Gym Membership and Class Booking System

Team OOPS

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Team Member Introductions

Prajwal: Frontend Design & Testing Lead- Designing user-friendly interface and performing frontend testing.

Mahesh Peta: AWS Deployment Specialist- Configuring AWS for hosting and ensuring security.

Guru Saran Reddy Busireddy: Backend Developer- Developing and maintaining Node.js backend and PostgreSQL integration.

Hari Naga Venkata Sai Posani: Payment & Notification Integration Specialist- Integrating Twilio for SMS notifications.

Project Overview

- Project Name: Gym Membership and Class Booking System

- Objective: To provide an easy-to-use platform for gym members to book classes, manage memberships, and process payments seamlessly.

- Key Features:
  - User Registration & Login
  - Class Scheduling
  - Automated Notifications using Twilio

- Technologies Used: HTML, CSS, JavaScript, Node.js, PostgreSQL, AWS, Twilio API
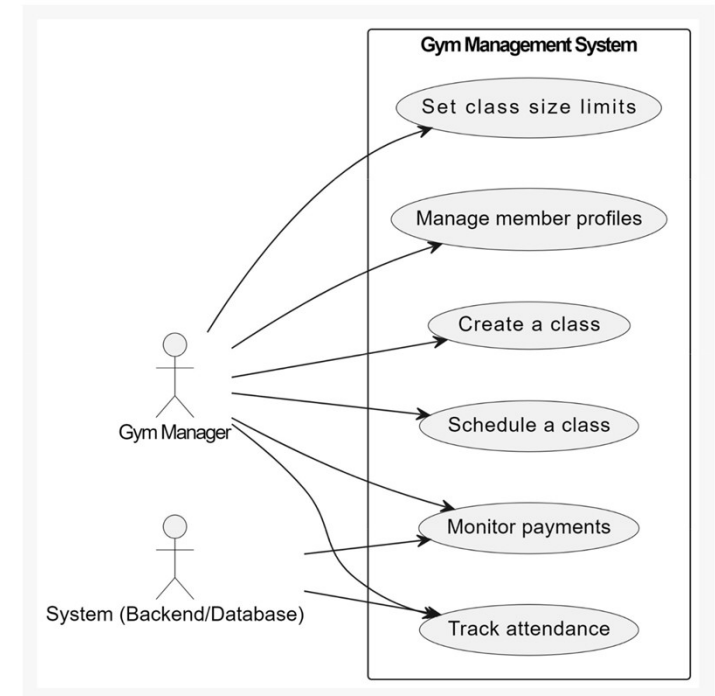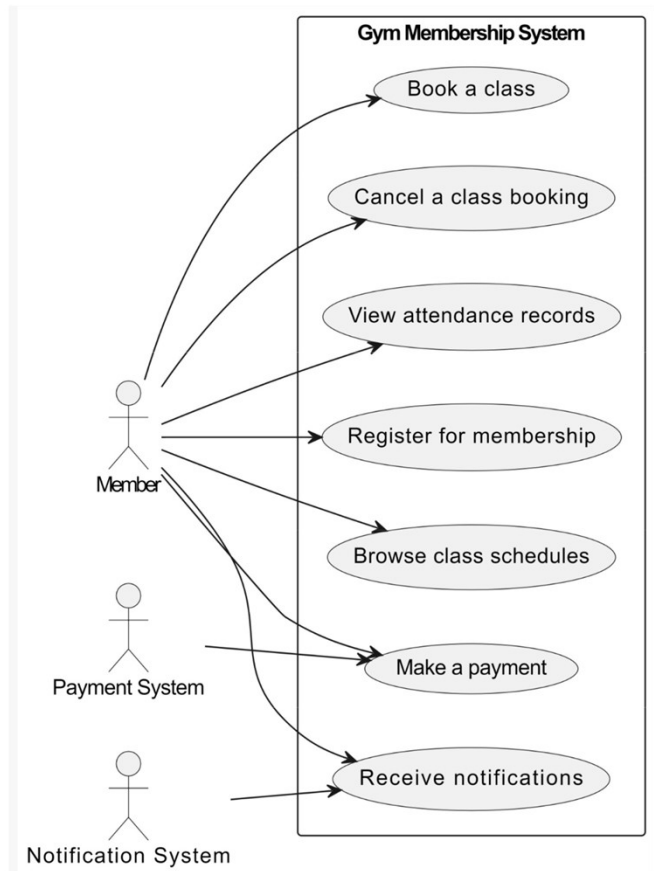
Use Case Diagram
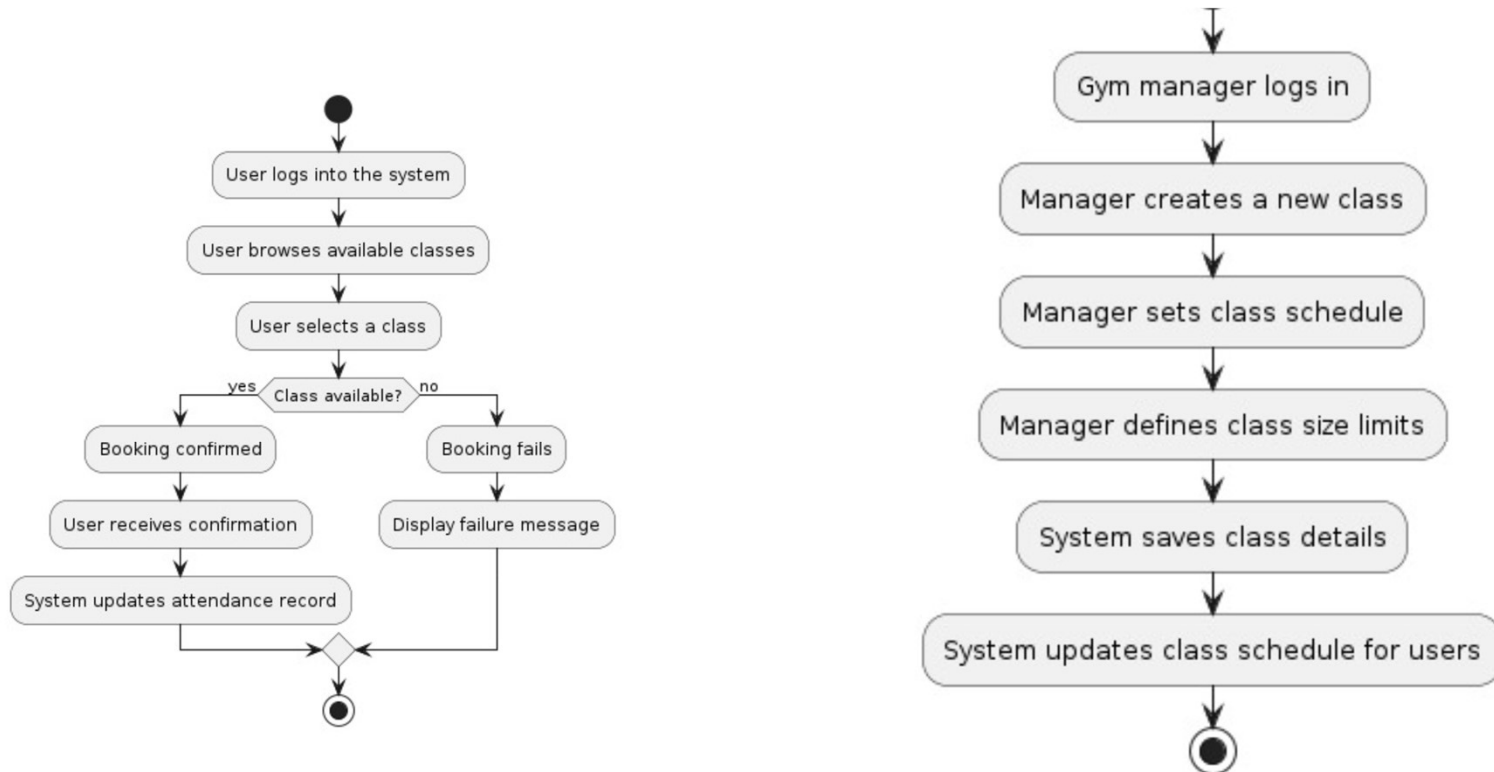
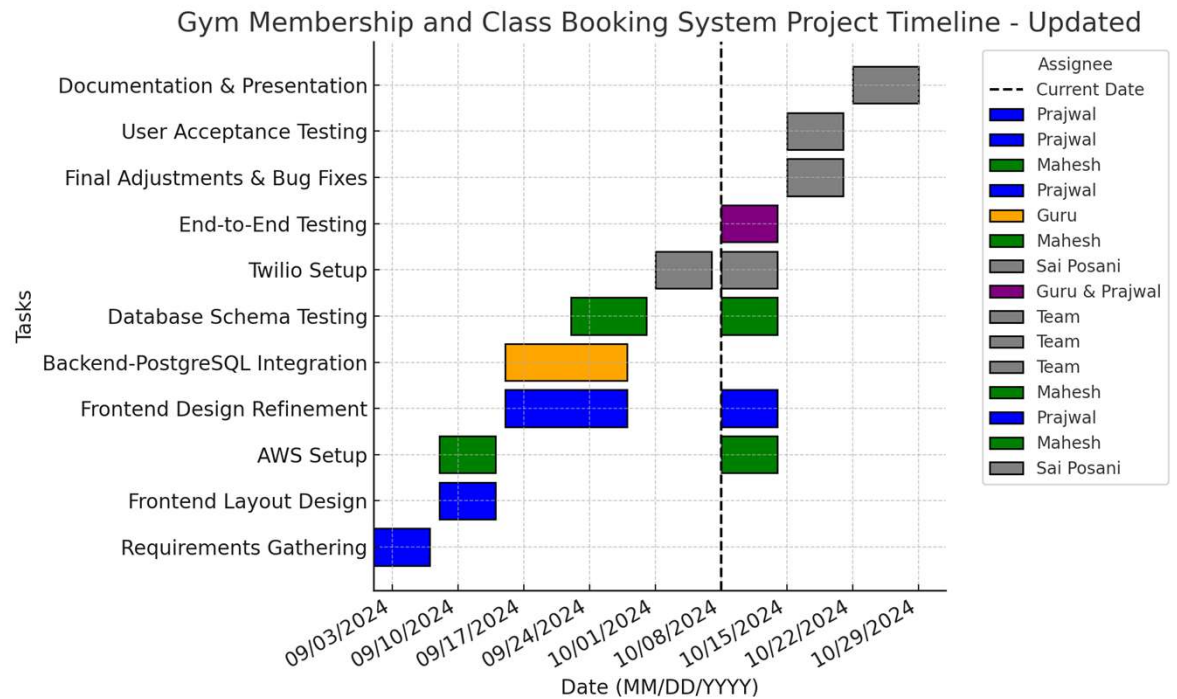# Activity Diagram

