ONLINE ANDROID BASED BLOOD DONOR APPLICATION

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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 **Online Android Based Blood Donor Application**, submitted by Md.Akram Hossain Antor ,ID:152-15-5996 , Akash Saha ,ID:152-15-5990 and Khurshid Alam Yasin , ID:152-15-6008 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 2-05-2019.
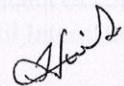
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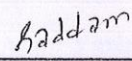**Dr. Sheak Rashed Haider Noori**   **Internal Examiner**
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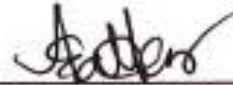United International University

DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Enamul Karim, 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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Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Blood is one amongst the foremost vital parts of frame. Immeasurable individuals want blood once a year. There are a unit ten of thousands of pints of blood that area unit required a day to assist folks. Because of deficiency of blood someone will suffer from serious health issue and will even die. Clinical science can't produce blood but with the blessing of medical technological know-how blood may be transferred from one character to. The actual purpose of this project is to avoid wasting the life of individuals by giving blood. This report can assist you to understand deeply the particular work that has been done as a team work. Our project on-line blood bank management system mistreatment golem is developed in order that the users will read the knowledge of blood donor, blood banks close hospitals. Our project is developed in 3perspectives and they are patient/donor , hospital and blood bank . We have provided security for certified users as new users need to log in to their perspective style and existing users need to log in. Our project needs affiliation to the internet. We've got this application a tendency to area unit developing helps to pick out the close hospital on-line instantly by tracing its location mistreatment GPS. This application, therefore, provides the specified information in less time and also helps to make faster decisions.

TABLE OF CONTENTS

CONTENS	**PAGE**

LIST OF FIGURES

CHAPTER 1

Introduction

1.1 Introduction

Our Blood Bank is on-line based android project. These days we'll be able to simply connect with something through web services. Therefore, online platform is the best option for our project. bank is aims serving for human welfare. we've all the knowledge, you may ever want. many folks square measure here for you, to assist you, willing to gift blood for you anytime. we've done all the duty, rest is yours. search the people you wish. you'll be able to facilitate Bangladesh by registering on bank if you're willing to gift your blood once required. As a proud member of sensible bank and a accountable person, you'll be able to facilitate somebody in want. So, gift blood in on-line. The person who got to gift blood might register on our web site with the assistance of username and watchword. The persons UN agency want donor, they'll search and notice blood donors by mistreatment our web site. once looking, an inventory of donors is going to be displayed and the user will get transient details regarding their contact details, email together with their location, in order that they will communicate.

1.2 Motivation

In our country, the number of blood seekers increases day by day. There are many reasons for increasing blood demand. Road accidents are a common issue in our country. For major surgeries or patients for the long term, blood therapy needs a huge amount of blood. In an emergency case, it is difficult to find a matching blood group as needed. Finding blood manually also very difficult. So the connection between the blood donor and receiver is complex. We want to make it simple by our application. Where blood donor and receiver communicate with each other easily. All of this motivates us to make our app. By our app, we can provide blood to blood seekers very fast and easily. It's a life-saving application. Most important we can help patients for and served humidity by our application

1.3 Objective:

This project is mainly towards persons who are willing to donate blood to the patients. Through this technique it'll be easier to search out a donor for actual people and simple to create the association between donor & the bank authorities.

The most intend of building this software system is to formal the procedure of blood donation & encourage donors so as to donation blood.
We have tried to keep up all those data of donor that is definitely graspable to the doctors that makes them simple to search out the donor.

1.4 Scope:

The Possibility of this project is that in a very quick time it delivers user several services. It offers a sublime blood management, hospitals list, donors and blood banks on-line. The most aim of our project is to communicate all the available donor, blood banks and hospitals into one network, authentication, stock varied knowledge and knowledge of blood and fitness of every individual person. This method is employed to save knowledge into a central server that comprises information wherever the individuals' info can't be accessed by a 3rd party.

1.5 Expected Outcome

The purpose of the online blood donor application is to modify and automatize the method of searching for blood just in case of emergency and maintain the records of blood donors, recipients, blood donation programs and blood stocks within the bank of blood.

1.6 Report Layout.

Chapter 1: Introduction

In this chapter we have discuss about the objective, motivation and scope of our project. Next follows the report layout.

Chapter 2: Background

Here we also discuss about the state of our project, related work, similarity the other candidate system and the challenges of the project.

Chapter 3: Requirement specification

Here we discuss about the functional requirement and non-functional requirement which was used in our project.

Chapter 4: Design Specification

Here we discuss about all the design of our project like front-end design, back-end design, Interaction design, UX and the implementation of our requirement.

Chapter 5: Implementation and Testing

Here we discuss about the database and its implementation, front-end design and interactions, test result of that project.

Chapter 6: Conclusion and Future Scope

Future development is discussed in this section.

CHAPTER 2

BACKGROUND

2.1 Introduction

One of the foremost vital things in a very project is that the background. If we would like to end a project properly, we've got to be told concerning the background problems. we've got to check additional and additional a couple of connected or not the connected topic and analysis articles. Background data of a project has the relevant and connected tropics of a project. It conjointly discusses all of the matter and rationalization. It helps that one that browse that paper with all the logical plan.

2.2 Related Work

There is some app in google play store that are similar to our app. But our app is different from them in some major way. That's what make our app unique. We add some picture of those application.
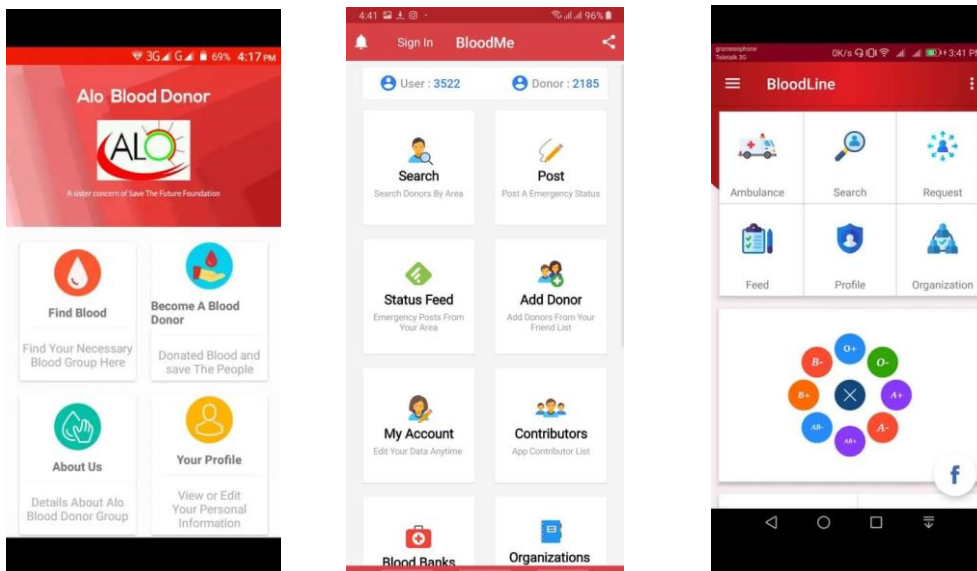
Figure 1.1: Related blood donor apps

2.3 Comparative Studies

The other applications of blood donor network are helpful for patients but in our country, we have nothing like this. The complexities of finding a donor with Google map are so hard. We modified that for everyone. We make a systematic framework which is more comfortable for donors. We made a simple solution for major problem. But there has no security issue in our application. We want to improve our system with a huge number of resource-allocation. The patients can find more specific result when they want to get easy to blood in short time. Our system is fully controlled by admin but in future we make some user efficiency for improving more.

2.4 Scope of problem

We moon-faced some drawback after we wish to finish our project. Some issues area unit too troublesome whereas others area unit very easy for resolution. once resolution every kind of drawback finally we tend to get the correct system. Here some drawback that we tend to area unit moon-faced to boost this system:

- To grasp the particular demand of latest comers, what they give the impression of being for
- To modify Google map with our application
- To collect all the information for our info
- To verify our application on play store that was a giant challenge for us
- To create one thing special in order that individuals get fascinated by our application and revel in the interface

2.5 Challenges

To create an interface for user that is each simply passable and operative are going to be a tough task for us. The fundamental and first limitation are going to be that is we have a tendency to developing associate degree application on mobile platform.

The foremost constraint is going to be the resolution and restricted screen extent because our application is works on mobile handsets. The opposite limitation concerning mobile telephone are going to be process influence and restricted memory.

