Travel Companion – ASmart Phone Application toFind the Best Route Service

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering.

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APPROVAL

This Project titled **"Travel Companion – A Smart Phone Application: Find the best Route Service"** submitted by Md. **Paval Islam,** ID No: 161-15-6967 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 B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 12th September, 2019

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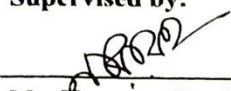Daffodil International University

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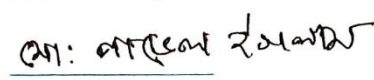United International University

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I thus proclaim that; this undertaking has been finished by under my watch of **Mr. Narayan Ranjan Chakraborty, Assistant Professor, Department of CSE** Daffodil International University. I likewise proclaim that neither this venture nor any piece of this task has been submitted somewhere else for honor of any degree or confirmation.

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ABSTRACT

Travel Companion help user by sorting through vast amounts of information to find the best way to get destination location. In addition, User can easily find the nearest location in the emergency salutation any time and any place. TravelCompanion also may visit destinations to get firsthand experience so that they can make recommendations to user. User may communicate Police Station, Fire Station, Hospital, School, Bus Station, Train Station, Bank, ATM Booth and Restaurants to shortest way and can show direction. Travel Companion is calculating the travel time to go to the destination place. However, Travel Companion is helps to user to shortest path to arrive the service place.Travel Companion is also called help assistant because it's help to user continuously to find the location. Travel Companion is also find nearest Hospital, Police Station, Fire Station to get emergency service and helpful location like School, Bank, ATM Booth and Restaurant.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Travel Companion is a one sort of assistance collaborator, who provides assistance or finding the nearest location in emergency simulation. The application can be tracking location like Police Station, Fire Service, Hospital, Scholl, Bank, ATM booth and Restaurant. This application shows you how to use location services APP to get the current location get periodic location updates, Look up addresses. I also have analysis about Travel Companion and around the world, especially in Bangladesh. Technically, I have learned java, Google Maps, API using to make this project.

1.2 Motivation

To learn more about android application, I have built an android base mobile application. It is very easy to establish link between users and some emergency service through mobile application. Now- a- days, smart phone is a most popular device and useful. Most of them are smartphone and runs on android base application and authorization will be confirmed. So this project is developed in android platform. Travel Companion is a helpful to reduce the harassment of real life.

1.3 Objective

The fundamental goal of this undertaking is to assemble a stage where client can be finding closest area and show bearing the goal area.

- ➢ Travel Companion provide the nearest location
- ➢ Show details location
- ➢ Provide direction between the current place to destination place.
- ➢ Any time user can able to connect to service.
- ➢ It also called to help assistant.
- ➢ Travel Companion produce the shortest path between the places.

1.4 Expected Outcome

A large portion of the result of this undertaking is underneath.

➤ User will be finding nearest location in emergency situation by this application.
➤ View all nearest place and details of the location
➤ To establish a digital communication with people via mobile application with nearest location with direction.
➤ Tracking user current location to provide the nearest location service.

1.4 Report Layout

I am try to best android base**"Travel Companion" application and this project is competing in the timely** make this project. Design a project report and the workflow.

In section 2 Background examine about the Introduction, Related Works, Scope of the Problem, Challenges.

In Chapter 3 named Requirement Specification we inspect about the Use Case Modeling and Descriptions.

In section 4 named Design Specification I examine about the Front-end Design, Back-end Design.

In part 5 named Conclusion and Future Scope and I talk about the Conclusion in Travel Companion application and in future which highlights are incorporate.

