আন্তর্জাতিক ইসলামী বিশ্ববিদ্যালয় চট্টগ্রাম
الجامعة الإسلامية العالمية شيتاغونغ
International Islamic University Chittagong

LAB Project Report

Course Title: Tools and Technologies for internet programming
Course Code: CSE-3532
Project Title: BloodConnect

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BloodConnect - Project Report

Introduction

In times of medical emergencies, the timely availability of blood can be the difference between life and death. However, finding a suitable blood donor quickly remains a significant challenge, often relying on scattered social media posts or personal contacts. This process is inefficient, unreliable, and stressful for patients' families.

This project, **BloodConnect**, addresses this critical gap by creating a centralized, web-based platform that connects voluntary blood donors with those in urgent need. The goal is to build a secure, reliable, and user-friendly portal that streamlines the process of finding and requesting blood, ultimately helping to save lives.

By leveraging core web technologies, this project demonstrates how a well-structured application can solve a real-world problem, creating a community of donors and providing a lifeline for patients in need.

What We Did

We developed a comprehensive, multi-functional Blood Donation Portal with distinct functionalities for users and administrators. The platform enables users to register as donors, search for other donors based on location and blood type, and post urgent blood requests. A secure admin panel allows for complete management of users, blood requests, and community events like donation camps. The system is designed to be secure, efficient, and intuitive, making the process of blood donation and reception seamless.

Why We Did It

The primary motivation for this project was to use technology to address a critical social need. The key objectives were:

- **To Save Lives:** Create a platform that significantly reduces the time and effort required to find a blood donor during an emergency.
- **To Build a Donor Community:** Establish a centralized and reliable database of willing

donors, making it easy for people to help one another.

- **To Centralize Information:** Replace fragmented social media requests with an organized system for posting and viewing blood needs and donation opportunities.
- **To Gain Practical Experience:** Apply and enhance our skills in full-stack web development, including database design, backend logic, frontend implementation, and security best practices.