Our android app project is supposed to be approachable management of purposes that agreements with great data concerning the donors, patients, hospitals, blood banks, stock supervision and can be established expeditiously. To provide a best resolution of blood donation we've moon-faced some challenges. Those square measure mentioned bellow:

- The feature and also the UI style
- User friendly method
- Make guarantee users security
- Adding embedded Google map to that
- Giving all helpful info
- Giving a multi-authentication system

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business method model (BPM) could be a tool for building a flowing diagram. It creates a model that demonstrates the acceptable flow of information from the beginning to finish. the potential of the project will be delineating by BPM. Primarily all the engineering comes possess a business method model. Before beginning the work of implementation of the project, a properly developed business method model helps to spice up the speed of labor. A business method model flexibly gifts the project to each the user and developer.

In our project the donor is the entity. The appliance can bring all the necessary information of donor, acceptor, and hospital. Regardless, the user will navigate through totally different sections of the appliance and find the specified info by themselves.

3.2 Requirement Collection and Analysis

In all the real-life projects, the first and foremost task is to specify the necessary requirements. Without the requirement of a project, a clear graphical view can't be drawn. And it is very important for the smooth conduct of work for any project. The work can go hazy in the midway if the requirements are not analyzed properly. And in turns, all the work and efforts can go in vein. So, to build a successful project, a successful requirement collection and analysis is a must.

On our project, requirement collection was a major part. We had to interact with the common people, foreigners and visitors to collect the requirements. We had to find out the information they want and frequently need in a city guiding application. We divided our project into several parts as we have various places categorized in several sections. We also had to get in contact with some particular places in person to find out the exact information. After gathering the requirements, we analyzed them. And got a proper walkthrough for starting the implementation of the project.
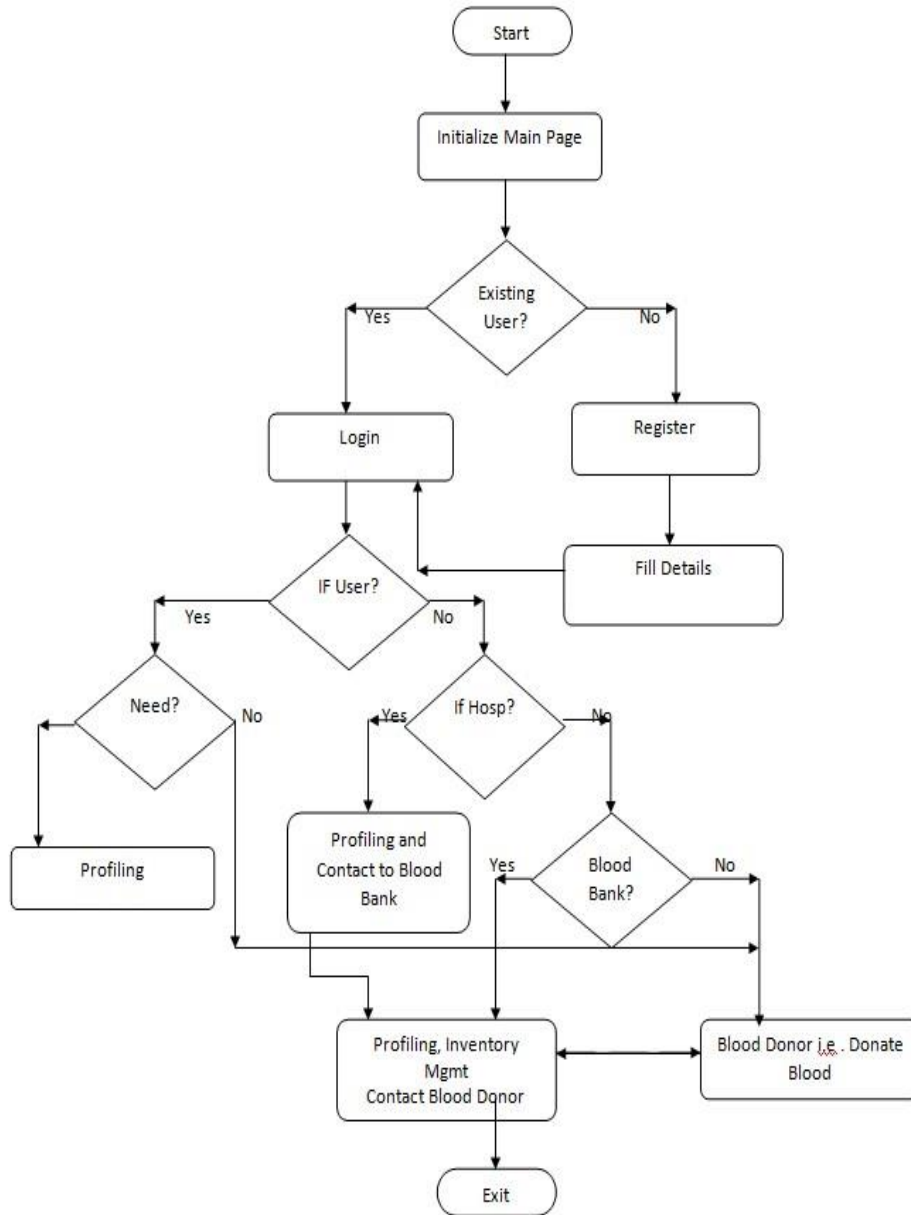
7

3.3 Use Case Modeling and Description

Figure 2.1: Architecture of the system

The main page is initialized either by logging in or by registering

1)If you're a brand-new user of this app then initial sign on, if you're an already member then enter your information details concerning your personal info, contact info, health info and then press submit and your position are copied and data are out there.

2)Register suggests that registration in means of username and watchword then check blood supply in hospital, blood banks, and blood donors if gift then gets the knowledge and list of them and use the knowledge as needed and exit as needed.

3) If blood required then initial ensure account is available or not for that move to purpose for the user's position is derived and in line with the situation near blood donors, blood banks, hospitals is listed. Then opt for the knowledge as per the necessity and so exit.

4) Login: If the account is available then proceed to purpose 3 and exit however if not then register and move to purpose 2.
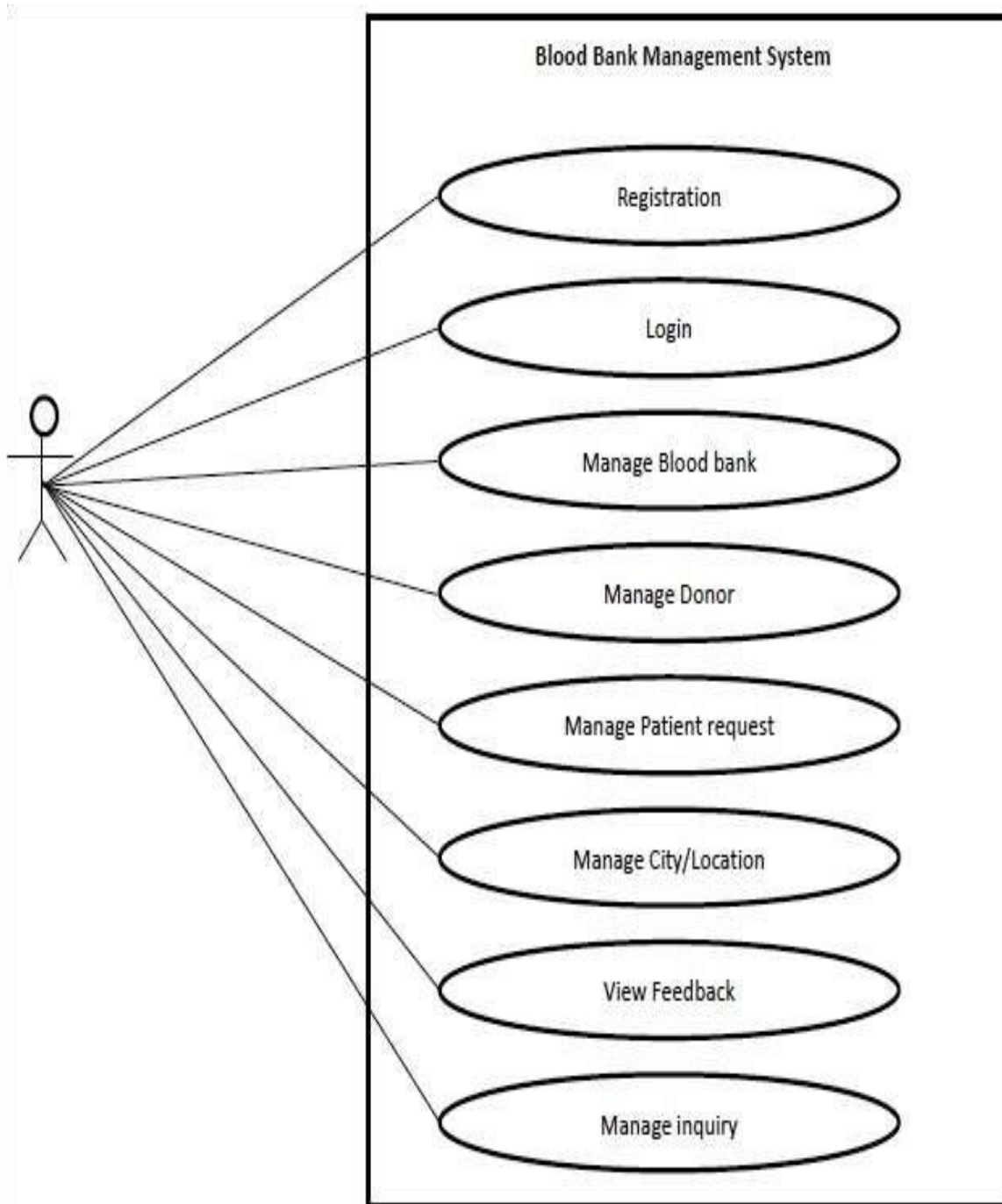
Admin

Figure 2.2: Use case diagram for admin
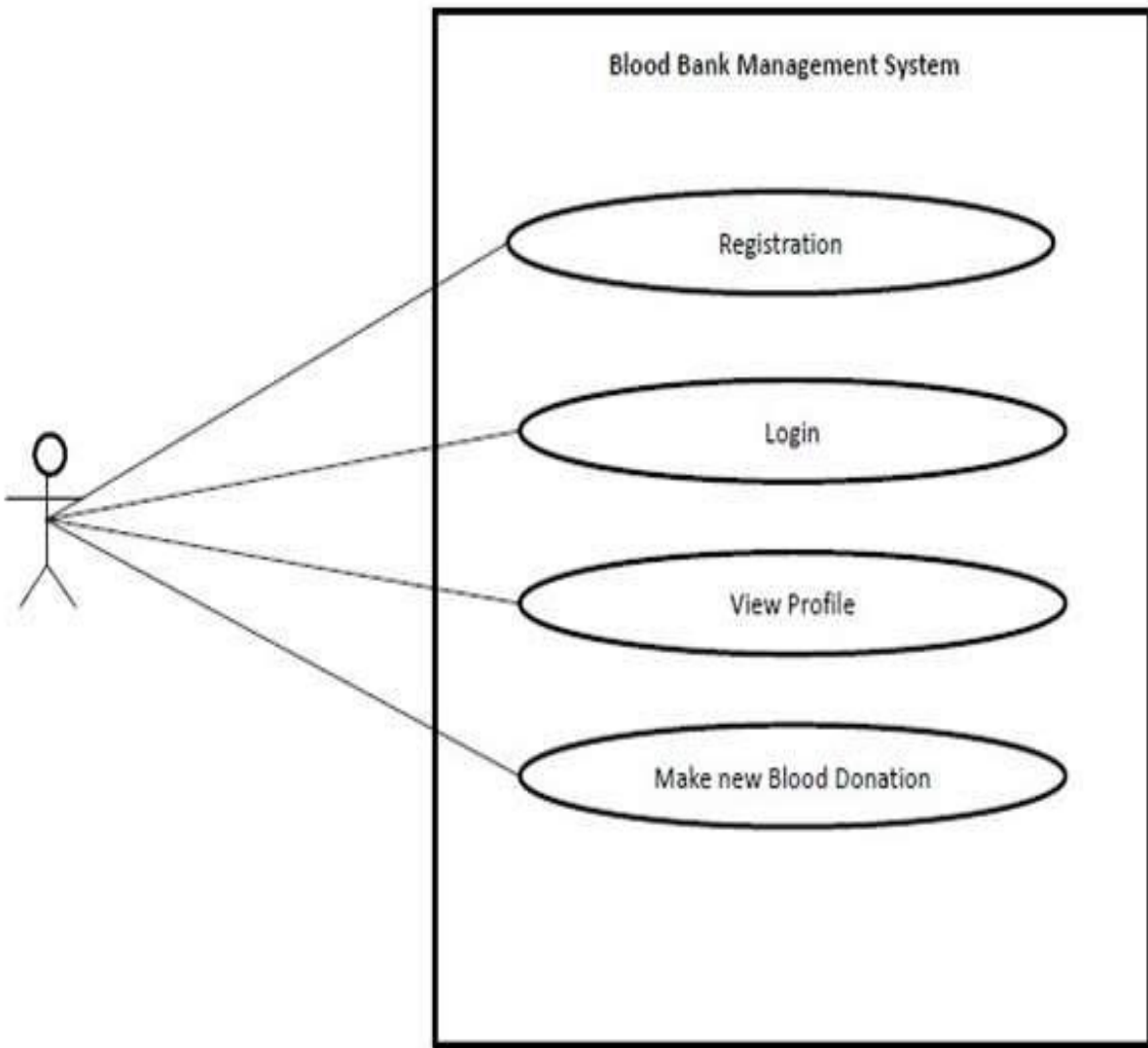
Donor

