

Android Blood Bank

Prof. Snigdha¹, Varsha Anabhavane², Pratiksha lokhande³, Siddhi Kasar⁴, Pranita More⁵

Lecturer, Information Technology, Atharva College of Engineering, Mumbai, India ¹

Student, Information Technology, Atharva College of Engineering, Mumbai, India ^{2,3,4,5}

Abstract: Blood is a saver of all existing lives in case of emergency needs. 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. The problem is not insufficient number of donors, but finding a willing donor at the right time. We want to build a network of people who can help each other during an emergency. This application timely updates the information regarding the donors where the administrator accesses the whole information about blood bank management system. Donor will be prompted to enter an individual's details, like name, phone number, and blood group. In the urgent time of a blood requirement, you can quickly check for blood banks or hospitals matching a particular or related blood group and reach out to them through the App. Blood bank App provides list of blood banks in your area. A large number of blood donors are attracted using an Android application. Since almost everyone carries a mobile phone with him, it ensures instant location tracking and communication. Only a registered person, with willingness 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. The user will get the route to reach the desired location and he won't have to ask manually, therefore time can be saved.

Keywords: Blood bank, Android, Blood transfusion, Database, Donors, Acceptors, Administrator, Geographic information System.

I. INTRODUCTION

The blood is specialized bodily fluid that delivers necessary substances to the body's cells such as nutrients and oxygen. Blood banking is a cache or bank of blood or blood components, gathered as a result of blood donation, stored and preserved for later use in blood transfusions. In addition to this, the blood type of patients also needs to be determined for compatibility sake for a blood transfusion. It is possible in some situations that the patient is unable to get the required amount of blood at right time due to lack of interrelationship in form of a networked database among the blood banks which leads to the lack of knowledge of updated record of all blood donors. Today mobile and mobile based applications have become a part of our day to day life. With the revolution in mobile computing many great features were added to the field and the mobiles got smaller, faster and better as the decade passed. This Android application is developed to easily search for blood in nearby areas for emergency. In this Android app one will get clear access to blood in real time and right place.

II. LITERATURE SURVEY

In "The Optimization of Blood Donor Information and Management System by Technopedia" by P. Priya and V. Saranya [1] have proposed an efficient and reliable blood donor information and management system based on GIS integrated in android mobile application. The service provided by the proposed system is needed and valuable to health sector where a quality of the blood is considered for the safety of the patient through a systematic process by the blood management system. This system will be the solution for the problems such as wrong information of donors, misuse by third parties and updating the donated

blood by the donor which replaces the older systems. The proposed system is a web based android application helps us to reduce the human mistakes which are done in the existing system. The wireless internet technique enables the flow of data to work more rapidly and conveniently. This is integrated framework which has a cloud-based application on mobile devices. The future work of the system is to extend this application to process through SMS services. By this the contact is hidden from other members. Some other text or number will be generated on behalf of the original phone number or email. This can be done without using the internet service where the acceptor sends blood request to donor by web but whereas the donor receiving the request is just a simple SMS in mobile. By this there will be secure BTS where strangers can't misuse the details of donors and where strangers can become helping hand for life at emergency situation.

In "MBB: A Life Saving Application" by Narendra Gupta, Ramakant Gawande and Nikhil thengadi [2] have proposed the system that will link all donors. The system will help control a blood transfusion service and create a database to hold data on stocks of blood in each area as data on donors in each city. Furthermore, people will be able to see which patients need blood supplies via the application. They will be able to register as donors and thus receive request from their local clients who needs blood to donate blood in cases of need.

