CEBU INSTITUTE OF TECHNOLOGY
UNIVERSITY

IT342-G5
SYSTEMS INTEGRATION AND ARCHITECTURE 1

FUNCTIONAL REQUIREMENTS SPECIFICATION (FRS)

Project Title: Mini App - User Registration & Authentication

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Date of Submission: February 6, 2026

Version: 01

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1. Introduction

1.1. Purpose

The purpose of this system is to design and document the user authentication flow for a mini application. This includes user registration, login, profile/dashboard access, and logout, with proper access control to protected pages.

1.2. Scope

In Scope:

The system will:

- Allow a guest user to register an account
- Allow a registered user to log in
- Allow authenticated users to view protected pages (profile/dashboard)
- Prevent unauthenticated users from accessing protected pages
- Allow authenticated users to log out

Out of Scope:

The system does not include:

- Actual deployment

1.3. Definitions, Acronyms, and Abbreviations

List and define important terms used in this document.

2. Overall Description

2.1. System Perspective

The mini application is a user authentication module that operates as part of a larger mini application.
It follows a client–server architecture, where:

- The frontend (React) handles user interaction.
- The backend (Spring Boot) processes authentication logic.
- The database stores user credentials and profile information.

2.2. User Classes and Characteristics

1. Guest User

- Has not logged in
- Can register a new account
- Can attempt to log in

2. Authenticated User

- Has successfully logged in
- Can access protected pages (profile/dashboard)
- Can log out

2.3. Operating Environment

- Frontend: React.js
- Backend: Spring Boot (Java)

2.4. Assumptions and Dependencies

List any assumptions and external dependencies that may affect the system.

3. System Features and Functional Requirements

Describe each major feature of the system and its functional requirements.

3.1. Feature 1: User Registration

Description: Allows a guest user to create a new account by providing required personal and login information.

Functional Requirements:

- The system shall allow users to register using a unique username and email.
- The system shall validate user input before account creation.
- The system shall store passwords in encrypted form.
- The system shall prevent duplicate user accounts.

3.2. Feature 2: User Login

Description: Allows registered users to authenticate and access protected pages.

Functional Requirements:

- The system shall allow users to log in using valid credentials.
- The system shall verify credentials against stored data.
- The system shall deny access for invalid credentials.

3.3. Feature 3: View Profile / Dashboard

Description: Allows authenticated users to view their personal information and dashboard.

Functional Requirements:

- The system shall restrict access to authenticated users only.

- The system shall display user-specific information.
- The system shall redirect unauthenticated users to the login page.

3.4. Feature 4: Logout

Description: Allows authenticated users to end their session securely.

Functional Requirements:

- The system shall allow users to log out at any time.
- The system shall redirect users to the login page after logout.

4. Non-Functional Requirements

Specify system quality attributes such as performance, security, usability, reliability, etc.

5. System Models (Diagrams)

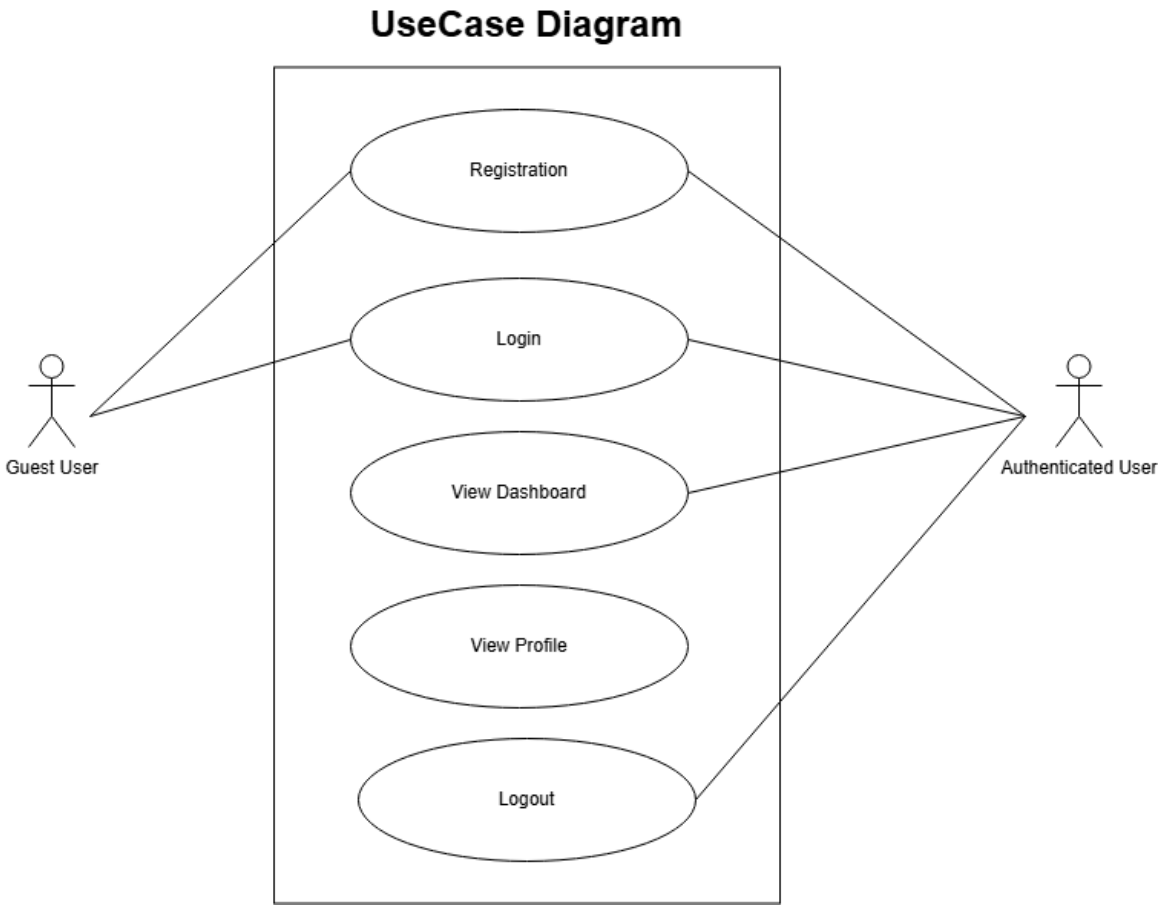
Insert the necessary diagrams for the system:

5.1. ERD

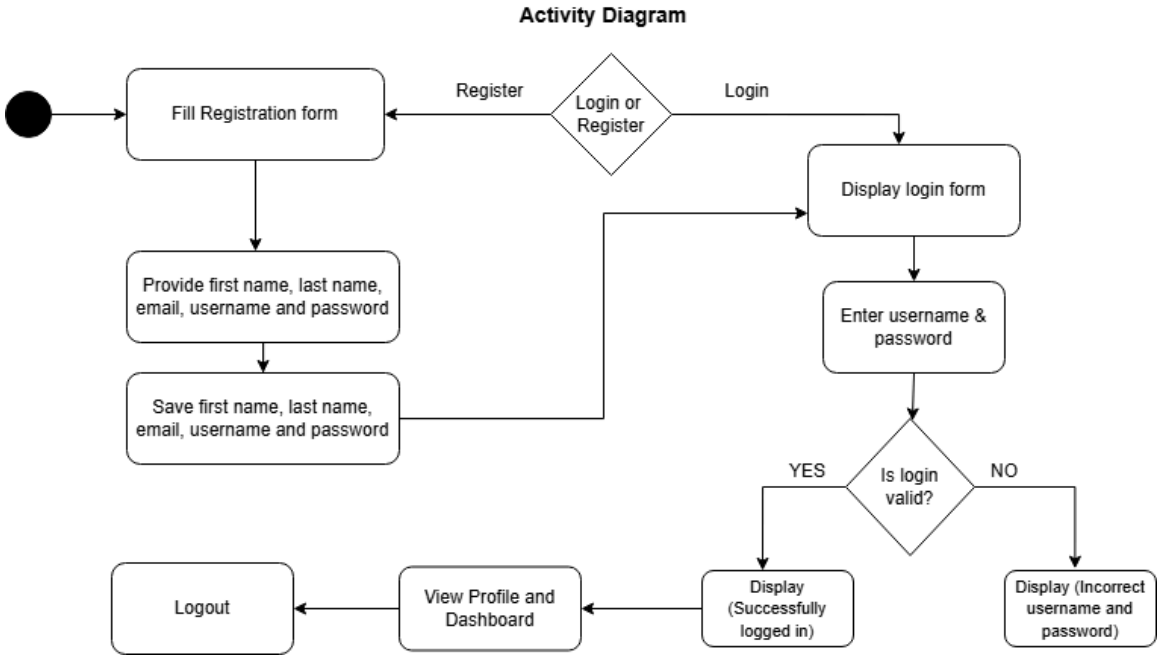
Insert ERD here

Users	
PK	userId int, auto_increment,
	userName varchar(50) unique not null,
	email varchar(255), unique not null,
	password_hash varchar(255), not null,
	firstName varchar(50), not null,
	lastName varchar(50), not null,
	is_active boolean default true,
	token_version int default 1,
	created_at timestamp default current_timestamp