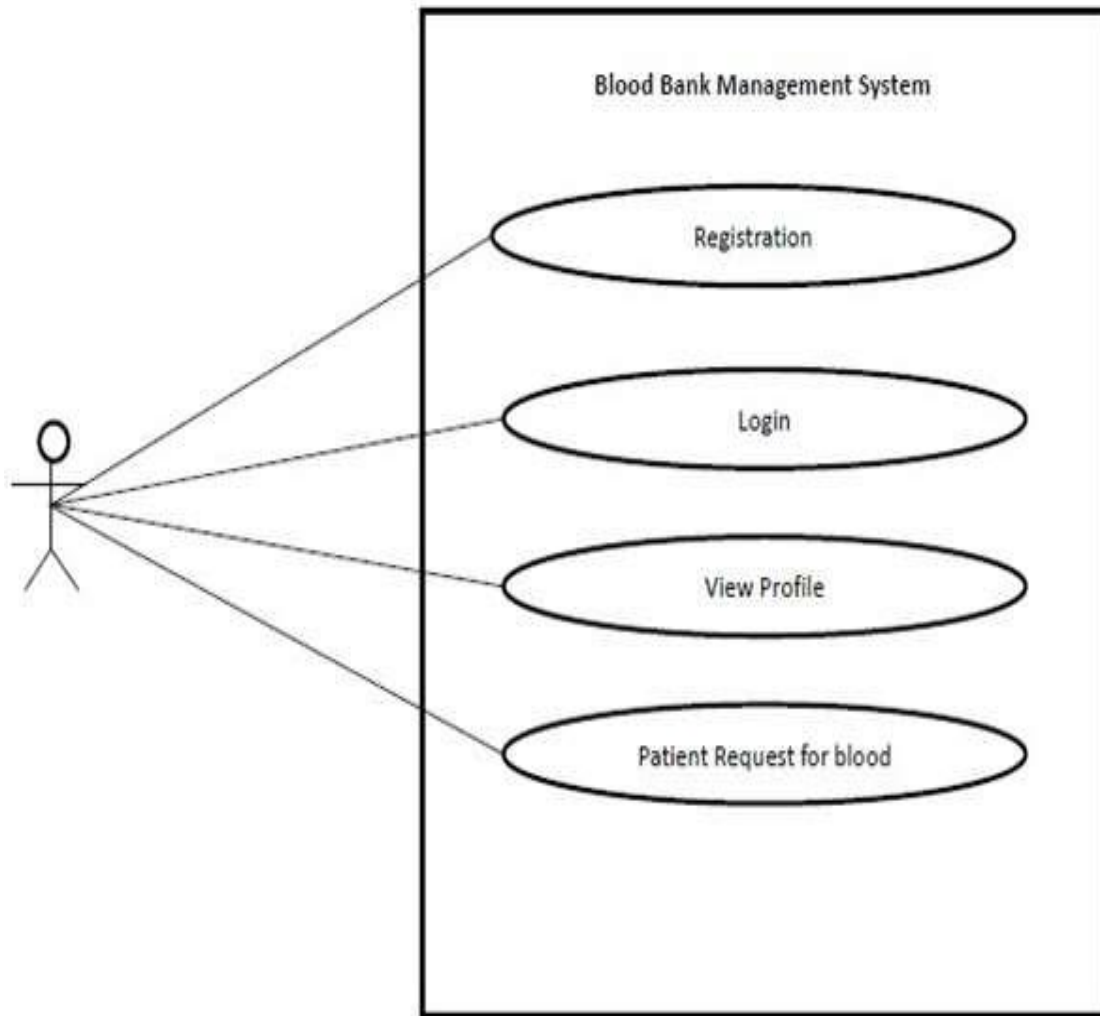Fig 2.2.1: Use case diagram for donor

Acceptor

Fig 2.2.2: Use case diagram for acceptor
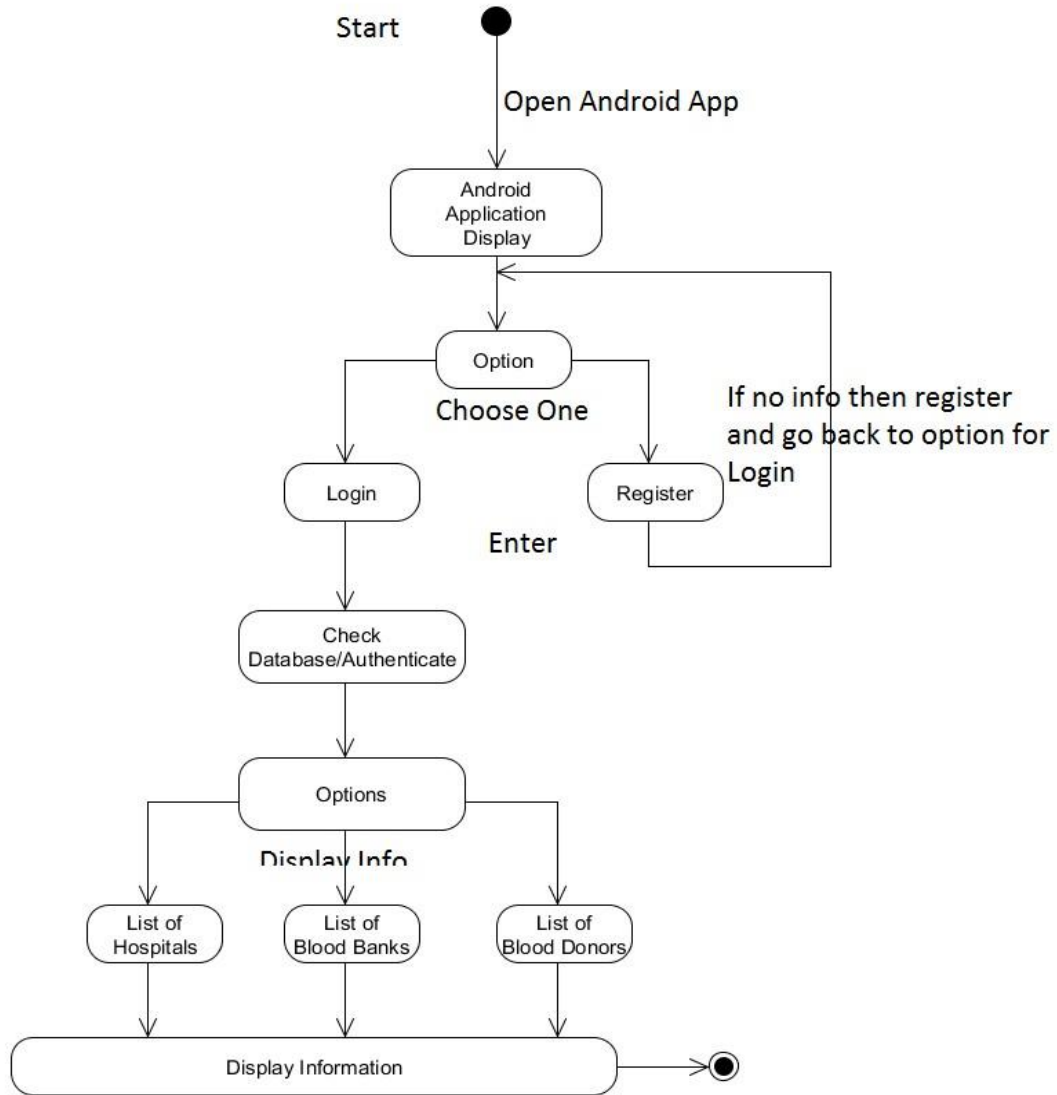
3.4 State Transition Diagram

Fig 3.1: State transition diagram

CHAPTER 4

DESIGN SPECIFICATION

Design specification of a system shows how the event method can choose a selected system and the way the developments square measure being done. A style specification may be a elaborated document providing data regarding the born of a project to line criteria the developers can got to meet.

Its use is named for wherever a structure or product must be specially created to fulfill a necessity. within the following section, we will be able to offer the face and side style of our application at the side of the tools and platforms accustomed to develop the applying.

4.1 Front-end Design

Our online blood donation android app has been developed by android studio. The planning has been unbroken plain so the user gets a easy interface to surf round the application. The users want and a lively net affiliation to use the app as it's developed supported the period of time information construct. It is so easy to use for the user so the implement of the design is simple. That's why user can easily understand the interface.

User Interface: Here are some screenshots of the project.

Signup interface: On this page user will register a parson as a donor and user will be provided a username and password.
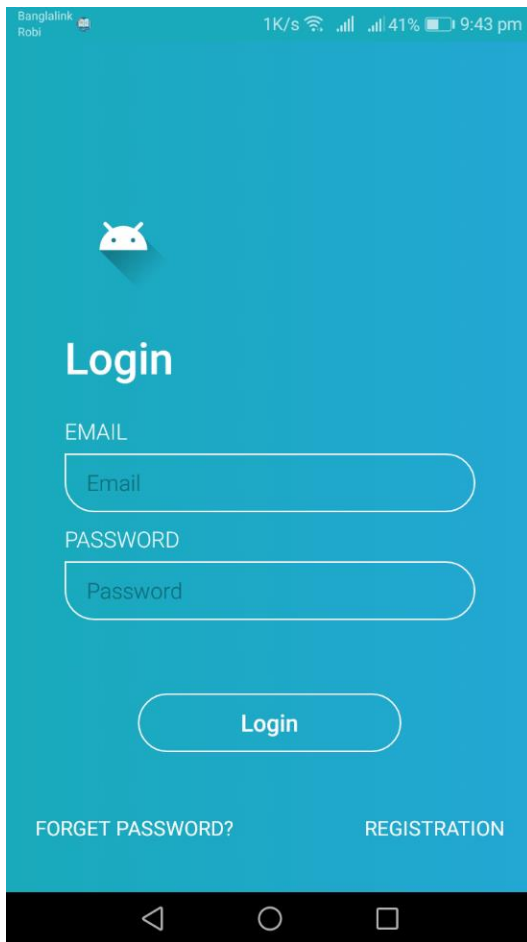

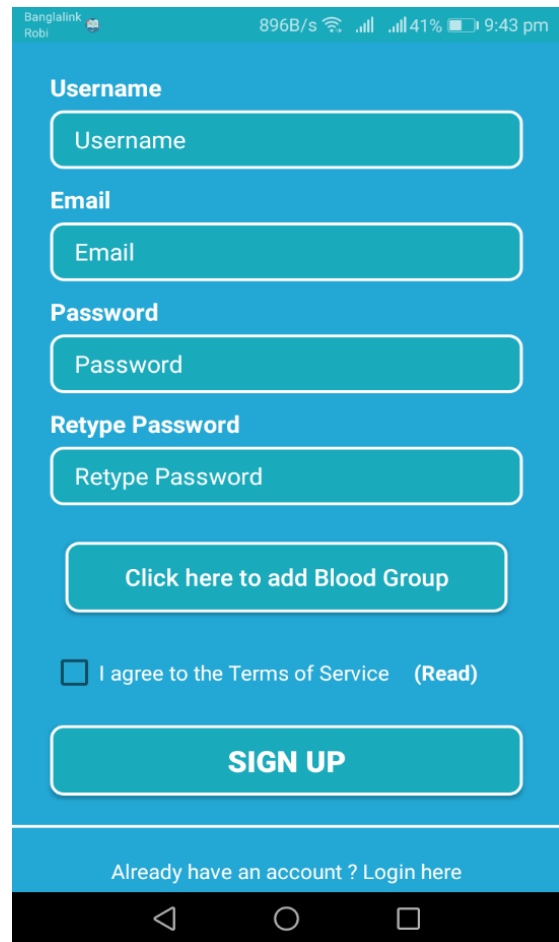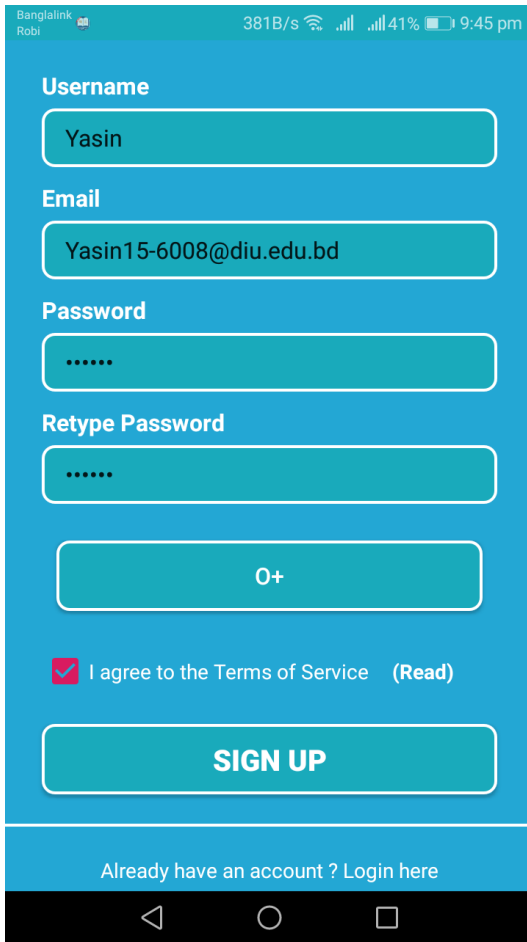Figure 3.1.1: Signup Interface procedure 1   Figure 3.1.2: Signup Interface procedure 2

