

A Mobile Application for Hospital Information

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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 title, “**A Mobile Application for Hospital Information**” submitted by Md. Minhazul Islam, ID No: 161-15-6948 and Md. Emon Khan, ID No: 161-15-7121 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 7th December 2019.


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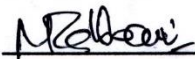
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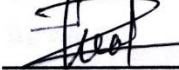
We hereby declare that, this project has been done by us under the supervision of **Masud Rabbani, Lecturer, Department of CSE Daffodil International University**. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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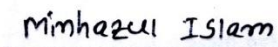
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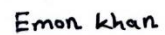


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ABSTRACT

This project entitled, “A Mobile Application for Hospital Information” is an application to provide hospitals information for Bangladesh, which can efficiently and effectively guide the patients. There is a big number of hospitals in our country, and it will increase more in day by day. The users can use this application for different purposes like find information, location, website, emergency number, hospital category, hospital rating, and doctor information in a hospital which normally I could not find in default Google. Even many hospitals have not any website and can't find much important information. Users are find all hospital information easily in this application. This application can help people to save time, and protect life. There is no any related applications in the play store. This project idea is unique and this application will be useful to everyone. Anyone can use this application login with simple Google account.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The Project is an Android based project. This is a great project. Which is developed for find any hospital information easily and effectively. The main motivation behind "A Mobile Application for Hospital Information " is to give a helpful way to find any hospital information. This application can help people to save time. In this project, we have make a simple searching system that can helps people to find any hospital information. We create name wise searching system and location wise searching system that help people to find nearest best hospital for them. We add doctor information, specification, doctor bio-data and phone number for easy appointment to a patient. In our application, user find hospital location easily with Google map .Every user can able to provide rating in a hospital and every user can see this.so ,patients are choose easily to their exact hospital. There are many hospital have not a good website and they can't give location with Google map. In our application, user find hospital location easily with Google map. This application gives a dependable guideline because it's provides the proper information of a hospital.

1.2 Motivation

There are many hospital in Bangladesh. Some are general hospital and some are specialized hospital. Some hospital have many branches and sub branches and their location is different. Many hospital have not any website and can't find their exact location in Google map. Many hospital website quality is very poor and not enough information. Some are privet hospital and some are public hospital and every hospital service is different. In this situation there are many problem to find information for a hospital. For this reason, we think to make an application for the people that will be able to provide proper hospital information, location, doctor information, hospital rating for better service.

1.3 Objectives

- The fundamental objective behind this android application is providing right information about hospital.
- In this application we provide all hospital location through Google map.
- In this application we provide all hospital website, phone number and address
- In this application we add user rating to rate a hospital
- In this application we provides all hospital Category and Specialty.
- We added simple login system through Google account for easily access this application.

1.4 Expected Outcome

- In this application we provide all hospital information that will giving proper guideline for patients.
- Hospital location through Google map will helps people to find a hospital easily.
- Hospital website, phone number and address will helps people easily contact and know information.
- Hospital Category and Specialty will helps people to find specific hospital.
- In this application we add user rating system that helps people to find their best service.
- This application will helps people to decision making.

Chapter: 02

BACKGROUND

2.1 Introduction

A hospital is a health care institution providing patient treatment with specialized medical and nursing staff and medical equipment[1]There are a lot of hospital in Bangladesh and all hospital service and category is differ from another. Our country is developed day by day and number of mobile phone are increasing. People using technology in every sector. When anyone search any hospital they can't find exact result of this hospital location, website, and emergency number and doctors details. In this situation people face many problem to arrive in a hospital and find any information. Our application " A Mobile Application for Hospital Information " helps them to find exact hospital information.

2.2 Related Work

There are many hospital and doctor finder application in the world and Google map also give hospital location. But in Bangladesh no application give exact and all details information. Here we discussed about an application which some features are related with our application. "BD hospitals" is a application. From this app anyone can easily find their destination hospital, emergency ambulance number and phone number. In the application you will find top popular hospitals in Bangladesh [2].Figure 2.1 we showed the user interface screenshot of "BD Hospital" application. In the figure 2.1 we give a related application user interface. This application have little similarity with our application. In BD Hospital application they provide some Hospital Information within Dhaka city. They just give some hospital name, address and phone number. This application is not fully developed. They use a few number of hospital information in their application and their information is not enough. In our application we try to provide all kind of important information in our application.

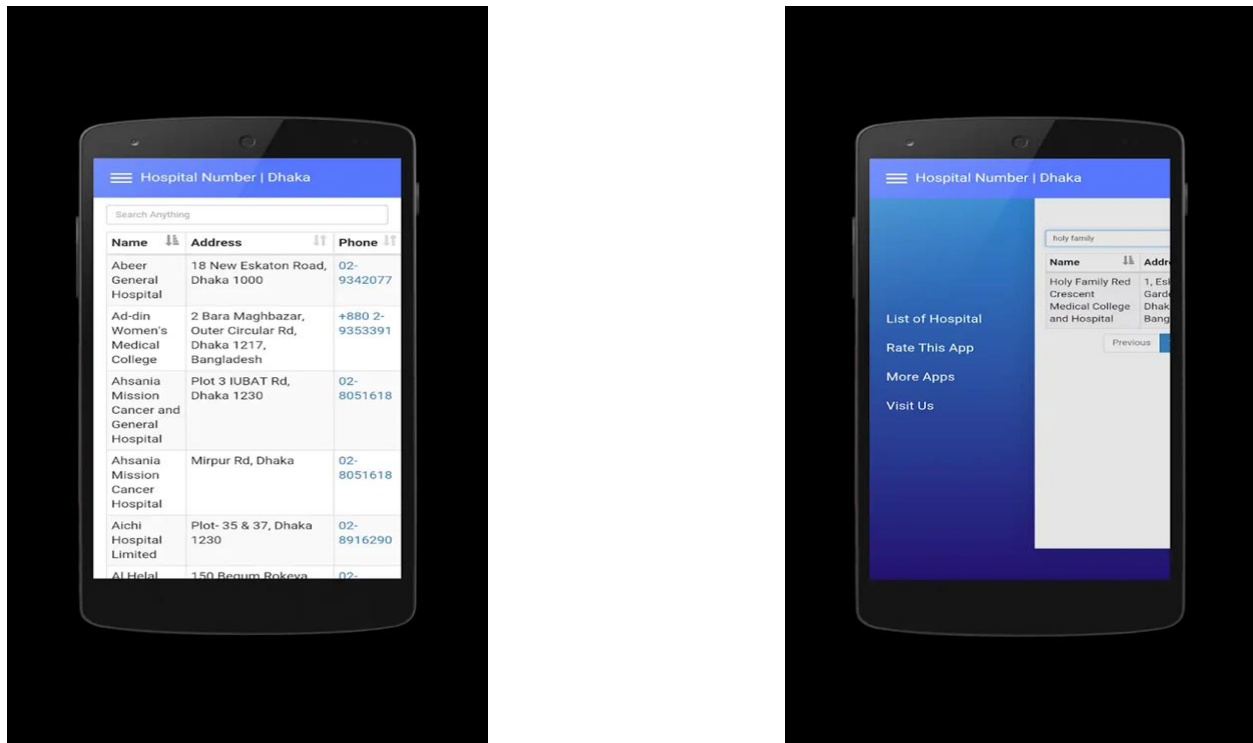


Figure 2.1: user interface screenshot of "BD Hospital" application

In this figure 2.1 show the user interface of “BD Hospital” application. This application shows some related information with our application.

2.3 My Project Work

We wanted to make a project that gives hospital information within Bangladesh. There are some application in play store that gives some specific information. We wanted to add some extra and helpful features for help to patients. We provide nice user interface for easy use. Our project is basically android application project for this reason we use Java and XML programming language and firebase. Our front page is fully made by XML. In our project there are a database part and we use firebase to save data In our project we want to add all hospital in Bangladesh but our time is limited. In this short time, We try to provide hospitals information within Dhaka city. Our project has not much features but if we get time we will try to add some extra features.

2.4 Comparative Studies

There are some application in play store those applications some features are related to our application. Some applications are completely static. They just used hospital name and some related information to their apps. Some application added location features but they add just a small number of hospital that are not enough. Some application added website and phone number but they are not provide actual phone number and website address. We add user review system but in other application we don't see this kind of features.

2.5 Scope of Problems

First of all, this apps is user friendly and easy to use. We see other related applications from play store but they are some problem. We think that our application will be helpful from all kind of people. We have many scope to improve our application. We want to improve our application day by day and we will tried to add some extra features. Now the number of mobile phone user is 154 million and most of them use android phone. So, we tried to develop something that will be useful and helpful for everyone. This application will be supported all kind of android device and it give proper information and guideline for a user. This application is secured for everyone. We used a login system through Google account.

2.6 Challenges

When you do something different then you must face some challenges. To complete our project we also face some difficulties. To collect the huge number of hospital information many times we face many challenges. Many hospital exact information we directly not found in their website and Google. We wanted to provide all hospital information in our application. The large number of hospital data collection will be challenging for us. We generally collect data from website and differences resources but many time we can't find actual hospital information. But we don't want to add fake information in our application. For finding real information we spend more time. It is the main challenge of our project.

Chapter: 3

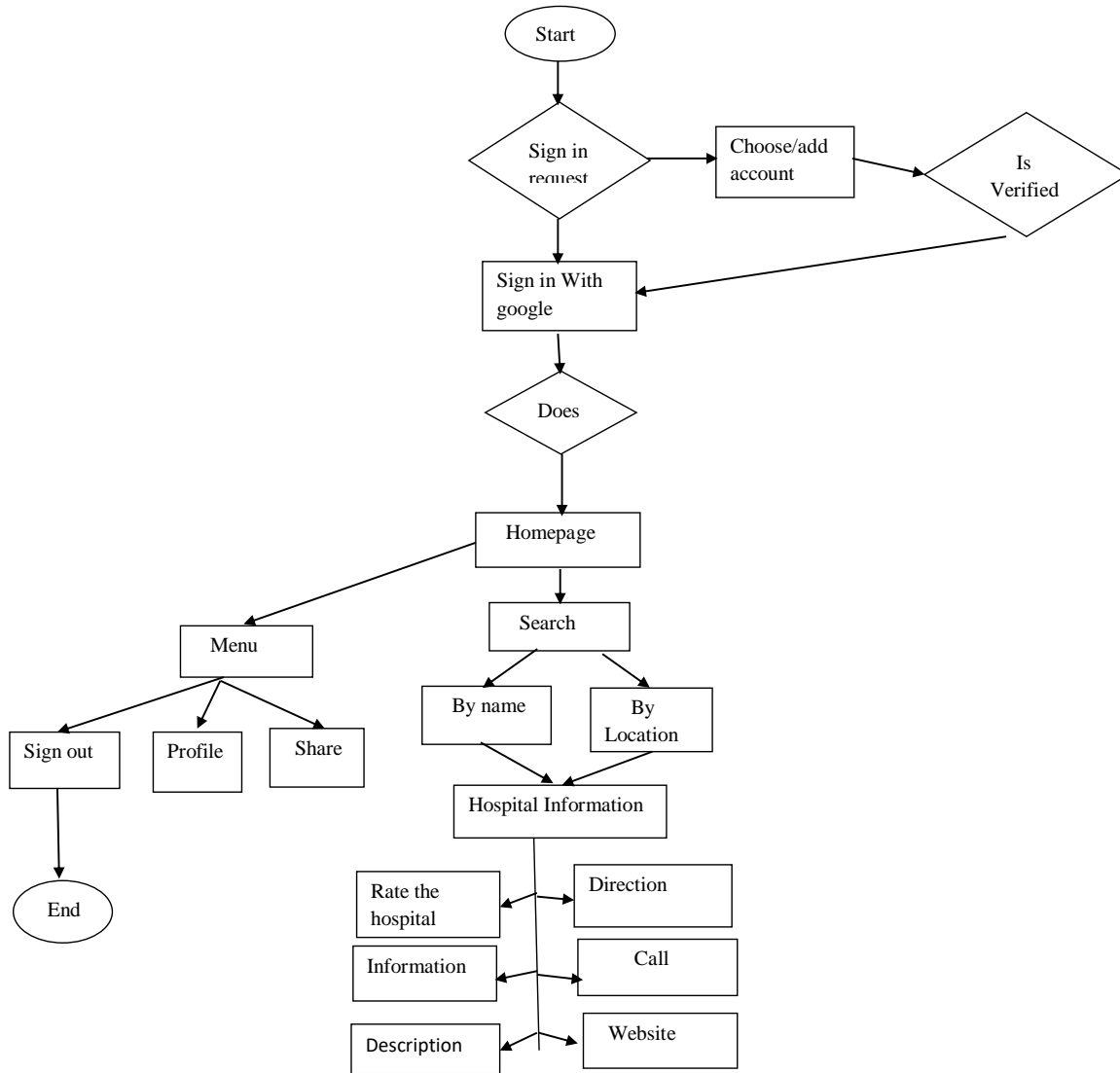
Requirement specification

The requirements specification states what should be done all together for the association to satisfy their motivation. [3]

3.1 Business Process Modeling

Business process modeling notation (BPMN) is a flow chart technique that models the means of an arranged business process from start to finish. A key to Business Process Management, it outwardly portrays a point by point arrangement of business exercises and data streams expected to finish a procedure. [4] Figure 3.1 shows the data flow diagram of BPMN in below. Business process modeling in business process management and systems engineering is the activity of representing processes of an enterprise, so that the current process may be analyzed, improved, and automated. BPM is typically performed by business analysts, who provide expertise in the modeling discipline, by subject matter experts, who have specialized knowledge of the processes being modelled, or more commonly by a team comprising both. Alternatively, the process model can be derived directly from event's logs using process mining tools. [9] The business process is a collection of related, structured activities or tasks that produce a specific service or product for a particular customer or customers. A business process can be decomposed into several sub-processes, which have their own attributes, but also contribute to achieving the goal of the super process. The analysis of business processes typically includes the mapping of processes and sub processes down activity level. [10]

Figure 3.1 show the flow diagram of business process model in our project. In this figure we show a flow chart technique that models the means of an arranged business process from start to finish.



Figur1:
Flow

Diagram of Business process model

3.2 Requirement collection and analysis

Requirement collection and analysis is a necessary section of application development. Requirement collection and analysis helps to manage a project. This can be functional and non-functional requirement analysis is the method of determining user exception in a fresh system. It is a primary condition of any application development. The application software can perform functional requirement activity. Non-functional requirement identify the identity of an application such as efficiency, performance etc.

3.3 Functional Requirement

Functional requirement is related to the technical function of the system .Our system have many functional requirement such as hospitals information search by name, hospital information search by location, hospital rating, find location, find website, direct calling system ,sign in through Google account and maintaining database.

