James Andrei Jalova BSCpE 3-A

Course Management System Documentation

# System Requirements

* + **Hardware & Software**
  + Minimum Hardware: 4-core CPU, 8GB RAM, 20GB storage
  + Supported Operating Systems: Windows, Linux, or MacOS
  + Database Options: PostgreSQL or MySQL
  + Backend Frameworks: Node.js, Python (Django), or similar
  + Frontend Frameworks: React, Angular, or Vue.js
  + Version Control: Git

# Architecture Overview

* + **Frontend:** Web-based user interface for students, faculty, and administrators.
  + **Backend:** APIs to handle authentication, course management, and student data.
  + **Database:** Stores information such as user profiles, courses, enrollments, and grades.

# Key Features

* + **User Authentication:** Secure login and access control.
  + **Course & Student Management:** Manage course details and student records.
  + **Faculty Assignments:** Assign faculty to courses.
  + **Grade Recording & Reports:** Record grades and generate reports**.**

# API Overview

* + **POST /auth/login:** Handles user login.
  + **GET /courses:** Retrieves a list of available courses.
  + **POST /courses:** Adds a new course.
  + **GET /students:** Retrieves a list of students.
  + **POST /grades:** Records student grades.

# Development Guidelines

* + **Version Control:** Use feature branches for development; maintain a stable main branch.
  + **Security:** Implement JWT authentication and role-based access control.
  + **Development Process:** Follow Agile methodologies, conduct code reviews, and implement CI/CD pipelines.

***Project Timeline***

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| **Phase** | **Task** | **Duration** |
| Planning | Project structure, Git setup | 1 week |
| Development | Backend C API implementation | 3 weeks |
| Development | Frontend UI design C integration | 3 weeks |
| Testing | Unit C integration testing | 2 weeks |
| Deployment | Deployment C documentation | 1 week |

***Team roles and responsibilities document***

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| Role | Responsibilities |
| Project Manager | Oversee project progress, timeline, and  communication |
| Backend Developer | Develop and maintain API and database |
| Frontend Developer | Design and implement user interface |
| QA Tester | Conduct testing and ensure system reliability |
| DevOps Engineer | Manage deployment, CI/CD, and infrastructure |