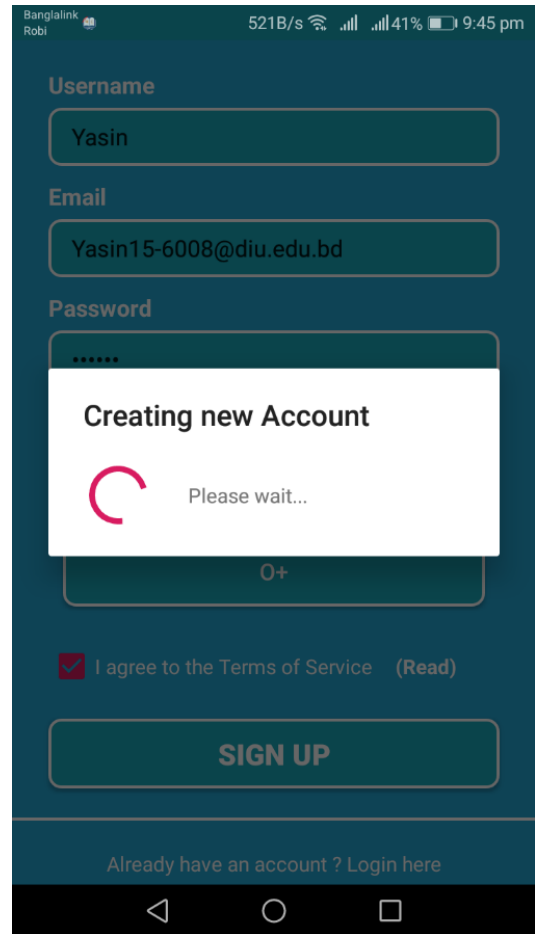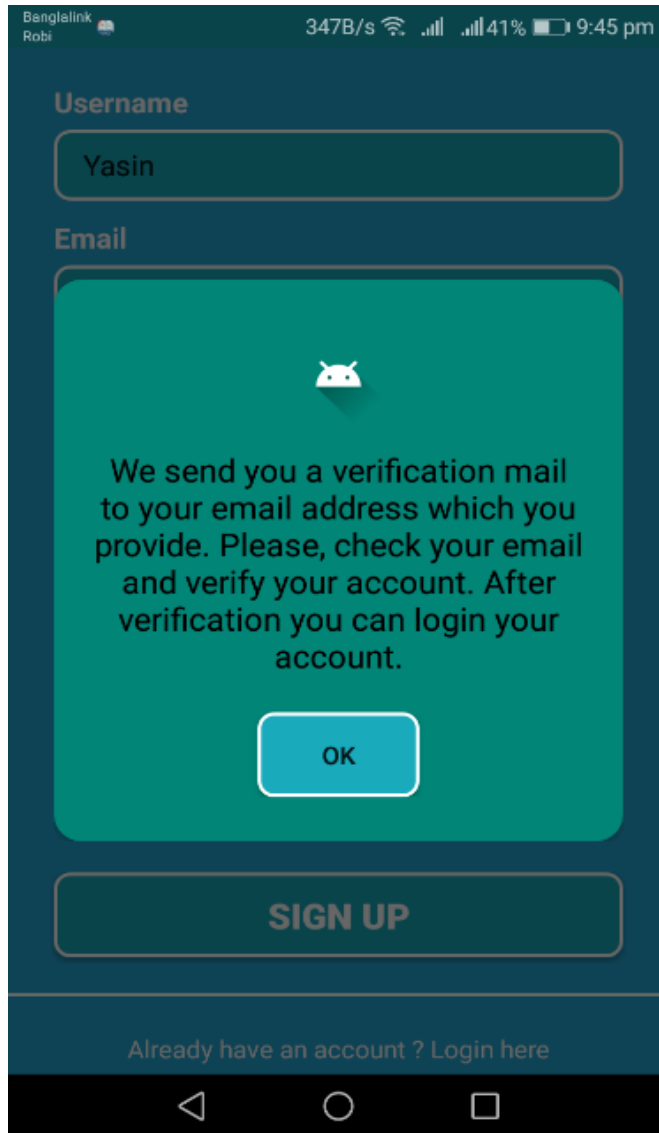Figure 3.2.1: Signup Interface procedure 3   Figure 3.2.2: Signup Interface procedure 4

Figure 4.1: Signup Interface procedure 5

Login interface: User will login himself to enter the application. After complete registration user can log in to his account. User need to give his e-mail account and then give his password. After giving correct email and password user can successfully login the app.
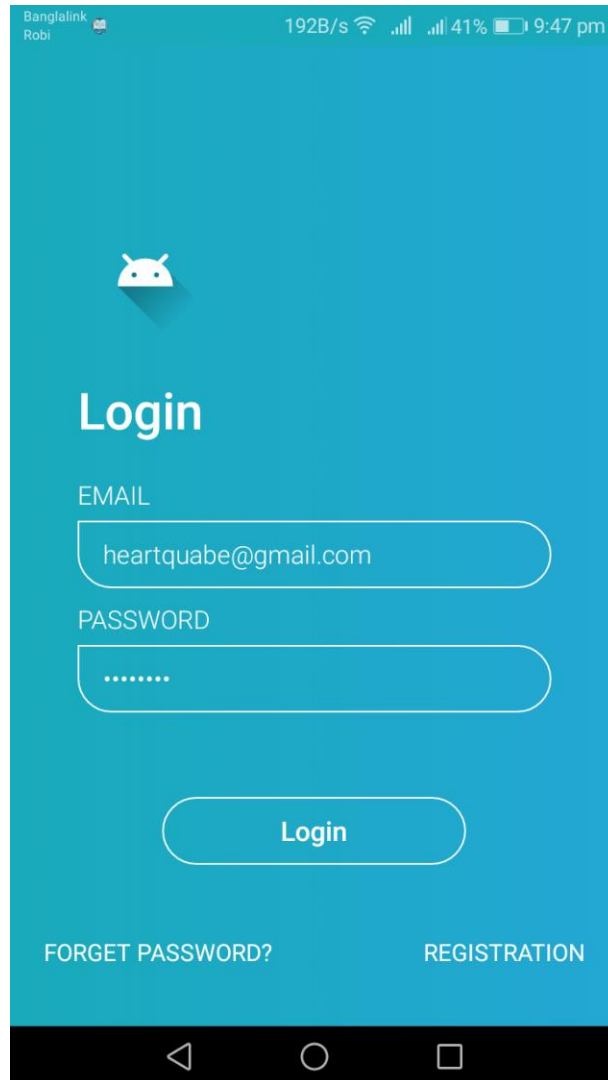

Fig 4.1.1: Login Interface for user

Post Feed: In this section user of the application can see the blood request post on his post feed. Donor can make call, response the post or even comment on the post. User can edit or delete his post. New blood request can also be creating on this section.
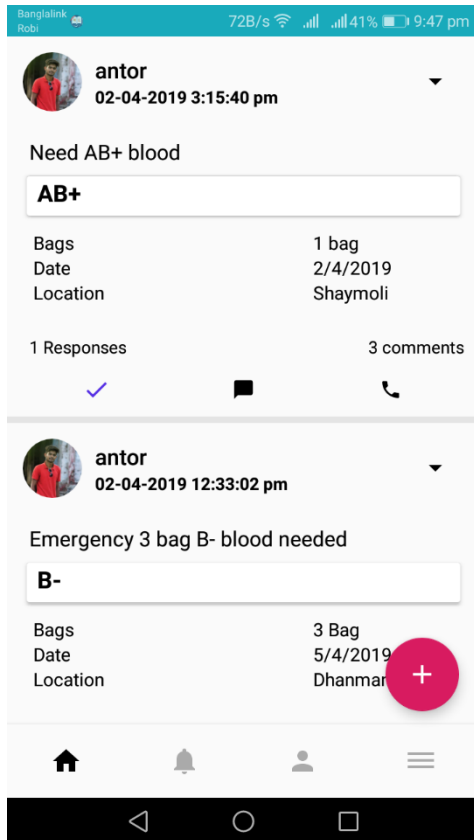

Figure 4.1.2: Post feed interface　　　Figure 4. 2.1: create post
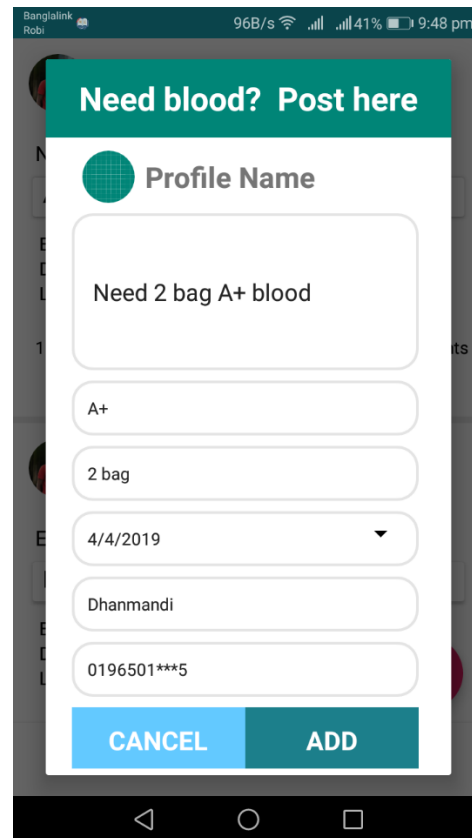
Profile: User can see his profile and can also edit his profile. User can add photo of him and some other information of him in this section.
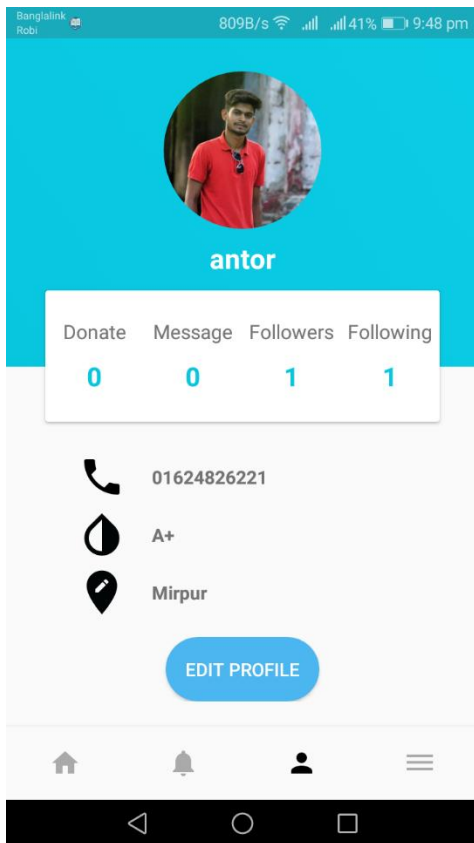

Figure 5.1.1: User profile 1   Figure 5.1.2: User profile 2
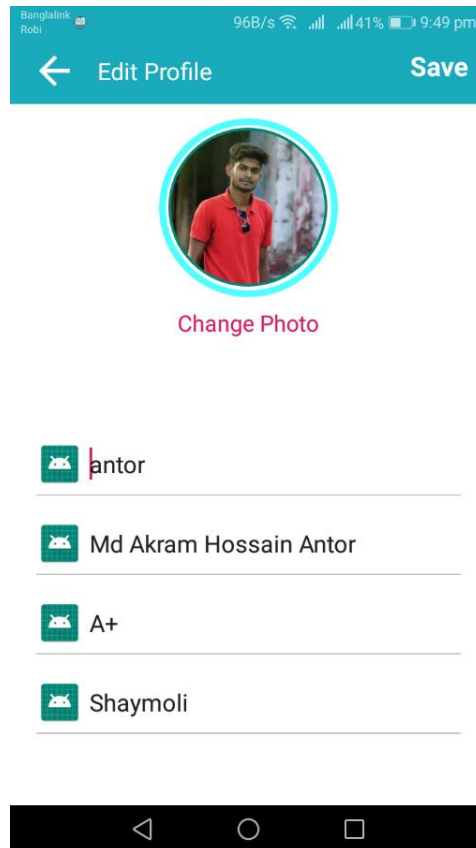
Menu: This is the main menu. In this section we can see some option of our app. First, we can find blood manually. When we tap on find blood button it will show result and show blood group, donor area and information. We can also search blood on hospital blood bank by tapping on find in hospital. We can see the benefit of a donor on Benefit of a donor section. We can add a donor on add a donor section. In about this app section we see our app details information.

Fig 5.2.1: Main menu

Fig 5.2.2: Search menu
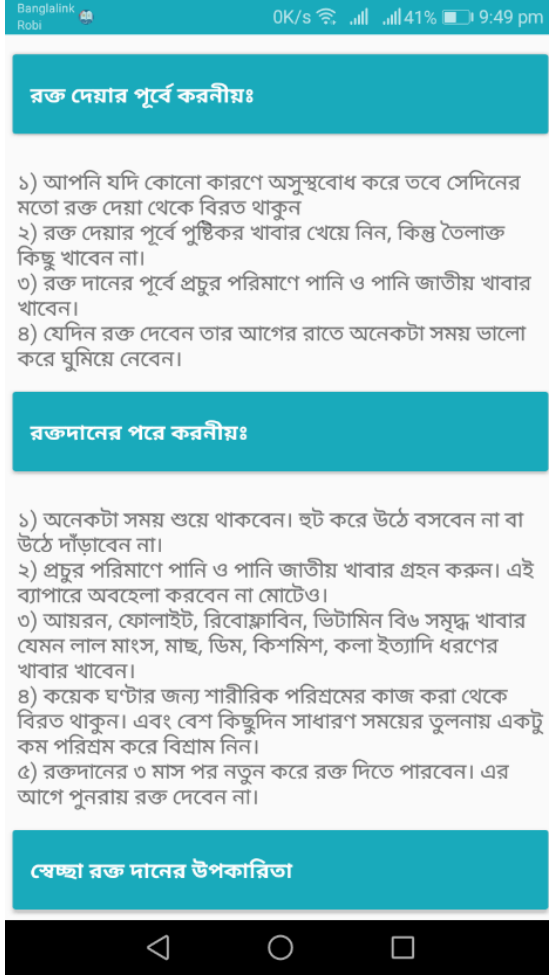
Figure 6.1: Information
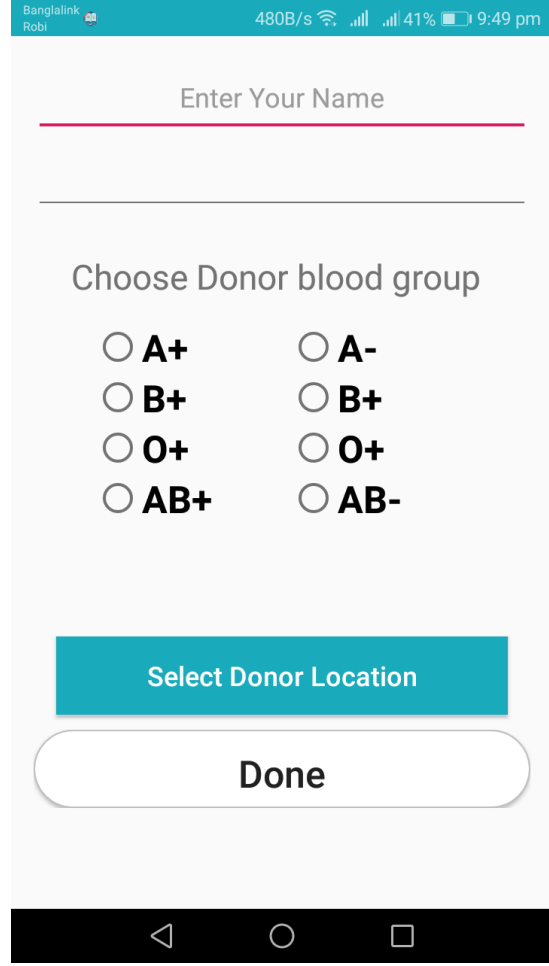
Figure 6.1.2: Add donor menu

