

Smart Travel System Using Landmark Detection

BY

Md. Shahidur Rahman

ID: 213-17-491

This Report Presented in Partial Fulfillment of the Requirements for the
Degree of M.Sc. in Management Information System

Supervised By

Dr. Md Zahid Hasan

Assistant Professor

Department of CSE

Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

JANUARY 2023

APPROVAL

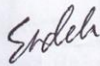
This Thesis/Project titled “**Smart Travel System Using Land Mark Detection**”, submitted by **Md. Shahidur Rahman** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of MS in Management Information System and approved as to its style and contents. The presentation was held on 24 January 2023.

BOARD OF EXAMINERS



Professor Dr. Touhid Bhuiyan
Professor and Head
Department of CSE
Faculty of Science & Information Technology
Daffodil International University

Chairman



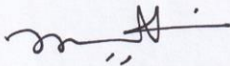
Md. Sadekur Rahman
Assistant Professor
Department of CSE
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



Raja Tariqul Hasan Tusher
Assistant Professor
Department of CSE
Faculty of Science & Information Technology
Daffodil International University

Internal Examiner



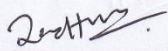
Dr. Mohammad Shorif Uddin
Professor
Department of CSE
Jahangirnagar University

External Examiner

DECLARATION

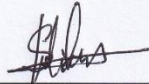
I hereby declare that, this project has been done by me under the supervision of **Md. Zahid Hasan**, **Associate professor, Department of CSE**, Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:



Dr. Md Zahid Hasan
Associate Professor
Department of CSE
Daffodil International University

Submitted by:



Md. Shahidur Rahman
ID: 213-17-491
Department of CSE
Daffodil International University

ACKNOWLEDGEMENT

I would like to thank who helped in the process of completing this project. First of all, I would like to express my gratitude to Almighty God. Then would like to thank our honorable supervisor, Mr., Md. Zahid Hasan of Computer Science & Engineering, Daffodil International University, Dhaka. Without his guidance and help this project was not possible. Finally, I would like to thank my parents whose blessings and appreciation helped me.

ABSTRACT

I have presenting the design and evaluation of culturally smart travelling mobile application, designed as a tool to help people to recognize landmark by landmark recognition technology, select tourist place, find restaurants, find guide, find nearest hotel etc. whenever they go to any places if those places are not known to them. This application will be the assistant for their tour. This application will help people to find relevant services or help them to find the nearest possible help for any kind of occurrence. At present the mobile devices are much easier to carry, it can load a number of data. So that, the project is based on an android application. For this reason, people can use this application easily. They can get the information about a landmark easily and can find the nearest places in a single platform. This paper contends that specifically overall procedures of “Landmark Recognition for Tour Guidance”.

Table of Content

Contents	Pages
Title Page	i
Approval	ii
Declaration	iii
Acknowledgement	iv
Abstract	v

Chapters	Pages
Chapter 1: INTRODUCTION	1
1.1 Introduction	1
1.2 Objectives	2
1.3 Motivation	2
1.4 Preliminary Solution	2
1.5 Project Scope	3
1.6 Estimate Cost and Time for Feasibility Study	3
1.7 Organizations of the Report	4
Chapter 2: LITERATURE REVIEW	5
2.1 Discovery Bangladesh	5
2.2 Travel Mate	6
2.3 World Tourist Guide	7
2.4 Desh Ghuri	7
2.5 Nijhoom	8
2.6 Conclusion	8
Chapter 3: SYSTEM DESIGN	9
3.1 System Design	9
3.2 Proposed System	9
3.3 Data Flow Diagram	10
3.4 Landmark Detection Methodology	11
3.5 Software Process Model	11

Chapter 4: PROJECT PLANNING	14
4.1 Why Requirement Specification is needed?	14
4.2 Requirement Definition	14
4.2.1 User List of Application	15
4.3 Requirement Validation	16
Chapter 5: SOFTWARE REQUIREMENT SPECIFICATION	17
5.1 Android Information and Background	17
5.2 Minimum Requirement	18
5.3 Use Case Diagram	19
5.4 Design Process Model	21
5.5 Flow Chart	22
5.5.1 Flow Chart for Tourist	22
5.5.2 Flow Chart for Admin	23
5.5.3 Flow Chart for Hotel	23
5.5.4 Flow Chart for Restaurant	24
5.5.5 Flow Chart for Transport	24
5.6 Entity Relationship Diagram	25
5.7 Activity Diagram	26
Chapter 6: IMPLEMENTATION	28
6.1 Overview	28
6.2 Android Application	28
6.3 Web Application	33
Chapter 7: Testing	46
7.1 Objective of Testing	46
7.2 Types of Testing	46
7.2.1 Login	47
7.2.2 Login Validation Check Table	48
Chapter 8: Conclusion	49
8.1 Limitation	49
8.2 Conclusion	49
References	50

List of Figures		Pages
Figure Name	Description of Figure	
Figure 2.1	Discovery Bangladesh	5
Figure 2.2	Travel Mate	6
Figure 2.3	World Travel Guide	7
Figure 2.4	Desh Ghuri	7
Figure 2.5	Nijhoom	8
Figure 3.1	Level 0 DFD	10
Figure 3.2	Landmark Detection Methodology	11
Figure 3.3	Waterfall Model	12
Figure 5.1	Admin Usecase Digaram	19
Figure 5.2	Tourist Usecase Diagram	20
Figure 5.3	A general process of software	21
Figure 5.4	Flow chart of Tourists	22
Figure 5.5	Flow Chart of Admin	23
Figure 5.6	Flow chart of Hotel	23
Figure 5.7	Flow chart of Restaurant	24
Figure 5.8	Flow chart of Transport	24
Figure 5.9	ER Diagram	25
Figure 5.10	Activity Diagram	27
Figure 6.1	Splash Screen	29
Figure 6.2	Login Activity	29
Figure 6.3	Nearest places of current location	29
Figure 6.20	Admin Dashboard	34
Figure 6.31	Hotel Dashboard	40
Figure 6.35	Restaurants Dashboard	42
Figure 6.39	Transport Dashboard	44
Figure 8.1	Registration Page	47
Figure 6.9	Login Page	47

Chapter 1

INTRODUCTION

1.1 Introduction

Travelling is the most popular hobby among all generation of people. Making travel is so much smooth and safe; there are numbers of online systems. Those are helpful for tourists. The edge Internet furnishes vacationers with immense opportunities for looking through intriguing data and arranging their exercises.

Smart travel refers to the use of technology and data analysis to improve the efficiency, sustainability, and convenience of travel. The implementation of smart travel can have several important benefits, including:

Improved efficiency: Smart travel solutions, such as real-time traffic and transportation information, can help travelers plan their routes more effectively and reduce travel time.

Reduced congestion and emissions: Smart travel solutions, such as carpooling and public transportation optimization, can help to reduce traffic congestion and associated emissions.

Increased mobility for all: Smart travel solutions, such as on-demand transportation and accessible routing, can help to improve mobility for individuals with disabilities, low-income communities, and other disadvantaged groups.

Better use of resources: Smart travel solutions, such as dynamic pricing and demand management, can help to optimize the use of transportation resources, such as vehicles and parking spaces.

More data-driven decision making: Smart travel solutions can provide a wealth of data that can be used to inform transportation planning and policy-making.

Overall, smart travel solutions can help to make travel more efficient, sustainable, and convenient for everyone, while also helping to reduce congestion, emissions, and costs.

1.2 Objectives

- To resolve the issue that travelers are facing.
- To recognize a landmark wherever they want.
- To find nearby important places, when they need it urgent.
- To make a system that will be easier to use for general people.
- To make an efficient application which will be fast and less time consuming.
- To make a system where people can find nearest places, police stations, hotels and hospitals.
- To create an application that will be benefitted for service provider of that area also.

1.3 Motivations

- Several times people cannot get exact location from place images.
- There has no single platform where tourist can check hotels, transports and restaurants by detecting landmark.
- Tourist cannot choose hotel, transport or restaurant by checking reviews.
- Number of restaurants, hotels or transports cannot spread their offers to tourists.
- In emergency situation, people cannot find nearby police station, hospital.

1.4 Preliminary Solution

The problem can be solved by replacing the current android application travels assistant as a tour guide traveler will see all nearest tourist guide for chosen place. It will consider the entire steps category. Example: Landmark detecting, finding nearest hotel, finding nearest restaurants, finding nearest Movie Theater, recognize a place by detecting landmark, police station contact and hospital contacts etc.

1.5 Project Scope

Project scope refers to the boundaries and requirements of a project, including what is included and excluded from the project. It is a key aspect of project management and is used to define the project's objectives and deliverables, as well as to establish the project's constraints and limitations. A clear and well-defined project scope is essential for effective project planning, execution, and control.

Serial no	Item	Details
1	Functions	Detect Landmarks, Check Real Time Location. API Session Control
2	Features	1. Find Nearest places. 2. Find Places by Checking Landmarks. 3. Register users. 4. Find Hotels, Restaurants, Movie Theater etc. 5. View offers. 6. View offers Details. 7. View reviews.
3	Facilities	1. User will find get emergency contact.. 2. Tourists can maintain a travel guide.

1.6 Estimated Cost and Time for Feasibility Study

It's important to have a clear project scope, because without it, project can run over budget, over time and not meet the stakeholders expectations. A well-defined project scope provides a shared understanding of what the project aims to achieve and what it will deliver, which helps to align stakeholders' expectations and ensure that the project is focused on achieving its objectives.

1.7 Organization of the Report

Chapter 2 [Literature Review]: The chapter is summarized through sections. Describes the background of the study. The outline of Tour Guide system is discussed in section. Describes the methodology used for the study.

Chapter 3 [System Design]: The chapter covers many sections. Discuss how the development team is organized and the team member's background of the study.

Chapter 4 [Project Planning]: This chapter describe whole work related to the project actually describe the project features, functional operation, user characteristics. This is actually literature review and study.

Chapter 5 [Software requirement & specification]: This chapter has described the requirement for developing this project in details.

Chapter 6 [Implementation]: This chapter describe about implement process security, shows several implement figure.

Chapter 7 [Testing]: This chapter test our project in every process.

Chapter 8 [Conclusion]: This chapter summarizes result in this project. The future development plan is also mentioned in this chapter

Chapter 2

LITERATURE REVIEW

The objective of the feasibility study is to examine whether or not it would be doable to develop travelling guide which will give an improved mechanism to provide smarter travelling system. Since, the current system is manual. Therefore, it's a lot of pricey and tough to seek out and it's conjointly time intense. Therefore, our internet primarily based system line of work service is far possible in value. For the system that's to be developed should satisfy all the possible strategy. This step deals with the varied varieties of the feasibilities that are required to be thought of throughout the system development. There are a few travel guide based application. They are:

2.1 Discovery Bangladesh [1]

Discoverybangladesh.com - The Bangladesh Travel Guide

Bangladesh is one of the few countries in South Asia, which remains to be explored. Bangladesh has a delicate and distinctive attraction of its own to offer and it is definitely not a tourist haunt like Nepal or India. Bangladesh is like a painter's dream come true with a rich tapestry of colors and texture. The traditional emphasis of the tourist trade has always been on the material facilities offered by a country rather than on its actual charms. This may be a reason why Bangladesh has seldom been highlighted in the World's tourist maps.

It's a **land of enormous beauty**, hundreds of serpentine rivers, crystal clear water lakes surrounded by ever green hills, luxuriant tropical rain forests, beautiful cascades of green tea gardens, world's largest mangrove forest preserved as World Heritage, home of the Royal Bengal Tiger and the wild lives, warbling of birds in green trees, wind in the paddy fields, abundance of sunshine, world's longest natural sea beach, rich cultural heritage, relics of ancient Buddhist civilizations and colorful tribal lives, - Bangladesh creates an unforgettable impression of a land of peace.

You'll appreciate our culture and the environment. These are not simply sight-seeing excursions, but real-time learning experiences. Enjoy an ideal blend of adventure and exploration with comfort and relaxation. Here you find that you are not alone. With us, any place in Bangladesh is a home away from home.

 Quicklook Bangladesh	 Capital of Bangladesh	 Hotel
 Tour Packages	 Virtual Visit	 History of Bangladesh
 Travel Info	 Transport	 Map of Bangladesh

Figure 2.1: Discovery Bangladesh

Features:

- This application works on providing guidelines about hotels, tourist places of Bangladesh.
- Besides, it has some packages which are provided for the tourists.

Limitations:

- There have no landmark detection facilities for users.
- Users cannot choose a hotel by checking its reviews.
- There have no real time map facility.

2.2 Travel mate [2]

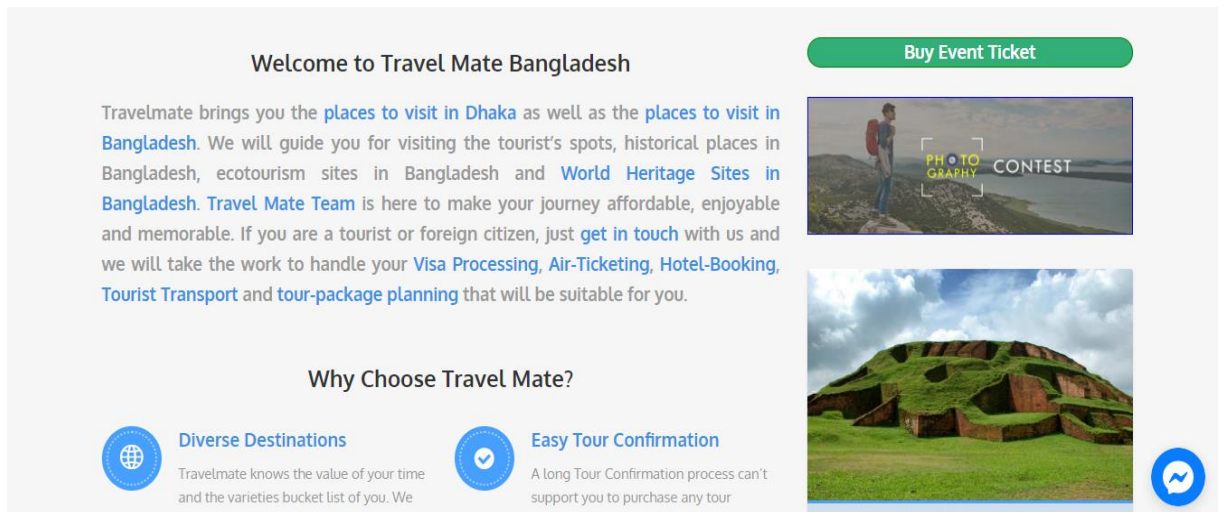


Figure 2.2: Travel mate

Features

- They guide tourists for visiting the tourist's spots, historical places in Bangladesh, ecotourism sites in Bangladesh and World Heritage Sites in Bangladesh.
- They organize different tour package for tourists to travel different places.

Limitations

- There have no landmark detection facilities for users.
- Tourist cannot get any idea about different needs such as hotels, transports and restaurants etc.
- There have no real time map facility.

