

NEARBY NEEDS: DEVELOPMENT OF AN ANDROID BASED APPLICATION

BY

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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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DECEMBER 2019

APPROVAL

This Project titled “Nearby Needs: Development of an Android Based Application”, submitted by Md. Erfan Alam Emon, ID No: 161-15-6796 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 6th December, 2019.

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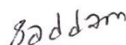
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DECLARATION

I hereby declare that, this project has been done by me under the supervisor of **Anup Majumder, Lecturer, 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.

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I really grateful and wish my profound my indebtedness to **Anup Majumder, Lecturer**, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of "*Android Application Development*" to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior draft and correcting them at all stage have made it possible to complete this project.

I would like to express my heartiest gratitude to **Dr. Syed Akhter Hossain**, Professor, and Head, Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

I would like to thank my entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, I must acknowledge with due respect the constant support and patience of my parents.

|

ABSTRACT

This project is about Nearby Needs: Development of an Android Based Application. This project helps to find nearby restaurants, schools, colleges, universities. This project also offers some opportunities which will help users to find the nearby restaurant food items', school's, college's, university's, hospital's information. So, for the better suggestion system we developed our project based on android application that will help the users a lot. This project will help to decrease the wastage of time of the users to find nearby restaurants, schools, colleges, universities inside Dhaka city and also may be outside Dhaka in future. Mostly users are not willing to waste their valuable times. But my project will bring a cool solution for them.

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CHAPTER 1

Introduction

1.1 INTRODUCTION

The important thing in this world is getting comfortable life. Today we have many people in our country. Most of the people want to lead a comfortable life. On the other hand, it is known as an over populate and crowded city in the world. For this reason, peoples are suffering from confusion about in which restaurant they can get their preferred food items and their nearby schools, colleges, universities. To solve this problem, my application will suggest the nearby restaurants and cafes of users' area and nearby schools, colleges, universities, mosques, hindu temples, churches, hospitals, fire stations, shopping malls, gyms, parks, movie theaters.

1.2 MOTIVATION

The motivation to work in this project is actually our real-life experience. I remembered that, when I came to the Dhaka city first time, I faced that kind of problem. I didn't understand where I can get my deserved food items of restaurants and how can I find nearby schools, colleges, universities and hospitals without google map. After that, I also suffered a lot in Dhaka city. For this I am going to make this android application project so that every people can see the nearest food restaurants and cafes in their area and nearby schools, colleges, universities, mosques, hindu temples, churches, hospitals, fire stations, shopping malls, gyms, parks, movie theaters.

1.3 OBJECTIVE

The main objective of this project is

➤ To find nearby restaurants, schools, colleges, universities and hospitals in their android mobile phone comfortably.

➤ To save time.

CHAPTER 2

Background

2.1 INTRODUCTION

Getting suggestion is important for everyone at their daily life. It is a part and parcel in our daily life. People have choose about various things around their area .On the other hands, Dhaka is the densely populated city in the world. Many new peoples come in Dhaka every day for many purposes .Most of them don't know the city. On the other hand traffic jam is the common scenario of Dhaka city. For this reason, most of the people face many problems in traveling inside Dhaka city. They don't know how to go to their destination. They also don't know which transportation system will be suitable for them to go to the destination easily. It makes many confusion, time killing and uncomfortable situation for them. In the base of this thinking we wanted to make an android based application which can solve this problem.

2.2 RELATED WORKS

Some applications are available in other countries. But our country hasn't any other applications similar to my project. Some of that are suggestion based mentioned below.

2.3 COMPERATIVE STUDIES

There are lots of suggestion systems application available in our country such as Places nearby, nearby places, nearby places-find near me, nearby, catch food etc. on the other hand there is also a online map named google map. They have almost same quality application. This systems are helpful. But we have to remember that, peoples are increasing in our country day by day. As a result we have to think another way to make people's comfortable suggestion. So, we thought a very different thinking to solve this problem .

2.4 SCOPE OF THE PROBLEM

As everybody said, peoples face some difficulties to make a decision to find nearby restaurants, schools, colleges and universities inside our Dhaka city.

My current suggestion system isn't as fast as the demand is going. So, I can discuss some problems here;

▣ There are many systems, but this is online based.

▣ People should have a smartphone to take this service.

For that problems, my application offers solutions that will help peoples.

We will look after this from perspectives given below:

For user, helps

1. To get nearby restaurants, schools, colleges, universities faster.
2. Get restaurant's, cafe's, school's, college's, university's, mosque's, hindu temple's, church's, hospital's, fire station's, shopping mall's, gym's, park's and movie theater's address.

2.5 CHALLENGES

Every work has many challenges. As suggestion is my purpose so I have to face several challenges too.