Tools Used

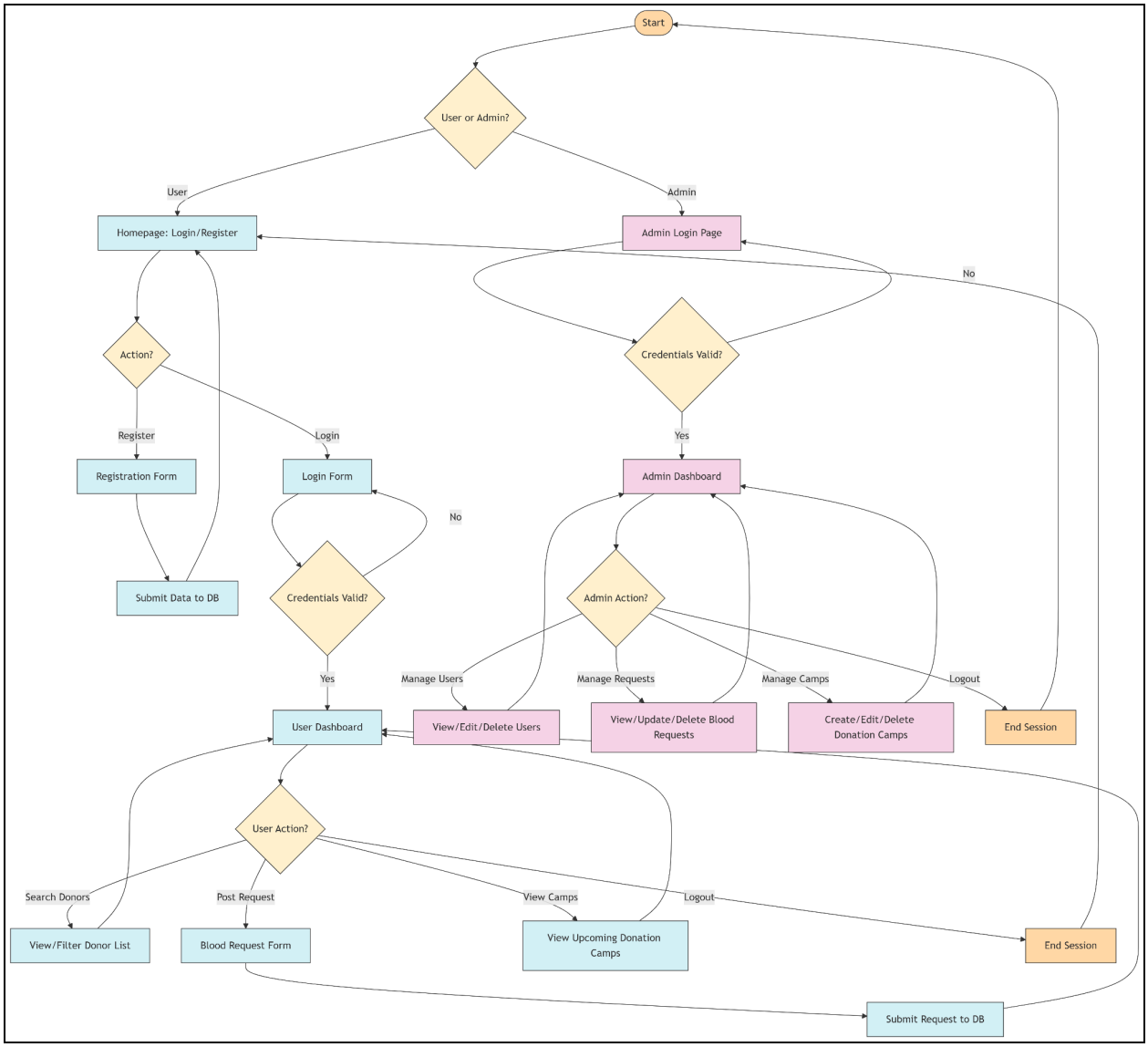
Frontend Tools

- **HTML5 & CSS3:** Used for structuring the web pages and applying custom styling for a consistent and clean user interface.
- **Tailwind CSS:** A utility-first CSS framework used to rapidly design modern, responsive layouts for the user dashboard, forms, and other interactive components.

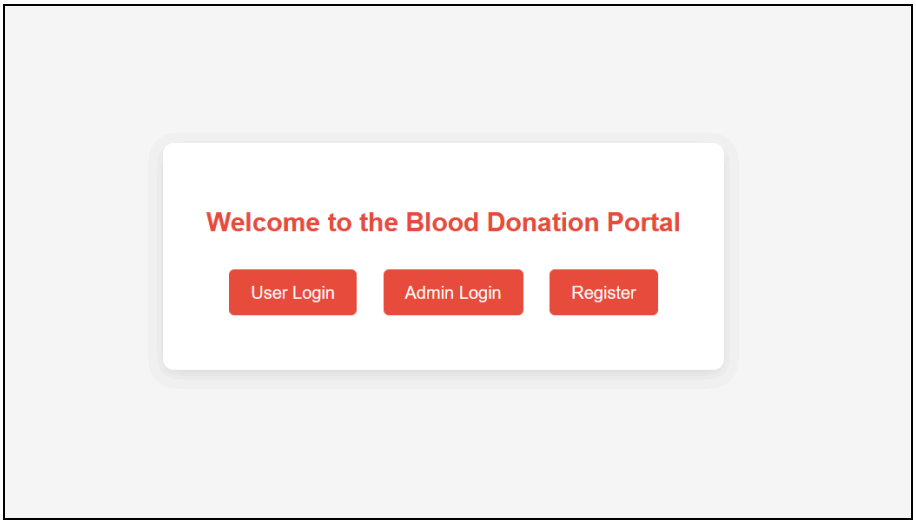
Backend Tools

- **PHP:** The core server-side scripting language used to handle all backend logic, including user authentication, database interactions, session management, and form processing.
- **MySQL:** A robust relational database management system used to store and manage all application data, including user profiles, blood requests, donation histories, and camp details.
- **phpMyAdmin:** A web-based tool used for managing the MySQL database, including creating tables and running SQL queries during development.

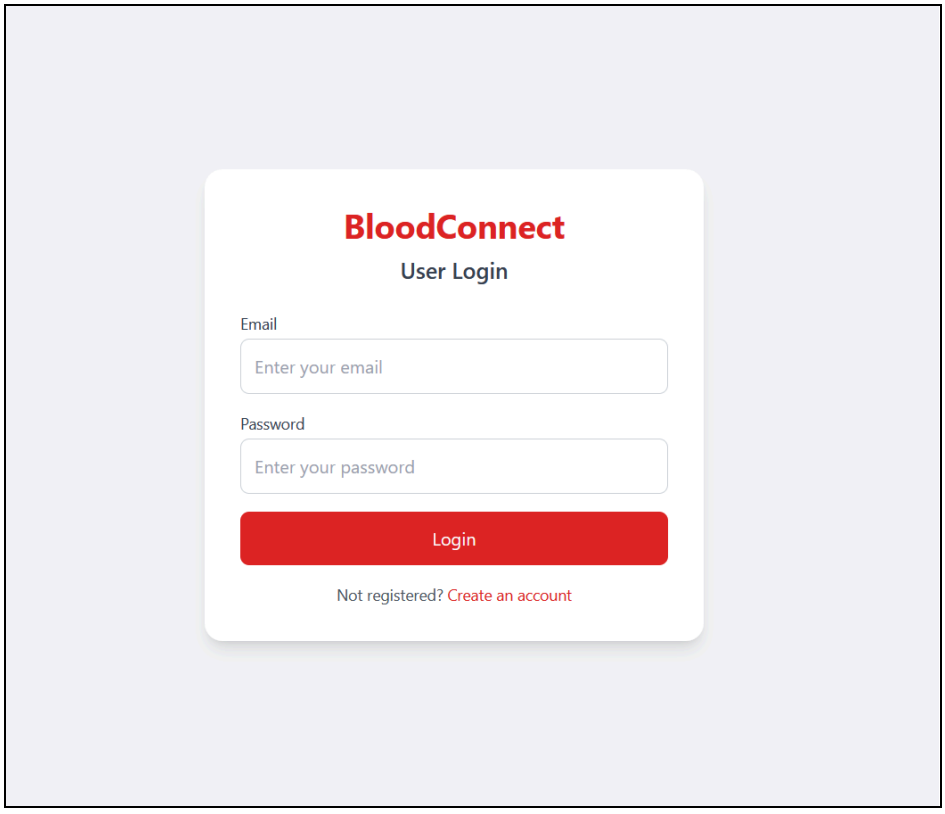
Flowchart


Start
User or Admin?
User
Admin
Homepage: Login/Register
Admin Login Page
No
Action?
Credentials Valid?
Register
Login
Yes
Registration Form
Login Form
Admin Dashboard
No
Submit Data to DB
Credentials Valid?
Admin Action?
Yes
Manage Users
Manage Requests
Manage Camps
Logout
User Dashboard
View/Edit/Delete Users
View/Update/Delete Blood Requests
Create/Edit/Delete Donation Camps
End Session
User Action?
Search Donors
Post Request
View Camps
Logout
View/Filter Donor List
Blood Request Form
View Upcoming Donation Camps
End Session
Submit Request to DB

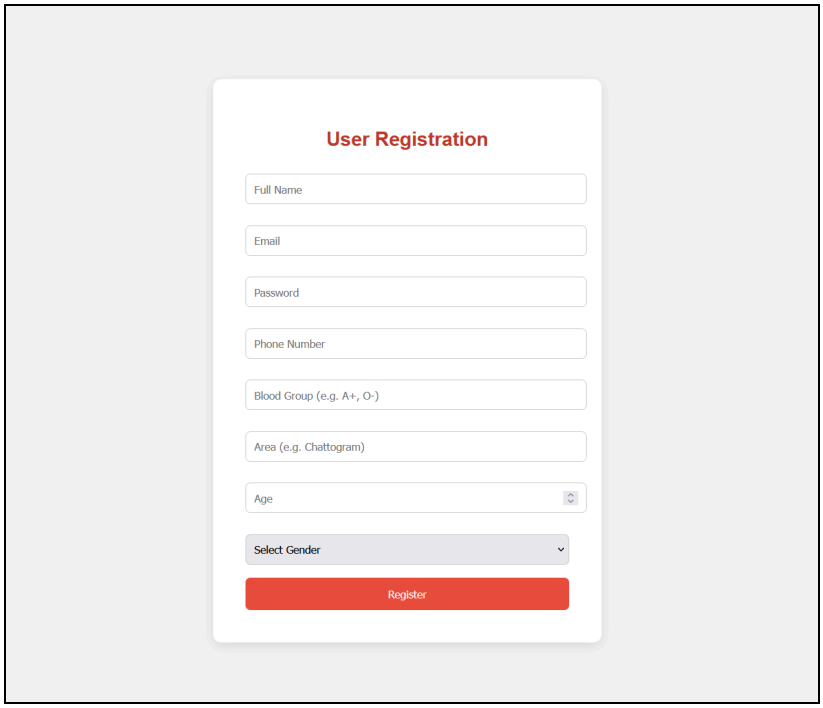
Screenshots



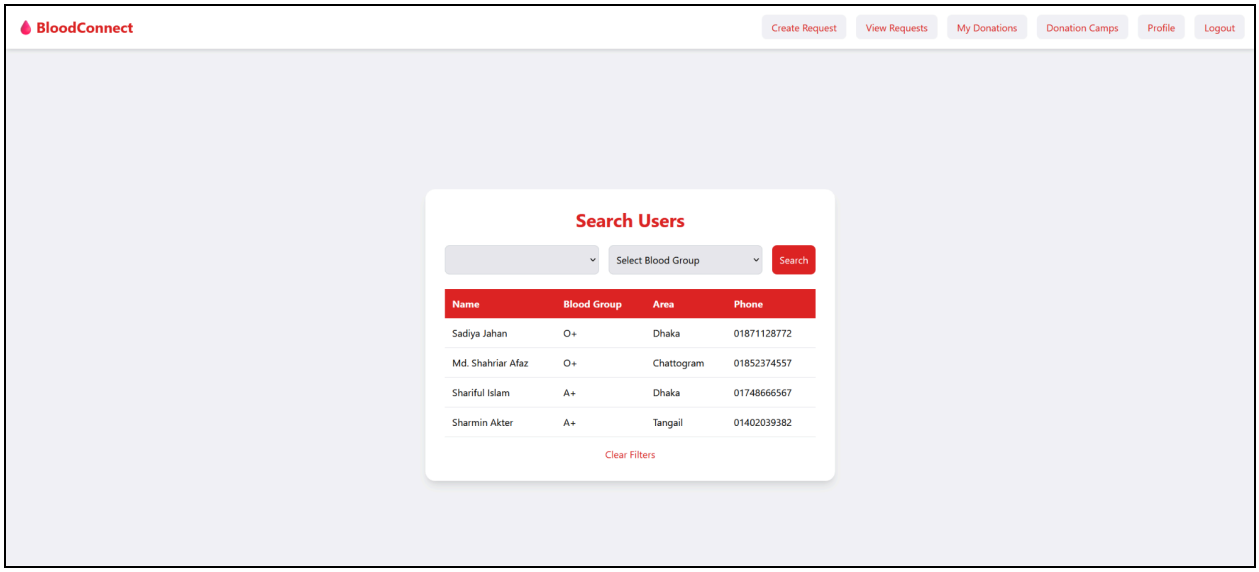
(Home Page)



