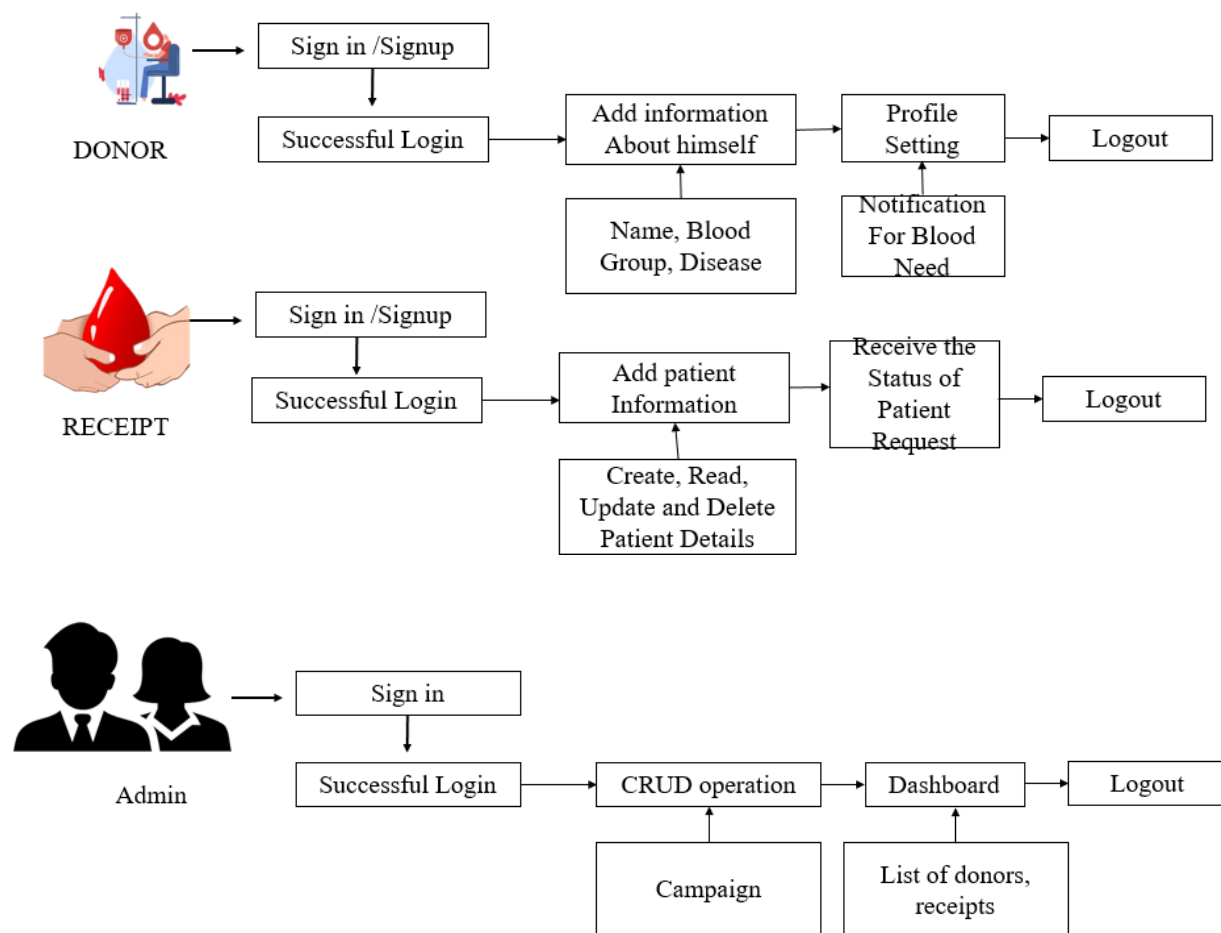


PROJECT TITLE: BLOOD DONATION