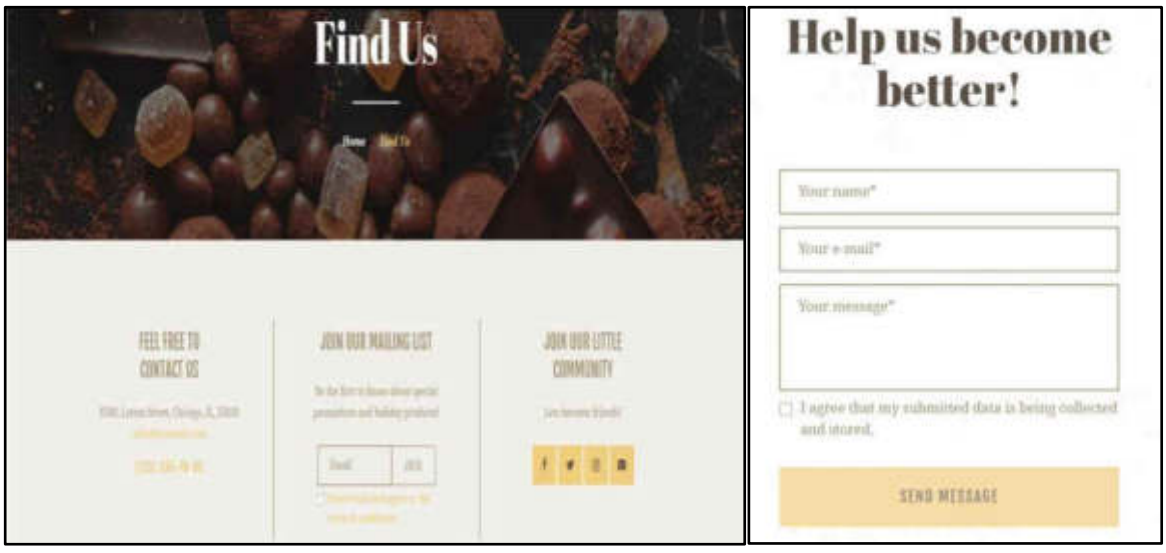


Figure 24. Contact Us Template

CHAPTER 9. LIMITATIONS AND FUTURE ENHANCEMENT

- On this website, the user can’t modify from the backend but can customize according to the user.
- Can take the load if using additional plugins other than predefined.
- The website can be crashed if used broken plugins data recovery are the hardest part of these.
- Search engine optimization is done but can’t enhance till upgraded to the outer origin domain.

CHAPTER 10. CONCLUSION

Through this project, we get the idea of how a live project works and how to deal with clients, and how to take into consideration each and small error in the user point also enhancement panel.

This project tells all the basic ideas of WordPress from scratch to an advanced level and the training part from our point of view is worth it and get some experience regarding that.