5.2. Use Case Diagram

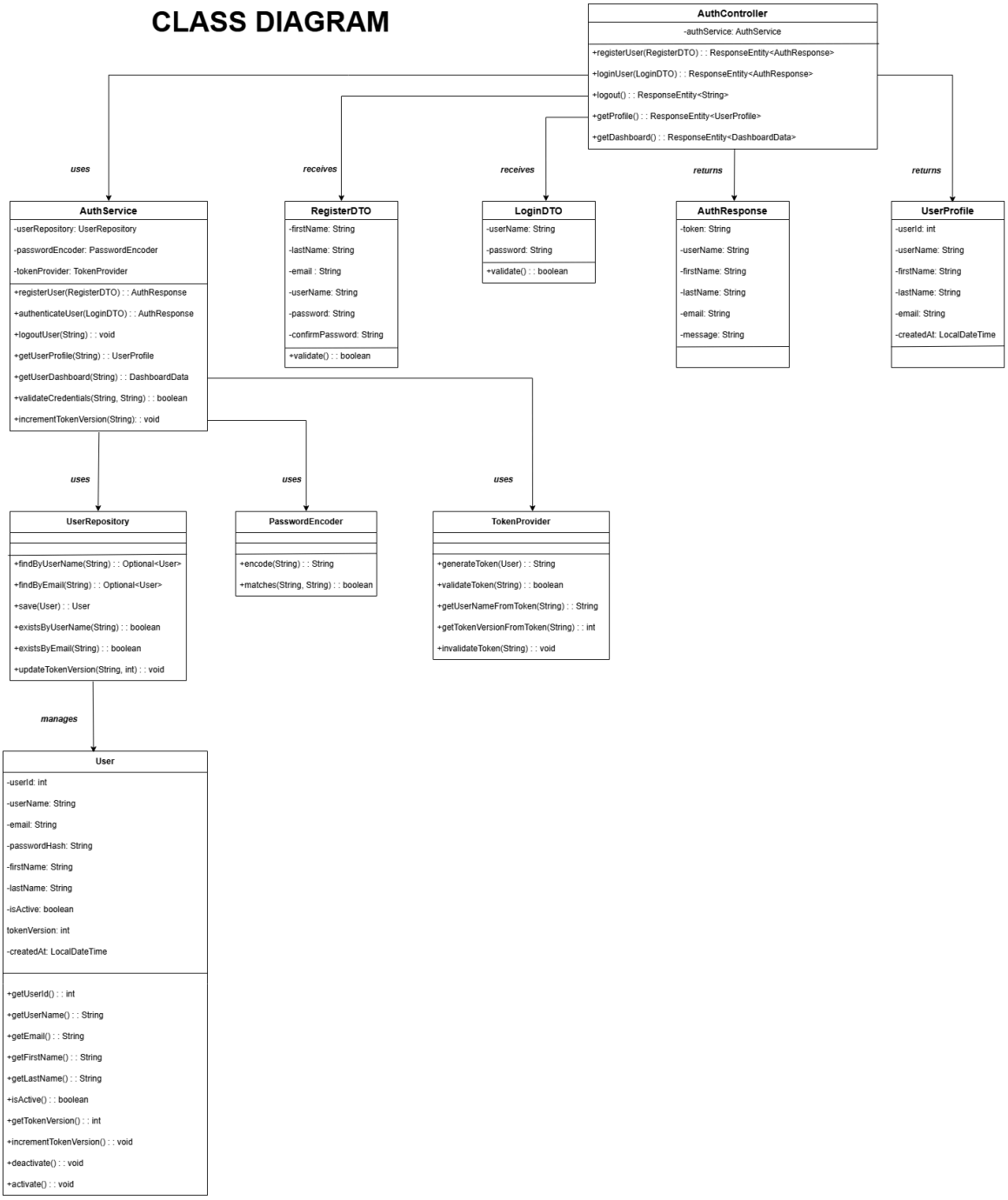


5.3. Activity Diagram



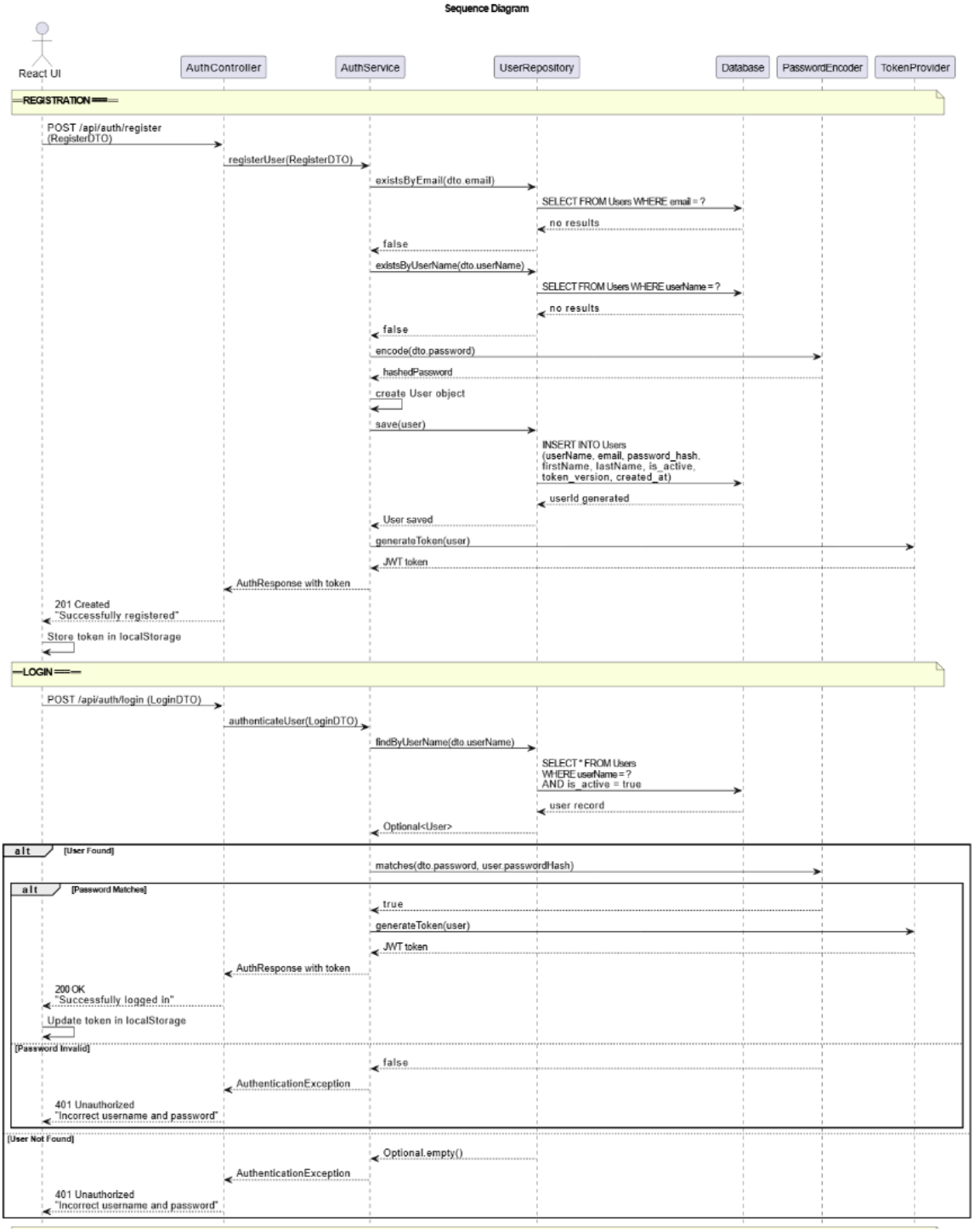