2.3 World Travel Guide [3]

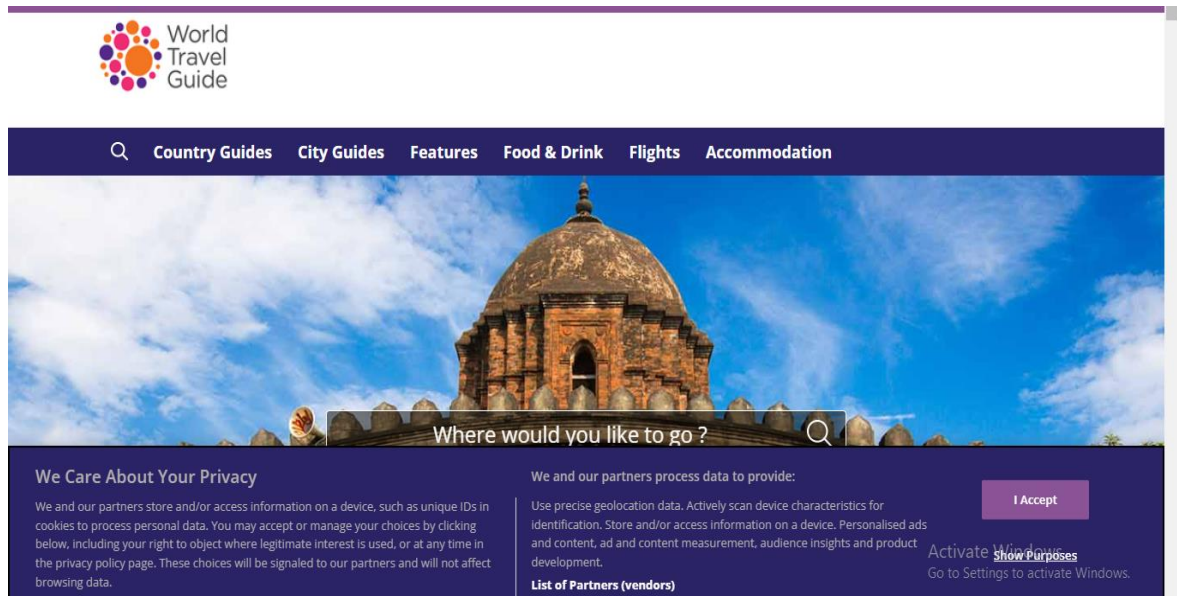


Figure 2.3: World Travel Guide

Features

- This application works on worldwide tourism places.
- They provide guide facility for tourists in new places.

Limitations

- There have no landmark detection facilities for tourists.
- There have no facility to get any nearest place location on Google map.
- Tourist cannot get any idea about different needs such as hotels, transports and restaurants etc.
- There have no real time map facility.

2.4 Desh Ghuri [4]

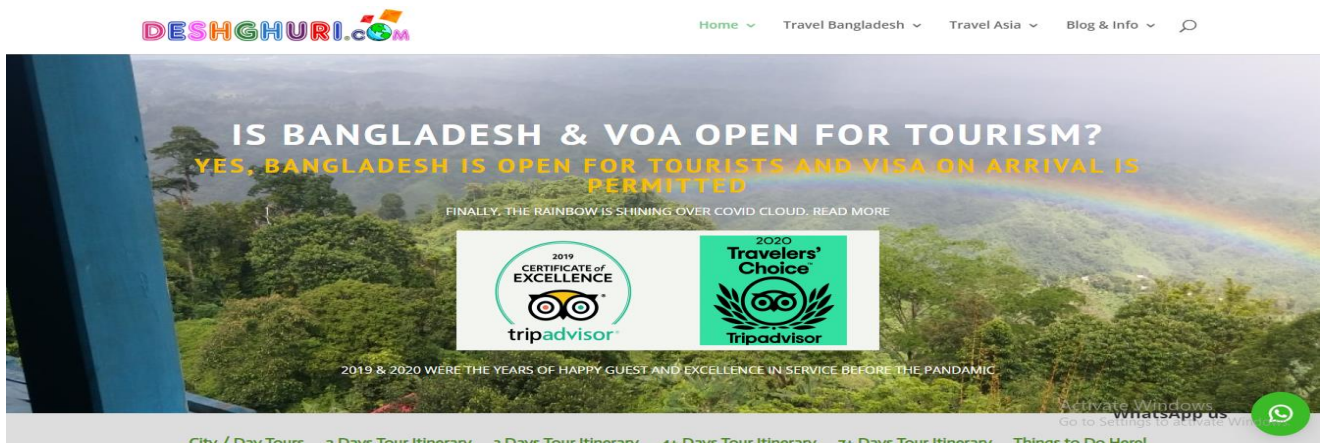


Figure 2.4: Desh Ghuri

Features

- This application works on tourism places in Bangladesh.
- They provide car rental for tourists.
- Besides, they provide information about hotel bookings.

Limitations

- There have no landmark detection facilities for tourists.
- There have no facility to get any nearest place location on Google map.
- Tourist cannot get any idea about different needs such as hotels, transports and restaurants etc.
- There have no real time map facility.

2.5 Nijhoom [5]



Figure 2.5: Nijhoom

Features

- This application works on package based tour for its users.
- They provide different offers and guide for those tours.

Limitations

- There have no landmark detection facilities for tourists.
- There have no facility to get any nearest place location on Google map.
- Tourist cannot get any idea about different needs such as hotels, transports and restaurants etc.
- There have no real time map facility.

2.6 Conclusion

These projects are worked on smart travelling system. Most of them, worked for making easier to travel. People can know about different packages on travels and they can book any package from these packages.

Chapter 3

SYSTEM DESIGN

3.1 System Design

System design is the process of defining the architecture, components, interfaces, and data for a system to satisfy specified requirements. It is a crucial step in the development of any system, as it lays the foundation for the system's implementation and operation.

3.2 Proposed System

I introduce an application based tour guide. This works on the landmark detection and help the tourist to make a better experience travels. Here the discussion of proposed systems:

- There have an admin panel, after successful login admin can upload hotel, transport, restaurant etc.
- There have a feature for hotel, transport and restaurant they can register themselves.
- After registering they have to wait for admin confirmation.
- If admin approve the request of hotel, transport and restaurants then these places will be shown in application for tourists.
- A tourist has to register in application for using the features.
- After successful, they will get the features.
- They can detect a landmark by checking images.
- Application will inform about the landmarks.
- Besides, application will suggest hotels, transports and restaurants based on this selected landmark.
- Tourist can get the real time map location by using this application.
- Besides, they can get different nearest places on Google map.
- There have a number of hotels, transport and restaurants. Tourist can choose them based on reviews of others.

- Tourists can maintain a travel diary for their future tour plan.

This application will solve a number of tourists. If a tourist visits a place for the first time, they can use this application as a virtual guide.

3.3 Data Flow Diagram

A Data Flow Diagram (DFD) is a graphical representation of the flow of data in a system. It is used to model the flow of information in a system, including the inputs, processes, and outputs of the system. DFDs are a powerful tool for understanding and analyzing the flow of data in a system, and they can be used to identify potential problems and inefficiencies in the system.

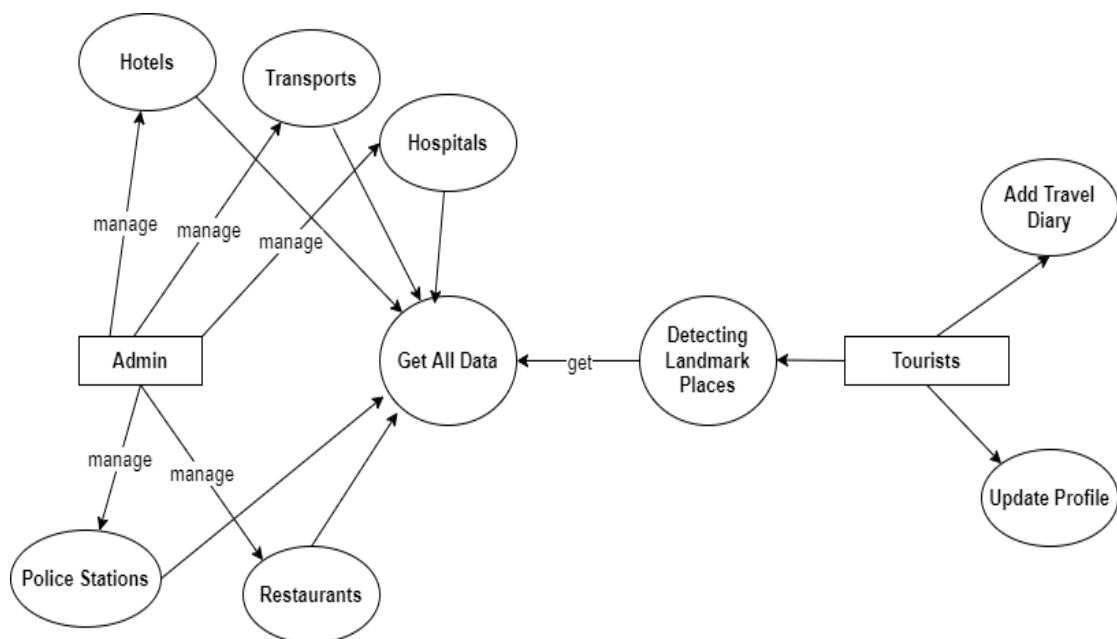


Fig 3.1 Context level (level-0) DFD of overall system.

Fig 3.1 shows the context level DFD or level-0 DFD of our overall system. It shows the top level view or bird's eye view of our proposed system. The key features has been shown such as, the users and the admin of the platform, the main functionalities of the detecting landmark, add travel diary and get all information about different places.

3.4 Landmark Detection Methodology

For detecting place landmark i have studied on different technology. Specifically, mobile application is the best option to implement the features for its feasibility. For this reason, I have to upload a place image in our application. This image process in the bitmap conversion. After conversions, these images are continuously match its bitmap with existing Google images. After matching the bitmap it can analysis the place name with accuracy. Then it can help us to provide the place name of the specific places.

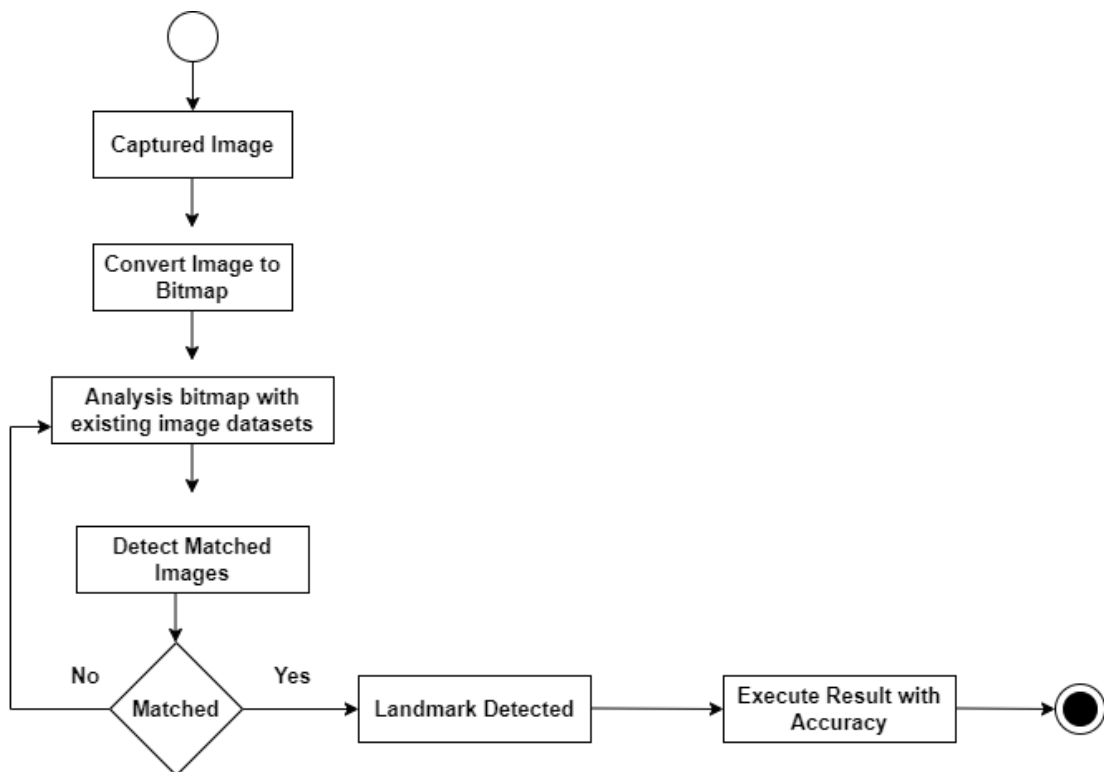


Fig 3.2: Landmark Methodology

3.5 Software Process Model

For developing the project, I have followed waterfall model. Developing the Route-Help, i follow the water fall model. Every software development is different and required a suitable SDLC approach to be followed based on the internal and external factors. A software process model is a framework or methodology that describes the steps and activities involved in the software development process. There are several different types of software process models, each with its own unique characteristics and advantages. Some common software process models include:

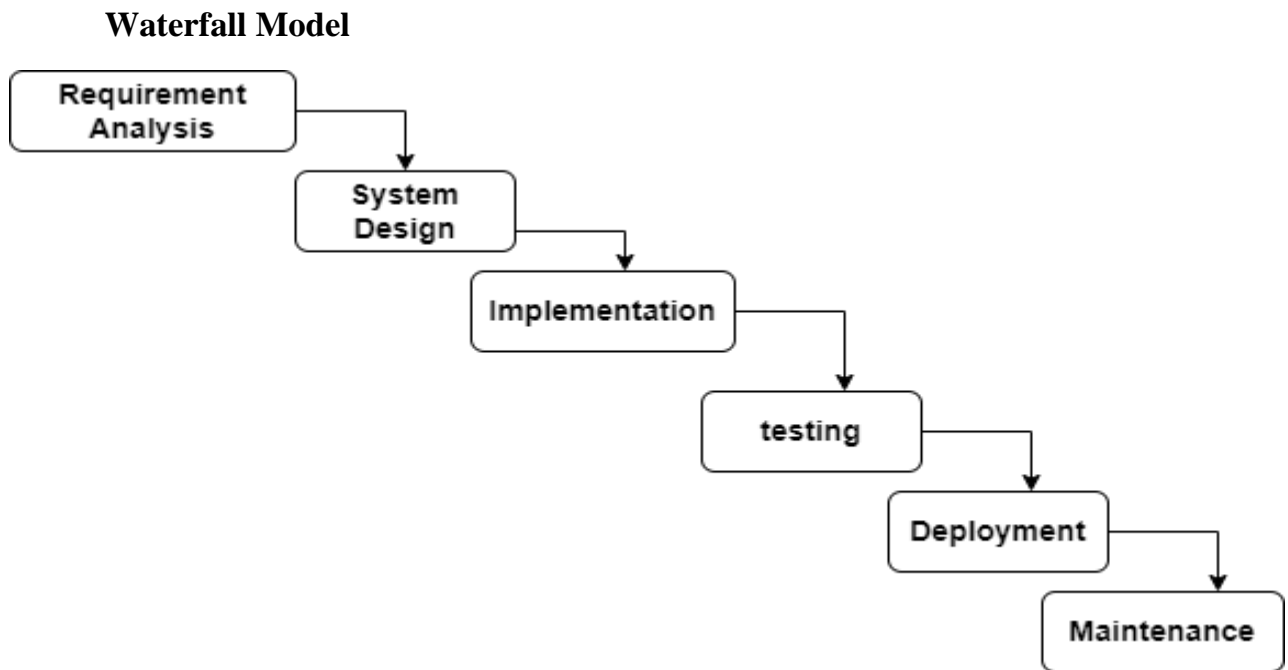


Fig 3.3: Waterfall Model

Requirements: This phase involves gathering, analyzing, and documenting the requirements for the software. It includes the identification of the user's needs, the definition of the software's functionality, and the creation of a requirements document.

Analysis: This phase involves testing the software to ensure that it meets the requirements and functions correctly. It includes the execution of test cases, the identification and correction of defects, and the validation of the software against the requirements.

