STREAMLINED BLOOD DONATION MANAGEMENT SYSTEM

INTRODUCTION

The project is a web-based platform that connects blood donors and requesters efficiently. It stores donor details, records donations, and ensures the process is organized and faster.

PROBLEM STATEMENT:

Finding donors during emergencies is difficult as communication is often manual through calls or messages. There is no organized way to match donors based on blood type and location, and tracking donation records is slow and error-prone.

SOLUTION:

The platform automatically identifies suitable donors for each request and sends them email alerts. All donation details are recorded, making the process faster, organized, and easy to track.

OBJECTIVES

- Automate donor notifications via email.
- Maintain accurate records of donations.
- Reduce delays during emergencies.
- Provide a simple, easy-to-use web interface.

SYSTEM WORKFLOW

1. **User Registration & Login**: New users register and log in to access the system.
2. **Dashboard:** After login, users reach the dashboard with three main buttons:
   - Request: To post a blood request.
   - Donor Register: Users can register as donors or view donor details.
   - Donated Status: To view records of completed donations.
3. **Blood Request & Notification**: When a blood request is posted, donors with the matching blood group and location are automatically notified via email.

4. **Donation Recording**: After donation, the requester updates the system, storing donor and patient details along with the donation timestamp in the Donated table.

TECHSTACK:

- **Frontend:** HTML, Tailwind CSS, ReactJS
- **Backend:** Spring Boot (Java)
- **Database:** MongoDB
- **API Testing:** Postman
- **Notification Service:** JavaMailSender (Spring Boot Mail Dependency)
- **IDE / Code Editor:** IntelliJ IDEA, VS Code

CONCLUSION:

The *Streamlined Blood Donation Website* provides an efficient and organized platform for managing blood donations. By **automatically notifying eligible donors via email**, it ensures faster response during emergencies, maintains accurate donation records, and simplifies coordination between donors and requesters, ultimately helping save lives