**CASE STUDY**

**Title:**

**Features of the Application:**

1. **User-Authentication**: It ensures that users can securely access their accounts. This module includes secure login, registration, and session management.

* User Registration: Collects user details like name, email, password, and other relevant information. Implements validation to ensure the data is accurate and secure.
* Login System: Authenticates users using email and password and uses hashing for password security.
* Session Management: Allows users to stay logged in securely during their session.
* Includes logout functionality.
* Key Benefits:
  + Protects user data with robust security protocols.
  + Provides a seamless and user-friendly login experience.
  + Prevents unauthorized access with proper authentication mechanisms.

1. **Admin Management**: The Admin Management module allows administrators to oversee, manage, and maintain the system. It provides them with the tools to monitor users, transactions, and system activities.

* User Monitoring: View and manage all registered users and reset passwords or deactivate accounts if necessary.
* Transaction Oversight: Monitor all user transactions for security and compliance.
* System Configuration: Configure application settings, such as enabling/disabling specific features.
* View system logs for debugging or audit purposes.
* Key Benefits:
  + Ensures system integrity and smooth operation.
  + Allows proactive monitoring to prevent fraud or misuse.
  + Enhances control over user and transaction data.

1. **User Account Management**: The User Account Management module lets users view and manage their account details. It enhances user autonomy and ensures the accuracy of stored information.

* Profile Management: View and update personal details like name, email, phone number, and address.
* Account Summary: Display account details such as account number, balance, and account type.
* Account Settings: Change password or configure preferences and view activity logs to track recent actions.
* Key Benefits
  + Empowers users to maintain their account data.
  + Ensures accurate and up-to-date information for better service.
  + Provides transparency and control over personal data.

1. **Transaction Management**: The Transaction Management module enables users to manage their financial activities, including deposits, withdrawals, and transaction history.

* Transaction Processing: Supports real-time deposits and withdrawals and categorizes transactions as credit or debit.
* Transaction History: Displays a detailed history of all transactions, including date, amount, and type.
* Includes search and filter options for easier navigation.
* Balance Overview: Real-time display of account balance based on transaction activity.
* Key Benefits
  + Provides a clear and concise view of financial activity.
  + Ensures accurate balance calculation for better financial planning.
  + Offers transparency and accountability for all transactions.
  + How These Modules Integrate

**Implemented Backend Endpoints:**

|  |  |  |
| --- | --- | --- |
| Endpoint URL | HTTP Method | Description |
| /user/register | POST | Registers a new user by accepting user details in the request body. |
| /user/login | POST | Logs in a user by verifying their credentials (email and password) and approval status. |
| /user/dashboard | GET | Fetches the dashboard details for a user (excluding admins), showing username and balance. |
| /user/account-details | GET | Fetches detailed account information of a user (email, name, phone, account balance). |
| /user/update | PUT | Updates the details of an existing user (name, phone number). |
| /user/delete | DELETE | Deletes the user based on their email. |
| /user/payments/add-money | POST | Adds money to the user's account, updates balance, and records the transaction. |
| /user/payments/send-money | POST | Sends money from one user to another, updates both users' balances, and records the transaction. |
| /user/payments/withdraw-money | POST | Allows a user to withdraw money from their account, updates the balance, and records the transaction. |
| /user/transactions/history | GET | Fetches the transaction history for a user, based on their email. |

**Frontend URLs and Pages:**

|  |  |  |
| --- | --- | --- |
| Action | Frontend URL | Description |
| Home | / | Homepage for all users |
| Sign In | /user/login | User login page |
| Admin Login | /admin/login | Admin login page |
| Approved Users (Admin) | /admin/dashboard | Admin dashboard for managing approved users |
| Approved Users (Admin) | /admin/user-management | Admin user management page for viewing approved users |
| Pending Users (Admin) | /admin/dashboard | Admin dashboard showing pending users when clicked |
| Sign Out | / | Logs the admin or user out and redirects to homepage |