Project Report

Project Tittle: Learning Management System
Course Title: Software Development Project- II and Industrial Tour
Course Code: CSE 3116

Submitted By	Supervised By
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Date of Submission: Signature of Supervisor

Learning Management System

1.Introduction

i. Technical Information and Background

The Learning Management System (LMS) is a web-based platform designed to facilitate educational interactions between administrators, teachers, and students. Developed using modern web technologies.

- Backend: Spring Boot (with Spring Security for authentication and authorization).
- Frontend: HTML, CSS, JavaScript, Bootstrap
- Database: MySQL

ii. Objective of the Project

The objective is to build a platform that facilitates effective interaction between students, teachers, and administrators by streamlining classroom management, course materials, announcements, and routine handling.

iii. Scope of the Project

This project contains three modules-

- Admin: User Management.
- Teacher: Classroom creation, Routine management, Content upload (topic lists, course materials), Announcement posting.
- Student: Join Course, Viewing Course materials and topics.

iv. Benefit or Significance of the Project

- Centralized educational management platform.
- Easy access to learning resources and course organization.
- Simplified administrative tasks.

2. Requirement Analysis

i. Feasibility Studies:

- Technical Feasibility: Uses modern technologies like Spring Boot and Bootstrap, ensuring maintainability and scalability. MySQL offers reliable data management.
- Operational Feasibility: User-friendly interfaces for different roles.

ii. System Requirements

- Software: JDK 11+, Spring Boot, MySQL, and web browsers.
- Hardware: PC, Laptop, or any device running Java.
- Database: MySQL for storing user data and health records.

iii. User Requirements

a. Functional Requirements

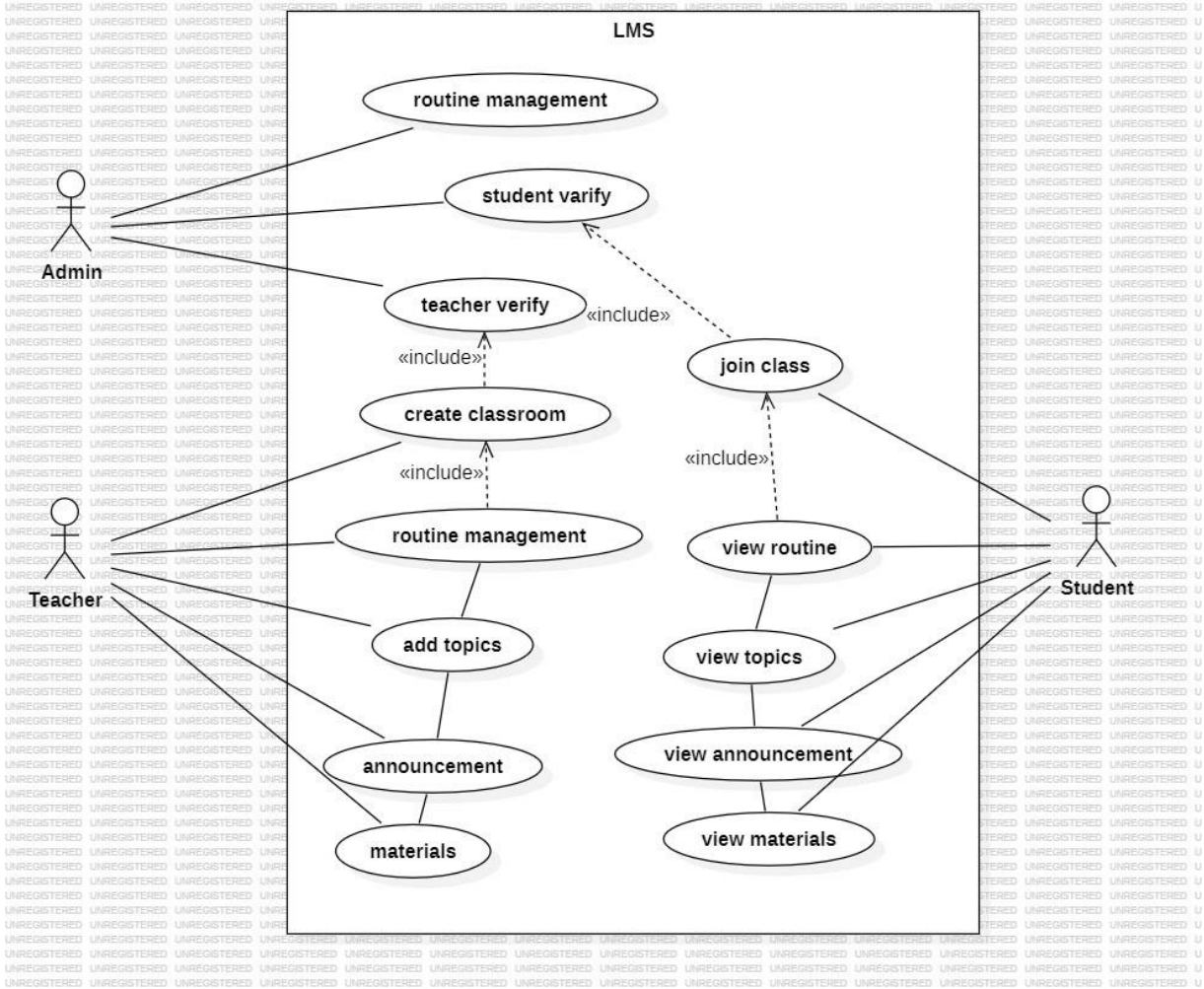
- Teachers: Manage classrooms, routines, and materials.
- Students: Join courses, access resources.
- Admins: Manage users and content.

