MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

Final Year Internship Report

on

Create Web Experience using Adobe Experience Manager

Submitted By:
Janhvi Singhal
0901CS181044

Faculty Mentor:
Dr. Rajni Ranjan Singh Makwana
Assistant Professor

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
GWALIOR - 474005 (MP) est. 1957

MAY-JUNE 2022

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Create Web Experience using Adobe Experience Manager

A final year internship report submitted in partial fulfilment of the requirement for the degree

of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

Submitted by:

Janhvi Singhal
0901CS181044

Internship Faculty Mentor:

Dr. Rajni Ranjan Singh Makwana
Assistant Professor

Submitted to:

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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MAY-JUNE 2022

Internship Certificate Received from Infosys Ltd.

Infosys | Education, Training and Assessment

CERTIFICATE OF COMPLETION
OF
INTERNSHIP

This is to certify that

JANHVI SINGHAL

of

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR, RAJIV GANDHI PRAUDYOGIKI VISHWAVIDHYALAYA

has completed the internship program at Infosys Limited

from

January 2022 – April 2022

Satheesha B N.

Satheesha B Nanjappa
Vice President and Head, Global Education Center

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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CERTIFICATE

This is certified that Janhvi Singhal (0901CS181044) has submitted the Internship report titled "Create Web Experience with AEM" of the work he has done under the mentorship of Dr. Rajni Ranjan Singh Makwana, in partial fulfilment of the requirement for the award of degree of Bachelor of Technology in Computer Science and Engineering from Madhav Institute of Technology & Science, Gwalior.

27/5/22

Dr. Rajni Ranjan Singh Makwana
Faculty Mentor
Assistant Professor
Computer Science and Engineering

27/05/22

Dr. Manish Dixit
Professor and Head,
Computer Science and Engineering

Dr. Manish Dixit
Professor & Head
Department of CSE
M.I.T.S. Gwalior

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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DECLARATION

I hereby declare that the work being presented in this Internship report, for the partial fulfilment of requirement for the award of the degree of Bachelor of Technology in CSE at Madhav Institute of Technology & Science, Gwalior is an authenticated and original record of my work under the mentorship of Dr. Rajni Ranjan Singh Makwana, Assistant Professor, Department of CSE.

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.

Janhvi Singhal
0901CS181044
IV Year,
Computer Science and
Engineering

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
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ACKNOWLEDGEMENT

The full semester internship has proved to be pivotal to my career. I am thankful to my institute, Madhav Institute of Technology & Science to allow me to continue my disciplinary/interdisciplinary internship as a curriculum requirement, under the provisions of the Flexible Curriculum Scheme (based on the AICTE Model Curriculum 2018), approved by the Academic Council of the institute. I extend my gratitude to the Director of the institute, Dr. R. K. Pandit and Dean Academics, Dr.Manjaree Pandit for this.

I would sincerely like to thank my department, Department of Computer Science and Engineering, for allowing me to explore this internship. I humbly thank Dr. Manish Dixit, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

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Janhvi Singhal
0901CS181044
IV Year,
Computer Science and Engineering

ABSTRACT

About the Organisation:
Infosys Limited is one of the leading IT companies in India. According to 2021, Infosys secured 3rd position after Accenture and TCS in the top IT companies of India. Infosys is the fourth company of India who crosses $100 Billion in Market Capitalization. It provides business consulting, information technology and outsourcing services.

Internship:
In the duration of my Internship, I have developed a web application named Infy Ride Plus.

Infy Ride Plus: We all like going together. Infy Ride plus will help you to connect with other like-minded professionals who are travelling on the same route and same time. InfyRide helps commuters to start sharing the ride instead of travelling alone. Innovative technology to discover, connect, route match, coordinate and cost-share in a seamless manner. Infy Ride Plus automates end to end process of car pooling& bike pooling and makes pooling safe, comfortable and free for the infy commuters.

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LIST OF ABBREVIATIONS

Abbreviation	Description
AEM	Adobe Experience Manager
SQL	Structured Query Language
DB	Database
HTML	Hyper Text Markup Language
CSS	Cascading Style Sheets
JS	JavaScript
IRP	Infy Ride Plus

Chapter 1. INTRODUCTION

1.1 About Organization:

Infosys Limited is among top-3 companies of India. It is established in Pune in 1981 by a group of 7 people, among which N.R. Narayana Murthy is the founder and other 6 members acts as the co-founders of this organization. This organization's headquarter is situated in Bangalore, Karnataka. It is a multinational company.It's current CEO is Salil Parekh. According to March 2019, Infosys have offices at 191 different locations in 46 countries. Infosys is the fourth company of India who is able to cross $100 Billion in market capitalization and this all happen in August 2021. It provides software development, maintenance and independent validation services to companies in finance, insurance, manufacturing and other domains.As of 2021, Infosys had 259,619 employees or Infoscions (generally known) out of which approximately 39% were women. The Infosys Leadership Institute(ILI), located in Mysore, provides the training to the freshers and want to see them as the senior leaders in Infosys. This training centre has approx. 200 rooms with all facilities including sports zone, food, gym, etc. ILI has an international level cricket ground approved by BCCI.

