A4: Medium-Fidelity Prototyping and Evaluation Plan
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Description of the prototype

This interactive digital prototype is designed to test the layout, visual appearance, and content organization for an AI Study Assistant application that is integrated into UVic Brightspace, aimed at enhancing study efficiency and experience for undergraduate students. It currently offers functionality to navigate through the application to a cue card study tool and study plan generator. Despite its current limitations, the prototype lays the groundwork for meeting design requirements outlined in PA2.

The prototype incorporates placeholders for specific features that meet our requirements for interactive study tools and guided sessions, including note review, material comprehension, mind maps, practice exams, and material view/upload. Its interface follows the UVic's Brightspace layout and color scheme, ensuring a user-friendly experience. Integrated into Brightspace, the prototype adheres to the platform's data security measures, which employs two-factor identification for user sign-in to safeguard student data, and therefore also meets our requirement of data security.

Evaluation Plan

Goal for the usability testing user-evaluation

For our usability testing, our main goals are to ensure that our interface is simple enough for all users to navigate through, and ensure that all tools provided by our study tool are accessible and inclusive. This is to ensure that our interface can be used by as many students as possible, and will be a useful tool regardless of the varying needs of each user. We also want to observe the types of errors users make and their frequency, and determine if users can recover from any errors they encounter (e.g., by navigating back to the previous page) as we want users to successfully complete tasks with as few errors as possible.

Steps for a single evaluation session

Each evaluation session will consist of two parts - a short task to be completed by the participant using our interface, and a brief interview to gather the participant’s thoughts about the ease of use and efficiency of our system.

We have selected two key tasks that we would like to observe our participants complete with our interface, so we will first begin by giving each participant a set of instructions outlining the tasks we would like them to complete. This will include performing tasks such as “open a set of flashcards”, wherein they will be prompted to navigate to a specific part of our interface in order to fulfill the objective. This will help us gain a better idea as to how easy it is to navigate our current interface design, and show us if there are any areas which may be confusing to our user base.

After completing all of the tasks and having a chance to try out our interface, we will then be asking a few specific questions in a short interview to learn more about their experience with our interface. This interview will involve them answering questions prompting us to learn more about how they felt using the interface, their level of familiarity with similar software like Brightspace, and if there are any areas where they felt confused or stuck whilst interacting with our prototype.

Anticipated problems and challenges

Some anticipated problems and challenges include the following. Firstly, participants may encounter technical difficulties such as slow loading times, interface glitches, or compatibility issues with different devices or browsers. These issues can disrupt the testing process and affect participants' perception of the system's usability.

Next, task complexity may arise as an issue. The selected tasks may be too complex or ambiguous for some participants, leading to confusion and frustration. Additionally, error identification can pose a challenge. While the goal is to observe the types and frequency of errors made by users, identifying and categorizing these errors accurately during the testing session can be challenging. Clear documentation and categorization of the errors can help mitigate this challenge. Another anticipated problem is gathering vague feedback. Gathering vague feedback about the ease of use and efficiency of the system may result in us not having a good understanding of the project. Thus, ensuring that interview questions are relatively open-ended and allow participants to express their opinions freely and in detail can help capture specific and diverse perspectives on the interface's usability.

Remedies for the problems

To address the anticipated problems and challenges in the usability testing process, the following remedies can be implemented. Firstly, to mitigate technical issues, we can ensure thorough testing across different devices and browsers. Additionally, ww can provide technical support during the testing session to promptly address any issues that arise. To address task complexity, we will carefully design tasks that are clear, concise, and achievable for users with varying levels of experience. For error identification, clear documentation and categorization can help facilitate accurate identification of errors during the testing session. To address vague feedback, we can utilize open-ended interview questions that allow participants to express their opinions freely and by encouraging participants to provide specific examples or anecdotes to support their feedback; also, we can consider using a structured interview guide to ensure consistency in questioning across participants.

Data collection

During the usability testing sessions with participants, we will video record each participant as they perform the prompted task. Additionally, we will voice record the short interview session conducted after they have interacted with the interface, where they will share insights on helpful aspects and areas for improvement. We anticipate that these collected data will be used for further reflection on the process, allowing us to identify and address areas for improvement in the future.