Android Blood Bank Application

¹Ayush Dulani, ²Nikhil Gangwani, ³Bhavesh Lakhwani, ⁴Aryan Rane, ⁵Meena Talele

1,2,3,4Final Year Student, Department of Computer Engineering, Vivekanand Educational Society Polytechnic, Chembur, Maharashtra, India
5Senior Project Mentor, Department of Computer Engineering, Vivekanand Educational Society Polytechnic, Chembur, Maharashtra, India

Abstract—

The Blood Bank Android App is a project that makes it easy for people to see information about registered blood donors, like their name, address, and other personal information. They can also see their blood group and other medical information. A Blood Bank App is an android application to collect or donate blood easily. Users who have an android phone & active internet connection can contact and start searching for a donor easily through this application. The purpose of this application is to help people belonging to rural areas.

Keywords—HIV, hepatitis, syphilis

Introduction (*Heading 1*)

A blood bank application is a software application designed to manage and track blood inventory, blood donation, and blood transfusion activities. This application is used by blood banks, hospitals, and other healthcare organizations to ensure that they have an adequate supply of blood products for their patients. The blood bank application typically includes features such as donor management, blood testing, blood inventory management, blood component preparation, and transfusion management. Donor management features enable blood banks to keep track of donor information, including contact details, blood type, and eligibility for donation. Blood testing features enable blood banks to screen donated blood for infectious diseases, such as HIV, hepatitis, and syphilis. Blood inventory management features enable blood banks to track the quantity and availability of blood products, including whole blood, red blood cells, platelets, and plasma. Blood component preparation features enable blood banks to separate and process blood into different components for use in transfusions. Transfusion management features enable healthcare providers to order and administer blood products to patients. This feature typically includes patient identification, blood typing, cross-matching, and monitoring of transfusion reactions.

User based problem

As mentioned earlier as well, our project intends to save human lives and securing their data by providing them blood on time, helps blood banks manage their inventory and requests for blood.

- User registration and login: Users can register themselves by providing basic information such as name, contact information, blood type, and location. They can log in using their email ID or mobile number.

- Blood donation: Users can donate blood by providing information about their blood type and availability. Users can also schedule appointments for blood donation and receive reminders.

- Blood request: Users can search for blood by specifying the blood group and location. They can also make requests for blood if required, and receive notifications when blood is available.

- Donor history: Users can view their blood donation history and track their contributions.

Literature Survey

When we were asked to think about a relevant topic for our final year project, we thought of several topics and rejected them for some or the other reason. Later, we thought of finding an issue which a human being faces is that when they need blood urgently it may not be available in blood banks so we develop a software to overcome the problem on same. That's when we took a short survey by asking our relatives, friends, close friends, neighbors and a couple of more people on their experience when they or anyone else known needed blood. By doing so, we found out that there is no software and awareness of blood donation the regnal areas and people are dying due to no available blood.

Problem Identified

There are several problems that local blood banks may face, including:

1. Blood shortages: One of the biggest problems faced by local blood banks is a shortage of blood supply. This can be caused by a lack of donors, increased demand, or difficulties in maintaining an adequate inventory.

2. Lack of diversity in the donor pool: Blood banks may also face a problem with a lack of diversity in the donor pool. Certain blood types are more prevalent in certain ethnic or racial groups, and if the donor pool is not diverse enough, there may be shortages of specific blood types.

3. Funding: Local blood banks may face funding challenges, particularly if they are not affiliated with a larger organization. Without sufficient funding, they may struggle to maintain their operations, hire staff, or invest in new technology or equipment.

The above problems can be solved by the blood bank application.

Modeling and Analysis

Developing this project for better usage and experience becomes very important considering the scope of this project going live. In order to develop this project efficiently, we communicated with our project guide and also a couple of corporate developers who are known to us. By discussing with them, we intended to understand how a mobile application is developed in actual corporate world and what procedure we should follow to have a smooth development of the project. Our understanding everything and having internal discussion with the team members, we planned our project methodology. We would first finalize the features and specifications which shall be implemented in our project. Once we have a clear vision of features to be implemented, we would be first design the app with an intention to have a decent UI UX. UI which stands for User Interface is to design how the user will see the app, what color combinations and buttons our app will be having, and how every page of app will look like. UX which stands for User Experience is to design an app keeping in mind the experience a user. This includes to think on where the button shall be placed, a click on button should display which page, to summarize in short, it aims to make sure the user has convenient and efficient user experience so that they wish to re-visit the app. Once we have our design ready and approved from project guide, we would be starting with development of actual project. For which, we shall be using development languages like: JAVA, Android. The major thing in our development phase shall be to integrate APIs of planned commute platforms. Once we have our app developed and ready, we shall proceed with one of the important things of software development life cycle – Testing. If we want our platform to go live and be of maximum usage to the society, we will have to test the app to ensure it is bugs free, there doesn't lie any fault in the project and will not fail. For testing as well, we shall be classifying the process into multiple steps to ensure it is tested as much as possible. Once the testing is done, we intend to make this project go live. So far, we have planned to inculcate this methodology of our project, but there might be certain changes in case of any unavoidable interference.

Activity Diagram for Blood Bank Management System
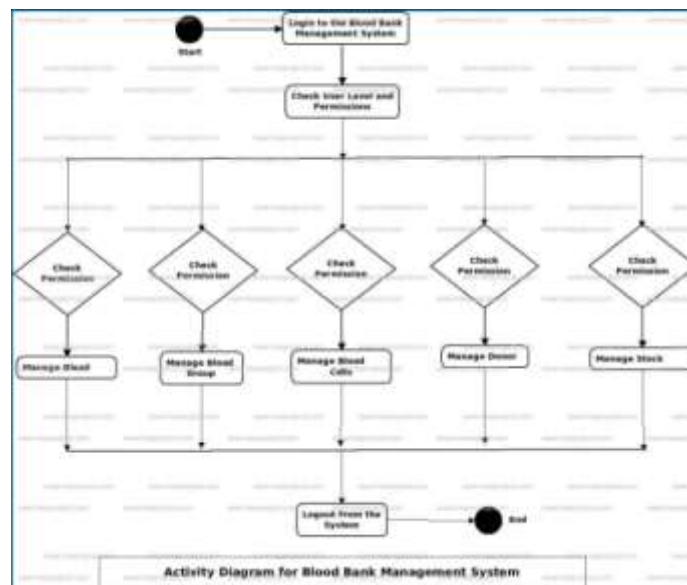
References

G. Eason, B. Noble, and I. N. Sneddon, "On certain integrals of Lipschitz-Hankel type involving products of Bessel functions," Phil. Trans. Roy. Soc. London, vol. A247, pp. 529–551, April 1955. *(references)*

J. Clerk Maxwell, A Treatise on Electricity and Magnetism, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68–73.

I. S. Jacobs and C. P. Bean, "Fine particles, thin films and exchange anisotropy," in Magnetism, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271–350.

K. Elissa, "Title of paper if known," unpublished.

R. Nicole, "Title of paper with only first word capitalized," J. Name Stand. Abbrev., in press.

Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interface," IEEE Transl. J. Magn. Japan, vol. 2, pp. 740–741, August 1987 [Digests 9th Annual Conf. Magnetics Japan, p. 301, 1982].

M. Young, The Technical Writer's Handbook. Mill Valley, CA: University Science, 1989.