1.2 Winternship Programme of Infosys

I have done internship under the winternship cum training programme from Infosys in which the training is conducted by the Educator, Training and assessment team (ETA team) of Mysore, Karnataka, India. This internship includes the self-learning of courses like Data Structures and Algorithms using Java, Introduction to Java, Data Base Management System from Infosys Springboard, an online learning platform of Infosys. After the self-learning, we undergo a training of 8 weeks and then we made a project under the guidance of a project manager in 5 weeks. This winternship programme gives me the lessons on Java, Adobe Experience Manager, HTML, CSS, JavaScript, Digital marketing. The educators teaches us and also gave us the quizzes and assignments to do in a particular time period on Lex. Lex is an online self-learning platform for the employees of Infosys. Lex is enriched with a number of courses and each course is included with a number of quizzes and tryouts.

1.3 Project

I have created project “InfyRidePlus” in a group of 6 co- trainees. This project is based on the fact that the employees who are living in the same area or has to go to the same destination can book a car or bike according to their needs. They can drive themselves as well as they can offer ride to other employees so that other employees can find a ride and go with them and in this way, they can connect and make their ride comfortable. We have created this project with the help of AEM, Java, Firebase, HTML, CSS and database MySQL. We also use GitHub repository so that all our code can stay on one place only. Our project is divided into 3 parts- frontend, backend and database. We have created the frontend with the help of AEM, HTML, CSS, the backend with Java and the database with MySQL.

Chapter 2. Technologies Learnt

2.1 Java:

- It is an object- oriented programming language.
- It is developed and released by Sun Microsystem in 1995.
- It is a platform- independent language which is very useful for the developers so that they can run the same source code on different platforms like Windows, Linux, etc.
- It is mainly used for the web and app development.
- It is also easy to learn language, which helps a fresher to recognize the syntaxes.
- It is also used for developing the games.
- It is a multithreaded language and provides automatic memory management.
- It is one of the powerful and popular language of the world.

2.2 HTML:

- HTML stands for Hyper Text Markup Language.
- It is a language used for developing the webpages.
- It has different versions which provides the different functionalities to our webpage.
- With the help of CSS, we can provide a better look to our webpages in HTML.
- The latest version of HTML is HTML5 which provides the audio and video facility.
- HTML elements are the building blocks of HTML pages.
- From 1997, World Wide Web Consortium (W3C), is encouraging the use of CSS over HTML.

2.3 CSS:

- CSS stands for Cascading Style Sheets.
- With HTML and JavaScript, CSS is also one of the cornerstone technologies of WWW.
- It is used for providing the content in the web page in a better format.
- CSS can control the layout of the webpages on different devices.

- It can save a lot of work.
- With the help of CSS files, we can also store the external stylesheets.

2.4 JavaScript :

- Javascript is abbreviated as JS.
- JavaScript is an object- oriented programming language like other languages i.e. C++, Java, Python, etc.
- It is mainly used for frontend development including the website development.
- It is used to program the behaviour of webpages.
- It is one of the popular languages of the world.
- This language must be learnt by each we developer.

2.5 Adobe Experience Manager:

- Adobe Experience Manager is abbreviated as AEM.
- It is an enterprise content management system that enhance the authoring, management, and delivery of content and digital media.
- It allows us to create the new digital experiences.
- It is java based content management system.
- It is really very helpful to create the websites, in which we can create the components according to our need in java.
- All it's data is saved in CRXDE Lite (Content Repository Extreme Development Environment).

Chapter 3. INFYRIDE PLUS

3.1 Introduction:

Infyride Plus is the name of the project which I have created with 5 more co-trainees of this wintership. This website is developed for the employees of Infosys Limited. Infoscions can use this website to travel from the source to their destination. During their journey, they can offer the ride to other infoscions also. When they are booking a ride, they get two options- find ride and offer ride. If they choose find ride then the website shows them the available rides on their route and for the same destination.They can drive the car/bike as well by themselves. In this way, they can connect to more Infoscions, and get to know more about them.

3.2 Scope:

This project will enhance the riding facilities for the Infoscions and let them know more about their colleagues who are living near them. Also, this project will provide the facility to get and offer ride according to their locations.

3.3 Objective:

The objective of designing this project is to give the better riding facilities to the Infoscions.

3.4 Advantages of this Project:

1. Can go anywhere with their colleagues.
2. Can drive themselves.
3. Can offer the ride to their colleagues.

3.5 Technologies Used:

- Java
- HTML
- CSS
- AEM
- MySQL
- Firebase
- Maps

Previously, I have mentioned the details of some of the above technologies like, Java, HTML, CSS and AEM. Now, I am briefing you the remaining technologies, MySQL, Firebase and Maps.

3.5.1 MySQL:

o MySQL is a Relational Database Management System (RDBMS). o It was released in 1995. o It is an open source and free. o It is based on ANSI SQL standards. o It is ideal for both small and large applications. o It is very fast, reliable, scalable and easy to use. o It is used by Facebook, Twitter, YouTube, etc. o It is also used by content management system like WordPress, AEM, etc.

3.5.2 Firebase:

- o Firebase is a company developed in 2011 and acquired by Google in 2014. o It was firstly for real-time database.
- o It is also used for web and app applications.
- o It is also used for OTP authentication. o It is also used for developing the chatbots.

3.5.3 Maps:

- o Maps is a website developed in 2004 and in the same year, it was acquired by Google and bring it to a different level.
- o It was first launched in 2005.

- It is very helpful in various purposes like directions, traffic conditions, street view, immersive view, etc.
- It is based on the latitude and longitude of the vehicle.

