



**CS 411 – Software Engineering  
Term 1 – 2024/2025**

**Project Proposal Form**

- ✓ Group #: 1
- ✓ Members of the group:

- ✓ Title of the Project: Save A Beat (for blood donation)

✓ **Introduction of the Project - Problem Statement:**

In the current healthcare system, there is a great demand for a system which is more efficient in the collection and distribution of blood. Blood banks are essential because they make sure that the hospitals have enough stocks of blood to cater for the needy patients especially in cases of emergency. Nevertheless, the process of coordinating the blood donations, the supply and the demand is challenging when done manually, thus it slows down the efficiency and might endanger patient life. The main challenge that is common with blood banks is the management of the inventory, and the other one is the scheduling of the donation events, thus resulting to either excess of some types of blood and at the same time shortage of others. Hospitals still find it hard and time-consuming to test and get blood in emergency situations and this poses a major risk to the patients. Donors, on the other hand, do not have a single procedure that can envelope them on the accessibility of their donation and there's usually no immediate information on the needs in a particular region.

The **Save A Beat System** was proposed to address these issues through integration of blood banks, hospitals and the donors. This revolutionary product helps the blood banks deal with stocks and schedule pop up donation drives, helps the hospitals put in emergency blood demands, and alerts the donors on the estimated blood donations per eligibility and sends reminders on any emergency request or nearby donation drives. The challenges, which the Mobile Blood Bank System intends to address through the use of such technologies as real-time communication and efficient inventory management are the poor blood donation and inadequate timely availability of blood products.

✓ **Objectives (Product Characteristics and Requirements):**

**-Optimize User Experience:** To improve donors, recipients, and blood banks' experience while using the app it is required to create a smooth and clear navigation show below.

**-Interactive Maps for Camps:** Add a section to match the volunteer with blood donation camps that are to take place in the nearby region within the next several days so that the donors can sign up for the process.

**-Streamlined Blood Request System:** Allow the recipient to request blood during emergencies by having a fillable form whereby notifications to the donors and blood banks will be sent.

**-Real-Time Notifications:** Make sure there is correct and user-friendly notification feature notifying the potential donors about new donation opportunities as well as informing the recipients about the status of their requests.

**-Responsive Design for Mobile:** Check if the app is compatible with the various mobile devices and different screen sizes.

**-Eligibility Check Interface:** Include one primary subsection where donors can easily assess if they meet the eligibility criteria of a given foundation with effective prompts depending with the previous donations.

**-Secure and Accessible User Profiles:** Design user authentication for which the users (donors, recipients, and blood banks) can login to their account to update their details.

✓ **Project end user:**

Blood banks: Manage blood inventories and donation campaigns.

Hospitals: Request blood during emergencies.

Donors: Register, track donation history, and receive notifications for blood donation opportunities.

✓ **Summary of Project Deliverables:**

List of important deliverables:

1. Project proposal.
2. Project management plan.
3. Project requirement.
4. Project status report.
5. Build the database and functionalities.
6. Project design.
7. Project test plan.
8. Project presentation.

✓ **Project Success Criteria:**

- 1) Efficiently deliver the clients commands and requirements.
- 2) Delivering the project within the budget and on the agreed-upon time.
- 3) Delivering a maintainable and dependable project.
- 4) The design features a simple, clear, and user-friendly interface, enabling the users to fulfill their requirements effortlessly.
- 5) Minimize software bugs for improved performance.
- 6) Maintain a strong and efficient development team that upholds ethical principles.

✓ **Solution Methodology:**

We are using the **Integration and Configuration** software process model for the Save A Beat System because it leverages existing technologies and allows for customized configuration to meet the specific needs of blood banks, hospitals, and donors. By integrating reliable, pre-existing components and customizing them as needed, we can develop the system quickly while maintaining high standards of security and scalability. Java will be the primary programming language, with NetBeans as the development environment, and team collaboration will be managed through Zoom for smooth communication. This approach ensures a secure, adaptable, and user-friendly solution that can be tailored to both present and future healthcare requirements.

✓

Date: 9/20/2024

----- **For instructor use only** -----

Approved

Not approved

Date: .....

Comments: