

Android Based E-Donation System

By

Md. Asaduzzaman
ID- 161-15-7441

MD. Al Amin Islam
ID- 161-15-6792

MD. Zahirul Islam
ID-161-15-6998

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

Supervised By

MD. Jueal Mia
Senior Lecturer
Department of CSE
Daffodil International University



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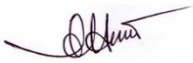
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APPROVAL

This Project titled “E-Donation”, submitted by Md. Asaduzzaman ID No: 161-15-7441, MD. Al Amin Islam ID No: 161-15-6792 and MD. Zahirul Islam ID No: 161-15-6998 to the Department of Computer Science and Engineering. This project entitled "**E Donation**" has been submitted to the following respected members of the board of examiners, Department of Computer Science & Engineering in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science & Engineering by the following students and has been accepted as satisfactory.

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Professor and Head

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Chairman



Dr. Fizar Ahmed
Assistant Professor

Department of Computer Science and Engineering
Faculty of Science & Information Technology
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Internal Examiner



Abdus Sattar
Assistant Professor

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

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Dr. Mohammad Shorif Uddin
Professor

Department of Computer Science and Engineering
Jahangirnagar University

External Examiner

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Supervised by:

 9.10.20

MD Jueal Mia

Senior Lecturer

Department of CSE

Daffodil International University

Co-Supervised by:



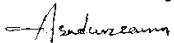
Masud Rabbani

Lecturer

Department Of CSE

Daffodil International University

Submitted by:

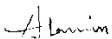


MD. Asaduzzaman

ID: 161-15-7441

Department of CSE

Daffodil International University



MD. Al Amin Islam

ID: 161-15-6792

Department of CSE

Daffodil International University



MD. Zahirul Islam

ID: 161-15-6998

Department of CSE

Daffodil International University

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ABSTRACT

The purpose of E-Donation project is to manage donations and connect the donor with the appropriate person through a social mobile app. The application manage different services such as the reviews of the appropriate person and shows their contact information and location the app allows users (Donor/Receiver) to create a profile for themselves and the information about a certain family that needs help. This profile will be shown to donors who are looking for someone to donate something. Only information is exchanged by them. The donors are able to post/see reviews about other user's profiles. The purpose of this app is to help the people of the society and create a sense of solidarity through information and communication technology. By this app we will serve the society as well as nation.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

E-Donation versatile social application intended to give the important data to client to step up to the plate and backing one another. This application permits their clients to scan dependent on their area for the closest individuals in need as per the sort of help they could give. Then again, it likewise permits other individuals to share data about their needs and request help in a cutting edge and less humiliating way.

This product will make it simpler for anybody to give anything they need in a basic manner furthermore, the least upsetting way, since it shows the closest potential individuals who need assistance. Some may ask, if an individual is really out of luck, they won't approach the cutting edge advancements. My response to that will be that anybody can make a profile for these individuals, by basically give their area and their contacts. Once more, this probably won't be the situation for certain families; nonetheless, this undertaking is intended to help the individuals who can't support themselves, and furthermore get individuals to step up to the plate, either giving or by making profiles for individuals they realize who may need assistance

1.2 Motivation

E-Donation is an undertaking that chiefly oversees gifts. The idea of this task is to make it simple to get data about families who are out of luck. It would give a connect to the closest family dependent on the rules the client picks. The thought is to either enter information about a family or to get data. The application will be a portable application because of the current climate where it is entirely expected to utilize determined applications for most exercises.

1.3 Objectives

- Help different organization or person for their donation so that they can donate easily.
- Reduce the hassle of different types of donation.
- To support people in the emergency situation by providing donations.
- Making user interface easy for different types of organization and person who want to donate via our app.
- Easily accessible.
- Different types of donation available such as blood donation, money donation, property donation etc.
- Provide 24/7 service.

1.4 Expected Outcome

The reason for our app is to build up an information base which is a thorough one where all parts of online exchanges are secured and donation are made in a safe manner. Donor can give by means of secure installment and the subtleties of the benefactors are put away in the information base. The rundown of exercises done by the association is distributed on the site so benefactors can have trust on the association that the cash gave is used in a proficient way.

1.5 Report Layout

This project report based on six layouts and we have discussed full project in these six layouts. Given below:

First Layout: We have covered in this layout- Introduction of the project, Motivation of this project, Objectives and expected outcomes.

