

Blood Donor Management System using Android Application

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Abstract— The Blood Donor Management System app is programmed in order to help the humans or patients who are seeking blood at a particular location. This app is designed in such a way that it keeps detailed information as well as separate information of all the locations where the blood is available and what kind of blood is available and in how much quantity. This app does not store blood but it stores the information about the when some needs blood in urgent, then this app proved to be their best friend and help the person finding the place nearby him very quickly. Through this application any person who is interested in donating the blood can register himself. In the same way if any organization wants to register itself with this site that can also register. Moreover if any general consumer wants to request blood online he can also take the help of this site. Admin is the main authority who can do addition, deletion, and modification if required. This project also includes details of hospital in which patients are in need of blood and the donor located nearby to hospital. The main objective of this application is to automate the complete operations of the blood bank. Also searching should be very faster so they can find required details instantly. This application is built such a way that it should suits for all type of blood banks in future. So every effort is taken to implement the project in this blood bank, on successful implementation. This android application that brings voluntary blood donors and those in need of blood on to a common platform. This app motivated individuals who are willing to donate blood. This app used to blood donors by using the blood group and address they have filled during registration. The main aim of this app is to make the blood available on time to the people, even in emergency situations. This app used to user can be able to view information about every entity related to blood bank i.e. hospitals, donors, a location of another blood bank etc. Every time the new user accesses the system as a donor, he/she has to register himself/herself and provide a proof of their identity like aadhar number on which the blood group of the person is mentioned. This app can be used in the smart phones; it will contain all the information of the donor and nearby hospitals. The app will also contain a GPS (Global Positioning System) system to track the location of the nearby blood banks or hospitals.

Key words: GPS(Global Positioning System)

I. INTRODUCTION

“Blood Donor Management System” is a mobile-based project developed in android platform. This android project provides an easy and fast way to search for blood. This app maintains the database of stock in centralized server system. All the blood bank /hospital update the regular stock on web server and when someone require any type of blood that the user can easily check whether the blood is available or not. Manual process is very time consuming process so by using this app we can improve the clarity as well as simplicity of the work. This app enables users to find blood in emergency situations. Here users can easily find the details of donors and receivers through their mobiles. Users need to register with the application to view all the information which is available on the app. The user can search the details and find the details of the blood donors. Users can get brief details about the donor’s contact details including their location. The purpose of this app is to interconnect all the blood banks, hospitals, donors into a single network, validation, store various data and information of blood and health of each individual. This app is used to store data over a centralized server which consist of database where the individuals’ information cannot be accessed by a third party. The user can make a call or message directly by using this application. Persons who like to donate blood registers in the site as well as can modify the details if necessary by giving the login id and Password. The persons in need of blood searches for the persons having the same blood group and within the city. If donor is in city then the total details of the donor, can be viewed. If a donor is not in the city then the contact numbers and addresses of the Life Saving Contact Persons for major cities can be viewed. If there is no chance to contact them then Mobilink Paging Services will be provided in order to get the blood.

II. LITERATURE SURVEY

P.Priya, V.Saranya S.Shabana, Kavitha Subramani [1] have proposed an efficient and reliable blood donor information and management system based on GIS integrated in android mobile application. The service provided by the proposed system is needed and valuable to health sector where a quality of the blood is considered for the safety of the patient through a systematic process by the blood management system. This system will be the solution for the problems such as wrong information of donors, misuse by third parties and updating the donated by the donor which replaces the older systems. The proposed system is a web based android application helps us to reduce the human mistakes which are done in the existing system. The wireless internet technique enables the flow of data to work more rapidly and conveniently. This is integrated framework which has a cloud-based application on mobile devices. The future work of the system is to extend this application to process through SMS

services. By this the contact is hidden from other members. Some other text or number will be generated on behalf of the original phone number or email. This can be done without using the internet service where the acceptor sends blood request to donor by web but whereas the donor receiving the request is just a simple SMS in mobile. By this there will be secure BTS where strangers can't misuse the details of donors and where strangers can become helping hand for life at emergency situation. In "MBB":

Narendra Gupta, Ramakant Gawande and Nikhil thengadi [2] proposed the system that will link all donors. The system will help control a blood transfusion service and create a database to hold data on stocks of blood in each area as data on donors in each city. Furthermore, people will be able to see which patients need blood supplies via the application. They will be able to register as donors and thus receive request from their local clients who needs blood to donate blood in cases of need.

Sultan Turhan [3] proposed a smart phone's application for the volunteer blood donor to increase the willingness and accessibility with the purpose of providing a continuous blood supply is . This application helps health care centers to provide the blood as quick as possible when their stocks are insufficient. The application sends periodically actual location information of available donors to main system and the blood requests to the donors. In this way, it provides an uninterrupted communication between the health care centers and volunteer donors. The distance of the volunteer donors to the healthcare center is an important criterion in the determination of the donors. Therefore an optimization is also realized on this process. In the initial system, the distance calculation is made by taking the distance as crow flies. In the optimized system, it is converted to the actual distance. This optimization makes the system more realistic. The second improvement is performed on the system's infrastructure. Especially, by taking into consideration the rapid development of mobile device technology which uses Android operating system, the system has been carried from the from ANT building environment onto Grade build automation platform. In further studies, we aim the add evaluation of traffic density between living donors' locations and healthcare centers to the living donor selection criteria.

III. EXISTING SYSTEM

In existing system there is no proper care about the people who donate blood to patients. Manual procedure for managing records of a Blood bank. Local Blood Bank software are available but is basically provide a decentralized solution. Many applications which is present have poor communication with the donors and no interlink with blood banks.

A. Drawbacks

- No proper publicity during emergency.
- Difficult to find feasible donor.
- Not preferred in emergency cases.
- Time consuming process.
- Require a system to check the details.
- Doesn't support any interactive connections between different blood banks.

IV. PROPOSED SYSTEM

In Proposed system all the blood bank will update the regular data so that stock is maintained on the centralized server. It provides the user to locate the nearby donors/blood banks. The information about donors can be found in an easy and simple way which does not take any time or effort. It Provides an easy way to search donors within less time. This provides Users can search details of the donors and get their contact details including the location. Enable users to communicate with donors directly which avoids miscommunication.

A. Advantages

- This app easy to maintain the stock of the blood
- It provides easy way for making available blood to anywhere.
- Easily check the availability so that there is no shortage of blood
- It reduces time to buy if it is available.

