DoctorFinder : An Android-Based Searching System for Doctors and Blood Donors

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

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APPROVAL

This Project titled **"DoctorFinder : An Android-Based Searching System for Doctors and Blood Donors"**, submitted by Md. Hasibul Malek Badhon, ID No: 153-15-6632 and Md. Abdullah Al Mamur Shimul, ID No: 153-15-6566 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 02/10/2019.

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We hereby declare that, this project has been done by us under the supervision of **Saiful Islam, Senior Lecturer, Department of Computer Science and Engineering** 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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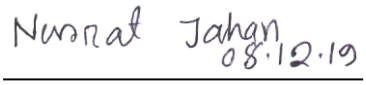

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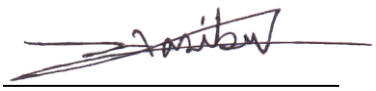

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ABSTRACT

DoctorFinder System is a system which will allow users to find doctor according to their needs. This system divided by two different application Users app and Admin app. This system will be very useful for users to find their desire doctors at any time in any place. This system allow users to create their profile and also can register themselves as a blood donor. Users can see all the doctor whose are available via this system. They can find doctor by searching their name or specialty and also can see doctor's location direction from user's current location via map. User can check their previous search history and also can upload their medical report in this system. It also have the blood donor feature which will help users to find emergency blood at any time in any place, they can search by blood group and find out huge blood donor contact info which will be very helpful to contact with them. Admin can see everything of this system and also can add, update and delete Doctors and Blood donors. This system uses real time data base and push notification which will allow us to notify users about every update all the time quickly.

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CHAPTER 1

Introduction

1.1 Introduction

DoctorFinder System is a system which will allow users to find doctor according to their needs. This system divided by two different application Users app and Admin app. This system will be very useful for users to find their desire doctors at any time in any place. This system allow users to create their profile and also can register themselves as a blood donor. Users can see all the doctor whose are available via this system. They can find doctor by searching their name or specialty and also can see doctor's location direction from user's current location via map. User can check their previous search history and also can upload their medical report in this system. It also have the blood donor feature which will help users to find emergency blood at any time in any place, they can search by blood group and find out huge blood donor contact info which will be very helpful to contact with them. Admin can see everything of this system and also can add, update and delete Doctors and Blood donors. This system uses real time data base and push notification which will allow us to notify users about every update all the time quickly.

1.2 Motivation

In our country medical documents aren't digitalized yet. For this reason people suffer so much to get proper treatment, only because of proper information. In this age of modern technology still people need to go to hospital for information or appointment. That's why we are motivated to develop an android app that will reduce people's inconvenience during finding a doctor according to his/her needs. In our current system if someone wants to visit a doctor for his/her single or multiple issue, he/she needs to go the hospital to make a selection and reservation. But in our proposed system, we will not only reduce the inconvenience of finding the best doctor but also help our users to make a selection from hundreds of different doctors from different hospitals and clinics. This system also narrows down nearest best hospital and doctor for their specific diseases also show the user location and distance by Google map. The system will also allow our users to keep track of their visiting record, prescription, test report and all other documents to keep them safe from being lost.

1.3 Objectives

1. Create to be helpful in case of emergency doctor finding.
2. To be found nearby specialized doctor for their specific disease.
3. Analyze can be sorted doctor by their practice field.
4. To be able to store patients medical documents.
5. Evaluate a better advertise platform.

1.4 Expected Outcome

This application will have a large impact on our medical sector. Most of the medical records stored in our country is not digital and can easily be lost. But using a digital solution like this, we can easily remove that redundancy.

Besides that, not only this application will allow someone to find a doctor according to his/her need but also it will allow doctors and clinics to advertise about their services.

1.5 Report Layout

In this project a full overview of our system and related work and terminologies are given gradually.

In this chapter 1 we shows about our project introduction, motivation, objectives and expected outcome.

In chapter 2 we will describe the challenges and problem which is making difficult to us.

Another chapter 3 we will describe the three stage of background. We will also describe the requirement specification and try to disclose users demand.

In chapter 4 and 5 we will disclose how we solve the problem and what we use to implement the project.

Finally, in chapter 6 we will remark some concluding and suggestions for future works.

CHAPTER 2

BACKGROUND

2.1 Introduction

DoctorFinder is generally finding specialized doctors by user's needs. Finding Doctors using the help of the technology become very popular day by day. The project titled "DoctorFinder : An Android-Based Searching System for Doctors and Blood Donors" is the system that is control by the admin and Users also help out to work out this system properly.

Modules and Description:

There are 2 major modules with some other sub modules given below:

1. User's Login.

2. Admin's Login.

In User's Login there are some features describe below:

Register/Login: Users while using this system for the first time, need to register the details using android application. While registering, user has to enter their personal information, contact number, email address etc.

Dashboard: In the dashboard user can see their previous search result.

Upload Report: User can upload their medical report into the Report section which will help their important documents from being lost.

View Report: User can view their previous uploaded medical report when they want.

Search Doctor: User can search doctor by their specialty and location.

View Doctor: User can view doctor's details from their search results.

View Direction: User can see the doctor location which will navigate them with the map direction directly.

Search Blood donor: User can also search blood donor by the blood group and the location.

Blood donor: User can make themselves as a blood donor which will later uses for other user's need of emergency blood.

Update profile: Registered users can update their profile at any time via the android application.

In Admin's Login there are some features describe below:

Login: Admin needs to login for control the system and admin's registration will be done manually from the database.

Dashboard: Into the dashboard of admin app admin can see how many doctor, blood donor and user register into the system.

Add Doctor: Admin can add doctor by fill up their necessary information into the system.

View Doctor: Admin can see all doctors list from the system.

Update Doctor: Admin can be able to update doctor's profile.

Delete Doctor: Admin have the power to delete any doctor's profile in case of needs.

Add Blood Donor: Admin can add blood donor by fill up their necessary information into the system.

View Blood Donor: Admin can see all blood donor list from the system.

Update Blood Donor: Admin can be able to update blood donor's profile.

Delete Blood Donor: Admin have the power to delete any blood donor's profile in case of needs.

2.2 Related Works

Medication is a field that is consistently changing as information on illness and well-being keeps on progressing. In the period of transnational medication, clinicians continually face difficulties in changing logical proof into conventional clinical practice. Friend looked into logical writing is a significant, insignificantly one-sided asset for researchers and different scientists to convey their disclosures dependent on tests and their discoveries from thoroughly executed preliminaries and insight-fully

adjusted clinical rules. In this manner, staying current on therapeutic writing can assist clinicians with giving the best proof based consideration for their patients [1].

In 2013, the Pew Research Internet Project revealed that "59% of U.S. grown-ups state they have looked online for data about a scope of well-being points in the previous year. 35% of U.S. grown-ups state they have gone online explicitly to attempt to make sense of what ailment they or another person may have." Whether the well-being data is required for individual reasons or for a friend or family member, a great many well-being related site pages are seen by a huge number of purchasers. Some of the time the data discovered is exactly what was required. Different ventures end in disappointment or recovery of incorrect, even risky, data [2].

Health data looking for conduct relies upon an assortment of elements including abstract elements and financial variables. Furthermore, low-salary impaired and home-bound grown-ups show lower paces of Internet utilize by and large. Further, our fundamental outcomes from another investigation demonstrate that online well-being data looking for conduct contrasts altogether contrasted with general data looking. Specifically, our information proposes that well-being related inquiries are commonly more and logical in nature contrasted with general questions. Additionally, well-being related inquiries have higher paces of incorrectly spelled words that are ordinarily amended via "auto-finish" highlights accessible generally in all web crawlers, for example, Google and Bing [3].

A consortium of general practices in South West England got subsidizing through the GP Access Fund to direct online discussions. Beginning in April 2015, the eConsult framework was actualized for nothing out of pocket into 36 general practices. The eConsult framework was planned by GPs, programming software engineers and operational directors, with help from therapeutic safeguard associations. Patients get to the eConsult framework (alluded to as 'the framework' in this paper) by means of their own GP practice site. They can get to self-improvement, drug store guidance, 111 (National Health Service (NHS) non-crisis phone counsel), authoritative assistance, (for example, rehash solutions) or present an online structure with subtleties of their condition, electronically sending this to their GP practice, where it is then prepared. In the event that the framework distinguishes signs or side effects that may require prompt therapeutic consideration, patients are diverted to proper administrations; generally, the

framework illuminates patients that their GP practice will get in touch with them before the finish of the following working day [4].

Assessment of the nature of online well-being data is a procedure of applying criteria to assess data. Hence, notwithstanding applying criteria, we need a superior comprehension of how customers see online data. To accomplish this objective, we purposely separate between two ideas: criteria and markers. Criteria are decides or channels that individuals apply to a data item to evaluate its worth or worth. Pointers, likewise named prompts or markers, are discernible components related with a data object that enable individuals to consider the nature of the article. Pointers are affordances of data protests that trigger or bolster the use of the criteria. New pointers could rise, and old ones could vanish with the advancement of new innovations and structure inclinations. Some of these are like Doctorola.com, U.S. News Doctor Finder, Doctor's BD, E-medical point and Doctors Directory etc. [5].

2.3 Comparative Studies

We have developed our project by using android -based benefit to fulfill the system according to the highest level. For this system we have already done some research based on doctor finder. There are so many doctor finding website in our country but not that effective like our android system which will directly communicate patients with doctor. Users and doctors can directly communicate in our system via two different android application. We believe that our system will increase positive communication and interaction impact between the patient and the doctor.

2.4 Scope of the problem

Previously finding appropriate doctor was done manually which has many hassle. In that way patient has to suffer a lot by visiting hospital to hospital for their desire specialist doctor and doctor’s appointment. The whole process took a lot of time and hassle. Even sometimes they can’t make any appointment without visiting several times into the hospital. So our target is to reduce patient hassle as much as possible by making everything digitalization. Users can see every doctor around them and also every doctor into system as well. They can see their profile details and make appointment from their home without any kind of hassle. System will help them to find their chamber by direction into the map.

- **Existing System & Proposed System**

Problem with current scenario

In our current system if someone wants to visit a doctor for his/her single or multiple issue, he/she needs to go the hospital to make a selection and reservation. Which a bit of hassle and many times people just go around but no luck of making appointment of their desire doctor because of the list of patient are already booked. So it's all a time consuming procedure.