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CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Travel Companion is referring to discarding or alternative use Travel Companion that is safe and comfortable for human consumption along the entire system, from up to date. In this system I used the recycler grit layout view that help user to create list. Here I have used to the geo coding latitude and longitude via retrofit library by get method into google map

2.2 Related Works

To discover about related works which name start things out is **Nearby** is an android application where user can easily find hundreds of nearby places ranging from Bank, ATM, Hotels to Taxi Stand, Bus Stop and many more. User can only view the details of nearby Bank, ATM and Map location but this application but this application cannot navigate user to the place. Some features are below

Home Page: When user successfully install and enter the application then display the interface.
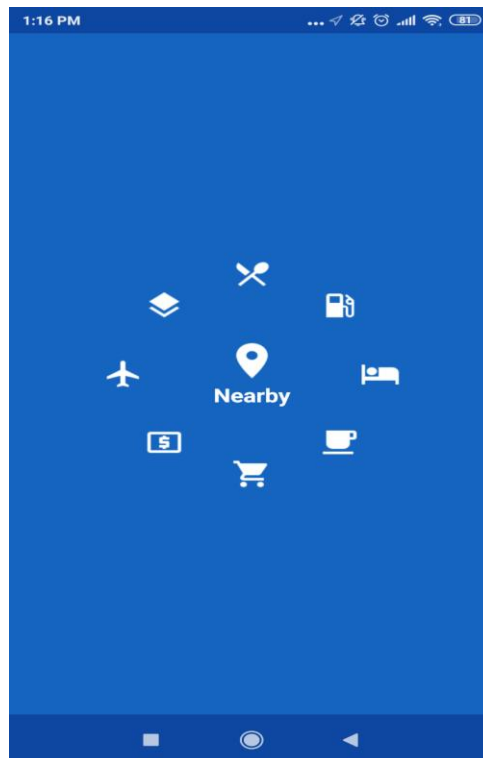

Figure 2.1: User Interface of Nearby Application

Nearby Page: User can choose the service from the all services in the application and also search the location.

Figure 2.2: Nearby Services Page

Details Page: Show details that user is selected the services. In the page the application displays all nearby places and details information about the nearby places.
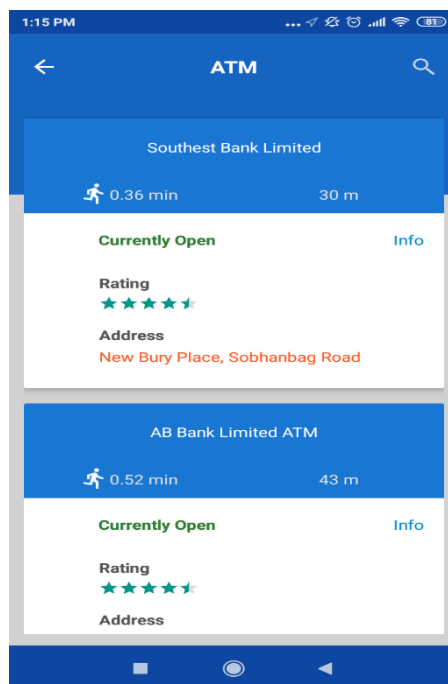

Figure 2.3 Show Details Page

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2.3 Scope of the Problem

This project are some bugs and some special features of this application are:

- ➢ Verified the desire location.
- ➢ Contact no verification.
- ➢ Must be registered.
- ➢ Established a link between user and expected location.
- ➢ Navigate pick-up location from current location.
- ➢ Travel Companion User cordial component plan.
- ➢ Fast stacking and elite.

2.4 Challenges

Every work has challenging This project is unauthorized. This project goal is as a help assistant in the emergency situation.

1. As it's an android based mobile application, so user must be having an android base smart phone.
2. After getting notification's if a user doesn't check his phone for full information then the main motto of this app will be failed.