MANAGEMENT SYSTEM USING MERN

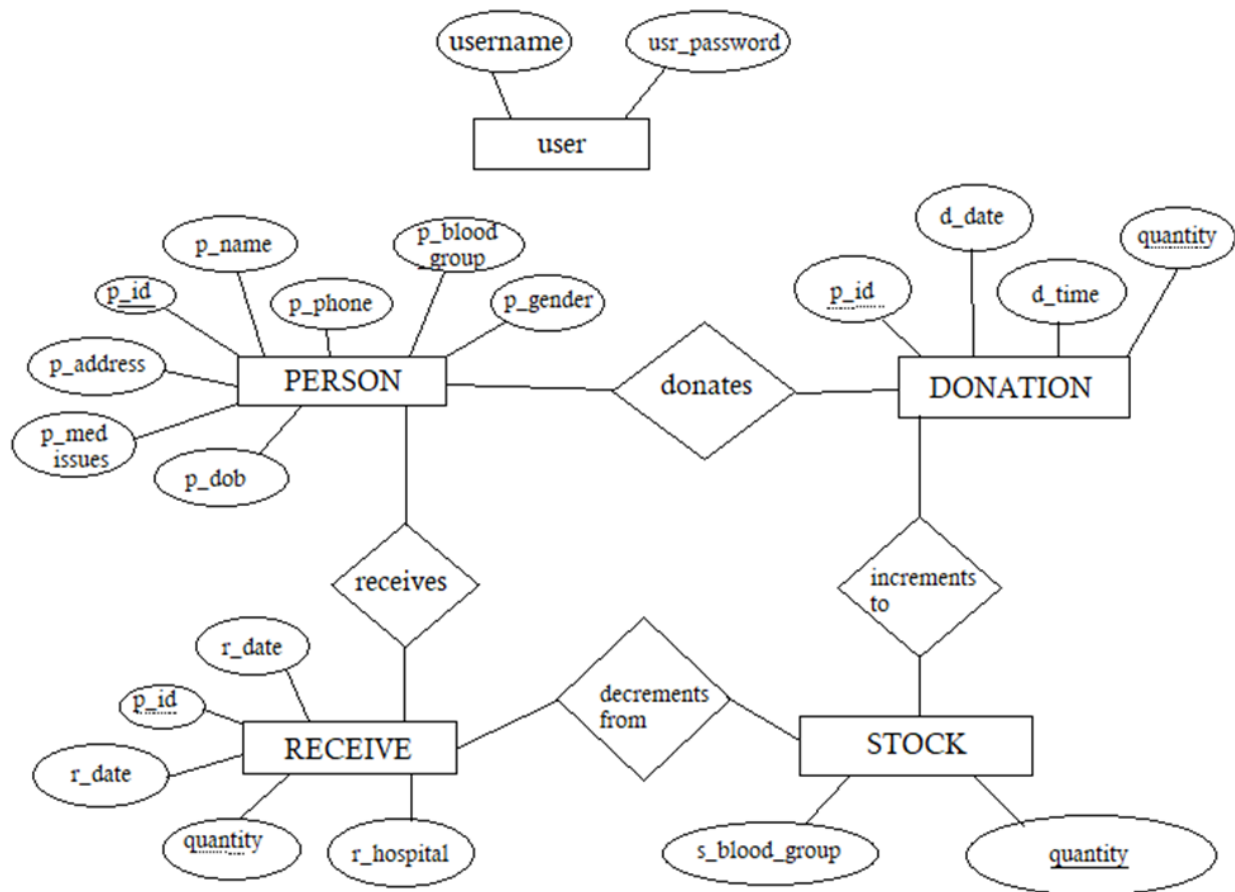
Abstract:

To further enhance the **Blood Donation Management System (BDMS)**, the transition to the **MERN stack** will also incorporate features that enable seamless communication between users and organizers. With Mongo DB's NoSQL architecture, the system will handle large-scale data efficiently, supporting real-time updates on blood donation camp schedules, donor status, and camp organizer feedback. Express.js and Node.js will ensure fast, efficient server-side processing, enabling features like authentication, form submissions, and dynamic updates to camp schedules or donor participation. React will empower users with an intuitive and responsive interface that allows donors to easily view upcoming camps, register for donations, and track their donation history. For organizers, the system will provide a comprehensive dashboard to manage camps, monitor donor participation, and send real-time notifications. Additionally, an integrated notification system will keep users informed of new camps, urgent donation drives, or special events, thereby increasing donor turnout. Furthermore, the inclusion of an admin panel will allow organizers to efficiently manage and monitor data, resolve issues related to donor registrations, and analyze trends to optimize donation campaigns. By moving to a more robust, scalable platform, BDMS will ensure higher participation rates, smoother interactions, and a more efficient blood donation process, ultimately contributing to saving lives and supporting healthcare systems.

System Architecture Diagram:



Use Case Diagram:



Module Explanation

1. Admin

Step 1: Admin Login/Signup

- **Action:**
 - Admin enters the system using a login page.
 - Optionally, Admin can register for a new account if they don't have one.
- **Inputs:**

- Email/Username
- Password
- Admin role verification (system checks if the user is indeed an Admin).
- **Outcome:**
 - If credentials are correct, Admin is logged in and directed to the dashboard.
 - If incorrect, error message is shown.

Step 2: Admin Dashboard

- **Action:**
 - Admin views overall system health and statistics such as:
 - Total number of active donors.
 - Campaigns scheduled.
 - Blood stock levels.
 - Pending requests for donations.
 - Donor demographics.
- **Inputs/Actions:**
 - Admin can click on sections like "Campaigns", "Donors", "Blood Inventory" to dive deeper into specifics.
- **Outcome:**
 - Provides Admin with an overview of the system for easy management.

Step 3: Admin CRUD Operations for Campaigns

- **Action:**
 - Admin manages blood donation campaigns through the **CRUD (Create, Read, Update, Delete)** interface:

- **Create Campaign:** Admin enters campaign details (e.g., location, date, time, purpose of campaign, etc.).
 - **View Campaigns (Read):** Admin can see a list of upcoming campaigns with details.
 - **Update Campaign:** Admin can edit campaign details (if the event details change, like date/time).
 - **Delete Campaign:** Admin can remove a campaign if no longer needed.
- **Inputs:**
 - Form data for campaign creation/editing.
 - Campaign ID for updates/deletion.
 - **Outcome:**
 - New campaigns are created, old ones are updated or removed, and the campaign list reflects changes.

Step 4: Admin Logout

- **Action:**
 - Admin logs out after completing the necessary management tasks.
- **Outcome:**
 - Admin is logged out and redirected to the login page.

2. Donor:

Step 1: Donor Login/Signup

- **Action:**
 - Donors create an account or log in to their existing account.
 - If a donor is logging in, they provide their credentials (email/username, password).

- **Inputs:**
 - Email/Username
 - Password
- **Outcome:**
 - Successful login redirects donors to their profile or dashboard.
 - On signup, the donor provides additional details (blood type, contact info, etc.).

Step 2: Donor Add Details

- **Action:**
 - Donor enters personal details such as:
 - Name, Contact Information (Phone, Address), Blood Type, Medical History.
 - This is needed to create a full donor profile and to ensure compatibility for donation (blood type, past donations, medical conditions).
- **Inputs:**
 - Text fields for name, address, phone number, etc.
 - Drop-down menu for blood type and medical conditions.
- **Outcome:**
 - Details are saved in the system and can be edited later.

Step 3: Donor Receives Notifications about Campaigns

- **Action:**
 - The system automatically sends notifications (through email/SMS or the app) to donors about upcoming blood donation campaigns.
 - Notifications include details like:
 - Campaign date/time

- Location
 - The urgency of the need (if any)
 - Call to action for participation
- **Inputs:**
 - No input needed; these are automated.
- **Outcome:**
 - Donor receives timely information to decide on participation.

Step 4: Donor Participates in a Campaign

- **Action:**
 - Donor views a list of upcoming campaigns and chooses one to participate in.
 - Donor confirms participation by clicking a "Participate" button.
- **Inputs:**
 - Donor selects a campaign.
 - Confirmation of participation (clicking the button).
- **Outcome:**
 - Donor is added to the campaign participants list.
 - Donor receives a confirmation of their registration for the campaign.