- **Proposed System**

But in our proposed system, we will not only reduce the inconvenience of finding the best doctor but also help our users to make a selection from hundreds of different doctors from different hospitals and clinics. This system also narrows down nearest best hospital and doctor for their specific diseases also show the user location and distance by Google map. The system will also allow our users to keep track of their visiting record, prescription, test report and all other documents to keep them safe from being lost. This system will also help people for finding their emergency blood donor.

Features:

1. Doctor finding can be very easy by this project.
2. Communication and interaction between doctor and patient will be upgraded.
3. Easy way to find any Doctor.
4. Notification of any new Doctor List update will be sent to the users.
5. Easy way to manage blood donor for emergency need of blood.
6. Medication Report storage facilities.
7. Easy way to find Doctors direction via map.

2.5 Challenges

Our biggest challenge will be keep pace with the current age. We have seen that those can't go forward with the age, they have lost. We used technology of the modern age. It will increase interact with the activities of patient and doctor. It will work to fulfill the functionality as per the proposed system. Faster response for query made by the user. Consideration of varication, validation, security, user friendliness have made.

Chapter 3

Requirement Specification

Requirements specifications means that what needs to be done by a system. The requirement specification means what needs to be done in order for the organization to fulfill their purpose.

3.1 Business Process Modeling

To represent the processes of the project Business process Modeling is needed. It is needed because of analyzing, improving and automating the process.

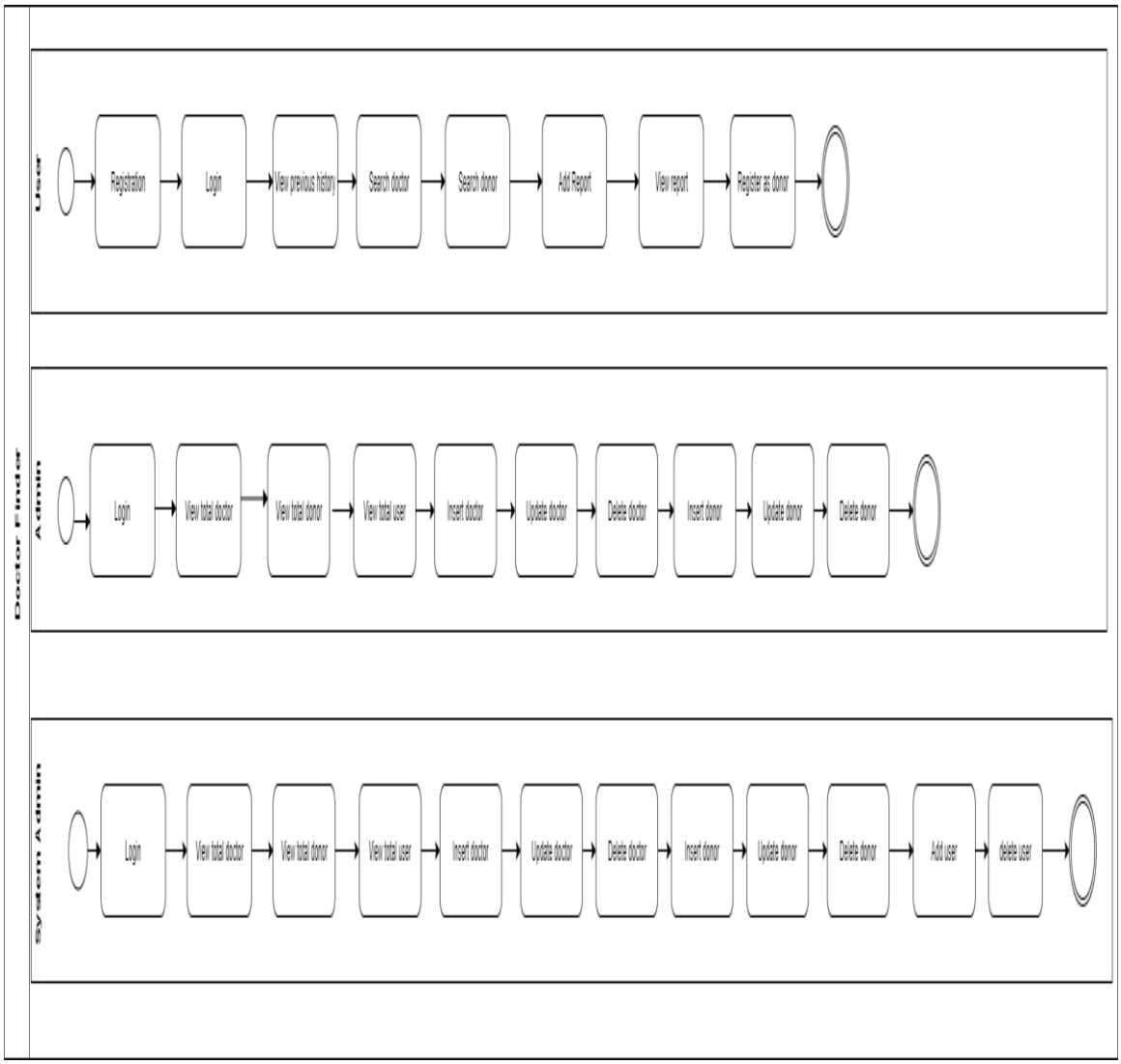

Figure 3.1.1: Business process model

This business process model illustrates the concept of our project. It indicate the processes that users are going to face.

3.2 Requirement Collection and Analysis

Requirement Collection for a project is a very vital part. In fact, collect requirements process helps to define project scope during scope management. There are some set of tools and techniques to gather project requirements. It seems practical to collect all requirements at the start using a requirement-gathering tool. This should ensure the project deliverable as sought. Requirements analysis is critical to the success or failure of a systems or software project. The requirements should be documented, actionable, measurable, testable, traceable, related to identified business needs or opportunities, and defined to a level of detail sufficient for system design.

- **Software Development Life Cycle (Waterfall)**

The Waterfall Model was the primary Process Model to be presented. It is likewise alluded to as a straight consecutive life cycle model. It is extremely easy to comprehend and utilize. In a cascade model, each stage must be finished before the following stage can start and there is no covering in the stages. Cascade approach was first SDLC Model to be utilized broadly in Software Engineering to guarantee accomplishment of the undertaking. In "The Waterfall" approach, the entire procedure of programming improvement is isolated into independent stages. In this Waterfall model, ordinarily, the result of one stage goes about as the contribution for the following stage consecutively [6].

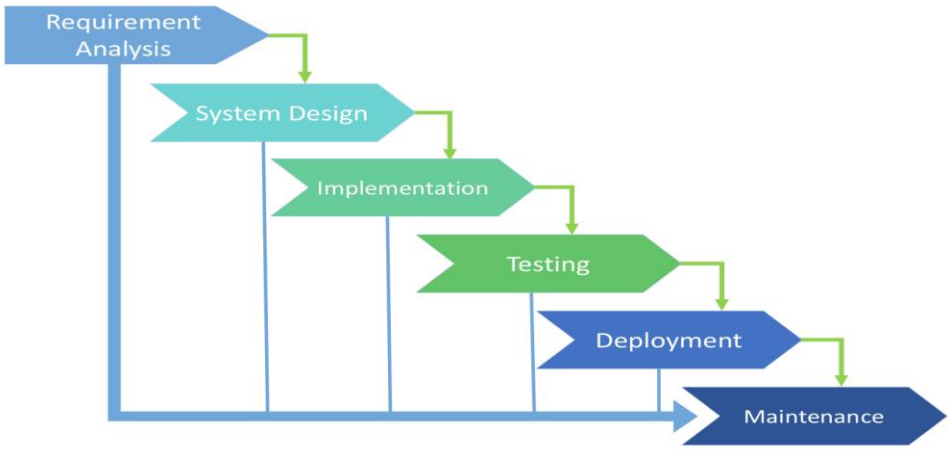

Figure 3.2.1: Software Development Life Cycle (Waterfall)

This figure shows the life cycle of our project as we choose the waterfall model for our project.

- **ENTITY RELATIONSHIP DIAGRAM**

An entity relationship diagram (ERD) shows the connections of element sets put away in a database. An element in this setting is an article, a segment of information. A substance set is an assortment of comparable elements. These substances can have characteristics that characterize its properties. By characterizing the substances, their properties, and demonstrating the connections between them, an ER chart delineates the legitimate structure of databases. ER outlines are utilized to draw out the plan of a database [7].

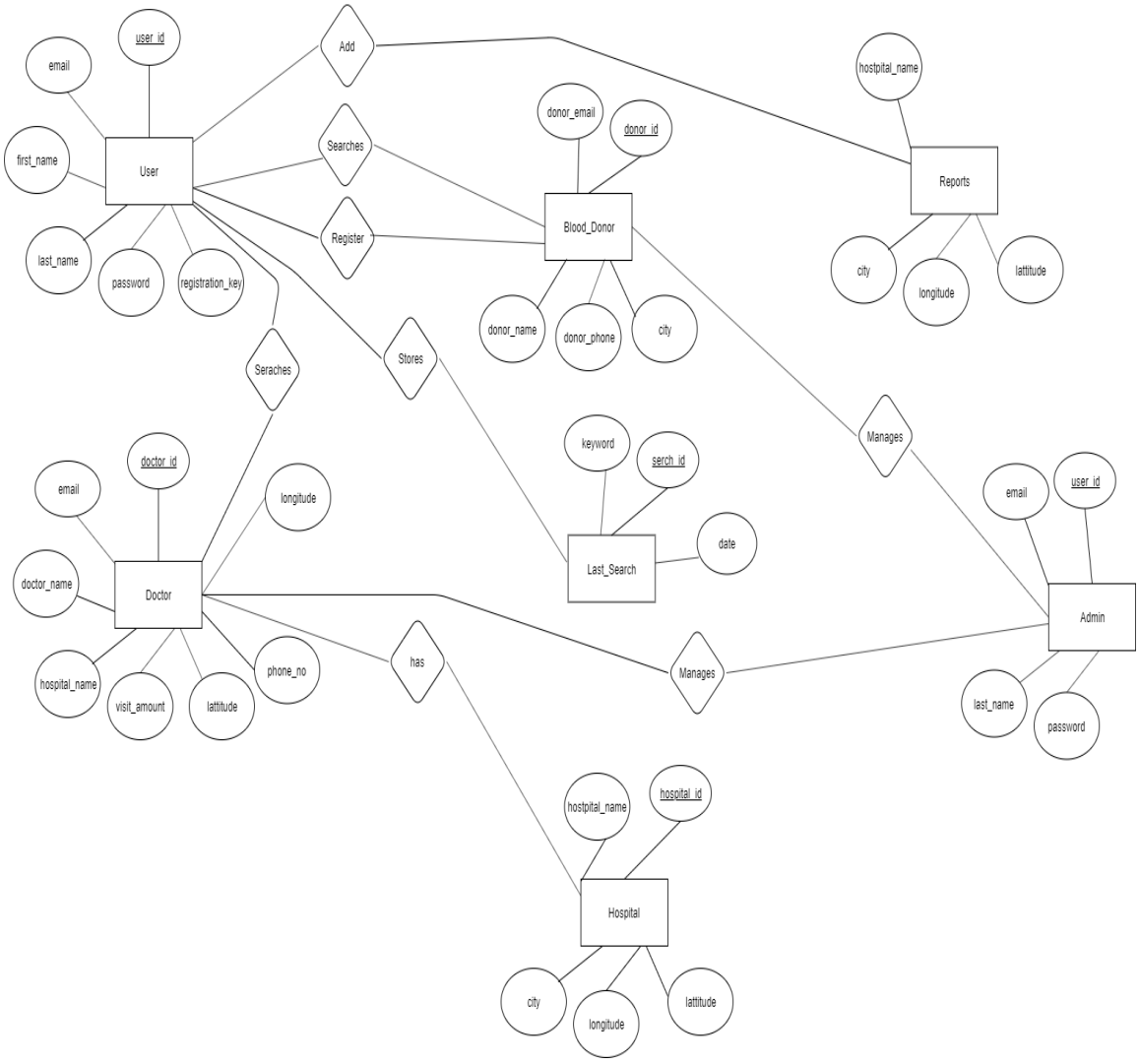

Figure 3.2.2: Entity Relationship Diagram

This figure 3.2.2 shows the relationship among the entities in our system. It explain that which entities are depends on which entity. There are seven entities which are connected to each other with diamond shape condition relation. In each of entities have multiple round shape process which are called attribute.

- **DATAFLOW DIAGRAM**

A data-flow diagram is a method for speaking to a progression of an information of a procedure or a framework. The DFD additionally gives data about the yields and contributions of every substance and the procedure itself. An information stream graph has no control stream, there are no choice standards and no circles [8].

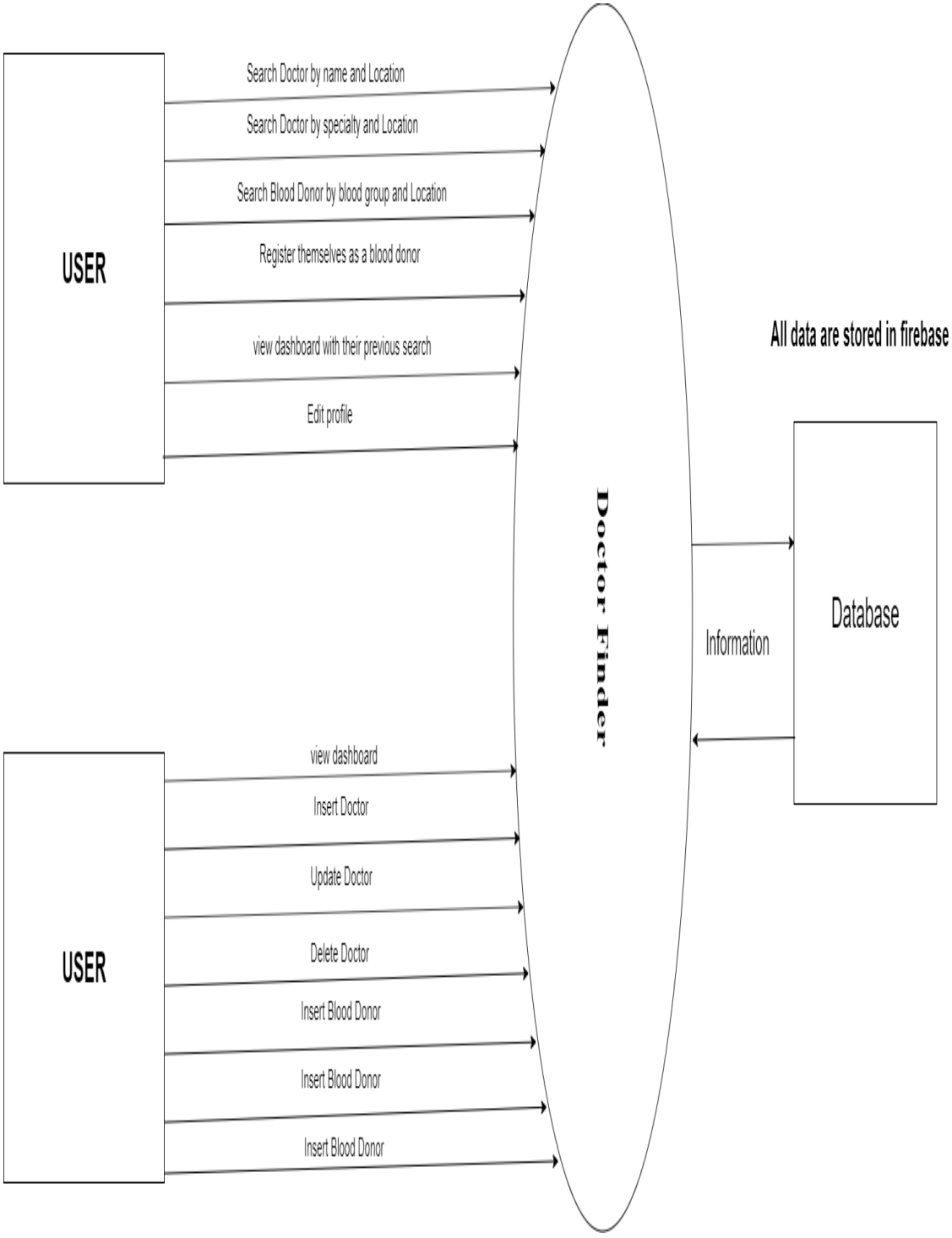

Figure 3.2.3: Data Flow Diagram

3.3 Use case modeling and description

There are two types of actors present in our system. 1. User and 2. Admin

Figure 3.3.1: Use Case Model

This figure 3.3.1 shows the use case model of our system. There are two actors into the figure over here. This use case model brief that all processes are going to done by those two actors.

- **USE CASE FOR USER**

In the user's app users are only able to use it when they are register into the system and logged in. Users need to register into the user app to use our system and they can do it by register themselves with email, password, first name, last name etc. They can login with their registered email and password in our system. After login now they can see their dashboard, search doctor, blood donor by different search category, register themselves as a blood donor and they can upload their medical documents into the system or view their previous uploaded medical document from their profile.

Table 3.3.1 is for describing Use Case Design about the User application of our system. It shows that how our User application will interact with our system.

Table 3.3.1: Use Case Description of User

Use case name	USER
Actor	User
Pre-condition	Login
Primary path	Enter User Email Enter User Password Click "Login" Button
Exceptional path	Invalid Email Invalid Password User didn't register into the system

- **USE CASE FOR ADMIN**

In the admin app, admin must have to login to perform his/her act and admin registration we do manually from our parse server which provide him/her their email and password to login to our system. After login admin can see first his dashboard where they can see how many doctor, user, blood donor are registered in our system. After that they can perform Doctor and Blood donor insert, update and delete act by how the requirement goes on.

Table 3.3.2 is for describing Use Case Design about the Admin application of our system. It shows that how our Admin application will interact with our system.

Table 3.3.2: Use Case Description of Admin

Use case name	ADMIN
Actor	Admin
Pre-condition	Login
Primary path	Enter Admin Email Enter Admin Password Click “Login” Button
Exceptional path	Invalid Email Invalid Password Admin didn’t register into the system

3.4 Logical Data Model

A logical data model or logical schema is a data model of a specific problem domain expressed independently of a particular database management product or storage technology but in terms of data structures such as relational tables and columns, object-oriented classes, or XML tags [9].

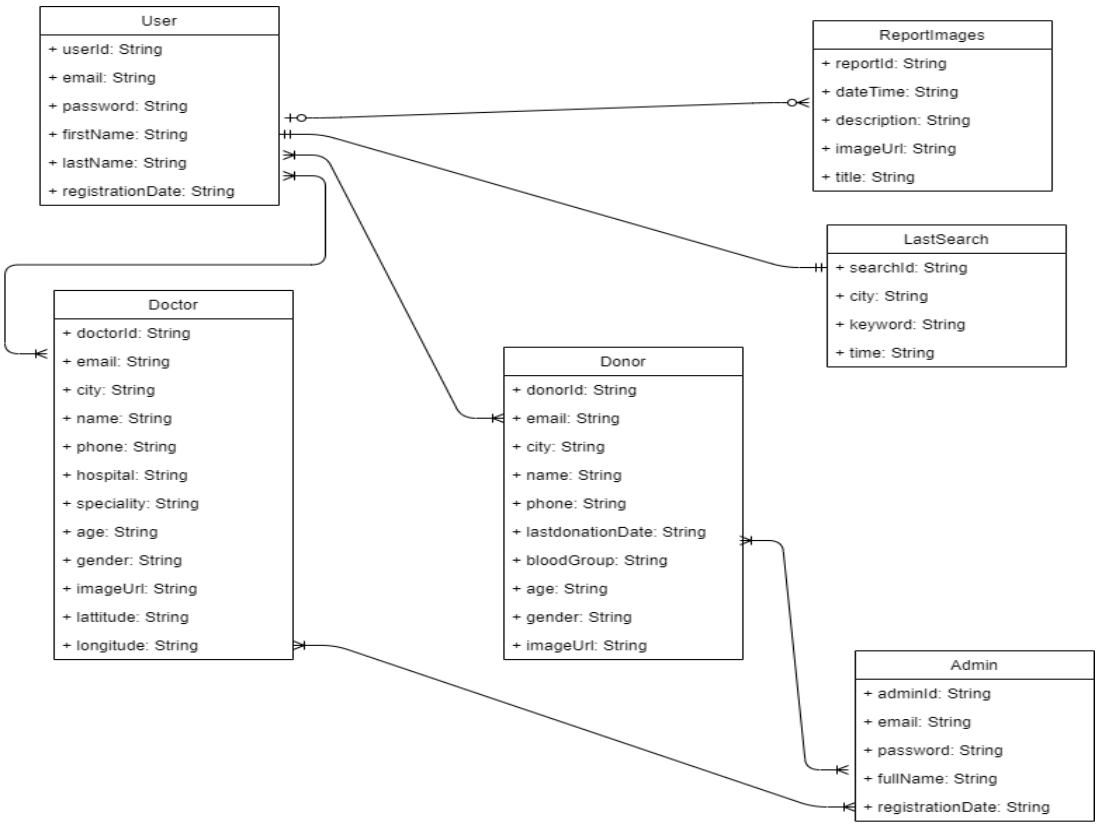

Figure 3.4.1: Logical Data Model

This figure 3.4.1 shows that the concept of logical data model of our system. This is the representation of each user's logical data model as well as processes.