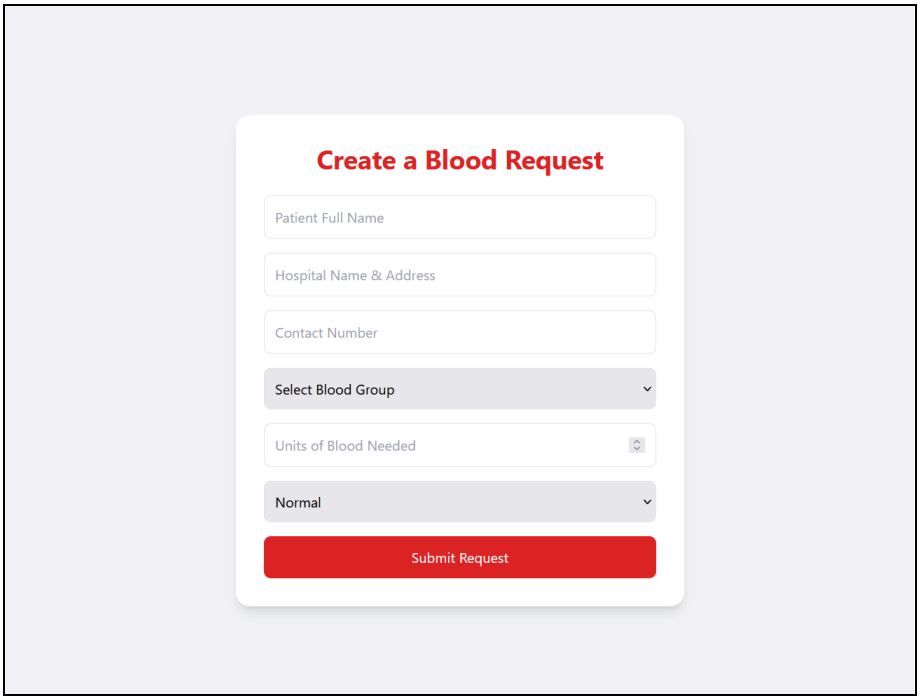
(User Login)



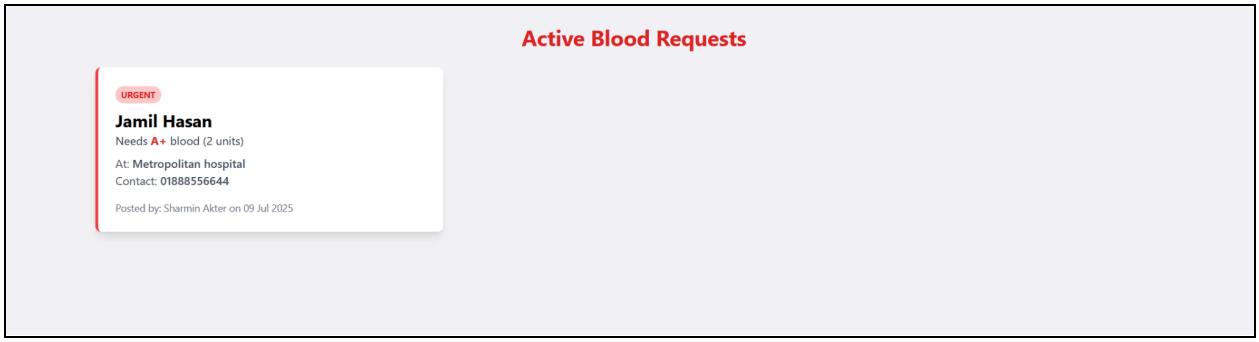
(User Registration)