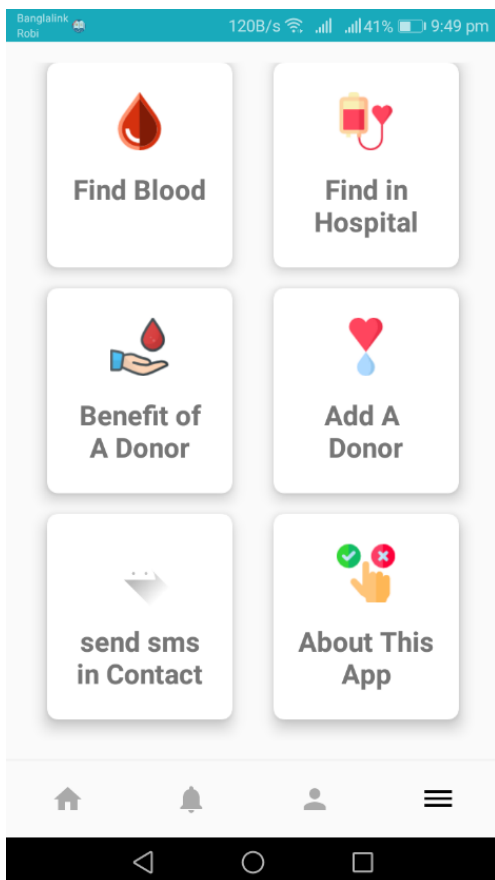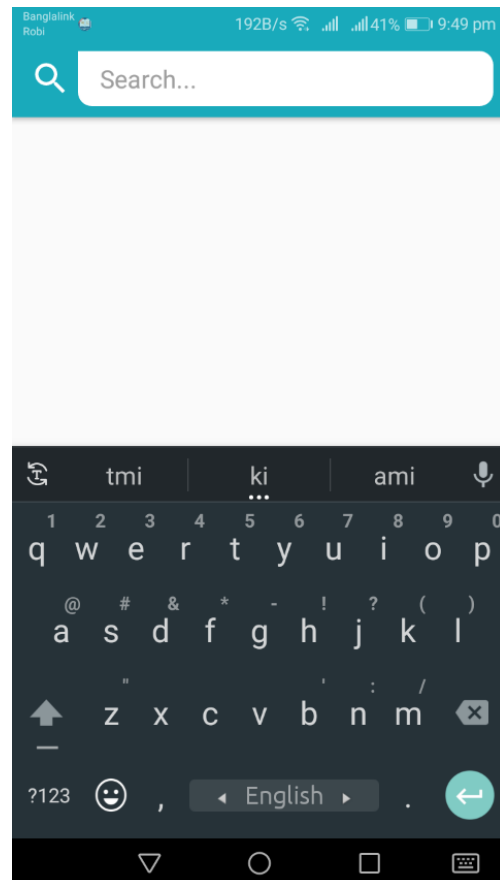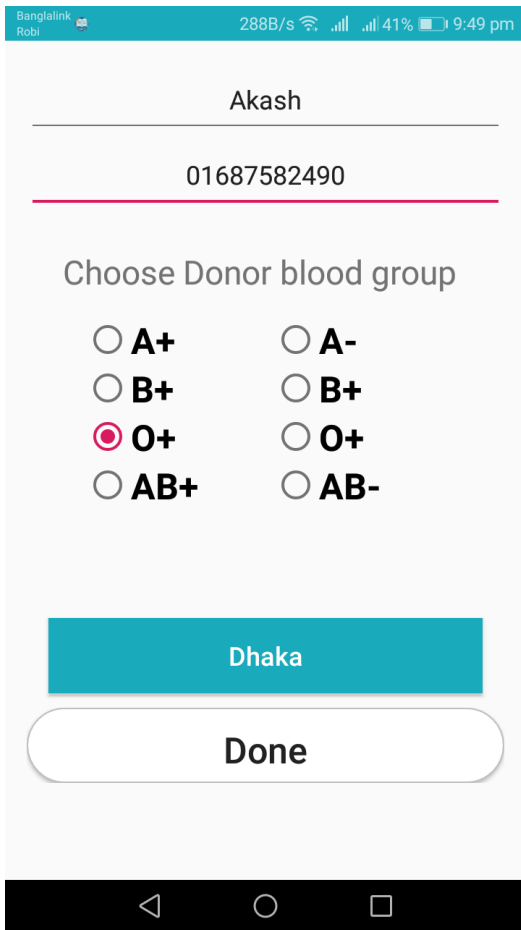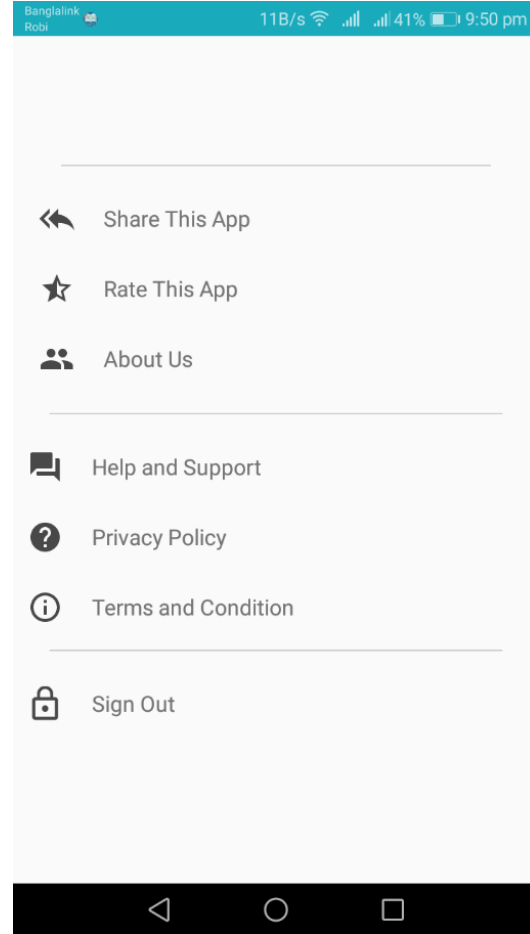Fig 6.2.1: Add donor 2   Fig 6.2.2: More information

4.2 Back-end Design

The backend of an application is the most important part. All the logical things happen here. How the interface will be, how the actions will work, how things will be represented to the user, in fact all the aspects of the application depends on the back end of the application. The languages used, the database, the security of the app, authentication, authorization and all other settings are related to the back end. In this application. Android Studio has been used for the development of the project. XML and Java are the core languages used. Firebase has been used for the data repository which provides a real time database.
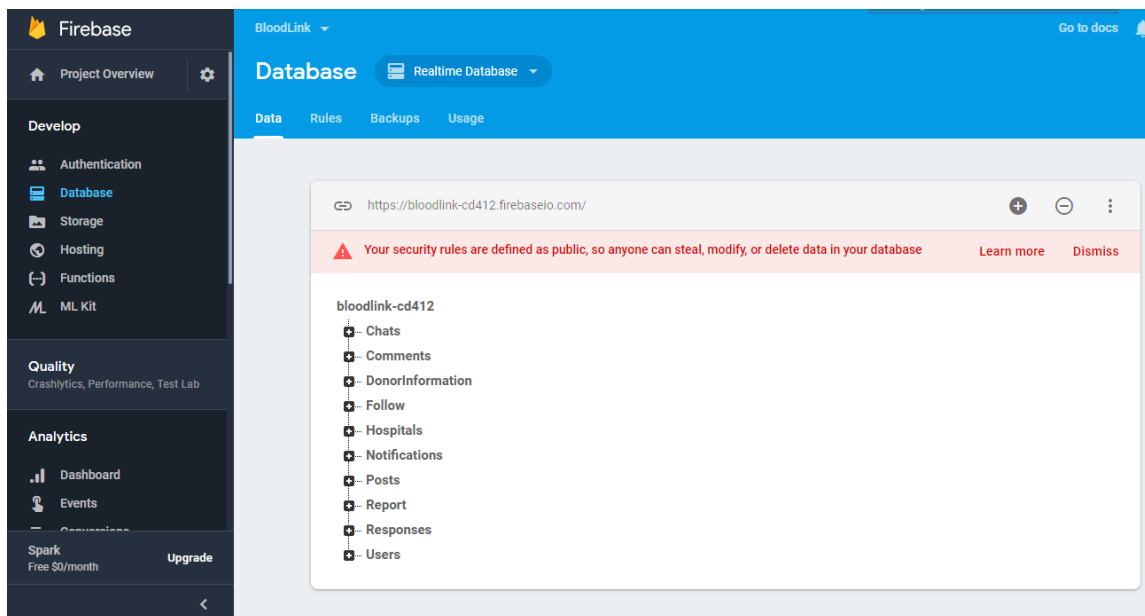
Fig 6.3: User data base

4.3 Interaction Design and UX

Interaction design, frequently abbreviated namely IxD, is "the practice of brainchild interactive digital products, environments, systems, and services." While the digital aspect over that assertion is true, interaction diagram is additionally useful then developing bodily (non-digital) products, exploring how much a consumer would possibly engage together with such . Interaction layout observes the interaction in a person then a system. It helps according to discover the troubles confronted by using the users hence up to expectation the issues do stay sorted abroad then processed because of a better experience.

