

CIS 3750 Post-Mortem – Group TwoTor

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Use Case Overview

Group Twotor had a total of four participants who participated in the demo.

Jeremy, our first participant, is enrolled in the school's PHD program. Cole, our second participant, is a second-year student studying computer science. Dmitry and Ricardo, our third and fourth participants, similar to Jeremy, are also pursuing PhDs.

Our group members were also given respective roles before the demo.

Ramy Abdulwahed was the presenter for the first three participants, while Brady Walintschek opted to present to our last participant, Ricardo. As presenters, the two helped guide the participant through the prototype demo, explaining the intended interactions. Shomaaim Ahmed and Areeb Bilal were designated observers, silently overlooking the demo and looking for usability issues. Andre Rabanillo and Nicolae Lefter were designated note takers. Khaled Aldaqqa was the human computer - manually simulating how the system would respond for each presenter.

Use Cases:

Teaching

The goal of the first use case, teaching, was to enable instructors to upload, organize, and manage course materials effectively. With the help of Brady and Ramy, participants were guided through the uploading of lecture files, structuring modules, and instructor dashboards.

All four participants found the workflow intuitive; however, Jeremy and Ricardo both recommended adding folder-based organization and drag and drop functionality. In addition, they emphasized that the top menu/navbar must remain consistent throughout all pages, as some found inconsistencies between certain paper prototypes, specifically, the teaching page.

Testing

The goal of the second use case, testing, was to support instructors in creating and managing online tests. In the demo, participants created and reviewed test questions, adjusted timers and viewed grading outputs.

Cole described the UI as “very clear and straightforward.” On the other hand, Dmitry suggested showing all answer choices within the results tab, not just the user’s selected answer, to make the review more transparent. It was also suggested that time-limit controls should be specified more clearly when creating tests, and the menu toggle for navigation should be unified across all sections.

Grading

The goal of the third use case, grading, was to simplify grading and reporting for instructors using the platform. In the demo, a common theme among the four participants was the process of viewing and exporting grades.

Jeremy and Ricardo asked that the system have a table-generation tool that allows export to Excel format, and that grades be based on percentages rather than letters. Additionally, they emphasized the need for notification reports that automatically alert students when grades are released.

Overall, the central idea with all participants was their need for visual consistency with the rest of the system and data-driven, and grades to be exported in other file types such as CSV or PDF.

Login/User Creation

The goal of the fourth use case, login/user creation, was to ensure secure authentication and a user-friendly access management.

In the demo, all four participants partook in account creation, password recovery, and login. However, one question, from Jeremy, stuck out.

"What occurs if a dirty/vulgar username is generated while establishing an account?"

At the moment, we realized this was a feature which the group did not take into account. As a result, the group decided that the system needs to detect restricted words and provide insightful error messages in order to limit inappropriate usernames.

In addition, Jeremy suggested a variety of features to increase user experience, such as implementing a password-visibility toggle, better error explanation, and making sure the dashboard properly reroutes after login.

Reporting/Analytics

The goal of the fifth use case, reporting and analytics, was to provide instructors with visual insights into student performance. All four participants explored dashboards, report generation, and data export options.

Overall, they recommended adding more sophisticated filtering options so that instructors could sort findings by course, assignment, and time period; however, the consensus was that they liked the reporting tools' structure and functionality. Jeremy underlined that in order to maintain analytics' flexibility and customizability, the curriculum should only serve as a guideline and not be directly linked to grading rationale. Additionally, participants suggested adding student notification reports that automatically provide performance updates or feedback summaries. Reports should also have a single, landscape-oriented layout for formatting consistency and visual clarity, and the search bar should be precise and consistent throughout all parts.

Paper Prototyping Findings Summary Overview

We made a paper prototype for a tutoring website that has users who are students or teachers. Main features of the tutoring site include the ability to create or complete practice quizzes or graded quizzes, access a chatbot for help, and view data analytics on class performance and predicted student progress. The structure also included assigning and managing user accounts, viewing progress reports, and other standard features of a tutoring website, such as a navigation bar, login/account systems.

Participants and our teaching assistant (TA) gave us helpful feedback on usability, consistency, and clarity. Based on comments, we aimed to address certain recurring issues (things to stop doing), suggestions on changes to make (things to start doing), and things we liked (things to continue doing).

1. Things to Stop Doing

These refer to usability problems or design features that users found ambiguous, tedious, or confusing.