As it is an android based mobile application, so if a student doesn't have an android phone then this app will not help him

CHAPTER 3

Requirement specification

3.1 BUSINESS PROCESS MODELING

In figure 3.1.1, the business process model of the whole project is shown in flow chart [1]

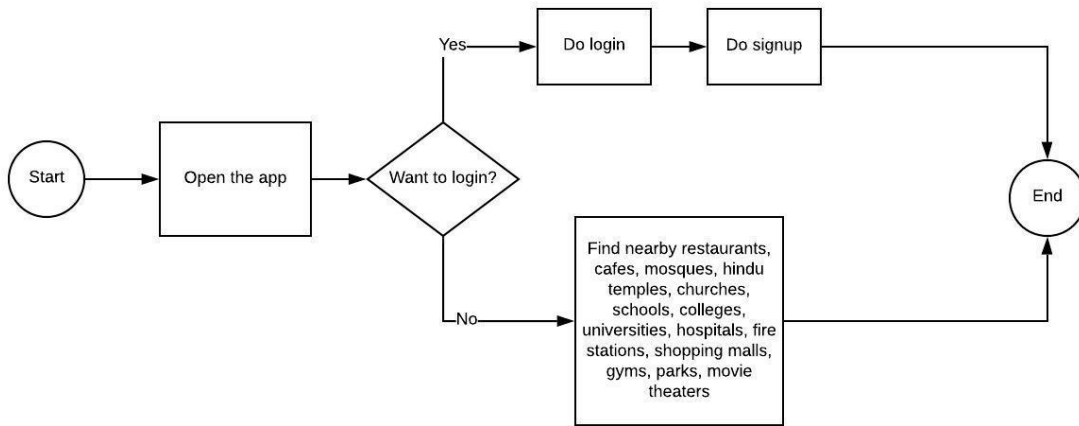


Figure 3.1.1: Business Process Modeling of “Nearby Needs: Development of an Android Based Mobile Application”

3.2 REQUIREMENT COLLECTION AND ANALYSIS

Software Requirements:

- ▣ Users
- ▣ Easy to use for everyone
- ▣ Searching system for the users

Hardware and Software Requirements for our system:

- ▣ XML
- ▣ JAVA
- ▣ Android Studio 3.0.1

3.3 USE CASE MODELING AND DESCRIPTION

In figure 3.3.1, the use case model of the whole project is shown [2]

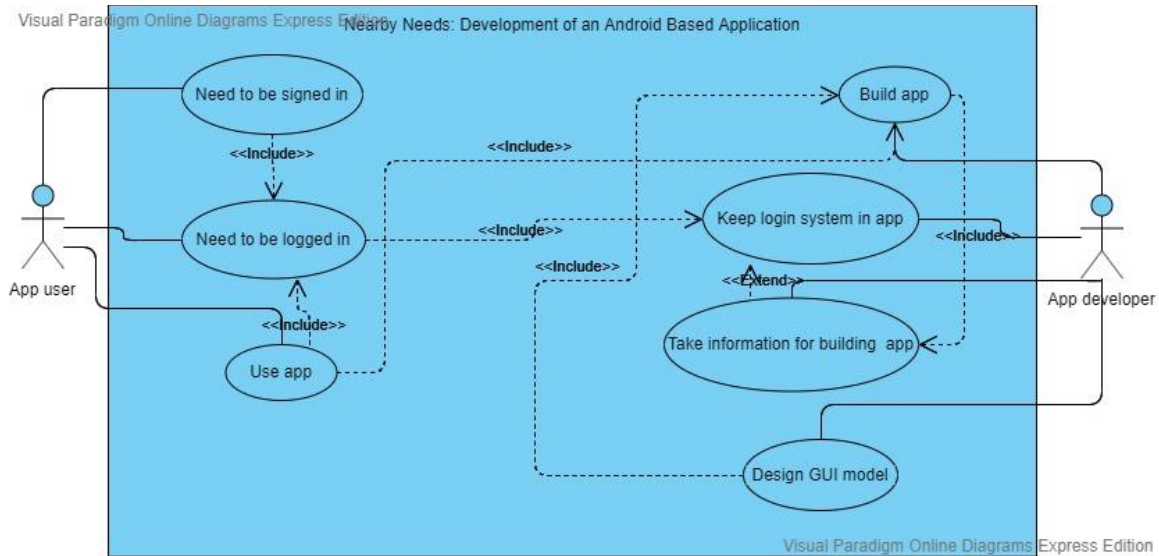


Figure 3.3.1: Use Case Modeling of Nearby Needs: Development of an Android Based Mobile Application

Use Case 1: Use app

Primary Actor: User

Precondition: Actor has android mobile phone or tab

Success Scenario:

1. Actor open the app

Scenario:

1. (a) Internet connection can be disable

Use Case 2: Need to be logged in

Primary Actor: User

Precondition: Actor has connected internet

Success Scenario:

1. Actor go to login page from main login page
2. Actor give email and password for login
3. Actor go to signup page after login process

Scenario:

1. (a) Internet connection can be disable

Use Case 3: Need to be signed in

Primary Actor: User

Precondition: Actor has connected internet and

Success Scenario:

1. Actor go to signup page from login page
2. Actor give first name, last name, email address, new password and confirm new password

Scenario:

1. (a) Internet connection can not be disable

Use Case 5: Build app

Primary Actor: Developer

Precondition: Actor has to have experience about software, programming language

Success Scenario:

1. Actor build the app

Scenario:

1. (a) Time should be managed

Use Case 6: keep login system in app

Primary Actor: Developer

Precondition: Actor should have knowledge of authentication

Success Scenario:

1. Actor put email and password field for app users
2. Actor give the password field show/hidden option

Scenario:

1. (a) Internet connection can not be disabled

Use Case 7: Take information for building app

Primary Actor: Developer

Precondition: Actor should have knowledge of database

Success Scenario:

1. Actor take information in many fields from app users

Scenario:

- 1.(a) Information given by app users should be accurate

Use Case 8: Design GUI model

Primary Actor: Developer

Precondition: Actor has to be creative

Success Scenario:

1. Actor design the interface of the app

Scenario:

1. (a) App layout design should be attractive

CHAPTER 4

Design specification

4.1 FRONT-END DESIGN

In present time, it has been cleared that there is a difference between Photoshop designed and HTML, CSS design. It has become more significant when people start working with JavaScript and jQuery.

4.2 BACK-END DESIGN

In my back-end system, we create the database to store data that the server gets through users. We basically used JAVA for our application development.

4.3 IMPLEMENTATION REQUIREMENTS

The implementations Requirements was given us a very good idea. The main task of this part is to make all the things easier, user friendly. The list of implementation requirements is given bellow:

- Easier to create
- Easier to manage
- Easier to analyses
- Easier to interact
- Dynamic page

CHAPTER 5

Implementing and testing

5.1 IMPLEMENTATION OF AUTHENTICATION

I am using Firebase as the database for this project. As Firebase Authentication provides backend services, easy-to-use SDKs, and ready-made UI libraries to authenticate users to my app, the authentication system of my project is a backend service. It supports authentication using passwords, phone numbers, popular federated identity providers like Google, Facebook and Twitter, and more. Firebase Authentication integrates tightly with other Firebase services, and it leverages industry standards like OAuth 2.0 and OpenID Connect, so it can be easily integrated with your custom backend.

In Figure 5.1.1, we show the implementation of firebase authentication of sign in form in this app [3]

