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Lifesaver E-Blood Donation App Using Cloud

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Abstract -E-health provides a new method for using health resources. In proposed system the aim is to provide a direct call routing technique using Asterisk hardware. A blood bank database is created by collection of details from various sources like Blood banks, NSS, NGO's, hospitals and through web interface. The data collected will be maintained in a central server. This central server will be associated with a Toll-free number that can be used to connect to it. An algorithm will be defined based on the various parameters that need to be accounted for, before blood transfer is done. The willingness of donor and the closeness of the donor to the place from where the call is coming are also accounted for in defining this algorithm. Based on the algorithm the most eligible donor is found out. From the server the call from the required person is routed to the eligible donor's number. All information about the donors and blood bank is stored on the cloud. As per blood requirement, user can quickly get notification from blood bank within the radius of 5-10km. If requested blood group is available in the blood bank then it will send positive reply message to the users. If requested stock is not available in the blood bank then blood bank send notification to all donors. If anyone is able to donate then he will reply to blood bank. This is how the proposed system will work.

Key Words: E-health, GPS, Blood bank database, Call routing-health, Acceptors.

1. INTRODUCTION

Cloud communicating is an emerging technology that can be integrated with traditional health management used to provide better health services. Traditional healthcare systems mainly include personal and public healthcare services, teaching and research activities. Personal healthcare services are offered at hospitals, homes and different organizations. Public healthcare services involve guidelines for drugs, food and safety policies to maintain a healthy environment. Teaching and research activities are essential for prevention, detection, tracking and treatment of diseases. Healthcare information systems are designed today for the convenience of the user who obtains its bene fits. In many emergency situations, such as accidents, there is an immediate, critical need for specific blood type. In addition to emergency requirements, advances in medicine have increased the need for blood in many ongoing treatments and medical surgeries. To motivate people for blood donation and to help patients receive blood in emergency situations, we have designed an application to overcome all the problems which the current offline as well as online systems face. If in emergency a patient requires blood, using this application we'll not just be able to contact Blood Bank and Hospitals but can also seek help from individual registered Donors. The need for the blood is important for treating in medical field. For every second someone needs blood to save their life. The task of blood bank is to receive blood from various donors, to monitor the blood groups database and to send the required blood during the need to the hospital in case of emergencies. In developing countries, especially like India, the blood resource lacks in quantity which is a barrier to others life. The willingness of donor and the closeness of the donor to the place from where the call is coming are also accounted for in defining this algorithm. Based on the algorithm the most eligible donor is found out. From the server the call from the required person is routed to the eligible donor's number. We utilized the cloud computing service for keeping the application data available anywhere and anytime. The superior feature of our application is to use it as a volunteer blood donor as well requester. Requester can broadcast the message along urgency sign of required blood to the registered users and notification message will send to all the volunteer blood donors.

2. LITERATURE SURVEY

Sr. No	Paper	Advantages	Disadvantages
1.	Android Based Health Application in Cloud Computing for Blood Bank	Accessibility and availability are the criteria on which an application is designed for its success in the IT market.	Requires the patient records to be accurate and accessible.
2.	Automated Online Blood Bank Database	When there is urgent need for blood then If this model is adopted the caller is immediately connected to the donor	Tackling fake donors.

3	mHealth: Blood Donation Application using Android Smartphone	mHealth is one of the best possible concepts for the provision of healthcare services and improve quality of life.	We have to utilize the cloud computing service for keeping the application data available, anywhere and anytime.

Table -1: Literature review

3. Motivation behind the Lifesaver E-Blood donation App

The aim is to build a Lifesaver E-Blood Donation App using Cloud with advanced features that will help to overcome the barrier between blood bank, blood donor and patient. To build an android application that will help people to get blood in emergency situations like natural disasters using features like geo-tagging, SMS Gateway and payment gateway. To motivate people for blood donation and to help patients receive blood in emergency situations, we have designed an application to overcome all the problems which the current offline as well as online systems face. If in emergency a patient requires blood, using this application we'll not just be able to contact Blood Bank and Hospitals but can also seek help from individual registered Donors.