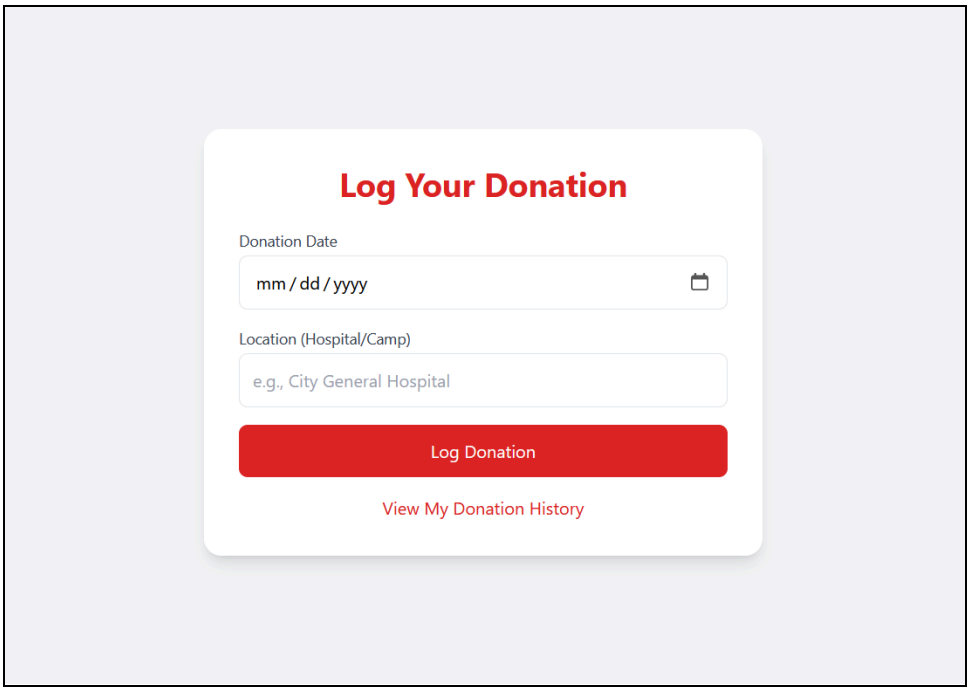
(User Dashboard)



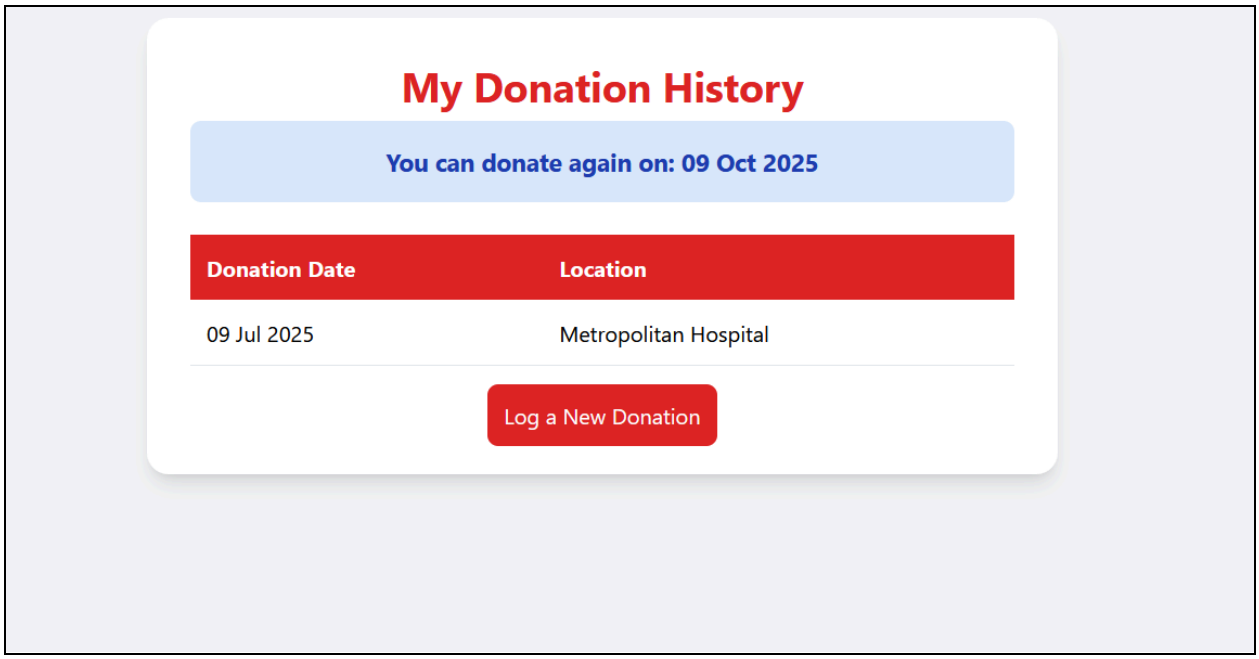
(Create a Blood Request)



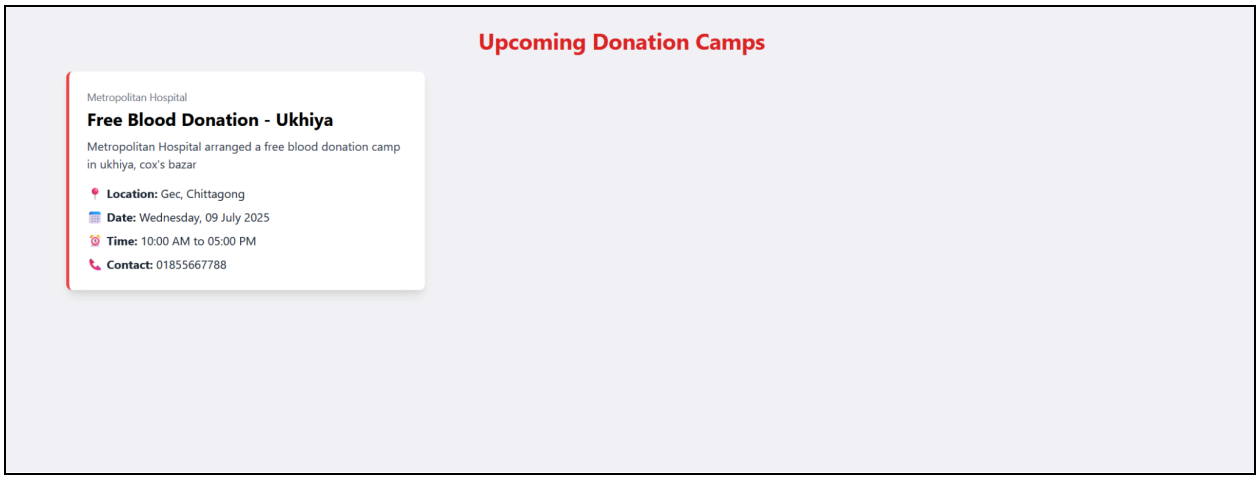
(Active Blood Request)