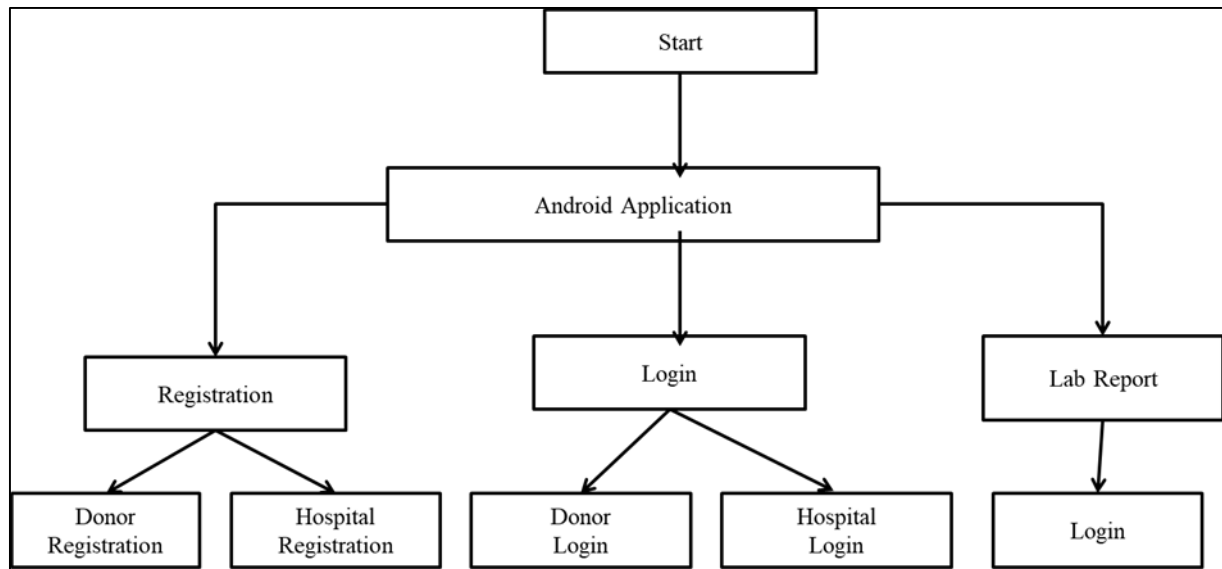


Fig. 1: Architecture Diagram

Fig. 1: Shows the Architecture diagram of the Blood Donor Management System.

V. IMPLEMENTATION

A. MODULES

1) Registration

- Donor Registration
- Hospital Registration

2) Login

- Donor Login
- Hospital Login

3) Lab report

B. Registration

1) There are two types of Registration

- Donor Registration
- Hospital Registration

2) Donor and Hospital should register their details for further process.

C. Donor Registration

- Donor can be Donates blood.
- This provides information of donors is maintained.
- This app can be contacted directly when the blood is not available in blood bank
- Donor enter individual's details like name, contact no, E-mail id, blood group, Address, Aadhar card no, etc.

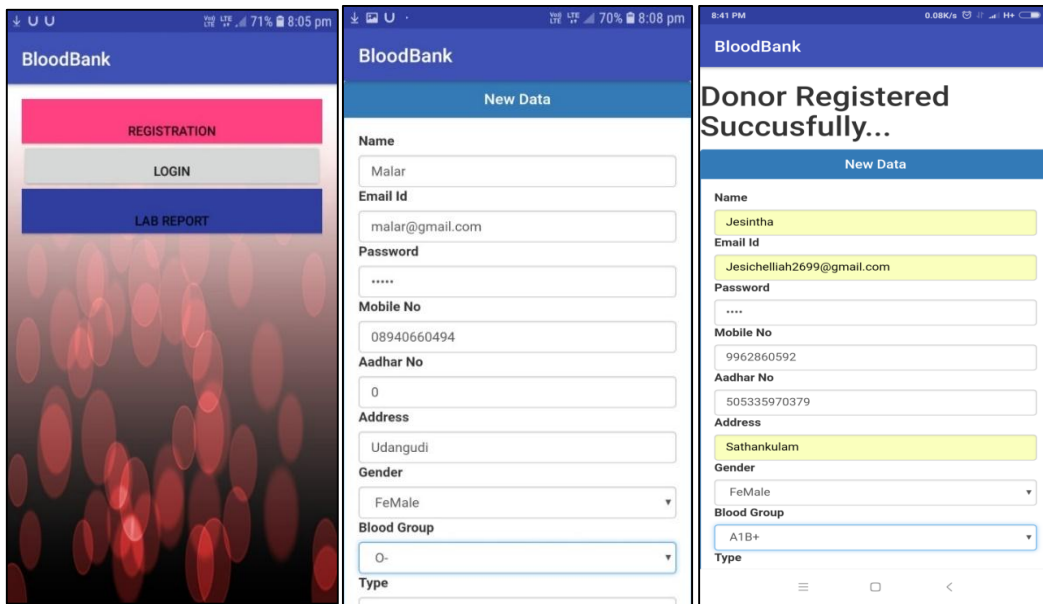


Fig. 2: Home page and Donor Registration

Fig 2 Shows the Home page of Blood Donor Management System and Registration page for the Donor.

Hospital Registration

- Hospital enter the hospital name, address, e-mail id, password, etc.

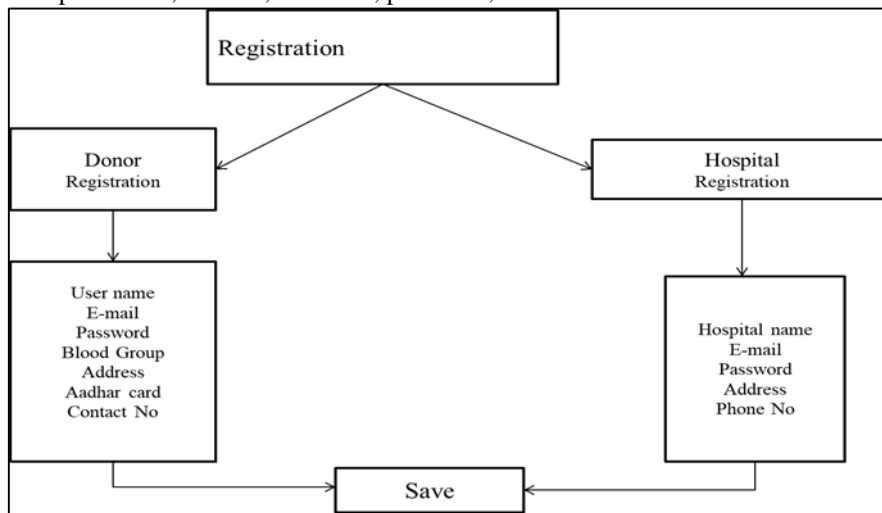


Fig. 3: Flow Diagram of Registration

Fig 3 shows the flow Diagram of Donor And Hospital Registration.

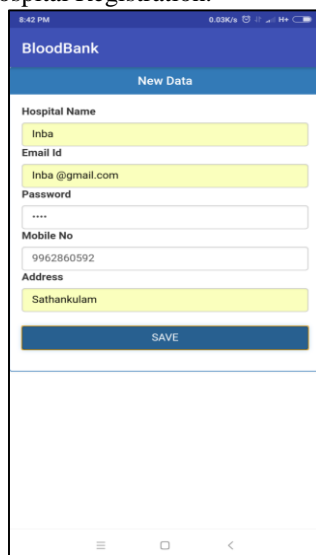


Fig. 4: Output of Hospital Registration

D. Login

1) Donor and hospital should login before they can donate or accept the blood.

- Donor login
- Hospital login

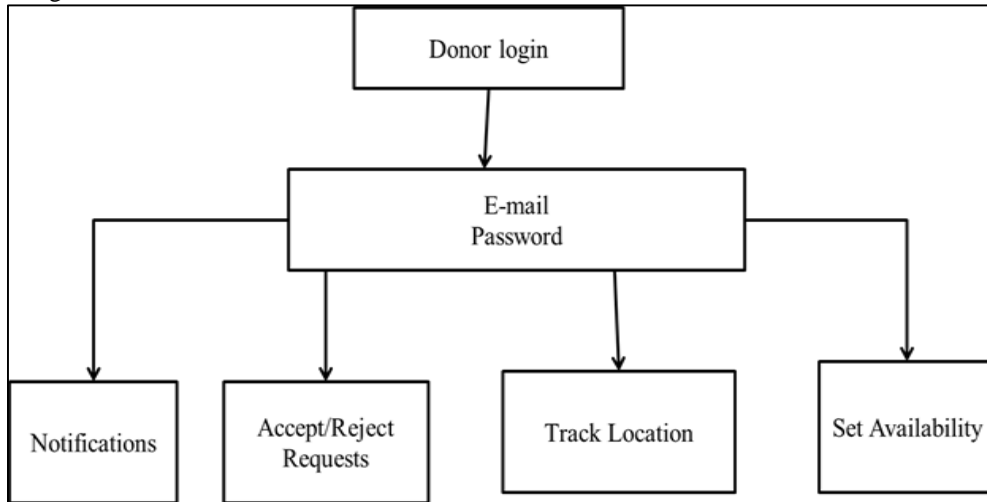


Fig. 5: Architecture of Donor login

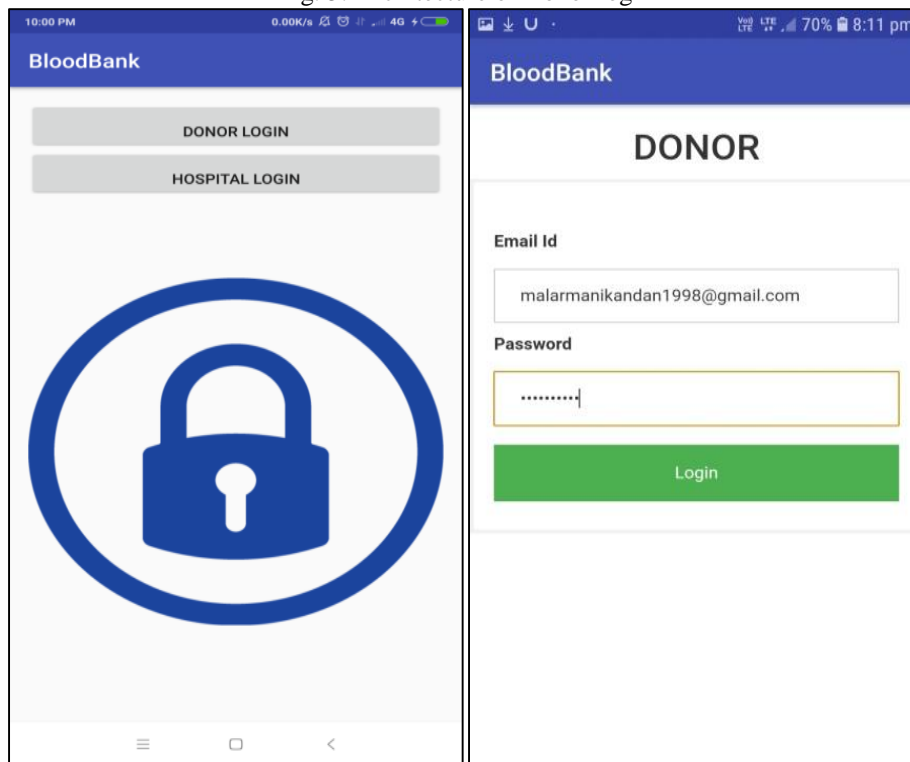


Fig. 6: Donor Login

If the Donor can be login the page, four options are available for the Donor:

- Notifications
- Accept/Reject Requests
- Track location
- Set Availability



Fig. 7: Options are available in Donor login

2) *Notifications:*

If the Donor login the page, Notifications can be sent to the Donor.

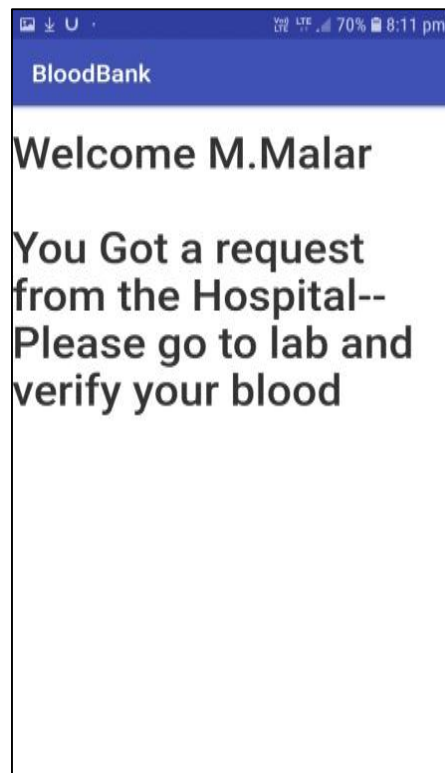


Fig. 8: Notifications sent to the Donor

3) *Accept/Reject Requests:*

If the donor register the app and the hospital sent the requests from the donor then the donor select the accept or reject the requests, these details are sent to the hospital.

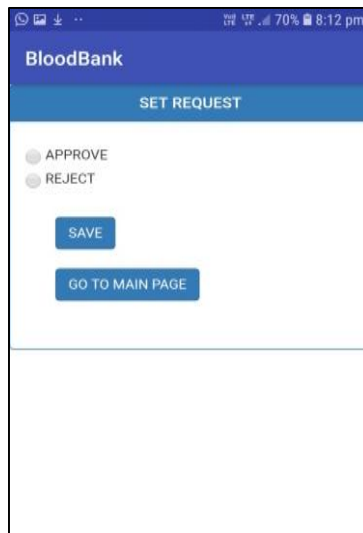


Fig. 9: Accept/Reject Requests

4) *Track Location:*

If the user and the donor location are traced using GPS(Global Positioning System).

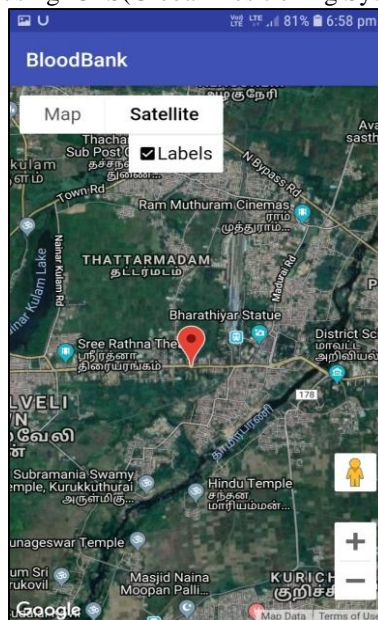
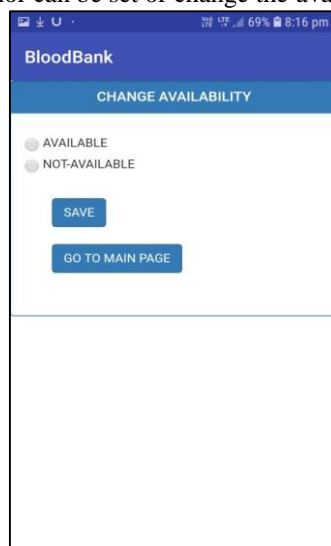


Fig. 10: Trace Location using GPS

5) *Set Availability:*

This option can be used to the donor. If the donor can be set or change the availability.