Second Layout: We have covered in this layout- Background of the application, related works, comparative studies, scope of the problems, challenges.

Third Layout: We have covered in this layout- Business processing model, requirement collection & analysis, use case modeling, logical data model and description.

Fourth Layout: We have covered in this layout- Front end and Back end design, interaction and UX design, implementation requirements.

Fifth Layout: We have covered in this layout- Implementations of Database, Front-end design and interactions, testing implementation, results and reports.

Sixth Layout: We have covered in this layout- Conclusion, Discussion and scope for the future work.

CHAPTER 2

BACKGROUND

2.1 Introduction

In this chapter will discuss about the existing work which are providing online medicine delivery. This chapter also focuses on the current challenges among the existing work and also what service they provide. And we discuss what type of problem exists on their service.

2.2 Related Works

From our research, we have found some of donation services which is somehow related to our proposed work, but those services are not quite similar to E-Donation project. We would like to develop our application something different.

A. ShareTheMeal: Donate to Charity and Solve Hunger

This application is accessible in around 9 dialects, including English, Spanish, French, German, Italian, Portuguese, Russian, Korean, and Japanese. This iOS application gives you an immediate channel to finance UN endeavors in supporting youngsters out of luck, in a hurry, with only a tap on your telephone. It costs you US \$0.50 to take care of one hungry kid a day, in addition to you can follow where the dinners are disseminated and the effect. The application is an expansion of the ShareTheMeal non-benefit activity run by the World Food Program (WFP) – the world's biggest helpful organization fighting craving universally and giving food help to an expected 80 million individuals every year. The UN WFP is 100% deliberately subsidized so every commitment tallies.

B. Charity Miles

This is an imaginative method to raise assets for good cause while spurring you to arrive at your wellness objectives. For each mile you run, walk, or cycle, a sum is given to a foundation based on your personal preference by the current application's corporate backers. It resembles you are getting compensated for your athletic accomplishments and giving it legitimately to noble cause.

The gift may appear to be a fairly modest quantity – 10 pennies/mile for bikers and 25 pennies/mile for sprinters and walkers – yet observing others take an interest and the sum increment will cause you to feel great and urge you to stay aware of your wellness routine.

C. Donate a Photo by Johnson & Johnson

This is a "free donation application" inferring that you don't need to send real cash to a foundation. Rather, the application asks that you give one photo daily, which you can do periodically or as often as possible as consistently. Every photograph is coordinated by a gift of US \$1 – so you can really give \$365 per year.

The causes that you can decide to help are refreshed consistently; in addition to you can follow the decency that your photograph cash is doing.

2.3 Comparative studies

From the above-mentioned details, we can see that our proposed project offers the easy user friendly interface in mobile app. Donor can easily create account on our app and donate.

2.4 Scope of the problem

There is no development project without scopes of problems. Ours is indifferent to this situation. Our developed system should be working properly to deliver the appropriate services to both the customers and pharmacies as we claimed. Our database should store and sort all the data correctly in real time. Both of the apps should work smoothly and properly. If any of the included features and options in our apps does not function correctly and fails to work efficiently in time then our project will fail to serve the objectives and provide expected outcome. So, to avoid any sort of issue we have to work carefully.

2.5 Challenges

The challenges we faced in our project given below:

2.5.1 Problem finding

We tried to analysis the application to get problems. Is this application actually working? Or are the users facing any issues while donation? Is the app having problems receiving the donation? Are there any issue creating an account? Finally, we got positive outcome.

2.5.2 Simple and user-friendly User-Interface

As our special focus is to support the elders who cannot meet donation receiver, we had to create this app with so simple user interface that they can easily understand how they can create account, complete profile, donate etc.

2.5.3 Time management

It is very necessary to maintain time. Is the application working properly in time? Is it taking too long to load? Is it taking too long to donate? Is it taking much time creating an account? After running several tests our application is running timely.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Collection & Analysis of Requirement

Requirement collection is one of the very important parts of building an application. It can decide how we serve the user by the application; particular problem needs particular requirement. So, our application requirement given bellow:

1. Small in size that does not require much memory space.
2. There is no complex login procedure.
3. This application is totally free of cost.
4. Simple user interface with no complexity.
5. Pharmacies nearby are easily findable through this app with distance.

3.1.1 Hardware and software requirement for System

There are some requirements for this application:

1. Smart Phone
2. Android Jellybean version or above
3. 1gb Memory Ram
4. About 50 MB memory space

No special permission needed for this application.

3.1.2 Analysis

We have analyzed and studied a lot to create this application. We are confident that this project is suitable for users. We researched in various sites, analyzed few similar applications. Noticed what they do not have in their applications, and what we can add to make our app unique. We used applications to learn some concept to give better experience, gather knowledge to complete this project. We designed our project for Android OS because most of the smart phone users in Bangladesh use Android phone.

3.2 Use case

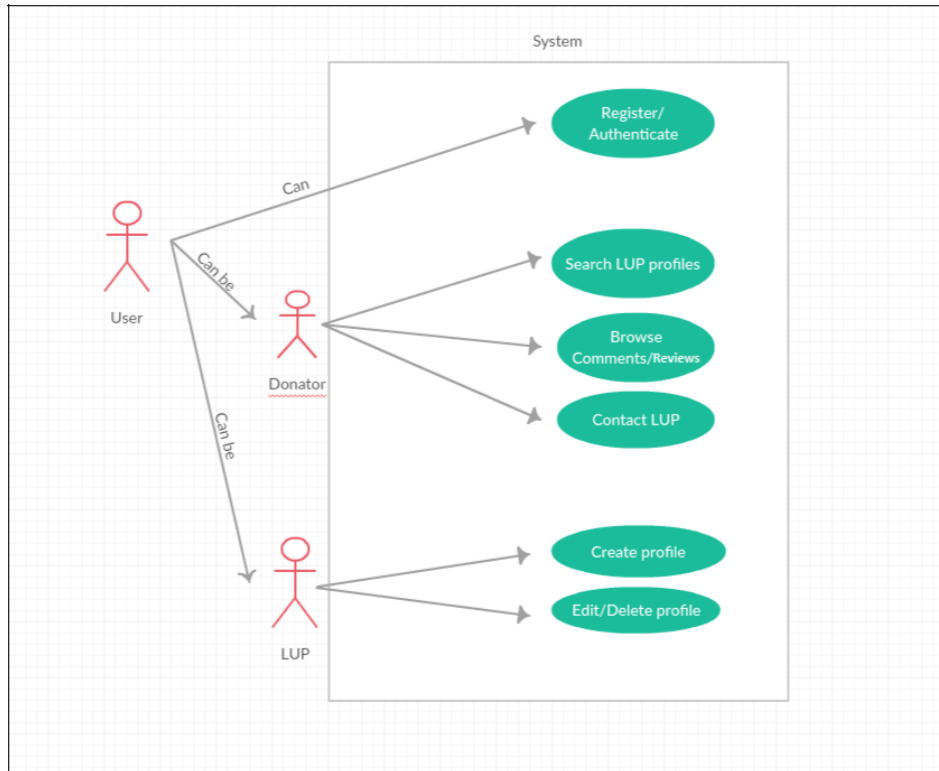


Figure 3.2.1: Use case of E Donation

3.3 ER Diagram

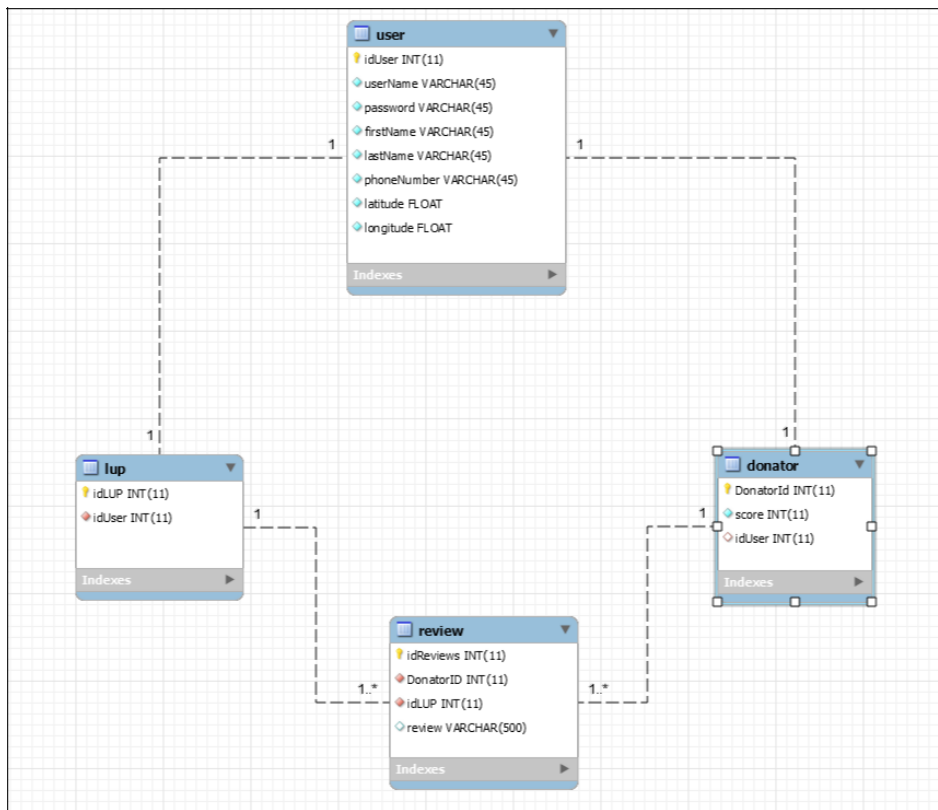


Figure 3.3.1: ER Diagram.

When a customer places order by inputting the necessary medicines' names and quantities, this data is saved in the SQLite server which is an offline database used in our application. So, when the customer is offline, he or she will still be able to see and check all the orders that have been placed and recorded in the order history. When they are online then this saved data is sent to and synced with our real time firebase