b. Non-functional Requirements

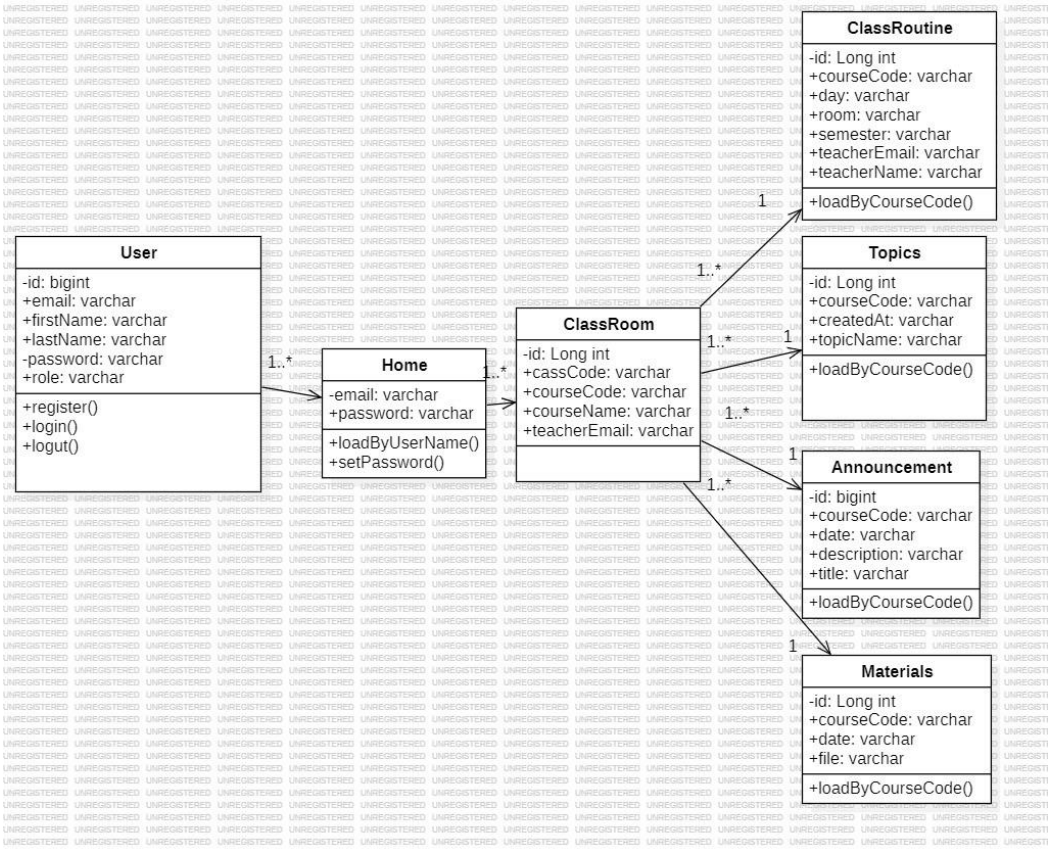
- Accessibility: Accessible via PCs and mobile devices.
- Usability: User-friendly interface.
- Scalability: Support multiple concurrent users.