E. Hospital Login:

If the hospital can be login the page three options are available,

- Search blood and sent Requests
- View Requests
- Update GEO Location

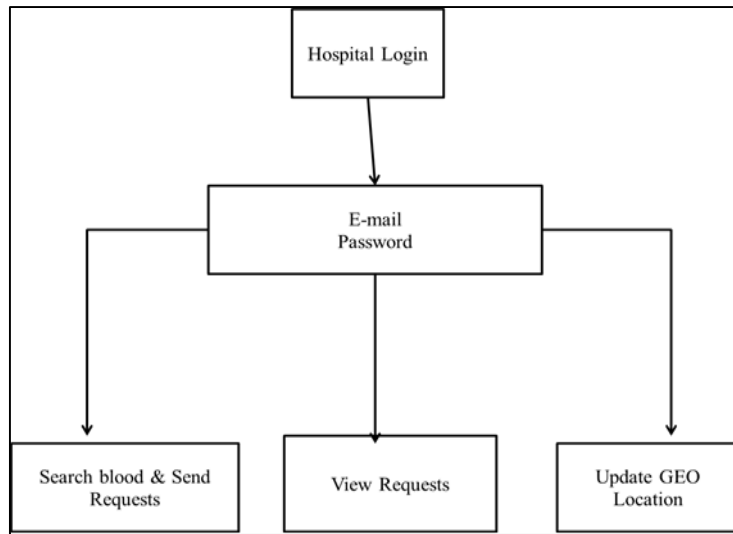


Fig. 11: Architecture of Hospital login

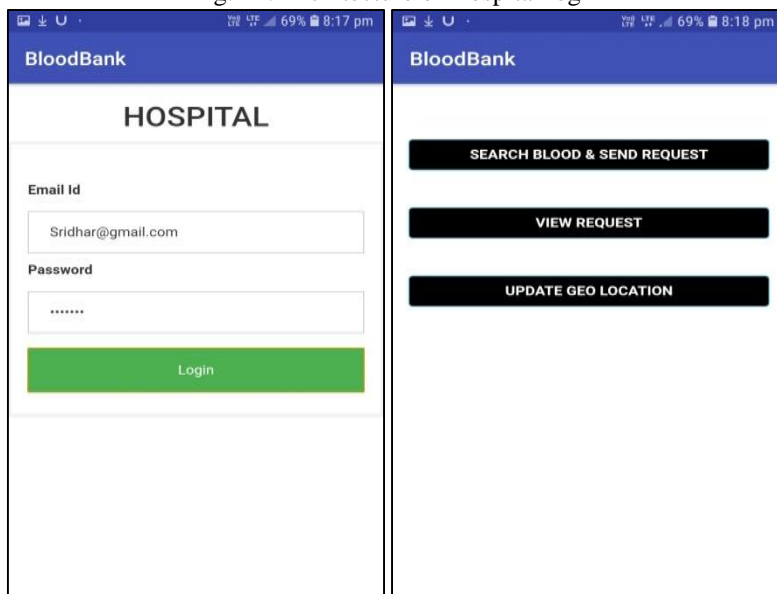


Fig. 12: Hospital Login

F. Search Blood and Sent Requests:

In this if blood is required for a patient. The hospital will check whether blood is available to them if not they search for donor in files. These process is time consuming and requires more amount of time.

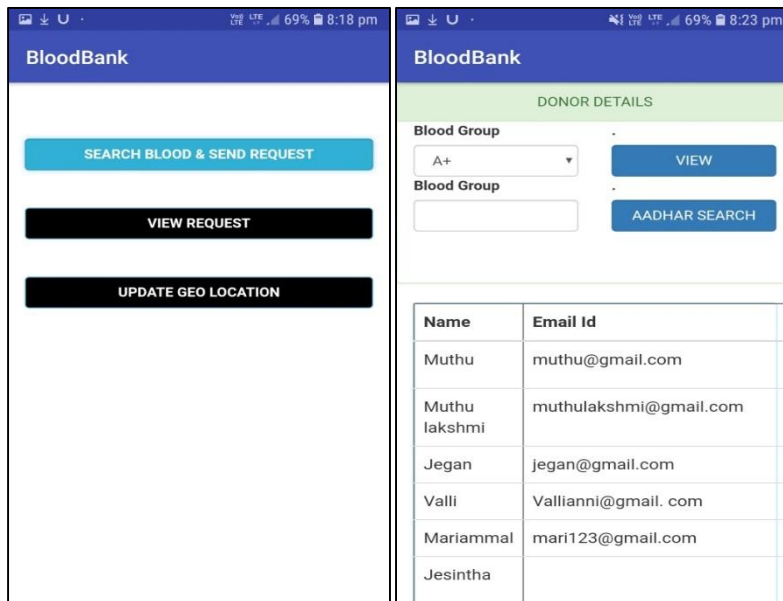


Fig. 13: Search Blood and Sent Requests

G. Aadhar Search

Aadhar search can be used to search the Particular Donor details.

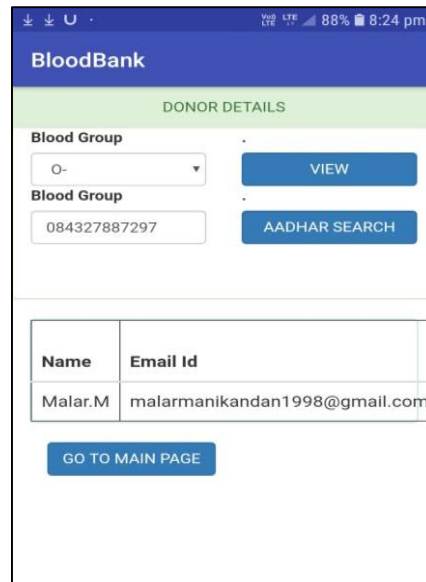


Fig 14 : Aadhar card based search

H. View Requests

Number of user can be accept the request, these details are displayed in this page.



Fig. 16: View request page

I. Update GEO Location

Donor location can be updated for the Latitude and Longitude.