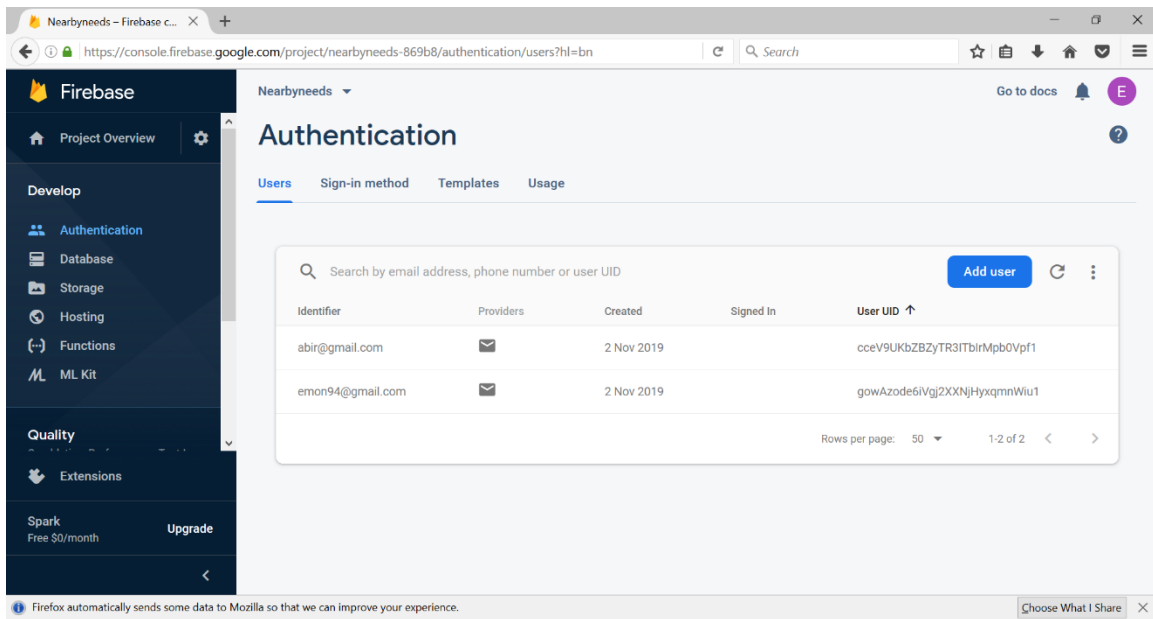


Figure 5.1.1: Firebase Authentication

5.2 IMPLEMENTATION OF FRONT-END DESIGN

In Figure 5.2.1, the app is opening for using with front page

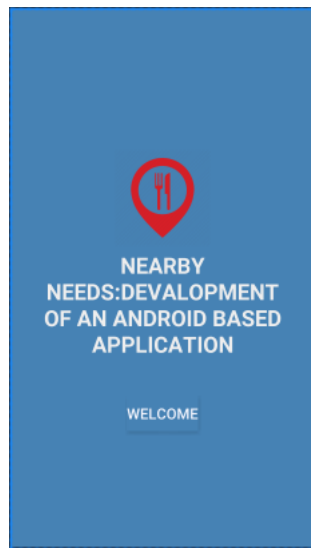


Figure 5.2.1: opening of “Nearby Needs: Development of an Android Based Application”

In figure 5.2.2, Navigation Drawer of Nearby Things, Nearby Eats, Nearby Religious Institutions, Nearby Institutions, Nearby Emergencies, Nearby Necessaries and Nearby Amusements are shown



Figure 5.2.2: Navigation Drawer

In Figure 5.2.3, user location is marked by red marker and nearby restaurants are marked by blue marker

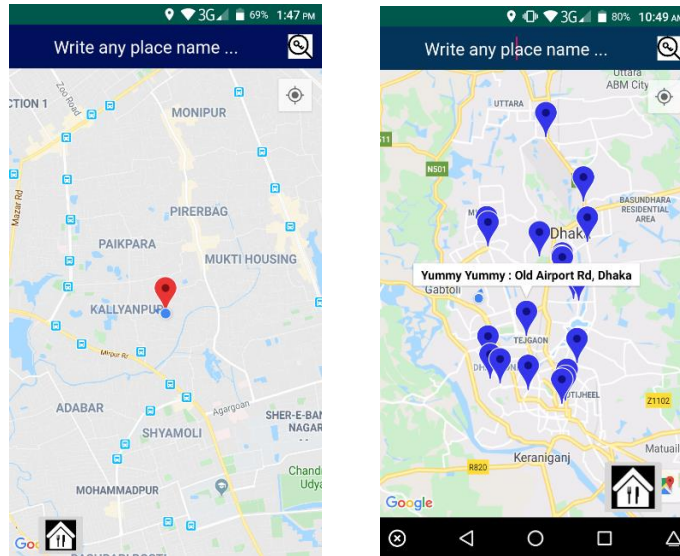


Figure 5.2.3: Searching Nearby Restaurants

In Figure 5.2.4, user location is marked by red marker and nearby cafes are marked by blue marker

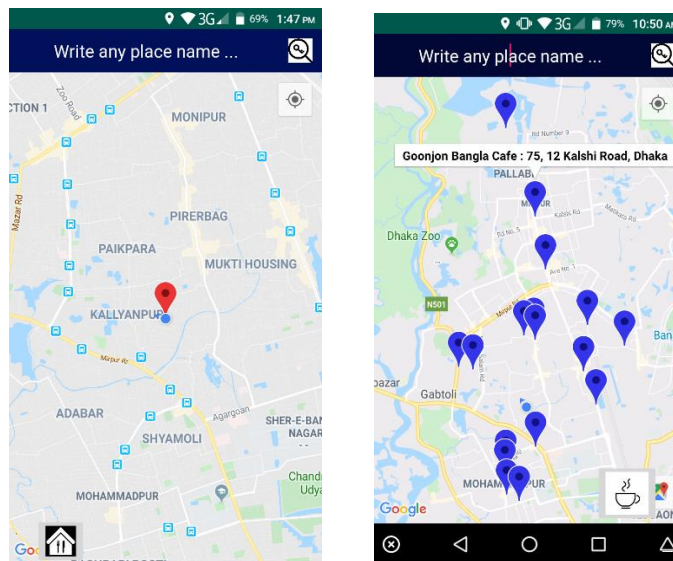


Figure 5.2.4: Searching Nearby Cafes

In Figure 5.2.5, user location is marked by red marker and nearby mosques are marked by green marker