Design: This phase involves creating a detailed design of the software, including the architecture, interfaces, and data structures. It includes the creation of design documents, such as flowcharts, data flow diagrams, and class diagrams.

Implementing: This phase involves the actual coding and development of the software. It includes the writing of the code, the implementation of the design, and the creation of test cases.

Testing: When the improvement finished, testing stage begins and right now, test every unit or part and ensure the created segments are filling in true to form. All the testing exercises are acted right now. In case of “Smart travelling Android Application” I have done black box testing and white box testing. I have done various validity check from each panel

Maintenance: This phase involves the upkeep and support of the software once it is in production. It includes bug fixing, updating documentation, and providing technical support to users.

3.6 Overview:

“Smart travelling Android Application” is an Android application. This will be very helpful for User and Provider. Besides, User can order multiple services through this application.

Chapter 4

PROJECT PLANNING

Project planning is the process of defining the goals, tasks, resources, and schedule of a project in order to achieve its objectives. It is a key aspect of project management and is used to ensure that the project is completed on time, within budget, and to the satisfaction of stakeholders. Project planning typically includes several key activities, including:

Defining project objectives: Identifying the specific goals and outcomes of the project.

Developing a project scope: Defining the boundaries and requirements of the project, including what is included and excluded from the project.

Establishing a project schedule: Developing a detailed plan for the completion of the project, including the tasks, dependencies, and milestones.

4.1 Why Requirement Specification is needed?

Requirement Specifications needed because: -

- It precisely describes about the functionality of the software.
- It describes how the software will interact with hardware and other software.
- It describes about the performance level such as response rate, recovery rate etc.
- It describes about the non-functional factors such as security, safety, probability etc.
- It describes about the limitations of any operating system which may affect design of the software.

4.2 Requirement Definition:

The needs of user are generally called requirement. The requirements prioritize details and accurate need with description. Here possibility and early framework depiction are utilized as information. Through the output get the system user, statement of requirement and system scope.

4.2.1 User list of Application:

There are 5 types of user in “Smart travelling Android Application”. They are-

- Admin
- Tourists
- Hotel Admin
- Transport Admin
- Restaurant Admin

Admin:

- Add different places details.
- Insert Hotel details.
- Insert Restaurant details.
- Insert Transport details.
- Accept hotel, transport and restaurant requests.

Tourist

- Can recognize landmark from image.
- Can choose hotel, transport, and restaurant by checking reviews.
- Can check different offers.
- Can maintain a travel diary.
- Search nearest required places.

Hotel Panel

- Can update their profile whenever they need.
- Can update offers for tourists.

Transport Panel

- Can update their profile whenever they need.
- Can update offers for tourists.

Restaurant Panel

- Can update their profile whenever they need.
- Can update offers for tourists.

4.3 Requirement Validation:

Once gathering all the requirement and specifications, checking validity of those requirements is to be done. Requirement validation confirms the correctness of the requirements provided. It checks if the requirements actually define the system or not. It analyses the requirements and find the problem in them. Be that as it may, they are unmistakable procedures since approval ought to be worried about a total draft of the necessities report while examination includes working with deficient prerequisites. These checks include-

Requirement validation is the process of ensuring that the requirements for a software system are complete, consistent, and correct. It is an essential step in the software development process, as it helps to ensure that the system meets the needs of the users and stakeholders. Requirement validation includes several key activities such as:

Requirements review: A formal or informal review of the requirements by project team members, stakeholders, or experts, to identify errors, inconsistencies, or omissions in the requirements.

Prototyping: The creation of a working model of the system, which can be used to validate the requirements and gather feedback from users.

User acceptance testing: Testing the system with users to ensure that it meets their needs and requirements.

Traceability: Maintaining a record of the relationships between the requirements, design, and testing, to ensure that all requirements are fulfilled.

Requirement verification: Checking that the requirements are testable and can be verified, to ensure that the system meets the requirements.

Configuration management: Ensure that the requirements are versioned and tracked, and that they can be traced through the development life cycle.

Requirement validation is an important step in the software development process, as it helps to ensure that the system meets the needs of the users and stakeholders. It also helps to identify any errors or inconsistencies in the requirements early in the development process, which can save time and resources in the long run.

Chapter 5

SOFTWARE REQUIREMENT SPECIFICATION

Software requirements refer to the specific needs, characteristics, and functionality that a software system must have in order to meet the needs of its users and stakeholders. They are used to define the scope of the software development project and to guide the design and development of the system.

5.1 Android Information and Background

Android is a mobile operating system developed by Google, based on the Linux kernel and designed primarily for touchscreen mobile devices such as smartphones and tablets. Android apps are developed using the Java programming language and the Android Software Development Kit (SDK). The Android SDK includes a set of tools and libraries that allow developers to create, test, and distribute Android apps.

Android apps are built using a combination of Java and XML code, which is then compiled into an APK (Android Package) file. The APK file is the package file format used by the Android operating system for distribution and installation of mobile apps. Once an app is developed and tested, it can be distributed through the Google Play Store, which is the official app store for Android.

Android apps can access a wide range of device features and capabilities, such as the camera, GPS, accelerometer, and more. They can also use a variety of libraries and frameworks, such as the Android Support Library and the Android Architecture Components, to simplify the development process and improve app performance.

Android has evolved a lot since its first release in 2008, and now it supports a wide range of device types, including smartphones, tablets, watches, televisions, and cars. It also supports a wide range of languages and scripts, and it's open to customization by device manufacturers and carriers.

In recent years, Android has become one of the most popular mobile operating systems in the world, with a large and active developer community. As a result, the Google Play Store has grown to become the largest app store in the world, with over 2.7 million apps available for download.

5.2 Minimum Requirement

This application will successfully run in android device. It requires minimum 21 Api level and maximum 30 Api level. This application requires internet permission, location permission and camera permission.

Web application for admin, hotel, restaurant and transport, it can be accessed from any type of browsers. It requires only internet connection.

XML

XML is widely used to store and exchange data between different systems, such as web services, databases, and applications. It is also used to create and describe documents, such as RSS feeds, XHTML pages, and SVG images. XML has become a widely adopted standard for data exchange and is supported by many programming languages and platforms..

JAVA

Java is a general-purpose, object-oriented programming language developed by Sun Microsystems (now owned by Oracle) in the mid-1990s. It is designed to be platform-independent, which means that Java programs can run on any operating system or device that has a Java Virtual Machine (JVM) installed.

JSON

In this project, I have to send data to server. But server can't recognize java. So that i have to convert it. JSON is using to do this.

MySQL

MySQL is a widely used, open-source relational database management system (RDBMS) that is based on the Structured Query Language (SQL). It was developed by MySQL AB (now owned by Oracle) in the mid-1990s and is commonly used in web applications and data warehousing.

5.3 Use case diagram:

A use case is a description of a set of interactions between a user (or system) and a system, that results in a measurable value or outcome. It is a common technique used in software engineering and systems development to capture the requirements of a system. A use case describes a specific, complete, and consistent sequence of actions that a system must perform to achieve a specific goal.

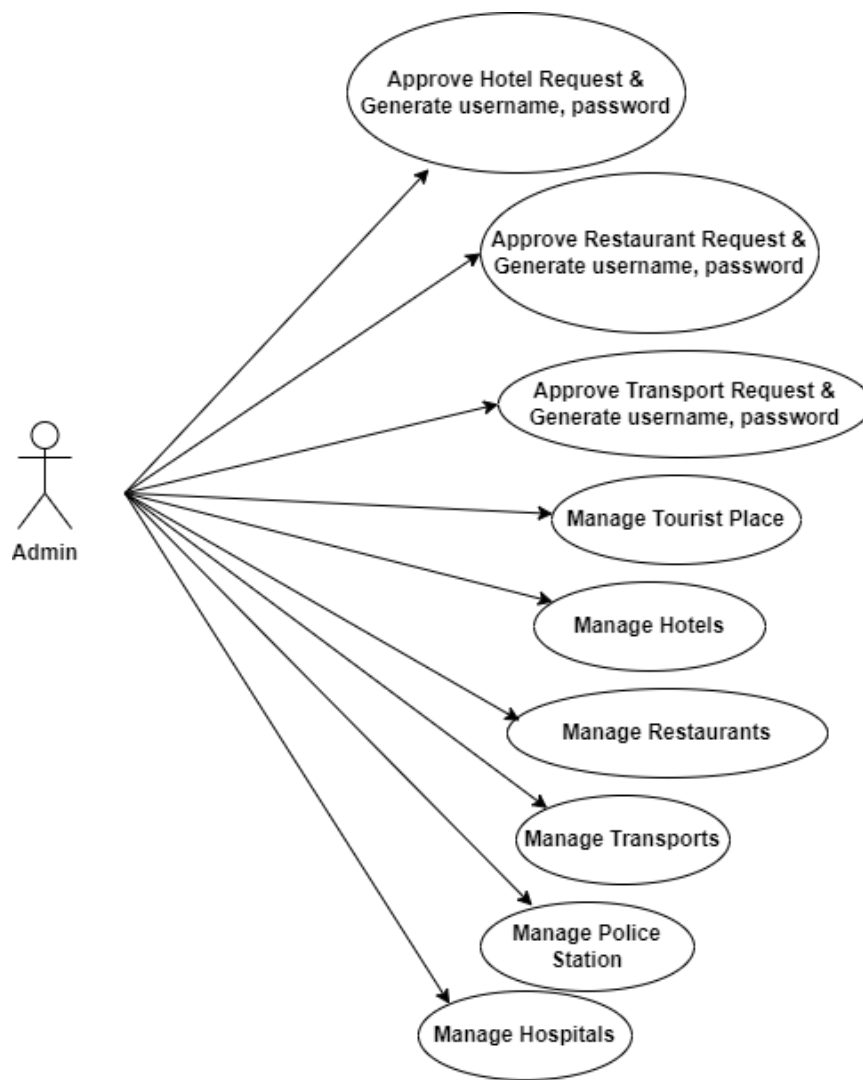


Figure 5.1: Admin Use case Diagram

A tourist can detect a place landmark by selecting an image from their phone. After detecting, they can check the hotel list, transport list, restaurant list, hospital list and police stations. They can check hotel reviews, transport reviews, restaurant reviews. Besides, they can contact with these over the phone call.

