LIFESHARE BLOOD SERVICE

Ratnadeep Kumar[1], Souvik Chakraborty[2], Jayesh Raj[3], Sushil Kumar Jaiswal[4], Suhas S[5]

[1] *BE, Department of CSE, NIE Mysore, Karnataka, India*
[2] *BE, Department of CSE, NIE Mysore, Karnataka, India*
[3] *BE, Department of CSE, NIE Mysore, Karnataka, India*
[4] *BE, Department of CSE, NIE Mysore, Karnataka, India*
[5] *Assistant Professor, Department of CSE, NIE Mysore, Karnataka, India*

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Abstract - *During emergency, blood acts as a saver of life. Blood Bank's task is to receive blood from various donors, monitoring the blood groups database and to send the required blood during the need to the hospital in case of emergencies. Our project "Lifeshare Blood Services" using Android is developed so that users can view the information of nearby hospitals, blood banks. The three perspectives in this project are hospital, blood bank and patient/donor. Generally the concern is not insufficient number of donors, but the availability of a willing donor at the right time. Our vision is to build a network of people who can help each other during an emergency. The information of the donors is updated regularly via this application where the administrator accesses the whole information about blood bank management system. Donor will be asked to enter an individual's details, like name, phone number, and blood group. When the blood is required, the person has to search for blood banks or hospitals for required blood and reach out to them through the App. Our Application provides list of blood banks in your area. Since lots of people are connected to the android application, this app will help them to save life. Since almost everyone carries a mobile phone with him, it ensures instant location tracking and communication via GPS technology. Only a registered person, who wants to donate blood, will be able to access the service. In this application we are using the GPS technology that will be used to trace the way to the blood bank as well as donors. The user need not ask the route manually to reach the desired location because it will be shown on the App, hence we can save the time.*

Key Words: GPS technology, Android, SOAP, WSDL, Database.

1. INTRODUCTION

The blood is necessary for delivering important nutrients to human body cells as well as oxygen. Blood bank is a place where blood is stored, collected from the blood donors and preserved for future use. In some circumstances there is a potential possibility that the patient is unable to get the desired amount of blood at right time because of lack of coordination between donors and receivers. So, we are developing this application which provides direct interrelationship between donors and receivers. These days' smartphones are integral part of our life and through smartphones peoples use lot of application in their day to day life. Due to this revolution, most of the manual works have been reduced significantly and made the life of mobile users easier and faster. With this app the communications between the donors and receivers have become more efficient especially in case of emergency when the patient needs blood.

1.1 SOAP Services

SOAP (originally **Simple Object Access Protocol**) is a protocol specification for exchanging structured information in the implementation of web services in computer networks. Its purpose is to induce extensibility, neutrality and independence. It uses XML Information Set for its message format, and relies on application layer protocols, most often Hypertext Transfer Protocol (HTTP) or Simple Mail Transfer Protocol (SMTP), for message negotiation and transmission.

1.1.1 Characteristics of SOAP

SOAP has three major characteristics:

1. *extensibility* (security and WS-routing are among the extensions under development)
2. *neutrality* (SOAP can operate over any protocol such as HTTP, SMTP, TCP, UDP, or JMS)
3. *independence* (SOAP allows for any programming model)

1.2 Scope

The Scope of this application is that it provides faster communication to the users with plenty of features. This application has three module, users, hospitals and blood banks. Our main objective is to interconnect all three modules into a single network. This app provides

legitimate validation and authentication of the users. The project can be accessed by two entities, administrator and users. The role of administrator is to store the data on the server which contains the information about the blood banks, donors, availability of blood in blood banks. Users can access all the information provided by the administrator through this application.

2. LITERATURE SURVEY

In "The Optimization of Blood Donor Information and Management System by Technopedia" by P.Priya and V. Saranya [1] has concluded an effective and efficient donor information and storage system which is based on Google Map API in android application. This service is essential and useful to the health sector where fully scrutinized blood is required for the benefit of the patient. This process includes extensive scrutiny and authentication of the blood as well its source. This system also eradicates the false information of donors; embezzle by the other third parties. This system is a web application which is android based that enables us to prevent the human errors which are prominent in existing system. This system has wireless integration which enhances the speed of flow of information as well as the efficiency. This system also focuses on future enhancement such as SMS integration. This is will enable the users to use this application or send SMSs without internet.