5.4. Class Diagram

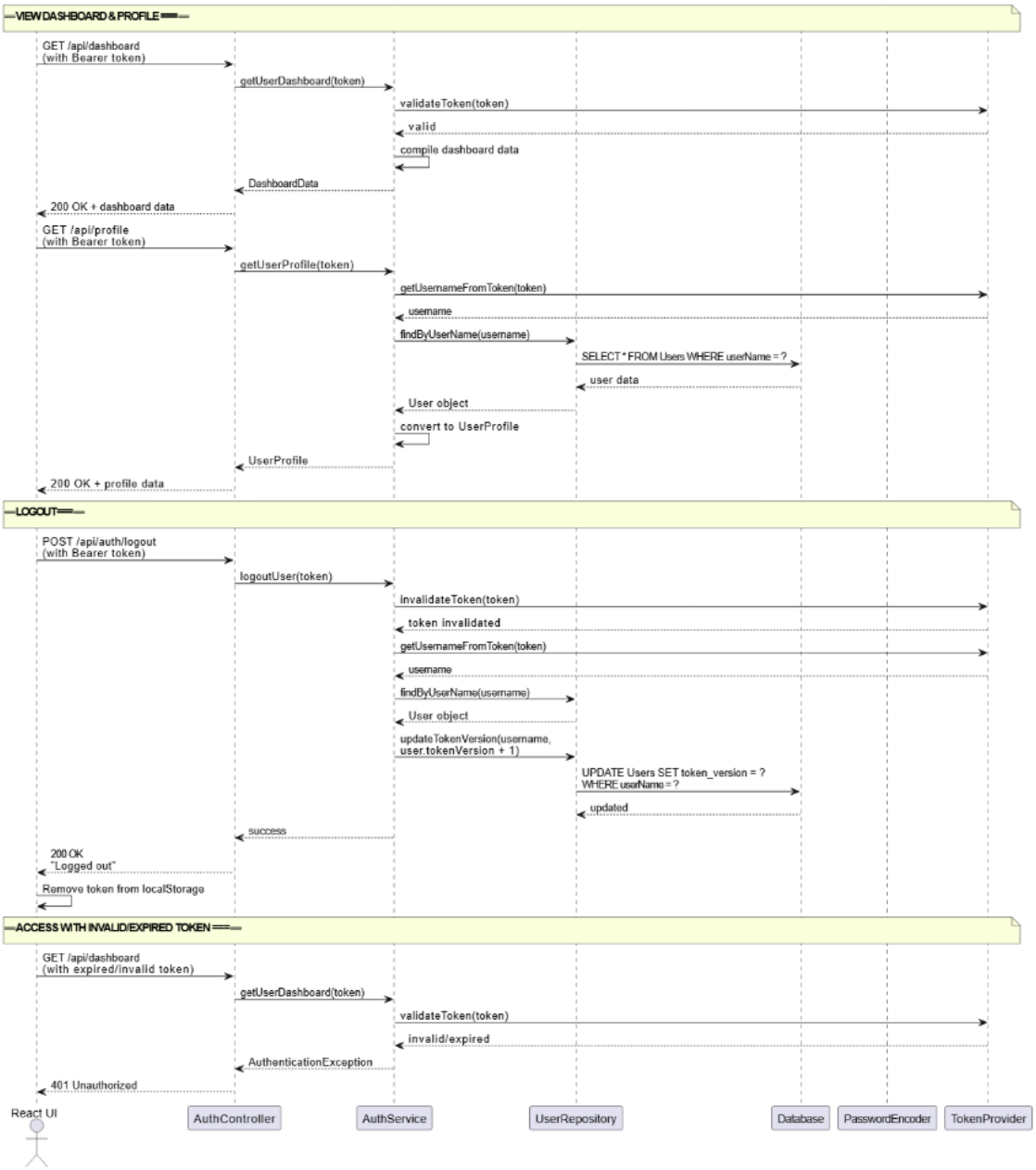
Insert ERD here



5.5. Sequence Diagram

Insert ERD here