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CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Use Case Diagram:

An utilization case model is a realistic portrayal of the connections among the components of a framework. An utilization case is a philosophy utilized in framework investigation to distinguish, explain and sorting out framework necessities.
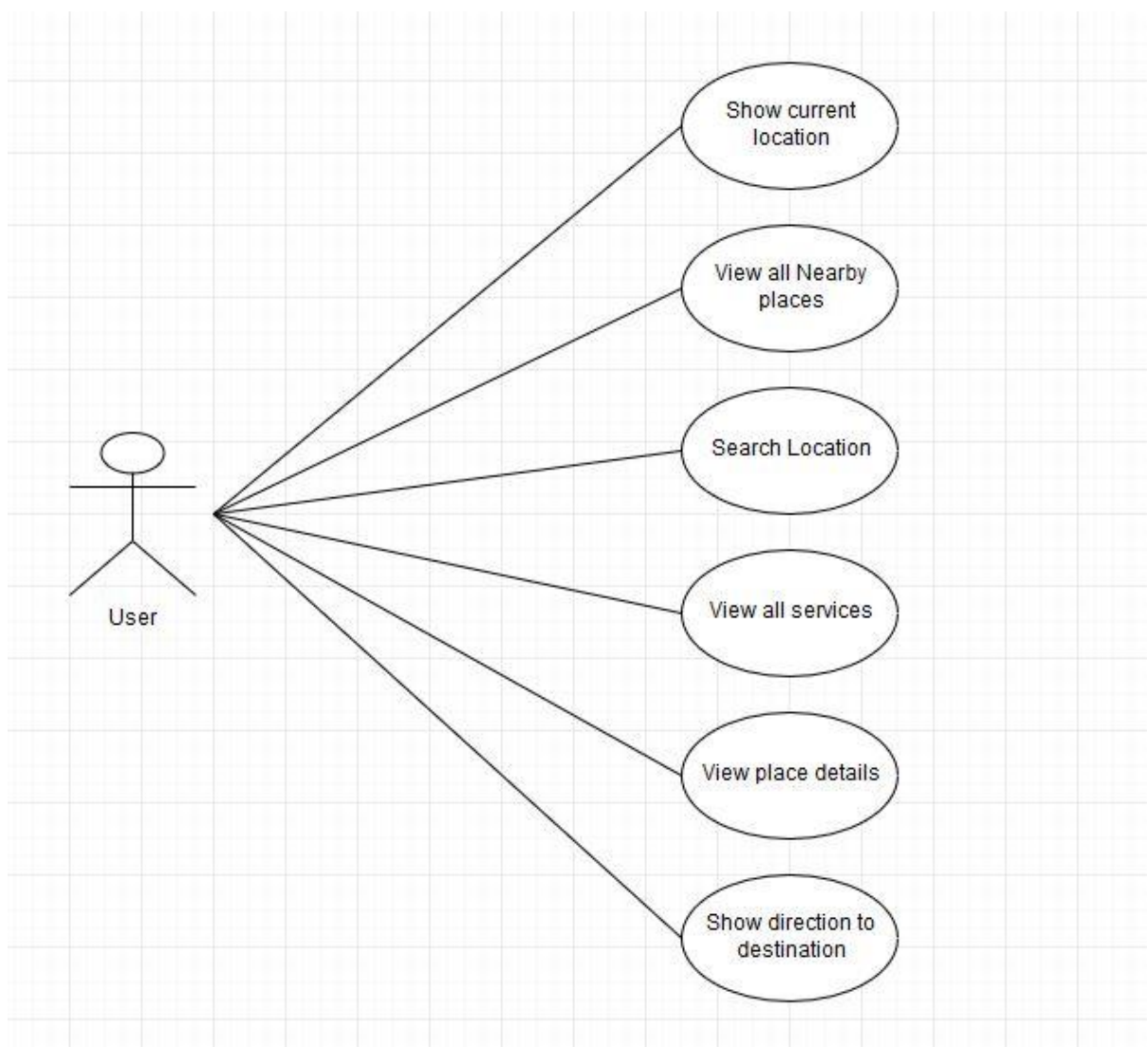

Figure 3.1: Use case diagram of Travel Companion

3.2 Use Case Description:

Use case diagram is representing the workfellow in the use case diagram this is include all cases to actor.

Table:

3.2 .1 Describe of Use case for Show Current Location

Use Case Name	Show Current Location
Pre-Condition	Connect the internet and on the location permission.
Primary Path	1. Enter the application 2. Press the direction button. 3. Assistant notify user current location by voice.