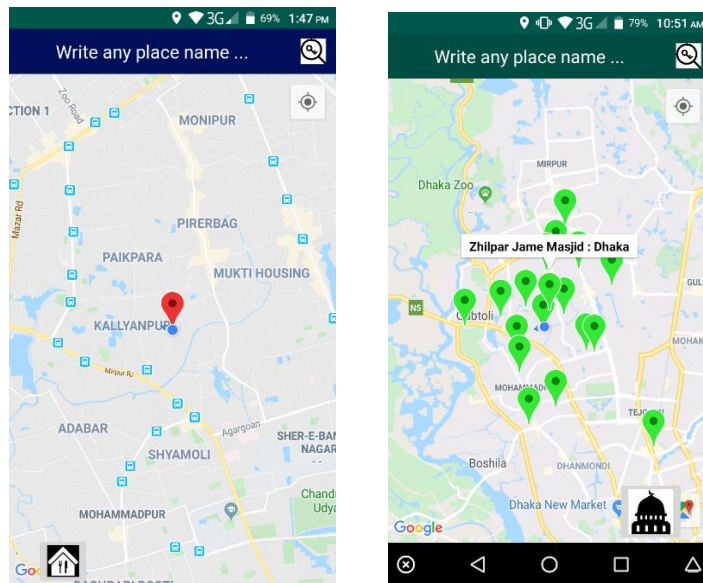


Figure 5.2.5: Searching Nearby Mosques

In Figure 5.2.6, user location is marked by red marker and nearby hindu temples are marked by green marker

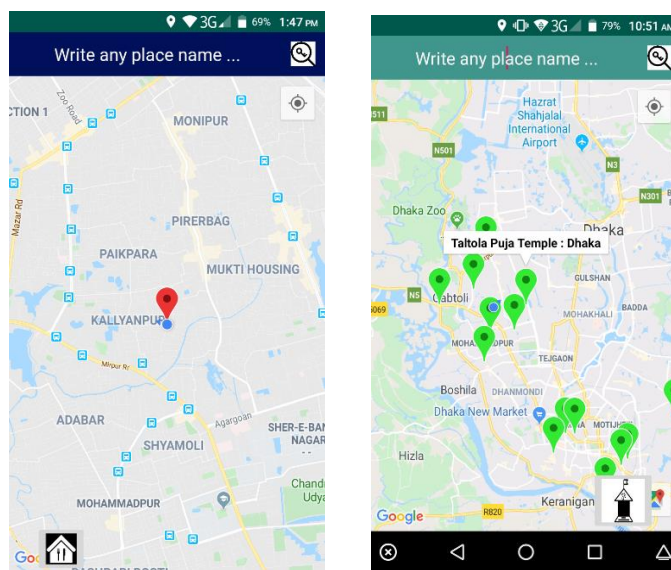


Figure 5.2.6: Searching Nearby Hindu Temples

In Figure 5.2.7, user location is marked by red marker and nearby churches are marked by green marker

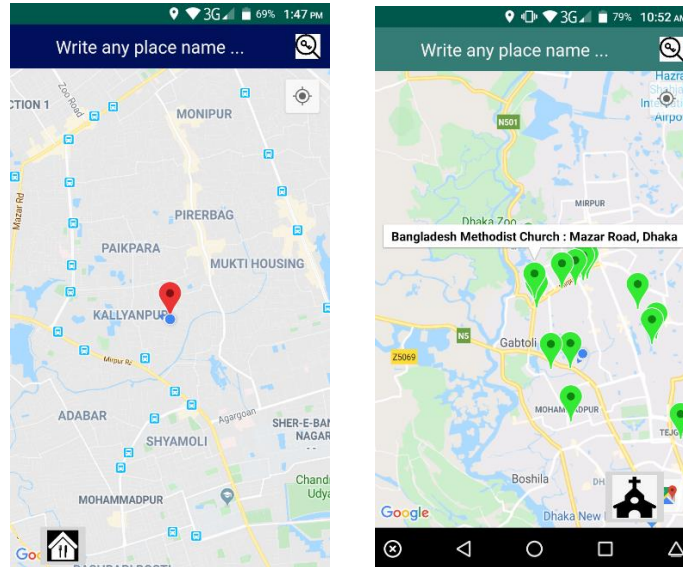


Figure 5.2.7: Searching Nearby Churches

In Figure 5.2.8, user location is marked by red marker and nearby schools are marked by blue marker

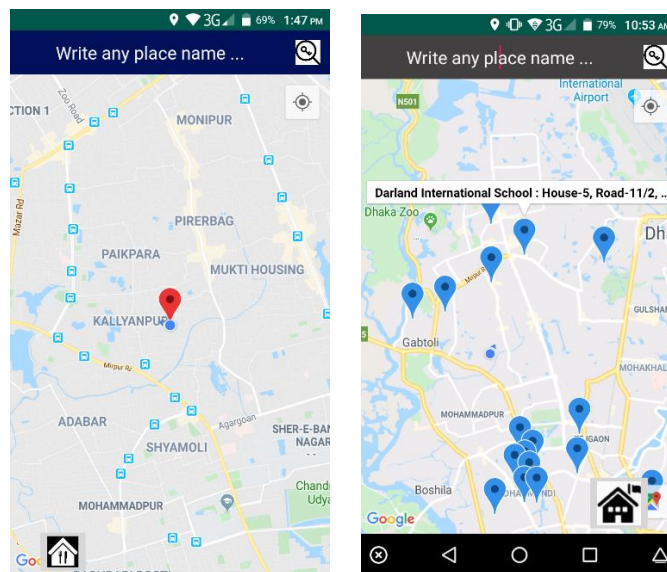


Figure 5.2.8: Searching Nearby Schools

In **Figure 5.2.9**, user location is marked by red marker and nearby colleges are marked by blue marker