Step 5: Donor Logout

- **Action:**
 - Donor logs out of the system.
- **Outcome:**
 - Donor is logged out and redirected to the login page.

3. Receipt:

Step 1: Receipt Login/Signup

- **Action:**
 - Receipt (blood bank staff) logs into the system using their credentials.
 - If no account exists, they can sign up.
- **Inputs:**
 - Username/Email
 - Password
- **Outcome:**
 - If login is successful, the receipt is directed to their dashboard.

Step 2: Receipt Manages Donor Requests

- **Action:**
 - Receipt can view and manage donor participation in campaigns. This could include:
 - Checking which donors are registered for upcoming campaigns.
 - Verifying blood type and medical compatibility.
 - Contacting donors for any follow-up or clarification on participation.
- **Inputs:**
 - Access to donor records and campaign details.
- **Outcome:**
 - Receipt tracks donors and ensures there are no issues with their participation.

Step 3: Receipt Monitors Campaign Participation

- **Action:**

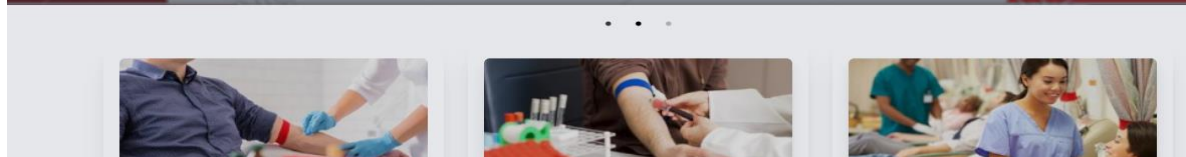
- Receipt sees real-time data on how many donors are confirmed for each campaign.
 - They can mark whether a donor has actually donated or not.
- **Inputs:**
 - Tracking participation status.
- **Outcome:**
 - Receipts can update the system to reflect blood donations, ensuring accurate inventory and tracking.

Step 4: Receipt Logout

- **Action:**
 - Receipt logs out after completing their duties.
- **Outcome:**
 - Receipt is logged out and redirected to the login page.

Expected Outcome:

The expected outcome of the Blood Bank Management System is that Admins can efficiently create, manage, and delete blood donation campaigns, view vital statistics on donor participation and blood stock levels via a dashboard, and manage donor data securely. Donors are able to register, provide necessary medical details, receive timely notifications about relevant campaigns, and easily participate in blood drives. Receipts (blood bank staff) can track donor participation, verify donation details, and maintain accurate blood inventory records. All users (Admin, Donor, and Receipt) can log out securely after completing their tasks, ensuring the smooth, secure, and effective operation of the blood bank system.



Become a donor

Lorem ipsum dolor sit amet consectetur adipisicing elit. Harum, aut.

[Read more->](#)



Why give blood?

Lorem ipsum dolor sit amet consectetur adipisicing elit. Necessitatibus, quae!

[Read more->](#)



How donation helps?

Lorem ipsum dolor sit amet consectetur adipisicing elit. Necessitatibus, quae!

[Read more->](#)



Who Are Blood Donors Group

Provident cupiditate voluptatem et in. Quaeat fugiat ut assumenda excepturi exercitationem quasi.

- >High quality assessment, diagnosis and treatment
- >The extra care of multi-disciplinary team
- >Increasing communication with our team

Register Now

| | |
|---|---|
| Name | Email |
| <input type="text" value="Name"/> | <input type="text" value="email"/> |
| Password | Confirm Password |
| <input type="text" value="password"/> | <input type="text" value="Confirm Password"/> |
| Blood Group | District |
| <input type="text" value="Select Blood Group"/> | <input type="text" value="Select District"/> |

Select Role

Upload Profile Image

CHOOSE FILE No file chosen

Sign Up

Already registered? **Go to log in**

Or sign up with

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LOGIN

Email

Password

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