3.5 Design requirement

System's design is the process of finding out specific requirements that are used to define architecture, components, modules, interface and data for a system. In this chapter we show our system design of our application has been represent, where Architectural Design, Use Case Diagram, Entities Relationship Diagram, Logical Model Diagram and Data Flow Diagram included. Our design of this project is very user friendly and responsive. Modern and updated design tools have been used for this project. Also new concepts have been considered to make it user friendly. In future any kind of edit is allowed as time permits.

- **ARCHITECTURE DESIGN**

The software needs the architectural design to represents the design of software. IEEE defines architectural design as "the process of defining a collection of hardware and software components and their interfaces to establish the framework for the development of a computer system." The software that is built for computer-based systems can exhibit one of these many architectural styles.
Each style will describe a system category that consists of:

- A set of components that will perform a function required by the system.
- The set of connectors will help in coordination, communication, and cooperation between the components.
- Conditions that how components can be integrated to form the system.
- Semantic models that help the designer to understand the overall properties of the system.

The use of architectural styles is to establish a structure for all the components of the system [10].

There are two basic settings for database:

Primary key: Primary key is an unique key to make relationship in other table.

Foreign key: This indicates the relation between tables. There is form of technique to avoid data redundancy in the table.

Chapter 4

DESIGN SPECIFICATION

4.1 Front-end Design

- JAVA

Java is a general-purpose programming language that is class-based, object-oriented, and designed to have as few implementation dependencies as possible [11].

- XML

Extensible Markup Language (**XML**) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. The World Wide Web Consortium's **XML** 1.0 Specification of 1998 and several other related specifications—all of them free open standards—define **XML** [12].

4.2 Back-end Design

- Firebase

Firebase is a mobile and web app development platform that provides developers with a plethora of tools and services to help them develop high-quality apps, grow their user base, and earn more profit [13].

- Firebase Auth

Firebase Auth is a service that can authenticate users using only client-side code. It supports social login providers Facebook, GitHub, Twitter and Google. Additionally, it includes a user management system whereby developers can enable user authentication with email and password login stored with Firebase [13].

- Firebase Storage

Firebase Storage provides secure file uploads and downloads for Firebase apps, regardless of network quality. The developer can use it to store images, audio, video, or other user-generated content. Firebase Storage is backed by Google Cloud Storage [13].

- Picasso Android

A powerful image downloading and caching library for Android. Picasso allows for hassle-free image loading in your application often in one line of code. Handling ImageView recycling and download cancelation in an adapter. Complex image transformations with minimal memory use. Automatic memory and disk caching [14].

- Google Map API

With the Maps SDK for Android, you can add maps based on Google Maps data to your application. The API automatically handles access to Google Maps servers, data downloading, map display, and response to map gestures. You can also use API calls to add markers, polygons, and overlays to a basic map, and to change the user's view of a particular map area. These objects provide additional information for map locations, and allow user interaction with the map [13].

- Parse Server

Parse Server is an open source Backend-as-a-Service (BaaS) framework initially developed by Facebook. The platform now has an active and robust community of fanatical developers who constantly innovate and strive to improve the already impressive and modular platform. Below are some of the amazing and most useful features of Parse Server [15].

4.3 Interaction Design and UX

- Design

Whole design of this project is user friendly. Modern and updated design tools have been used for this project. Also new concepts have been considered to make it user friendly. In future any kind of edit is allowed as time permits.

- Completion

This project is going to inform about DoctorFinder System. Everything will be continuously updated all the time.

- Project Deliverables

For a beneficial change of output given by the project is known as project deliverables. Project deliverables can be the process improvements, new services, quality of services, reduction of risks, flexibility.

- Resource Allocation

This is the process of planning for usable resources. The process of allocating resources is known as resource allocation for projects or business.

4.4 Implementation Requirements

These are the implementation requirements:

- Non-functional Requirement

Our system has some nonfunctional requirement that is describe in the below:

- Efficiency Requirement

When our system will go live then everybody can use this a doctor finding solution, emergency blood donor solution and their medical record storage facilities.

- Reliability Requirement

The system need to deliver a reliable environment to user, blood donor, doctor and admin. All users should be updated through the admin.

- Usability Requirement

DoctorFinder system is designed in a minimalistic and user-friendly environment.

- Implementations Requirements

We have used JAVA, XML for front-end implementation. We have used Firebase Database which is real time database and it will interact real with our app. Firebase is no-sql database.

- Delivery Requirement

We are expecting to deliver the project in two months of time with weekly evaluation.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

This is the screenshot of our firebase databases of our DoctorFinder project. Mainly firebase database is no-sql database so the views of firebase database is tree.

- **FIREBASE DATABASE**

Figure 5.1.1: Firebase Database of our system.

- **FIREBASE STORAGE**

Cloud Storage for Firebase is a powerful, simple, and cost-effective object storage service built for Google scale. The Firebase SDKs for Cloud Storage add Google security to file uploads and downloads for your Firebase apps, regardless of network quality [13].

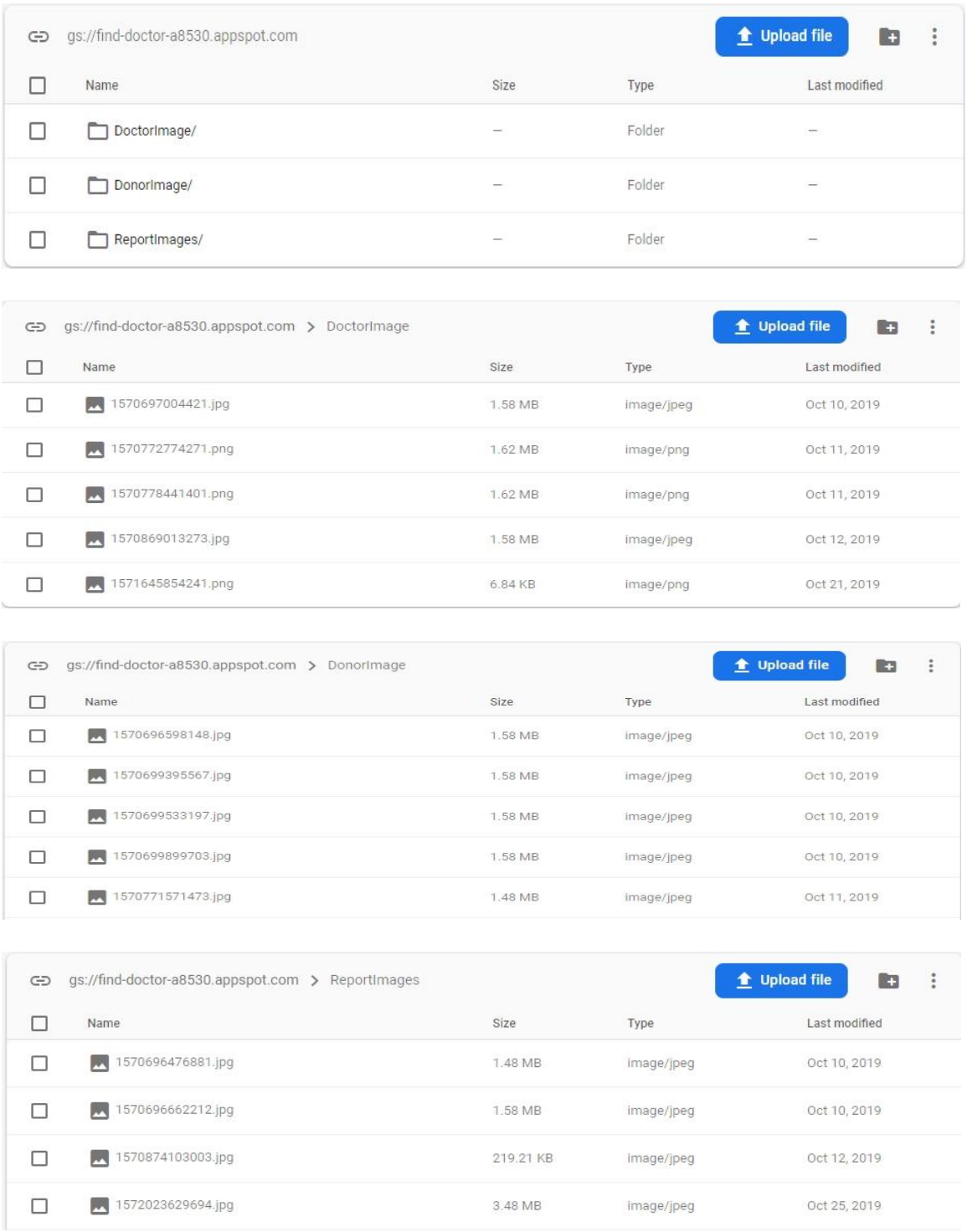

Figure 5.1.2: Firebase Storage of our system.

5.2 Implementation of Front-end Design

Designing the DoctorFinder application and admin application all pages like user login, registration, dashboard, dashboard with previous search result, doctor search by name and location, doctor search by specialties and location, blood donor search, register as a blood donor, adding medical report, view medical report, admin login, admin dashboard, doctor insert, update, delete and blood donor insert, update, delete all the pages are given bellow:

LOGIN

These are the login page of both users and admin app. Where user/admin need to give their registered valid email and password to complete the login process.