3. System Model

i. Use case Model

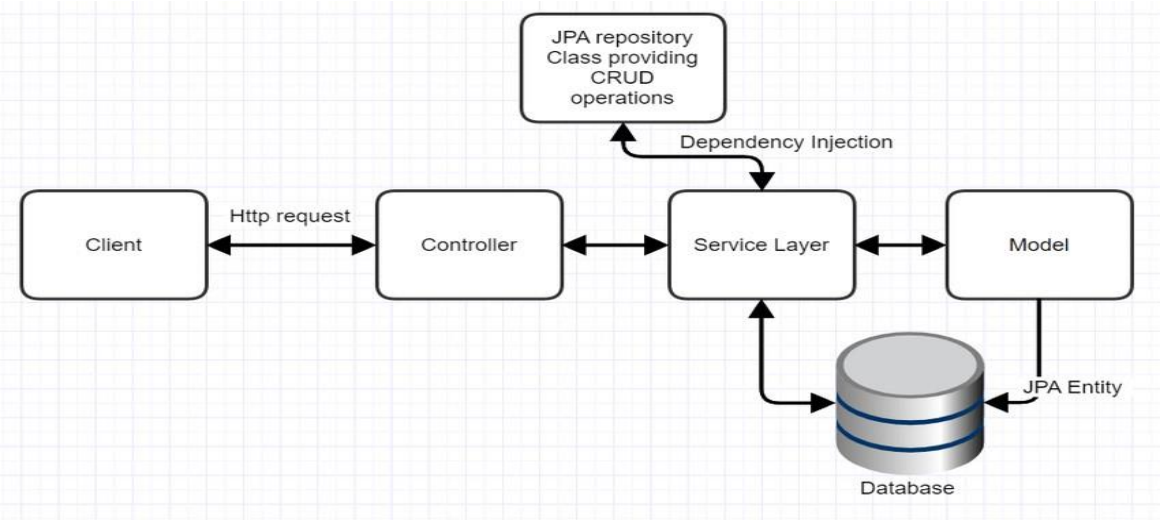


ii. Class Diagram:

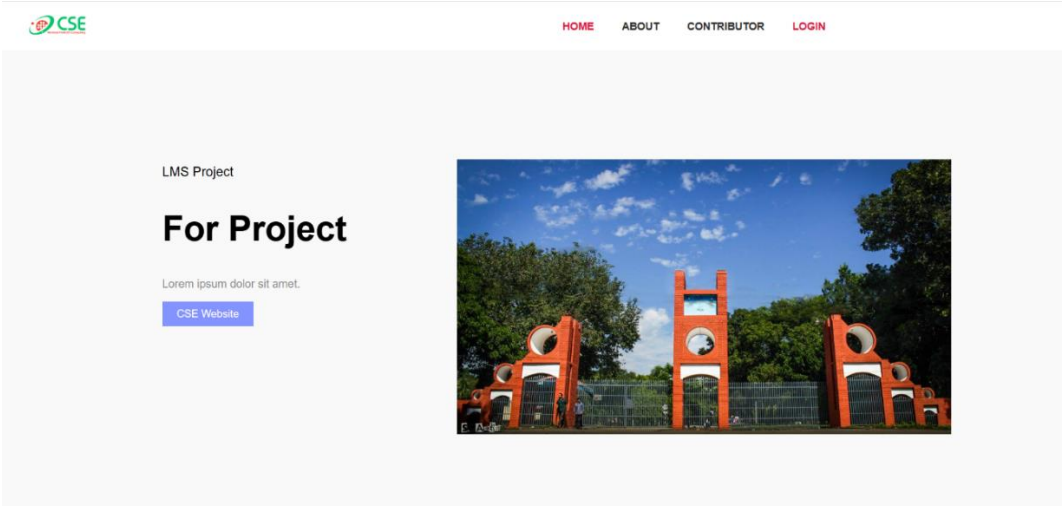


4. Design, Implementation, and Testing

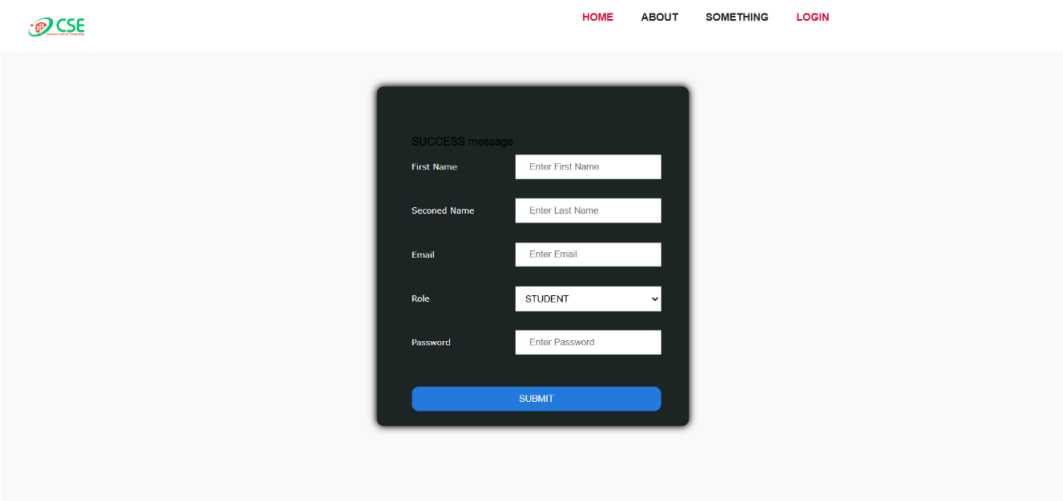
i. System Design/Architecture of the Project