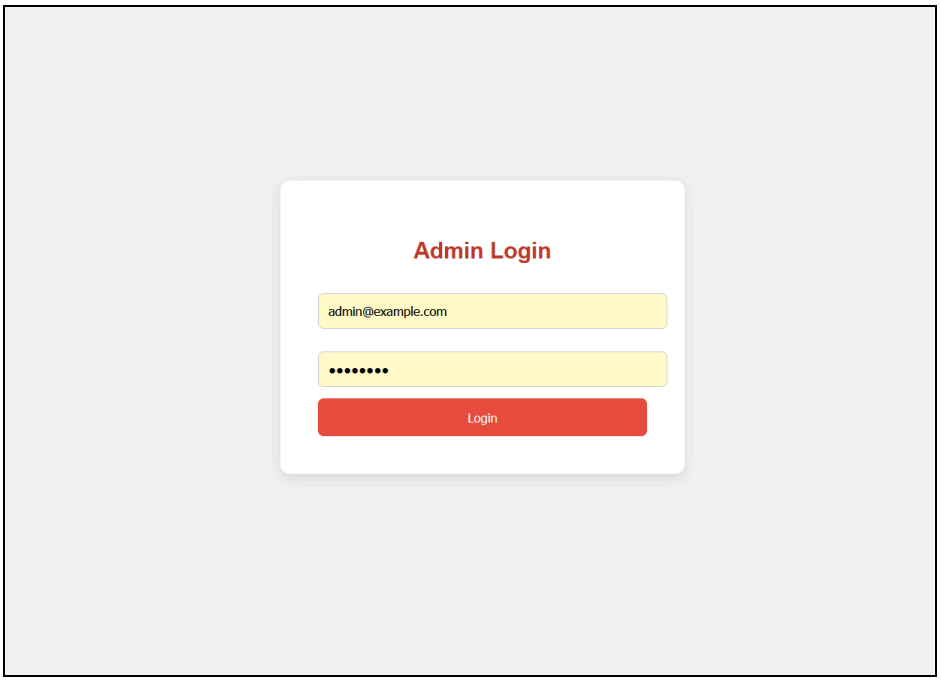
(Log Donation Data)



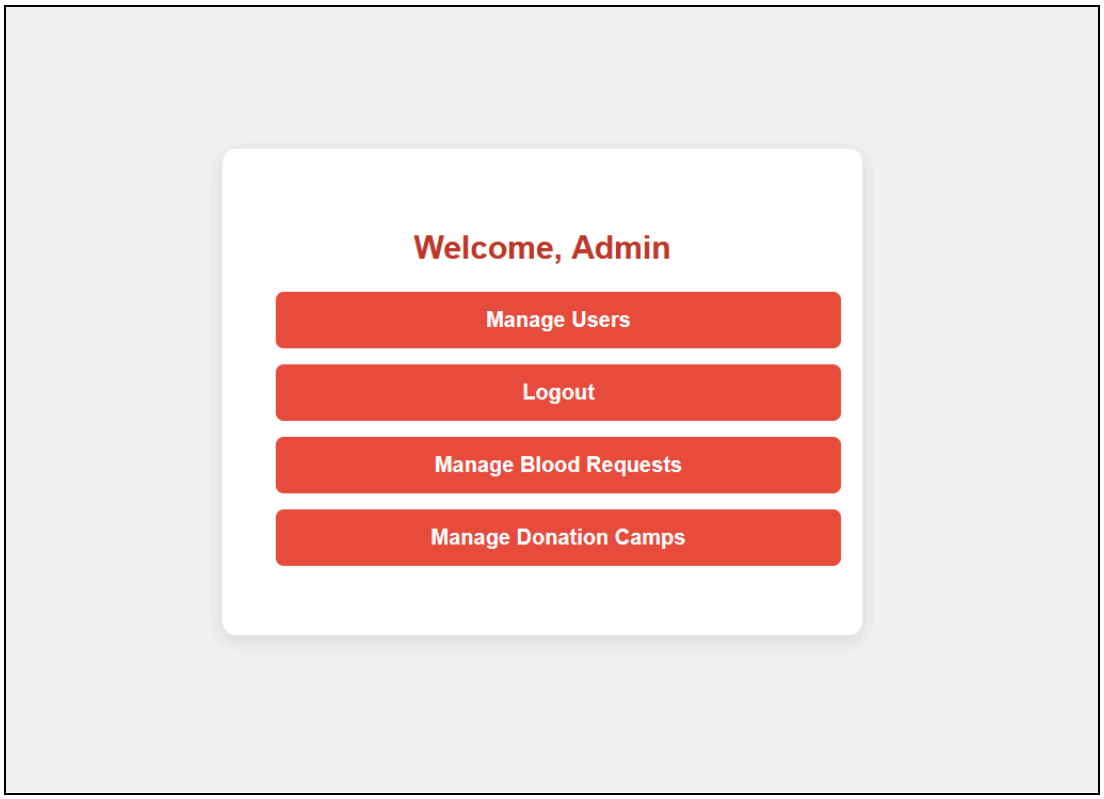
(My Donation History)