3.4 Non-Functional Requirement

Non-functional requirement is involved to the security, viability, versatility, quality and ease of use. Our application have a great user interface for easy to use. Our application quality is very good to compare with other related application. In our application security system is very good. Our application will supported all kind of android operating system. Only admin can give input and modify information user can be access this application and they will be able to give hospital rating. Our application android operating system based machine with internet and GPS support.

3.5 Use Case

Use case is a diagram that describe how a user manage the system. Use case diagram consists of actors, use cases and their relationship. A single use case diagram captures a particular functionality of a system. It's generally used for user understanding. Figure 3.5 shows the data flow diagram of use case in below.

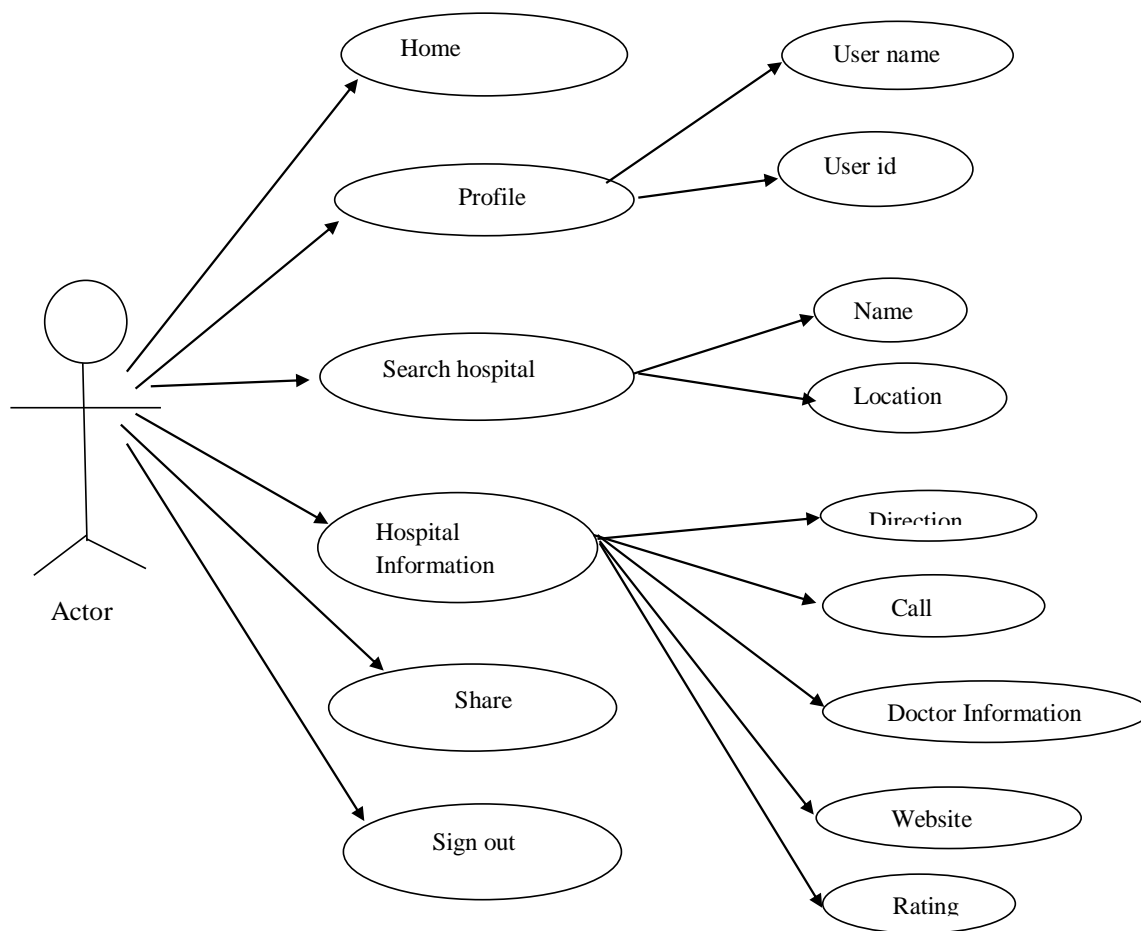


Figure3.2: Use case model of our project

3.6 Logical Data Model

A logical information demonstrate is a fact model of a individual issue space communicated freely of a specific database item or receptivity innovation yet as far as information formations, for example, hospital list. As a Back-end i use core object oriented and Front-end XML. In my application there are database section and firebase as database server. Our application is purpose of finding hospital application. Our application has a database part and in database part we save all user and hospital information.

3.7 Design Requirements

The design requirements for our application will differs from other project. Our project is completely designed for working on some specific problem statement and product, system. We give many requirement. In bellow we discuss some requirement that is important for our application:

- In our application we have use a authentication system. This is a very simple authentication. We use such type of authentication because our application is a public application and we think that this authentication will be easy for them and make them secure. For this reason we make a simple sign in system through Google.
- We have design profile system that display name and user information and show former given rating.
- In our application we make a simple user interface for easy use to the user. In our application we make such kind of user interface that will be easy for all kind of user and they are easily find the information
- In our project we design whole things as a English font and all information and all important code in our application.
- In my application user can search by name and location and through Google map they can see the direction.

Chapter: 4

Design Specification

Design specification is a statement that refer how a design is developed in a project. In the part of design specification section we try to show design off our mobile application. In this part I also discussed about many tools, which we use in our application for development

4.1 Front-end Design

The front-end design is the part that is everything related with including design and some languages. It is the design that the user see when he open the application. Front-end design is the most important part of a project. Front-end design is the part of designing to keep the users interested in the application. Most of the users want a simple user interface for their use. In that case we build a simple user interface for the user in our application. In our project we create two apps one is for user and one is for admin to give input information.

We describe all front-end design part of our project is as follows:

First we add a simple authentication system in our application. That is very simple. When a user opens this apps in the first a authentication page they can see. We provide this authentication through google account that means users are easily sing in in this application through google account. That will be easy and secure for them. We can't add any login or registration page because our application is a public application and it takes more time compare to our authentication system.

In the figure 4.1 shows the front page of our application. In this user interface users will find a simple authentication within google. We tried to design our user interface more easy and simple. We believe that our application user interface will be easy to all kind of people.