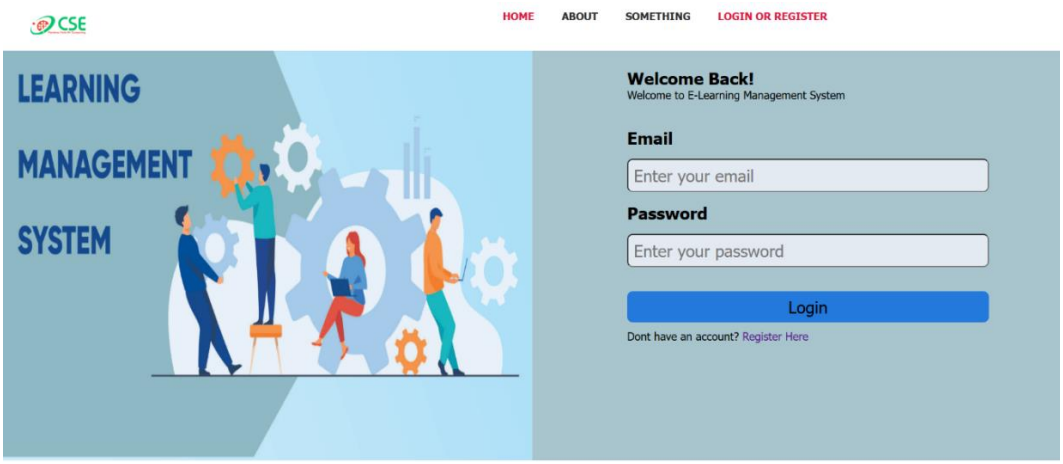
Home Page



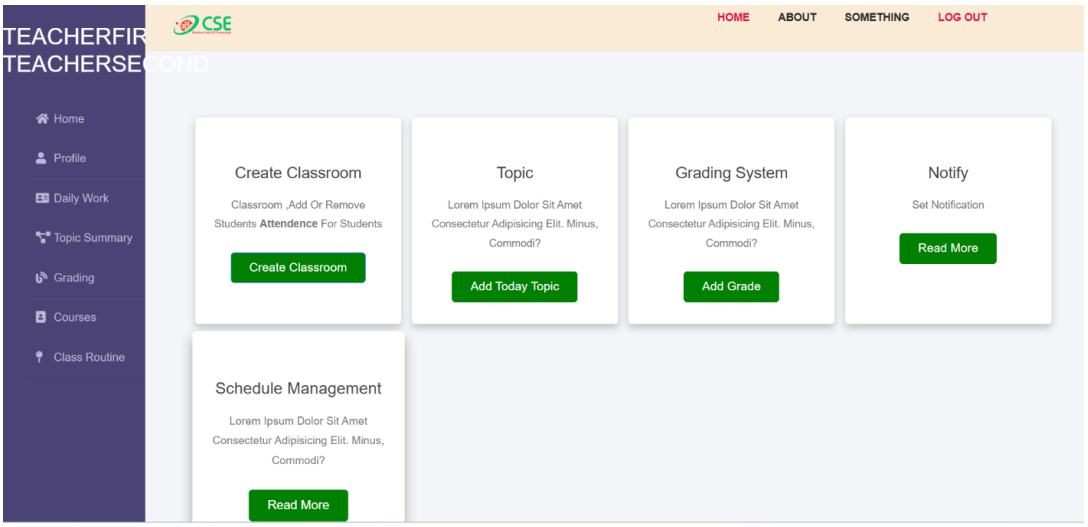
Registration Page



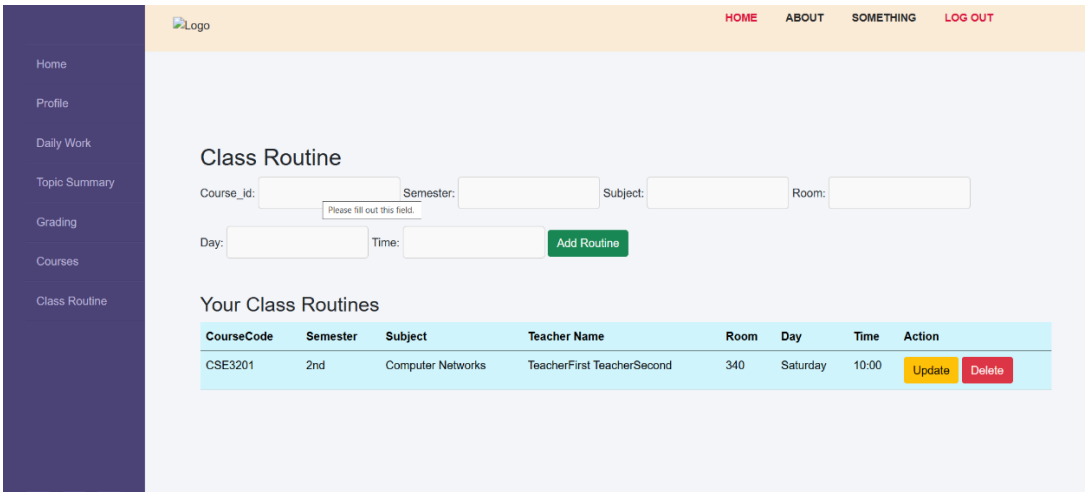
Login Page



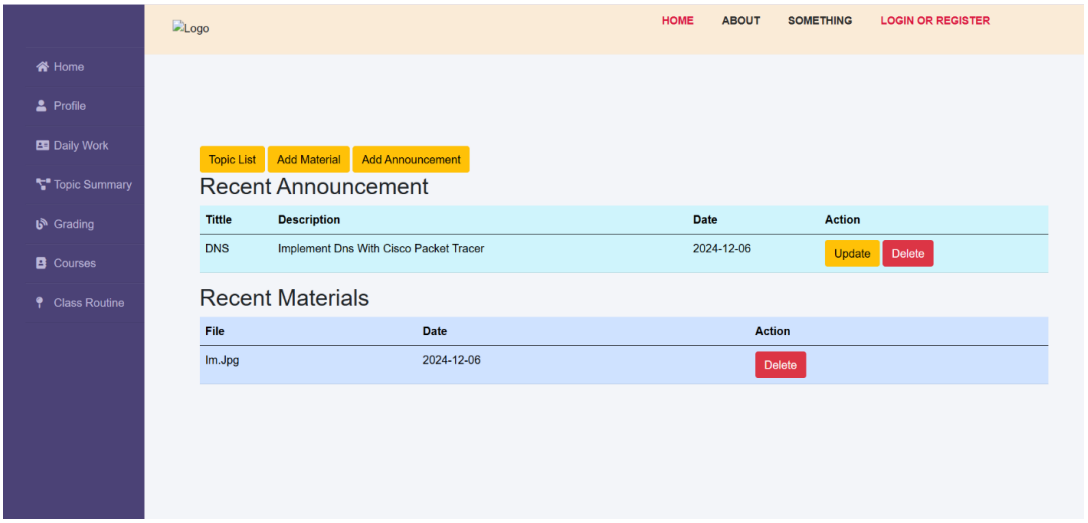
Teacher: Home Page



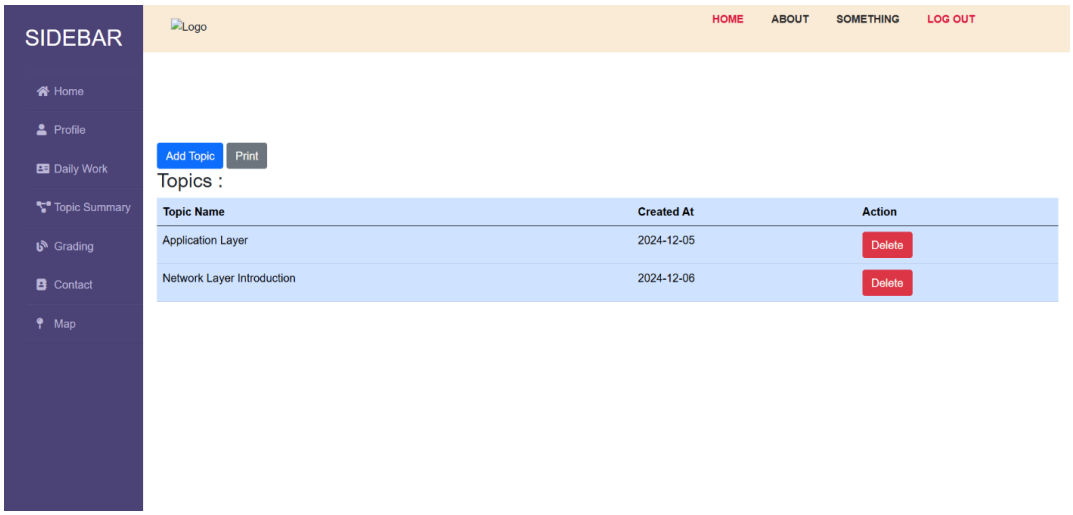
Teacher: Class Routine Page



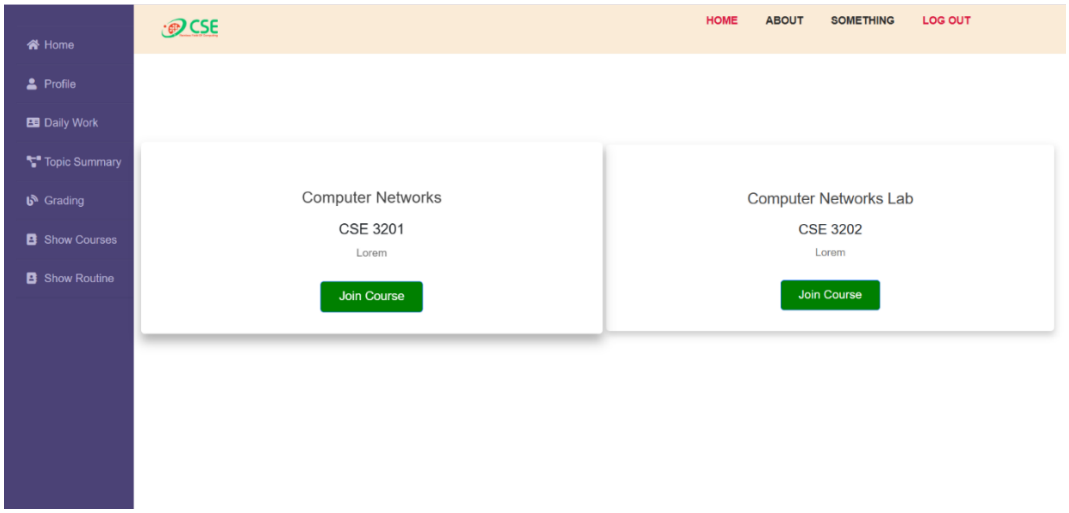
Teacher: Course Page



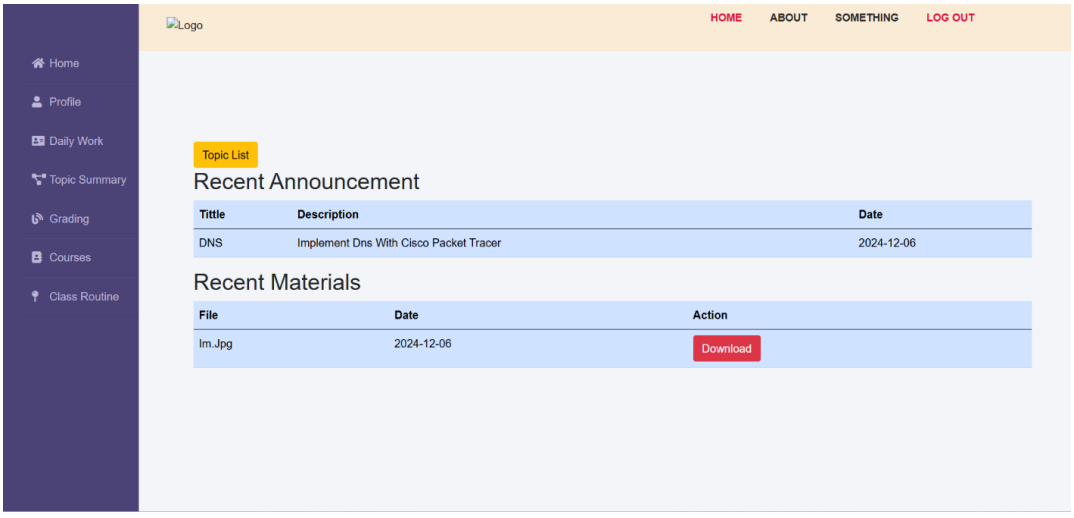
Teacher: Add Topic Page