In "an android application for volunteer blood donors" by Sultan Turhan [3] a smart phone's application for the volunteer blood donor to increase the willingness and accessibility with the purpose of providing a continuous blood supply is presented. This application helps health

care centers to provide the blood as quick as possible when their stocks are insufficient. The application sends periodically actual location information of available donors to main system and the blood requests to the donors. In this way, it provides an uninterrupted communication between the health care centers and volunteer donors. The distance of the volunteer donors to the healthcare center is an important criterion in the determination of the donors. Therefore an optimization is also realized on this process. In the initial system, the distance calculation is made by taking the distance as crow flies. In the optimized system, it is converted to the actual distance. This optimization makes the system more realistic. The second improvement is performed on the system's infrastructure. Especially, by taking into consideration the rapid development of mobile device technology which uses Android operating system, the system has been carried from the from ANT building environment onto Grade build automation platform. In further studies, we aim the add evaluation of traffic density between living donors' locations and healthcare centers to the living donor selection criteria.

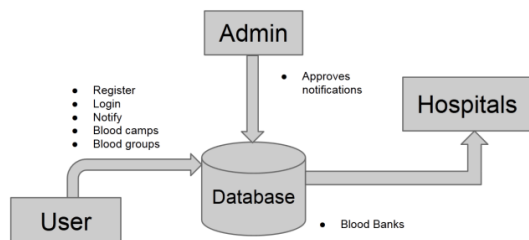
III. PROPOSED SYSTEM

The user has to first download the application. He/She will be provided with two options: Login and sign in. If the person has already registered, then he/she has to login. If not, he/she has to create an account providing basic details like name, address, contact, date of birth, blood group, email id etc. The user is allowed to update his/her information. Once the user registers, he/she can check various blood banks that are located.

The user will get various options on screen:

- Blood camps
- Search donors
- Search blood banks
- Request for blood
- Nearby hospital
- View notification
- Emergency contact details
- Emergency medical details

Block diagram



The user can select any of the option and according to the selected option he/she will get the information. The user can also get the exact path from his/her location to blood bank or hospital by using Global Positioning System (GPS). The details of the blood banks, hospitals etc will be saved in database and only the admin will have access to

database. Private and confidential data of the users can only be viewed by administrator. This system promises very less paperwork and also provides help to blood recipient, blood banks and donors also. With help of our application the user will not have to go to the blood bank and ask for the required blood he/she can directly check from our application.

IV. METHODOLOGIES

A. PHP

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. PHP is now installed on more than 244 million websites and 2.1 million web servers. Originally created by Rasmus Lerdorf in 1995, the reference implementation of PHP is now produced by The PHP Group. While PHP originally stood for Personal Home Page, it now stands for PHP: Hypertext Pre-processor, a recursive acronym.

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. It has also evolved to include a command-line interface capability and can be used in standalone graphical applications.

PHP is free software released under the PHP License, which is incompatible with the GNU General Public License (GPL) due to restrictions on the usage of the term PHP. PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge.

B. MY SQL

MySQL, officially, but also called "My Sequel" is the world's most widely used open-source relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases, though SQLite probably has more total embedded deployments. The SQL phrase stands for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation.

MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks). LAMP is an acronym for "Linux, Apache, MySQL, Perl/PHP/Python." Free-software-open source projects that require a full-featured database management system often use MySQL.

For commercial use, several paid editions are available, and offer additional functionality. Applications which use MySQL databases include: TYPO3, MODx, Joomla, WordPress, phpBB, MyBB, Drupal and other software. MySQL is also used in many high-profile, large-scale websites, including Wikipedia, Google (though not for searches), Facebook, Twitter, Flickr and YouTube.

C. Android

Android is a mobile operating system (OS) based on the Linux kernel and currently developed by Google. With a user interface based on direct manipulation, Android is designed primarily for touch screen mobile devices such as smart phones and tablet computers, with specialized user interfaces for televisions (Android TV), cars (Android Auto), and wrist watches (Android Wear). The OS uses touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to manipulate on-screen objects, and a virtual keyboard. Despite being primarily designed for touch screen input, it has also been used in game consoles, digital cameras, regular PCs, and other electronics. As of 2015, Android has the largest installed base of all operating systems.