3.2.2 Describe of Use case for View all Nearby Places

Use Case Name	View all Nearby places
Pre-Condition	Connect the internet and on the location permission.
Primary Path	1. Enter the application 2. Select the destination location. 3. Show all nearby places.

3.2.3 Description of Use Case for Search location

Use Case Name	Search Location
Pre-Condition	Connect the internet and on the location permission.
Primary Path	1. Enter the application 2. Press the search button. 3. Click the enter button.

3.2.4 Description of Use Case for View all services

Use Case Name	View all services
Pre-Condition	Connect the internet and on the location permission.
Primary Path	1. Enter the application 2. Display the all services.

3.2.5 Description of Use Case for View Place Details

Use Case Name	View Place Details
Pre-Condition	Connect the internet and on the location permission.
Primary Path	1. Enter the application 2. Press the destination category button. 3. Display the category wise nearby places.

3.2.6 Description of Use Case for Show direction to destination

Use Case Name	Show Direction to Destination
Pre-Condition	Connect the internet and on the location permission.
Primary Path	1. Enter the application 2. Press the direction button. 3. Assistant notify user current location by voice.

CHAPTER 4
DESIGN SPECIFICATION

4.1 Front-end Design

Firstly, I am creating user interface to this project by Adobe XD then designed by XML. XML is an Extensible Markup Language. All features are defining in front-end design and below some features interface.

Home page: Home page is simple design and easy to understand to the userto access the services. There are use card view to more attractive.
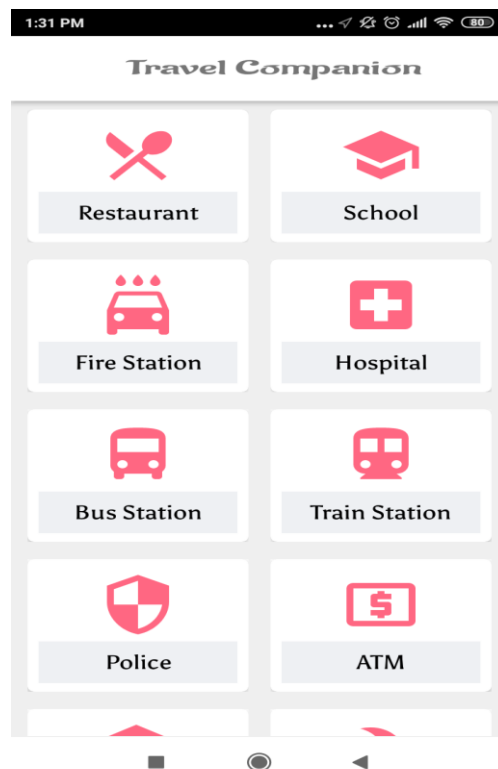

Figure4.1.1 Home page interface of Travel Companion

Nearest Location: when user select the service from all services in the Home page then user can show the nearest location. In this interface display all nearest place.
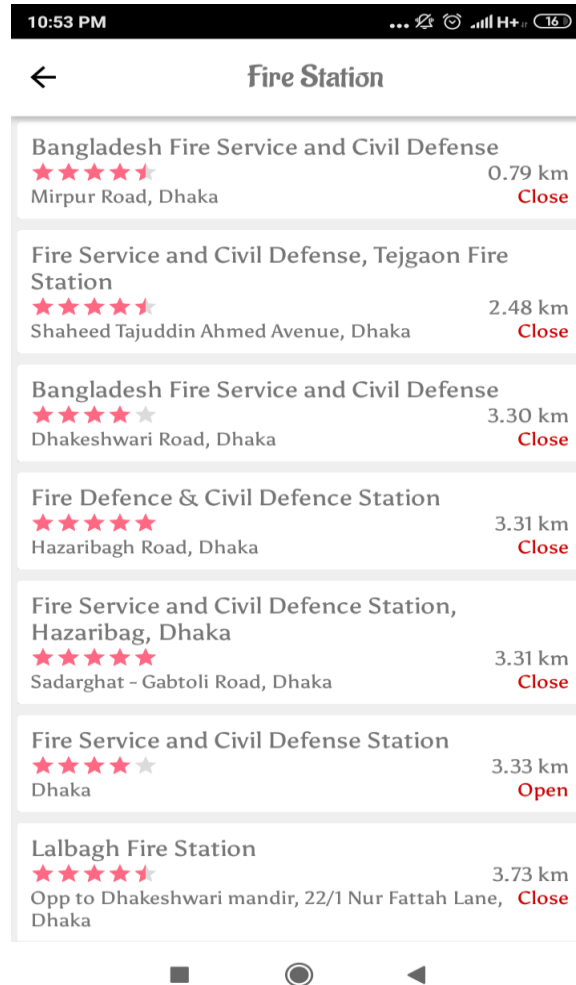
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Figure 4.1.2 Nearest Locations