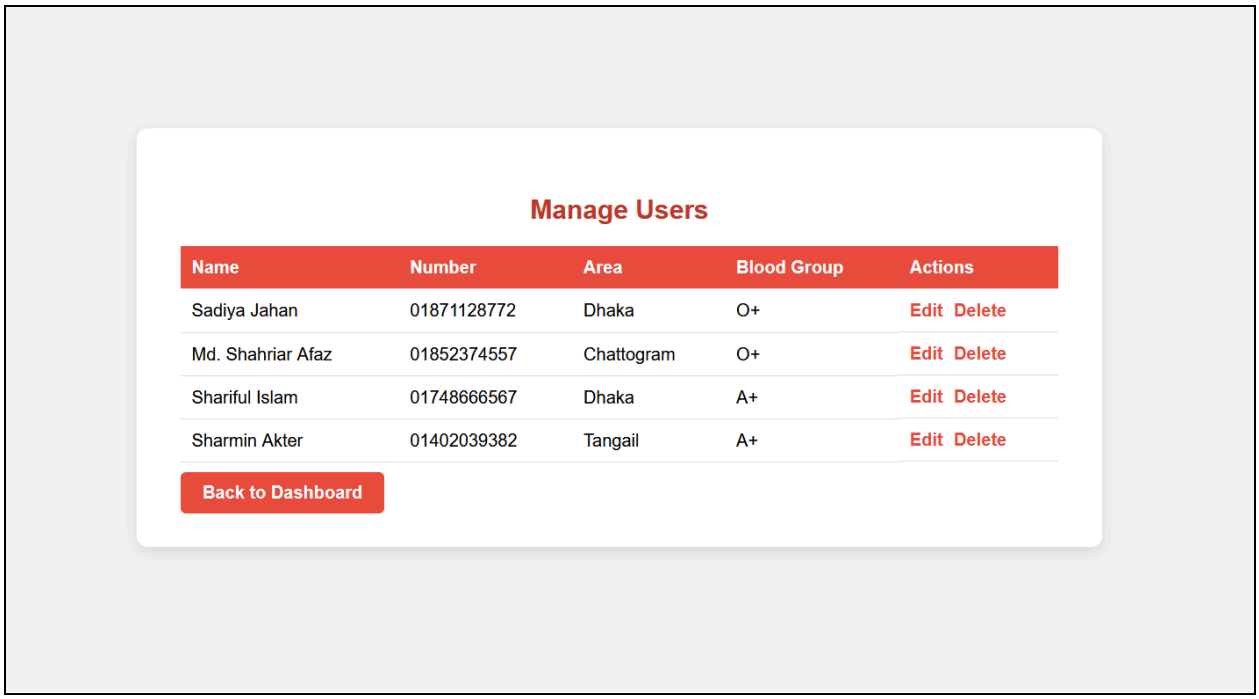
(Upcoming Donation Camps)



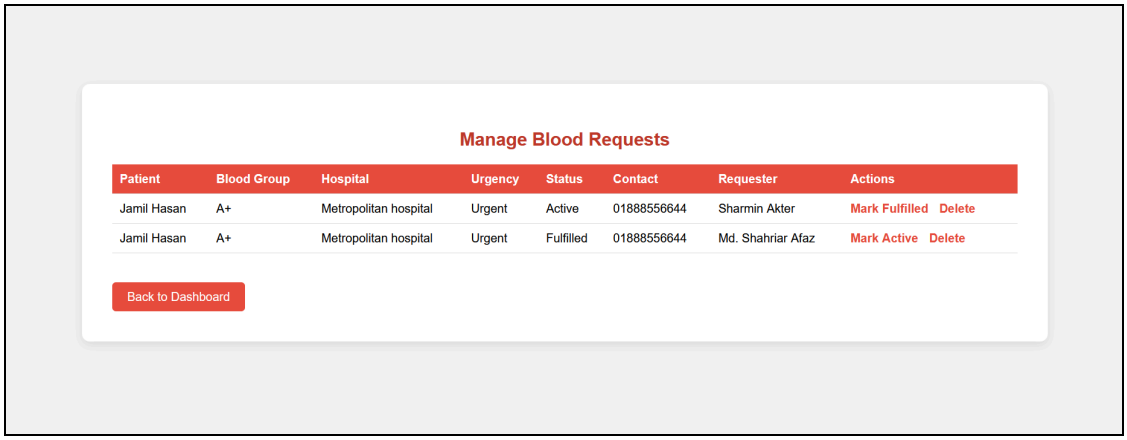
(Admin Login)



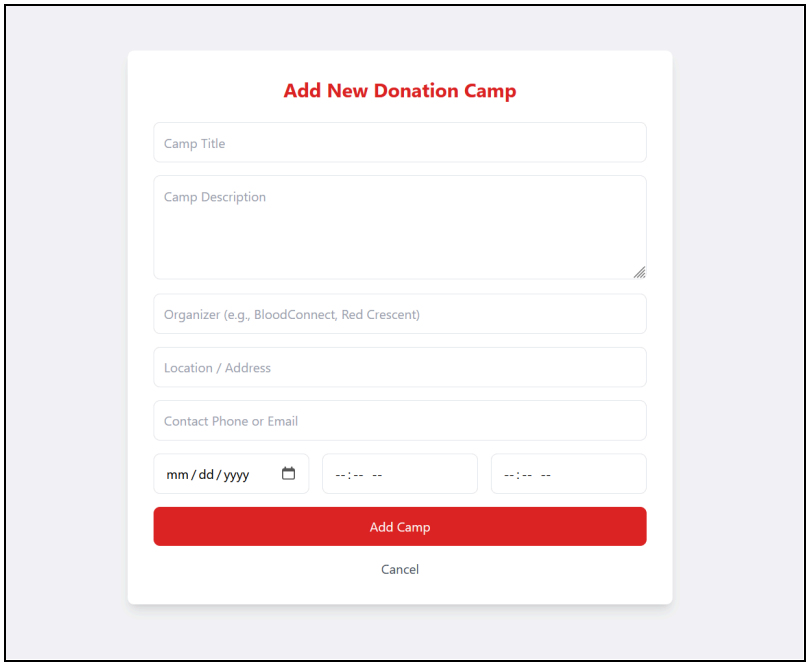
(Admin Dashboard)



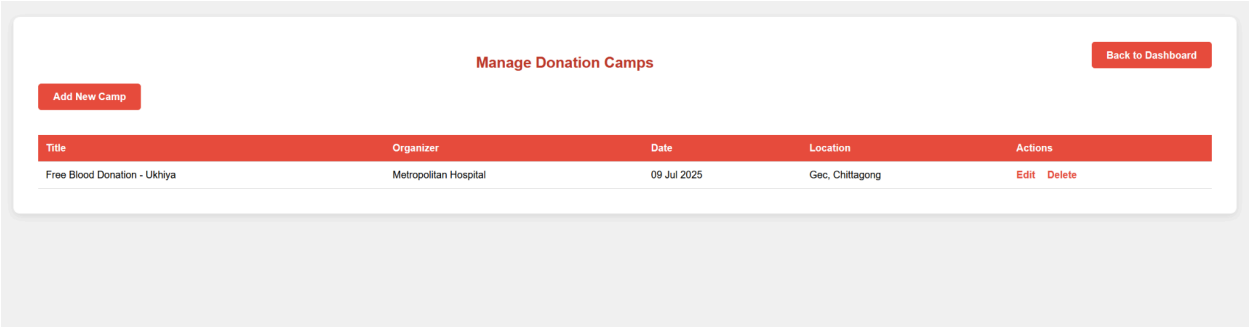
(Manage Users Panel)



(Manage Blood Request)



(Add New Donation Camp Event)



(Manage Donation Camps)

User Registration and Login

Users sign up by providing their contact information and blood group, with their password being securely hashed. The system then authenticates them through a dedicated login page to access the portal's features.

User Dashboard & Donor Search

The dashboard acts as the user's main hub for navigating the site and finding donors. Users can efficiently filter the entire donor list by both blood group and geographical area to find a match.

Blood Request System

Users in need can create a public blood request by submitting patient and hospital details. These requests are then listed on a dedicated page, allowing the entire community to view and respond to urgent needs.

Donation Camp Listings

This feature displays all upcoming donation events with details like date, location, and organizer. The list is managed entirely by administrators, who can add, edit, or remove camps through their panel.

Admin Panel - User Management

Admins have full control to oversee all registered members from a centralized table. They can modify any user's profile information or permanently delete accounts from the platform.

Admin Panel - Request Management

This panel allows admins to moderate all blood requests submitted by the community. They can update a request's status to "Fulfilled" or remove it from the public view entirely.

Conclusion

In conclusion, the "BloodConnect" portal successfully meets its objective of creating a centralized, efficient, and user-friendly platform to bridge the gap between blood donors and those in need. By integrating essential features such as a secure user management system, a real-time blood request board, and an administrative panel for oversight, this project provides a robust solution to a critical real-world problem. It stands as a testament to how thoughtful web application development can facilitate life-saving connections and foster a strong sense of community, while also providing a solid foundation for future expansion and greater impact.