database. Then on the other hand when the user on the pharmacy side checks their received order from their app then the stored data in the firebase is shown in their application and the data is again saved in the SQLite database so that the pharmacy user can also check orders when they are offline. Then the payment is made on delivery of the medicines.

3.4 Flow Chart:

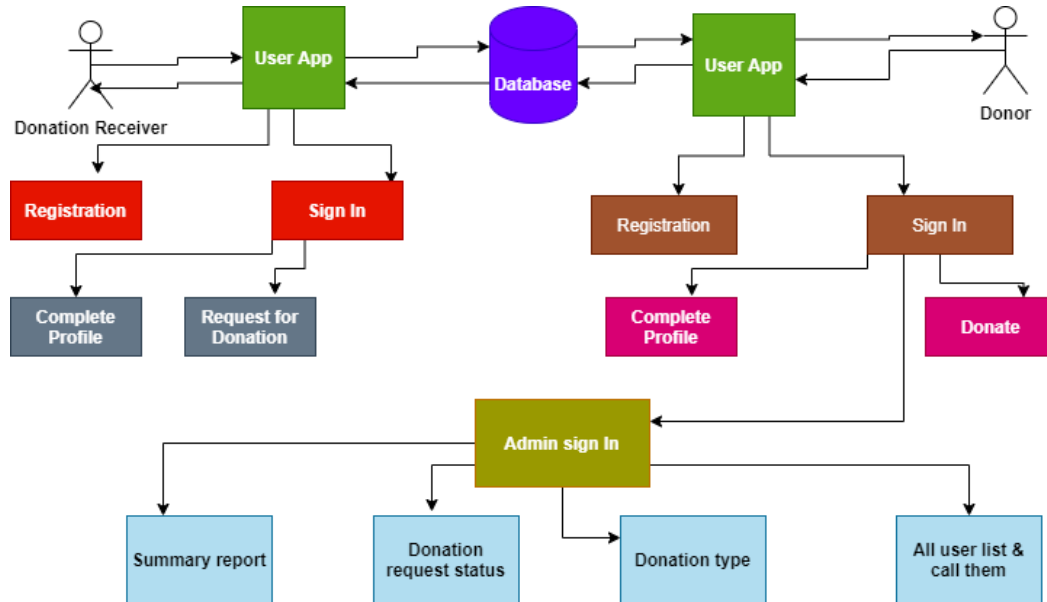


Figure 3.4.1: Flow Chart

On the user app a customer can create order, check order history and pending orders. After clicking “Create Order” the customer can search for a pharmacy manually or they can use the “Nearby Pharmacy” option to see all the available pharmacies nearby their location. After selecting a pharmacy, they can complete the order making process. They can also see their pending orders that have not yet been delivered. Then this order data is stored in the real time firebase database. Then this data is sent to the pharmacy app from where the pharmacy user can see the orders they received in the “Order History” section. They can also check the “Order Status” whether the orders are delivered or not. After opening and order they can check the location from where the order has been sent to them. After checking the location and distance of the customer the pharmacy user can either accept the order or cancel it. The payment will be made on delivery.

