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Online blood donation management system

***¹C. Kuladeekshith, ²C. Yamini, ³C. Harish, ³C.H. Girish,
⁴A. Sravani, ⁵C Tejaswini**

^{1, 2, 3, 4, 5} Department of Computer Science Engineering, Sanskrihti School of Engineering,
Puttaparthi, Andhra Pradesh, India.

**Corresponding Author: C. Kuladeekshith
Email: kuladeekshith@gmail.com*

Abstract:

The main idea of the project is to develop a web platform that directly connects blood donors and recipients without the need for blood banks. Recipients would fill out a form with their blood type and location and the platform would search for nearby donors who have registered their availability to donate blood. The donor would receive a message and if interested in donating would send an acknowledgement to the recipient. The platform to communicating between the donor and recipient. The platform also includes a search function that allows recipients to find nearby donors based on location.

An Online Blood Donation Management System is a computerized system that allows for the management of blood donation. It allows for the efficient and effective management of blood donations. This system is internally connected with the donors and receivers. The system can be accessed by authorized receivers, donors and allows for the searching of nearby donors. This system can improve the speed and accuracy of the blood donation process and help ensure that the right blood is available to patients.

Keywords:

Management informationSystem, donor, acceptors, administrator, patients

1. Introduction:

The requirement for the blood is essential for treatments in Hospitals and other medical center especially during emergencies. To save the life there is a need of blood for every individual. The primary aim of a blood bank is to receive the blood from different donors, to screen the database of blood groups and to provide the adequate blood whenever required to the hospital during crises. The blood bank as increased complexity, global competition, economy, social constraints etc. The blood bank managers use the available information system to take appropriate judgments to tackle difficulties. There is a need for a proper and robust platform where donors and doctors can get connected for blood donation, so that every patient can get the required blood within time. The Blood Donation Management System aims to fulfil the gap between blood donors and doctors. When a blood donor gets an easy and suitable platform to register and donate blood, it becomes easier for many people who wish to donate blood but cannot find a proper platform for it due to their busy schedules. So by this thought we come up with an idea of creating a website called Online Blood Donation Management System Where Donors can easily donate their blood by registering through our website and saves the life of people.

2. Problem statement:

An online blood donation management system is to provide a platform that facilitates donors and recipients while also ensuring the safety and integrity of the donated blood. The system should enable donors to register and provide their blood type and availability for donation, and allow recipients to search for donors based on their location. The system should also have a robust verification process to ensure the authenticity of the donors and the donated blood as well as to prevent any fraudulent activities. Furthermore, the system should maintain a database of all blood donations and ensure the confidentiality of donor and recipient. Manager, manages the information i.e. process the available data. This process is known as Management Information System (MIS). The MIS consist of input output and data processing for useful information and further control. There are numerous factors to validate the need of the MIS such the goal of the system is to streamline the process of blood donation and make it more accessible and efficient for those in need of blood transfusions considering. According to the WorldHealth Organization Southeast Asia's estimated blood requirement is about 16 million units per year, but it collects just about 9.4 million units annually, leaving a gap of 6 million units. India with its huge population of over 1 billion is lagging behind in blood collection.

India has 2,433 blood banks that can collect 9 million units of blood annually, but collects only 7 million. And the two main reasons are management and awareness. Considering the blood management side there's lack of uniformity, consistency and up-to-date regulation and policies of the blood banks. This makes the data susceptible to errors and human mistakes which in turn puts human lives in danger. In addition there's inability to transfer blood units between blood banks which sometimes leads to units expiring on shelf. And there is no centralized database to big a mass track. A hospital may have its own system and blood bank but co-ordination between neighbouring blood banks is practically impossible. Online Blood Donation Management System given us a best choice.

3. Objective:

The objective of this project is used to there is a need for a proper and robust platform where donors and doctors can get connected for blood donation, so that every patient can get the required blood within time. The blood bank management system aims to fulfill the gap between blood donors and doctors. When a blood donor gets an easy and suitable platform to register and donate blood, it becomes easier for many people who wish to donate blood but cannot find a proper platform for it due to their busy schedules. So by this we come up with an idea of creating a website called online blood donation management system where Donors can easily donate their blood by registering through our website and saves the life of people

4. System design:

An online blood donation management system should have a user interface accessible via web and/or mobile devices for donors and hospitals/blood banks. Donors should be able to register themselves online and provide their personal details including blood type, location, and medical history. Hospitals/blood banks should be able to submit blood requests online specifying the type and amount of blood required. A matching algorithm should find the most suitable donors based on availability, location, and blood type, and the system should notify donors who match the requirements.

