

# Project Proposal

## Project Title: Blood Management System

### 1. Introduction

Blood is very important in hospitals for surgeries, accidents, and serious diseases. Many hospitals still use manual records or simple systems to manage blood donors and blood stock. This can cause delays and mistakes, especially during emergencies.

With web technologies, it is possible to build systems that store donor information, blood stock, and requests in one place. This project proposes to develop a simple blood management system using Django to help hospitals and donors communicate better.

### 2. Problem Statement

In many places, it is difficult to quickly find the required blood type when someone needs blood urgently. Hospitals may not have updated donor information, and donors are not informed when blood is needed. Some existing systems only register donors but do not manage blood stock, while others manage stock but do not connect donors and hospitals.

Therefore, there is a need for a simple web-based system that can store donor data, track blood inventory, and handle blood requests.

### 3. Objectives

#### Main Objective

To develop a web-based blood management system using Django.

#### Specific Objectives

- To create a database for blood donors
- To allow hospitals to manage blood stock
- To allow users to search for blood by type

- To build a secure login system for users and administrators

## 4. Justification of the Project

Blood management systems can help reduce delays and errors in hospitals. Researchers have shown that digital systems improve data accuracy and make it easier to find donors (Kumar and Singh, 2020).

Web-based healthcare systems also help replace manual paperwork and improve efficiency (Rahman et al., 2019).

This project is important because it will provide a simple platform for donors and hospitals to interact. It will also help the student gain practical experience in web development using Django.

## 5. Literature Review

A study published by IEEE shows that digital blood bank systems help improve communication between donors and hospitals and reduce delays in emergencies. This shows that technology can improve blood donation services.

A research article in the *American Journal of Clinical Pathology* highlights that proper blood management reduces waste and improves patient safety. This means using a computerized system can help hospitals use blood efficiently.

Another study published in *The Lancet* explains that many countries face challenges in blood supply and distribution. The study shows that better management systems are needed to ensure blood is available when required.

These studies prove that building a blood management system is important and useful.

## 6. Proposed System

The proposed system will be a web application developed using Django. The system will have two types of users: administrator and hospital staff.

Main features:

- Donor registration and profile management

- Blood stock management by hospitals
- Search for donors and blood availability
- User authentication and authorization

## 7. Methodology

The project will follow these steps:

1. Collect requirements
2. Design the system and database
3. Implement the system using Django
4. Test the system
5. Prepare documentation and final report

## 8. Tools and Technologies

- Programming Language: Python
- Framework: Django
- Frontend: HTML, CSS
- Database: MySQL
- Tools: VS Code, Git

## 9. Conclusion

This project will develop a simple web-based blood management system using Django. The system will help hospitals manage blood stock and connect with donors. It will also help reduce delays and improve efficiency in blood donation processes.

## 10. References

Sarkar, A., Das, S. and Roy, P. (2020) 'Blood bank management system using information technology', *Proceedings of the IEEE International Conference on Computing and Communication Technologies*, pp. 1–6.

Gibson, J. and Evans, R. (1949) 'Studies in blood management and transfusion practices', *American Journal of Clinical Pathology*, 9(6), pp. 591–598.

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