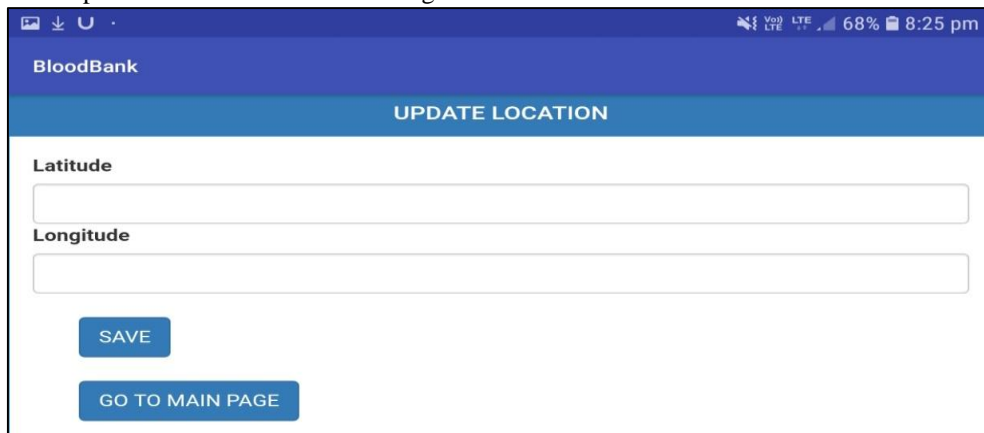


Fig. 17: Update GEO location

J. Lab Report

Lab Report can be used to verify whether the blood is available or not.

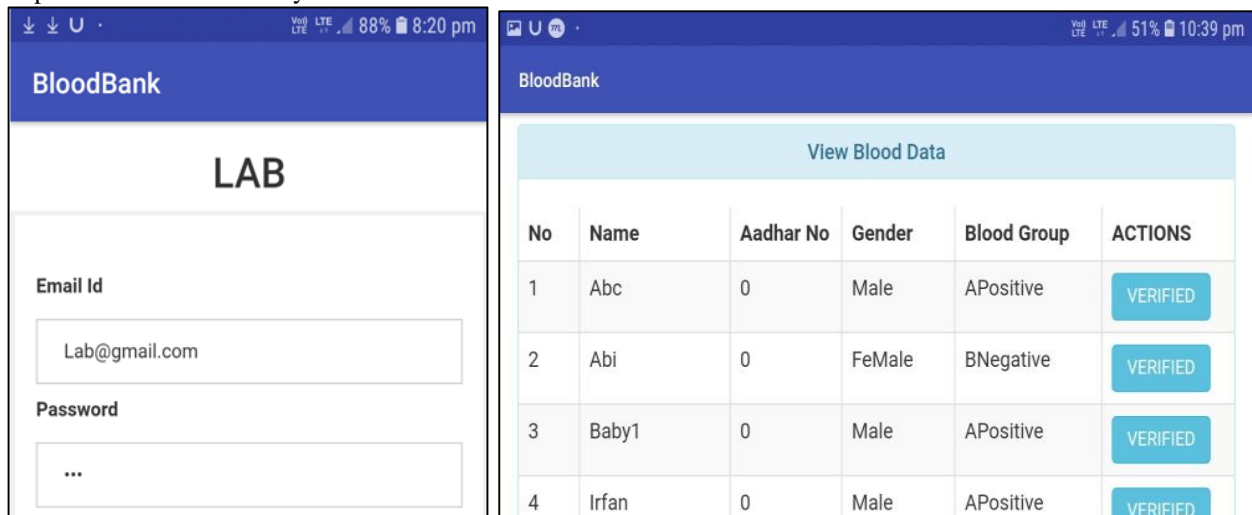


Fig. 18: Lab login and Verification

VI. CONCLUSION

This system is easy to maintain the stock of the blood and also provide the easy way for making available blood to anywhere. Person can easily check the availability so that there is no shortage of blood and by checking whether it is available they can buy from that blood bank and also it reduce the time.

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