E-BLOOD BANK IMPLEMENTATION USING CLOUD COMPUTING

CH.BUCHIREDDY1, ALLAM SANGEETHA2, ABBA CHETHANA3
4.THAMBI VINOD KUMAR, 5.G.SAMBA SIVA RAO
Assistant Professor, Department of Computer Engineering, Ellenki college of Engineering and Technonlogy, patelguda (vi), near BHEL ameenpur (m), Sangareddy Dist. Telangana 502319.

Abstract - In many different cases, such as accidents, there could be an urgent need for specific blood type. As compared to the ratio of requirement of the blood very less amount of people donate the blood, hence the requirement of the blood increases. Blood Donation and Blood Transfusion Services (BTS) are crucial for saving people's lives. Blood banks suffer frequent shortage of blood; hence, advertisements are frequently seen on social networks urging healthy individuals to donate blood for patients who urgently require blood transfusion. The E-Blood Bank is an Android application which allows the user to search donors of specific blood group based on their location, in a short period of time. This application will not only display the list of donors but also facilitated with tracking the location of the nearby donors and providing SMS alerts to them, so that the patient can be served with blood soon. In order to donate blood through the app, one has to register himself by providing all the required details. These details must be valid and true so that they can be tracked at the time of emergency. When all the information is accepted by the Admin, the donor will be further to the list of registered donors. GPS module is included in order to locate the donors. Thus, only registered members, who want to donate blood, are able to access the service. Cloud-based services are proved very vital in urgent blood delivery as they care able to central and immediate access to donor's data and location from anywhere and anytime.

Key Words: Cloud Computing, GPS, Android Application.

1. INTRODUCTION

Now-a-days, supply chains are very complicated than ever. Consumers' expect new products, whereas organizations, need to be more innovative however because of these numerous loop holes and various distractions it still incapable of satisfactorily addressing many practical, real- world challenges. One of the most important challenge i.e. to provide a quick service in the emergency situations, but many of the services fails to achieve it. By developing an application which will help society and various needy people is the application of E-Blood Bank which will provide a quick service to the needy people. In this application the user's location will be tracked using GPS system. If blood is required, the donor with the required specific blood group is identified and notified about its requirement. The project consists of algorithm which tracks location of the donors, identifies the donors who are nearby to the location of requester and notifies them too. If the identified nearby donors are not able to donate blood at present then the scope of tracking the donors is increase

The MIS of Blood Bank India saves the name of the donor who is donating blood, a unique id through which the donor

can view his account, password for accessing the account, date of birth of the donor because his age must be in the range of 18-60 years, gender of the person, blood group, weight, mobile no, email id, address, city, state, last

time when donor donated blood also when a new blood donor registered himself as a Blood Donor. This project consists of an android application which is present on the donors' android-phone application which will help to provide an emergency services to the needy blood requestor seeking people for donating the blood and it also uses cloud services for keeping the data of donor's safely.

2. LITERATURE SURVEY

Existing System

We gather some of the data about the blood bank management system situated in city and rural area we find some of the hospitals have its own blood bank unit with each and all technical facilities in a city but this conduction is poor in the rural area [2]. There are a number of research work have been done to integrate cloud computing, health sector, and social media. In existing systems, the given blood group and quantity is searched for in the cloud database, where the blood bank data has been stored. When the results are found, they are displayed on the website for the hospital to see [1]. The results contain the basic information of the blood banks that have that specific blood group, ordered by the geographical proximity. In spite of the obtainability of the prospective blood donors not more than 10% of the total Indian population donates blood. Advancement in medical science has increased the blood demand. Also, blood-donors usually don't come to know about the need for blood. These causes inspire us to grow a more proficient system that will assist the present blood donation system.

Drawbacks of the Existing System

A donor was donating a blood for storage at a blood bank or any other center for transfusion to an unknown recipient. These can occur at a number of locations including blood donation centers, mobile camps, mobile vans, etc. There a number of types of blood donations such as voluntary blood donation programmer [3]. This is the safe and quality blood donation service as the blood collection from voluntary non-remunerated blood donors is well-thought-out to be the safest. In order to enhance voluntary blood donation in developing countries like India is based on well-defined frameworks and operational guide for organizations for this important activity.

Sr. No	Paper	Advantages	Disadvantages
1.	A New Concept of Blood Bank Management System using Cloud Computing for Rural Area	Use of Static Database	Absence of GPS system for tracking the current location of the user
2.	Central Blood Bank Database with Anti GPS Mobile System	Dependent on the hospital data for the Donor's location	Independent of the Hospital database for the location of the Donor
3	Computer Aided Emergency Service System	Computer-based System i.e. is Web Application	Mobile-based System I.e. Mobile Application

Few drawbacks of the Existing System

1) Cannot receive the blood on time as the donors are from various locations.
2) Extra clerical works.
3) Error handling is not efficient since records are maintained manually.
4) Data management becomes tedious as the records increase.
5) Time-consuming.

Motivation behind the E-Blood bank

A system can be developed technically and that will be used if installed must still be a good investment for the organization. The system is economically feasible. It does not require any additional hardware or software. Since the interface for this system is developed using the existing

Objective of E-Blood bank

1. To generate Blood bank portal and Android application for Donor to register for donating blood.

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2. To generate Donor, Blood bank admin, Hospital admin can register and login.
3. If donor once donated blood he/ she not allowed to donate blood until three months of last donation date.
4. Using system donor will get the notification whenever new blood donation camp takes place.
5. The donor also requests for the blood of nearest blood bank with priority and also get an appointment.
6. New Donor also can make request for blood donation to nearest blood bank and also get appointment after request
7. Admin of all respective department can generate reports of the blood bank, bloodstock, check the expiry date of blood.

3. PROPOSED SYSTEM

User Registration

In this phase the user has to go through the registration process in which he has to fill his details such as name, registered address, contact number, blood group, age, also he has to fill his medical information in the form.

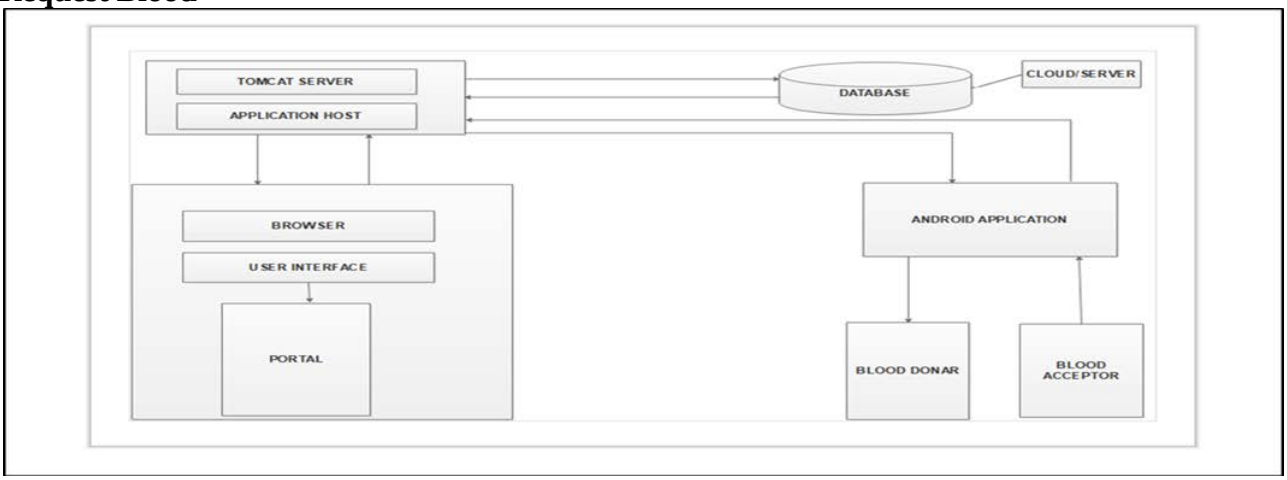
Request Blood

This is the second phase in which the user who is in requirement of blood will have to request blood by giving the details such as required blood group, contact number of the user, current location of user (which will be fetched by the application automatically), once requested, the list of the nearby donor's will get displayed and also will be notified.

Blood Donor

resources and technologies available, there is nominal expenditure and economic feasibility for certain. The proposed system provides easy access to Blood bank system, and it will help during emergency services. The system will be able to how nearest blood bank so according to that user will able to find out nearest one in an emergency.

This is the third phase in which donor will get the notification of the blood request of the nearby blood requestor (user).and the contact details of the requestor will be displayed on the application. Apart from this the donor can also donate the blood anytime on this will, by using the application.



4. PROPOSED ALGORITHM BLOOD BANK

Problem Description: This Algorithm computes blood bank application.

Input: ID, Password, is the of character type.

Output: Outcome is Notification to the donor and Response to the requestor from E-blood bank application.

E-Blood Bank Application

Step 1: If User is registered then provide User Id (ID) and password (Password) else Create new account;
Step 2: If there is request from user for blood, track location of user with GPS;
Step 3 Check If blood donor is available to send the notification from E-blood bank application to nearby registered Donors.
Step 4: If GPS of the user is not ON then send the notification based on registered address.
Step 5: Check conditions for blood donation like HB, Weight, other factors, and previous Blood Donation Date.

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Step 6: If conditions are satisfied to accept it.
Step 7: If Conditions are not satisfied then send the notification to other donors who are nearby and also eligible.

EXPECTED RESULTS

- The fastest way for contacting the required Blood Donors.
- Reduction in the Corruption factor in Blood Bank.
- Direct Communication Between the donor and the person in need of blood During the Emergency Period.

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CONCLUSION

The proposed system provides Android based application which is very useful at Emergency Services i.e. at the time of Blood Transfusion, Blood Donation, etc. The system provides

a better way to communicate with blood Donors. It is also able to maintain the database of the registered Donor's. It also provides knowledge about the latest technology used in developing android based applications

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