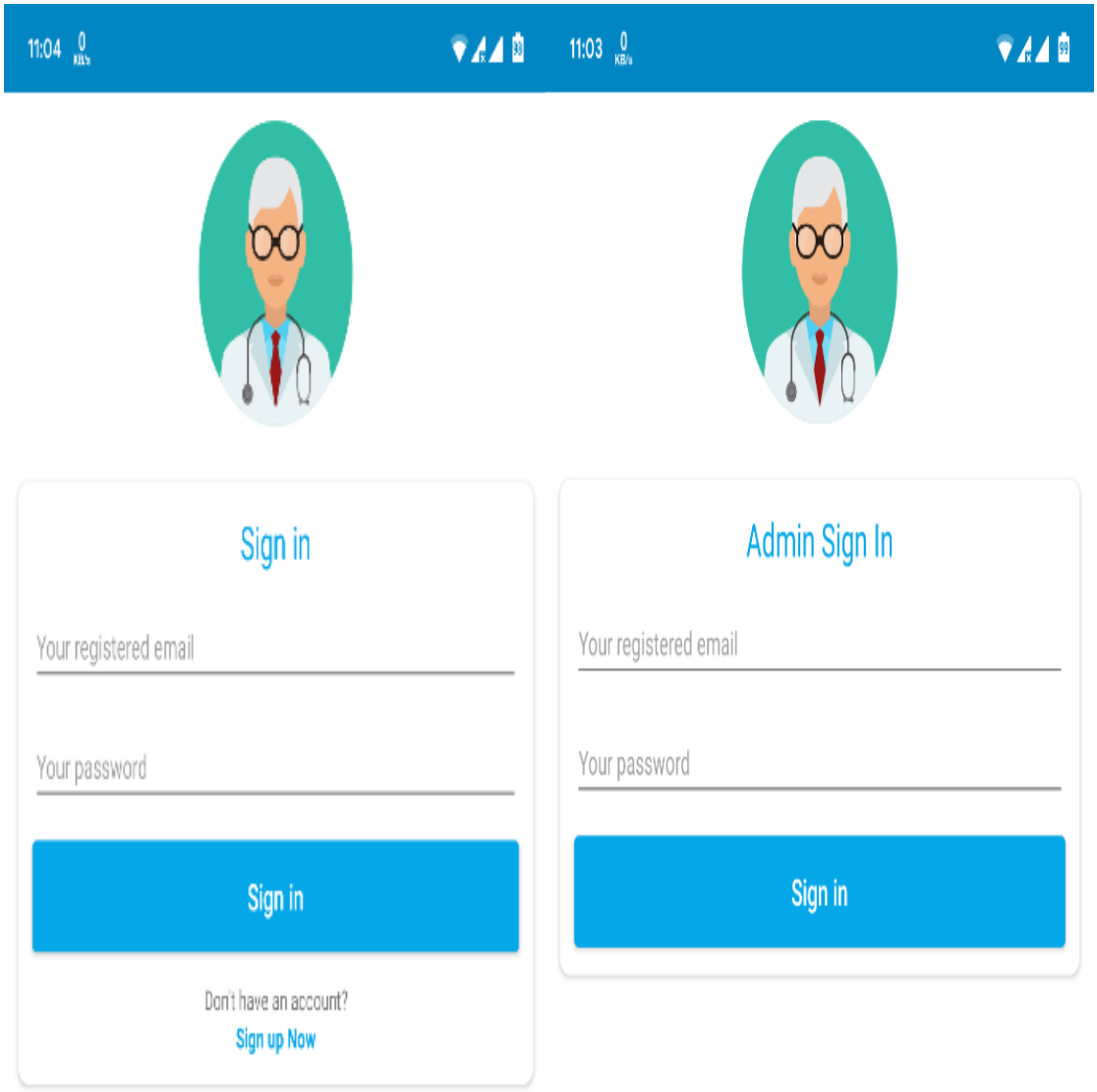

Figure 5.2.1: Login pages of users and admin app

REGISTRATION

This is registration of user app. Where new user's need to register themselves by giving every information the system want and all the fields are required also valid into the system to complete registration process.

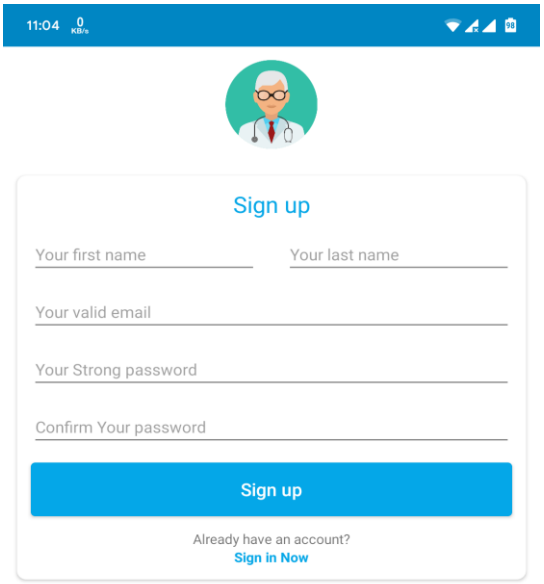

Figure 5.2.2: Registration page of user.

DASHBOARD

These are the dashboard of user application with and without previous search result. This page will show to the user/admin when they login successfully into our system.

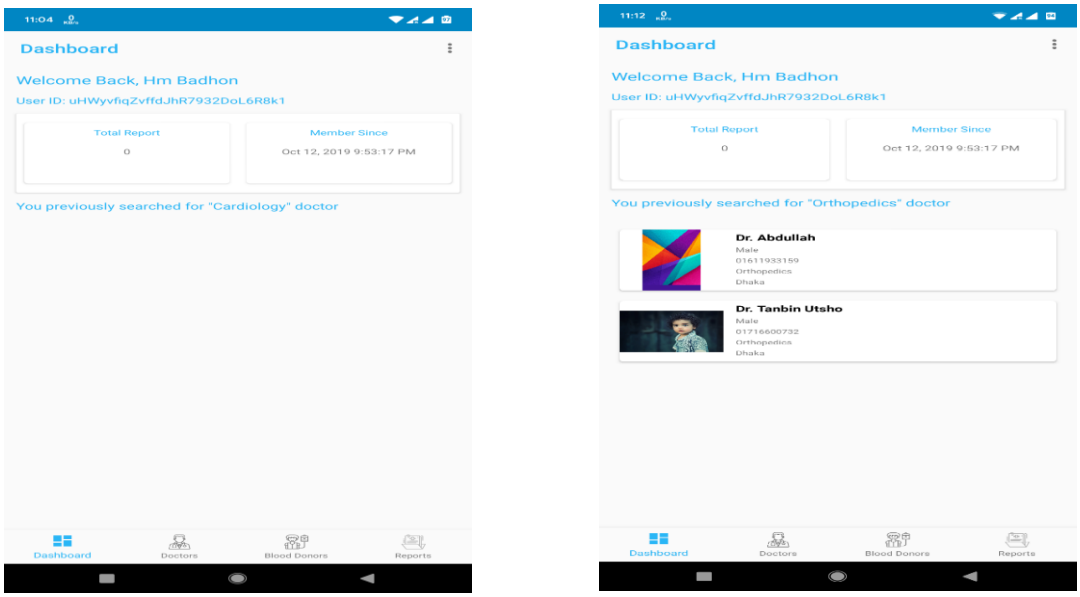

Figure 5.2.3: Dashboard page of user.

DOCTOR

These are the Doctor Search page of user application with two search category. Where users can search doctor by their name and location also by their specialty and location.

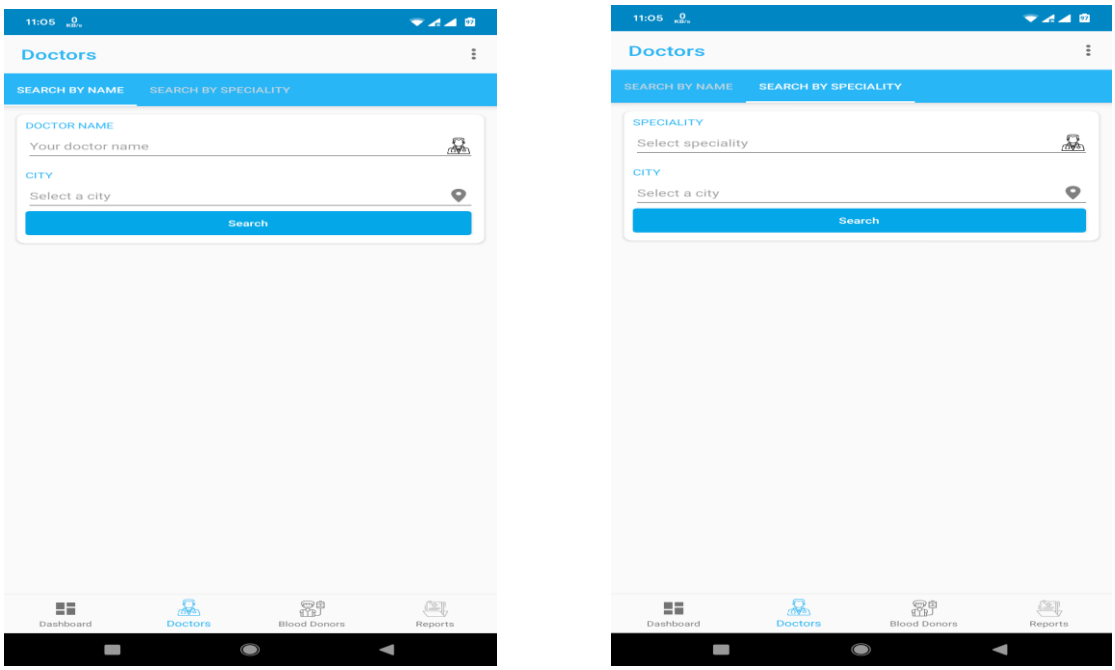

Figure 5.2.4: Doctor Search pages of user.

Blood Donor

These are the Blood donor search by blood group, location and register blood donor page. Blood donor registration need to fill by giving all the information system require.