3.5 Activity Diagram

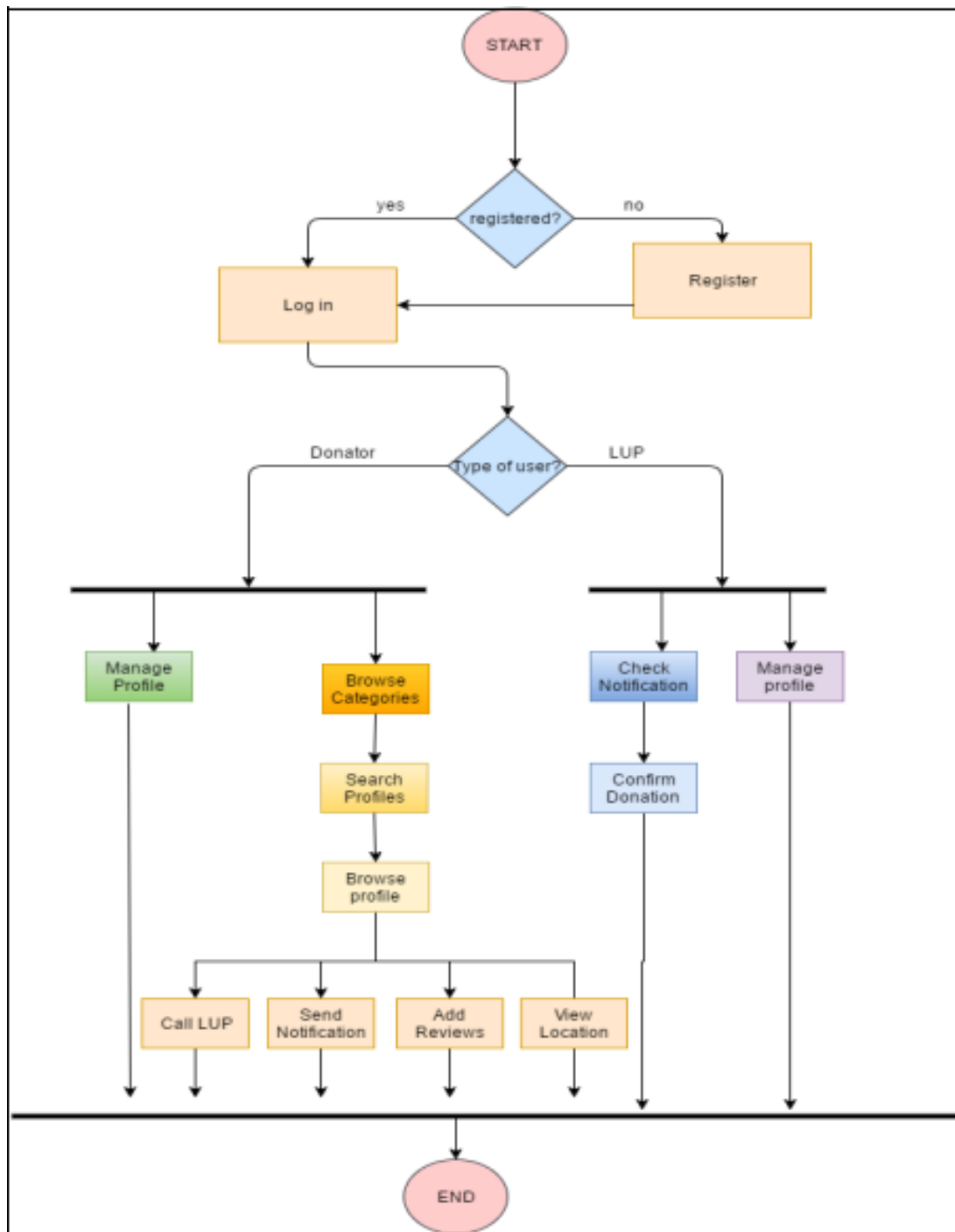


Figure 3.5.1: Activity Diagram

3.6 Design Requirements

1. Application Requirement: Specified that how the application will perform. And task is to make our application perform fast.
2. Efficiency requirements: This application should be running faster than the existing similar applications
3. Reliability requirements: Even any hazard occurs though the application should be able to operate or perform.
4. Usability requirements: The application should be so user friendly that users can easily interact with it.

