VitalDrop Management System

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Project Statement

I am developing a data-powered web application called the VitalDrop management system to help blood donors and blood recipients efficiently connect and manage blood donation requests, thereby solving the problems of manual, unorganized, and delayed blood donation coordination.

Personas

Blood Donor
• Individuals willing to donate blood
• Can register and log in
• Provide blood group, contact details, and availability

Blood Requester
• Individuals seeking blood for themselves or others
• Submit blood requests
• Contact matching donors

System Administrator
• Responsible for managing the platform
• Approves and manages donors

• Manages blood groups and requests
• Maintains website content

Problem Statement

In many communities, blood donation records are often managed manually or through informal communication, resulting in delays, data loss, and difficulties in finding compatible donors during emergencies.

Solution

The VitalDrop Management System offers a centralized, database-driven platform that stores donor information, blood types, and blood requests, facilitating faster matching and enhanced coordination.

Finish (Outcome)

Users are better off because the system provides quick access to donor information, reduces response time during emergencies, eliminates manual record-keeping, and improves data accuracy and availability.

User / Customer Description

The system is designed for healthcare-related organizations, community blood banks, and individuals involved in blood donation activities. User roles include Admin, Donor, and Blood Requester, each with clearly defined responsibilities.

Main Functions of the Website

The website supports blood donor registration and authentication, blood group and donor management, blood request submission and tracking, as well as an administrative dashboard for system control.

Data Model / Database Design

The VitalDrop management system uses a MySQL database named webtech_2025A_chol_thiong. Key entities include Admin, Blood Donor, Blood Group, Blood Request, and Contact Messages.

Architecture

The VitalDrop management system employs a three-tier architecture, comprising a Presentation Layer utilizing HTML, CSS, and JavaScript, an Application Layer implemented in PHP, and a Data Layer managed using MySQL.

Technologies Used

HTML, CSS, JavaScript, PHP, MySQL, and XAMPP / Apache.

Libraries Used

The project uses Bootstrap for responsive design, jQuery UI for interactive components, Font Awesome for icons, Chocolat for image lightboxes, and custom CSS for project-specific styling.

Payoff (Key Screen / Output)

The primary output of the VitalDrop management system is a dashboard that displays available blood donors by blood group, active blood requests, and matching information between donors and requests.