# LEGAL ADVISOR AI

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## Introduction

The Blood Donation Management System is a comprehensive web-based platform designed to streamline and modernize the coordination of blood donation. In critical situations, finding a matching blood donor can be a race against time. This system aims to solve that problem by creating a digital hub where patients, donors, and administrators can interact seamlessly and efficiently. By replacing manual, paper-based methods with a centralized online database, the application ensures that urgent blood requests are visible to a wide network of potential donors, significantly improving the chances of a timely match. The platform not only facilitates the process but also adds layers of verification and management to ensure the system's integrity and reliability.

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## Objectives

The primary goals of this project are to enhance the efficiency and accessibility of blood donation services:

- **Centralize Management**: Develop a single, unified system for all blood donation-related activities, from request creation to fulfillment.
- **Empower Patients**: Create a user-friendly interface for patients to submit blood requests with all necessary details and monitor the status of their requests in real-time.
- **Engage Donors**: Provide a platform where registered donors can easily view active blood requests.
- **Enable Administrative Oversight**: Build a secure administrative dashboard that allows for the management of users and the lifecycle of blood requests, ensuring that information is accurate and up-to-date.

## System Features

The system is designed with distinct functionalities tailored to each user role:

### *Patient Request Management*

Patients can create a new blood request by filling out a simple form with their name, required blood group, city, hospital name, and contact information. Upon submission, each request is automatically assigned an "OPEN" status and logged in the database, making it immediately visible to potential donors.

### *Donor Support*

Registered donors have access to a live feed of all open blood requests. To make the search process efficient, the system includes filters that allow donors to narrow down requests by city and blood group. This targeted approach helps connect the right donor with the right patient quickly.

### *Admin Control*

Administrators have complete oversight of the system through a secure login portal. From their dashboard, they can view all submitted requests and update their status from "OPEN" to "FULFILLED" or "CLOSED" as the need is met. This moderation is crucial for maintaining the system's accuracy and preventing the circulation of outdated requests.

### *Database Integration*

The backbone of the application is a robust

**MySQL database** that stores all user and request data in a structured manner. The database schema is designed to efficiently manage information, ensuring data integrity and quick retrieval.

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### Database Schema

The system uses two primary tables to organize data:

- **blood_requests**: This table stores all information related to blood donation requests.
    - **id**: A unique identifier for each request (Primary Key).
    - **patient_name**: The name of the patient requiring blood.
    - **blood_group**: The required blood type (e.g., A+, O-).
    - **city**: The city where the blood is needed.
    - **hospital**: The hospital where the patient is admitted.
    - **contact**: The contact information for the patient or their representative.
    - **status**: The current status of the request (e.g., OPEN, FULFILLED).
    - **created_at**: A timestamp that records when the request was made.
- **users**: This table manages user accounts for both donors and administrators.
    - **id**: A unique identifier for each user (Primary Key).
    - **name**: The full name of the user.
    - **email**: The user's email address, used for login and communication.

    - **password**: A secure, hashed password for account protection.
    - **role**: Defines the user's access level (either USER or ADMIN).

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### Technologies Used

The application is built using a combination of established and reliable web technologies:

- **Backend**: **Java Servlets** and **JSP** are used to handle business logic, process requests, and interact with the database.
- **Frontend**: **HTML**, **CSS**, and **JSP** pages create a dynamic and user-friendly interface for patients, donors, and administrators.
- **Database**: **MySQL** serves as the relational database for storing and managing all application data.
- **Server**: The application is deployed on an **Apache Tomcat** server, a widely-used server for Java-based web applications.

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### Benefits and Conclusion

The Blood Donation Management System offers significant advantages over traditional methods. It **streamlines the donation process**, reduces manual paperwork, and introduces a high level of **transparency and accountability**. By leveraging technology, the system effectively **bridges the gap** between patients, donors, and administrators, ensuring that life-saving blood is available when and where it's needed most. Ultimately, this project automates a critical service, contributing directly to saving lives in communities.