Project Timeline (Gantt Chart)

Gym Membership and Class Booking System Project Timeline - Updated

Current Status

\- User login and registration.

\- Class calendar interface.

\- Database setup with user and class tables.

Database ER diagram

ER Diagram:

Classes (E)
- ● class_id : SERIAL [PK]
- class_name : VARCHAR(100)
- instructor : VARCHAR(100)
- start_time : TIMESTAMP
- end_time : TIMESTAMP
- max_capacity : INT
- created_at : TIMESTAMP [Default = CURRENT_TIMESTAMP]

Bookings (E)
- ● booking_id : SERIAL [PK]
- user_id : INT [FK -> Users.user_id]
- class_id : INT [FK -> Classes.class_id]
- booking_date : TIMESTAMP [Default = CURRENT_TIMESTAMP]
- attendance_status : VARCHAR(50) [Check('attended', 'missed', 'canceled'), Default = 'booked']

is booked for

books

Payments (E)
- ● payment_id : SERIAL [PK]
- user_id : INT [FK -> Users.user_id]
- amount : DECIMAL(10, 2)
- payment_method : VARCHAR(50) [Check('PayPal', 'Credit Card', 'Debit Card')]
- payment_status : VARCHAR(50) [Check('completed', 'failed', 'pending')]
- payment_date : TIMESTAMP [Default = CURRENT_TIMESTAMP]

makes

Users (E)
- ● user_id : SERIAL [PK]
- first_name : VARCHAR(100)
- last_name : VARCHAR(100)
- email : VARCHAR(150) [Unique, Not Null]
- phone : VARCHAR(15)
- password : VARCHAR(255) [Not Null]
- role : VARCHAR(50) [Check('member', 'admin'), Not Null]
- membership_id : INT [FK -> Memberships.membership_id]
- created_at : TIMESTAMP [Default = CURRENT_TIMESTAMP]

receives

Notifications (E)
- ● notification_id : SERIAL [PK]
- user_id : INT [FK -> Users.user_id]
- message : TEXT
- notification_type : VARCHAR(50) [Check('class_reminder', 'membership_update')]
- sent_at : TIMESTAMP [Default = CURRENT_TIMESTAMP]

holds

Memberships (E)
- ● membership_id : SERIAL [PK]
- membership_type : VARCHAR(100)
- start_date : DATE
- end_date : DATE
- price : DECIMAL(10, 2)
- status : VARCHAR(50) [Check('active', 'expired', 'pending')]
- created_at : TIMESTAMP [Default = CURRENT_TIMESTAMP]

performs

Admin_Actions (E)
- ● action_id : SERIAL [PK]
- admin_id : INT [FK -> Users.user_id]
- action_type : VARCHAR(100)
- description : TEXT
- performed_at : TIMESTAMP [Default = CURRENT_TIMESTAMP]

Remaining Tasks & Responsibilities

- Frontend refinement: 1 week (Prajwal)

- AWS setup finalization: 1 week (Mahesh)

- Backend and database optimization: 1.5 weeks (Guru)

-Notification Setup and testing: 2 weeks (Sai Posani)

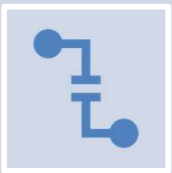-Each team member is responsible for their respective areas.

Challenges & Solutions

- PostgreSQL configuration on AWS Solution: Used AWS guides and forums.

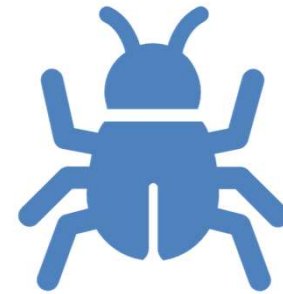- Responsive UI design Solution: Implemented media queries.

- Roadblocks: API timeouts and latency.

Conclusion & Next Steps

Summary: The project is progressing well, with key features implemented.

Next Steps:

- Final testing and bug fixes.

- Collect user feedback for improvements.

- Prepare for project submission.

Home Page
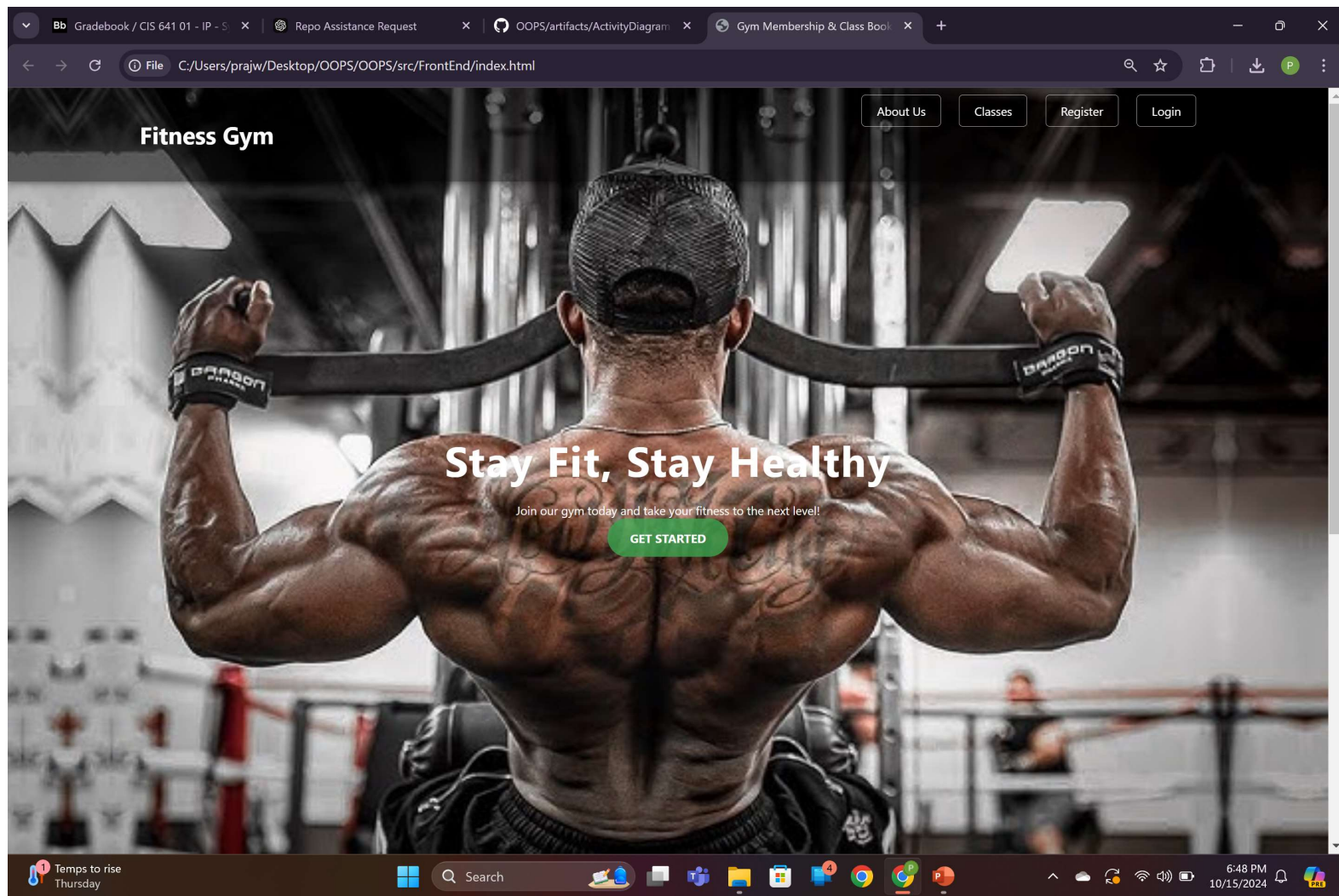
Login Page
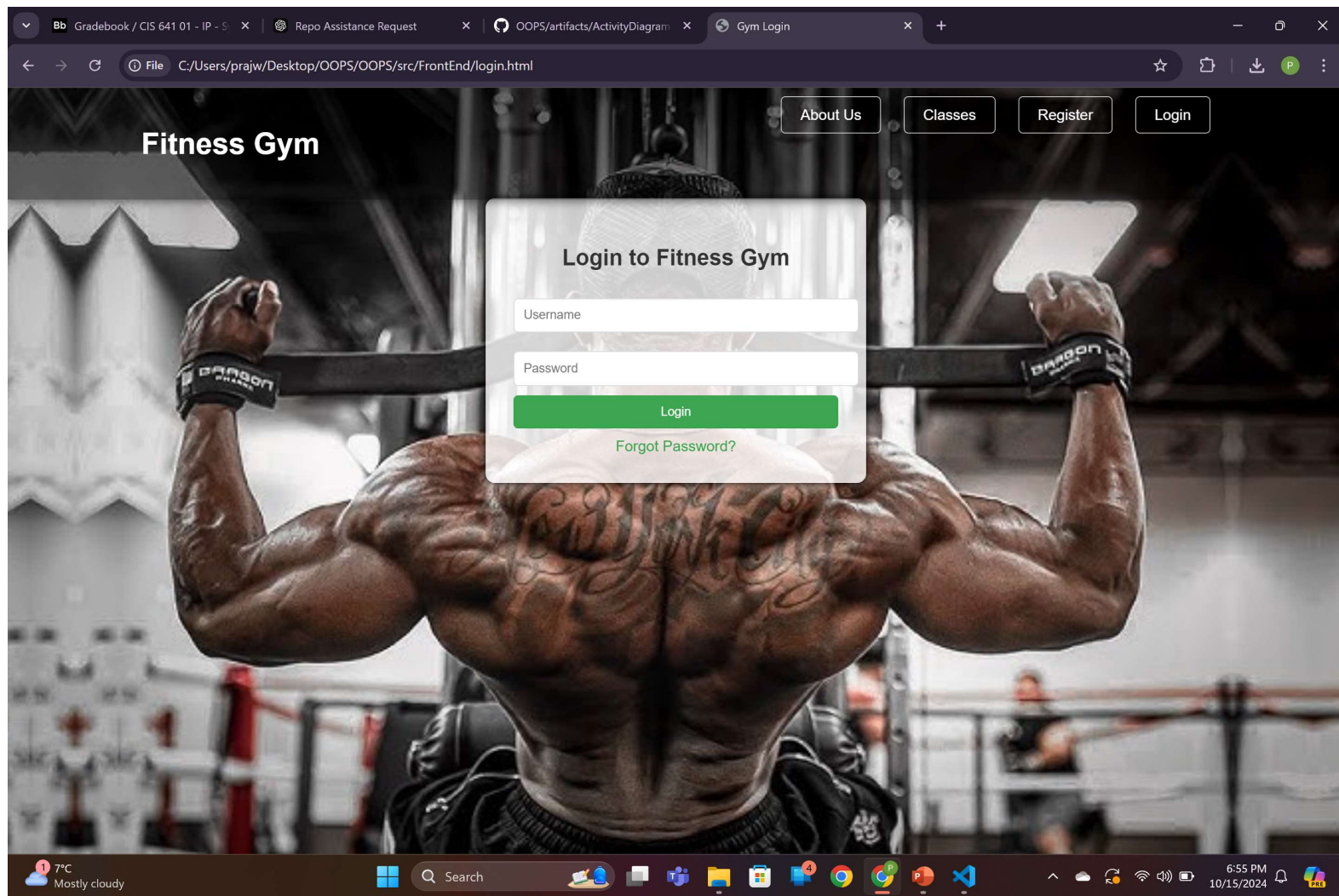
Register NewUser

Class calendar interface.
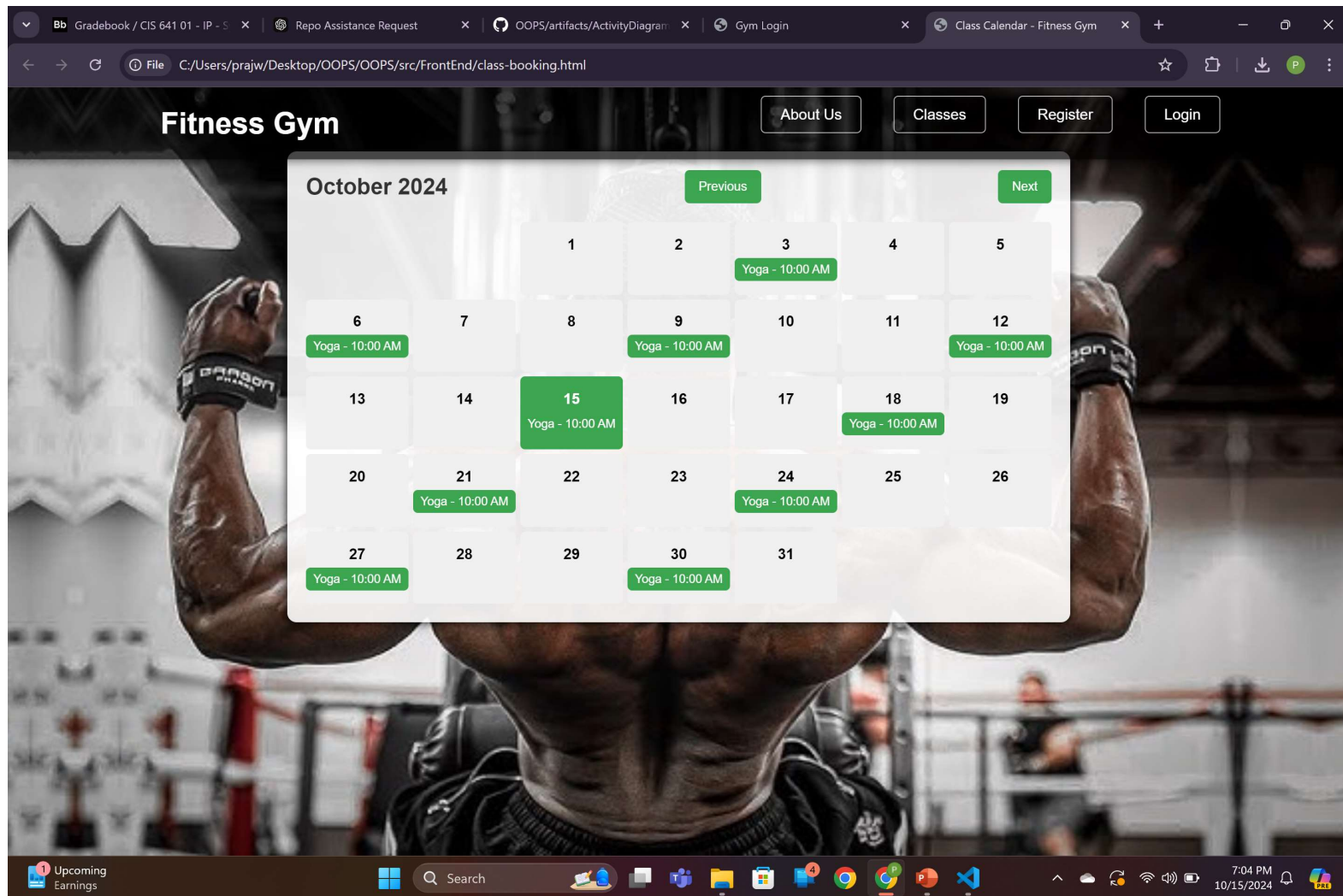
Questions & Feedback

- Feel free to ask any questions or provide feedback.