Abstract: RedShare offers new horizons for health that offers healthcare services by utilizing the mobile devices and communication technologies. In health care services, blood donation is a complex process and consumes time to find some donor who has the compatibility of blood group with the patient. The Proposed system is an android based blood bank application to establish a connection between the requester and donor at anytime and anywhere. A blood bank as we know provides blood to people in need at times of emergency. The Blood Bank system is designed in such a way that users can view the information about registered blood donors which will help in the hour of need. The proposed system has a login page where the user is required to register, but user does not have to register if he does not find the desired result. The user can also register to donate blood on the system if they wish to. Thus this system helps to select the right donor instantly using blood group. The main aim of developing this system is to reduce the time to a great extent that is spent in searching for the right donor and the availability of blood required. Thus the proposed system provides the required information quickly and also helps in quicker decision making.

Keywords – RedDonate, Health care Services, Blood bank application, Donor, Availability of blood.

I. INTRODUCTION

The task of our blood bank application is to maintain information about various donors, to monitor the blood groups database, to help users in need of blood. The problem is not sufficient number of donors; it is finding a willing donor at the right time.

A network of people who can help each other during an emergency has to be built. This system is used to store data over server which consists of database where the individuals’ information cannot be accessed by a third party since the database will be encrypted.

The main aim of the proposed system is to reduce the time spent in searching of blood donors in case of emergency. There are existing systems provided by different authors, but all these systems have different problems that make the system vulnerable and non-trustable. In the proposed system, we have tried to provide the solution to these problems and have tried to overcome all of them.

RedDonate allows user in need to view the details of the donor such as their name, their locality, their cell phone number & their blood group. The user in need of blood needs to login into the system which will hardly take few seconds and then the user gets access to all the available group of bloods using details of those who can donate blood in urgent.

II. LITERATURESURVEY

In “The Optimization of Blood Donor Information and Management System by Technopedia” by P. Priya and V. Saranya [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 blood 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: A Life Saving Application” by Narendra Gupta, Ramakant Gawande and Nikhil thengadi [2] have 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.

In “an android application for volunteer blood donors” by Sultan Turhan [3] 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 presented. 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.

“Blood Bank Management Information System in India” by VikasKulshreshtha and Dr. SharadMaheshwari [6] introduces the review of main features, merits and demerits provided by the existing Webbased Information System for Blood Banks. This study describes the comparison of various existing system and provide some more idea for improving the existing system.

“Benefits of Management Information System in Blood Bank” by VikasKulshreshtha and Dr. SharadMaheshwari[7] describes about the benefits of management information system in blood bank. The paper is basically focused on the blood bank management information system. It discusses about the beneficiaries of the blood bank management information system.
“Android Blood Bank” by Prof. Snigdha, Pratiksha Lokhande, Siddhi Kasar and Pranita More [8] describes about the android application which timely updates the information regarding donors where the admin accesses the whole information about blood bank management system. The app provides list of blood banks depending upon the user’s location.

In “The Optimization of Blood Donor Information and Management System by Technopedia” by P. Priya and V. Saranya [9], they 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.

“A Study on Blood Bank Management System” by A. Clemen Teena, K. Sankar and S. Kannan [10] is an information management system which helps to manage the records of donors and patients at a blood bank. The system will allow the authorized blood bank officer to login using a secret password and easily manage the records of the blood donors and the patients in need of blood.

III. WORK FLOW

![Workflow of Proposed System](image)

Fig 1: Workflow of Proposed System
IV. PROPOSED SYSTEM

After going through various systems available on Google™ Play Store & Literature Survey here are some key features of our system.

*Block diagram*

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**Fig. 2: System Architecture of Proposed System**

A. User & Admin Login
User will first fill inquiry form what blood type they are looking for; after that the result of nearby hospital will be shown, where they have the blood of particular blood group user is looking for and if the requirements are fulfilled then user will fill the registration form. The process for admin login is similar and just a simple login is required to access the app from the Admin’s side.

B. GPS based
The proposed system will be GPS based to help user locate the nearest hospitals, blood banks or blood donors.

C. Aadhar Card Linking
To avoid the misuse of the blood, the user will have to enter their Aadhar card number while logging into the system. This way the system is secure and all the user’s information will be available if needed by the admin.

D. Blood Donor Login
If there are users who donate blood regularly, they can register with Redshare system to get in-system reminders in every three months after donating the blood, that they can now donate the blood.

E. Rare Blood Group
There are some blood groups which are rare, and it is hard to locate them. With our easy to use proposed system, users can locate rare blood groups’ blood available near them. For example: AB-ve is the rarest of the well known blood groups. However, there are rarer blood groups like the Bombay blood group even within the ABO blood grouping system.

F. Blood Donation Camps
All users will get in-system notification when there is a blood camp around or near their area.
G. Blood group Availability
If the blood group user is looking for, is unavailable, the user will get notification when it is available in blood bank near them.

V. FUTURE SCOPE
Emergency SoS feature which will let user broadcast an emergency message to all the users of the system.
Login for Hospital Staff so that they can update the database for availability of blood instead of an admin
Mapped with Insurance Companies for claim processing.
Trivia Quiz/Information about Blood & its components.

VI. CONCLUSION
Proposed system will be very useful at times of Emergency. Earlier at the time of emergency, the person had to go at particular blood bank to check whether the blood is available or not, but with the help of proposed system, user can easily find the required blood without wasting any time. The Proposed System activities are divided in two major parts, User & Admin. The Proposed System is focused on the productivity of the application by maintaining a database of the donors containing their contact numbers and email ids so that we can make the most of it. The Proposed System is designed in such a way that it helps the user in all possible ways when he/she needs help. If time will permit we will add more features and improve the productivity of the application.

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