CourseCraft

Software Test Plan

CSCI-P465/565 (Software Engineering I)

Project Team

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1. Overview

This section provides an overview of the testing approach used to verify the software product.

1.1 Test Objectives

The objective of the test is to ensure that CourseCraft, the Learning Management System, functions according to its specifications and requirements, providing a seamless experience for students, instructors, and administrators.

1.2 Test Environment

The test environment will consist of the following:

Hardware: MacBook Air M2 2022, with 8GB RAM
Minimum system requirements for the software (as specified in the project plan): Hardware I5 or I7 Intel, Ryzen 5 or 7 AMD or greater, 16 GB RAM or greater, 100 GB Storage Capacity
Operating System: MacOS Sonoma 14.2
Local network connectivity will be required for multi-user features (chat, collaboration)
Support Software Packages: Node.js, Firebase, Firebase Firestore, AWS services, Microsoft Teams
Differences from Operational Environment: The test environment may differ from the operational environment in terms of data volume and user load.

1.3 Test Personnel

The people involved in the testing effort will be: Nihal Shetty – Work with backend and testing backend or database issues. Rohith Pavuluru-Work with frontend and test frontend issues.

1.4 Acceptance Criteria

The software will be considered acceptable for delivery under the following conditions:

Critical bugs: No critical bugs affecting core functionalities remain unresolved.
Requirements: A minimum of 90% of specified requirements are verified and functioning correctly.

Performance: The system must perform adequately under expected user loads.

1.5 Noted Omissions

The following software specification statements are not intended to be verified in this test:

Compatibility with outdated browsers or operating systems.
Support for specific hardware configurations not outlined in the project plan.
Compatibility with mobile devices

2. Test Cases

Test Case 1: User Registration

Number: 1
Description: Verify the registration process for users. Ensure that users can successfully create an account with valid information.
Initial Conditions: None.
Input Data: User details (name, email, password).
Specifications:
S1: The system shall allow users to register with a unique email address.
S2: Upon registration, the system shall send a confirmation email to the user for account verification.
S3: Users' passwords must be encrypted and stored securely in the database.
Procedure: Manual & Code Check

Test Case 2: User Login

Number: 2
Description: Verify the login process for users. Ensure that registered users can log in successfully using their credentials.
Initial Conditions: Registered user account.
Input Data: User credentials.
Specifications:
S4: The system shall authenticate users based on their registered email and password.
S5: After successful authentication, users should be redirected to their respective dashboards.
S6: Incorrect login credentials should prompt an error message indicating login failure.
Procedure: Manual & Code Check

Test Case 3: Course Search

Number: 3
Description: Verify the functionality to search for courses. Ensure that logged-in users can search for courses and find relevant results.
Initial Conditions: Logged-in user.
Input Data: Search query.
Specifications:
S7: The course search feature should return relevant results based on the user's search query.
S8: Search results should display course titles, descriptions, and instructors' names.
S9: Users should be able to filter search results by course category or instructor.
S10: Clicking on a search result should redirect the user to the respective course page.
Procedure: Manual

Test Case 4: Assignment Submission

Number: 4
Description: Verify the submission of assignments by students. Ensure that enrolled students can submit assignments successfully.

Initial Conditions: Enrolled in a course.
Input Data: Assignment file.
Specifications:
S11: The system shall allow enrolled students to submit assignments.
S12: Upon submission, the system shall acknowledge successful assignment submission to the student.
S13: The system shall store submitted assignments securely and associate them with the respective course and student.
S14: Instructors shall have access to a grading interface to assess and provide feedback on submitted assignments.
Procedure: Manual

Test Case 5: Grading

Number: 5
Description: Verify the grading process for instructors. Ensure that instructors can grade submitted assignments accurately and efficiently.
Initial Conditions: Submitted assignments.
Input Data: Grading interface.
Specifications:
S15: Grading interface should display submitted assignments along with necessary tools for evaluation.
S16: Instructors shall be able to assign grades and provide comments/feedback on assignments.
S17: After grading, the system shall notify students of their assignment grades and feedback.
S18: The system shall maintain a record of graded assignments for both students and instructors.
Procedure: Manual

Revision History

Revision	Date	Change Description
Sprint 1- Nihal Shetty	02/18	Created the document and added test cases

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