3.6 Technical Requirements

3.6.1 Software Requirements:

❑ Any platform: Windows, Linux, etc.

3.6.2 System Requirements for installing AEM:

- A valid AEM quickstart jar.
- license.properties file, which is a valid license key for AEM ❑ The Java Development Kit (JDK) version 1.5 or above.
- The Java Runtime Environment(JRE), Version 1.6 or above.
- At least 1.5 GB RAM.
- 3 GB space in hard disk drive.

3.6.3 System Requirements for Java:

❑ Hardware Requirements:

1. Minimum Windows 95 software.
2. IBM- compatible 486 system
3. At least 8 GB of memory and Hard Disk Drive
4. CD- ROM Drive
5. Mouse, Keyboard and Sound card, if required.

❑ Software Requirements:

1. Operating System
2. Java SDK or JRE, 1.6 or higher.
3. Java Servlet Container (Free Servlet Container available).
4. Supported Database and library that supports the database connection with Java.

Chapter 4. System Analysis

4.1 Requirement Identification:

4.1.1 Study of Existing System:

First of all, we have collected all the data from all of the similar websites. After collecting the data, we started to observe the advantages and disadvantages of those websites. We have found out some of the major issues in those websites. All these major issues has motivated us to develop a new website which has not the same issues. After creating our website, we compare our website with other websites also so that we can understand what are the advantages and disadvantages are there in our website.

4.1.2 Problems and Weaknesses of Current System:

1. Nowadays, the taxi booking websites like ola, uber are very famous. They also tries to provide the best facility to their customers. But, sometimes, they create some bad situations for them like if the driver is denied to go to some destination then he forces the customer to cancel the ride and pay for it some amount, but he/she hasn't go anywhere.

2. Sometimes, we see that the drivers are asking the extra amount from the customers to go to some location, i.e. if it is somewhere outside the city, or at some exterior point from where they did not get customers for their taxies.

3. Also, if we want to drive ourselves then there is no facility available for this situation. We have to go with the driver only.

4.2 Proposed System Requirements:

In the proposed system, the customer can ride themselves and if they want to share their ride with someone else then they can also do that. They can offer ride to others so that they can find this ride and go to their destination together. This is the beauty of the proposed system. Whenever a user visits our website, they do not need to register again and again. Just one time registration process, other times, they just need to login to the website and book a ride accordingly.

In this project, we also need to verify the user every time when he/she logs in. Also, all the rides of a user should be kept securely and the user can view their previous rides.

4.2.1 Requirement Elicitation:

1. **Registration**

   Each and every user of the website should be registered with the unique contact number and employee id.

2. **Sign In**

   The registered user has to sign in to the website for booking a ride. During sign in to the website, the OTP authentication is required which is done by the contact number given during signing in.

3. **Updation**

   Updating the old records of the user.

   Adding the records of the new users.

4. **Database**

   The mandatory information of the user should be kept in the database like employee id, contact number, email id, name, etc.

4.3 Coding and Implementation:

The frontend of the project has been developed in AEM itself with the help of Java. The frontend development includes the HTML and CSS which helps in web designing and styling of the web pages and components used on the website. The coding of HTML and CSS is done in Eclipse IDE. IDE stands for Integration Development Environment.

The backend is coded in Java in Eclipse only. The database is designed in MySQL. In the backend, we have created four classes for each functionality- Model class, Service class, Servlet class and DAO class. DAO class is used to connect the UI to the database.

4.4 Testing:

Testing is one of the important phase for developing any project. This phase is used to identify the defects and flaws present in our project. Also, it is helpful in identifying the correctness of our project. There are various testing methods for identifying the correctness of our project. Some of the common testing methods are described below:

4.4.1 Unit Testing:

The testing process, which can be done manually due to the fact that it checks each and every function individually. We all do this by using live record, to check whether the program or function is producing the satisfied output as we need or not. In this testing, we checked the individual modules of the project will be working properly or not. i.e. we tested each and every unit of the application separately in developer's environment. In our project, we have used unit testing. With unit testing, we can test for each and every function individually.

4.4.2 Integration Testing:

In this testing method, system consists of different units, where in each unit can arise problem during the testing. It is the testing process of the interface between two units.

4.4.3 Validation Testing:

Validation testing is the testing method which ensures that the tested and developed software meets the client's need. Once it is validated, then we can give the software for the maintenance phase.