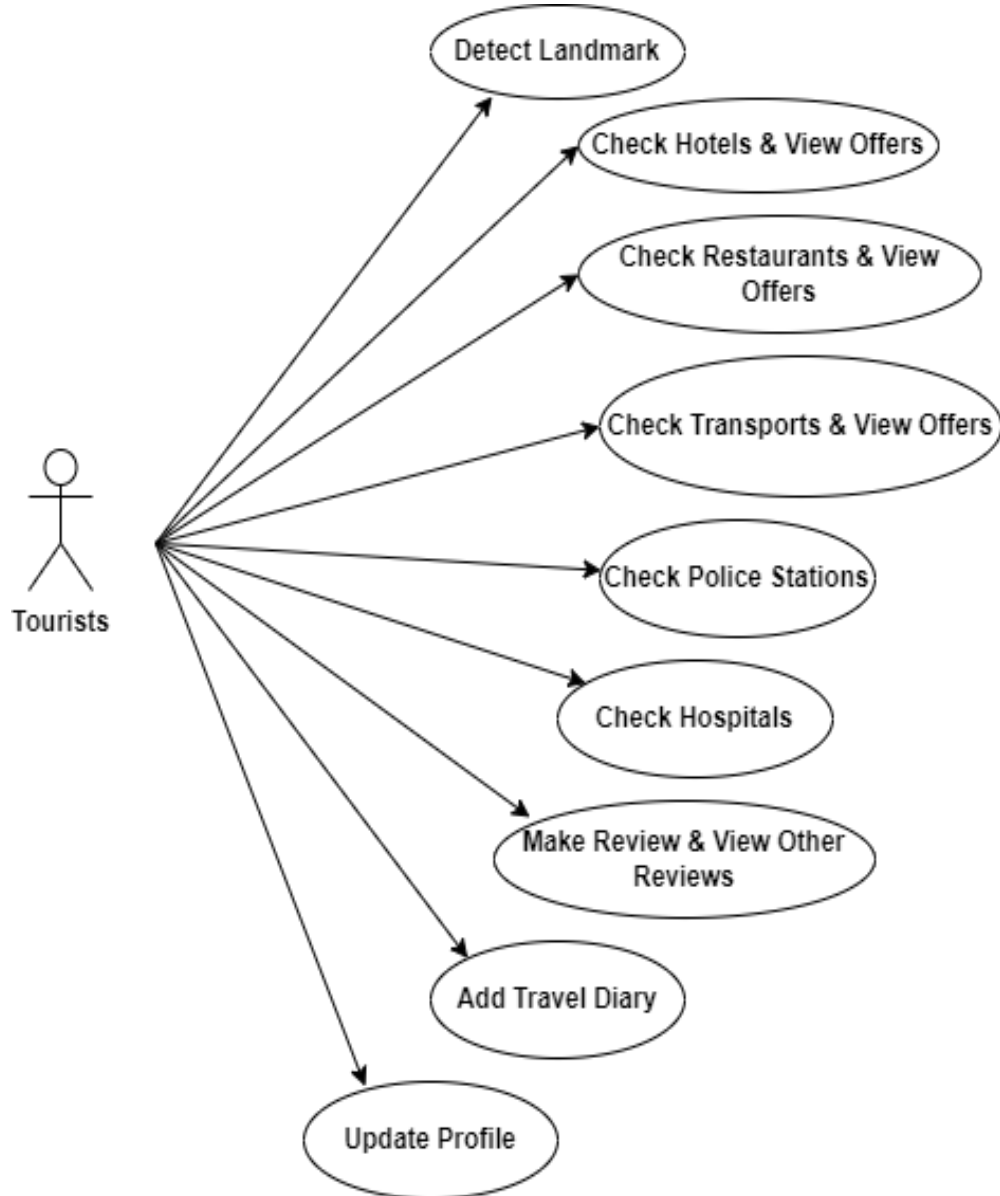


Figure 5.2: Tourists Use Case Diagram

5.4 Design Process Model

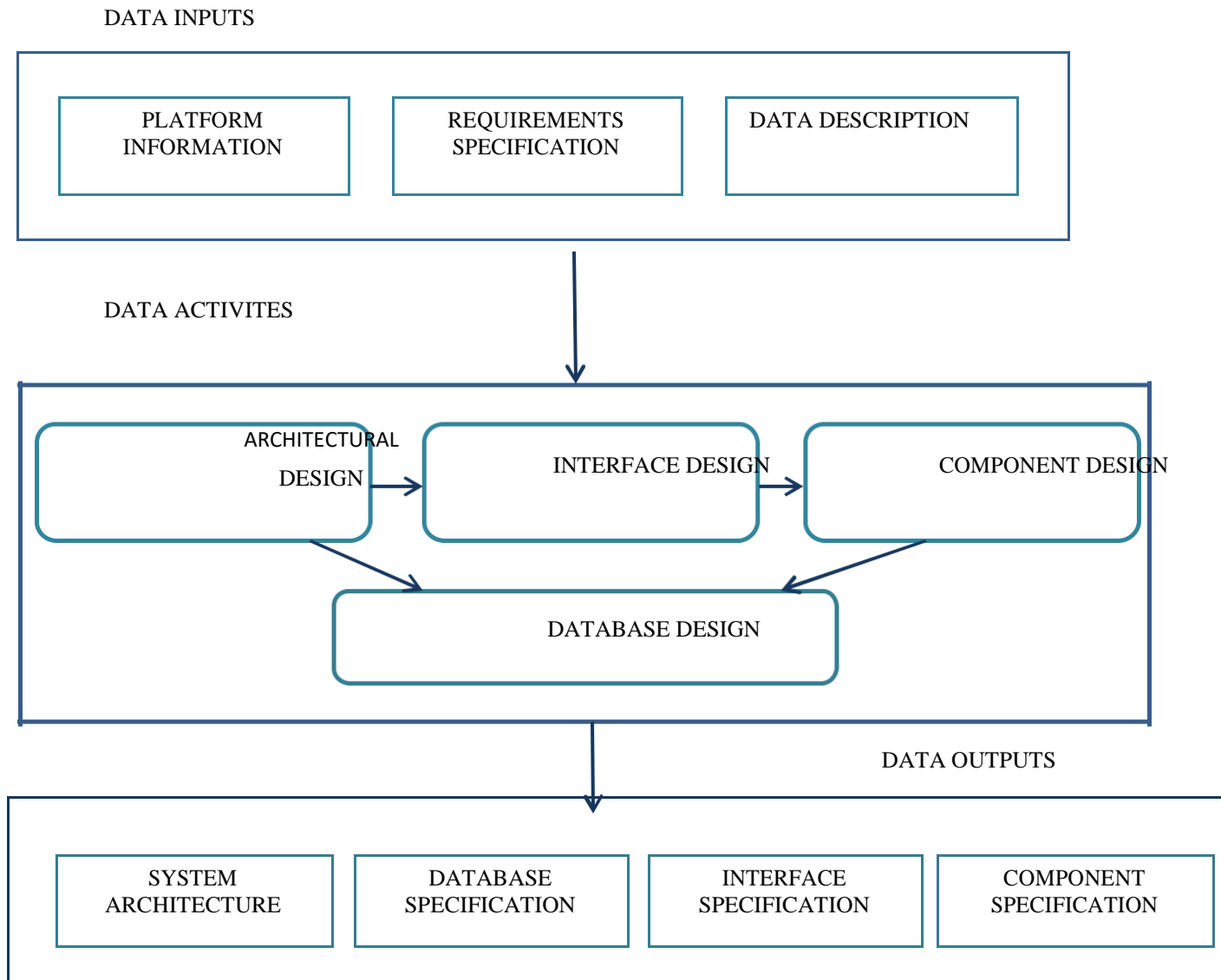


Figure 5.3: A general Model of software design process

5.5 Flow Chart:

A flow chart is a graphical or emblematic portrayal of procedure. The stream graph images are connected together with bolts indicating the procedure stream course.