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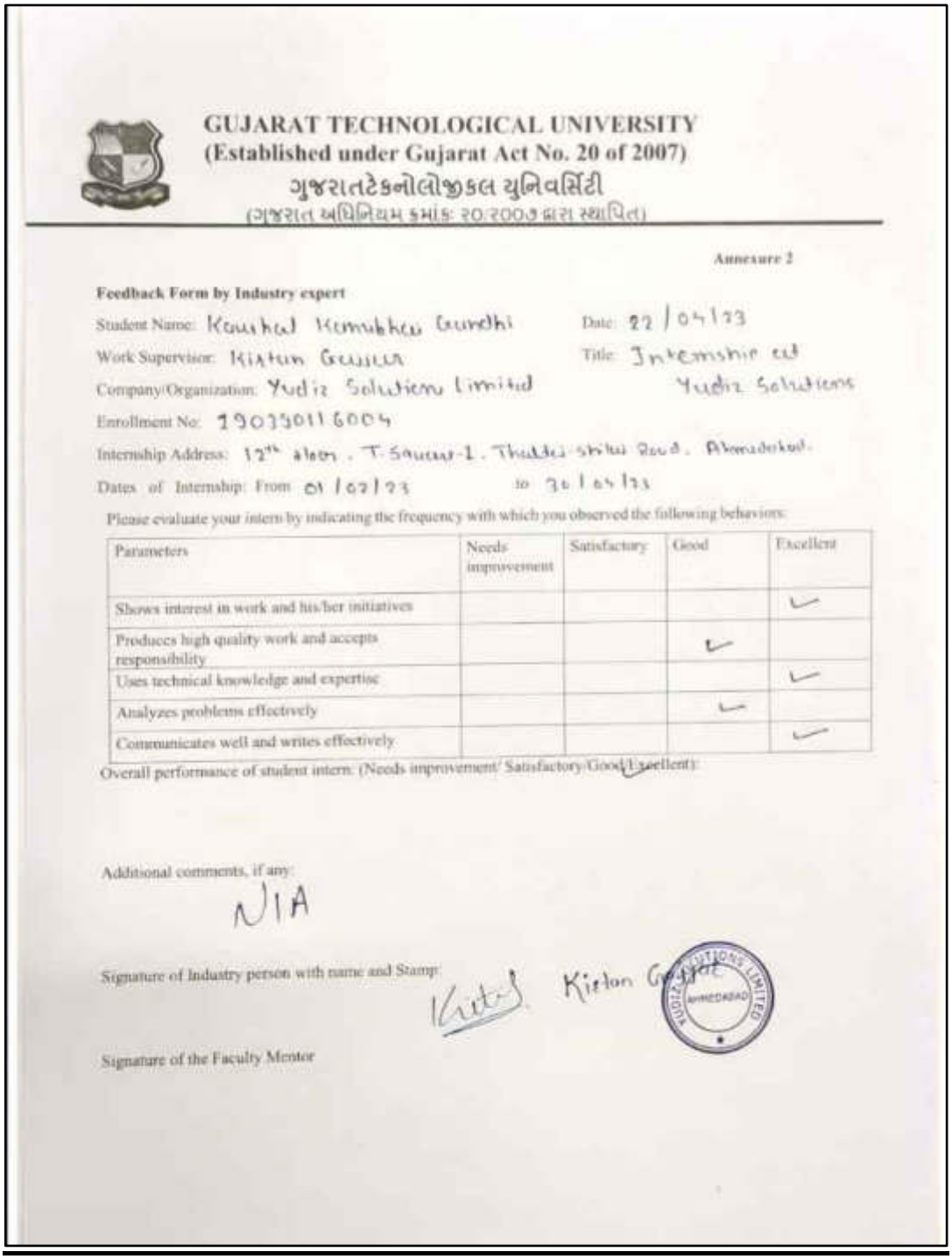
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APPENDIX



GUJARAT TECHNOLOGICAL UNIVERSITY
(Established under Gujarat Act No. 20 of 2007)
ગુજરાતટેકનોલોજીકલ યુનિવર્સિટી
(ગુજરાત અધિનિયમ ક્રમાંક: ૨૦/૨૦૦૭ દ્વારા સ્થાપિત)

Annexure 2

Feedback Form by Industry expert

Student Name: Kaushal Kamukhbhai Gandhi Date: 22/04/23
Work Supervisor: Kiran Gusain Title: Internship at Yudiz Solutions
Company/Organization: Yudiz Solutions Limited
Enrollment No: 190390116004
Internship Address: 12th floor, T-Square-1, Thaltej-Shilaj Road, Ahmedabad.
Dates of Internship: From 01/02/23 to 30/04/23

Please evaluate your intern by indicating the frequency with which you observed the following behaviors:

Parameters	Needs improvement	Satisfactory	Good	Excellent
Shows interest in work and his/her initiatives				✓
Produces high quality work and accepts responsibility			✓	
Uses technical knowledge and expertise				✓
Analyzes problems effectively			✓	
Communicates well and writes effectively				✓

Overall performance of student intern: (Needs improvement/ Satisfactory/Good/Excellent): ✓

Additional comments, if any:
NIA

Signature of Industry person with name and Stamp: Kiran Gusain
YUDIZ SOLUTIONS LIMITED AHMEDABAD

Signature of the Faculty Mentor

Name: Kaushal Gandhi
Enrollment No.: 190390116004
Branch: Information Technology
Department: Wordpress

Date	February	March	April
1	P	P	P
2	P	P	SUNDAY
3	P	P	P
4	P	SATURDAY	P
5	SUNDAY	SUNDAY	P
6	P	P	P
7	P	P	P
8	P	DHULETI	SATURDAY
9	P	P	SUNDAY
10	P	P	P
11	SATURDAY	P	P
12	SUNDAY	SUNDAY	P
13	P	P	P
14	P	P	P
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28	P	P	P
29	-	P	SATURDAY
30	-	P	SUNDAY
31	-	P	-

Kinjal Shah
Functional Manager