Unstable Navigation Bar

A consistent theme expressed by participants was the inconsistency between the pages. Each section of the prototype had slightly different layouts or menus, which confused the users. Participants emphasized that the navigation bar should be consistent across all pages to maintain a steady state for users.

Ambiguous Help functions

Having two different help functions, one for booking an appointment and one from the chatbot, caused and created confusion. Testers reported it was difficult to determine which button they should use for help, and we noted they'd prefer one coherent help button or section.

Unclear grading method

Requiring letter grades instead of percentages confused, particularly the analytics section. Users asked for percentages for clarity and comparative value. Even our TA indicated that letter grades should just be outright removed.

Not Redirected to Related Pages

Employees noted missing redirect buttons for related screens (e.g. quiz result → analytics → feedback). This was noted as making the prototype "not feel complete and task flow disrupted."

Not accounting for edge cases

The prototype did not consider the risk of the user creating an account with vile or inappropriate usernames. They flagged this as a risk for usability and safety.

2. Things to Start Doing

These are responses, or elements of improvement, that came from participants and the TA in order to improve usability, clarity, and inclusiveness.

Add Profile and Settings Page:

Multiple users expected to see a profile page that would allow the user to edit personal details, and manage privacy and notification settings. The TA specifically mentioned that the profile page was essential for teacher accounts and student accounts.

Clarify Help:

Users may benefit from defining a path for help in two distinct ways:

Appointment Help (redirecting to a booking system, on the homepage)

Assignment Help (redirecting to the chatbot for immediate guidance)

Clear labelling and distinct icons may help to avoid confusion.

Add Redirect Buttons Between Key Sections:

Participants suggested buttons or icons to redirect them between quizzes, analytics, and chat rather than having to go back to the homepage every time. This may provide a smoother navigation path.

Show All Choices in the Quiz Results:

During testing, users expressed a desire to see all options for each question in the results tab, not just the answer that was selected. Seeing all the options for the answer in the quiz results may have provided more actionable feedback and stimulated learning from errors in the quiz.

Plan for Hypotheticals:

TA reminded us to plan for "edge cases," like if users kept putting in extreme or unrealistic hypotheticals into the chat function, for the chatbot to be able to recognize system boundaries and/or a message indicating the system could go no further in their response.

Add Consistent Error Handling:

Suggestions included clear error messages for login issues, invalid usernames, or failed submissions, ensuring users know how to recover or correct mistakes.

3. Things to Continue Doing

These characteristics of design were positively rated and intuitively engaging for the participants. We recommend including them going forward.

Distinction Between Student and Teacher Experiences:

Participants valued that each role for the organization had a unique experience — teachers could assess their own analytics and view student progress, while students could access quizzes and the help features. Overall, the role-specific design supported ease of use and functionality.

Chatbot:

The chatbot was a positive aspect of the design and an innovative tool for allowing real-time assistance. Participants found it motivating, especially within the context of a quick assignment help tool, and recommended retaining it as a feature of the design.

Analytics Dashboard:

Testers generally liked the analytics feature for teachers, specifically sharing the visualization of student performance and predicting future performance. Because the expectations of such features align with modern options available for education, this positive trait seems appropriate.

Quiz Implementation (Practice, Graded):

Participants acknowledged distinguishing between practice quizzes (low-stakes assessment-based learning) and graded quizzes (formal assessments). Participants valued this distinction since it supported students' pacing and more engagement with the same material.

Visual Aesthetics

Although there were minor inconsistencies between headings and other visual forms, participants characterized the layout as clean and simple to navigate. They were favourable of the logical separation of those site sections (Home, Quizzes, Analytics, Help, Profile).

4. Trends and Outliers

Common Trends

Across participants, several consistent themes emerged:

Clarity and consistency are top priorities both in design language and navigation.

Feedback visibility matters; users want detailed quiz results and error messages.

Help functions need clearer differentiation.

Edge case handling and profile management were unanimously recommended additions.

Conclusion

In summary, the TA and Volunteers were very positive about the tutoring website prototype, especially regarding the clarity, analytics capabilities, and interactive help. Overall, usability testing identified serious improvement opportunities to ensure consistency, transparency, and flow in learning tasks. The implementation of improved “start doing” items to enhance the user experience, which are a consistent navbar, profile settings, and a clearer help button, will facilitate the alignment of user expectations with real-world educational experiences.