Show Direction: In this page user can show direction and finding the shortest path and calculate the time to arrive the destination.
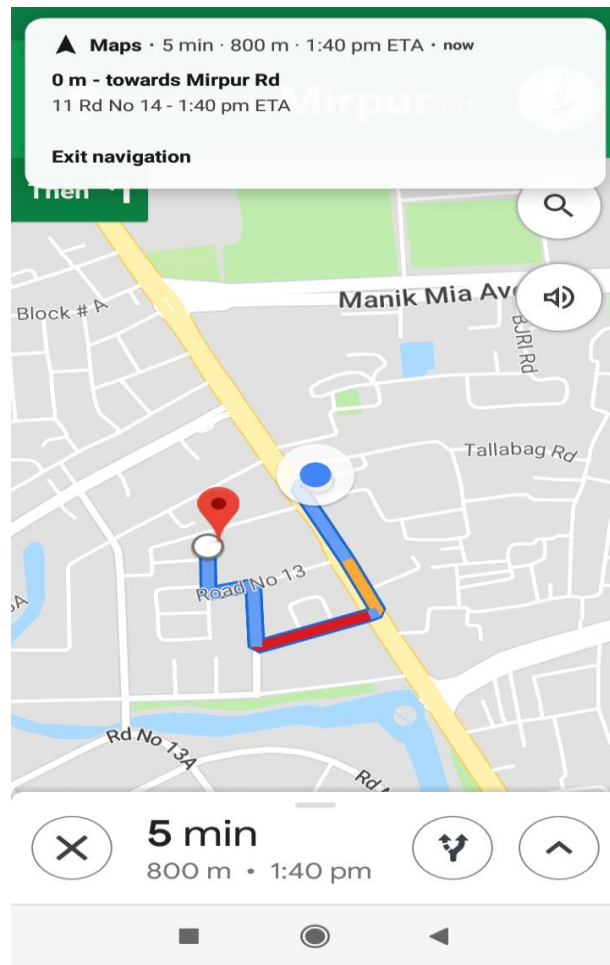
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Figure 4.1.3 Show Direction