4.1. Web services:

Web services have been used to search out for the donor through website.

4.2. Mobile services:

Mobile services used to send a SMS through website.

4.3. Database:

Cloud is used for database. All the information has been used by webseivces and mobile services. Proper updation of donor and acceptor is needed.

4.4. User:

Ultimate user in the framework of the system is the patient/ acceptor. Information of donor is accessed by patient/ acceptor whenever required/ needed.

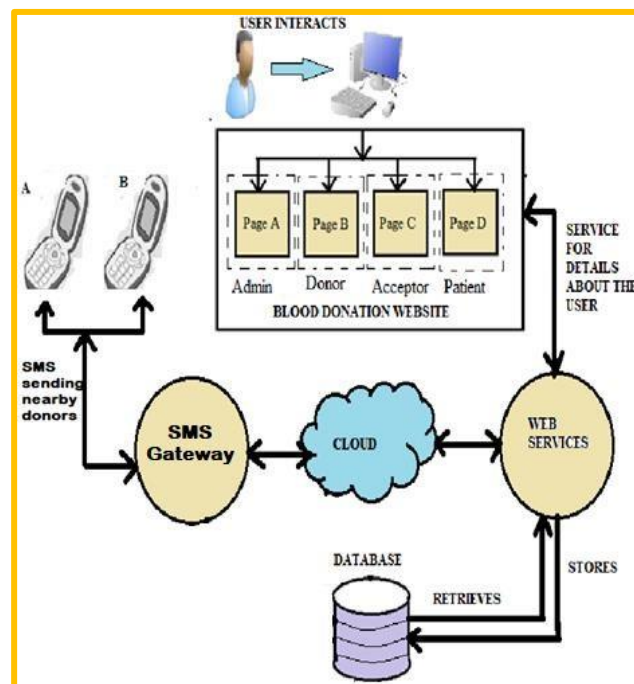


Figure. 1: Architecture of blood donation management system

The major steps are:

Step 1: If User is registered then provide User Id (I) and password (P) else Create new account.

Step 2: The requester filling a form to send notification nearby donors for blood donation database.

Step 3: If there is request from user for blood this will be displaying in the database.

Step 4: Sending acknowledgement to requester.

Step 5: The requester accepting the acknowledgement.

Step 6: Check conditions for blood donation and other factors and previous history.

Step 7: If conditions are satisfied accept it.

Step 8: If Conditions are not satisfied then accepting the acknowledgement to other donors who are eligible.

Step 9: The requester receives the blood from donor and logout.

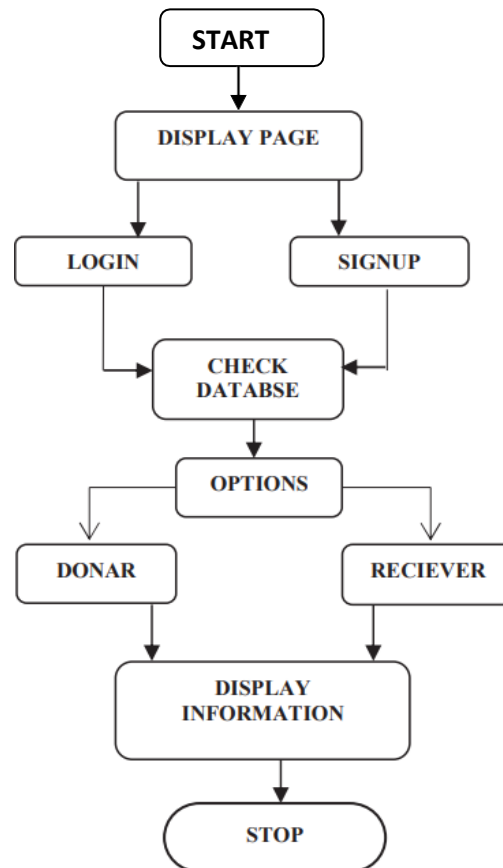


Figure. 1: Flow chart of blood donation management system

An online blood donation management system should allow users to register and login to the system. The requester should be able to fill out a blood request form including details on blood type required amount location and urgency of the request and the form should be stored in a database accessible by eligible donors. The system should also send an acknowledgement to the requester and allow them to accept the acknowledgement. Before accepting a donation request the system should check the conditions for blood donation including the donor's previous donation history, medical history and other factors. If the conditions are satisfied the system should accept the donation request and notify the donor. If the conditions are not satisfied the system should notify other eligible donors. Once a donor is identified the requester should receive the blood and log out of the system.

5. Results:

The result of implementing an online blood donation management system with the described functionalities would be a more efficient and effective way of managing blood donations. The system would allow for easier coordination between donors and requesters resulting in quicker access to blood for those in need. Additionally the system's reporting and analytics functionality would allow hospitals to monitor trends and inventory levels and make informed decisions on blood donation campaigns and other initiatives. Overall the implementation of this system would help save more lives by improving the accessibility and quality of blood donations.

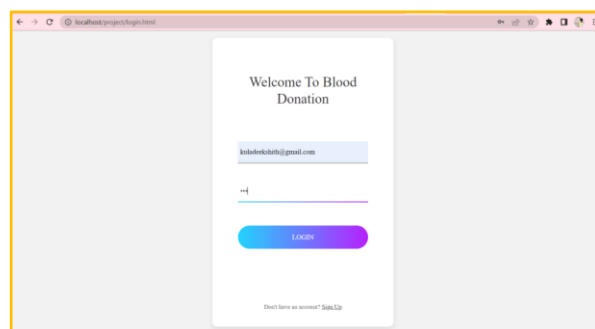


Figure. 2: Login page of User

- User needs to create an account.
- If account is already created, then login with user name and password.

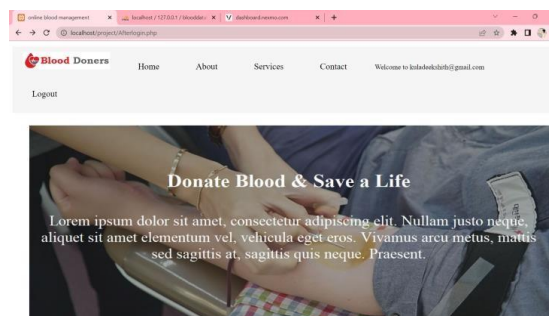


Figure. 3: User After Login page

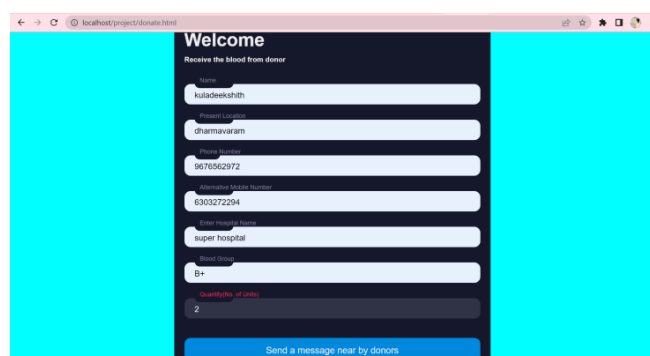


Figure.4: Donors sms alerts sending page

- If requester is required a blood to fill a form and click the button to send a SMS nearby location donors it is fetching in database.

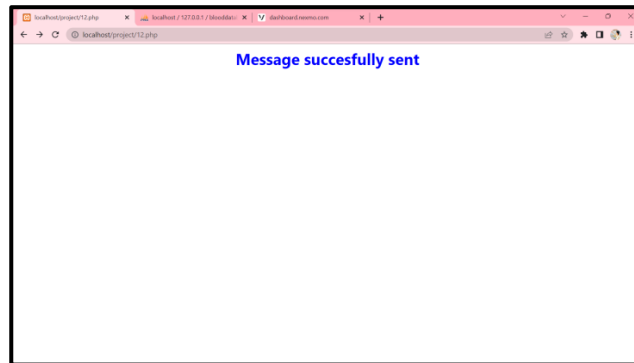
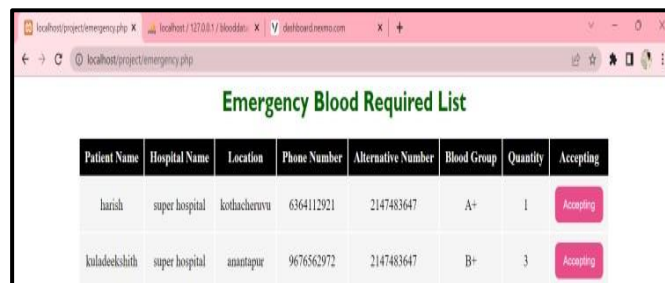
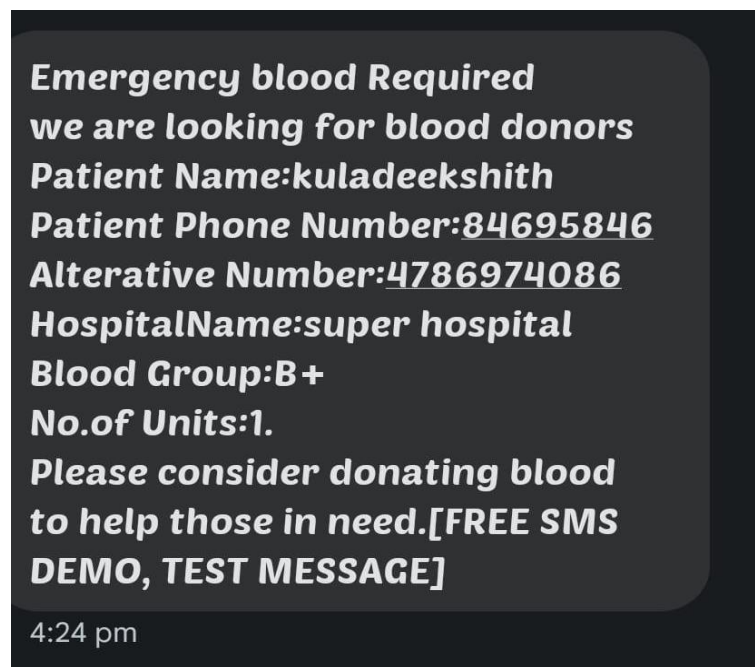


Figure. 5: Sending nearby donors

A screenshot of a web browser window showing a table titled 'Emergency Blood Required List'. The table has columns for Patient Name, Hospital Name, Location, Phone Number, Alternative Number, Blood Group, Quantity, and Accepting. There are two rows of data, each with an 'Accepting' button.

Patient Name	Hospital Name	Location	Phone Number	Alternative Number	Blood Group	Quantity	Accepting
harish	super hospital	kodacheruvu	6364112021	2147483647	A+	1	Accepting
kuladeekshith	super hospital	amantapur	9676562972	2147483647	B+	3	Accepting

Figure. 7: Accepting page

- If donor is intrested to donate blood the check patientdetails to click the accepting button.

- It send automatically acknowledgement to the requester.

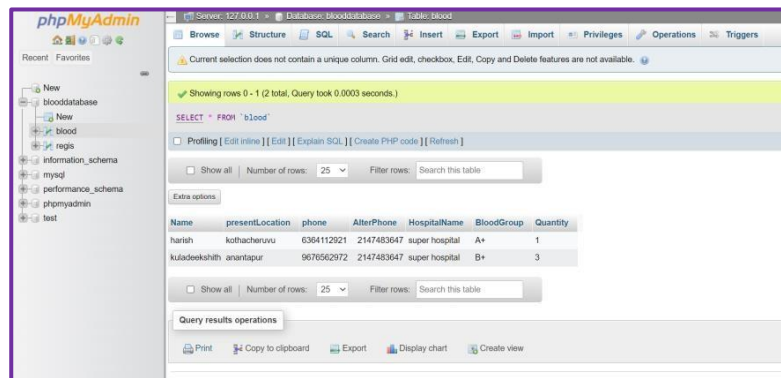


Figure. 8: Database page

5. Conclusion:

This project proposed the reliable an online blood donation management system can further enhance its effectiveness in improving the blood supply chain. The system can automatically send SMS notifications to potential donors in the vicinity of a blood drive or in need of a specific blood type. This feature can increase the number of blood donations and ensure that the blood supply is readily available when needed. Furthermore, it can help bridge the gap between blood banks and potential donors, making it easier for individuals to contribute to the healthcare system and ultimately save lives. Overall, incorporating SMS notifications to nearby locations in an online blood donation management system can enhance the efficiency and effectiveness of the blood donation process, benefiting both patients and healthcare providers.

6. Future enhancement:

In further enhancement we will add features like user friendly interface for all type of users and SMS sending only sending one or two persons nearby location donors. If implement this project to sending the all nearby donors and also implementing this technology by utilizing geo location technology.

7. References:

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