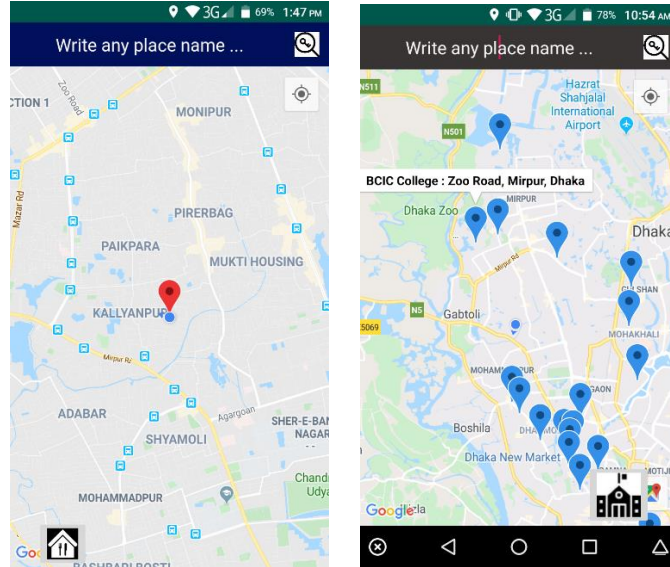


Figure 5.2.9: Searching Nearby Colleges

In **Figure 5.2.10**, user location is marked by red marker and nearby universities are marked by blue marker

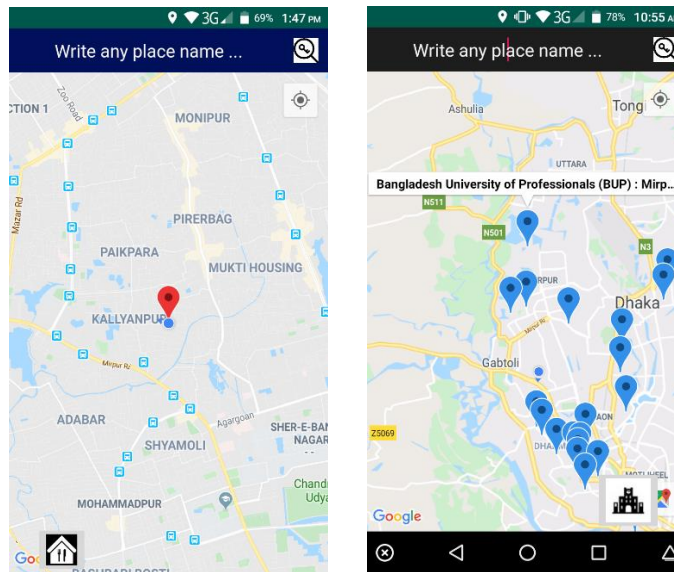


Figure 5.2.10: Searching Nearby Universities

In Figure 5.2.11, user location is marked by yellow marker and nearby hospitals are marked by red marker

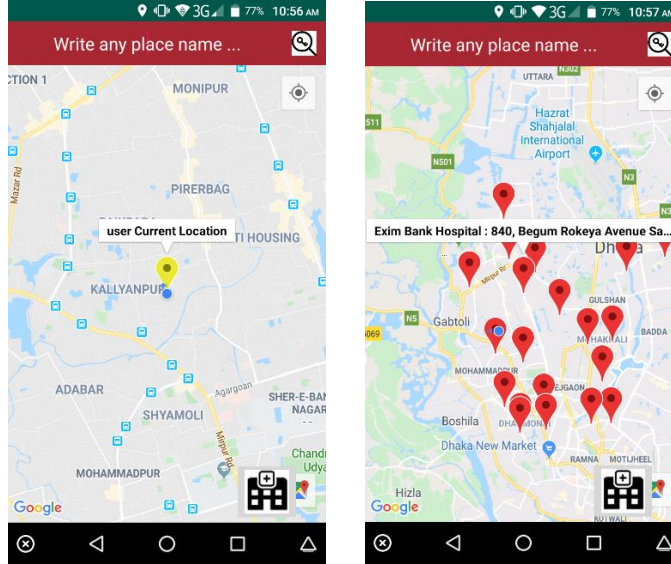


Figure 5.2.11: Searching Nearby Hospitals

In Figure 5.2.12, user location is marked by yellow marker and nearby fire stations are marked by red marker