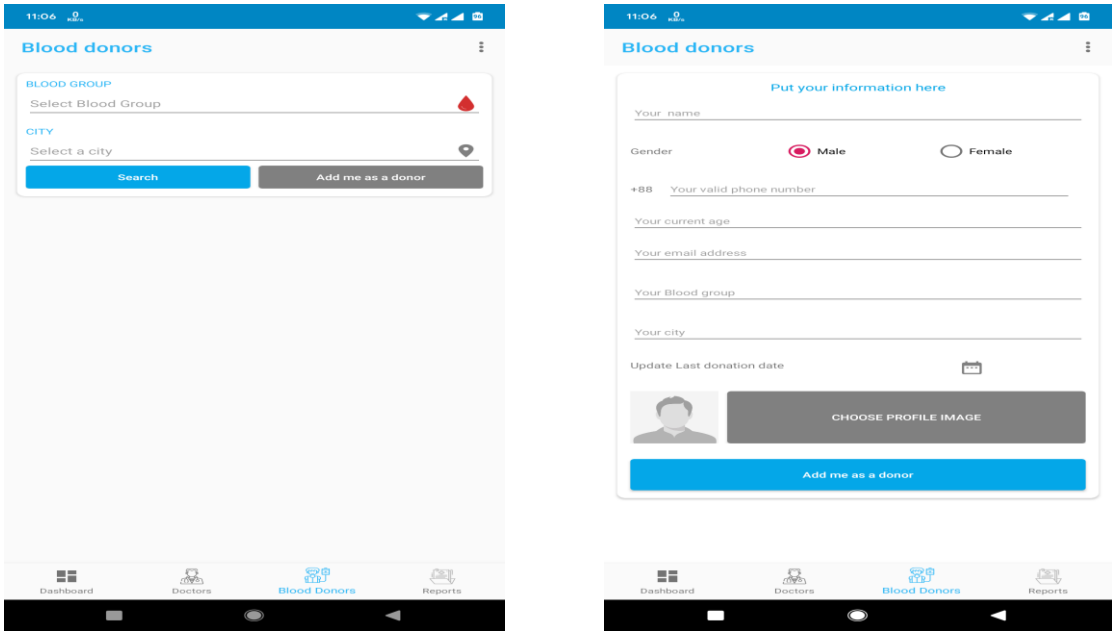

Figure 5.2.5: Blood Donor Search and Register page of user.

Report

These are the Report pages where we can view report list, add report and view report images. The report option will show previous added reports, click into the plus icon in the bottom will open another page which is the report upload page with details information.

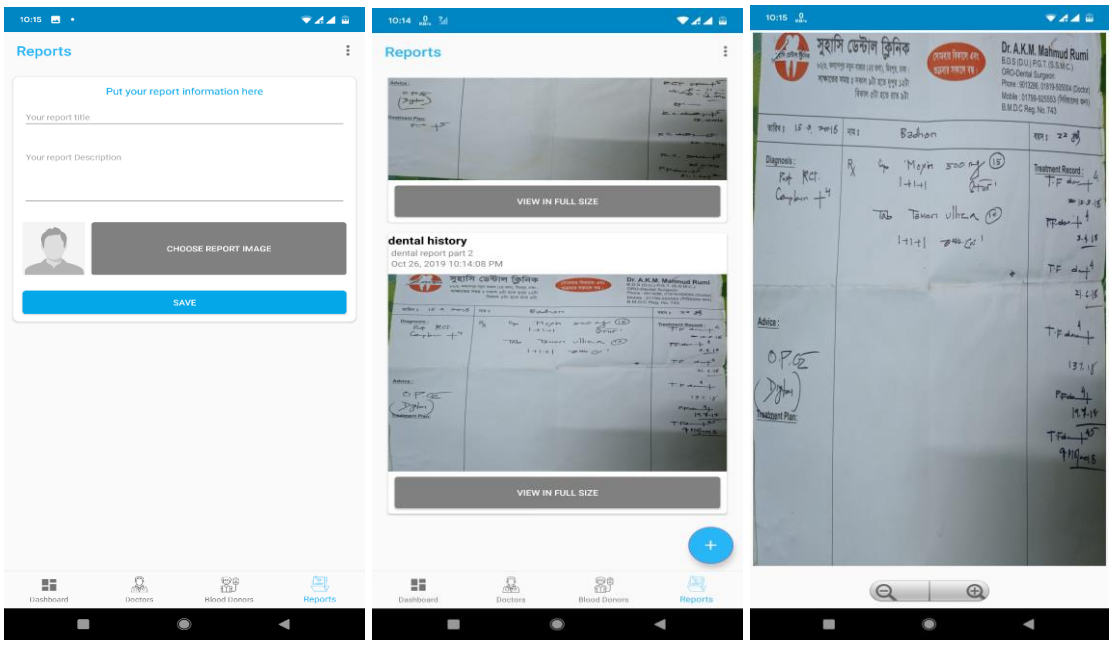

Figure 5.2.6: Report list, inert and view pages of user.

Search Result

These are the search result of doctor and blood donor page. After search blood donor and doctor we will see this types of results from the system.

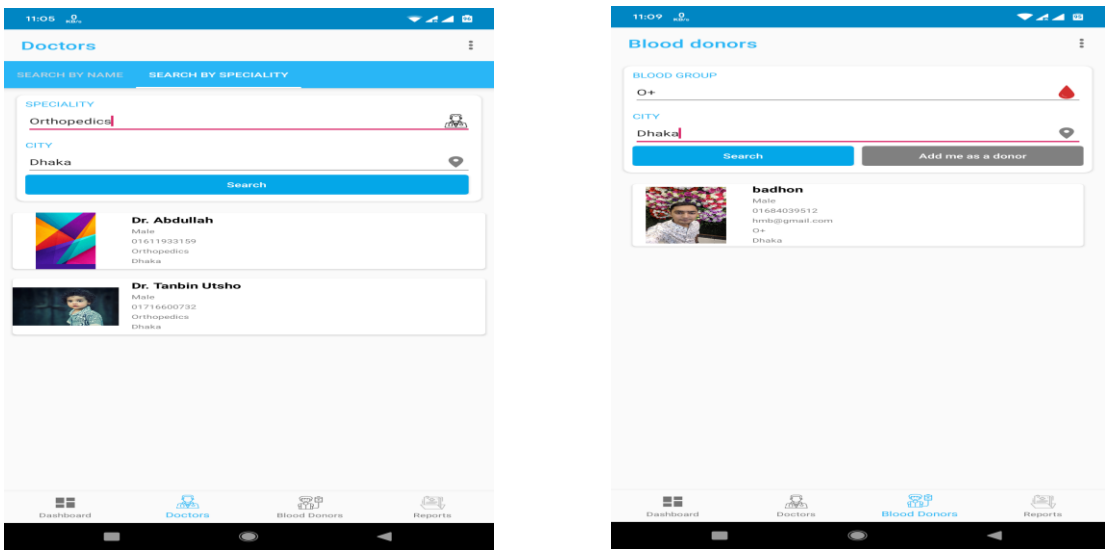

Figure 5.2.7: Search results of doctor and blood donor in user app.

Details View

These are the details view of doctor and blood donor pages. After click in any row from the search result it will show all the important details of doctors and blood donor.

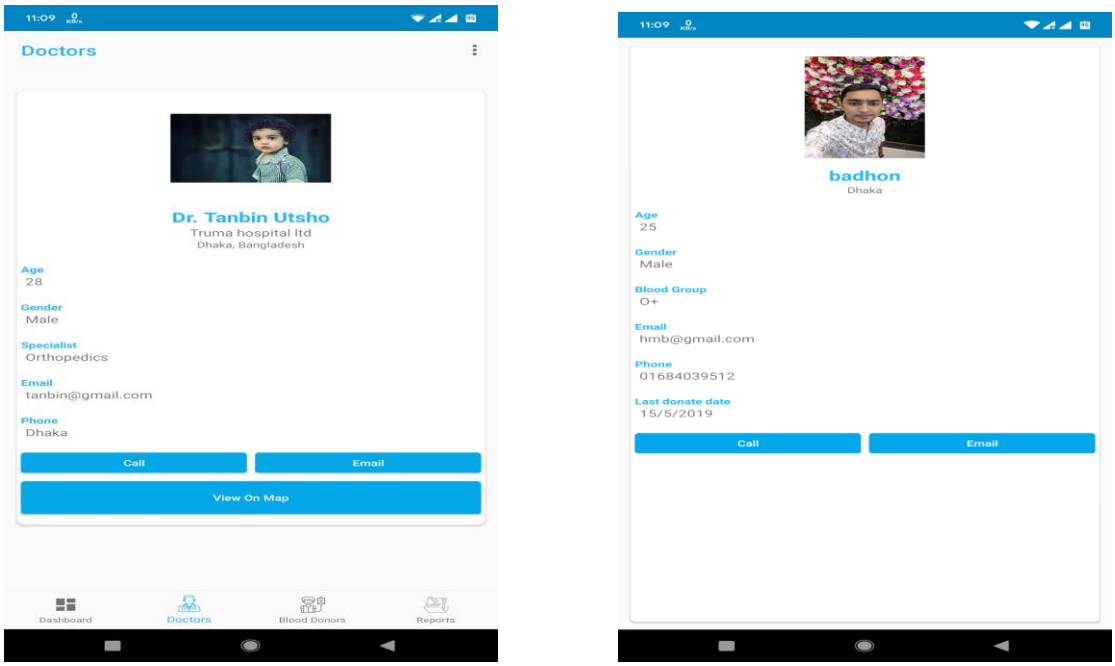

Figure 5.2.8: Details view of doctor and blood donor in user app.

Current Location Direction

This is the view of doctor location direction show into the map. Map location will show up when we will click on view on map option and after clicking navigation button it will show direction from our real-time location by google map.