Implementation of Project

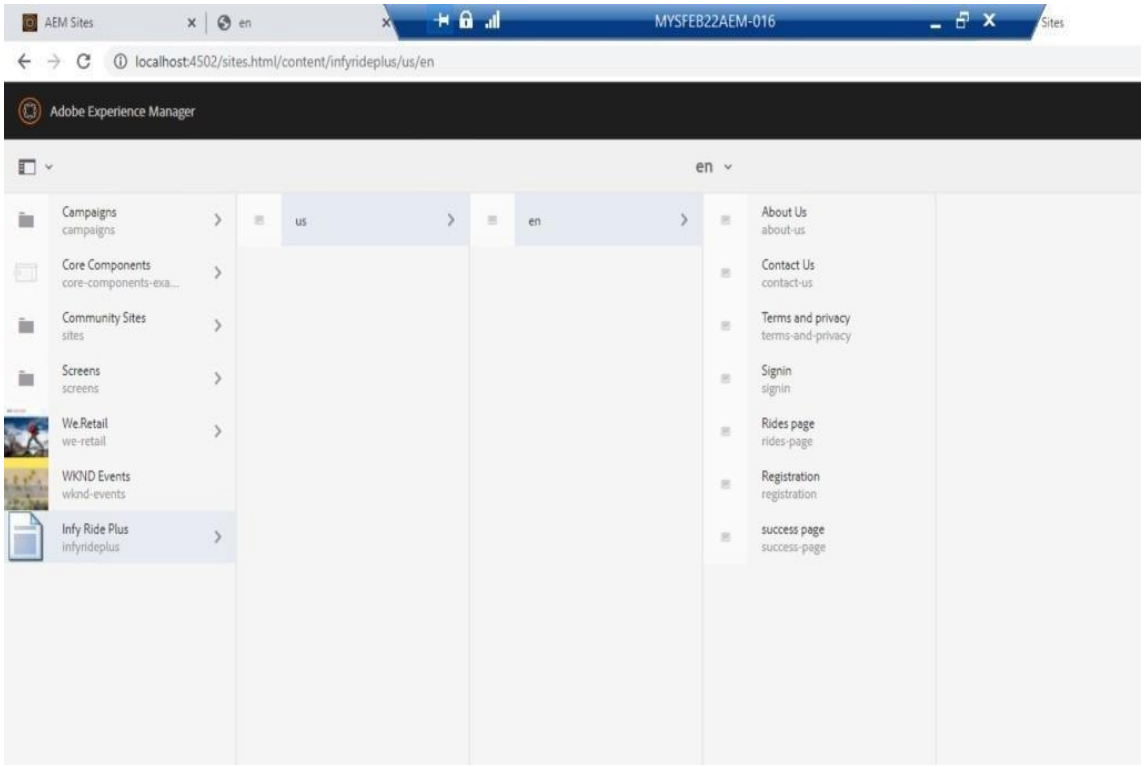

Figure 1: Screenshot of Hierarchy of the project

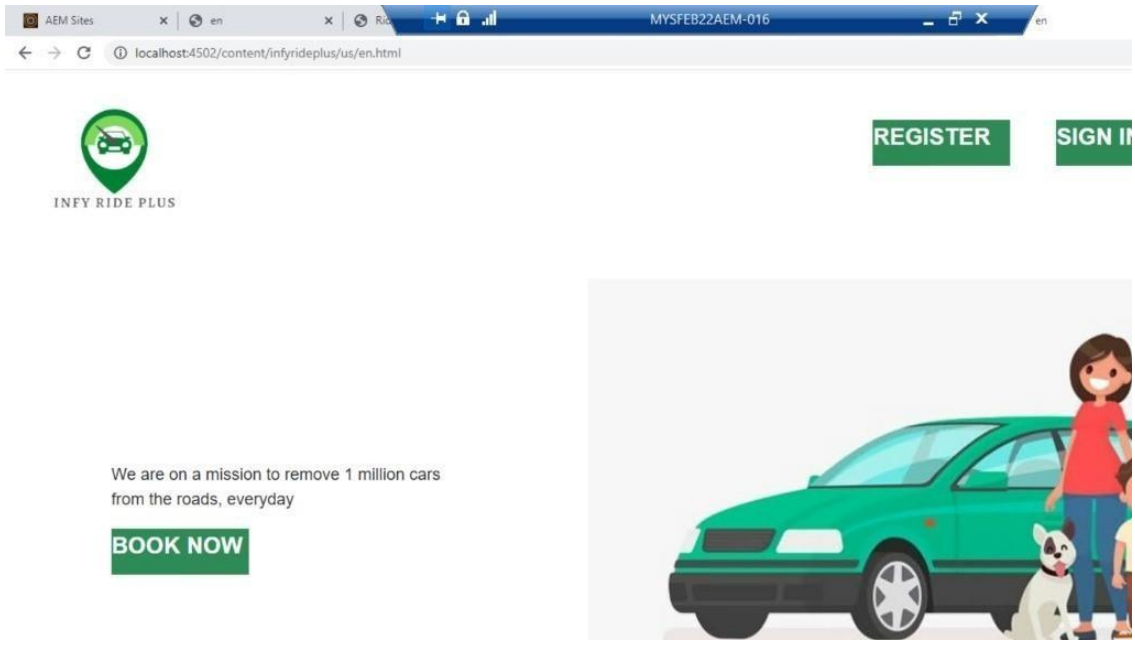

Figure 2: Screenshot of Home page

