

System Architecture Design and User Interface Documentation.

1.1 Overview/Purpose

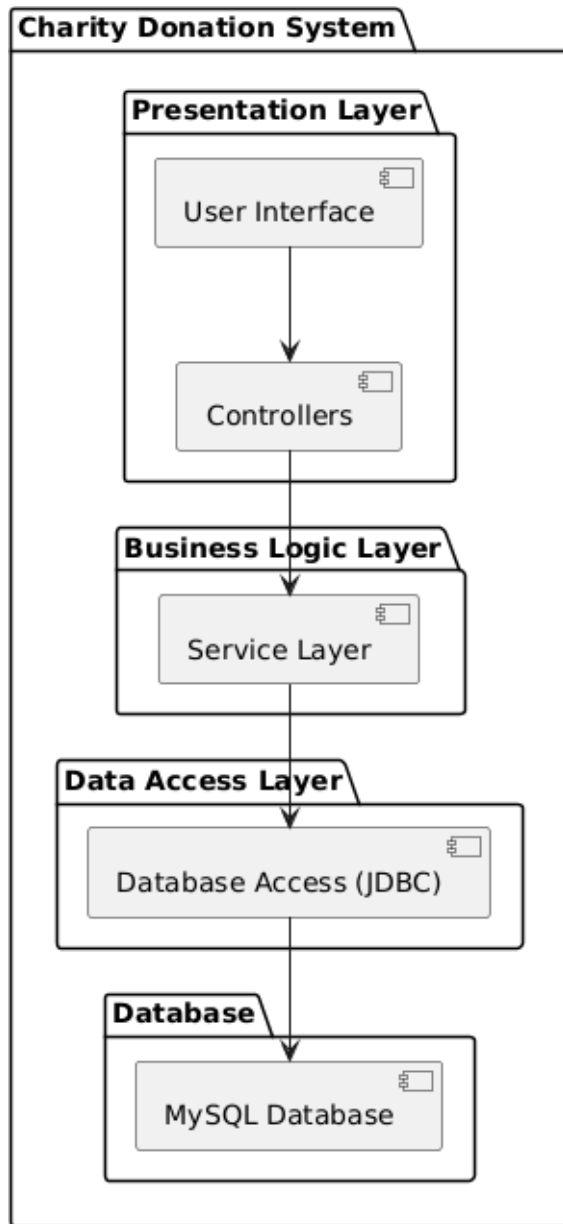
The Charity Donation System (CDS) follows the following architecture designs to ensure modularity, maintainability, and scalability. The three layers are:

1. **Presentation Layer (UI Layer):** Manages user interactions via a JavaFX-based graphical user interface (GUI).
2. **Business Logic Layer:** Handles operations, validation, and system rules.
3. **Data Access Layer (DAL):** Manages communication with the relational database using JDBC.

1.2 Architectural Components

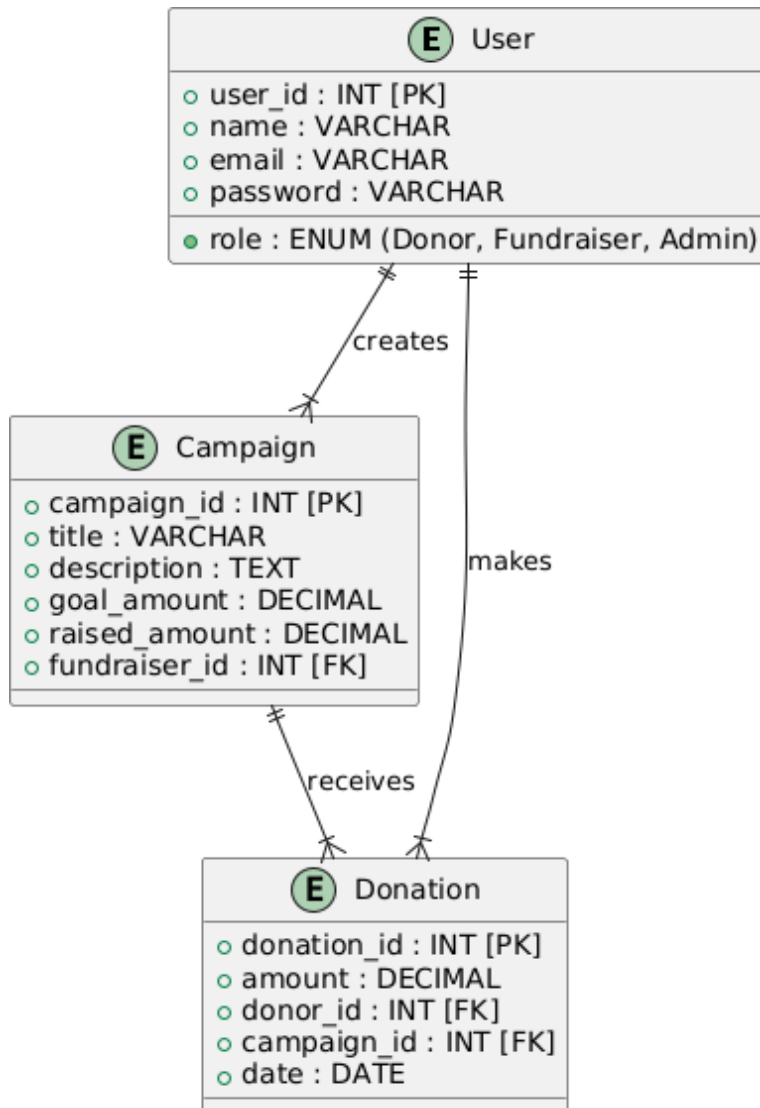
- **User Interface (JavaFX):** Provides an intuitive GUI for donors, fundraisers, and administrators.
- **Controllers:** Handle user inputs and interact with the service layer.
- **Service Layer:** Implements business rules and application logic.
- **Database Access (JDBC):** Manages CRUD operations on the relational database.
- **Database (MySQL):** Stores user, campaign, and donation data.

1.3 Architectural Diagram



2). Database Schema Design

The system's relational database schema consists of three primary entities: **User**, **Campaign**, and **Donation**.



3). User Interface (UI) Design

3.1 UI Technology Choice

The system will use **JavaFX** for a modern, responsive, and interactive UI. JavaFX provides:

- Better UI customization and styling with CSS.
- Scene Builder for easier UI design.
- Event-driven architecture.

3.2 Wireframes s UI Flow

3.2.1 *Login Page*

- Fields: **Email, Password, Login Button**
- Validates user credentials and redirects based on role.

3.2.2 *Donor Dashboard*

- Displays **available campaigns**.
- Button to **donate** to campaigns.
- View **donation history**.

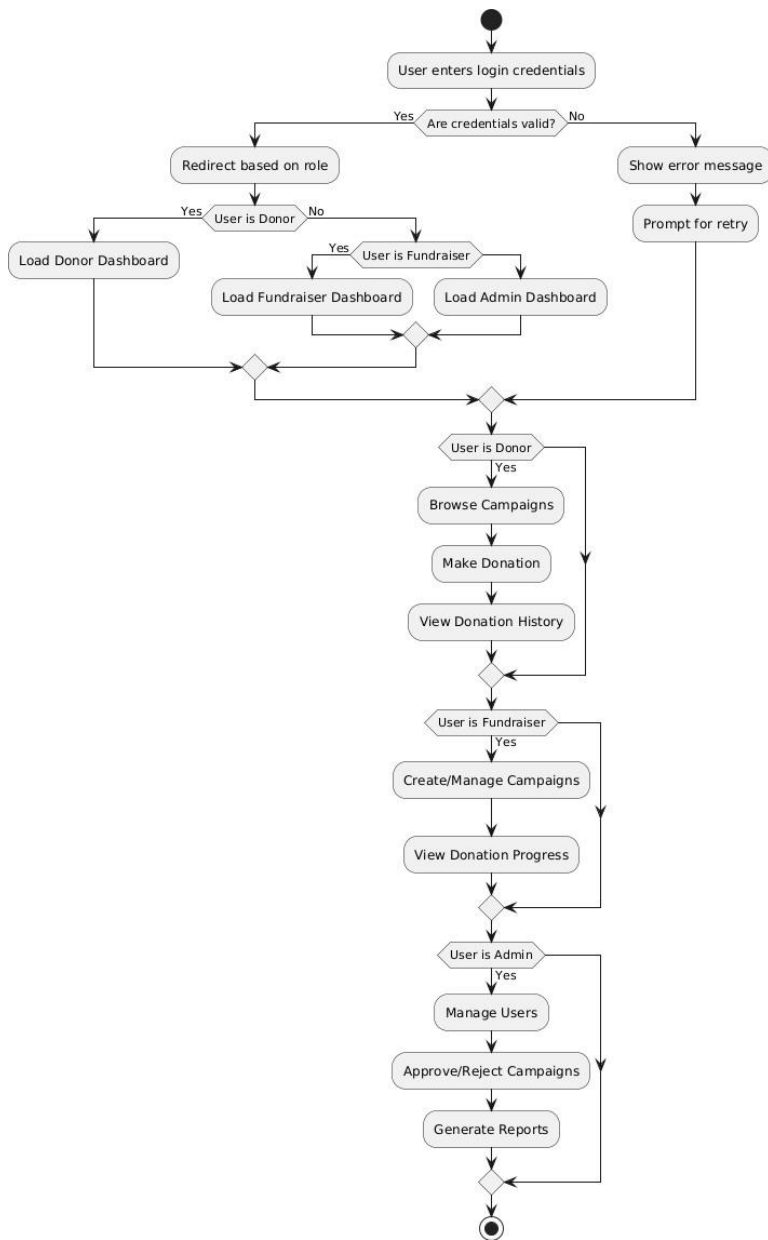
3.2.3 *Fundraiser Dashboard*

- Create and **manage campaigns**.
- View **donation progress**.

3.2.4 *Admin Dashboard*

- Manage **user accounts**.
- Approve/reject **campaigns**.
- Generate **reports**.

3.3 UI Flowchart



Note: More details will be provided in the detailed Design how the whole process will work.