CS497: Software Engineering Project
Institution: Central Tech University
Term: Winter 2021
Instructor: Dr. Michael Johnson
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Office Hours: Monday 1:00-3:00 PM, Thursday 10:00-12:00 PM (by appointment)
Class Time: Tuesday & Friday, 11:00 AM - 12:30 PM
Location: Computer Science Building, Room 104

Course Overview
CS497: Software Engineering Project is a capstone course that provides students with hands-on experience in developing a complex software system from concept to deployment. Working in teams, students will engage in all phases of software engineering, including requirements gathering, design, development, testing, and deployment. The course simulates a real-world software development environment, with students working on a project for a real or simulated client.

Course Objectives
By the end of this course, students will be able to:

1. Apply software engineering principles and methodologies in the development of a complex software system.
2. Work effectively in teams to manage the development lifecycle, including task delegation and integration.
3. Develop and document software requirements, design specifications, and testing protocols.
4. Implement a software system using appropriate tools and technologies.
5. Test, debug, and deploy software, ensuring quality and reliability.
6. Communicate project progress, challenges, and outcomes to stakeholders through reports and presentations.

Course Schedule and Milestones

Date	Milestone	Deliverable	Weight
Jan 15, 2021	Project Kickoff	Team Formation, Initial Project Plan	-
Feb 5, 2021	Requirements Specification	Software Requirements Specification Document	15%
Feb 26, 2021	System Design	System Architecture and Design Document	20%
Mar 19, 2021	Prototype Development	Functional Prototype and Presentation	20%
Apr 9, 2021	Final Testing and Quality Assurance	Test Plan and Testing Report	15%

Date	Milestone	Deliverable	Weight
Apr 23, 2021	Final Project Submission & Presentation	Final Software, Documentation, and Presentation	30%

Detailed Deliverable Descriptions

1. **Software Requirements Specification (15%)**
   Due: February 5, 2021
   Each team will submit a detailed Software Requirements Specification (SRS) document, outlining the functional and non-functional requirements of the software system. This document will serve as the foundation for the design and development phases.
2. **System Architecture and Design Document (20%)**
   Due: February 26, 2021
   Teams will create a comprehensive design document, detailing the system architecture, component diagrams, data models, and interface specifications. This document should provide a clear blueprint for the implementation phase.
3. **Functional Prototype and Presentation (20%)**
   Due: March 19, 2021
   Teams will develop a functional prototype of the software system and present it to the class. The presentation should include a demonstration of the prototype's key features, a discussion of the design decisions, and a plan for the final development phase.
4. **Test Plan and Testing Report (15%)**
   Due: April 9, 2021
   A comprehensive test plan must be developed, detailing the testing strategies, tools, and test cases used to ensure the software meets the specified requirements. The testing report should include test results, identified issues, and the steps taken to address them.
5. **Final Software, Documentation, and Presentation (30%)**
   Due: April 23, 2021
   The final deliverable includes the complete software system, along with detailed user and technical documentation. Teams will present their project to a panel of faculty and industry professionals, showcasing the software's features, the development process, and the lessons learned.

Grading Policy

Grade	Percentage
A+	90-100%
A	85-89%
A-	80-84%
B+	75-79%
B	70-74%

Grade	Percentage
B-	65-69%
C+	60-64%
C	55-59%
C-	50-54%
D	45-49%
F	0-44%

Course Policies

- **Attendance:** Attendance is mandatory for all team meetings and presentations. Unexcused absences may impact your participation grade and team performance.
- **Late Submissions:** Deliverables submitted after the due date will incur a penalty of 5% per day, up to a maximum of 3 days. Submissions later than 3 days will not be accepted.
- **Team Collaboration:** Teamwork is essential for this course. All members are expected to contribute equally. Any issues with team dynamics should be reported to the instructor promptly.
- **Academic Integrity:** Students must adhere to the university's academic integrity policy. Plagiarism, cheating, or any form of academic dishonesty will result in severe penalties, including potential failure of the course.

Key Resources

- **Textbook:** "Software Engineering: A Practitioner's Approach" by Roger S. Pressman and Bruce R. Maxim (8th Edition).
- **Tools:** GitHub for version control, Jira for project management, and any IDE suitable for the project.
- **Additional Resources:** Access to Central Tech University's software development labs and cloud resources will be provided.

This syllabus provides a comprehensive guide to the **CS497: Software Engineering Project** course, detailing the key milestones, deliverables, and expectations for students.