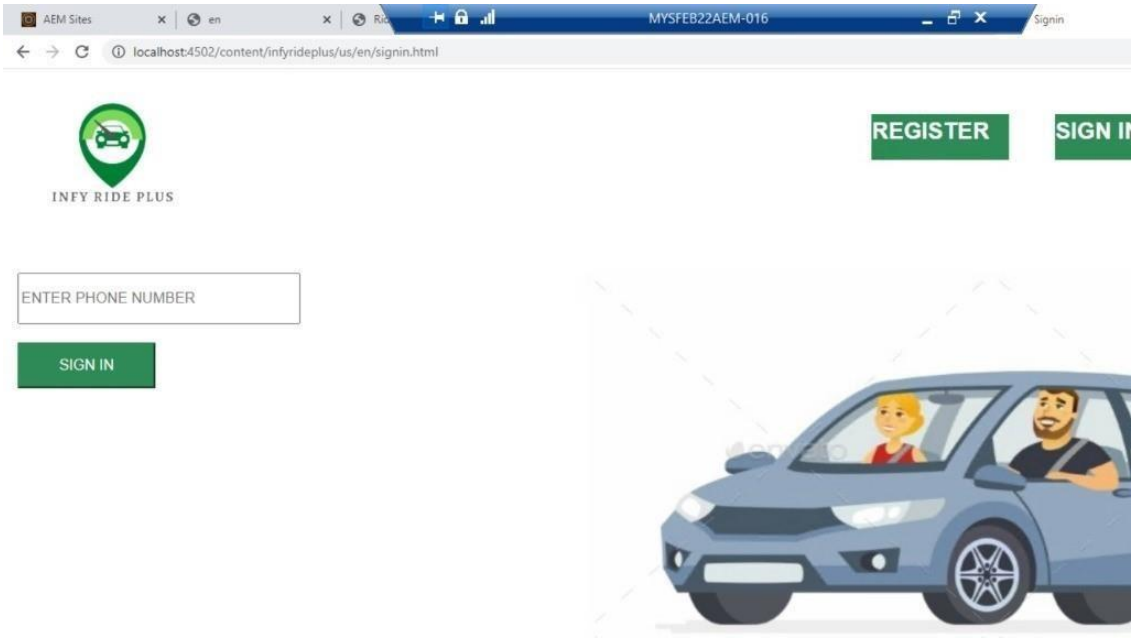

Figure 3: Screenshot of Sign in Page

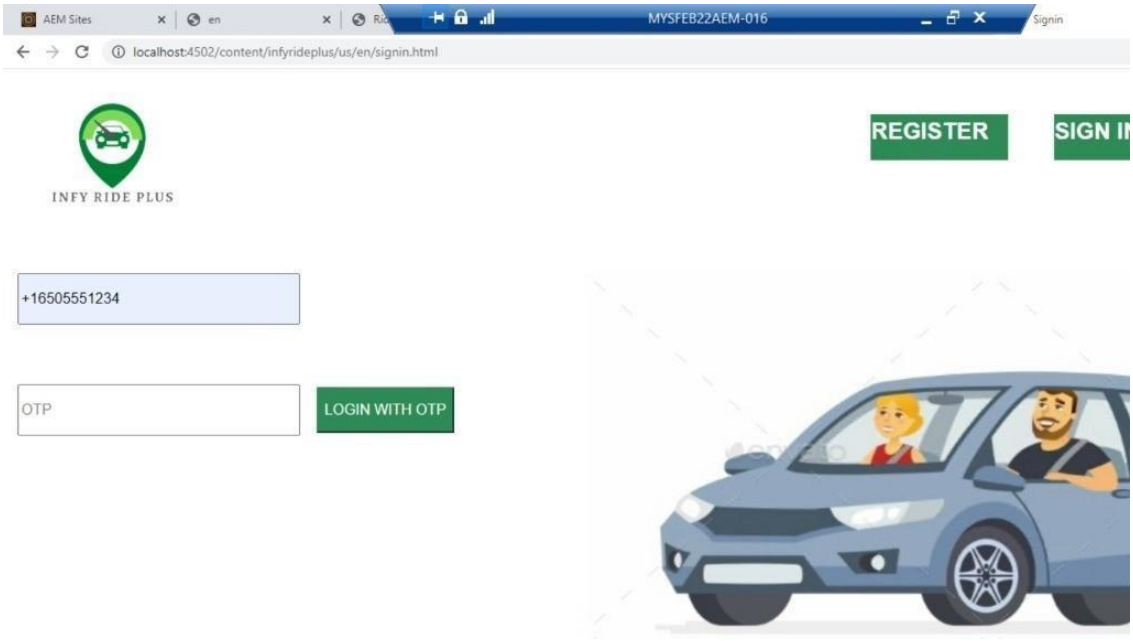

Figure 4: Screenshot of OTP Authentication Page

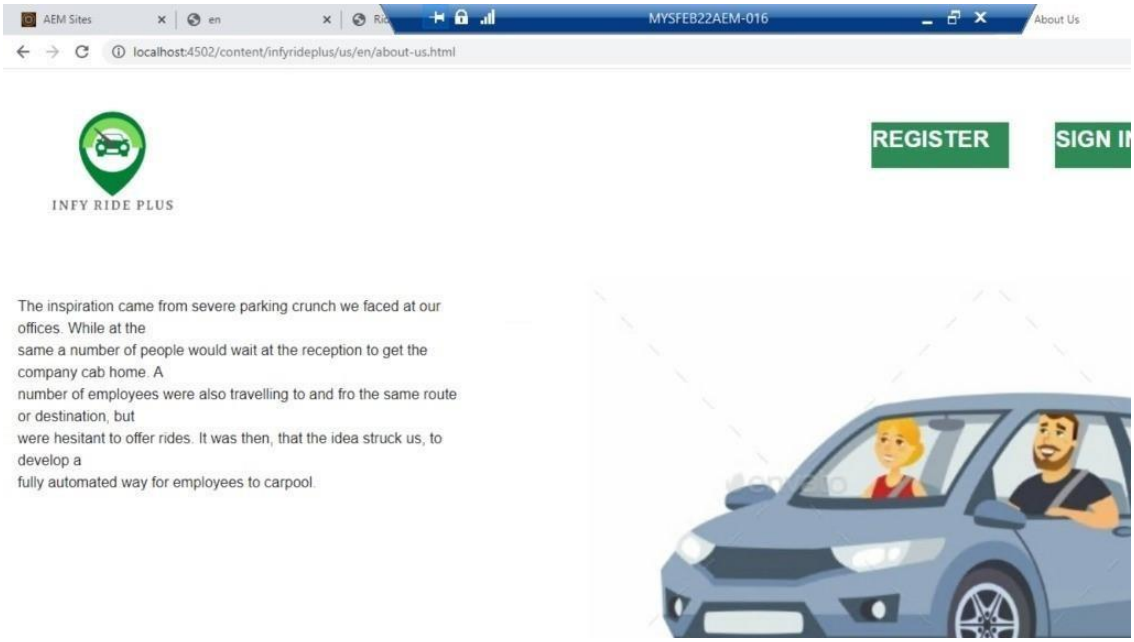