As of July 2013, the Google Play store has had over one million Android applications ("apps") published, and over 50 billion applications downloaded. An April–May 2013 survey of mobile application developers found that 71% of them create applications for Android; another 2015 survey found that 40% of full-time professional developers see Android as the "priority" target platform, which is more than iOS (37%) or other platforms. At Google I/O 2014, the company revealed that there were over one billion active monthly Android users, up from 538 million in June 2013.

Android's source code is released by Google under open source licenses, although most Android devices ultimately ship with a combination of open source and proprietary software, including proprietary software developed and licensed by Google. Initially developed by Android, Inc., which Google bought in 2005, Android was unveiled in 2007, along with the founding of the Open Handset Alliance – a consortium of hardware, software, and telecommunication companies devoted to advancing open standards for mobile devices.

Android is popular with technology companies which require a ready-made, low-cost and customizable operating system for high-tech devices. Android's open nature has encouraged a large community of developers and enthusiasts to use the open-source code as a foundation for community-driven projects, which add new features for advanced users or bring Android to devices which were officially, released running other operating systems. The operating system's success has made it a target for patent litigation as part of the so-called "smartphone wars" between technology companies.

V. CONCLUSION

Initially mobile phones were developed only for voice communication but now days the scenario has changed, voice communication is just one aspect of a mobile phone. There are other aspects which are major focus of interest. Two such major factors are web browser and GPS services. Both of these functionalities are already implemented but are only in the hands of manufacturers not in the hands of users because of proprietary issues, the system does not allow the user to access the mobile hardware directly. But now, after the release of android

based open source mobile phone a user can access the hardware directly and design customized native applications to develop Web and GPS enabled services and can program other hardware programs like camera etc.

ACKNOWLEDGEMENT

It gives us great pleasure in presenting this project report titled "Android blood bank" and we wish to express our immense gratitude to the people who provided invaluable knowledge and support in the completion of this project. Their guidance and motivation has helped in making this project a great success. We express our gratitude to our project guide **Prof. Snigdha**, who provided us with all the guidance and encouragement throughout the project development. We would also like to express our sincere gratitude to the respective Project coordinators. We are eager and glad to express our gratitude to the Head of the Information Technology Dept. **Prof. Neelima Pathak**, for her approval of this project. We are also thankful to her for providing us the needed assistance, detailed suggestions and also encouragement to do the project. We would like to deeply express our sincere gratitude to our respected principal **Prof. Dr. Shrikant Kallurkar** and the management of Atharva College of Engineering for providing such an ideal atmosphere to build up this project with well-equipped library with all the utmost necessary reference materials and up to date IT Laboratories. We are extremely thankful to all staff and the management of the college for providing us all the facilities and resources required.

REFERENCES

- [1] The Optimization of Blood Donor Information and Management System by Technopedia P. Priya¹, V. Saranya², S. Shabana³, Kavitha Subramani⁴ Department of Computer Science and Engineering, Panimalar Engineering College, Chennai, India^{1, 2, 3, 4}
- [2] MBB: A Life Saving Application Narendra Gupta¹, Ramakant Gawande² and Nikhil thengadi³ 1, 2, 3 Final Year, CSE Dept., JDIET, Yavatmal, India.
- [3] AN ANDROID APPLICATION FOR VOLUNTEER BLOOD DONORS by Sultan Turhan.
- [4] Arif. M. Sreevas. S. Nafseer. K. and Rahul. R. (2012), 'Automated online Blood bank database', India Conference (INDICON), Annual IEEE, Print ISBN: 978-1-4673-2270-6, pp. 012 - 017.
- [4] Spyropoulos. B., Botsivaly. M., Tzavaras. A., and Spyropoulou, P (2009), 'Towards digital blood-banking', ITU-T Kaleidoscope: Innovations for Digital Inclusions, .K-IDIE-ISBN: 978-92-61-12891-3, Print ISBN: 978-92-61-12891-3, pp.I- 8.
- [5] A Survey Paper on E-Blood Bank and an Idea to use on Smartphone Tushar Pandit, Satish Niloor and A.S. Shinde, Dept. of I.T Sinhgad Academy of Engineering, Pune, India