5.5.1 Flow Chart for Tourist

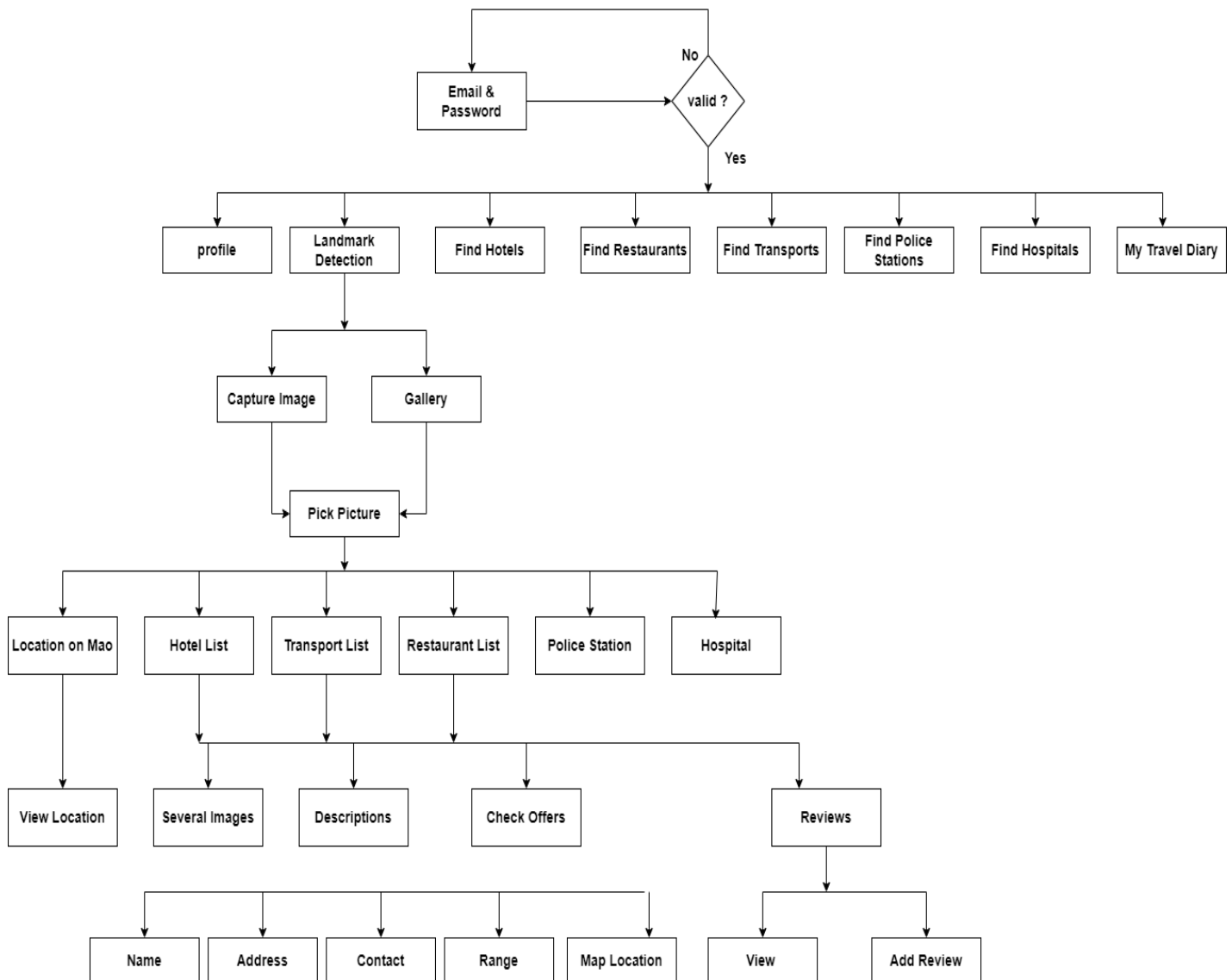


Figure 5.4: Flow Chart for Tourists

5.5.2 Flow Chart for Admin

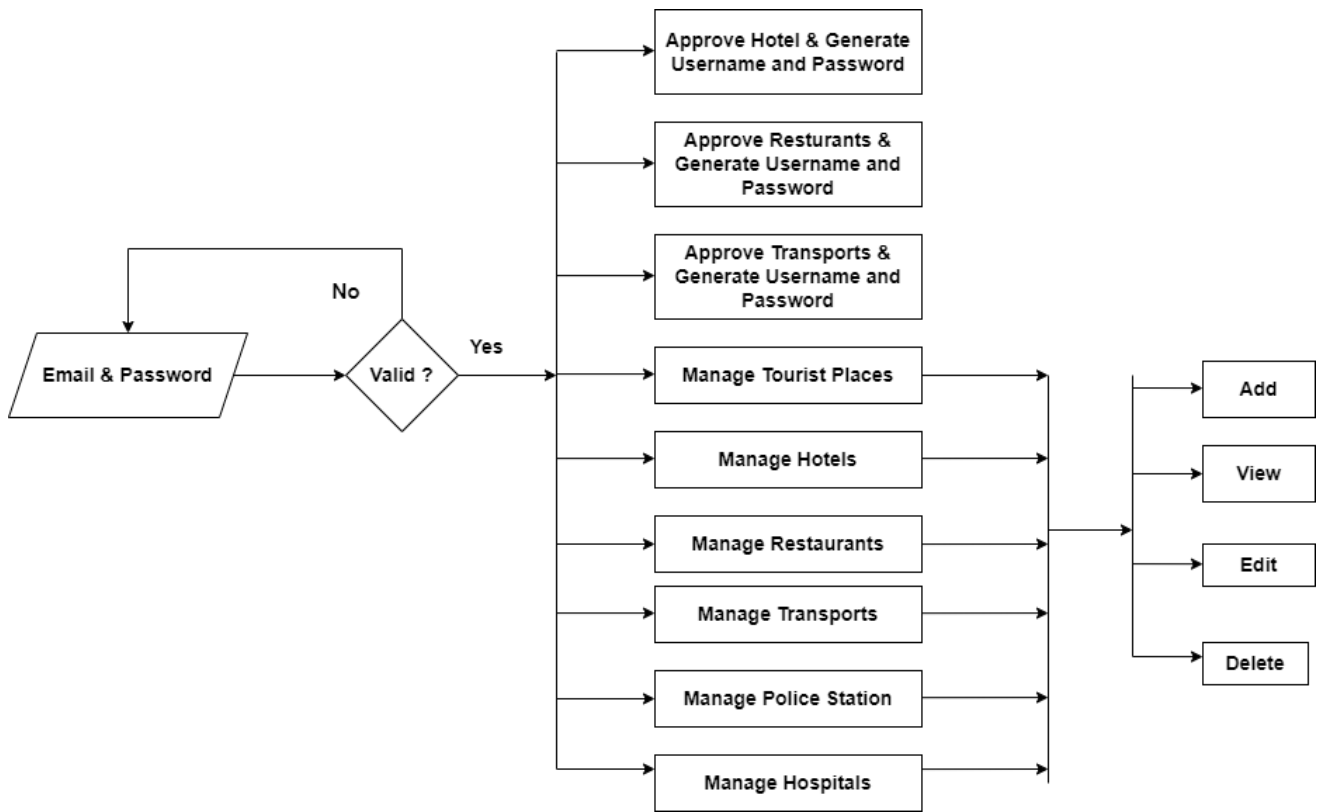


Figure 5.5: Flow Chart for Admin

5.5.3 Flow Chart for Hotel

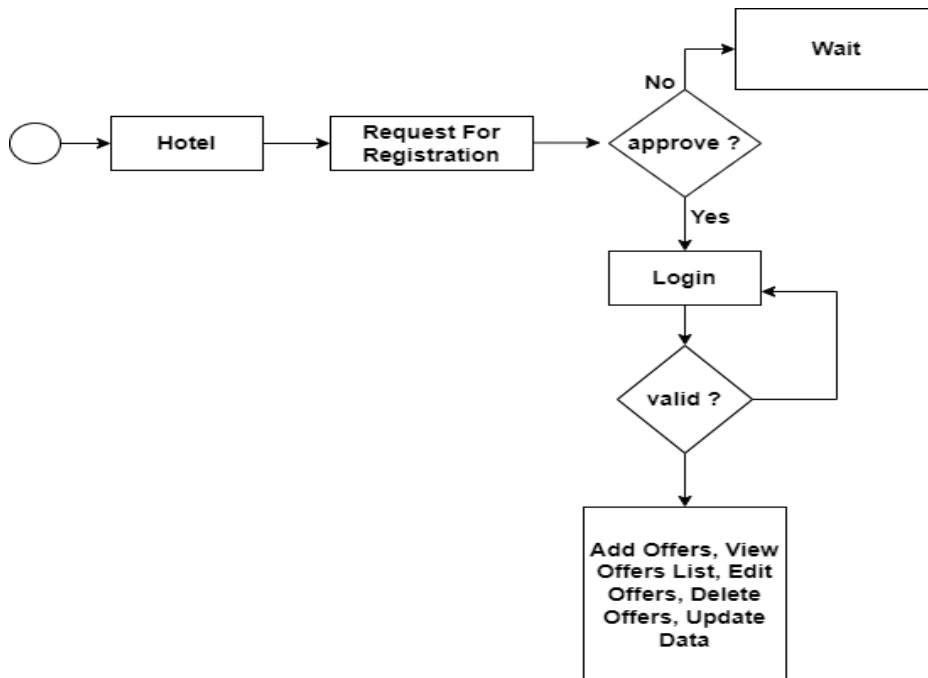


Figure 5.6: Flow Chart for Hotel

5.5.4 Flow Chart for Restaurant:

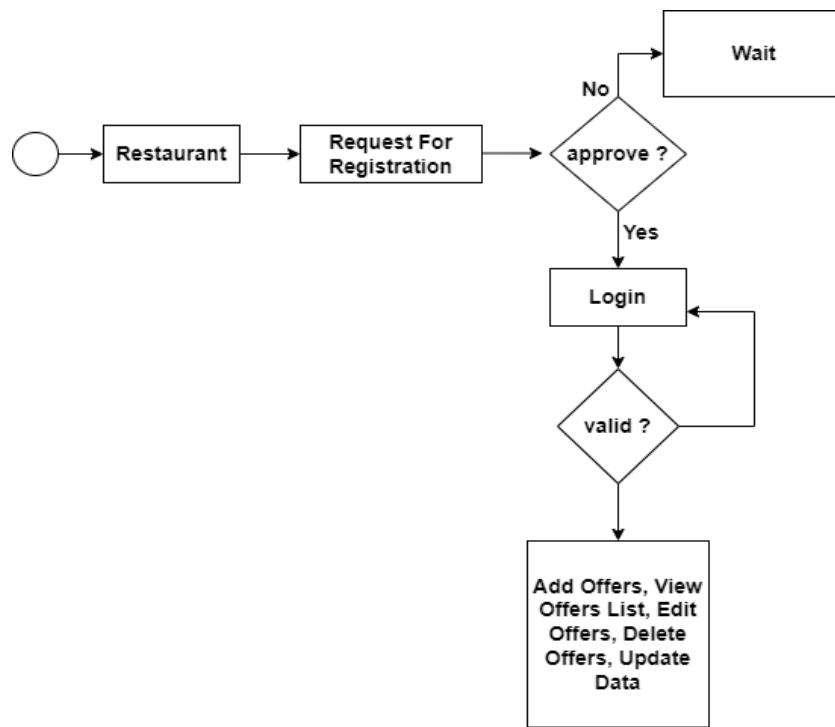


Figure 5.7: Flow Chart for Restaurant

5.5.5 Flow Chart for Transport

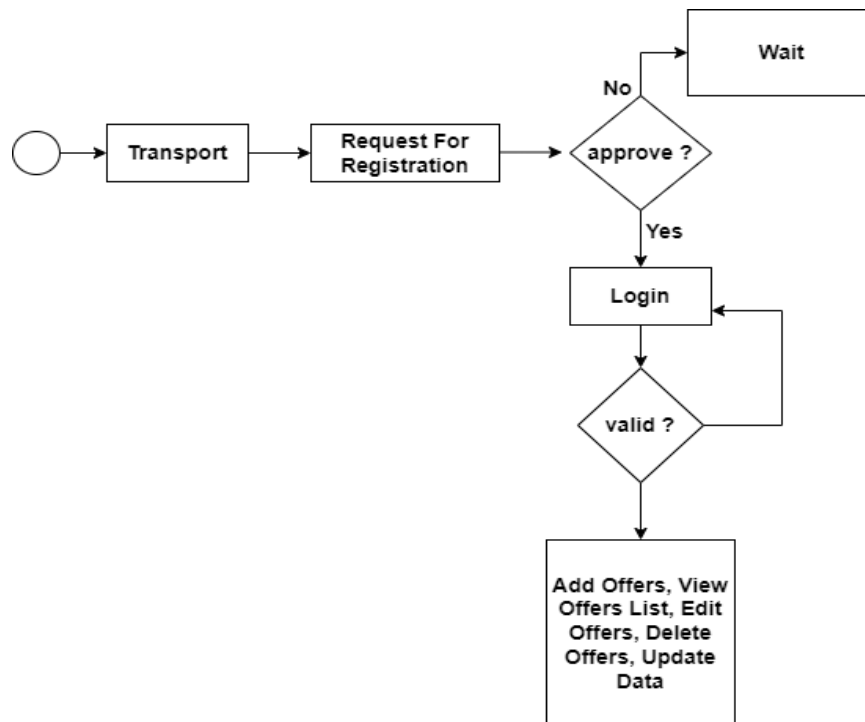


Figure 5.8: Flow Chart for Transport

5.6 Entity Relationship Diagram:

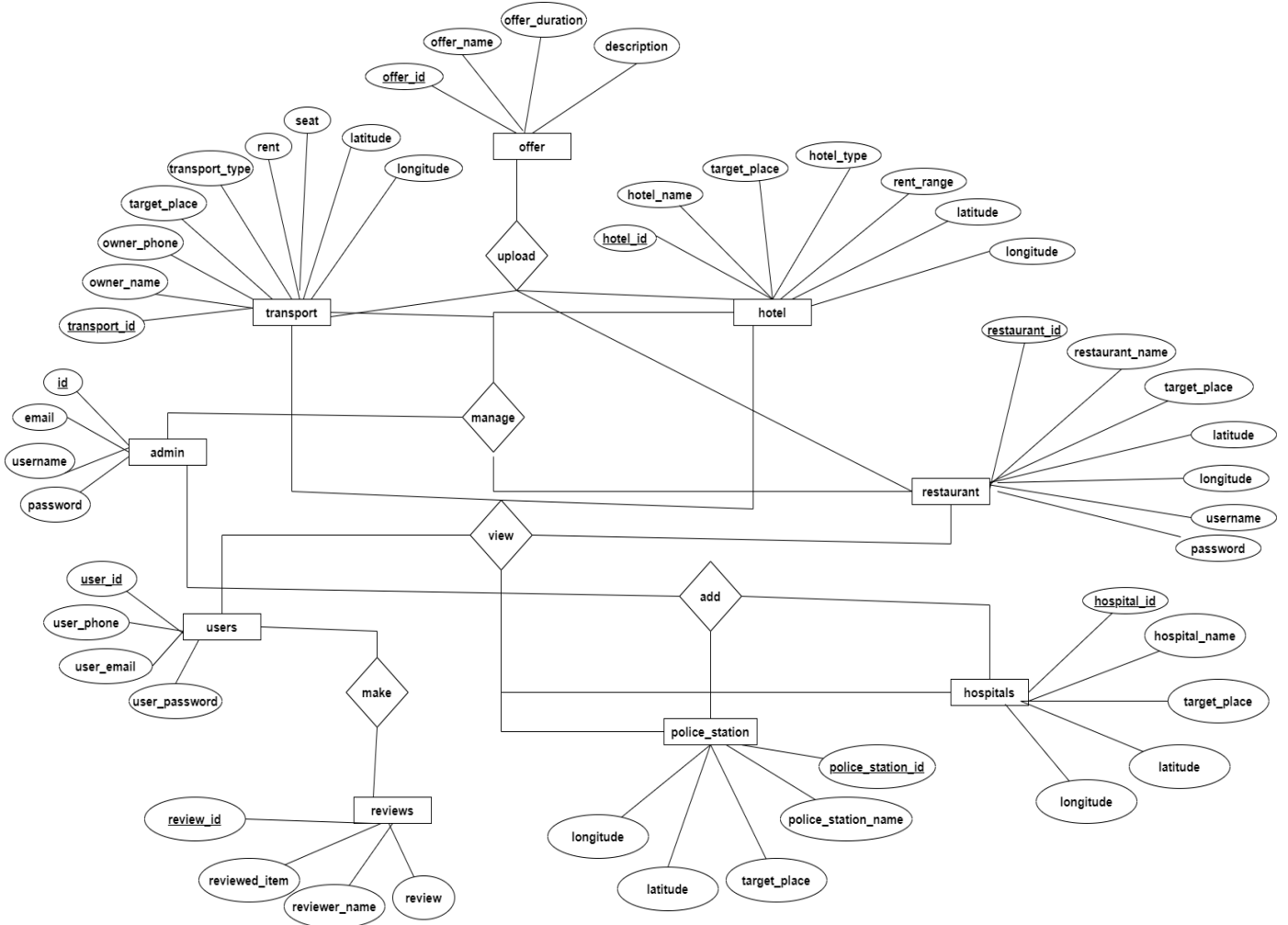


Figure 5.9: Entity Relationship Diagram

5.7 Activity diagram

An activity diagram is a type of flowchart that is used to model the flow of activities or actions within a system. It is a graphical representation of the dynamic aspects of a system, and it is used to describe the flow of control in a process or system.

An activity diagram consists of several elements, including:

Activities: Represented by rounded rectangles, activities are the basic units of work performed by the system.

Transitions: Represented by arrows, transitions indicate the flow of control between activities.

Control Flow: Represented by arrows, control flow shows the order in which activities are performed.

Decision Points: Represented by a diamond shape, decision points indicate a branch in the flow of control, where the system must make a decision based on certain conditions.

Initial and final states: Represented by a filled-in circle and a bull's eye, respectively, initial and final states mark the beginning and end of the flow of activities.

Activity diagrams can be used to model a wide range of dynamic systems, including software systems, business processes, and workflows. They are useful for visualizing the flow of control in a system, identifying potential bottlenecks or errors, and communicating the system's behavior to stakeholders.

An activity diagram can also be used in conjunction with other UML diagrams such as state diagram, interaction diagrams, to get a better understanding of the system.

Activity Diagram

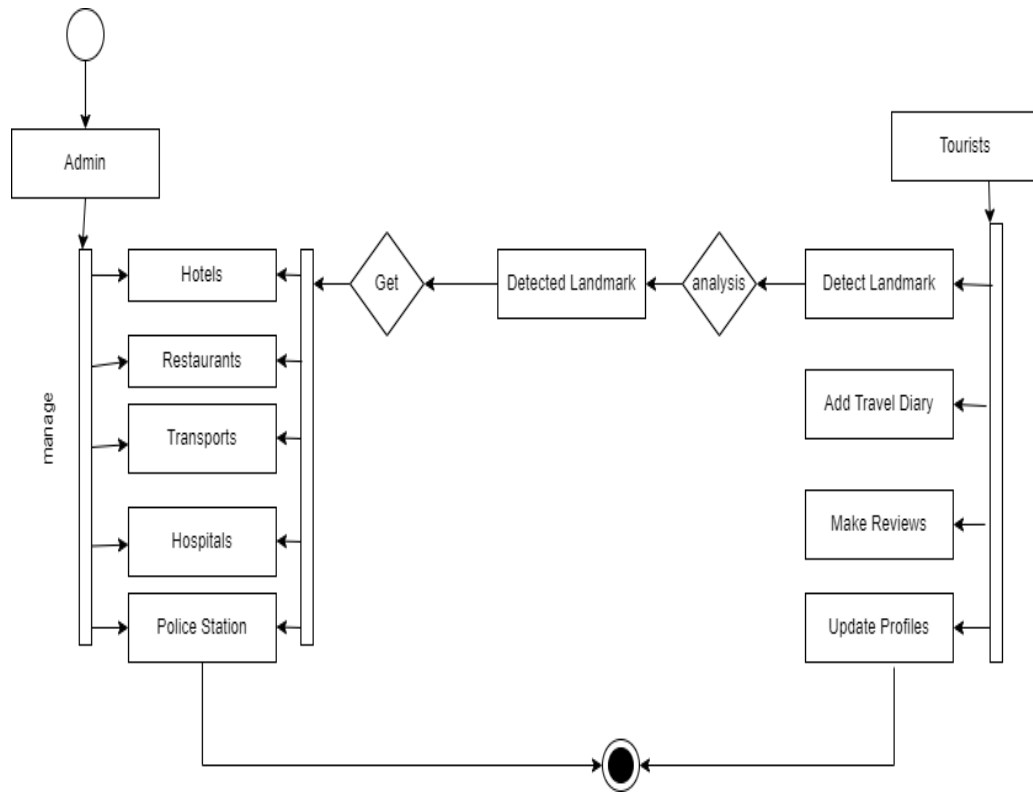


Fig 5.10: Activity Diagram

Chapter 6

IMPLEMENTATION

6.1 Overview

System implementation is the process of installing, configuring, and deploying a software system into a production environment. It is the final step in the software development process and it involves the following activities:

Installation: The process of installing the software system on the target environment, which may include configuring the system's settings, creating a database, and configuring network connections.

Testing: The process of testing the system to ensure that it functions correctly and meets the requirements. This may include unit testing, integration testing, and acceptance testing.

Deployment: The process of making the system available to users, which may include installing the system on the target environment, configuring user accounts, and providing training and documentation.

Maintenance: The process of providing ongoing support and maintenance for the system, which may include troubleshooting, bug fixing, and making updates and improvements.

Data migration: The process of moving data from one system to another.

I tried to represent all of the user data in an efficient way “**Smart travelling Android Application**” APP.

Our main task is to co-operate job seekers and recruiters. Three types of users can login in our application. They are:

1. Tourist
2. Guide.
3. Hotel owner.

6.2 Android Application

- An Android Application for Route-Help app starts with Login screen. If user already signed up before then he doesn't need to sign up again. He will just put his data and login into his panel.

- If he does not sign up before then he has to sign up with required information, then he can login in his panel



Figure 6.1: Splash Screen

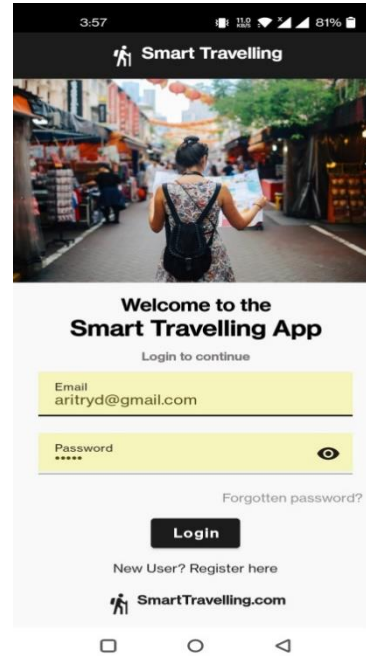


Figure 6.2: Login Page

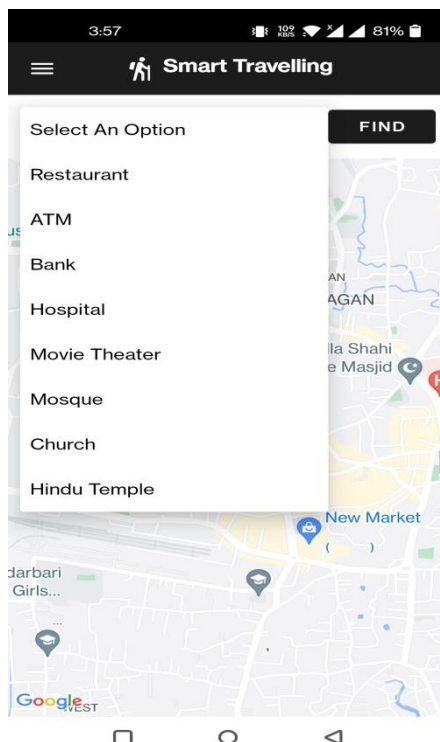


Figure 6.3: Nearest places of current location

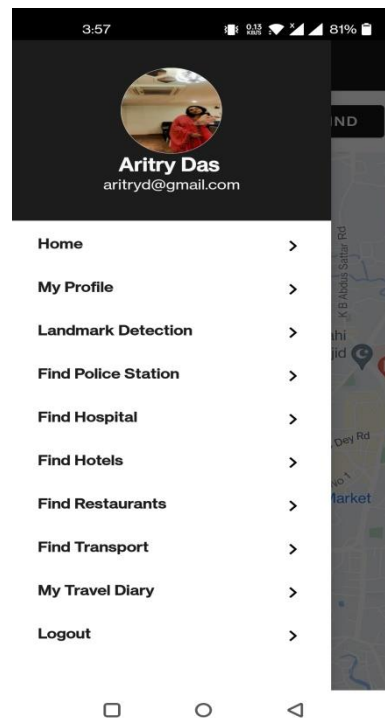


Figure 6.4: User Home Page

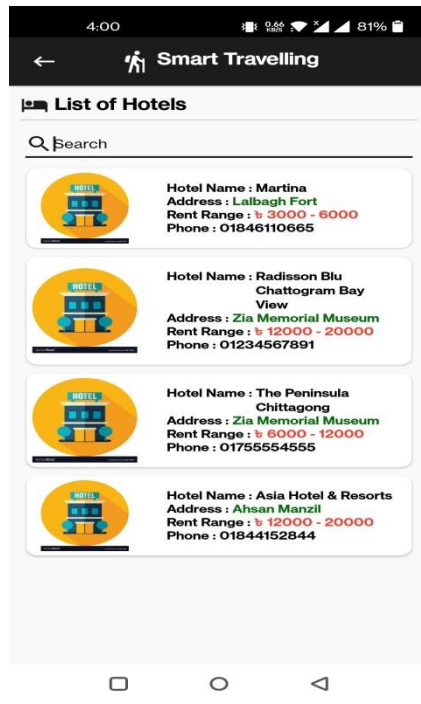


Figure 6.5: List of Hotels

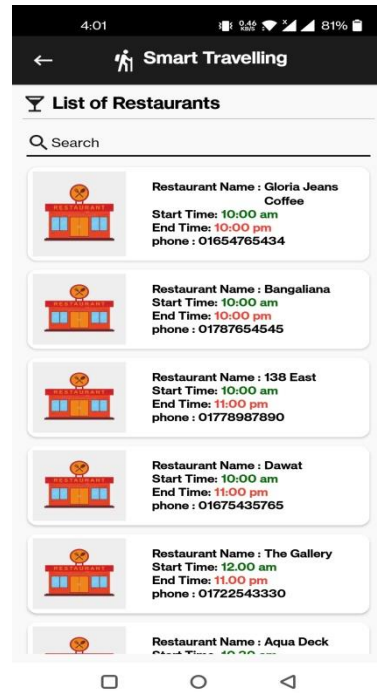


Figure 6.6: List of Restaurants

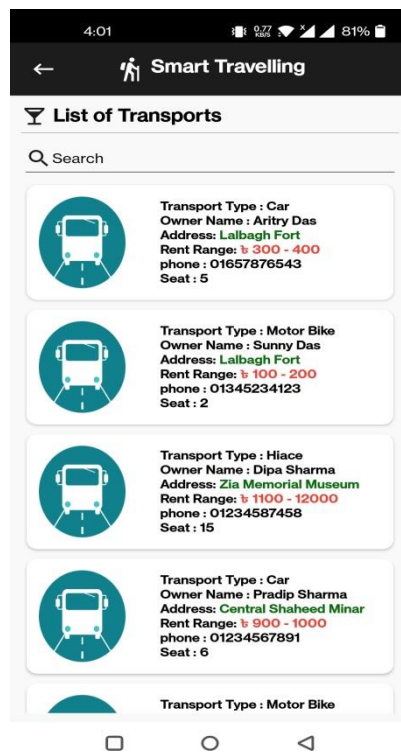


Figure 6.7: List of Transports



Figure 6.8: List of Police Stations

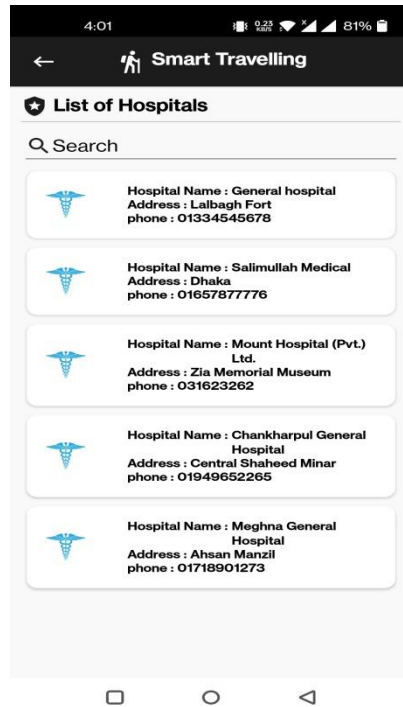


Figure 6.9: List of Hospitals

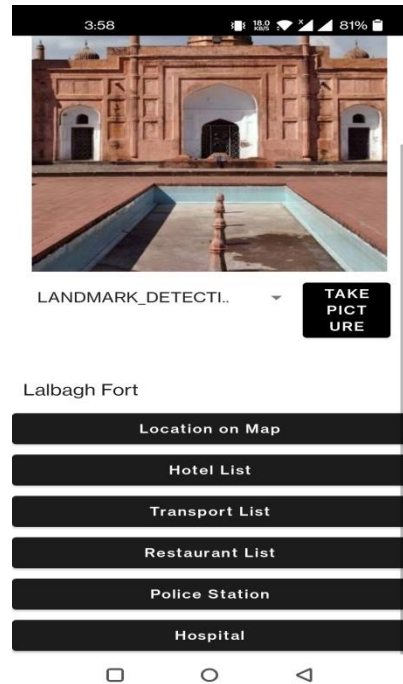


Figure 6.10: After detecting landmark



Figure 6.11: After detecting landmark location on map

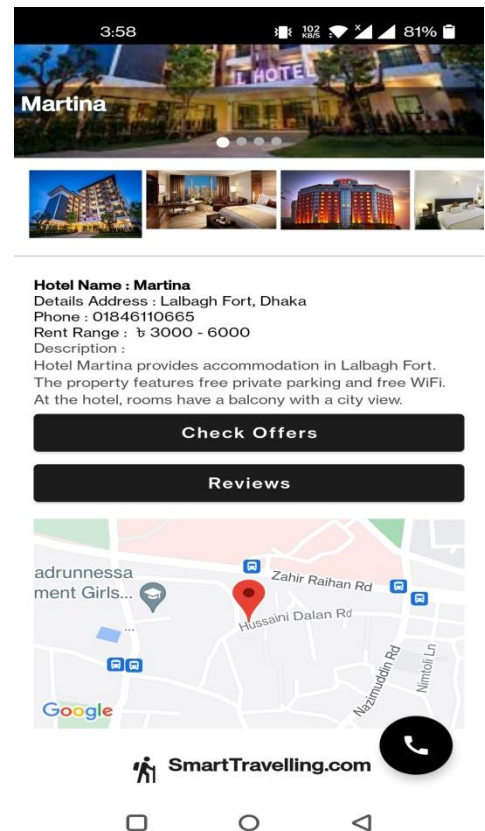


Figure 6.12: After detecting landmark checking Hotel offers

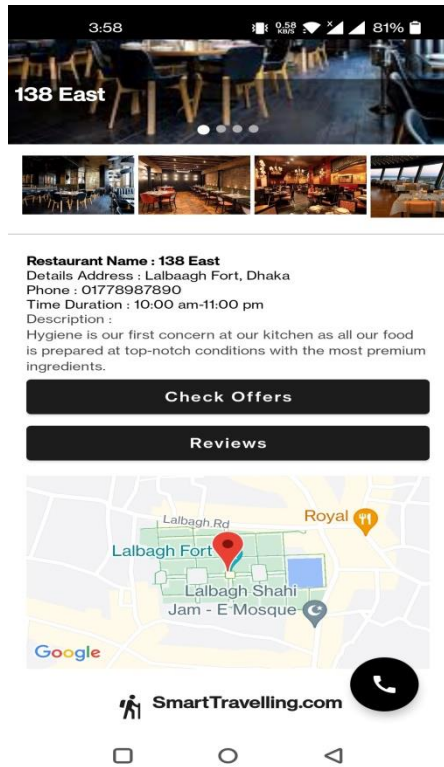


Figure 6.13: After detecting landmark checking restaurant offers

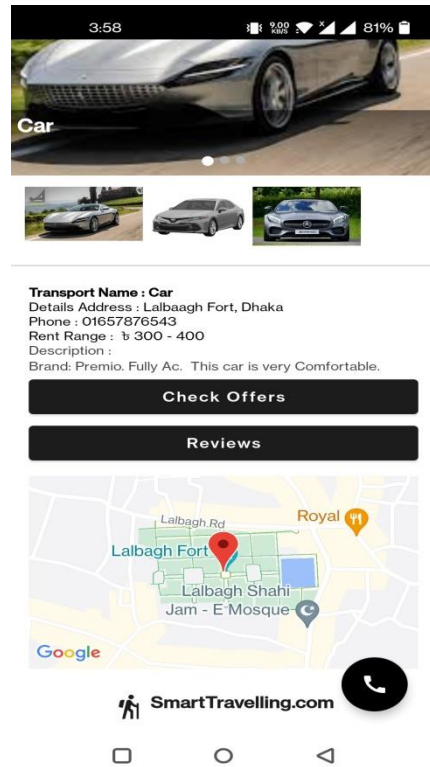


Figure 6.14: After detecting landmark checking transport offers

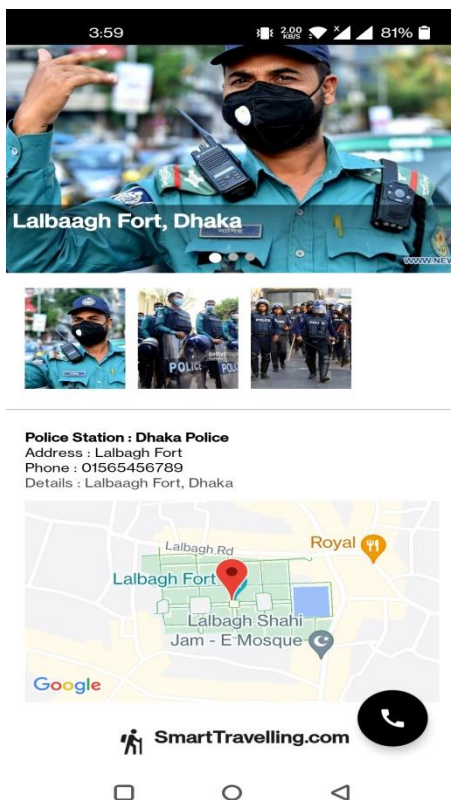


Figure 6.15: After detecting landmark checking Police Station

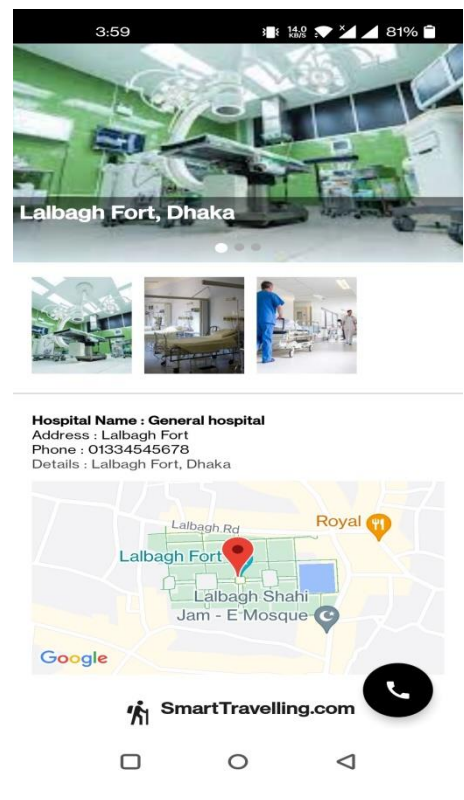
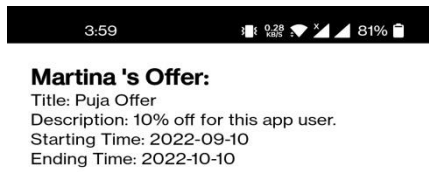
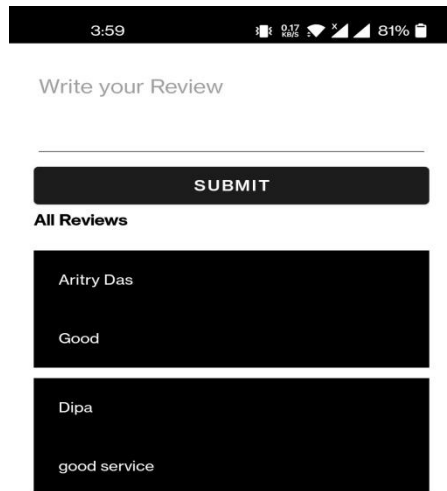


Figure 6.16: After detecting landmark checking Hospitals



Martina 's Offer:
 Title: Puja Offer
 Description: 10% off for this app user.
 Starting Time: 2022-09-10
 Ending Time: 2022-10-10



Write your Review

SUBMIT

All Reviews

Arity Das

Good

Dipa

good service



Figure 6.17: After detecting landmark checking Offers



Figure 6.18: After detecting landmark checking reviews and make review

6.3 Web Application

- Web Application for admin to accept hotel requests, restaurant requests and transport requests. Besides, admin can add hotels, restaurant and transport. And generate username and password for every user.
- Hotel, Transport and Restaurant can login in their dashboard from individual login form. They can add offer and manage these offer lists.

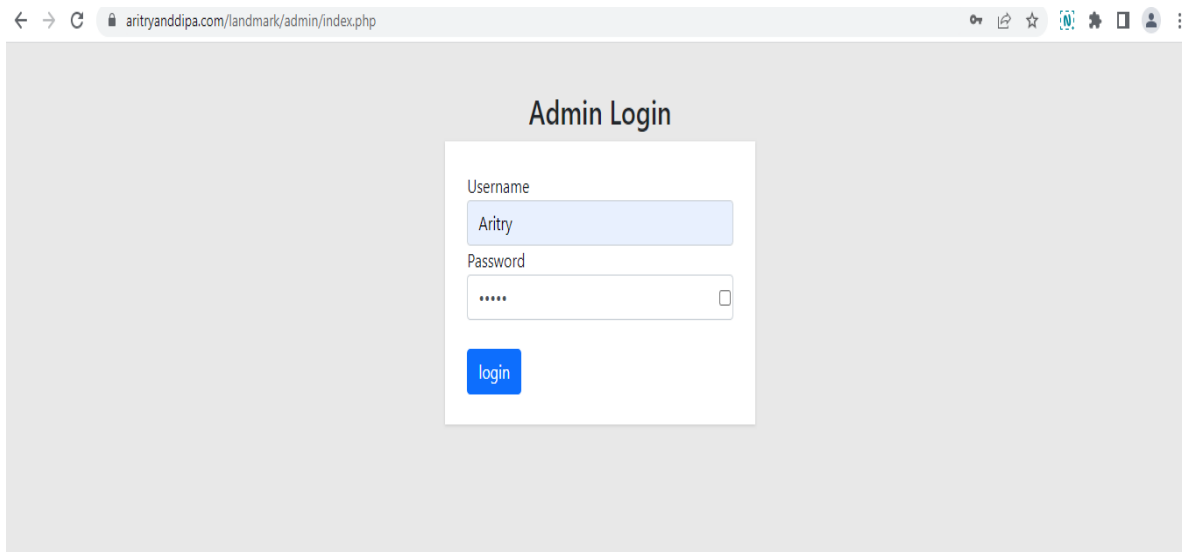


Figure 6.19: Admin Login

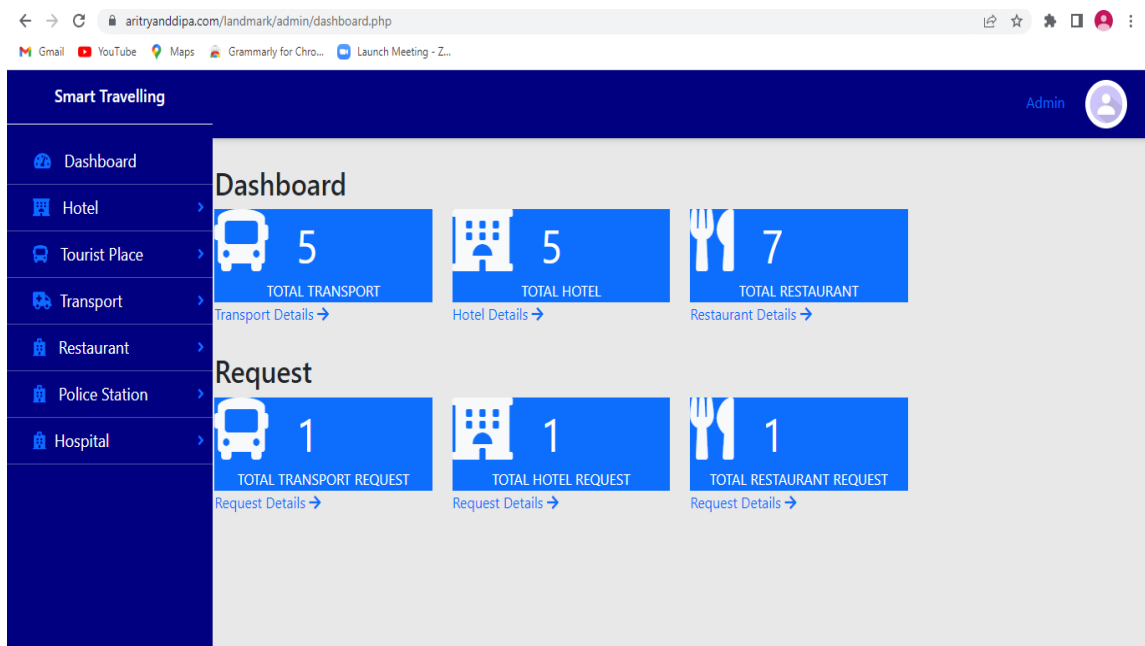


Figure 6.20: Admin Dashboard

Home Hotel Login

Add Hotel

Hotel Name

Trade License

Target Place

Price Range


Description

Hotel type

Hotel Facilities

Details Location

Select Your Location



Latitude

Longitude

Image
 No file chosen

Phone Number

Figure 6.21: Hotel Registration Form

Home Restaurant Login

Add Restaurant

Restaurant Type

Restaurant Name

Trade License

Target Place

Phone Number

Description


Details Address

Opening Time

Closing Time

Image
 No file chosen

Select Your Location



Latitude

Longitude

Figure 6.22: Restaurants Registration Form

Home | Transport Login

Add Transport

Transport Type
Motor Bike

Vehicle Name

Trade License

Trade License

Owner Name

Owner Name

Phone Number
+880

Target Place

Target Place

Details Address

Address

Rent

Select Rent Range

Seat

Select Seat Number

Description

Description

Image

Choose Files | No file chosen

Select Your Location

Map | Satellite

Latitude

Latitude

Longitude

Longitude

Registration

Figure 6.23: Transport Registration Form

Smart Travelling | Admin

Add Restaurant

Restaurant Type
Chinese

Restaurant Name

Restaurant Name

Trade License

Trade License

Target Place

Target Place

Phone Number

Phone Number

Description

Description

Details Address

Address

Opening Time

Open Time

Closing Time

Close Time

Image

Choose Files | No file chosen

Select Your Location

Map | Satellite

Latitude

Latitude

Longitude

Longitude

Username


Username

Password

Password

Add Restaurant

Figure 6.24: Add Restaurant

Smart Travelling Admin 

- [Dashboard](#)
- [Hotel](#)
- [Tourist Place](#)
- [Transport](#)
- [Restaurant](#)
- [Police Station](#)
- [Hospital](#)