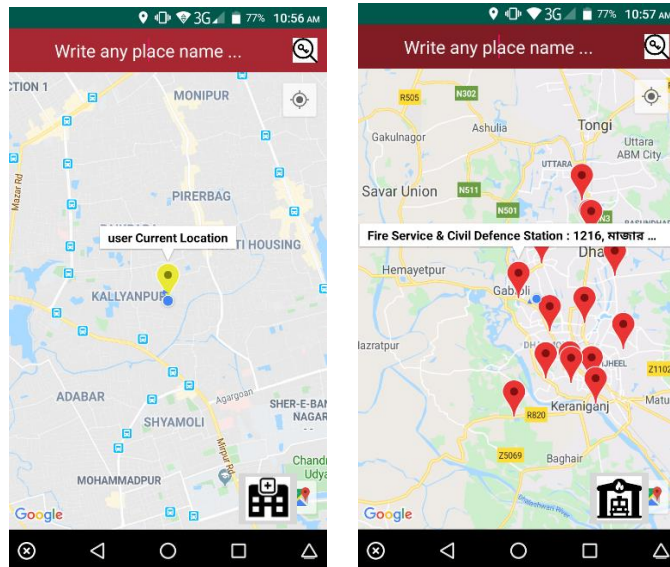


Figure 5.2.12: Searching Nearby Fire Stations

In Figure 5.2.13, user location is marked by red marker and nearby shopping malls are marked by yellow marker

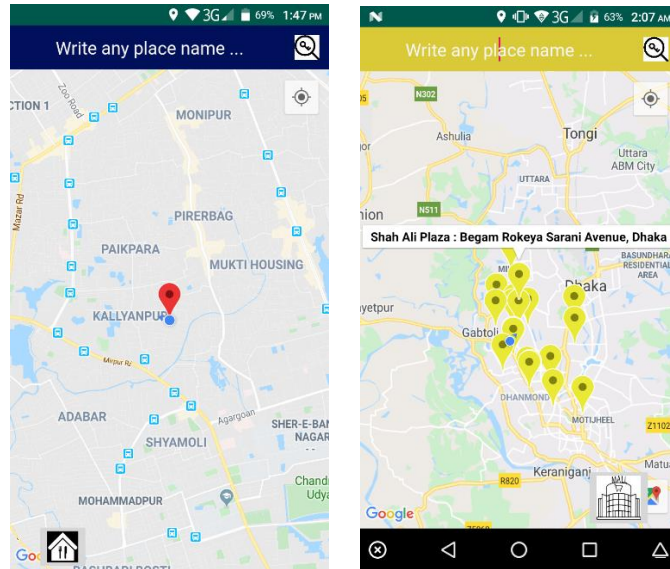


Figure 5.2.13: Searching Nearby Shopping Malls

In Figure 5.2.14, user location is marked by red marker and nearby gyms are marked by yellow marker

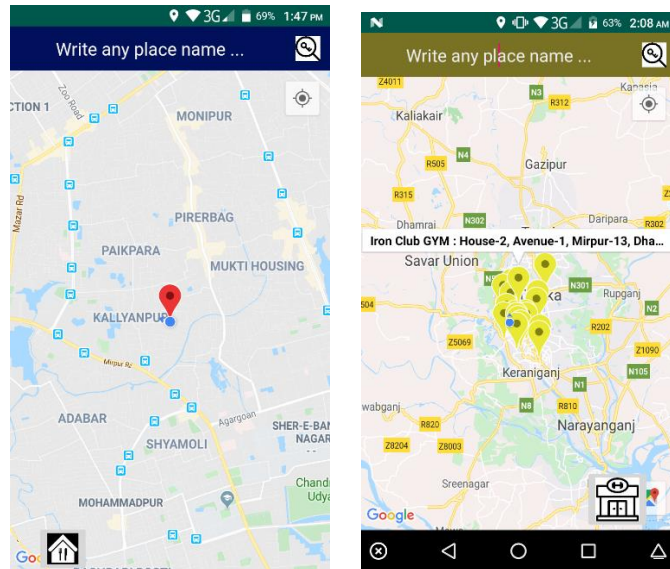


Figure 5.2.14: Searching Nearby Gyms

In Figure 5.2.15, user location is marked by red marker and nearby parks are marked by green marker

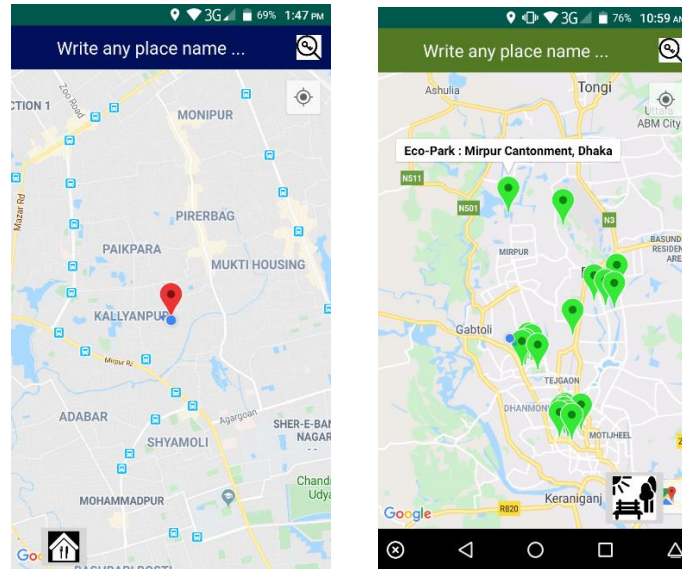


Figure 5.2.15: Searching Nearby Parks

In Figure 5.2.16, user location is marked by red marker and nearby movie theaters are marked by green marker

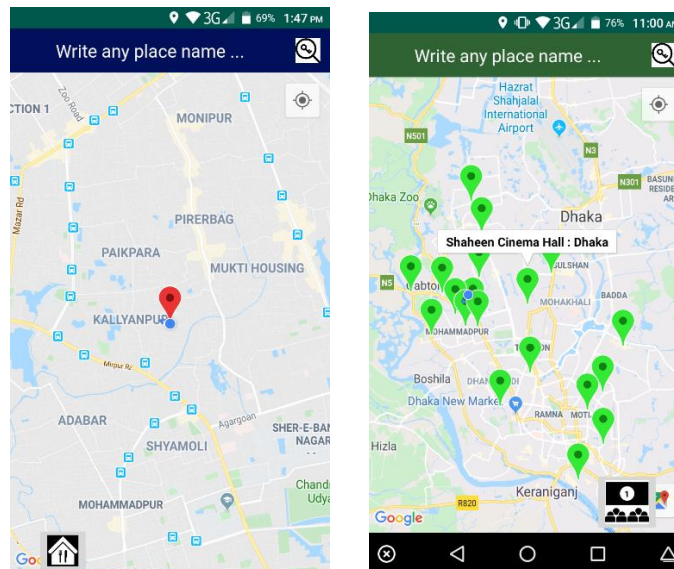


Figure 5.2.16: Searching Nearby Movie Theaters

In Figure 5.2.17, user can search location by clicking on the search icon and that location is being marked by blue marker



Figure 5.2.17: User search location in search field and that location

5.3 TEST RESULTS AND REPORTS

To enhance a system's proficiency of all the tests and integration can be completed through software way where each error can be found and solved. We will be demonstrated screenshots of test results of our system in bellow.

CHAPTER 6

Conclusion and future scope

6.1 DISCUSSION AND CONCLUSION

Easy Nearby Needs: Development of an Android Based Mobile Application is a very exciting topic to work. After going through the work, I have faced many challenging tasks that are surprisingly related to our educational system.

I have done research so many information tools that showed me the direction how to develop my system. I have interacted with the users that what type of problems they were facing. They were happy to take this application as it will give them some relief in modern online era.

I have talked with several teachers, took some guideline that helped me a lot to develop this application. They encouraged a lot to do this project.

Despite everything I achieved, I have faced many challenges to finish this project. After all it's a little bit online based system so in real life people needs to follow the using rules otherwise it's goal will be failed.

It's an innovative idea. The opportunities that provided through this application is huge. We interact with too many regular users, listen their problems, try to understand the communication gap and come up with this application. Hope it will help them a lot.

6.2 SCOPE FOR FURTHER DEVELOPMENT

Nearby Needs: Development of an Android Based Mobile Application is always a changeable system. It develops day by day, getting better and better. Today what's look good is tomorrow becomes old. So, I have to update this system from time to time. It can useable not only for only one city but also for our entire country. To fulfil that goal, I have several ideas to do.

1. I want to develop it for all the users.
2. I want to make this application more suitable, flexible, user friendly, keep update the users time to time.
3. Now it has only restaurant's, cafe's, school's, college's, university's, mosque's, hindu temple's, church's, hospital's, fire station's, shopping mall's, gym's, park's, movie theater's address. But I will add other things address and other features in future .

Reference:

[1] Draw Business Process Modeling flowchart, available at <<<http://www.lucidchart.com/>>>, last accessed on 01-11-2019 at 10:00 PM.

[2] Draw Use Case Modeling, available at <<<https://online.visual-paradigm.com/diagrams/solutions/free-use-case-diagram-tool/>>>, last accessed on 01-11-2019 at

[3] Check Firebase Authentication, available at <<<https://console.firebase.google.com/>>>, last accessed on 31-10-2019 at 10:00 PM.

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