PAMANTASAN NG LUNGSOD NG MUNTINLUPA

BLOOD LINK: A MOBILE-BASED HYBRID BLOOD BANK FOR RED CROSS MUNTINLUPA CHAPTER

A Capstone Project Presented to the Faculty of the
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Pamantasan ng Lungsod ng Muntinlupa

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Bachelor of Science in Information Technology

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PROJECT CONTEXT

The project "Mobile-Based Hybrid Blood Bank for Red Cross Muntinlupa Chapter" is a strategic effort to modernize the blood bank system by integrating mobile technology. It aims to transform interactions between donors and recipients with the Red Cross Muntinlupa Chapter, making blood donation more accessible, efficient, and engaging through a hybrid system that combines a mobile app with traditional blood bank operations.

The primary problem addressed by this project is the inefficiency and limited accessibility of traditional blood banking systems. Challenges such as manual appointment scheduling, lack of real-time inventory updates, and difficulty in reaching potential donors highlight the need for a more streamlined and technology-driven approach to blood donation management.

The proposed project will develop a user-friendly mobile application interface specifically designed for blood donors and recipients. This application will enable users to easily register, schedule donation appointments, and receive timely notifications regarding blood donation campaigns and urgent supply needs. By integrating this mobile-based system with the existing blood bank infrastructure, seamless data flow and coordination will be achieved, enhancing overall efficiency and accessibility within the blood donation ecosystem.

The proposed Mobile-Based Hybrid Blood Bank system will benefit both donors and recipients within the Muntinlupa community. Donors will experience greater convenience in scheduling donations and receiving updates on blood supply needs. Recipients will benefit from improved access to blood and enhanced coordination between donors and the blood bank. This innovation aims to bridge the gap between supply and demand, ultimately saving lives and strengthening community healthcare infrastructure.

PURPOSE AND DESCRIPTION

The purpose of this capstone project is to design, develop, and implement a Mobile-Based Hybrid Blood Bank system for the Red Cross Muntinlupa Chapter. This system will revolutionize blood banking operations by integrating mobile applications with the existing centralized blood bank infrastructure. The envisioned system will enable users, both donors and recipients, to interact seamlessly with the blood bank, facilitating processes such as registration, appointment scheduling, real-time blood type availability checks, and participation in blood donation campaigns.

By harnessing the power of mobile technology, the project aims to address key challenges faced by traditional blood bank systems, including limited accessibility, inefficient coordination, and lack of real-time information dissemination. The Mobile-Based Hybrid Blood Bank will empower users to actively participate in blood donation initiatives and contribute to saving lives within their community.

OBJECTIVE OF THE STUDY

General Objective

The main objective of this study is to develop and implement a Mobile-Based Hybrid Blood Bank system for the Red Cross Muntinlupa Chapter, integrating mobile technology with traditional blood banking operations to enhance accessibility, efficiency, and engagement in blood donation processes.

Specific Objectives

1. To design the system using the following features:
    a. User-friendly mobile application interface for donors and recipients.
    b. Seamless integration with existing blood bank infrastructure for real-time data exchange.
    c. Implementation of chat functionality between donors and recipients within the app to assist users in finding donation centers and coordinating blood donation appointments.
2. To develop the system using React Native for mobile development, PHP programming and HTML CSS JavaScript for web-based interface for Inventory System, MySQL for Database and XAMPP.
3. To test and improved the system using Alpha and Beta Testing method.
4. To evaluate the performance of the system using ISO/ IEC 25010: 2011 Software Characteristics.
5. To implement the system at the Red Cross Muntinlupa Chapter, ensuring

seamless integration with existing blood bank operations and providing necessary training and support for stakeholders.

SCOPE AND LIMITATION

The scope of this project encompasses the design, development, and deployment of the Mobile-Based Hybrid Blood Bank system specifically tailored for the Red Cross Muntinlupa Chapter. The system will include the following key features:

- A mobile application interface for blood donors and recipients to interact with the blood bank system.
- Integration with the existing centralized blood bank infrastructure to facilitate real-time data exchange.
- Implementation of location-based services to assist users in locating donation centers and events.

However, it is important to note the limitations of this study:

- The project will focus solely on the development and deployment of the mobile-based system and may not encompass broader organizational changes within the Red Cross Muntinlupa Chapter.
- Integration with external systems beyond the scope of the existing blood bank infrastructure may require additional considerations and resources.
- The study will not address challenges related to mobile device compatibility or internet connectivity, which may impact user accessibility.