4. Objective of Lifesaver E-Blood donation App

1. To Find the Blood donor when required.
2. To Deliver the service at minimum cost.
3. To motivate people for blood donation and to help patients receive blood in emergency situations.
4. To Find the donors in desired location through location preference.
5. Search Availability of Blood in blood banks.
6. Searching for Donors based on Location Blood Group (e.g. A+, B+ etc.)
7. Delivery of Blood in emergency condition.
8.Blood Donation Camps and camp organizer management.
9.Inventory management in blood bank for storage and issuance of blood.
10.Analizing of Patient register/Blood sample receiving register, Donor Register, Blood issue register and discarded blood report where different algorithms come into action

5. PROPOSED SYSTEM

Admin:

Admin can manage both donors & acceptors. He can add or remove any user from the system. Each member in a donor & acceptor is given a user id and password, which identifies him uniquely. From admin module use can change donor details, delete donor or change the password.

· Change Password
· Modify donor details
· Delete donor details
· Logout

Login:

To login in the system user has first register himself/herself. After successful Registration user can login into the system Blood Donor.

Acceptors:

This module helps user to find blood group. When user click on find a blood group system ask him to enter blood group he wants to search. After entering the blood group, system search for the availability of the blood group and give him the list of the donors who has the same blood group. Whenever a user wants to change password, he can select the change password option. Then system ask the user to enter old username and password then system check the credentials and change the password. Clicking on logout button user can log out from the system.

Donors:

From this module user can create their account, when user create his account the user gets a user id and password, which identifies him uniquely. From this module user can search donor for blood and can also refer his friend to become a donor. Donor can also get information like when he donated blood or when he will be able to donate blood.

Donor Registration:

In this module, people who are interested in donating blood get registered in my site and give his overall details related to him, i.e. he fills in a registration form by giving the total details such as name, address, city, sex, weight, DOB, blood group, telephone numbers, e-mail address, etc.

Update Profile:

The registered donor only is able to modify his details; no other person can modify his details as there was a login form which restricts others from entering the username and password providing high security for the details given by the donor. If at all the donor wants to modify his details, he was forced to give his username and password to enter in. After giving the username and password it checks for the donor whether he is an existing donor or not and if the username and password matches, he can then able to modify his total details. Following links are available on donor and acceptor module.

Donor Search:

The people who are in need of blood can search in our site for getting the details of donors having the same blood group and within the same city or his current location. They can directly search a donor and can select a city name as well as the blood group which he needs. He then gets the details of the donors who exist within the city and the same blood group that he has selected. If no match was are found for the city and group selected by him, he gets a message 'SORRY DONORS ARE NOT AVAILABE WITH THE FOLLOWING BLOOD GROUP AND AREA'.

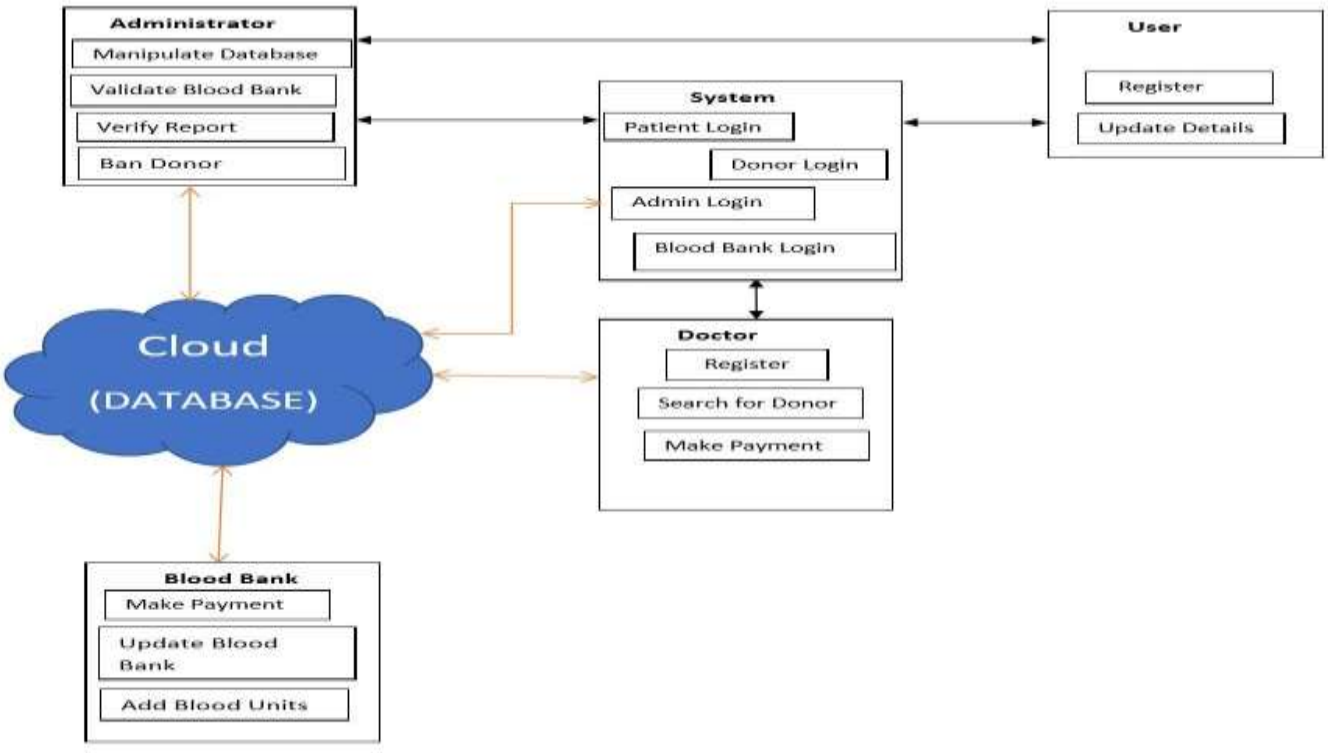

Fig -1: System Architecture

6. PROPOSED ALGORITHM BLOOD BANK

Algorithm Blood bank (D, I, P)

Problem Description: This Algorithm computes blood bank application.

Input: I, P are the of character type.

Output: Outcome is Notification and Response from blood bank for blood.

Step 1: If User is registered then provide User Id (I) and password (P) else Create new account;
Step 2: While blood stock gets low Send notification to donors for blood donation camp;
Step 3: If there is request from user for blood, track location of user with GPS;
Step 4: Check for blood availability at blood bank;
Step 5: If blood is not available send notification from blood bank to nearby registered Donors;
Step 6: Check conditions for blood donation like HB, Weight, other factors and previous history;
Step 7: If conditions are satisfied accept it;
Step 8: If Conditions are not satisfied then send notification to other donors who are eligible;

EXPECTED RESULTS

a. Contacting blood donors becomes faster.
b. Reduction in the errors of blood bank using most eligible donor method.
c. Direct Communication Between donor and the person in need of blood During the Emergency situation.
d. Closeness to location from where call is happening

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CONCLUSION

The proposed system provides Android based application the proposed system thus not only lessens the gap between the “Donor” and the “Patient” during emergency situations but also creates awareness about blood donation by generating alerts about blood donation camps to be held in respective areas. As these features are implemented in real-time and with increasing “Blood Requirement” this will be best use of Technology.

REFERENCES

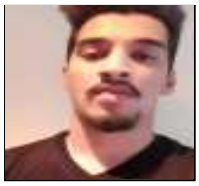
[1] P. Priya, V. Saranya, S. Shabana, Kavitha Subramani Department of Computer Science and Engineering, Panimalar Engineering College, Chennai, India. “The Optimization of Blood Donor Information and Management System by Technopedia" International Journal of Innovative Research in Science, Engineering and Technology. An ISO 3297: 2007 Certified Organization, Volume 3, Special Issue 1, February 2014.

[2] Chandrani Ray Chowdhury Assistant Professor, Dept. of MCA, SDET-Brain ware Group of Institution, Barasat, West Bengal, India." A Survey of Cloud Based Health Care System" International Journal of Innovative Research in Computer and Communication Engineering (An ISO 3297: 2007 Certified Organization) Vol. 2, Issue 8, August 2014.

[3] T.Hilda Jenipha, R.Backiyalakshmi "Android Blood Donor Life Saving Application in Cloud Computing “American Journal of Engineering Research (AJER) e-ISSN: 2320-0847p-ISSN: 2320-0936 Volume 03, Issue-02, pp-105-108.

[4] Javed Akhtar Khan and M.R. Alony" A New Concept of Blood Bank Management System using Cloud Computing for Rural Area (INDIA)"International Journal of Electrical, Electronics ISSN No. (Online): 2277-2626 and Computer Engineering 4(1): 20-26(2015).

BIOGRAPHIES



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