Add Tourist Place

Target Place


Details Location For Tourist Place

Description

Image
 No file chosen

Select Your Location


Map
 Satellite



Latitude

Longitude

Figure 6.25: Add Tourist Place

Smart Travelling Admin 

- [Dashboard](#)
- [Hotel](#)
- [Tourist Place](#)
- [Transport](#)
- [Restaurant](#)
- [Police Station](#)
- [Hospital](#)

Add Transport

Transport Type

Vehicle Name

Trade License

Owner Name

Phone Number

Target Place

Details Address

Rent

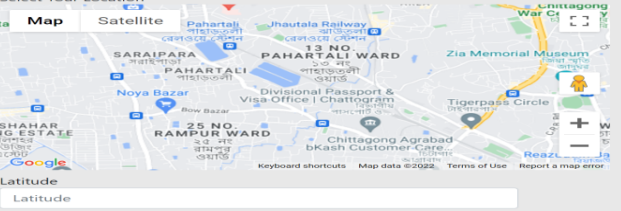
Seat

Description

Image
 No file chosen

Select Your Location

Map
 Satellite




Latitude

Longitude

Username

Password


Figure 6.26: Add Transport

Smart Travelling Admin 


- [Dashboard](#)
- [Hotel](#)
- [Tourist Place](#)
- [Transport](#)
- [Restaurant](#)
- [Police Station](#)
- [Hospital](#)

Hotel Photos


Picture#1



Picture#2



Picture#3



Hotel Others Information

Hotel Name

Target Place

Trade License

Description

Price Range

Hotel Type

Facilities

Address

Latitude

Longitude

Username


Phone Number

Password

Status

[Update](#)

Figure 6.27: Add Hotel

Smart Travelling Admin 

- [Dashboard](#)
- [Hotel](#)
- [Tourist Place](#)
- [Transport](#)
- [Restaurant](#)
- [Police Station](#)
- [Hospital](#)

Add Hospital

Hospital Name


Target Place

Phone Number

Details Address

Select Your Location

Map Satellite



Latitude

Longitude

[Add Hospital](#)

Figure 6.28: Add Hospital

Smart Travelling Admin

Add Police Station

Police Station Name

Target Place

Details Address

Phone Number

Select Your Location

Map Satellite

Latitude

Longitude

Add Police Station

Figure 6.29: Add Police Station

← → ↻ 🔒 arityanddipa.com/landmark/Hotelresort/index.php

Hotel Login

Username

Password

login

[Hotel Registration](#)

Figure 6.30: Hotel Login

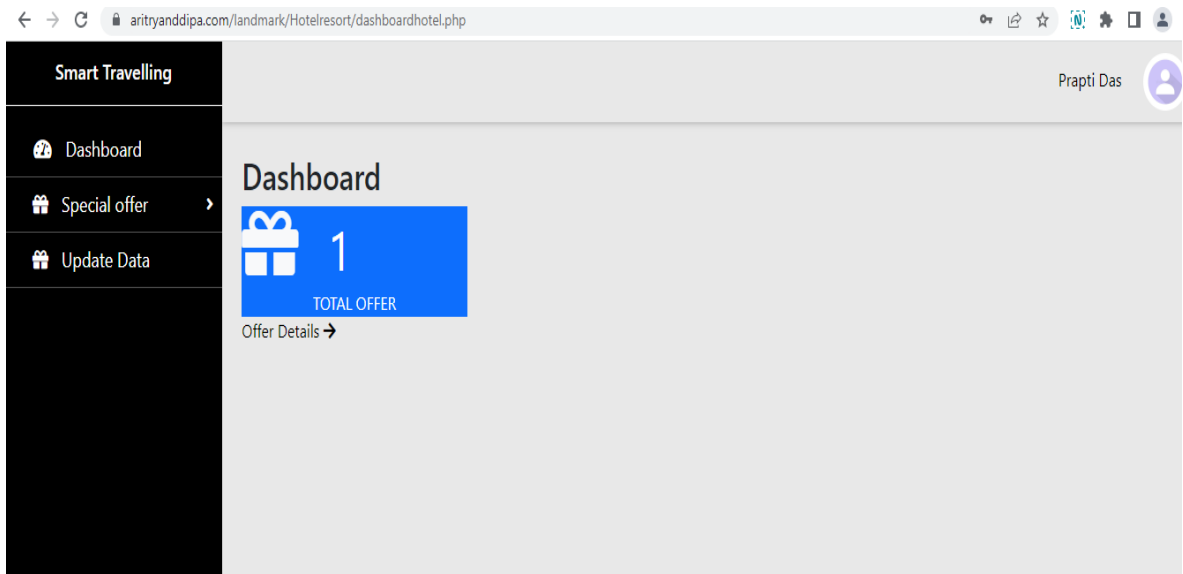


Figure 6.31: Hotel Dashboard

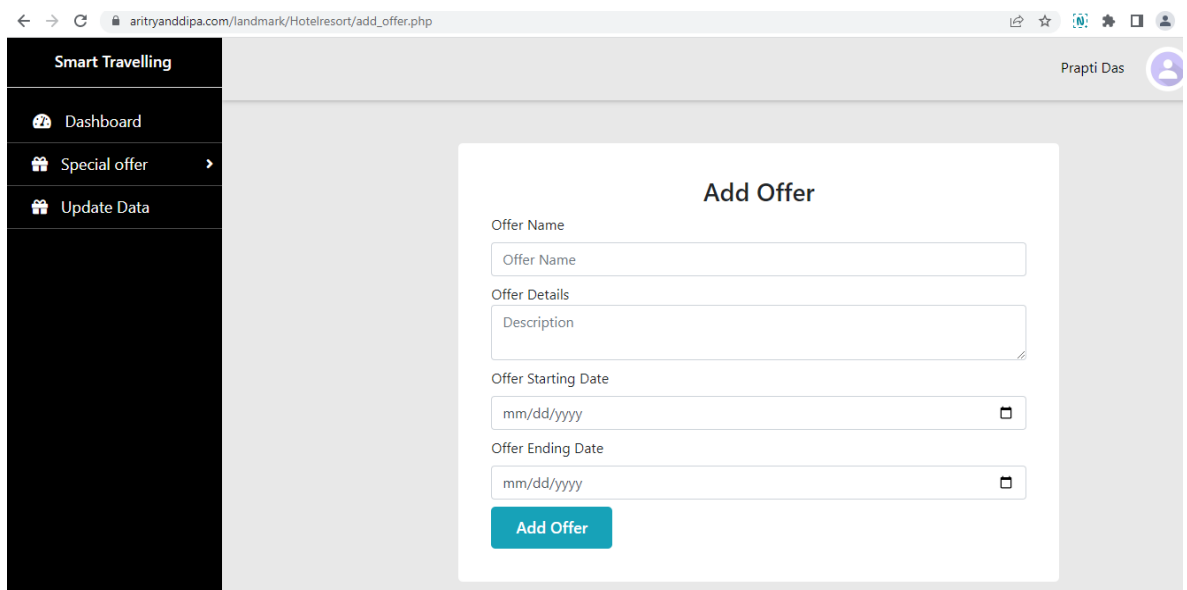


Figure 6.32: Add Hotel Offer

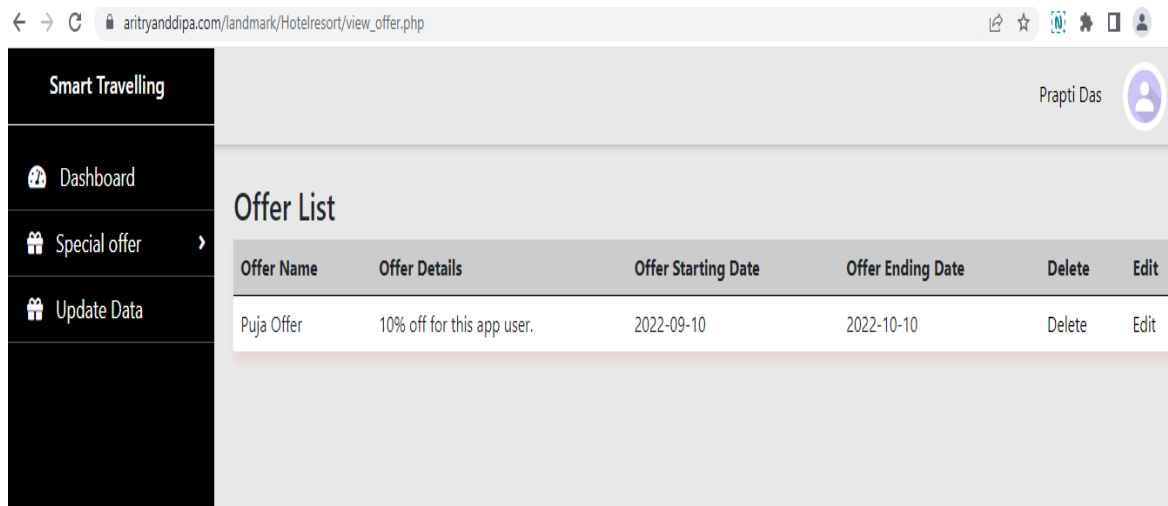


Figure 6.33: Hotel Offer List

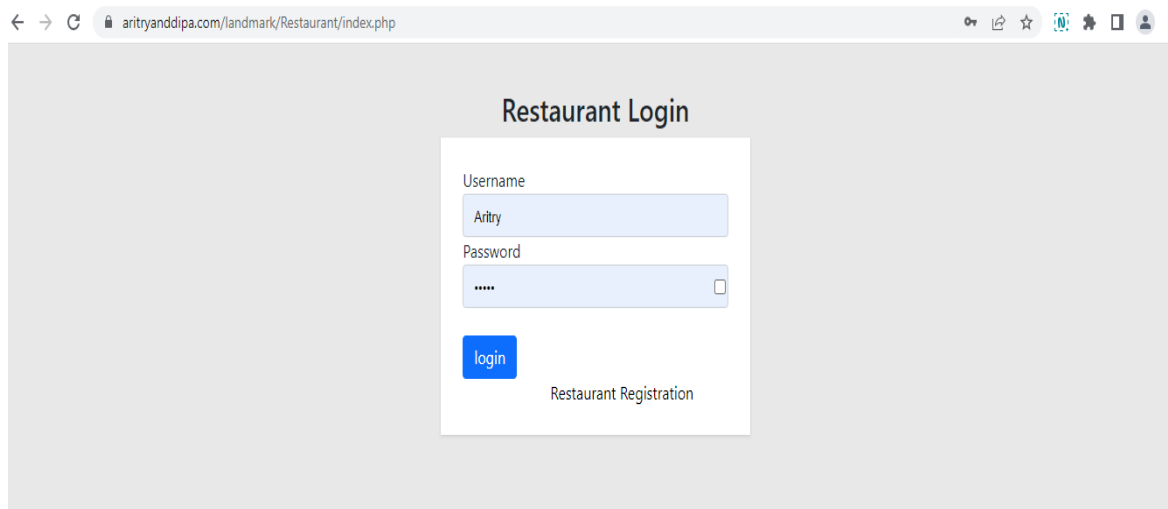


Figure 6.34: Restaurant Login

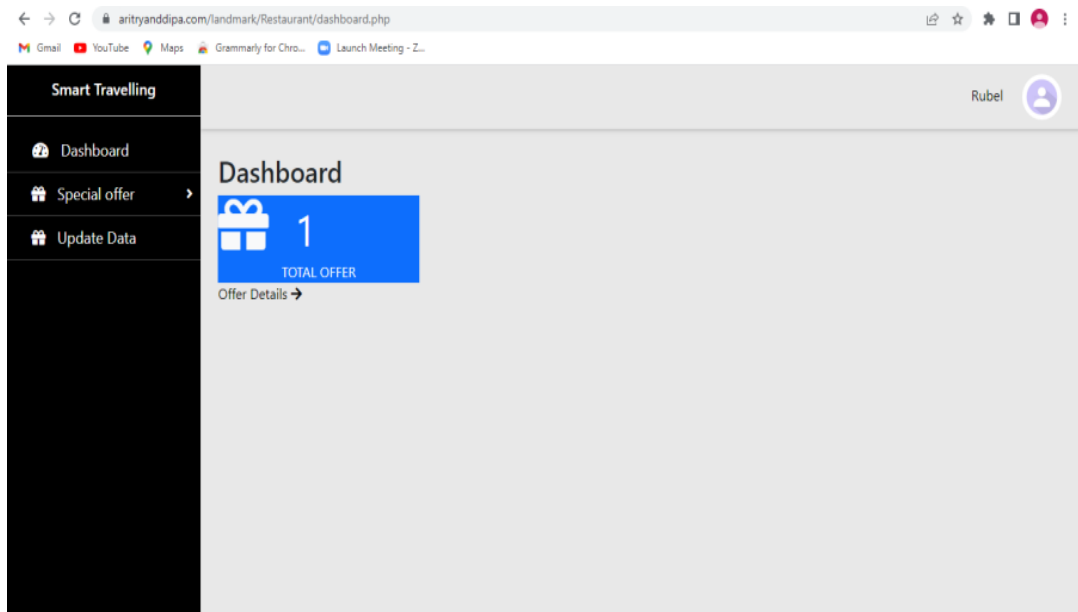


Figure 6.35: Restaurant Dashboard

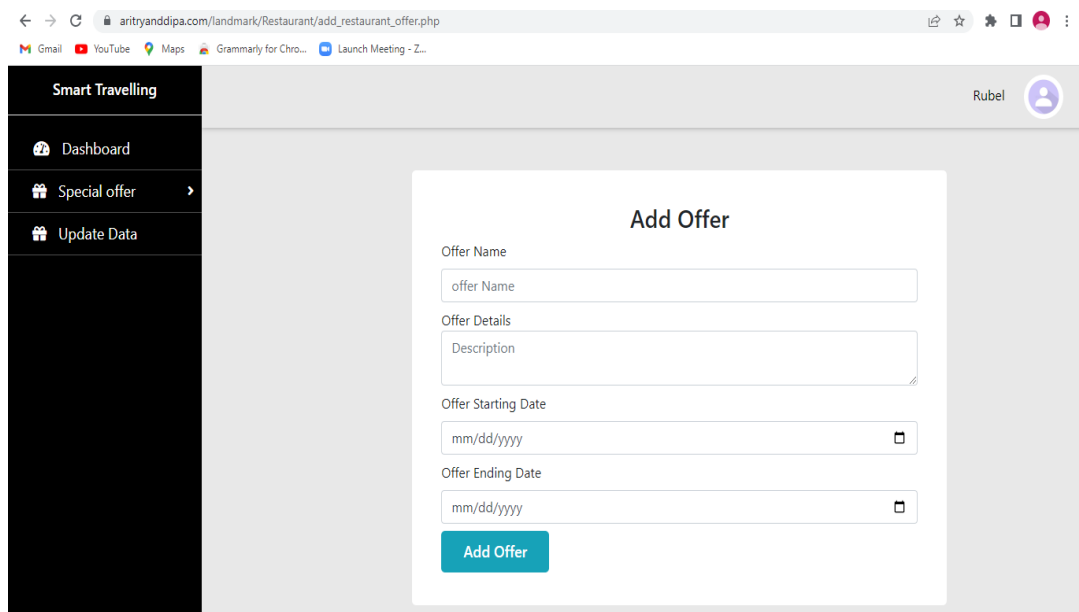


Figure 6.36: Restaurant Add Offer

The screenshot shows a web browser at the URL `arityanddipa.com/landmark/Restaurant/viewres_offer.php`. The page features a dark sidebar on the left with the title 'Smart Travelling' and navigation items: 'Dashboard', 'Special offer', and 'Update Data'. The main content area is titled 'Offer List' and contains a table with the following data:

Offer Name	Offer Details	Offer Starting Date	Offer Ending Date	Delete	Edit
Happy Hour	Everyday 4-7 pm get 50% Off	2022-09-25	2022-10-04	Delete	Edit

Figure 6.37: Restaurant Offer List

The screenshot shows a web browser at the URL `arityanddipa.com/landmark/Transport/index.php`. The page displays a 'Transport Login' form with the following elements:

- Username:** A text input field containing the value 'Arity'.
- Password:** A password input field with masked characters '****' and a toggle icon on the right.
- login:** A blue button with the text 'login'.
- Transport Registration:** A text link located below the login button.