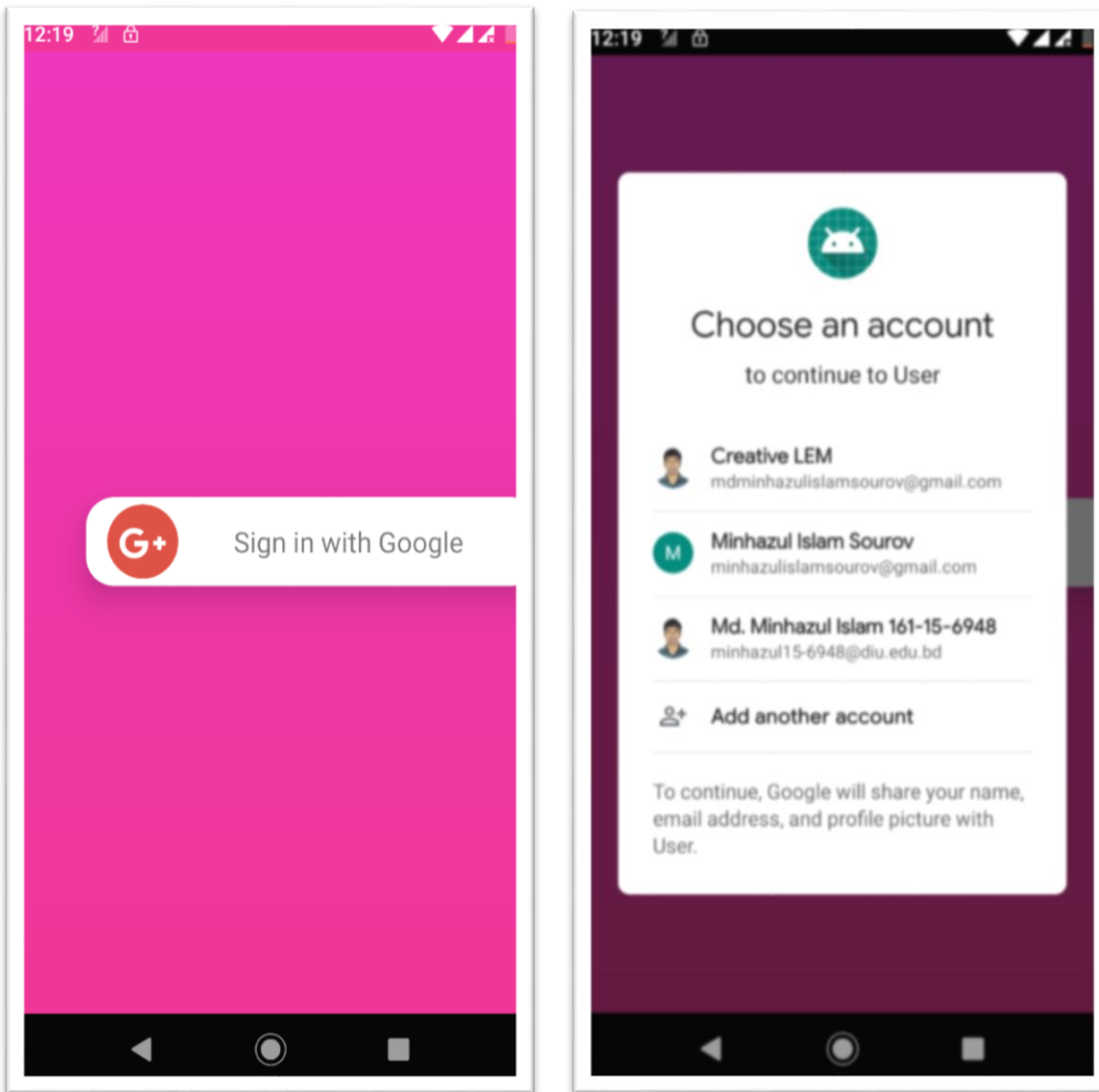


Figure 4.1: A screenshot of authentication part of our project

All user already have a google account and they are easily sign in with this google account for using our application when they want to sign in they click the button sign in with Google then they

find an option to choose an account and they are able to add another account. Our authentication will be more secure than other authentication system. For this authentication all data of a user will be secure. When a user clicks for sign in with google they find other user interface for sign in. In this part they can find an account choosing option for sign in.

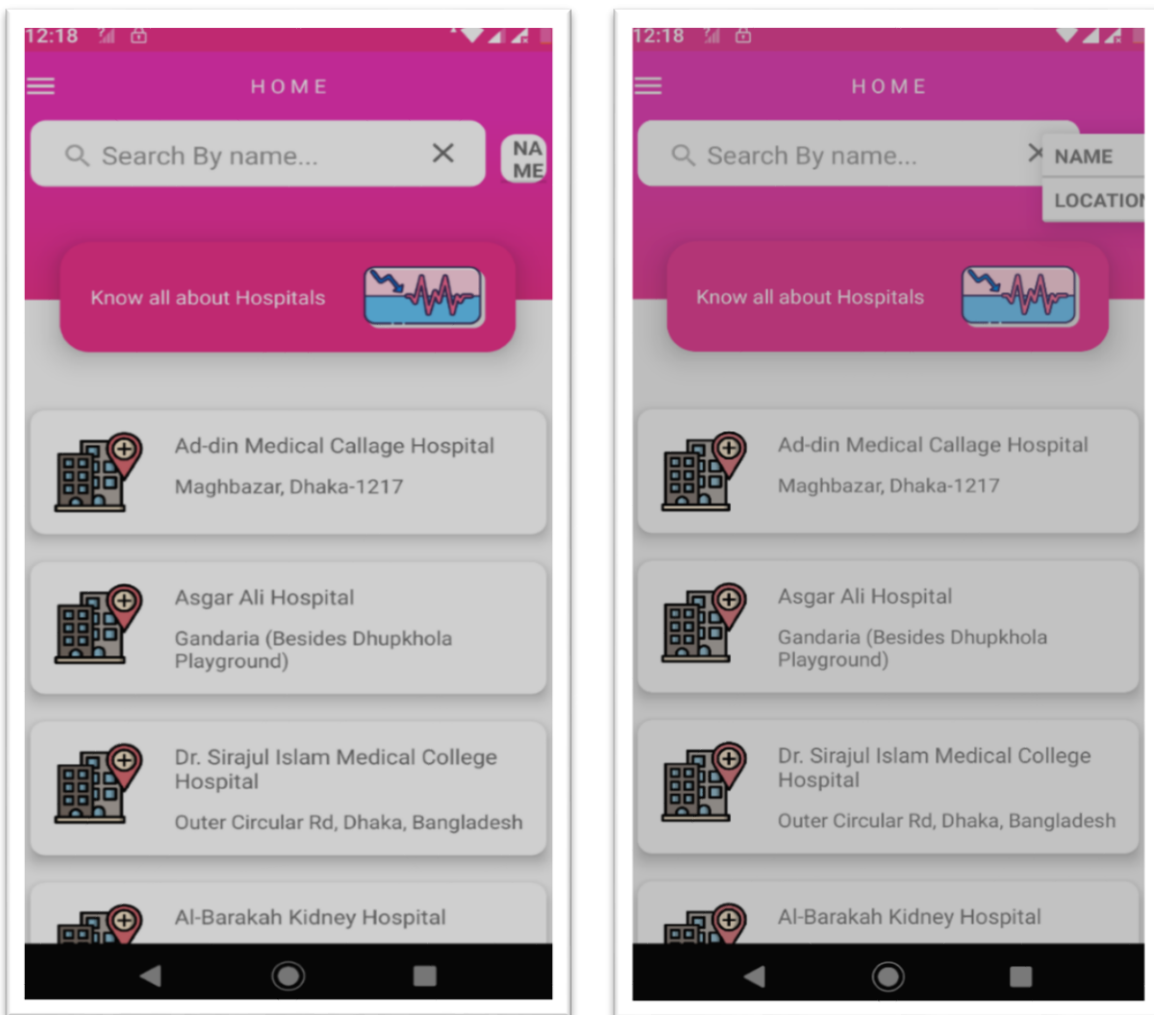


Figure 4.2: A Screenshot of searching option

We give two type of searching in our application. One searching type is name wise other is area wise. For this type of searching they can easily find a hospital and find a hospital for their nearest area. We first try to add all hospital in Dhaka city that means we first service the user within Dhaka next we try to add all other hospital in Bangladesh.

In this part show the searching option of our application. When a user choose name wise searching and the search a hospital then our application provide name wise searching result. In our application default searching method is name wise search. If a user want to search through their location they can easily switch the searching procedure. In our application a user can easily find application by searching. When a user search a hospital or hospital location our application show the information about specific hospital.

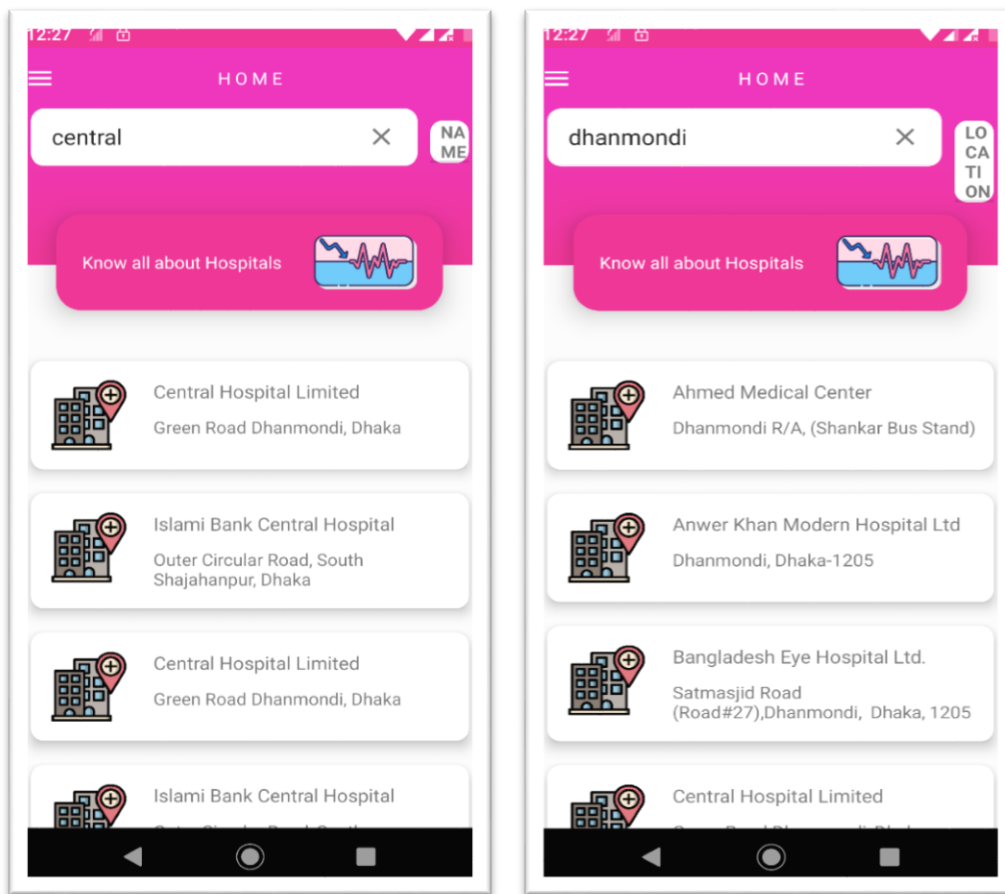


Figure 4.3: Screenshot of name wise & area wise searching

In this Figure show the name wise searching method for our application. When user want to searching by their location they will select location wise search. When they search by the location they will see the hospital list in their search area. When they search any name they can see a result and easily find their information. Suppose when a user search central hospital then our application

show this hospital and when a user enter this hospital a user can find all information about this hospital. We use very easy searching procedure in our application.

Suppose when a user search Dhanmondi then he find all hospital within Dhanmondi area. This searching procedure will be very helpful for search a hospital for an area.

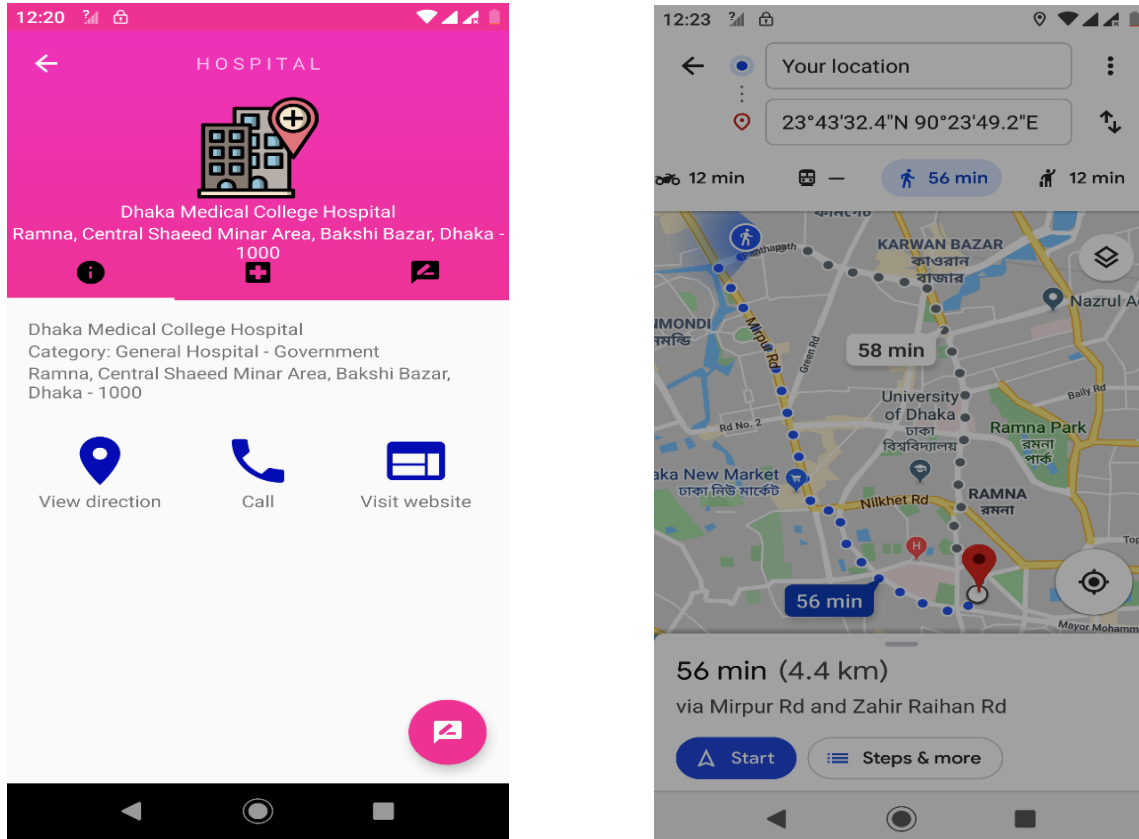


Figure 4.4: Screenshot of hospital page & find location and direction of our project

In this part show the hospital page of our application. In this page they can see some important features like direction, call, and website. When people want to see any hospital information they will go to the direction and they can see direction through Google map. In this part our application shows all important part for hospital information. This is the main information part for any hospital. In this place user can find all important information for a hospital. Location service is one of the best service in our application.

Figure 4.4 show the location and direction service for our application. It is the most important part of our application. Our other important features is the emergency number. When a user go to the

call option directly our application dial option. In our application we give website information. When a user want to go to the hospital website our application will open a browser to show the browser. Find website for a hospital and hospital contact number is another important service for our application. When a user need additional information for a hospital they enter visit website

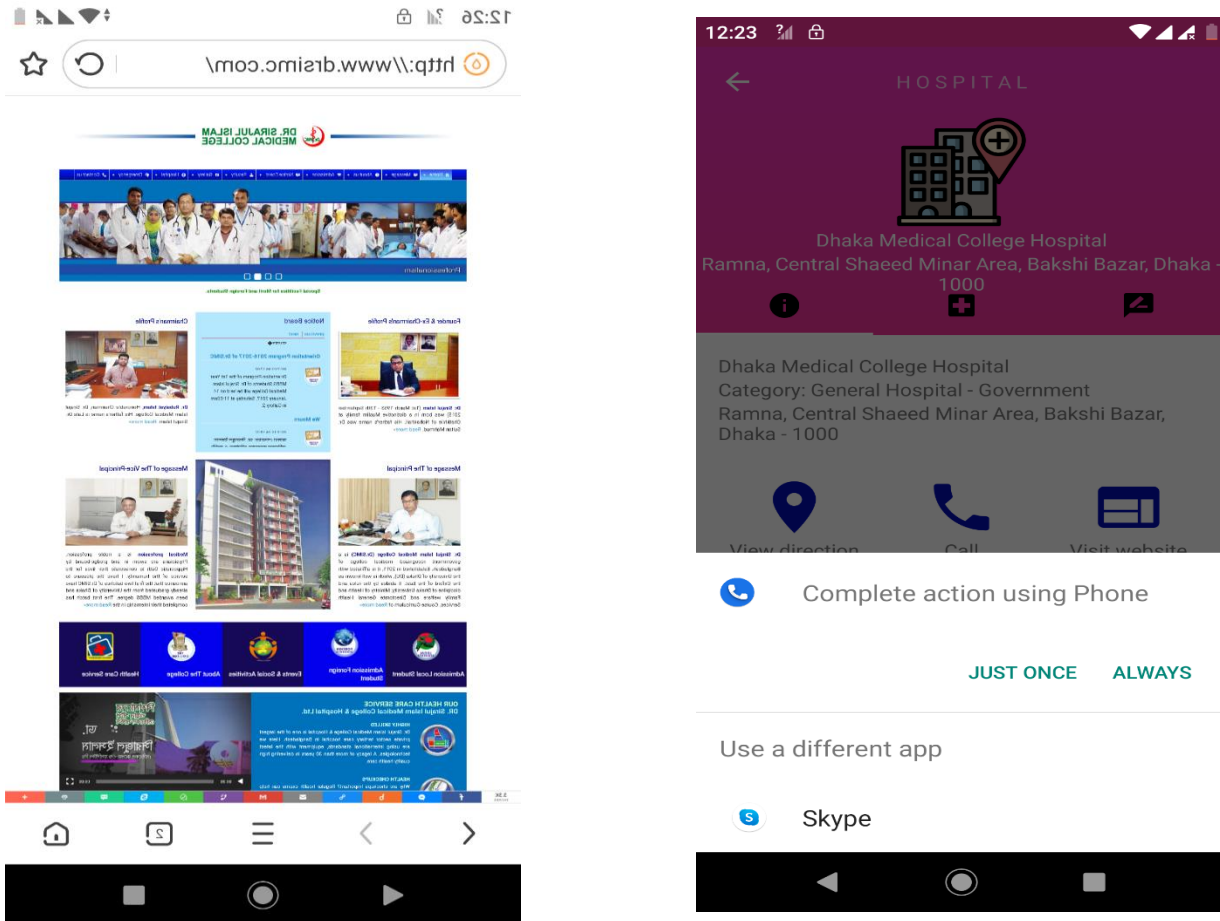


Figure 4.5: A Screenshot of call and find website service

Figure 4.5 show the call and find website service for our application. In our application for the help of patients we add doctor information.

In doctor information part people find all doctor information about a hospital. For our limitation of time we can not provide all hospital doctor information. We add some specific hospital doctor information. In future we try to add all hospital doctor information in our application.

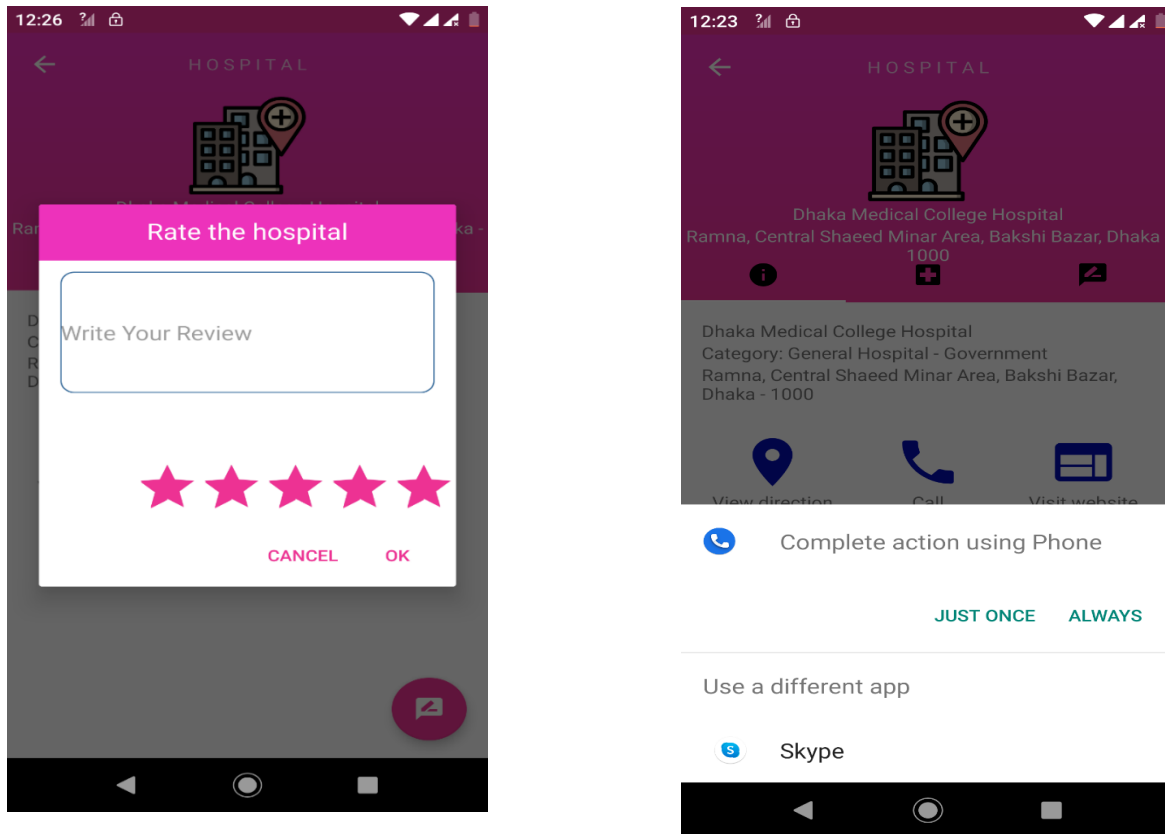


Figure 4.6: A Screenshot of doctor information rating and review system

Figure 4.6 represent the doctor information part of our application. We add a user review system for a hospital. User review is a great features for our application. By seeing user review a patient can find the best hospital and find the best service. In our application we add a rating and review service. Every user can able to rate and review a hospital. When a user rate and review a hospital then every user in our application can able to see this application. This service helps a user to find the hospital for their best service.

Figure 4.6 show the rating and review system for our application. In our application there is a menu and here user find sign out, profile and share option. This is the menu bar in our application. In

this menu bar we add profile, sign out, and share option. In the header of this bar show user information like name user id. Here we add a share option for share information of this application.

