

মুঠো ম্যাপ: Your city Assistant

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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

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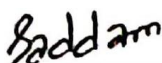


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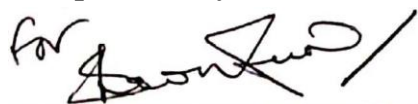
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ABSTRACT

Android OS dominates the mobile app development market. Mobile phones made communication easy with family members and friends. Amusing phenomenon matter is android offers choices such as a swift key. Our research base project is "{মুঠ ো-মযোপ (Your city Assistant))". About 2.5 billion people use android service spontaneously. Sometimes people visit a new area, then he/she needs Mosque, Temple, Bank, Office, ATM booth or any kinds of location area surround the current area in the city. This app is helpful is to finding any ATM Booths, Hospital, Mosque, Public Toilet, Hotel and Restaurant, Super shop and Malls, Pharmacy, Historical place, Important office. Location-based services (LBS) provide mobile clients with personalized services according to their current location. They also open a new area for developers, cellular service network operators, and service providers to develop and provide value-added services: advising clients of current traffic conditions, providing routing information, helping the users to find nearby shopping malls or other location maps. LBS works

with a GPS tracking system. This app provides a secured location facility system its community can be accessed at any place. Our LSB apps have some special features like Chatting apps, Ridesharing, Notification remainder and also map finder.

TABLE OF CONTENTS

| CONTENTS | PAGE NO |
|---|----------------|
| Board of examiners | i |
| Declarations | ii |
| Acknowledgements | iii |
| Abstract | iv |
| List of Figures | vii |
| List of Tables | viii |
| CHAPTER 1: INTRODUCTION | 1-3 |
| 1.1 Introduction | 1 |
| 1.2 Motivation | 1 |
| 1.3 Objective | 2 |
| 1.4 Expected Output | 2 |
| 1.5 Report Layout | 2,3 |
| CHAPTER 2: BACKGROUND | 4-10 |
| 2.1 Introduction | 4 |
| 2.2 Similar Works | 5 |
| 2.2.1 Nearby Place Finder | 5 |
| 2.2.2 Nearby Place Finder (Indian) | 6 |
| 2.2.3 OsmAnd –Offline Travel Map & Navigation (England/Worldwide) | 7 |
| 2.2.4 Comparative Study | 8 |
| 2.2.5 Comparison Table | 9 |
| 2.2.6 Scope of the Problem | 10 |
| 2.2.7 Challenges | 10 |
| CHAPTER 3: REQUIREMENT SPECIFICATION | 11-13 |
| 3.1 Business Process Modeling | 11 |
| 3.2 Requirement Collection and Analysis | 11 |
| 3.3 Flow Chart Data Model | 12 |
| 3.4 Use Case Modeling and Description | 13 |

| | |
|---|------------------|
| CHAPTER 4: EXPERIMENTAL RESULT & DISCUSSION | 14-21 |
| 4.1 Front-end Design | 14 |
| 4.2 Back-end Design | 19 |
| 4.2.1 Java | 19 |
| 4.2.2 Firebase | 20 |
| 4.3 Interaction Design and UX | 20 |
| 4.4 Implementation Requirement | 20 |
| 4.4.1 Android Studio | 20 |
| 4.4.2 Android SDK | 21 |
| 4.4.3 JAVA Development kit (JDK) | 21 |
| 4.4.5 Firebase Database | 21 |
| 4.4.5 Collection of Information | 21 |
| CHAPTER 5: IMPLEMENTATION AND TESTING | 22-26 |
| 5.1 Implementation of Database | 22 |
| 5.1.1 Database Design | 22 |
| 5.2 Implementation of Front-end-Design | 23 |
| 5.3 Implementation of Interaction | 25 |
| 5.4 Testing Implementation | 25 |
| 5.5 Test Result and Reports | 25 |
| CHAPTER 6: SUMMARY, CONCLUSION, RECOMMENDATION & FUTURE SCOPES | 27 |
| 6.1 Summery 000 | 27 |
| 6.2 Conclusion | 27 |
| 6.3 Future Scopes | 27 |
| REFERENCES | 28 |
| APPENDIX | 29-30 |

LIST OF FIGURES

| FIGURES | PAGE NO |
|--|---------|
| Figure 2.1: Nearby Place Finder – GPS(Bangladesh) | 6 |
| Figure 2.2: Nearby Place Finder (Indian) | 6 |
| Figure 2.3: OsmAnd –Offline Travel Map Navigation(England/Worldwide) | 8 |
| Figure 3.1: Business Process Model | 11 |
| Figure 3.2: Flow Chart of the System | 12 |
| Figure 3.3: Use Case Diagram | 13 |
| Figure 4.1: Dashboard UI | 15 |
| Figure 4.2: Profile UI | 15 |
| Figure 4.3: Place Search | 16 |
| Figure 4.4: Ride Share | 16 |
| Figure 4.5: Ticket Booking UI | 17 |
| Figure 4.6: Food Ordering | 17 |
| Figure 4.7: Social Site(Home) | 18 |
| Figure 4.8: Social Site(Friend) | 18 |
| Figure 4.9: Social Site(Chat) | 19 |
| Figure 5.1: Firebase Data base | 22 |
| Figure 5.2: Firebase Data base | 23 |
| Figure 5.3: Front-end XML code | 23 |
| Figure 5.4: Front-end-XML (1) | 24 |
| Figure 5.5: Front-end-XML (2) | 24 |

LIST OF TABLES

| TABLES | PAGE NO |
|---|---------|
| Table 2.1 Comparison Table | 9 |
| Table 5.1: Test results for admin | 25 |
| Table 5.2: Test cases and results for users | 26 |

CHAPTER 1

INTRODUCTION

In this chapter we deliberating an Introduction of our project, get on to Motivation, Expected output and Report layout.

1.1 Introduction

We want a digital Bangladesh. Mission of Micrometeorite rural area along every city become digital.

The philosophy of “Digital Bangladesh” comprises ensuring people’s democracy and human right, transparency, accountability, establishing justice and ensuring delivery of government services to the citizens of Bangladesh through maximum use of technology with the ultimate goal being the overall improvement of the daily lifestyle of general people. This includes all classes of people and does not discriminate people in term of technology.

Mobile phones made communication easy with friends and family member. There are 64 districts in our country. When we go to an unknown city, we do not know about any place.

We have developed an android app to establish user can easily search a particular position or point in space. In these circumstances he/she can search any place. The user will enjoy the benefit of different kind of feature and facility. User can easily log in and signup this application. It is excessively user friendly, reliable, too much virtual communication application for user. Because it is user friendly application, he/she avail their searching place without budget and use its own choice.

To develop this project, we have studied related android application. We also have analysis related type app. We study JAVA, XML, Database, OOP etc.

1.2 Motivation

Sometimes we have less time, but we take a little more time to find our regular exact place. Also, we need some facility to search restaurant, hospital, offices, masque, school, college, varsity, historical place in the very mean time. We always wanted to make something useful to people. That’s why we choose this app to make effective searching assistant and consumes less time to discover new area. Making this app for people’s life better whenever they move from one place to another place. When move to different places it takes time to discover that area.

From that point of view, we wanted to make an app which will assist us. This application can easily find stuff through the app.

1.3 Objective

The main objective of our project to help the user. In the present time 2.5 billion people use android. Android offers alternative choices such as swiftly.

- Application is online based virtual application process.
- It is an online application so user can easily find their location like.
- People will find their place easily without any cost and short time.
- It gives mobile client personalized service according to their location.
- Its profile-based location, location tracking, finding desire location, location-based reminder.
- Its gives also community feature avail.

1.4 Expected Output

It's a smart city assistant app which helps to people as like a city assistant.

- User can find many service in one application.
- ATM Booths, Masque, Hospital, Public Toilet, Offices, Pharmacy, Historical Place, Super Shops and Malls restaurant user can find.
- Food delivery, Uber or ride share also be including this app.
- Community app with chatting system.
- Feedback system.
- Security and Integrity.

1.5 Report Layout

This report is divided into six chapter. The chapters are summarized below:

- Chapter one describes about how “{মুঠো-ম্যাপ (Your city Assistant)” developing project idea generate and how this work, targets, expected field likewise include here.
- Chapter two we will relate the previous work, background, comparative studies, problems that may arise and challenges of this project.

- Chapter three will discuss about requirement specifications, requirement collection and analysis and use of case modeling and description.
- Chapter four we will discuss about logical data model and design requirement, system architecture, database design, UI design, design specification.
- Chapter five compose with implementation, front-end design and implementation of interaction along with testing implementation, test result.
- Chapter six is the conclusion will be discussing discussion, conclusion and scope for further developments.

CHAPTER 2

LITERATURE REVIEW

In this chapter we are going to recapitulate the compendium the statistics we have studied online place finding application inherit by some examples of related work perform in this field.

We also explain the challenges and how we overcome them.

2.1 Introduction

We have proposed “{মুঠো-মাপ (Your city Assistant)” application. It is a smart city assistant app which find remote place locator framework which depends on android base application. It is user friendly application. This android app that helps the user to find the location according to their requirements. Easy to find location to user’s demands is the main aim of the project. It gives mobile client personalization service according to their location. Location based services refer to set of exploit the known ledge of the geographical and This application will assist us to our density. If someone don’t tag that place to the map.

This app helps user to find

- ATM Booths
- Hospital
- Masque
- Public Toilets
- Super shops and Malls
- Pharmacy
- Historical Place
- Important Offices
- University, College & School

Other facilities of this app

- Food ordering
- Uber or ride share feature
- Community app with chatting system

An operation System, Middleware and core apps are included in software package. Android SDK tools and API are reopening system architecture with a good debugging environment. It’s

also given optimized Graphical User Interface (GUI) system high media support and strong web browser priority for all methods and rapid optimized the performance of apps.

Useful sensor like camera, 3d accelerometer, gyro meter etc. API are provided by android which are important for map and location system.

Location based service gives many features for mobile users, some example for mobile user are (a) profile-based location (b) location tracking (c) finding desire location (d) location-based reminders.

In this work, a number of approaches has been studied and summarized with their android phone services with different features. Sometimes people visit in new area, then he/she needs Mosque, Temple, Bank, Office, ATM booth or any kind of location area surround in current area in the city. LSB (Location-based-service) delivered android/ IOS user personalized services according to their running location. They also service providers to develop, provide value-added service and open a new area of developers, cellular service network operators, helping in users to finding nearby shopping malls or other location map. LSB work with GPS tracking system. Our LSB apps has some special features like as chatting options, ride sharing, Notification remainder and also map finder.

The consumer services of this android app are: (a) Navigation, (b) Location search, (c) Family and friend tracking, (d) Location based advertising, (e) On-demand services, (f) Booking system and (g) Meeting planner.

2.2 Similar Works

Some apps are available in abroad and there has been couple of works in Bangladesh. We think about these application and site. Here, we discuss about the most helpful application and site like out our application.

2.2.1 Nearby Place Finder - GPS

Nearby Place Finder is a place searching app. Using Nearby Place Finder, finding the place airports, library, ATMs, Bank, hotels, Coffee Shops and many other places. Nearby place Finder will itself locate position by using GPS and on the basis of that, it places of interests.

Get detailed information of the place he/she can go. Also, you can find the directions he/she has to follow to travel between any two places. He/she just has clicked the place he/she want to go.

Key Feature of Nearby Place Finder: freely available, GPS Supported, 50+ Types of place Supported, both map view and List View, Nice Interface, Google material Design guide, Powered by Google.

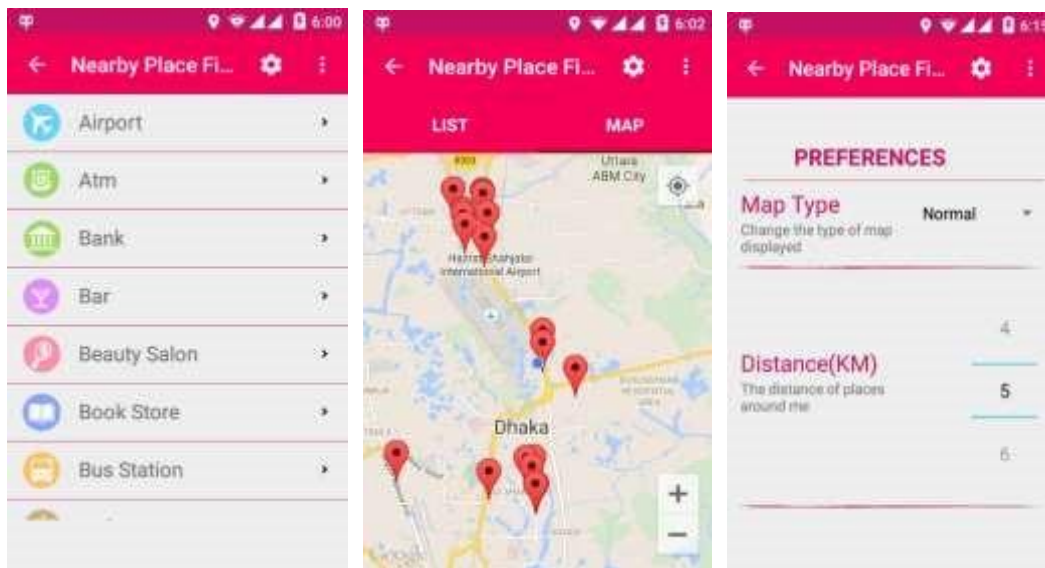


Figure 2.1: Nearby Place Finder-GPS(Bangladeshi)

2.2.2 Nearby Place Finder (Indian)

Nearby Place finder is a Place searching app. Using Nearby Place Finder, he/she can easily locate the ATM, Bus stand, Hotels, Hospital, School and many others place near.

Nearby Place Finder will locate him/her position by using GPS by itself and on the basis of that, it will place of Interests. Get detailed information of the place and can find the directions he/she follow to travel between any two places and find out shortest path. He/she has to click the place he/she want to go.

Feature of Nearby Place Finder like Freely available, GPS support, 50+ Types of place Supported, Both Map View and List View, Nice Interface, Google Material Design guided, powered by Google, Ease of use, very lightweight, Locate place easily.



Figure 2.2: Nearby Place Finder (Indian)

2.2.3 OsmAnd –Offline Travel Map & Navigation (England/Worldwide)

OsmAnd is an offline navigation application with access to free, worldwide and high-quality offline maps.

Enjoy voice and visual offline navigation, viewing points of interest, creating and managing gps tracks, using contours lines visualization and altitude info, a choice between car navigation, cycle navigation or directions in the pedestrian mode, OSM editing and much more. Just download he/she free maps and get the following:

GPS navigation

- He/she choose between offline or online mode.
- Turn-by-turn voice guidance leads he/she along the way.
- Driving routes get rebuilt whenever you deviate from them.
- Different modes for cycling routes.

Map

- Display POIs
- Offline search helps you find the place of interest by opening hours, payment method and other parameters
- Adjust the map to he/she direction of the motion.

Skiing

OsmAnd ski maps plugin enables he/she sees ski track with the level of complexity and some additional information, like the location of lifts and other facilities.

OpenStreetMap Data

- High-Quality information from the best collaborative projects of the world
- OSM data available per country or region
- Compact offline Vector maps updated at least once a month.

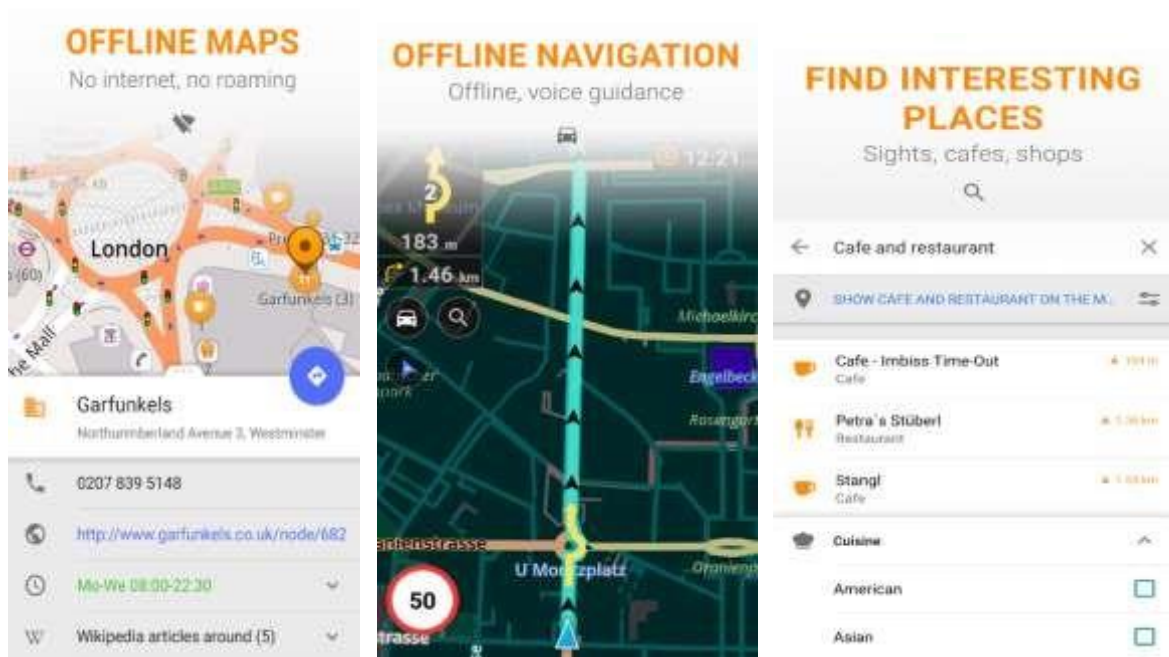


Figure 2.3: OsmAnd –Offline Travel Map & Navigation (England/Worldwide)

2.2.4 Comparative Study

As the result of Bangladeshi app which are related our application does not exit properly. There is some foreign app which are not perform Bangladeshi location. Most of application have some problem. Different application contains different features but there is no app which contain all features in one application.

We basically make these apps for works as like city assistant and people can easily find their remote able place. So lots of feature combine with android study work system and user login process and use the application. We describe about app work: when open the app firstly signup with user id, contact number, user name and mail. They can use all facility. It's like social but virtual sector all data become safe. When we enter the app by user name, email.

2.2.5 Comparison Table

Table 2.1: OsmAnd –Offline Travel Map & Navigation (England/Worldwide)

| Apps name | Map feature | Ride sharing | Finding place for meeting | Community service and chatting system | Work globally |
|---|---|--------------|---------------------------|---------------------------------------|---------------|
| মুঠো-ম্যাপ (Your city Assistant) proposed name | Yes | Yes | Yes | Yes | - |
| Nearby Place Finder-GPS(Bangladeshi) | Yes (but does not show real nearby place) | No | No | No | No |
| Place Finder | Yes | No | No | No | Yes |
| Place Finder | Yes | No | No | No | Yes |
| Nearby Place Finder | Yes | No | No | No | No |
| Nearby Place-Everything | Yes | No | No | No | No |
| Local Place Finder-Your Local Place Guide | Yes (doesn't show in map view) | No | No | No | No |
| NAVER Map, Navigation (Chinese) | Yes | No | No | No | Yes |
| KakaoMap-Map/Navigation (Korea) | Yes | No | No | No | No |
| OSmAnd-Offline Travel Maps & Navigation (England/Worldwide0 | Yes | No | No | No | Yes |
| Place Finder-Free | Yes | No | No | No | Yes |

2.2.6 Scope of the Problem

As a developer of “মুঠো-ম্যাপ” (Mutho Map) we must admit it is not easy to solve various problems using one application. But we are bind to do so.

Safety Issues: “When there is no risk, there is no gain” this was our plan. Here risk is always there when there are safety issues. But we are always bound to keep safe our user’s data. And keep users safe.

One stop Solution: As we mentioned above that we needed a basement by which we can provide one solution of multiple problems. Though it was tough but tried to do so. But there is always scope for improvement. We made an application which is provide benefit for everybody.

Less Time Consumption: We can make this world a better place by providing a helping hand. So, if we help each other in this community our community will get better, our social life will improve. So, by helping each other if we can minimize the time consuming of any problem, we all will be benefited. This will help us to keep better relation with others also will help our precious time be saved.

2.2.7 Challenges

Now a day people want more facility in short time and minimum action in industrial world. Mobile device offers many high-quality features with high performance sensor. So, creating this apps much complex design. If the user is not comfortable while using this app, they will get frustrated and will give a negative review to this application. So, the functions should be very clear. Importance of mobile content application increasing day by day. Users can use different facility, that's why challenges are there to handle for designing the application to perform well and keep bug free application service which needs minimum charge of battery. Mobile application market is dynamic because of high number of innovations. So, connection with users is very important. We have faced challenge when we want to create a real time database. We have overcome this challenge by using Google firebase. Some other common challenges were deadline, requirement analysis, quality of code, performance and efficiency of system. Different type of problem solves and my supervisor helped difficult task in every season.

CHAPTER 3

REQUIREMENT SPECIFICATION

In this chapter we describe requirement specifications. In order to keep it simple and user friendly, we used Android studio emulator, android mobile and firebase database which is minimal requirement to develop the project.

3.1 Business Process Model

Business process model (BPM) is an activity in system engineering. Which represents the overall process of a system. Using this total system can be visualized and based on this further improvement, analysis and improvement can be done.

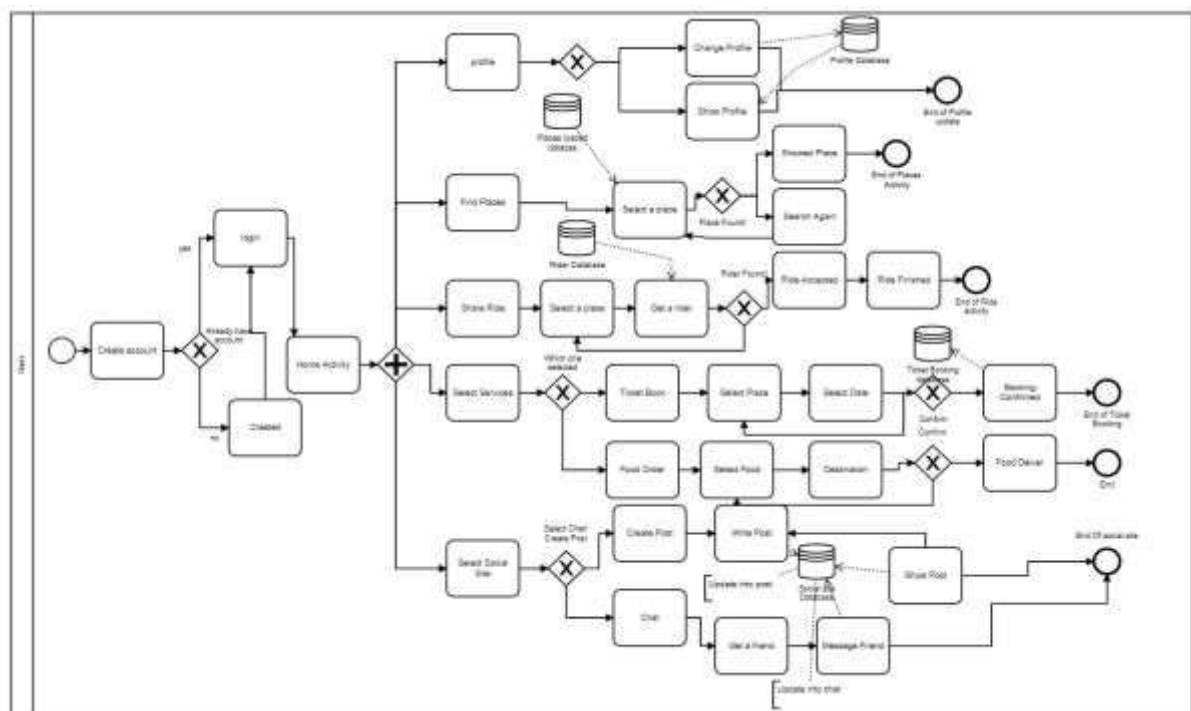


Figure 3.1: Business Process Model

In the figure 3.1 it has been shown how our process tree is generated. One will be able to get a proper visualization of our system like when user can login. How user's data goes into database and when user uses the features what will be the behavior of the background system.

3.2 Requirement Collection and Analysis

We collected the requirements based on our research over previous applications which has been done by others. Based on those systems we analyzed over the requirements. Like which features we will provide now and which feature can be added later like in future. On analysis period we found that the system we are going to build can cover big area. But we tried to keep it simple so that we can provide a finalized app which can be delivered in 4-6 months' period of time.

3.3 Flow Chart Data Model

Flow chart explains the data input and retrieval cycle for the both user and admin. Figure 3.2 denotes flow chart of the proposed system according to our app.

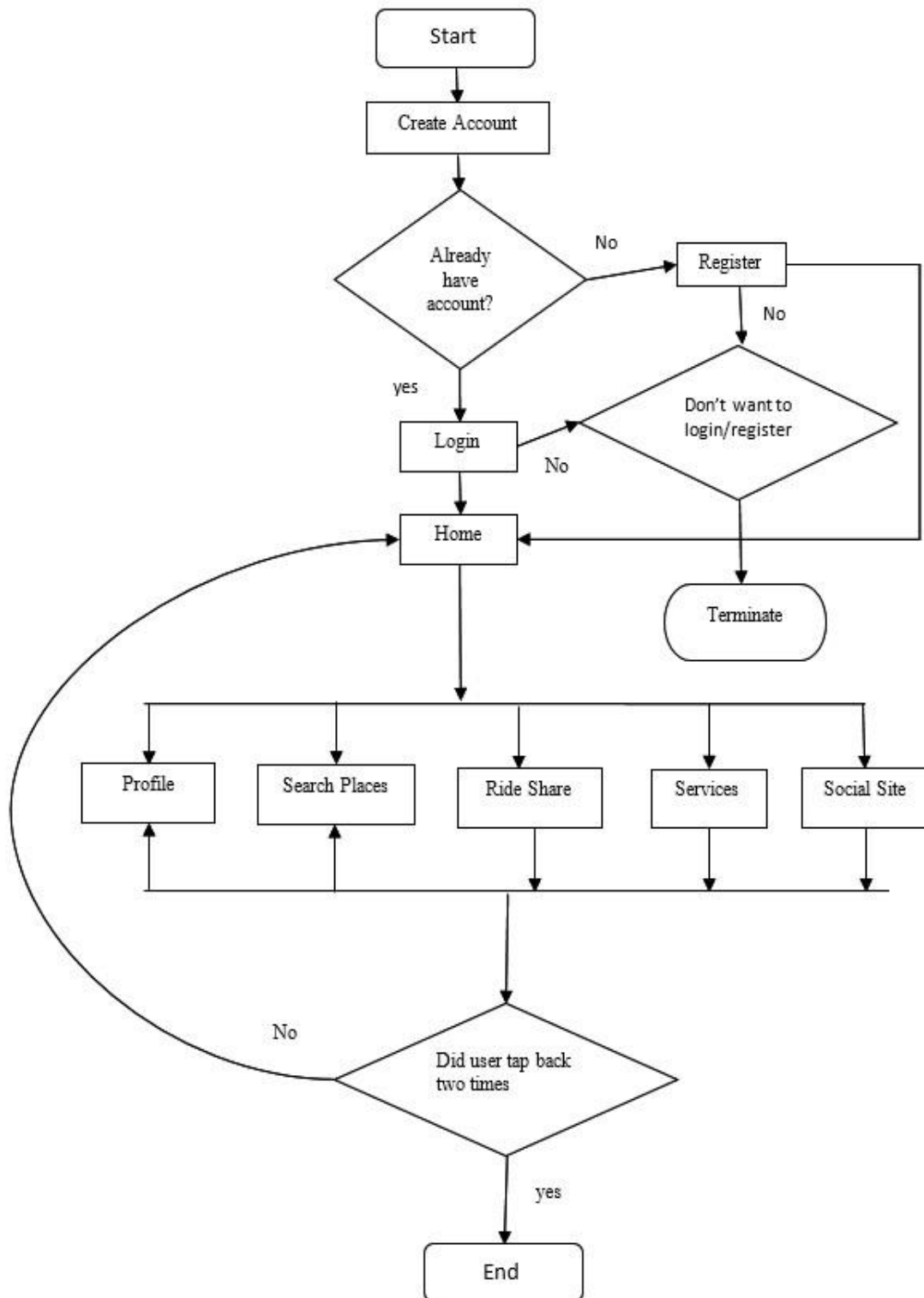


Figure 3.2: Flow Chart of the System.

3.4 Use Case Modeling and Description

Use case diagram is used to show what a user can do. Which means a user what role will play in a system. Use visualizes the overall steps of a system.

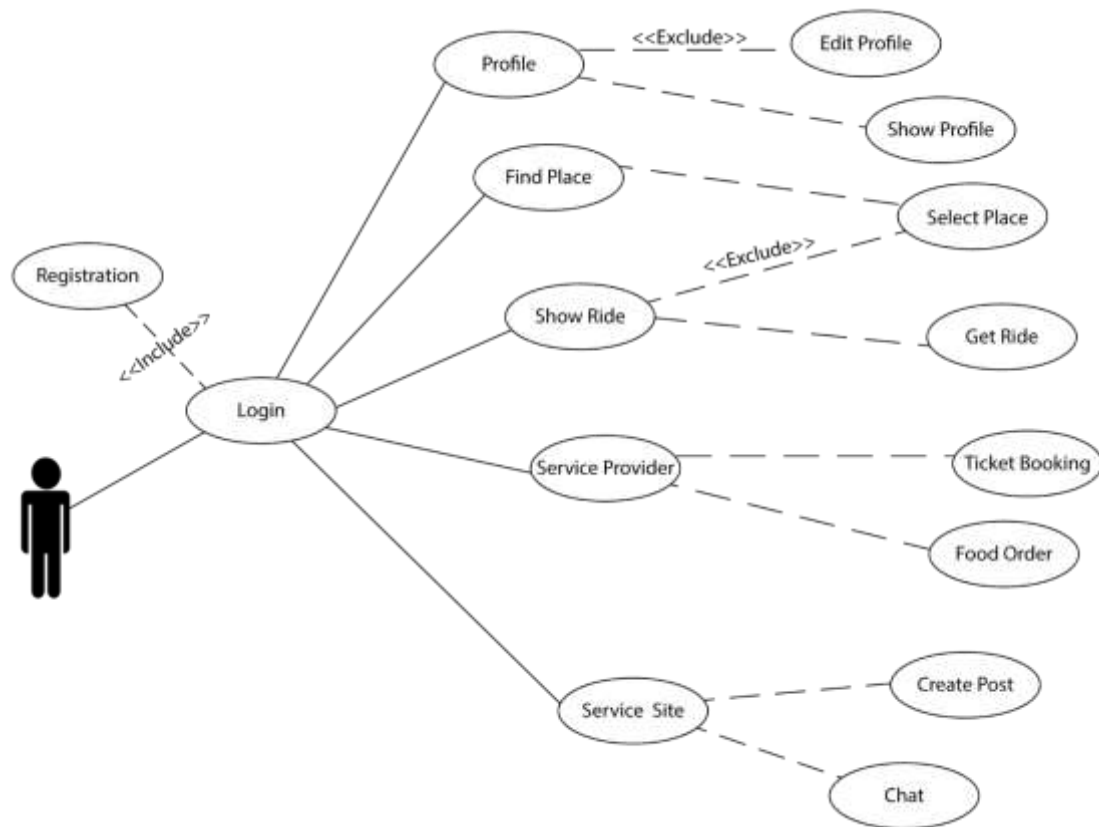


Figure 3.3: Use Case Diagram

In figure 3.3 it has been shown which things can a user do by our system. User can login, register in our system. After login user will be able to navigate through the overall features.

3.5 Design Requirements

We followed traditional main method for designing the mobile app.

Design requirements for “{মুঠো-ম্যাপ (Your city Assistant)}” for the user

- Able to sign up
- Login
- View the facilities and features
- Click which or he/she want
- Able to set pickup location and time
- View own profile.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-end Design

The front-end design means that is what we see on the phone's display. When the user use the app they first see the portion. Front-end design is mass sweet ably attractive. Attract to the user apps should be user friendly and mild. Our best tries for the application design user friendly and simply attractive.

We are using XML to design front-end which are Extensible Markup Language. The android OS to push the application that are least used the nearer time.

XML: Extensible Markup Language

Extensible Markup Language (XML) is a markup language which defines a set of rules for encoding documents in a format that is both user readable and machine readable. XML has come into common use of data over the internet.

Using XML we are design our application's Button, Layout, Text view, Images view which is very flexible.

We are showing importance user interface of our apps. After signup/login user will see this UI, it is home page where he/she has option to navigate through all the features of the app.

SVG: Scalable Vector Graphics:

SVG is an XML-based Vector image format for two-dimensional graphics with support for interactivity and animation. SVG image and their behaviors are defined in XML text files. This means that they can be searched, indexed, scripted and compressed. As XML files, SVG images can be and edited with any text editor, as well as with drawing software.



Figure 4.1: Dashboard UI

After signup/login user will see this UI, this home page where user will get option to navigate through all of feature of this app. Which has been shown in the figure 4.1. Here there are



Figure 4.2: Profile UI

Here in the figure 4.2, it is the profile page of user. User can update their name, phone number and also their profile photo using camera or gallery.

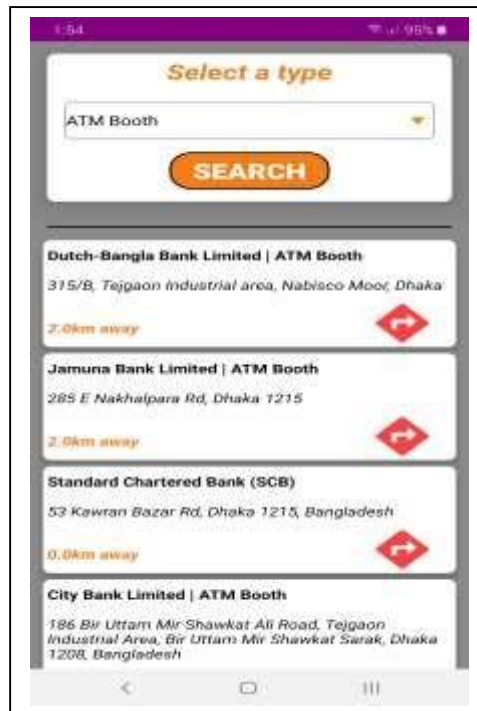


Figure 4.3: Places Search

In the figure 4.3 and 4.4 it has been shown the UI concept for searching places. By using this feature user will be able to find places around his/her current location.

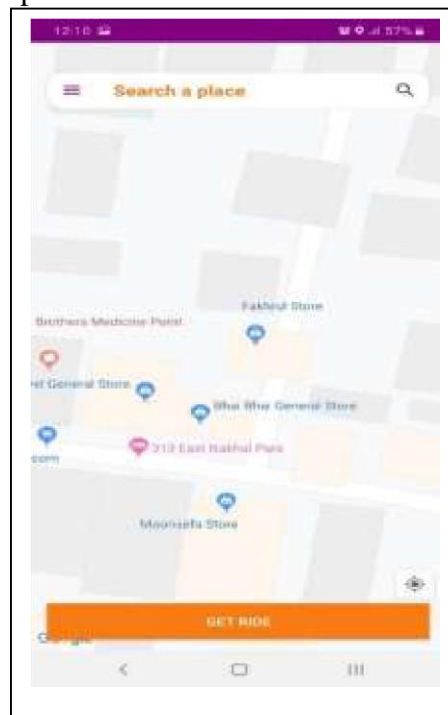


Figure 4.4: Ride Share

In the figure 4.5 and 4.6 it is shown the concept of UI for ride sharing feature of our application. Using this feature our respective users will be able to share a ride for better transportation in a city.



Figure 4.5: Ticket Booking UI



Figure 4.6: Food Ordering

Figure 4.7 and 4.8 are showing the ticket booking and food ordering feature for better options. User will be able to book ticket both single and rounded way. And also, be able to get their meal right in their doorstep.

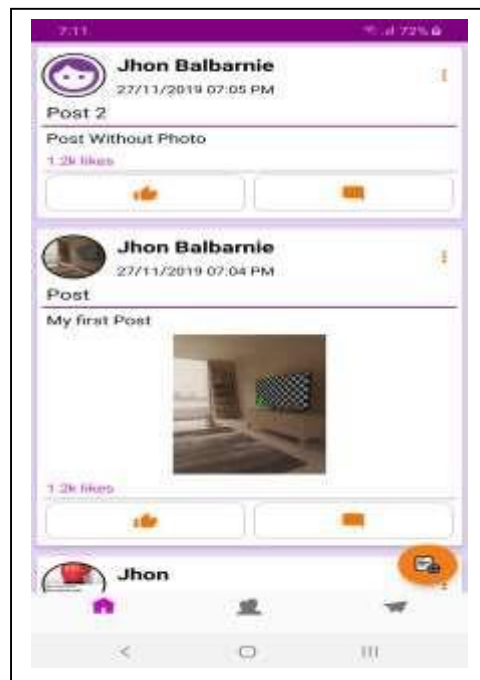


Figure 4.7: Social Site(Home)

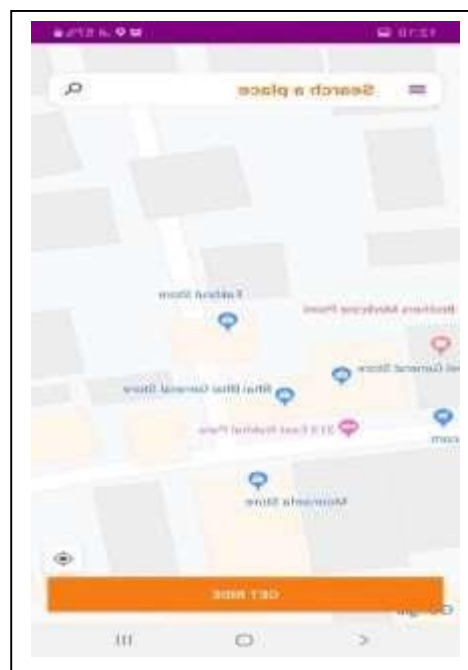


Figure 4.8: Social Site(Friend)

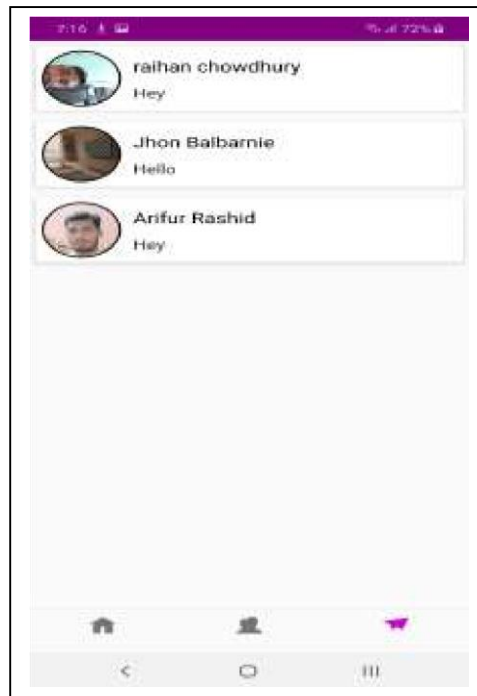


Figure 4.9: Social Site(Chat)

Figure 4.9, 4.10 and 4.11 shows the community feature of our app. This is very important feature because whenever a person goes to a new place, he/she is completely unknown to others. That's why this feature has been kept to make sure our respected user doesn't feel alone or get bored.