The average success degree of an software depends on the interaction design. It is a at all critical part because of anybody project. For UX over our utility Blood Donor Application, we have requested in regard to ten people after usage the application. They entire noted up to expectation the interface is quite consumer friendly. They bear additionally fond incomplete guidelines in imitation of improve the application. But at the start they grew to become relaxed with the interaction and recommended the application.

4.4 Implementation of Requirements

To put in force the project Blood Donor Application the first issue wished is Android Studio along with Java or XML coding. To graph the UI/UX, Adobe Photoshop then Illustrator is needed. Microsoft Excel is additionally wished to properly acquire yet type the information because of the database. Again the statistics has according to stay saved between the online actual age database. So then lively internet ligature is also required. All the stated factors over are the necessities for the implementation of the project.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of Database

The implementation part is wherever you put in the software system on the desired hardware, optimize the info to run best on it hardware and package platform, and build the information base and cargo the data. The implementation includes the installation of the info, optimize it, link it to the appliance, produce new info to store the information and therefore the method of retrieving the data.

5.2 Implementation of Front-end Design

Login page for admin: The following is that the login page for admins of the appliance. Here within the provided field the admin will place the user name and to log in to the appliance, which can alter him to feature new places to the info.
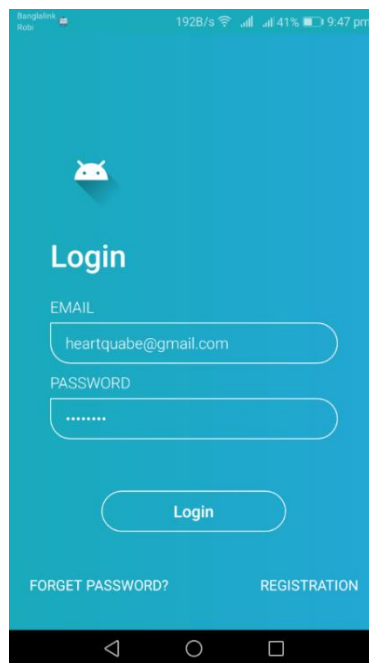

Figure 7.2.1: Login Screen

Post to user: From here the users will post to need blood and if the post is complete this shows homepage.
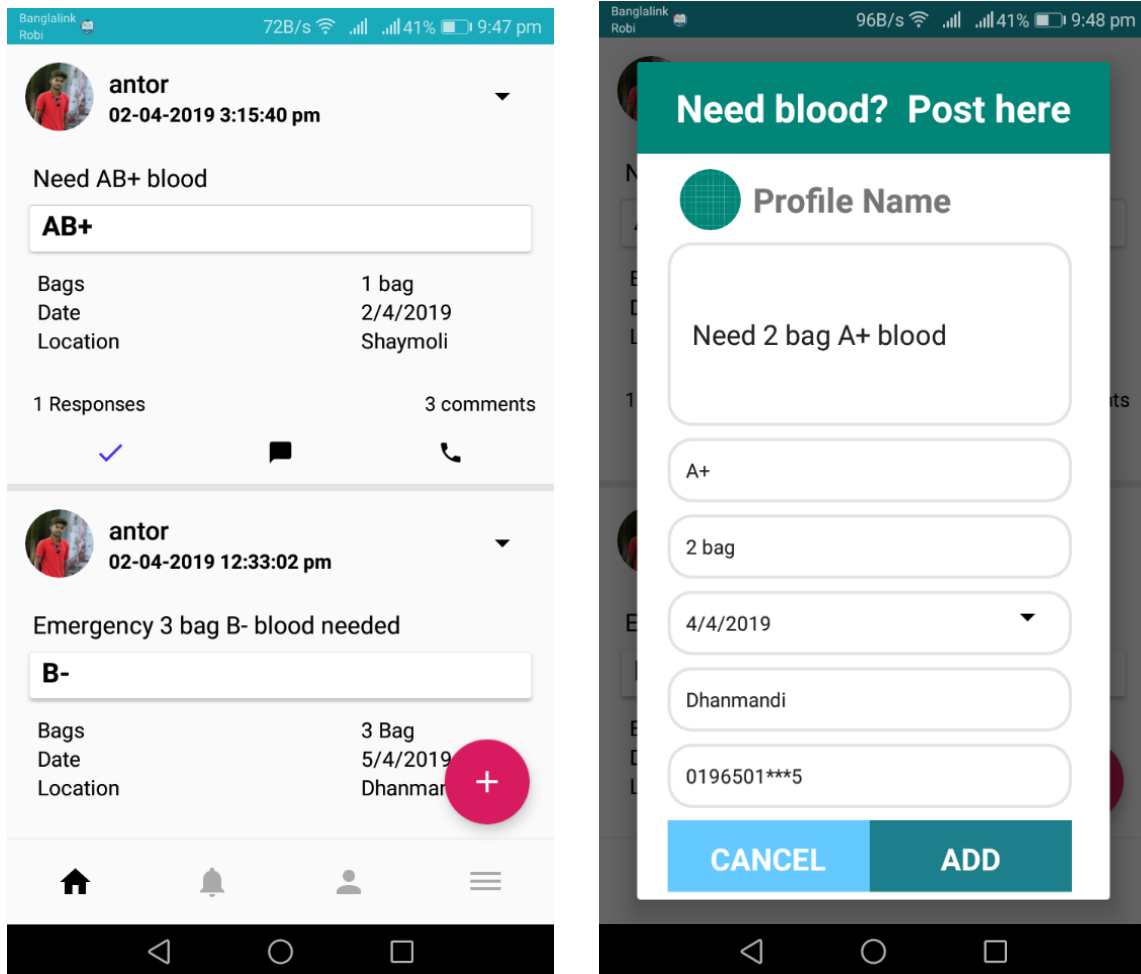

Figure 7.2.2: Need blood and show post

5.3 Implementation of Interactions

To make the applying a lot of interactive, responsive UI has been used. we all know that individual buttons that decision to actions are higher for the mass user instead of text data. supported that fast buttons have been added within the application for creating a decision and visiting the web site of the actual place.

5.4 Testing Implementation

System testing may be a level of the package testing wherever a whole and integrated software is tested. the aim of this take a look at is to judge the system's compliance with the required needs. Definition by ISTQB. System testing: the method of testing associate integrated system to verify that it meets specific. The testing of the enforced system may be an obligatory method to develop any application. The bugs and inconveniences are found through correct testing. The tester can determine the problems found with the applying that leads the developer to sight the bugs and resolve the issues. Throughout the event method of the applying "Blood Donor Network" it's been tested many times by totally different users.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

Developing the application and implement the features of the project is wonderful journey for us. We are very precious to make the application that will helpful for all the people who need blood urgently. It's very easy to use for common people that's why they will great a help. And we think our determination, dedication will help the common people and will bring a great success. The online blood donor application will be very useful and handy to all classes and levels. All thanks to our almighty to bless and concern to develop our project and complete. Also, our supervisor who help us in every possible way to complete our project. Thankful to him.

6.2 Scope for Further Developments

In future, we try to add more features and aspects of it. Also update more blood bank and user. Some of features are:

- Developed for iOS platform.
- The database can be added with more informative and precisely
- More cities blood bank and users can be added
- Can be developed with widely to world
- More features can be added like rating, collection of blood database etc.
- The admin section can be developed to make it easy to add new donor

Appendix

REST: -Representative State Transfer used for multimedia networked applications. Web Services that measure square ascendable, rectifiable and lightweight are commonly built. Quiet service suggests REST - supported services.

API: - It is a group of computer code applications routines, protocols and equipment. However, the API specifies computer code elements that should be moved and the Apes square measure genus used once graphical program (GUI) elements are programmed.

IIS Web Server: - IIS means the net data Services developed by Microsoft. And it is an online server. IIS supports hypertext transfer protocol, HTTPS, FTP, FTPS, SMTP. it's been Associate in Nursing basic a part of the Windows National Trust family though' it's going to be inattentive from some issues and it's not energetic by default.

Firebase: - The firebase Realtime information could be a cloud-hosted information. information is hold on as JSON and synchronized in real-time to each connected An consumer. once you build cross-platform apps with our iOS, Android, and JavaScript SDKs, all of your shoppers share one Realtime information instance and mechanically receive updates with the most recent information.

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