CHAPTER 4

DESIGN SPECIFICATION

4.1 Front-End Design

Front End Design is the display design in what user directly can interact. We tried to make simple user interface so that customer and pharmacy both can easily and comfortably can use this application and they don't have to face any difficulty. We used XML code for layout design.

Front End Design has been designed with constraint layout, Recycler view, Card view and coordinator layout for looking more efficient used next button, Create Order button, Add Medicine button, Find Pharmacy and Select Pharmacy in the customer application. We also used medicine search field and quantity measure key for searching medicine and searching pharmacy for ordering. Google map also integrated in this application. In the pharmacy app there are two sections like padding order and accepted order. There are two buttons for check order location and confirm order location. Both the app has navigation drawer. We used login and sign in option at the beginning of both the app. Sign up option also integrated.

4.2 Back-End Design

The Back-End Design has been done by Java Language. First to last we used raw java coding to make the Green medic Application. In Back-End we have used 13 activities for customer app and 11 activities for pharmacy app. There are more than 10 features in this application. In Back End we used firebase for authentication and as a real time database. It will store delivery related information from the customer app and store it . The pharmacy user then can see that received order data retrieved from firebase into the pharmacy side of the application. We used Google maps API in both of the app. This will help us getting location and distance between customer and pharmacy.

4.3 Interaction Design & UX

UI is connected to the design, meaning what you see in front of your eyes, navigation, buttons, pictures, text, etc. of a mobile app. On the other hand, UX's job is to research how each component you see is arranged in the app, what is needed, what is not needed, or what a user can use to make the best use of the app.

4.4 Implementation Requirements

To implement our project, we used different types of tools, components, and structures that helped us to develop our project successfully.

- For the front-end of the application we used XML, Material design.
- For back-end we use JAVA as an object-oriented language.
- For real-time Database we use Firebase.
- For location tracking we use Google Maps API.
- For visual aspect, fonts and icons are used from Google font and font-awesome.
- We have written the codes in Android Studio.

Here we have described some of the important equipment that we used to develop our application.

4.4.1 XML for Layout design:

XML stands for Extensible Markup Language. It is a language that defines a set of guidelines for encoding files in a layout that is readable by means of both Machine and a Human. It is similar to Hypertext Markup Language (HTML). Both of them have markup symbols to describe the page or file contents. The integral building square of

An XML file is a component, characterized by using labels. A element has a start and a closure tag. All components in an XML document are contained in a peripheral component recognized as the root element.

4.4.2 Firebase:

Firebase is Back-end as a service owned by using Google which provides a server-less backend to the app developers. We can integrate Firebase in Android, IOS, websites and other applications. It offers all backend services like authentication by means of Google, Facebook, OTP, email, etc. Other services encompass Real-time database to save text details, storage to save multimedia, cloud provider to send notification and analytics to monitor app utilization and crashes.

4.4.3 Google Maps API:

The Google Maps API lets us request maps from Google and display them. The Maps API returns helpful data about places and locations.

It does two major things:

- It can cause maps to appear for the user.
- It can return data about a latitude/longitude location, or return data about an address.

CHAPTER 5

IMPLEMENTATION & TESTING

5.1 Implementation of Database

Our approached database consists of four tables named “donation”, “user” etc. Donor signup and login credentials are kept in the “user” table and synchronized through App. All those read and write operations of the database are handled by google Firebase.

5.2 Implementation of front-end design

The implementation of the customer’s app’s front-end design is given below:

5.2.1 Create Account (Customer):

After opening the app, the customer will be introduced to this account creation page.

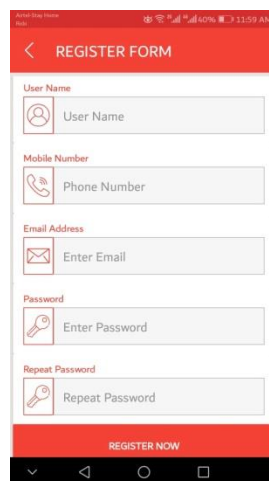


Figure 5.2.1.1: Register

5.2.2 Login (Customer):

After creating an account, the customer will then be able to login to the app using their phone number from next time.

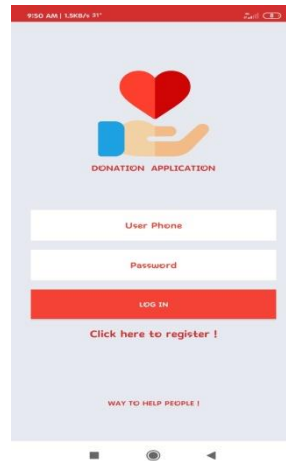


Figure 5.2.2.1: Login

5.2.3 Donation Description:



Figure 5.2.3.1: Donation Description

5.2.4 Summary:

App summary by admin.

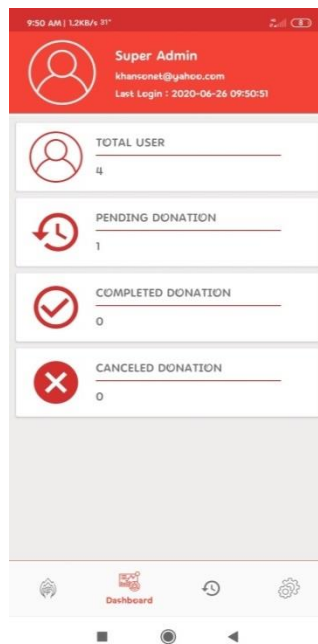


Figure 5.2.4.1: Summary

5.2.5 Donation Form:

Here the donations form.



Figure 5.2.5.1: Donation form

5.2.6 Donation List:

All donation lists.

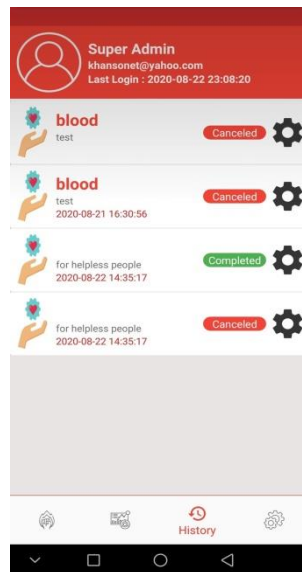


Figure 5.2.6.1: Donation List

5.2.7 Donor List:

Donor list

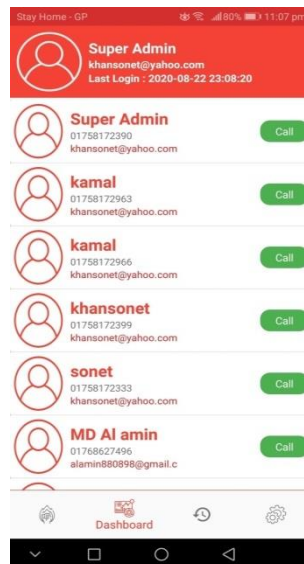


Figure 5.2.7.1: Donor List

5.2.8 User profile:

User profile.

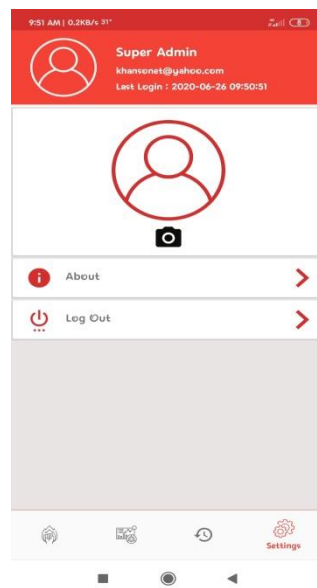


Figure 5.2.8.1: User Profile

CHAPTER 6

CONCLUSION & FUTURE SCOPE

6.1 Conclusion & Discussion

The idea of this venture was really an individual task that isn't meant to create benefit. Nonetheless, the benefit that is generally significant in a capstone venture is the learning experience and the result of growing such an application. The extent of my application targets two kinds of clients while creating the fitting data dependent on the measures determined by the clients. This task has social ramifications in term of making a feeling of solidarity alongside shutting the hole for the less blessed individuals regarding personal satisfaction.

6.2 Limitations

We could have made this project more efficient but as it is android based application, we need to fix the bugs and develop this project continuously. We have encountered a problem that this app will face some problems while working on those mobiles which have notch display. We didn't know how to optimize this app for notch display.

We also wanted to add online payment option which. It could increase more sales by reaching new customers. More efficient and effective transactions. Everything is made in just a few minutes and without wasting customer's time. All donors can pay anytime and anywhere. But adding an online payment method is a long and difficult process. There are some security issues too. So that's why we could not implement this feature.

6.3 Scope for further future work

Since our proposed project has such a clean and such user-friendly interface, it can also be used for some other purposes. Earlier we planned to add some other features which

Unfortunately, we could not implement but we would like work on those features to provide more donation services.

This can be a great platform to donate someone, because people at times find donor. So, in that case, if we add a feature on our app where people will give advertisement for donor so that donation receiver can receive donation.

Besides, we want to work on some other features such as emergency donor call, emergency ambulance call, on request pressure checking. This feature will be beneficial for the customers.

We will also add an image processing feature.

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APPENDIX

APPENDIX A: Project Reflection

We have put a lot of effort doing this project. While developing this application we have learnt lots of things of which we did not have a proper knowledge before and we are still learning. We have used firebase as our real-time database and got to learn how it works, we learned how the Google map and the API works for detecting location of users within the application. We have understood the importance of accuracy that is needed for this application to work successfully for giving better user experience. We are hopeful that the knowledge and experience we have gained while doing this project work will help us improve a lot in our future work resulting in better output.

APPENDIX B: Related Diagrams

The flow chart below shows the overall functionalities of the customer app and the pharmacy app. The user can create order, check order history and pending orders. Customers can also search pharmacy either by manual search or by using “Nearby Pharmacy” option for finding all the available pharmacies nearby through on the map. After completing order the data is stored in firebase from there the pharmacy user can see the orders on their application. They can also see order history and order status. After opening orders they can see the order location and then either it can accept the order or cancel it. They will receive payment on delivery.

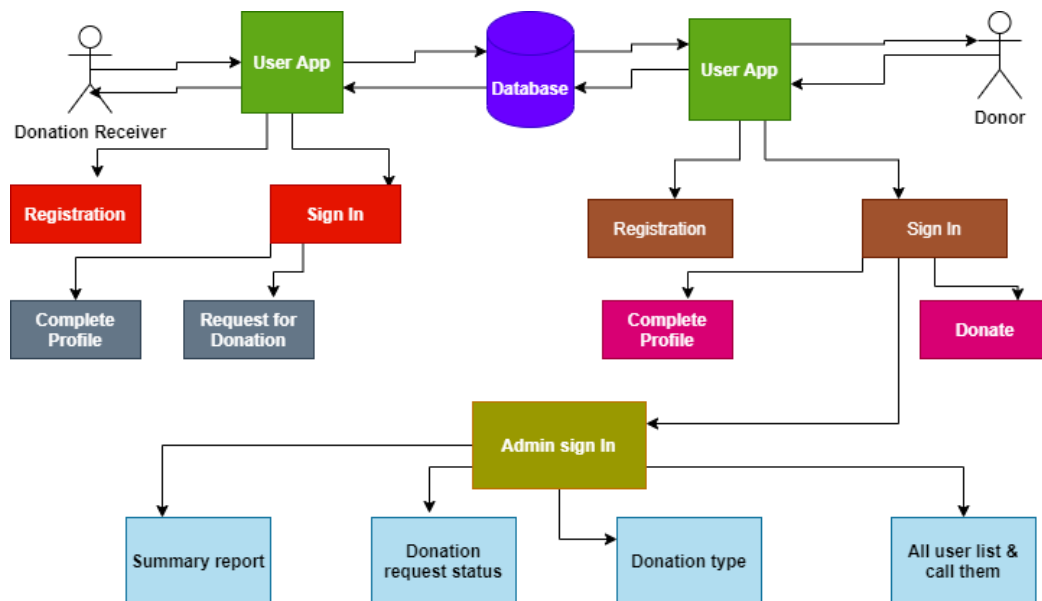


Figure: Flow Chart of E donation application

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