Details Place Information: Here user can show details the selected places and gather information to get the service.
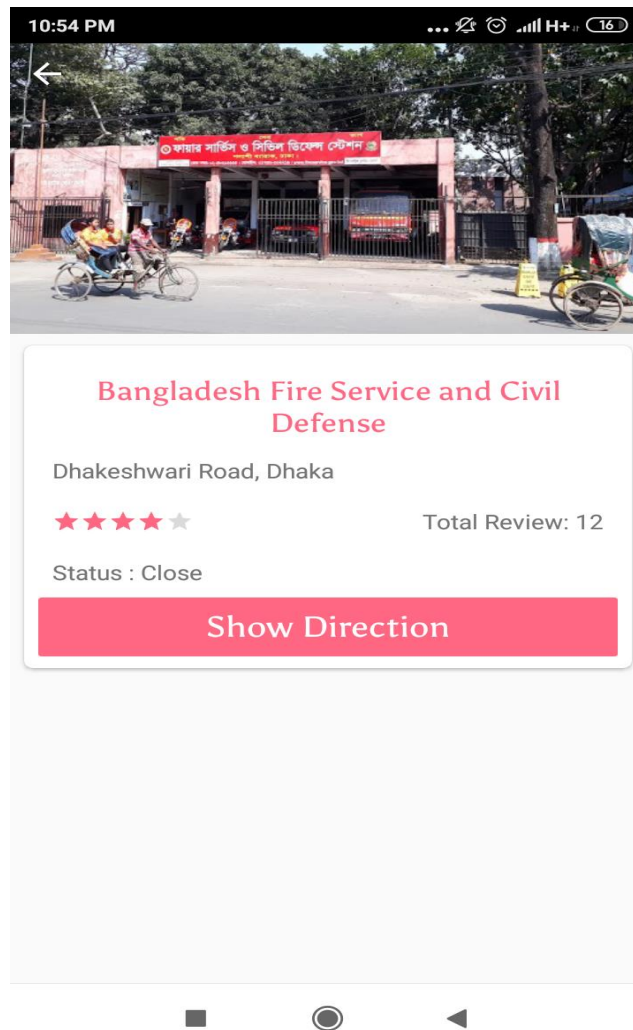
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Figure 4.1.4 Show Details Places

4.2 Back-end design

Back-end design means which function are executing their functionality user cannot show in back-end design it works to functionality. In this project functionality are design with Java and other technology such as API (Application Programming Interface), Retrofit and google map API key.

JAVA:

Java is most useful language and popular to build the application because java is supported billions of devices. In this project java are handle all activities and control the work as functionality.

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API:

Application Programming Interface is a lot of schedules, conventions and instruments for structure programming applications. An API indicates how programming segments ought to cooperate and API are utilized when programming graphical UI segments.

4.3 Implementation Requirements

This project is used to developed in android studio and other technology;

- Android Studio to create project.
- Retrofit are parsing data from server in JSON format.
- Google Map are used to tracking location with Latitude and Longitude by Geocoding class.
- Google Map API key it's enable to google map in the application.
- Glide Library it's used to load the image from the server and show.

4.3.1 Android Studio

Android studio is like work to develop the android application. Easily develop an android project to by the android studio.at present android official site is released android 3.5 August 2019. Android studio provide some features to create an attractive project. of android. It also supporting a number of programming languages (IDE) [1].

4.3.2 JSON

JSON represents JavaScript Object Notation. It is organized, light weight, comprehensible and simple to parse. It's a best option in contrast to XL when my android application needs to exchange information from server. XML parsing is intricate as contrast with JSON parsing [2].

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4.3.3 Retrofit

Retrofit is a REST Client for Java and Android. It makes it relatively easy to retrieve and upload JSON via a REST based web service. In Retrofit configure which converter is used for the data serialization [3].

4.3.3 Glide Library

Skim is an Image Loader Library for android created by bumptech and is a library that is suggested by Google I/O 2014 authority application. It gives enlivened GIF backing and handles picture stacking reserving [4].

CHAPTER 5

CONCLUSION AND FUTURE SCOPES

5.1 Conclusion

It is a lot simpler to converse with nearby individuals when going in a couple, and this makes an excursion considerably more fulfilling. While a solitary outsider can be viewed as scary, a voyaging couple is regularly viewed as progressively receptive. For example, we were regularly greeted into individuals' homes and organizations wholeheartedly. The people who welcomed us regularly brought up that they were eager to do so on the grounds that we looked so cheerful. It will make our life simpler to get the longing administrations area essentially our urban life. So it is a decent accomplishment for our cutting edge science.

5.2 Future Scope

In future I am trying to develop this project is most attractively and some special features that are user can communication their destination person and reservation system are integrate. In the near future I will add some more feature to attract user to user my application for get the good service. I can add map for view the live best route finds. I also can add a notification system that notify organizations to user.

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