Figure 5: Screenshot of About Us Page

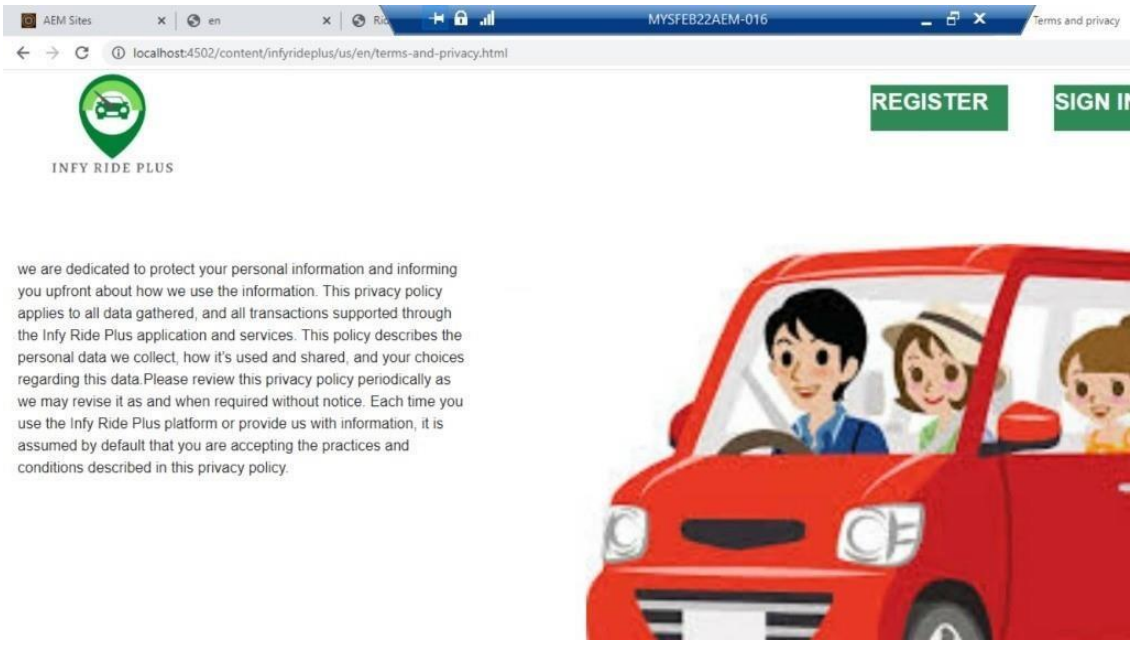

Figure 6: Screenshot of Terms and Privacy Page:

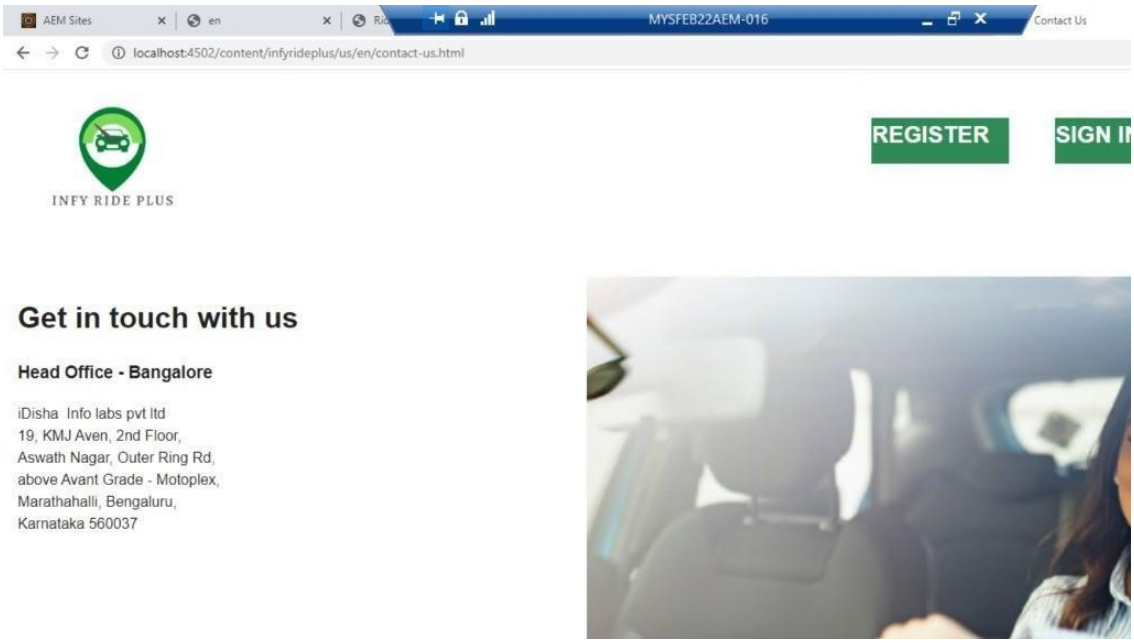

Figure 7: Screenshot of Contact Us Page:

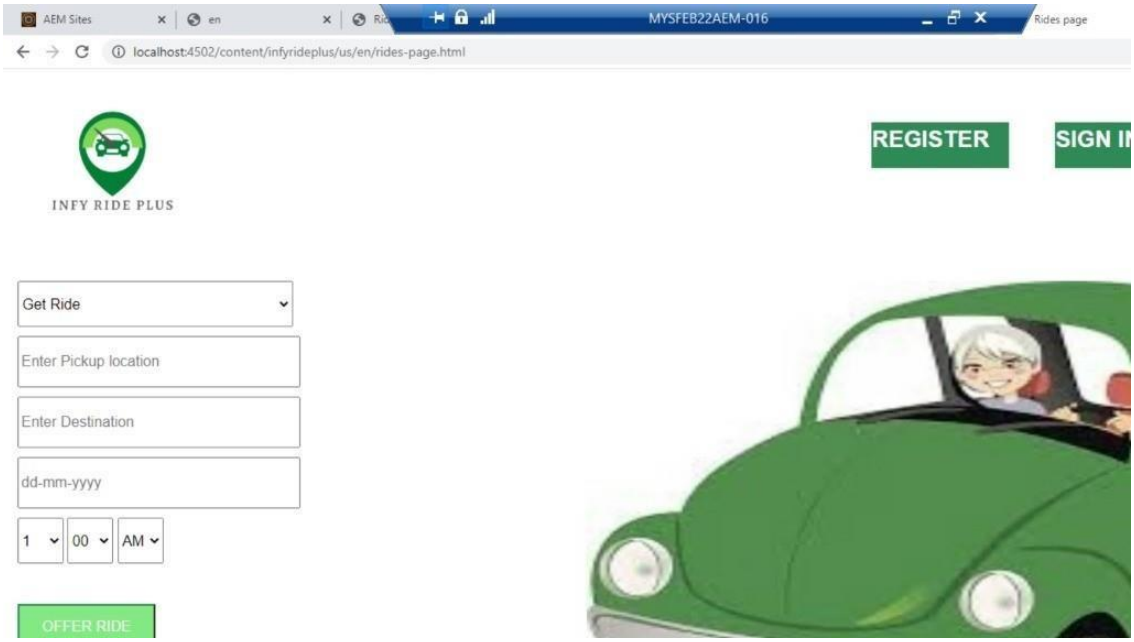

Figure 8A

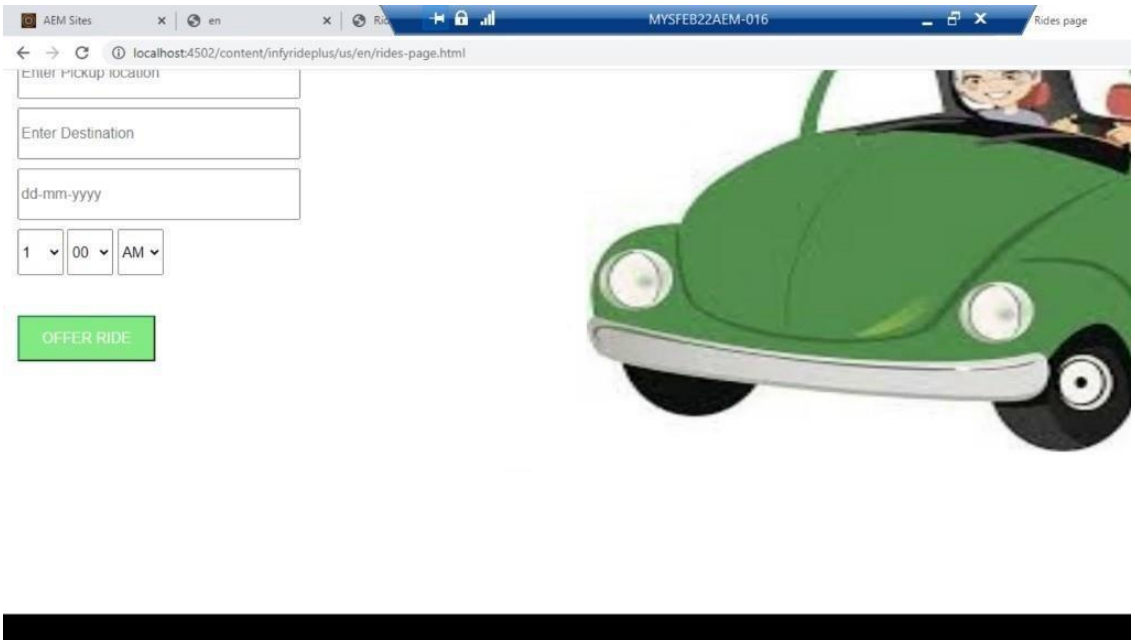

Figure 8B

Figure 8A & 8B: Screenshot of Get Ride/Offer Ride Page

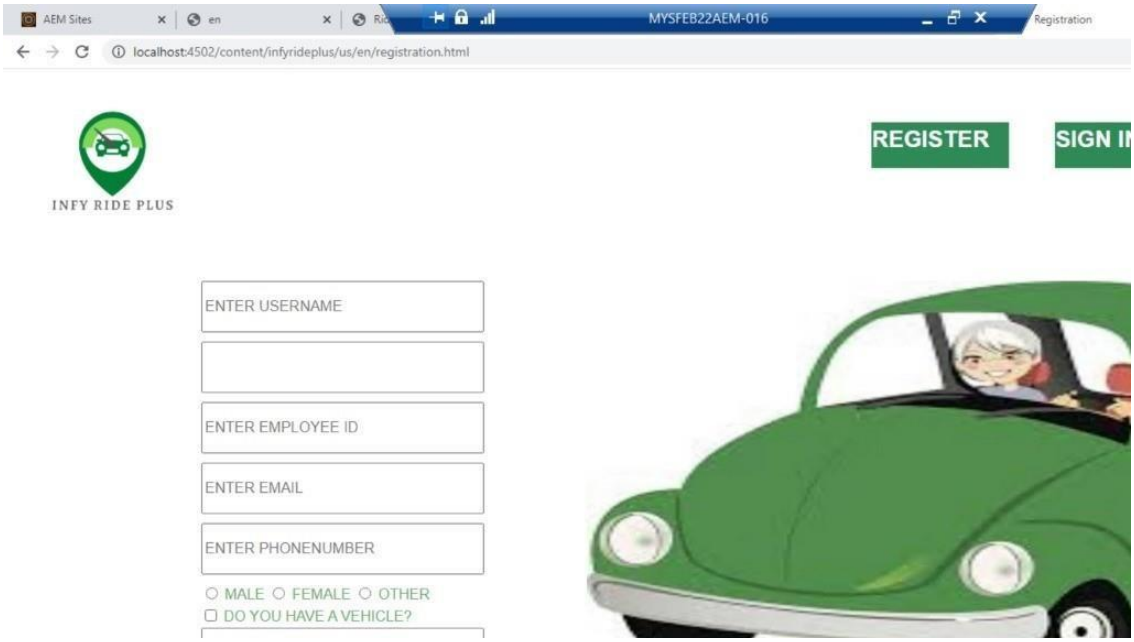

Figure 9A

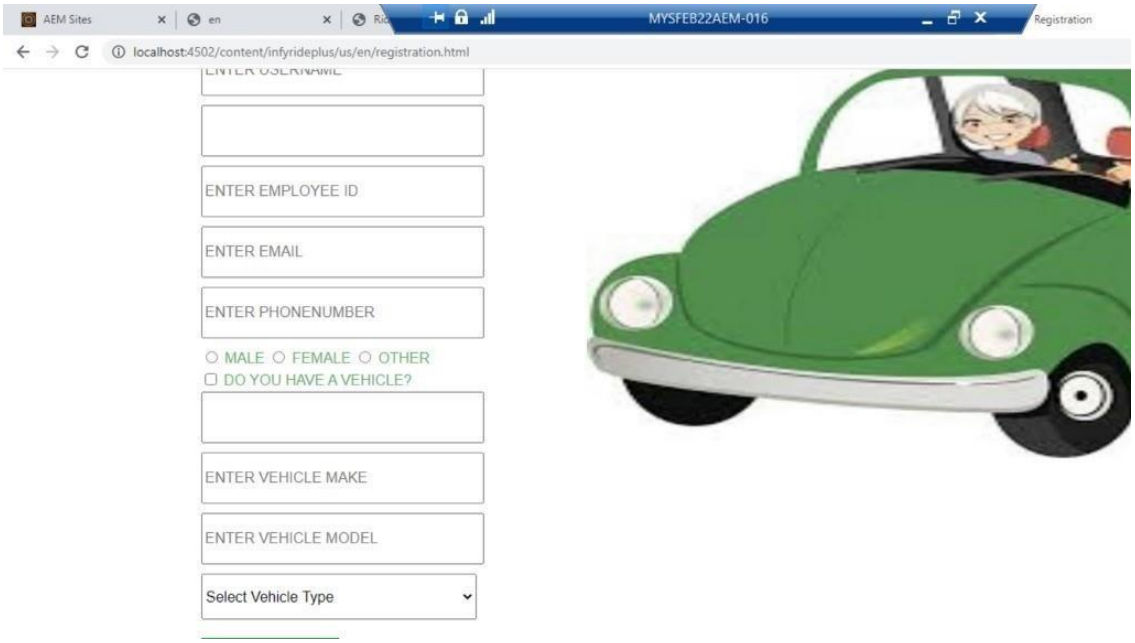

Figure 9B

Figure 9A & 9B: Screenshot of Registration Page

Conclusion

I have done my internship in Infosys Limited under the winternship programme of the organization. This internship is of 4 months in which I have learnt some new technologies and some older technologies, i.e., I already knew about them, a little bit deeper. New technologies like AEM, JavaScript, some fundamentals of Digital Marketing. Older technologies which I have learnt in deep are Java, HTML, CSS. I am happy to implement all these technologies in my project which I and my co- trainees made in a group. During this project, I have learnt teamwork, punctuality and how to do all the work with a clear understanding. This project helps the Infoscions to get a better ride with the meeting of the new Infoscions.

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