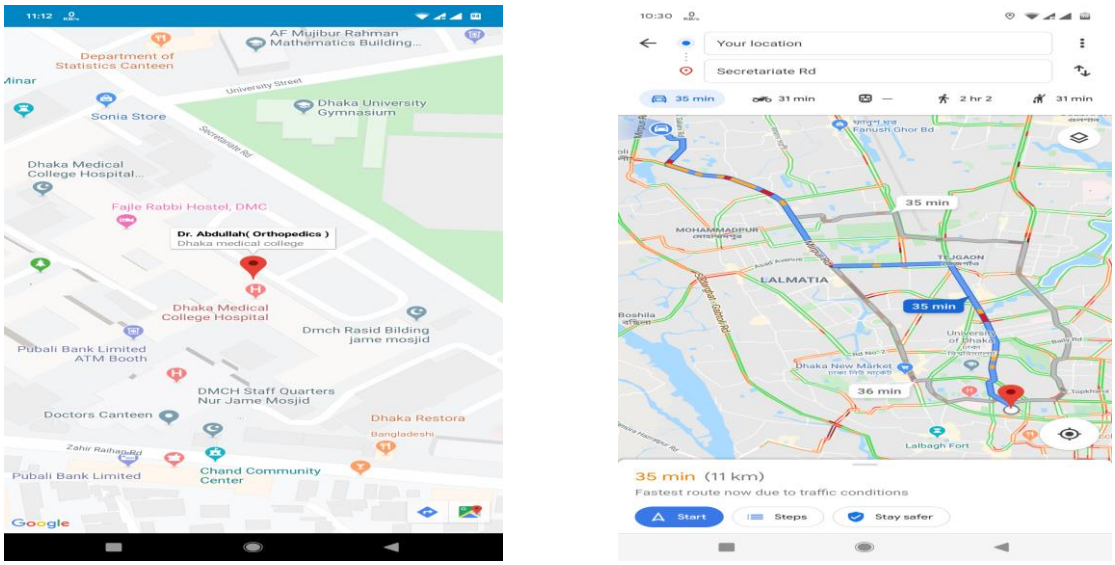

Figure 5.2.9: Current location direction of doctor in user app.

Modification Doctor

These are the insert, update, delete of doctor in admin app. Here admin can add doctor by filling up all the information and update or delete them by using their unique userid hash.

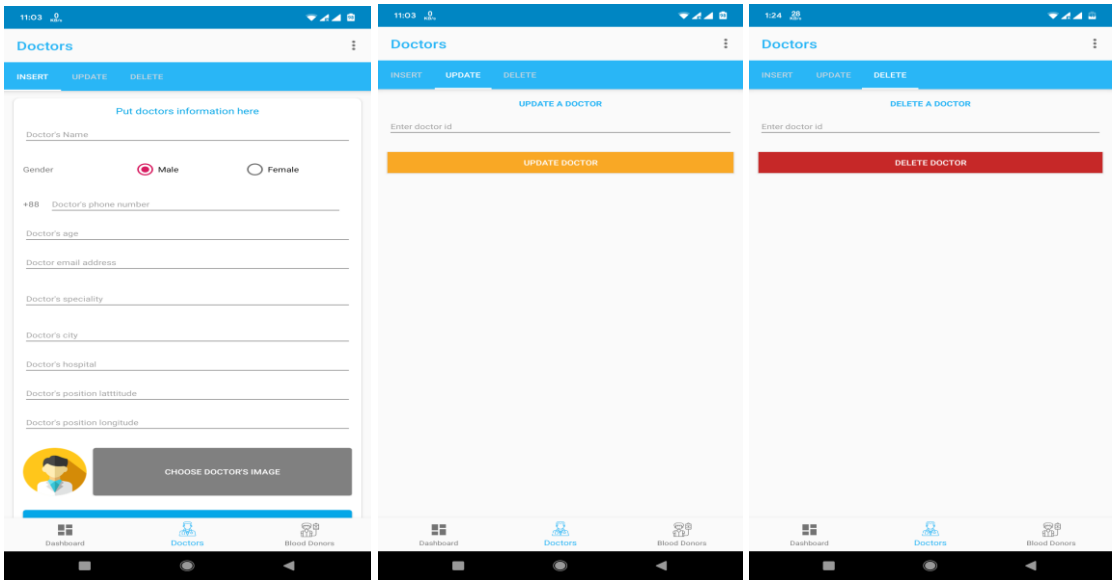

Figure 5.2.10: Insert, update, delete of doctor in admin app.

Modification Blood Donor

These are the insert, update, delete of blood donor in admin app. Here admin can add Blood donor by filling up all the info and update or delete them by using their unique userid hash.

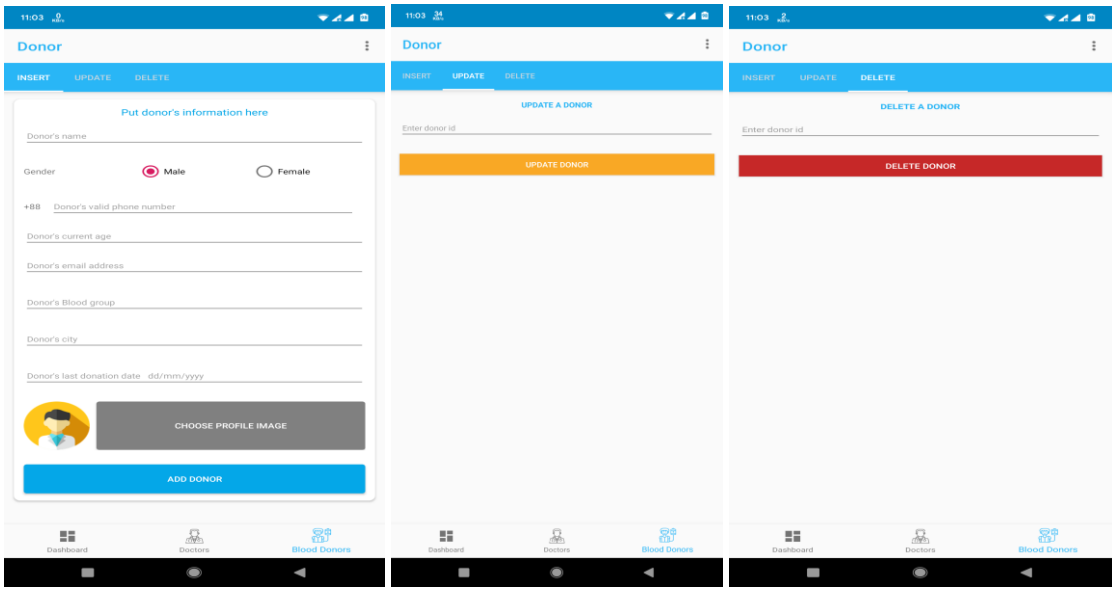

Figure 5.2.11: Insert, update, delete of blood donor in admin app.

5.3 Implementation of Interactions

DoctorFinder system is basically targets the users who need medical help who needs find doctor or blood donor. It helps users to find their desire specialized doctor and also help to find emergency blood donor. User do not need to find doctor by visiting hospital to hospital for their desire doctor or no need to calling for help person to person for their emergency blood donor. Our system will provide all the help that user need to find their best doctor and blood donor. The finding doctor and blood donor manually eras come to an end with the help of our system. It also provide users to store their necessary medical document uploaded into their profile which will help them from being lost of the medical documents. DoctorFinder admin app will be work for adding, update and delete doctor time to time and this is also go for blood donors. This system will make such a good impact into the medical sector of our country.

5.4 Testing Implementation

To make a great and successful project we must have to test the system over and over again. A good project requires all kind of inputs. We need to test the system to see whether the specification of our users are satisfied or not. Our system use JAVA and XML to make both DoctorFinder and Admin app, the database we used for our apps is firebase which is so popular and secure.

- **Levels of Testing**

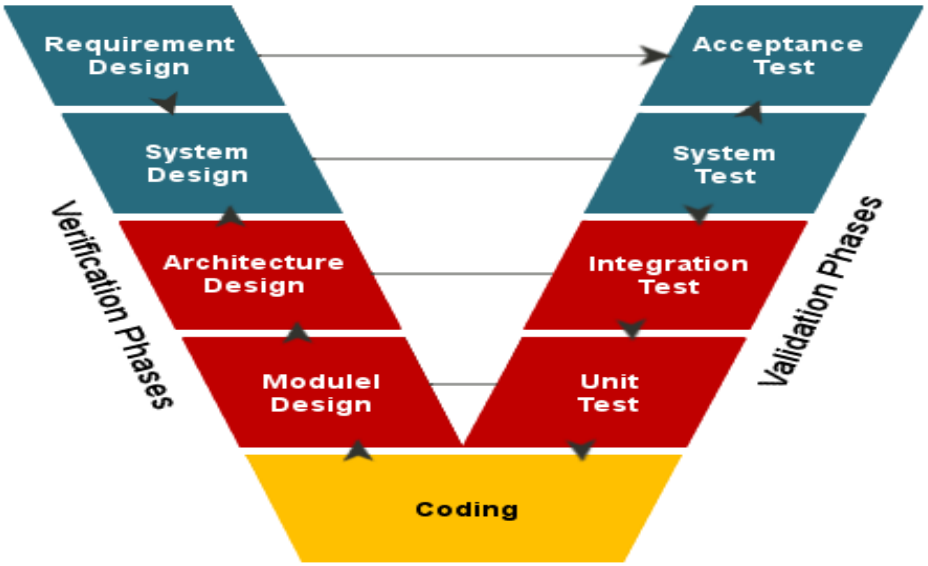

Figure 5.4.1: V Model testing for DoctorFinder and Admin app.

Table 5.4.1 below showing that the test results we achieve while testing our both apps. We have input every possible way that could be happen while application will be operate by the users. We have our current testing result till now.