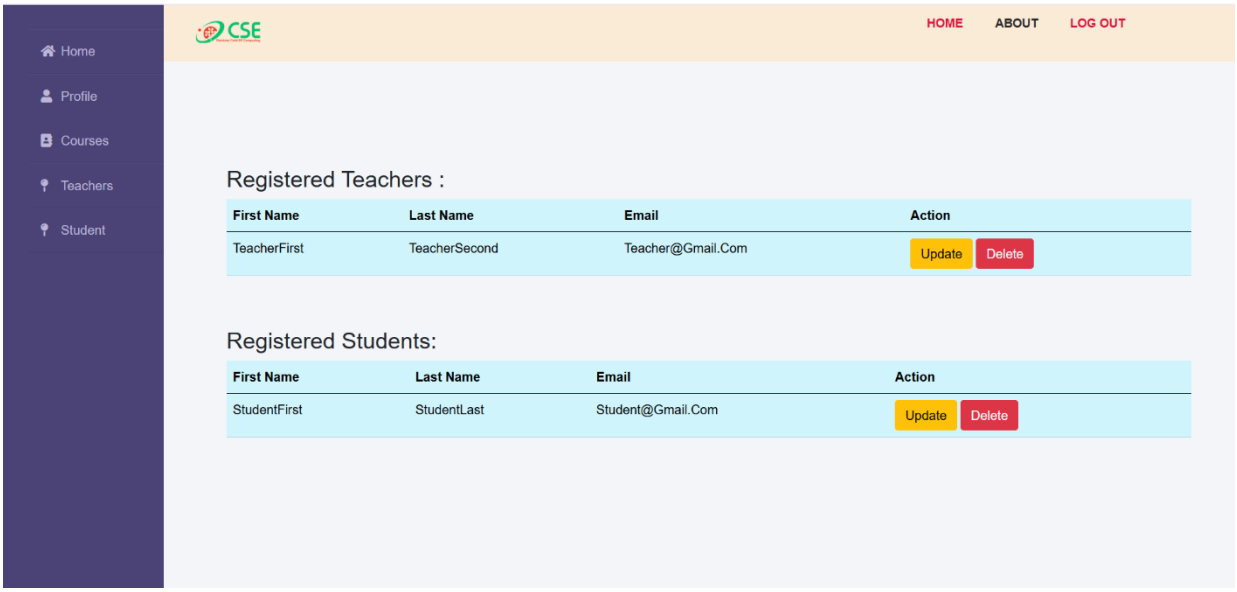
Student: Home Page



Student: Enter Course Page



Admin: Home Page



ii. Implementation of the Project

The system follows an iterative development approach with emphasis on modularity and reusability.

- Backend: Spring Boot with RESTful endpoints.
- Database: MySQL.
- Frontend: Responsive design with Bootstrap.
- Authentication: Role-based access control.

iii. Testing

- Unit Testing: Verifying individual modules (e.g., course creation, user authentication).
- Integration Testing: Module interaction.
- System Testing: Validating overall functionality and performance.

5. Conclusion

The Learning Management System project successfully demonstrates a comprehensive, scalable educational platform integrating modern web technologies.

Appendix

GitHub Link: https://github.com/sarowar02/Learning-Management-System.git