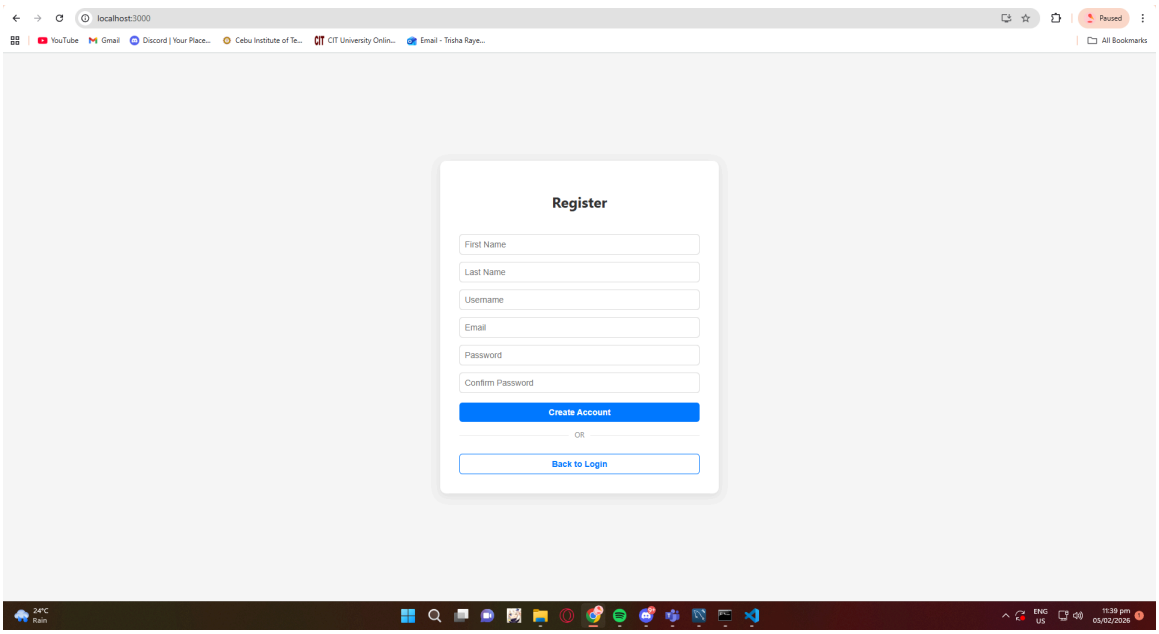


6. Appendices

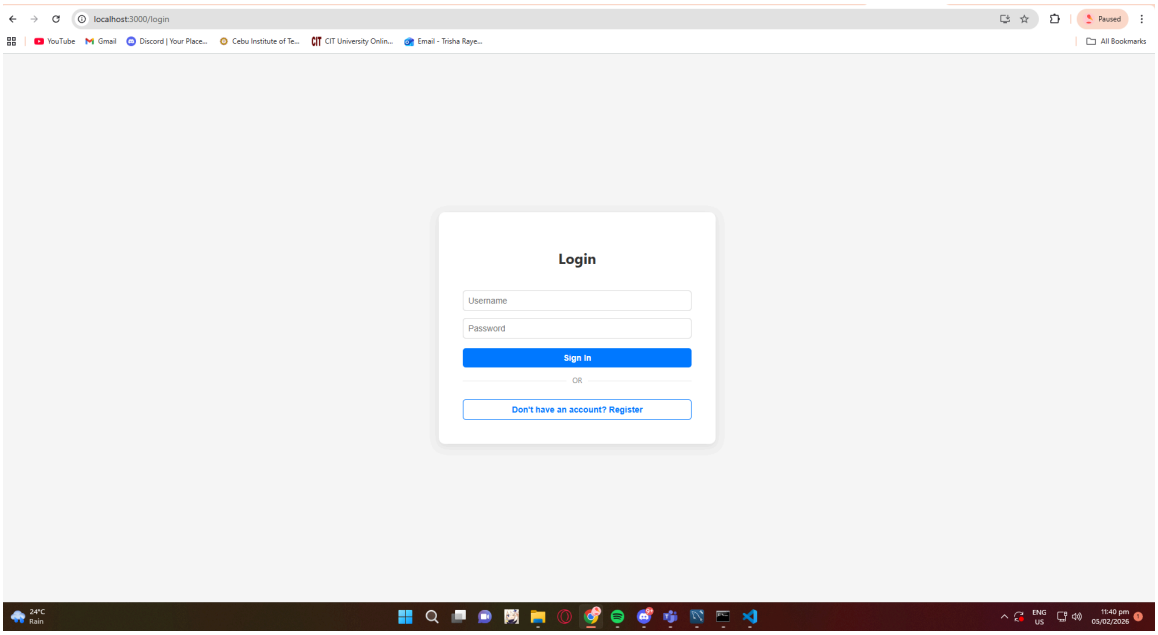
Include any additional information, references, or