

CS 463: Senior Software Engineering Project

Sprint Report 2

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

Group 28

Project Deadline: End of Spring 2025

Project Mentor: Sanjai Tripathi

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	meenakass	Documentation

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1. Sprint Overview

Planned for the Sprint

During Sprint 2, our goals included testing the prototype in a live classroom environment, improving the chatbot's ability to understand assignment context, and gathering usage data for future analytics and reporting features. We also planned to refine our system features based on feedback and begin preparing for an upcoming presentation to a group of faculty members interested in AI-assisted tools.

Accomplished During the Sprint

One of our biggest accomplishments this sprint was running a live in-class exercise using the tool. Students were highly engaged and quiet while using it—so much so that the instructor noted it was “almost creepy” how focused they were. This demonstrated the tool's effectiveness and usability in an educational setting. From this session, we collected a log of student usage, which we plan to use to generate a sample report of the kind we discussed in our previous mentor meeting.

In response to earlier challenges with context handling, Ethan continued improving how the chatbot links to and understands assignment-specific context. Trent refined filtering mechanisms for chat logs to make it easier to access and analyze relevant interactions. Together, these improvements are laying the groundwork for more powerful reporting and AI behavior. Collin contributed by enhancing frontend features and participating in the refinement of assignment management, ensuring the interface supports instructors' workflows more efficiently.

We also added a new proposed item to the product backlog—allowing instructors to add files or links that provide additional context to assignments. This would help the chatbot deliver more accurate responses. While we are still assessing how complex it would be to implement, it was considered valuable after the classroom testing. Minor setup issues related to context provisioning were also identified during testing; these are currently being compiled for resolution in the next sprint.

Issues Faced and How They Were Addressed

The main issue was ensuring the chatbot had sufficient context to generate useful and accurate responses about assignments. Ethan is actively working on improving the chatbot's ability to retain and use contextual information through smarter URL linking and context parsing. Trent tackled technical hurdles in developing effective filtering for chat logs, which he addressed through iterative testing and refinement. Collin helped address complications in user interface behavior and feature integration by implementing clearer manual controls and better assignment management.

Planned for the Next Sprint

In Sprint 3, we aim to polish the chatbot's context-handling even further, continue developing the grading and feedback systems for instructors, and conduct broader usability testing. We also plan to implement assignment submission tracking, optimize performance for handling larger sets of data, and improve documentation to better support users navigating the system. Additionally, we will present the system to AI-enthusiast faculty next Tuesday to collect external feedback that will guide development.

2. Individual Contributions

Ethan:

- Implemented URL linking assignments with chatbot interactions.
- Improved chatbot context retention for assignment-related queries.

Impact: Strengthened interactions with the AI tool leading to easier usage of the project website.

Trent:

- Created filters for chat logs to improve searchability.
- Enhanced database interactions for more efficient query processing.

Impact: Strengthened the project through efficient code and contributed to refining features.

Collin:

Administrative Role:

- Project mentor discussion about features
- Continued development of frontend features
- Improved assignment management functionalities.

Impact: Further developing features and project structure to fit the end of project requests and facilitate testing.

Sai:

- Organized backend files and maintained structured documentation.
- Updated course and assignment-related documentation.

Impact: Assisted development with organization, leading for faster and efficient and collaborative workflows.

Oliver:

Administrative Roles:

- Managed project coordination and assigned tasks.

- Reviewed team code/progress and provided feedback.
- Communicated with the project mentor to ensure alignment with objectives.

Impact: Further refining project objectives to the mentor's desires. Maintaining cohesion as a team.

Contribution Notes

Administrative roles can be linked to email exchanges and chat exchanges between the team and the project mentor. Bi-weekly scheduled meetings also contribute to the team organization throughout the sprint.

Developmental changes from team members can all be found on the repository for their contributions

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