Table 5.4.1: Test Case

No.	Test Case	Test Input	Expected Outcome	Obtain Outcome	Pass/Fail
1.	User Registration	Correct Information	Register Successfully	Register Successfully	Pass
2.	User login	Wrong Information	Login Failed	Login Failed	Pass
3.	User login	Correct Information	Login Successfully	Login Successfully	Pass
4.	Admin login	Wrong Information	Login Failed	Login Failed	Pass
5.	Admin login	Correct Information	Login Successfully	Login Successfully	Pass
6.	Doctor Search	Correct Information	Show Doctor List	Show doctor list	Pass
7.	Doctor Search	Wrong Information	Show Nothing	Show Nothing	Pass
8.	View Doctor Details	Click Doctor List	View Details Successfully	View Details Successfully	Pass
9.	View Doctor Direction	Click Map View	Direction Show Successfully	Direction Show Successfully	Pass
10.	Blood Donor Search	Correct Information	Show Blood Donor List	Show Blood Donor List	Pass
11.	Blood Donor Search	Wrong Information	Show Nothing	Show Nothing	Pass
12.	View Blood Donor Details	Click Blood Donor List	View Details Successfully	View Details Successfully	Pass
13.	Upload Report	Correct Information	Upload Successfully	Upload Successfully	Pass

14.	Upload Report	Wrong Information	Upload Failed	Upload Failed	Pass
15.	Logout	Click Logout Button	Logout Successfully	Logout Successfully	Pass
16.	Admin Doctor insert	Correct Information	Insert Successfully	Insert Successfully	Pass
17.	Admin Doctor insert	Wrong Information	Insert Failed	Insert Failed	Pass
18.	Admin Doctor Update	Correct Information	Update Successfully	Update Successfully	Pass
19.	Admin Doctor Update	Wrong Information	Update Failed	Update Failed	Pass
20.	Admin Doctor Delete	Correct Information	Delete Successfully	Delete Successfully	Pass
21.	Admin Doctor Delete	Wrong Information	Delete Failed	Delete Failed	Pass
22.	Admin Blood Donor insert	Correct Information	Insert Successfully	Insert Successfully	Pass
23.	Admin Blood Donor insert	Wrong Information	Insert Failed	Insert Failed	Pass
24.	Admin Blood Donor Update	Correct Information	Update Successfully	Update Successfully	Pass
25.	Admin Blood Donor Update	Wrong Information	Update Failed	Update Failed	Pass
26.	Admin Blood Donor Delete	Correct Information	Delete Successfully	Delete Successfully	Pass
27.	Admin Blood Donor Delete	Wrong Information	Delete Failed	Delete Failed	Pass
28.	Logout	Click Logout Button	Logout Successfully	Logout Successfully	Pass

5.5 Test Results and Reports

After testing our system into various way complicated activities, processes, methodologies etc., related to the process of testing now we can say that the system is completely successful and ready to go online. This testing processes are really very important for a system before its go live because it's help a lot with the user's experiences.

- **Benefits of a Usability Test**

Usability testing offers a variety of benefits for both future users of a product as well as the company or developers creating that product. A few of these include:

- Saves time for both the company and users
- Provides a better user experience
- Offers insight into how satisfied users are with the product
- Identifies problem areas within the product which may not have been obvious otherwise
- Provides an unbiased examination of the product

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

After analyzing the whole project we can easily say that it is a highly user-friendly GUI based on our project application. Both users and admin application is working successfully without any error. It can be used in many other system to fulfill its purpose properly. Our system is more efficient rather than the manual doctor finding and blood donor finding solution. This system's information can be easily manipulated with the respect of each users need.

This system is fully automated which will help each and every one of its users and they will be able to fulfill their needs of finding their desire emergency doctor and blood donor as well. The direction finding solution also included into the system so this will also pretty much helpful to find their doctor's location very easily.

The features of the project are so convenient it includes flexibility, ease of access, storage, reduction of manual work, reliable and timely.

6.2 Scope for Further Developments

Gradually our project work will be continued. We will update our system day by day of our users need to make them as comfortable as possible to use our system. In app calling and messaging feature are our first priority to add into our system. We will gathering our user's feedback about their experience by using our application and we will try to make sure their user experience will be better day by day.

Also in the future we will make a different app only for doctors which will help user directly contact will the doctors and make their appointment directly. In that system doctor register themselves as a doctor and admin will be verify their all documents and approve them. Doctor will be able to see and set their appointment time of their choice.

Our future goal is make this system as much as we can. So user don't need to use another option rather than our system. To becoming the biggest medical service company provider in our country.

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APPENDIES

Appendix A: Project Reflection

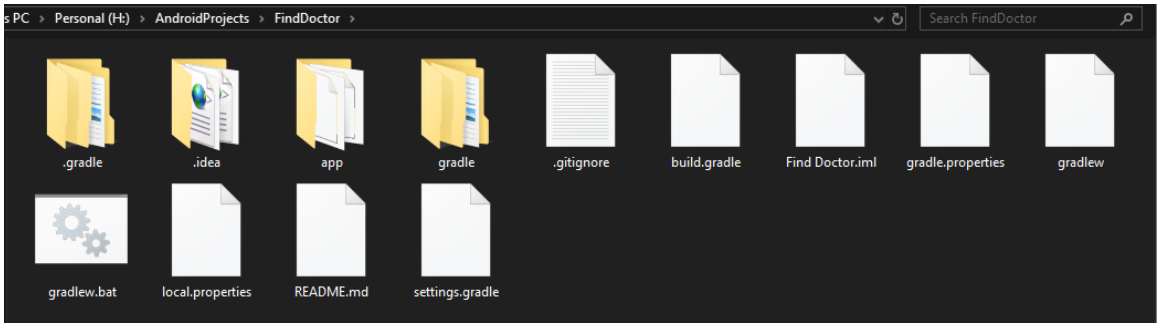

Figure A.1: DoctorFinder User Application

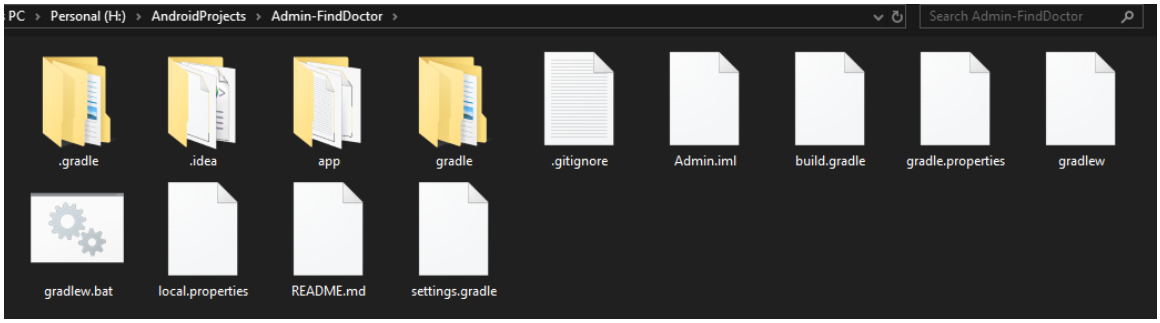

Figure A.2: DoctorFinder Admin Application

Appendix B: Related Diagrams

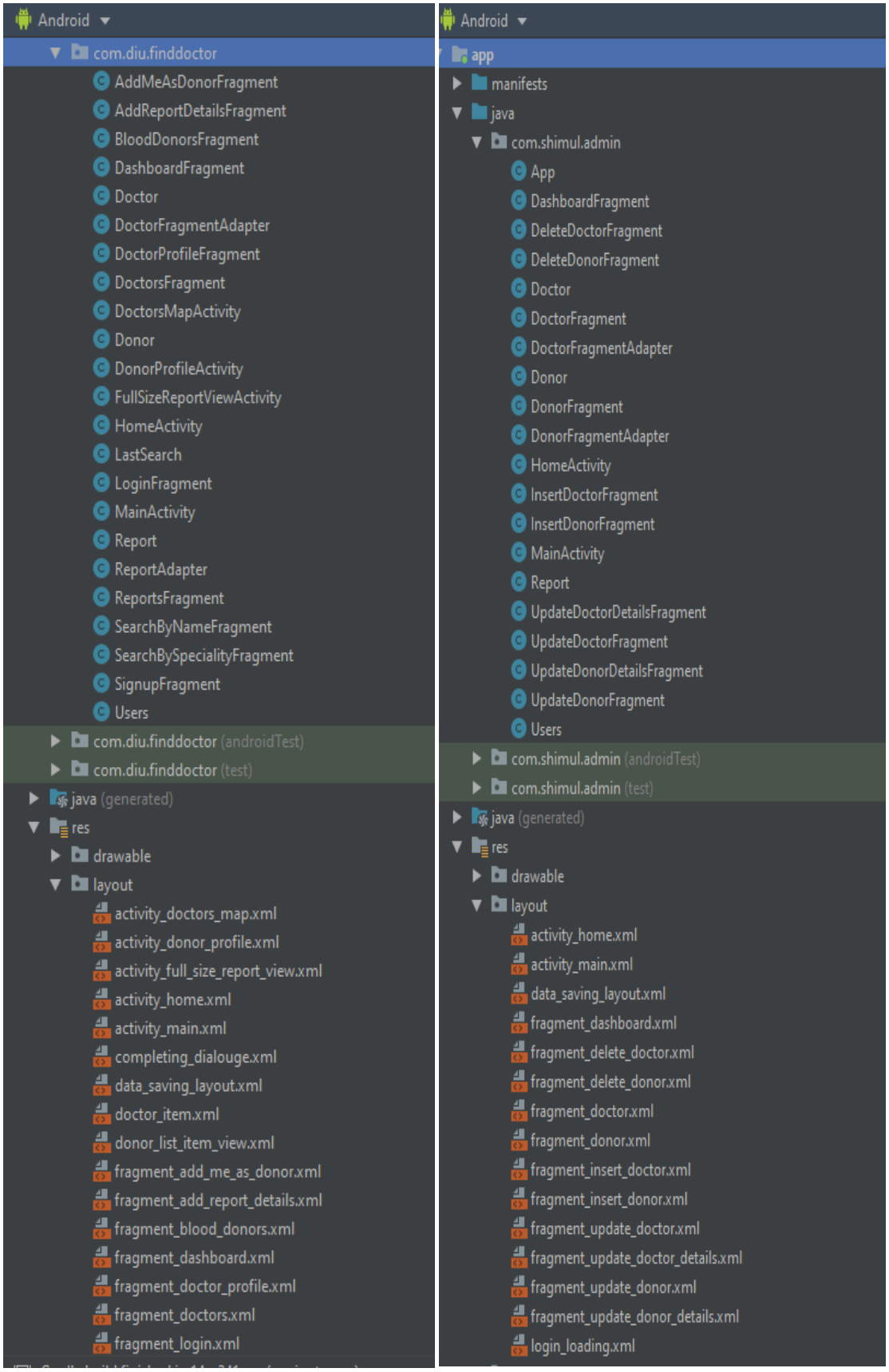

Figure B.1: DoctorFinder User and Admin project view.

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