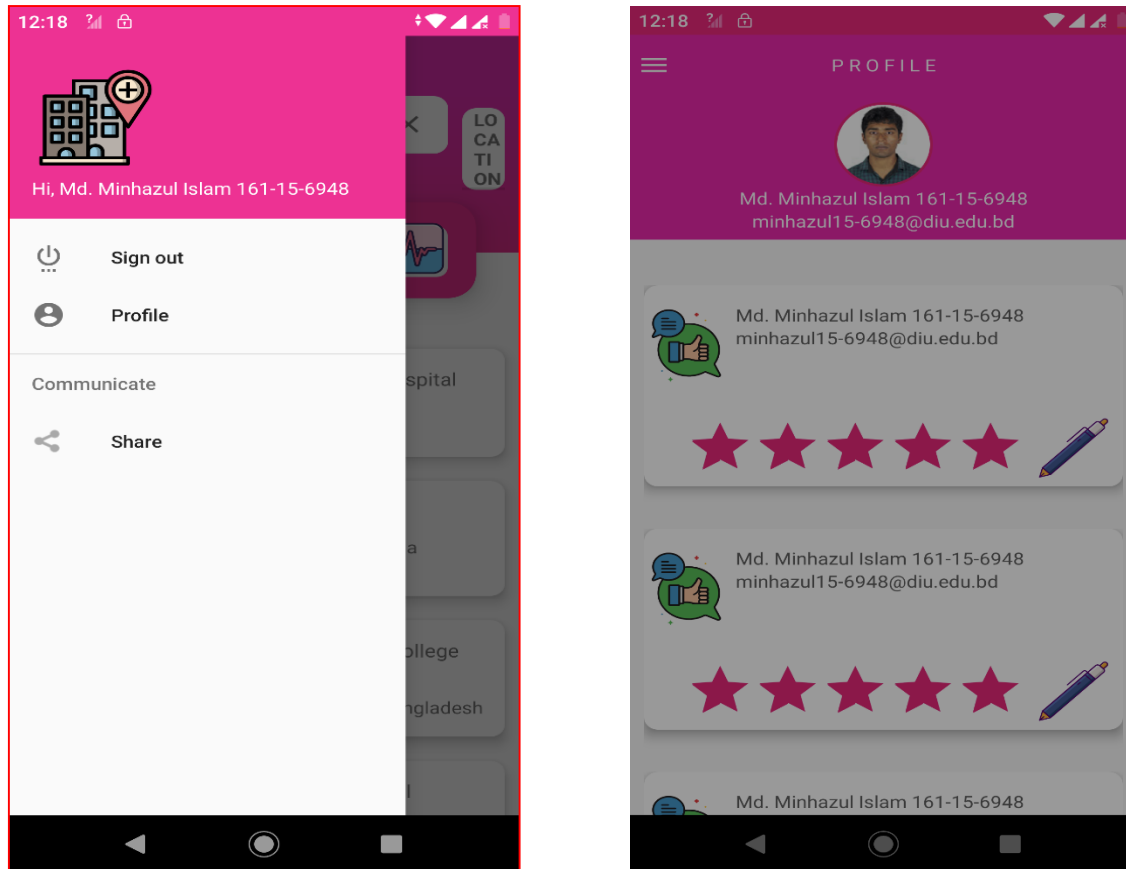


Figure 4.7: A screenshot of user menu & User profile of our project

In this part show the user menu of our application. In the user menu we create a simple user profile. In the profile they can see their email address, user name of this email and previous given rating and review. We add a simple user profile for our user. In the profile user can see their information like their user name, user id, email and image.

4.2 Back-end Design

The main part of an application is back-end design. Visual representation of the back-end is called front-end. In a project back-end part is very essential and significant part. In this part is related project structures, security and content management. Server side design is called back-end design. Back-end design is control all kind of behavior of an application. In our application we create a database. For user sign in we use a simple user authentication through google account. In future we will try to improve our application and add some extra features. As the application might contain doctor's appointment system and other details information about hospital.

4.3 Implement Requirement

We use many types of implementation attribute, tools and component to make our application. For making this application for easily accessible and useful to the user has become possible with the help of these tools. I developed my application by using the core code of Java and XML code in our project. Generally front-end part of our project make by XML code and back-end part of our project is make by Java code. Our application is written and fully developed by English.

Some important implementation of our project needs the followings:

4.3.1 Android studio

Android studio is the IDE to run android operating system. Android studio is generally designed for android application development. Android studio is easier than other framework to develop android application .I developed my project by android studio. [5]

4.3.2 Android SDK

Android SDK provides the developed tools necessary to test, API library, build and debug android application. Android SDK is mandatory for develop android application. Android SDK is very important tool that includes not only library for development but also the simulator to run test application. [6]

4.3.3 Java Development kit (JDK)

Java development kit is a development environment for build a application using java programing language. It is a important tool for developed a project with java programing language. JDK is an implementation of either one of java EE, Java SE or Java ME platforms. [7]

4.3.4 Android virtual Device (AVD)

Android virtual device is a device configuration. Android virtual device is run with the android emulator. User generally use android virtual device for test and run their application on their PC. It's provide a graphical user interface to run the android application. Emulator is used for test and debug application. You need to install an Android system picture that your emulator can use before you create an Android emulator. [8]

4.4 Interaction Design and UX

Interaction design is the design of interaction between products and user. UX design is the satisfaction a user device from using an application. Interaction design is such kind of design that understand the user problem. We try to keep our application too facile and also easily for good fillings, experience and performance for the people of using our application.

Chapter: 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

“Hospital summarization in BD” is an application for providing hospital information. In our application we use firebase for saving data in database. In our application user information like email, name and id will be saved. We save our hospital details, hospital location, phone number, website, hospital name and rating in database. This is the screenshot of databases in our project shown in figure 6.3 below. Here include the all types of data which will be the record of data which will record of our background system also.

5.2 Testing

Application testing is an important part in any application. After develop the application developer are debugging this application for find the bug. If in the application have some bug they try to solve this. The “Hospital summarization in BD” application work very nice with all kind of device specially which devices android version is equal or greater than 5.1. The interface is dynamic so it creates no error with several sizes of android devices all the features like search hospital, find location, find phone number, find hospital, find doctor’s information work good in almost every android device.

5.3 Implementation of Front-end Design

Implementation of front-end design is an important part of any development project. We try to make a user interface that will be attractive to user. We always try to make a simple and easier user interface for interactive design. Our application front-end design is very simple and it will be easy to use. We make our user interface is simple for creating attraction to the user. There are many type of smart-phones that support android. But all of these are not same quality. Some of them have very weak hardware material, in a little bit pressure those device getting hang and

behave like peculiar. These reasons occur for different types of version. So, I design the application which will be support to all the devices as like older to newer version and I am sure that my android application is secure and will not create any extra pressure on devices.

5.4 Implementation of Java and XML code

For development of our project we use java core to connect with the XML file, using firebase database to save user data. I use android studio for make this application. In android studio many kind of language are supported. We use many class, object and method in Java code. We basically developed our project by Java programing language. We use XML code to take some text view, button and some other things for user interface design. We design our application by using in xml coding.

In appendix section we use the screenshot of Java code and XML code.

5.5 Testing Implementation

Test Implementation is very important part of any project. When an application was developed then developer are trying to testing their application. If this application have any bug they try to solve it. In the table 5.1 show the test case on Hospital Summarization in BD.