support materials.

Screenshots:

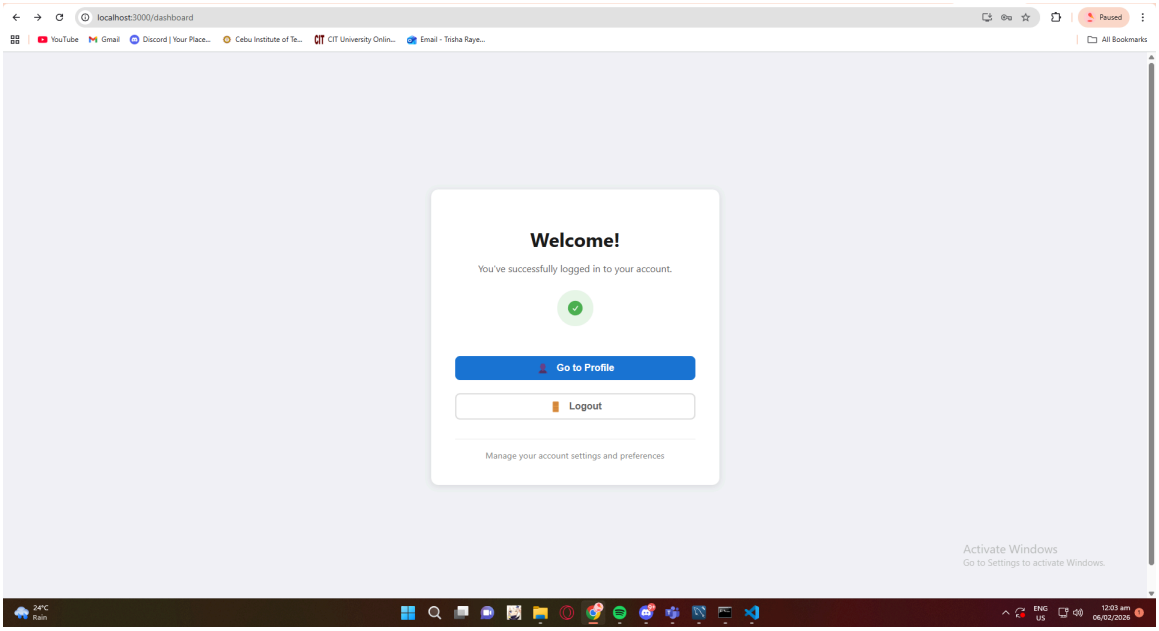
Register:



Login:



Dashboard:



Profile: