CS 462: Senior Software Engineering Project
Sprint Report 3

Prototype a web-based tool for creating and executing task-delineated, collaborative, AI-assisted assignments

Group 28

Team Roles

Name	ONID	Role
Oliver Zhou	zhouo	Project Manager
Trent Matsumura	matsumut	Developer - Backend
Ethan Lu	luet	Developer - AI Integration
Collin Kimball	kimbacol	Developer - Web UI
Sai Meenakshisundaram	meenkass	Documentation

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1. Sprint Overview

Planned for the Sprint

For this sprint, we aimed to extend the capabilities of our web-based tool by implementing course management features, refining AI chatbot interactions, and further improving database efficiency. Specifically, Ethan was tasked with enhancing chatbot contextual awareness, Trent planned to optimize database interactions for course and assignment data, and Collin intended to refine the user interface and improve user role management.

Accomplished During the Sprint

During this sprint, Ethan successfully improved chatbot contextual awareness, allowing it to process general instructions dynamically and take different inputs based on different queries. Trent optimized storage and retrieval mechanisms for chatbot interactions and established efficient data linking between courses, students, and assignments. Collin implemented role-based access control (instructors vs. students), refined UI elements for managing courses and assignments, and enhanced chatbot response formatting for better readability.

Issues Faced and How They Were Addressed

One challenge faced was ensuring accurate data association between chatbot queries and specific courses or assignments. Trent addressed this by implementing a structured database schema for contextual linking. Ethan encountered API response optimization issues due to redundant calls affecting chatbot performance, which was mitigated by implementing caching mechanisms. Collin faced UI inconsistencies in handling multiple roles, which were resolved through state management refinements.

Planned for the Next Sprint

For the next sprint, we plan to further enhance system functionality and user interaction by optimizing chatbot response relevance, implementing better contextual memory for chatbot interactions, and adding support for instructors to grade assignments. We will also conduct usability tests, refine UI/UX based on user feedback, and strengthen system documentation.

Individual Contributions

Ethan:

- Improved chatbot contextual awareness and optimized API interactions.
- Implemented better response handling for assignment-related queries.

Trent:

- Optimized database interactions for course and assignment data.
- Improved chatbot query association with courses.

Collin:

- Refined user roles and UI elements for managing courses and assignments.
- Enhanced chatbot interface for better interaction.

Sai:

- Documented sprint progress and maintained structured planning.
- Assisted in refining course and assignment-related documentation.

Oliver:

- Managed project coordination and task assignments.
- Reviewed team progress and provided feedback.
- Communicated with the project mentor to ensure alignment with objectives.

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