

Database Management of Blood Bank & its Availability to Users through Mobile Terminal

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Abstract - We can see so many people who are in need of blood and so many people are not able to get relevant blood according to their requirements at the time of emergency. Our aim is to avail blood to those who are in need of blood. We propose a new and efficient way to overcome such scenarios with our innovative ideas and work. It is based on mobile application and the mobile search engine is used to search for blood supplies from registered donors. These contains the information like Donor Name, Blood Group, City living, Contact details, Email etc. Now every donor details will appear in alphabetical order. Now a days majority of the population carries a mobile phone with him. Only a registered person's information will appear in mobile application for those who are in need of blood. The user will get the route to reach the desired location or we can contact donor and he won't have to ask manually. In this case, we use GPS technology for tracking donor who is willing to donate blood. As we can see this process will consume less time.

Key Words: Donor, Acceptor, Android, Database, GPS Tracking, blood banks, Centralized server

1. INTRODUCTION:

"Blood Bank" can be used effectively for getting the details of blood donors having the same blood group and within the same city. With the help of our work done, people who are having the thought of donating blood get registered in our mobile based application by providing his details.

1.1 Scope: Our idea is to help the people who are in need of blood in emergency cases and these people should understand easily by taking few steps to register in our "Blood Bank Database. Once

registered, Users will get access to Blood bank database. The main purpose is to interconnect all the donors and blood banks information into a single network. This is used to store data over centralized server which consists of database where the individual's information cannot be accessed by a third party.

1.2 A Survey Paper on E-Blood Bank and an Idea to use on Smart-phone:

Blood is an important aspect in every one's life. It proves to be a lifesaving component in case of emergency requirement. As we can see existing system doesn't offers the direct contact between donor and blood bank. This is the major drawback of the existing system and this is time consuming. [1] Our idea will improve the existing system and it will move from complex desktop to easily access mobile android app. (1)

2. PROPOSED SYSTEM:

For donor and as well as acceptors, firstly they have to install our application into their mobile. Then, there will be an option for donor and for acceptor. The person should register according to their need. If he wants to donate then he will select donor option and if not acceptor option register as follows. For registration basic details like Name, Address, Email, contact number, DOB etc., are needed. If in case, the person is already registered earlier then he has to login with his Email and Password. The user who wants blood will get options like donor search, select the nearby area, blood group etc.

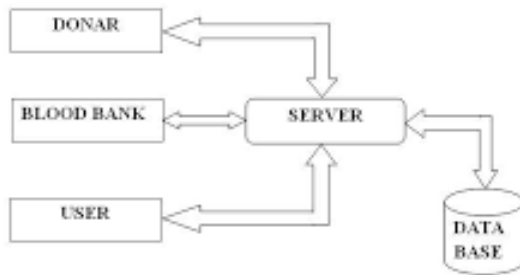


Fig -1: Block Diagram of Main Modules

2.1 Admin Module:

This Admin Module is most important modules as it verify. The SMS notification in case of forgot password and any other queries have been sent to respective mobiles. This notification process is maintained in admin module only.

Admin maintains donor details at regular intervals for to avoid the redundant data. Admin manages the four fields e.g., donor, user, blood bank, hospital. These fields are taken care by admin user at daily intervals and the privileges varying depend on above fields for some security purpose.

2.2 Donor Module:

For every new donor they have to register. For unique identification of the donor, user id and password are provided after registration. Each donor has to fill all the basic details like name, date of birth, address, gender, blood group etc.

2.3 Acceptor:

This modules is where the person who are in need of blood for their emergency requirement. The Acceptor will make a request after registration in our application for their required blood group.

2.4 System Database:

This module will store the data relevant to donor, and if in case the donor updated his/her details then that information is also stored and the information of acceptor and details of patients [3].

2.5 Blood Donation App:

It is based on mobile application and has mobile search engine. This application created for persons who are in need of blood and to know the availability of the blood in different hospitals and the available donors in their area to make the user friendly application. This process will “save time and mainly save life of a person that who are in need of blood”. By registering in our mobile application named “Pocket Blood Bank”.

3. METHODOLOGY: Methods used in our research work are explained below:

3.1 Android studio:

We all know that Android studio is the main platform for developing an android application and this android studio is specifically for Android development. Android studio is the official integrated development environment (IDE). This Android studio is available on many operating systems like Windows, MAC OS X and Linux [7].

Android Studio features a new and improved interface design perspective where you can view the interface you are working on and its related components Android Studio features like flexible Double-barrelled build system, code templates to help you build common app features, rich layout editor with support for drag and drop theme editing, built-in support for Google Cloud Platform, making it easy to integrate Google Cloud Messaging and App Engine and much more.

3.2 PHP

PHP is known as a server-side scripting language designed for web development but also used as a general-purpose programming language. It is used to create dynamic Web pages, or Web pages that update and display information depending on the user's activity [5]. PHP code is interpreted by a web server with a PHP processor module, which generates the resulting web page: PHP commands can be embedded directly into an HTML source document rather than calling an external file to process data. . PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge. There are four major advantages when using PHP: accessibility, compatibility, simplicity and extensive community

support. Because PHP is open source, access has no restrictions. Programmers interested in using PHP only need to download the scripts, without paying a single cent. PHP is designed to work well with the web, and so things like accessing the GET and POST and working with HTML and URLs are built-ins in the PHP language.

3.3 MySQL:

MySQL is an open source relational database management system (RDBMS) based on Structured Query Language (SQL)[4]. A relational database stores data in separate tables rather than putting all the data into one large repository. The tables are linked by defined relations making it possible to combine data from several tables upon request. MySQL runs on virtually all platforms, including Linux, UNIX, and Windows. Although it can be used in a wide range of applications, MySQL is most often associated with web-based applications. MySQL is very easy to use. With only a few simple statements, you can build and interact with MySQL. MySQL is scalable as it can handle any amount of data, up to as much as 50 million rows or more. MySQL is very friendly to PHP, the most appreciated language for web development. MySQL supports large number of embedded applications which makes it very flexible.

4. Implementation:

The entire system was developed using the ASP, HTML, JavaScript, Personal Web Server, and Oracle 8 as back end. The HTML is used to design the web page. The VBScript is used for client-side validations so that the user can enter only appropriate input in the input fields [6]. The Oracle 8 is the back end tool where the database resides.

4.1 Home Page:



Fig -2: Mobile based Application (Homepage)

4.3 Donor search:



Fig -3: Mobile based Application (Blood Donor Details)

4.4 Search Results

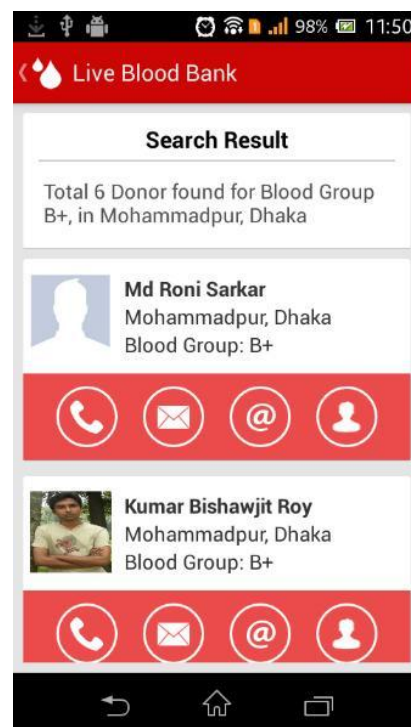


Fig -4: Mobile based Application (Search page)

5. Conclusion:

This research work has given me an ample opportunity to design, code, test and implements an application. This has helped in putting into practice

various Software Engineering principles and Database Management concepts like maintaining integrity and consistency of data. And also the other features, which the blood bank service provides, can be incorporated into my Blood Bank module. An encryption standard can also be used to make the transactions more secure.

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