Figure 6.38: Transport Login

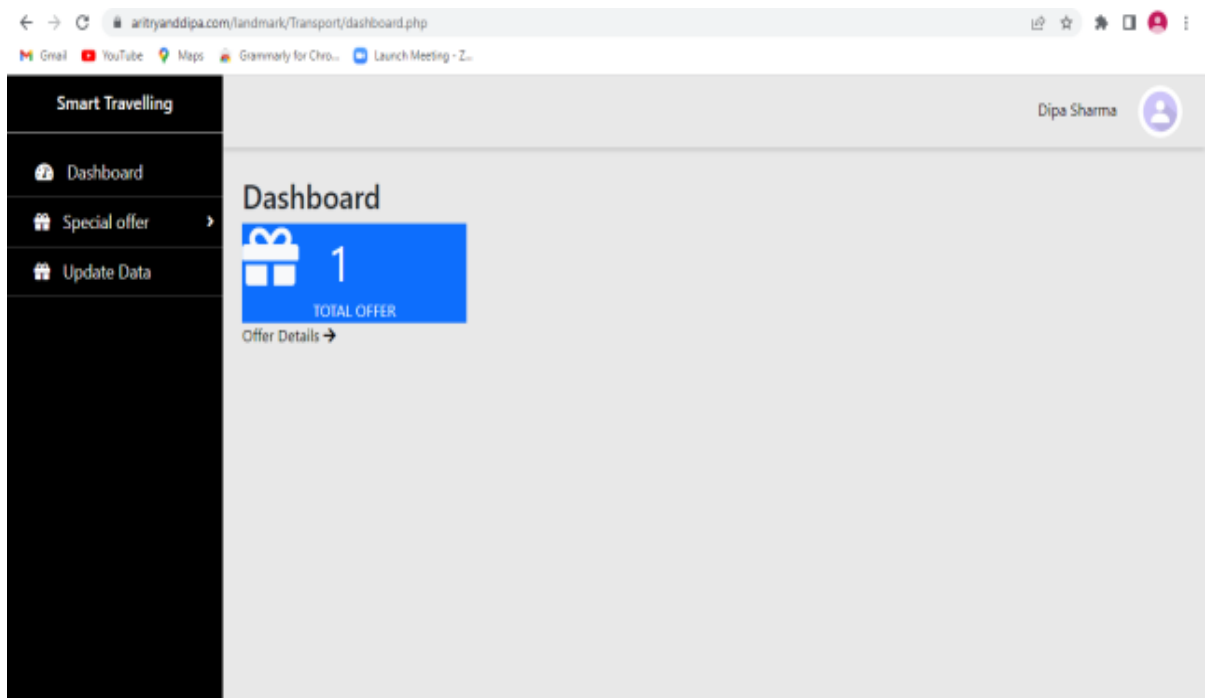


Figure 6.39: Transport Dashboard

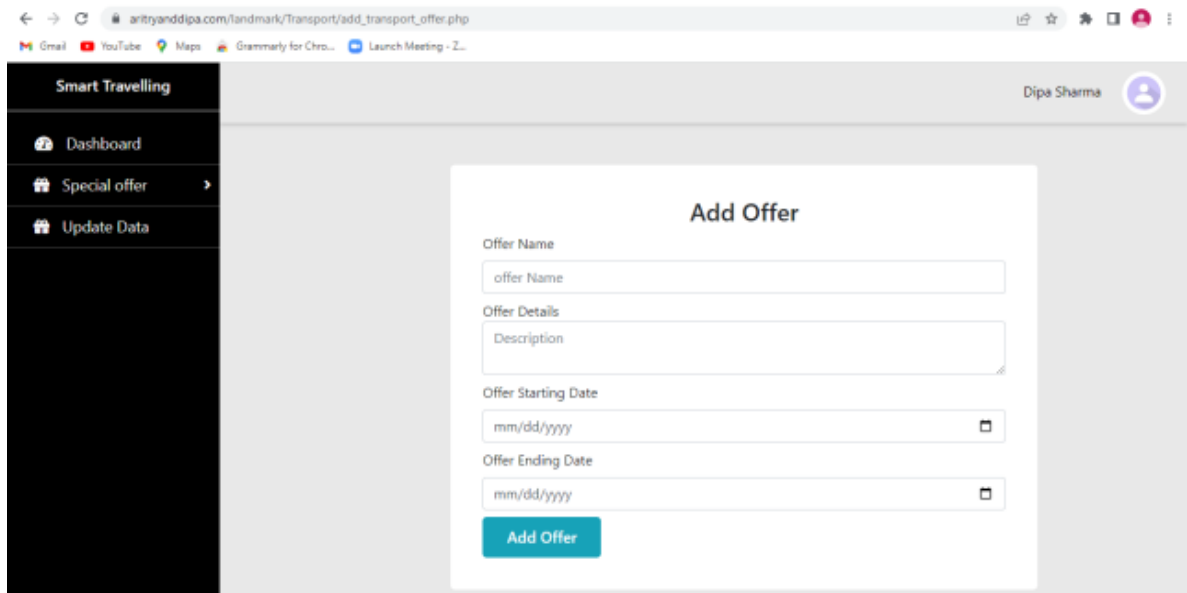


Figure 6.40: Transport Add Offers

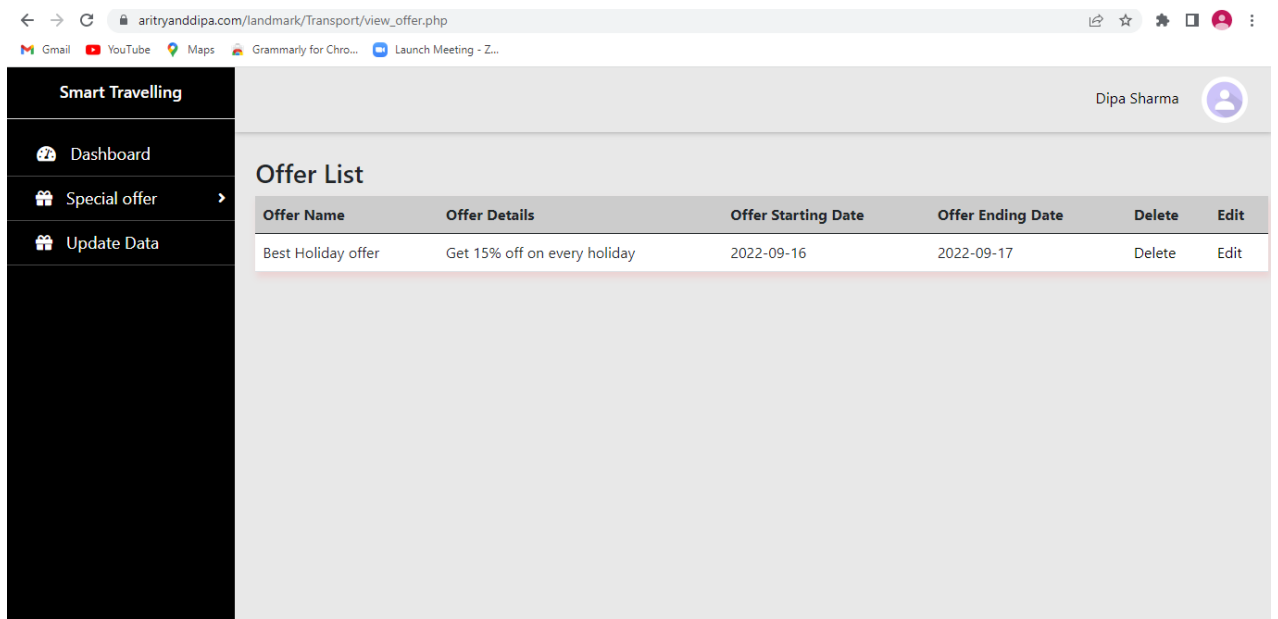


Figure 6.41: Transport Offer Lists

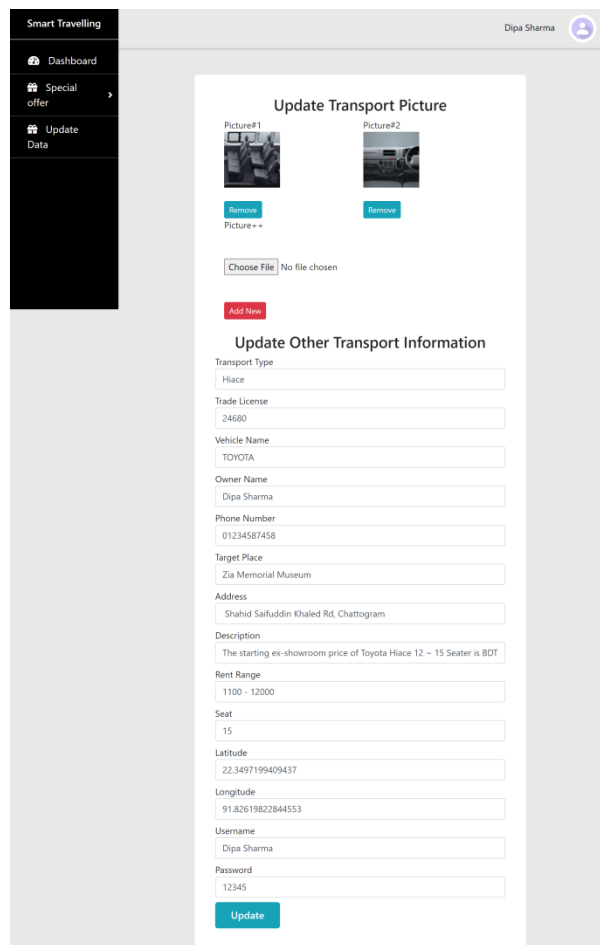


Figure 6.42: Transport Update Data

CHAPTER 7

TESTING

Software testing is the process of evaluating a software system or its component(s) with the intent to find whether it satisfies the specified requirements or not. It is a process of verifying that a software system or its component(s) works as expected and meets the needs of the users and stakeholders.

7.1 Objectives of Testing

There are some different goals and objectives in software testing. The main objectives are as follows:

1. Required the requirements that guided its design and development.
2. Works as expected.
3. Can be implemented with the same characteristics.
4. To prevent defects.

7.2 Types of Testing

There are several types of software testing, including:

Unit testing: Testing individual units or components of a software system to ensure that they function correctly.

Integration testing: Testing how different units or components of a system interact with each other to ensure that they function correctly together.

Functional testing: Testing the functional requirements of a system to ensure that it meets the needs of the users and stakeholders.

Performance testing: Testing the performance of a system under different loads and conditions to ensure that it can handle the expected usage.

Security testing: Testing the security of a system to ensure that it is protected against unauthorized access and data breaches.

User acceptance testing: Testing the system with real users to ensure that it meets their needs and is easy to use.

Regression testing: Testing the system after changes have been made to ensure that the changes have not introduced new bugs or errors.

Software testing plays a crucial role in the software development process, as it helps to ensure that the system is of high quality and works as expected. It also helps to identify and fix any errors or bugs early in the development process, which can save time and resources in the long run.

7.2.1 Login-

If both username and passwords are valid then the form is submitting and goes to the home page on their profile. I also see the table below.



Figure 8.1: Registration page

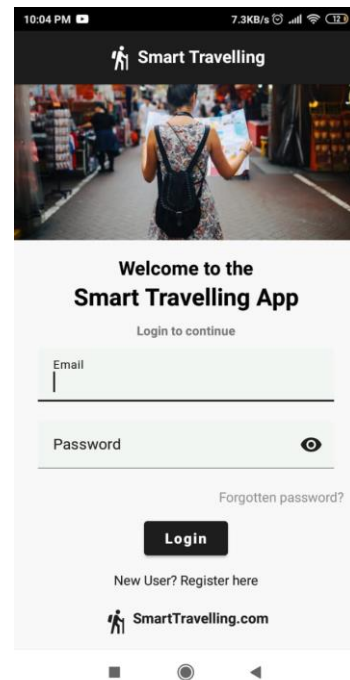


Figure 8.2: Login page

7.2.2 Login validation check table:

If any cell number and password are not current, there is no output. Only valid data is true.

Interface Name	Data Field	Input values	Result
Login	email & Password		Input your email & password
Login	email & Password	jamal@gmail.com	Input your password
Login	email & Password	123456	Input your cell number
Login	email & Password	jamal@gmail.com 123456	Invalid cell or password
Login	Username & Password	jamal@gmail.com 12345	Login successful

Chapter 8

CONCLUSION

8.1 Limitations:

- Tourists cannot book a hotel, restaurant and transports through this application.
- Without internet user cannot detect any landmark.

8.2 Conclusion

- It will be beneficiary project for people as they can search places by this landmark algorithm with more accuracy
- People can search nearest hospital, police station details.
- People can also search about special offers and events for transportation system.

After all, this application will make more efficient travelling system by recognizing landmark. Landmark details will help to learn more about any places from any distances. This functionality will help people to make better experience in travelling.

References

- 1) [https:// www.smarttraveller.gov.au](https://www.smarttraveller.gov.au)
- 2) <https://www.smarttravelapp.com/>
- 3) <https://www.smarttravelsbd.com>
- 4) <https://www.mawbiz.com.bd/smart-travels-bd>
- 5) TourX - Let's Tour | Travel Bangladesh - Apps on Google Play
- 6) Tour Bangladesh - Apps on Google Play
- 7) An offline and online-based Android application “TravelHelp” to assist the travelers visually and verbally for Outing (researchgate.net)
- 8) Smart Travels BD, 238/1, Outer Circular Road, Maruf Market 2nd Floor, Mouchak More, Malibagh, Dhaka (2022) (travelagenciesfinder.com)
- 9) Online Travel Agency In Usa - Seekweb
- 10) travelling apps in bangladesh - Android Apps on Google Play

Plagiarism Report

Smart Traveling

ORIGINALITY REPORT

28%

SIMILARITY INDEX

18%

INTERNET SOURCES

5%

PUBLICATIONS

25%

STUDENT PAPERS

PRIMARY SOURCES

- 1** dspace.daffodilvarsity.edu.bd:8080
Internet Source
- 2** Submitted to International Islamic University Chittagong
Student Paper
- 3** content.yudu.com
Internet Source
- 4** Submitted to University of Bolton
Student Paper
- 5** openaccess.city.ac.uk
Internet Source
- 6** www.durhamyorkwaste.ca
Internet Source
- 7** Submitted to University of Bedfordshire
Student Paper
- 8** Submitted to University of Ulster
Student Paper
- 9** Submitted to Federal University of Agriculture,