4.2 Back-end Design

Back end design of this project is the main effective task for the application. Actually, backend design is the bare bone of this application. It works mainly on the server, application, database works, update maintain. It is not visible to end the user, but its works to support the front end of the application. So, it is essential part for our project. We have used Java for our back-end design and also used firebase for real time data parsing.

4.2.1 Java:

Java is a general-purpose computer-programming language that is concurrent, class-based, object-oriented and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers “Write once, run anywhere” (WORA), meaning that compiled Java code run on all platforms that support Java without the need for recompilation. The language derives much of its syntax from C and C++, but it has fewer lowlevel facilities than either of them.

4.2.2 Firebase:

We have used Firebase as our database. Firebase is a real time database by Google. In firebase, data is stored and synced with NoSQL cloud database. Data is synced across all clients in real time Database is cloud-hosted database. Data is stored as JSON and synchronized in real time to every connected client. When we build cross-platform apps with our iOS, Android and JavaScript SDKs, all of our users share one real time data instance and automatically receive with the newest data.

4.3 Interaction Design and UX

The application is built around to look as minimal as possible to stay user-friendly. All ages of users easily use the app without any hindrance. Interaction design is specifically a discipline which examines the interaction between a system and its user via an interface and user experience (UX) design in the process of creating products that provide meaningful and personally relevant experiences.

The first and format requirement is to properly signup after signing up logging in, user will have a home page. Home page will open access other feature and facilities pages.

Overall, the app looks much ripped through everything the services provider and service seeker needs will be present to be fulfilled to their heart content. User experience will be comfortable both in visual and functionally.

4.4 Implementation Requirement

For implementation, we needed suitable info and tools. Which are as follows,

4.4.1 Android Studio

Android Studio is the IDE (Integrated Development Environment) for android operating system. Using android studio, we develop our application.

4.4.2 Android SDK

Android SDK provides the API libraries and development tools necessary to build, test and debug android application. To develop Android application, Android SDK is essential tool. This SDK is very comprehensive tool that contains not only the library for development, but also includes the simulator to test the application.

4.4.3 JAVA Development Kit (JDK)

JDK is an implementation of either of the Java SE, Java EE or Java ME platforms.

4.4.4 Firebase Database

Firebase is Google's own invented cloud-based no-sql database. Which works in JSON format. And provides JSON tree. It stores data as JSON tree. This database is very fast and secured and easy to use when it comes in terms of parsing data. Also, firebase is very lightweight. Firebase database also works in offline period. It stores data in local memory to store changes of states and it synchronizes those chunks of data whenever the device comes in online.

4.4.5 Collection of Information

In this section it has been described how we actually collected the information. Collection of information is very important because it is directly related with the software development.

- Browse internet for necessary information, software and documentations.
- Observation of mobile trends.

CHAPTER 5

IMPLEMENTATION AND TESTING

In this chapter, we describe how we implemented the project. Both front-end and back-end. After the implementation description, we will describe the testing process like how we tested the application and what is the process we followed.

5.1 Implementation of Database

The implementation phase is when the developer installs the Database Management System (DBMS) on the required hardware, optimize the database to run best on that hardware and software platform and create the database and load the data. The initial data could be either new data captured directly or existing data imported from a DBMS. The developer can establish database security and give the various users that the developer has identified access application to the requirements. Implementation of the database is as per our early stated description. We built the system matching the dynamic inter-link between the entities to have a stable web of inner dataflow.

5.1.1 Database design

We have used Firebase as a data manager to store data in our android application. When a user makes sure a searching place, rideshare, service like food delivery, etc. post, it immediately appears to the registered organization application. There is no need to refresh the application. If we used MYSQL server instead of the firebase, we cannot get the benefit of the real-time database, which means we have to refresh the application, again and again, to get updated the application. For getting the benefit of the real-time database, we have used firebase in our project. We have attached some screenshots of the back-end database of our project.

Here in Figures 5.1 and 5.2. We show-case examples info in a database for the application.