Table 5.1 Test Case for Project on Hospital summarization in BD

Test Case	Test Input	Expected Output	Actual Output	Result	Tested on
1.Install Application	Tasted on various 1.Jelly Bean(4,1-4.3.1) 2.KitKat (4,4-4.5.1) 3.Lollipop(5.4-5.1.2) 4.Marshmallow(6.2) 5.Nougat(7.0-7.3)	Successfully Install all those Versions.	Install Successful	Passed	15/10/2019

Table 5.1: Test Case for Project on Hospital summarization in BD

5.6 Test Results and Reports

I tasted my application by some friend. They give me some advice that how I can make our application easier, developed and user friendly. They help us to testing our application. We has not published our application in play store yet. They help us to give some feedback and lacings of our application. They gives an opportunity to count the result of testing quickly. My app has not published in market yet.

Chapter: 6

CONCLUSION AND FUTURE SCOPE

6.1 Conclusion

This “Hospital summarization in BD” will be an important application for patients and other people who want to know about the hospital information. Our application key features are very much supportive for any person who actually wanted to know hospital information. Our main purposed of the project is to ensuring the exact hospital location and provide all important information about a hospital. For implementing our application we tasted the application with many type of devices. We found that our application and all features of our application work properly. Search, location, direction, website, call, ratting all features work properly. We tried our best to fulfill all requirement for our project. Our application user Interface design is very user friendly .All kind of user can use this application and handle this application softly. User interface of our application is not looking very complex. We can't add any complex feature in our application. We try to make our application easier to use because all kind of people will use this application to find their information. We sure that people get proper service to use our application. In our application we use real information that is a very important. We try to provide actual location of a hospital that's why a user can easily find the hospital. From the location service they can view the direction also. We give a phone number for emergency contact that is very essential. Many website and application can't provide real information. In our application a user find all kind of important and real information. We add hospital website in our application. If a user want to know more they can go to the website. We add doctor to find a doctor easily and we also give doctor phone number, doctor specification and all essential information about a doctor. In a hospital management website or application people can find a single number of hospital information. In our application they can find all hospital information within one application. We use a location service

6.2 Limitation of our Application

1. For shortage of time we could not add all hospital information in Bangladesh. We just add hospital information within Dhaka city.
2. User have a simple profile. User can not able to edit or update their information.
3. We provide a user rating system in a hospital but we can't provide rating wise list for hospital.
4. We add location wise search for find a hospital in a area. But we can't provide nearby hospital distance and nearby hospital wise searching.
5. Our application requires internet connection. That means without an active internet connection.
6. There are many hospital have not any website and we can't find actual information of those hospital .For this reason in this time we can't add those hospital.
7. We can't add any feature to give nearest hospital distance and locations directly. In future we try to add this kind of features.
8. We don't add any ambulance number and we give just one emergency number of a hospital.

6.3 Scope for future developments

We try our best for developing our website in present time. If we find any scope for developing in future, we want to develop and change something of our application. In future we will add some new feature like online serial or appointment system for a hospital, Blood bank information, nearby hospital and rating wise searching. In future we will add rating wise list to the hospitals and we also add nearest hospital wise list. We can't find much time. For this reason in the initial state we just add some specific feature but in future we will developed our application and makes more useful and user friendly. In this time we just add some specific hospital within Dhaka city but in future we will try to add all other hospital within Bangladesh. We will try to update latest information and update our application in every time.

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APPENDIX

Appendix A

FirestoreHospitalConnector

```
.getInstanceFirestoreRef()  
.child(hospitalId)  
.child("ratings")  
.child(FirebaseAuthController.getCurrentUser().getUid())  
.setValue(rating);
```

FirestoreUserConnection.getInstanceFirestoreRef()

```
.child(FirebaseAuthController.getCurrentUser().getUid())  
.child("ratings")  
.child(hospitalId)  
.setValue(rating);
```

```
} private void hospitalReviewRetrieveBYUser(){
```

```
ValueEventListener postListener = new ValueEventListener() {
```

```
@Override
```

```
public void onDataChange(DataSnapshot dataSnapshot) {
```

```
Rating ratingObj = dataSnapshot.getValue(Rating.class);
```

```
if(ratingObj == null){
```

```
review = "";
```

```
rating = "0.0";
```

```
}else {
```

```
review = ratingObj.getReview()+"";
```

```
rating = ratingObj.getRating()+"} }
```

Appendix B

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@drawable/gradient_login_bg"
    android:orientation="vertical"
    android:gravity="center"
>
<ImageView
    android:id="@+id/htab_header"
    android:layout_width="90dp"
    android:layout_height="90dp"
    android:fitsSystemWindows="true"
    android:scaleType="centerCrop"
    android:src="@drawable/ic_hospital"
    app:layout_collapseMode="parallax"/>
<TextView
    android:id="@+id/hospital_name_display"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Square Hospital"
    android:textColor="@color/white"
    android:textAlignment="center">
```

Appendix C

```
hospital-663c7
├── admin_panel: "Hello, World"
└── hospitals
    ├── -LqeEogFiPvaG0Ey8uKD
    │   ├── information
    │   │   ├── des: "Maghbazar, Dhaka-1217"
    │   │   ├── hospitalLat: "23.7483772"
    │   │   ├── hospitalLocation: "Maghbazar, Dhaka-1217"
    │   │   ├── hospitalLon: "90.4053954"
    │   │   ├── hospitalPhone: "9353391"
    │   │   ├── hospitalWebsite: "http://www.ad-din.or"
    │   │   ├── key: "-LqeEogFiPvaG0Ey8uKD"
    │   │   └── name: "Ad-din Medical Callage Hospite"
    │   └── ratings
    │       ├── 6XFoLbrNEPU1WdkNexvS20MDnvx1
    │       └── BIHkRMt0Q6b2xCj3nx5LwwDwzgy1
    ├── -LqeGul9he337kcMfHHS
    ├── -LqeIA2pBBWFT7KMguLH
    ├── -LqeJ5tqhYkACJnAPDEB
    └── -Lqg7gpP9GzjxFEBreF2

-LqtVnpudDgNtjAw9zc
-LrDS_bfvzH_HzOuFGXM
users
├── 6XFoLbrNEPU1WdkNexvS20MDnvx1
│   ├── information
│   │   ├── email: "minhazulislamsourov@gmail.com"
│   │   ├── imageUri: "https://lh6.googleusercontent.com/-uPBM4ypj50c/"
│   │   ├── name: "Minhazul Islam Sourov"
│   │   └── uid: "6XFoLbrNEPU1WdkNexvS20MDnvx1"
│   └── ratings
│       ├── -LqeEogFiPvaG0Ey8uKD
│       │   ├── hospitalId: "-LqeEogFiPvaG0Ey8uKD"
│       │   ├── hospitalName: "Ad-din Medical Callage Hospite"
│       │   ├── rating: "0.0"
│       │   ├── review: ""
│       │   ├── userEmail: "minhazulislamsourov@gmail.com"
│       │   ├── userId: "6XFoLbrNEPU1WdkNexvS20MDnvx1"
│       │   └── userName: "Minhazul Islam Sourov"
│       ├── BIHkRMt0Q6b2xCj3nx5LwwDwzgy1
│       ├── KGMtMhNzL7PWvs1cUzFxRru9SC12
│       ├── hwyWNB08yIf7Dpv5yWSrUr2nTdH2
│       ├── jG1yzD6mZchE0NoM5of240EhIRA3
│       ├── kVbgETUJrufBesbd4xZ8qOXJeC73
│       └── xtMjDFIGSOuc4kXvev8o2hdjAxi1
```

Figure 6.3: Screenshot Of database in our project

Hospital Summarization in BD– an android based mobile application

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