In "MBB: A Life Saving Application" by Narendra Gupta, Ramakant Gawande and Nikhil thengadi [2] have put forward a system that will connect all donors. This system contains a dedicated database which is used to store information or data based on blood stocks of each region as well as the information of the donors. Also, this system allows the users to view the list of patients who need blood through this particular application which in turn allows them to register in the application as a blood donor and can receive notifications from the patients if they need blood during emergency.

In "an android application for volunteer blood donors" by Sultan Turhan [3] which is an application portal which allows the willing donors to volunteer for donation. This application portal allows the hospitals or blood banks to acquire the blood stocks in a very efficient and faster way. This system is very useful during scarcity of stocks. Thus, this application provides a smooth interrelation between blood banks and the donors.

3. DESIGN AND IMPLEMENTATION

A. JSP

[4] **Java Server Pages** (**JSP**) is a technology that helps software developers create dynamically generated web pages based on HTML, XML, or other document types. Released in 1999 by Sun Microsystems, JSP is similar to PHP, ASP and React's JSX, but it uses the Java programming language. To deploy and run Java Server Pages, a compatible web server with a servlet container, such as Apache Tomcat or Jetty, is required. The developers create JSPs as text files that are linked with XHTML code, elements of XML and some commands and actions that are embedded in JSP.

B. JavaScript

[5] JavaScript is a lightweight, interpreted programming language. It is a scripting language based on objects. It is developed for designing network-centric applications. It is extended to and is Java integrated. JavaScript is very easy to apply because it is integrated with HTML. It is open source software and provides cross-platform feature. JavaScript detects operating system and user's browser. It is also case sensitive. The most important features of JavaScript are that it can develop new functions across the scripts.

C. MYSQL

MySQL is world's most popularly used open-source relational database management system software. It is extensively used for creating web application software and storing the information in the databases. Structured Query Language is used to access the database. MySQL also operate in many distinguish, large-scale software. The information of the users, donors, blood banks, hospitals etc. will be stored in database using MySQL. . MySQL is based on client server model RDBMS (Relational Data Base Management System).

D. ANDROID

Android is Linux based mobile operating system which was developed by Google. This system is basically used in mobiles with touchscreen feature such as smartphones and tablets. This system is based on human computer interaction styles which uses touch

gestures, includes some functionality. It is designed by Android Inc. which is a part of Google.

Android is admired by many technology companies in which standardized, cheap and efficient software is required.

Features

The most important feature of android interface is direct manipulation, which takes touch inputs and provides real world actions as output such as tapping, swiping, etc.

Another feature which this system supports is near field communication, which let the electronic devices to communicate within short distances. Another most promising feature is widgets, which allows the users to view only specific information of a particular application.

4. FIGURES
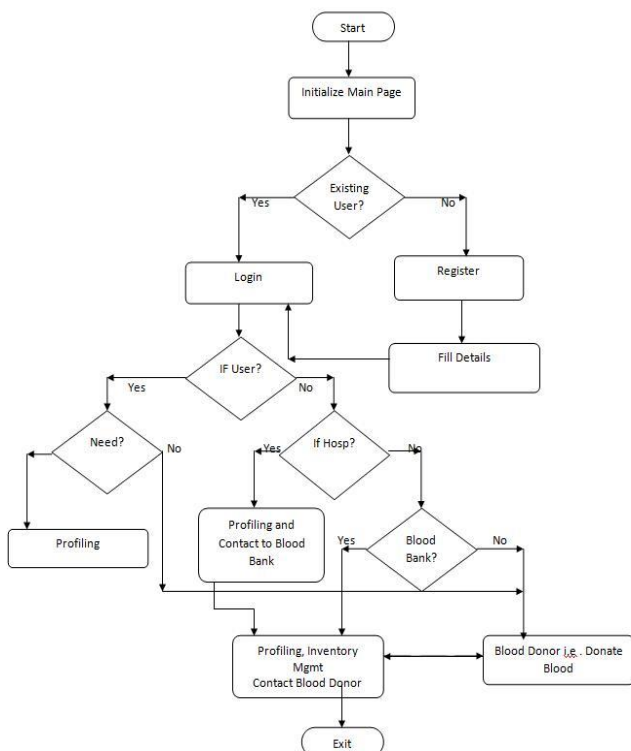
4.1 System Architecture

Fig 1: System Architecture

First the Main page is initialized then either Login or Register

1. If you are a new user then first sign up, and if you are a member then enter your details regarding your personal information, contact information, health information. Press submits and your location will be traced and information will be available.

2. Register to the application means registering to get the Username and Password so that users can check the availability of blood in hospital, blood banks, and blood donors, if present then get the information and list of them and use the information as per the requirement and then exit.

3. If blood needed then first check that account is present or not for that go to point 4 the users location is traced and according to the location nearby hospitals, blood donors , blood banks is listed. Then choose the information as per the requirement and then exit.

4. Login: If the account is present then proceed to point   3 and exit but if not then register and go to point 2.
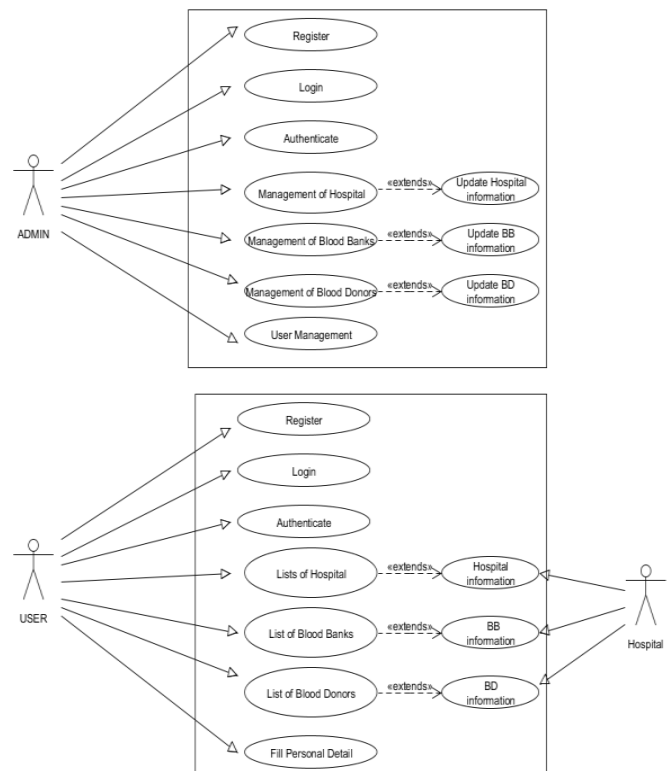
4.2 Use Case Diagram

Fig 2: Use Case Diagram.
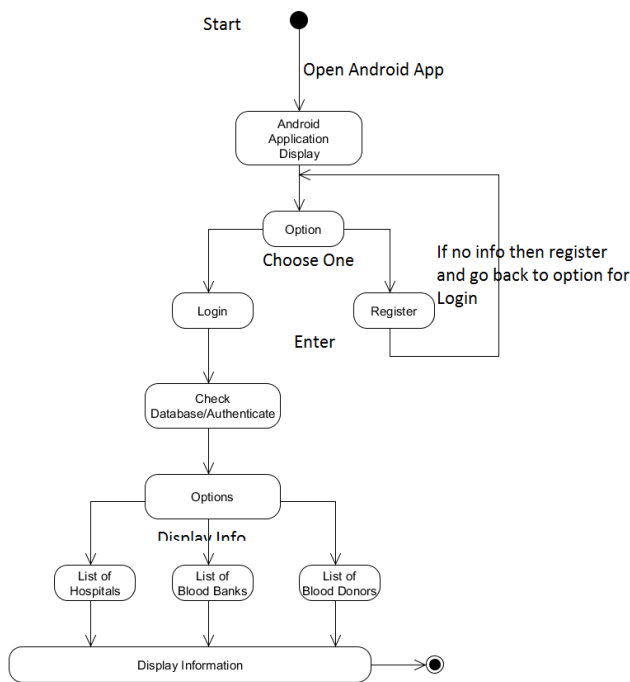
4.3 State Transition Diagram

Fig 3: State Transition Diagram

5. CONCLUSION

Earlier mobile phones were designed only for voice communication but in modern days the the device can be used for many purposes; voice communication is just one aspect of a mobile phone. There are other features which are main focus of concern. There are two major features web browser and GPS. These features are already installed by the manufacturer of the mobile company.

Our system provides a dedicated mobile application over web based application. This system also provides location accuracy through GPS technology.

Our project "Lifeshare blood service" system is integrated with highly trained dataset and provides inventory management. There are many Web Based Application which stores and provides information of both user's like donor of blood and blood bag applicant. As the paper suggest us to implement Android mobiles for faster communication between the agents, using SOAP web services.

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All the relevant and important details are included in this report. At beginning we have given quite summary regarding the project we are building and as we proceed details about how project is going to be implemented is mentioned using technologies.

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