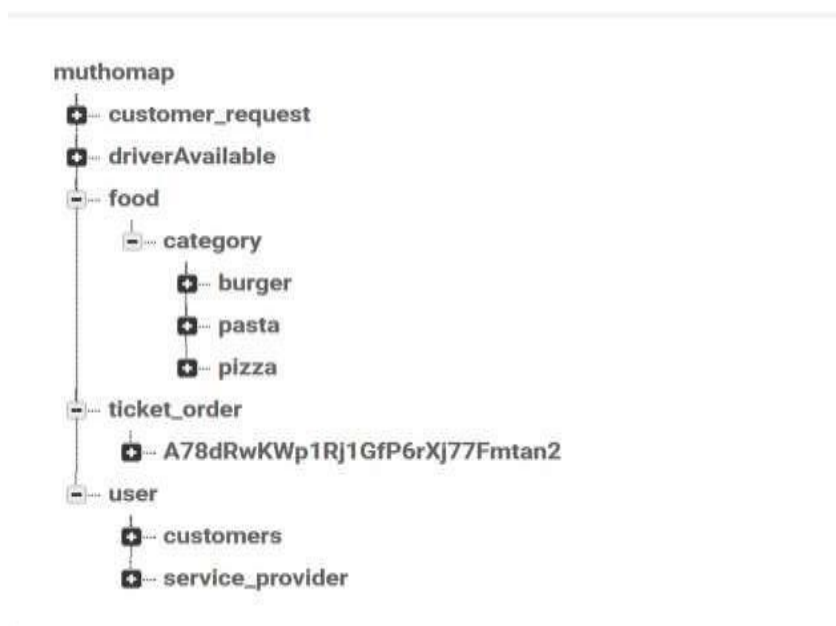


Figure 5.1: Firebase Data Base


```

apply plugin: 'com.android.application'
apply plugin: 'com.google.gms.google-services'

android {
    compileSdkVersion 29
    defaultConfig {
        applicationId "com.example.authmap"
        minSdkVersion 17
        targetSdkVersion 29
        versionCode 1
        versionName "1.0"
        testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
        vectorDrawables.useSupportLibrary = true
    }
    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
    compileOptions {
        sourceCompatibility = 1.8
        targetCompatibility = 1.8
    }
    buildToolsVersion = "29.0.3"
}

dependencies {
    implementation fileTree(dir: 'libs', include: ['*.jar'])
    implementation 'androidx.appcompat:appcompat:1.1.0'
    implementation 'androidx.constraintlayout:constraintlayout:1.1.3'
    implementation 'androidx.legacy:legacy-support-v4:1.0.0'
    implementation 'androidx.lifecycle:lifecycle-extensions:2.1.0'
    //noinspection GradleCompatible
    implementation 'com.android.support:design:28.0.0'
    implementation 'com.google.firebase:firebase-auth:19.1.0'
    implementation 'com.google.firebase:firebase-database:19.1.0'
    implementation 'com.google.firebase:firebase-storage:19.1.0'
    implementation 'com.google.android.gms:play-services-maps:17.0.0'
    implementation 'androidx.vectordrawable:vectordrawable:1.1.0'
    implementation 'androidx.navigation:navigation-fragment:2.1.0'
    implementation 'androidx.navigation:navigation-ui:2.1.0'
    testImplementation 'junit:junit:4.12'
    androidTestImplementation 'androidx.test:runner:1.1.0'
}

```

Figure 5.4: Front-end-XML (1)

```

dependencies {
    implementation fileTree(dir: 'libs', include: ['*.jar'])
    implementation 'androidx.appcompat:appcompat:1.1.0'
    implementation 'androidx.constraintlayout:constraintlayout:1.1.3'
    implementation 'androidx.legacy:legacy-support-v4:1.0.0'
    implementation 'androidx.lifecycle:lifecycle-extensions:2.1.0'
    //noinspection GradleCompatible
    implementation 'com.android.support:design:28.0.0'
    implementation 'com.google.firebase:firebase-auth:19.1.0'
    implementation 'com.google.firebase:firebase-database:19.1.0'
    implementation 'com.google.firebase:firebase-storage:19.1.0'
    implementation 'com.google.android.gms:play-services-maps:17.0.0'
    implementation 'androidx.vectordrawable:vectordrawable:1.1.0'
    implementation 'androidx.navigation:navigation-fragment:2.1.0'
    implementation 'androidx.navigation:navigation-ui:2.1.0'
    testImplementation 'junit:junit:4.12'
    androidTestImplementation 'androidx.test:runner:1.1.0'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.1.0'
    implementation 'com.google.android.material:material:1.0.0'
    implementation 'androidx.cardview:cardview:1.0.0'
    implementation 'com.squareup.picasso:picasso:2.71828'
    implementation 'com.google.android.libraries.places:places:2.0.0'
    implementation 'com.google.android.gms:play-services-location:17.0.0'
    implementation 'com.firebase.geofire:java:3.0.0'
    implementation 'com.github.mancj:MaterialSearchBar:0.9.2'
    implementation 'com.google.android.libraries.places:places:2.0.0'
    implementation 'com.github.bumptech.glide:glide:4.10.0'
    implementation 'com.firebaseui:firebase-ui-database:5.1.3'
    implementation 'com.firebaseui:firebase-ui-database:5.0.2'
    //noinspection GradleCompatible
    implementation 'com.android.support:design:28.0.0'
    implementation 'androidx.recyclerview:recyclerview:1.1.0-rc01'
    implementation 'androidx.cardview:cardview:1.0.0'
}

```

Figure 5.5: Front-end-XML (2)

5.3 Implementation of Interaction

The user interface of the application has been kept in the most user-friendly state so that the user can find it more useful. All the colors that we used are used carefully so that the user doesn't find any problem in the eye while using it. All the buttons and other interface materials are kept in the right position so that users find it more attractive.

5.4 Testing Implementation

To check whether the application is stable and fully functional or not tested the software periodically at a duration of time. We also tested the software when we were building it. For now, the application is working well. And we are hoping that it will work good in the future too. Also, it is to be noted that, our application is almost ready to face the market at this moment.

While it will face the real users' expectations, we will keep monitoring the applications so that the user can find a flawless software right in their hand.

5.5 Test Result and Reports

We tested the app from both the admin and user point of view. Our application was well good enough and passed those tests. We also used white and grey box testing. While white-box testing had been done by us and grey-box testing by friends and family.

Table 5.1: Test Results for Admin

| Test Cases | Expected Output | Observed Output | Result |
|--|---|--|--------|
| Admin should see database | Admin can see database online | When the user logs in admin notices that | pass |
| Admin should edit data | Admin is able to edit data | Edited data successfully | Pass |
| Admin should be able to delete data | Admins are able to delete data | Data deleted successfully | Pass |
| Admin should be able to post data on database manually | Admins are able to inject data manually | Data injected manually | pass |

In the above Table 5.1 it is shown what an admin can do and their role in the project. An admin can modify database like adding, deleting and injecting data in the database.

Table 5.2: Test Cases and Results for Users

| Test Cases | Expected Output | Observed Output | Result |
|---|------------------------------|--|--------|
| User should be able to register and log in | User can register and log in | User successfully registered and logged in | Pass |
| User should be able to update profile | User can update profile data | User updated data successfully | Pass |
| User should be able to search places | User can search for places | User searched places successfully | Pass |
| User should be able to get a ride | User can get ride | User successfully searched for ride | Pass |
| User should be able to get the other services | User can get the services | User successfully used the services that are provided by the app | pass |

In the above Table 5.2 it is shown what a user can do and their role in the project. An user can able to navigate through the all activity of the app. User can log in, update profile, get ride, and using other services.

CHAPTER 6

CONCLUSION AND FUTURE SCOPES

6.1 Summery

In our proposed system we used various tools. Our developed system (মুঠো-ম্যাপ) is very user friendly. During the development process we faced lots of problems and also, we had limitations. We tried to solve the problems. We used various books and documentations. Though we could not complete some features because of time limitations. But we tried to visualize the overall project using proper diagrams, use-cases, business process model. For now, the developed system works perfectly.

6.2 Conclusion

By the grace of ALLAH, we have successfully completed our development project. During the development of this project we have started to learn the principle of android application. Especially we had to learn JAVA and Android Studio. By working with all of these methods and technologies, we have extended our sight into new innovation.

The proposed system is developed with the combination of above stated which will lead the user to use a community service app hassle free. This application runs smoothly with the minimum 3G data environment.

6.3 Future Scope

For now, our application will cover only few places. But in near future this application can be implemented for world wide. Also, some other attractive feature can be implemented through this application. Such as,

- Paying utility bill using this app.
- People can book any type of ticket booking using this application.
- Corporate meeting and other staffs can be organized using this application.

Above all, there is a big scope for this application idea to be a heavyweight killer like google if some of government provides support. If our idea and implementation get's support one day it may build up its own database of Places and control other features.

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APPENDIX

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