

Team 2

Project 3 Report

Moodle Redesign

Problem Space

The problem at hand is that students are not satisfied with online education platforms. How to improve the online educational platform is the task that needs to be completed.

We ran a focus amongst ourselves since we are all Moodle users and have experience with the software. We wanted to see what problems are present in the current version of Moodle and our experiences with it. We decided on a time that worked best for everyone and conducted our meeting. Jonathan Chan was the moderator and asked questions to 4 other participants who are all IT majors. The ages of the individuals are 20, 21, 23, and 29.

Method/Tool Used: We used Zoom to meet as well as record the meeting.

Link:

<https://drive.google.com/file/d/1gGwc8SNTH7hfNDFmSA79kZGHkE4vZTWg/view?usp=sharing>

Focus Group Questions

- Do your professors work well online?
- What do you miss from in-person classes? Did you miss the ability to have face to face classes?
- Do you prefer online? Were office hours more accessible?
- Did you have trouble paying attention online? Why?
- Have you learned from online classes?
- How would you describe your experience with college education/e-learning during the pandemic?
- Are you comfortable using Moodle now?
- Pros/cons of Moodle.
- How has Moodle benefited you?
- What do professors do on Moodle that you wish they didn't
- Anything particular you learned from online classes that you wouldn't in person?
- What other tools/things have you learned to help you with online learning?
- What tools/features did you wish Moodle could provide?

Focus Group Findings, Quotes and Summaries

Themes

- **Technology Troubles/Failures for professors and students**
 - "He was 73 and had so many troubles with this thing."
 - "So it's more of a case by case. Teachers who are used to teaching in a typical method might be uncomfortable teaching without physical materials "

- “Most of them are not trained for online teaching. It’s not the system, it’s the individual using the system”
- “Assignment submission issues with the timing. It would be 11:59 AM instead of 11:59 PM.”
- “If they have a technology failure, it’s difficult for them to continue in some other way.”
- “Audio wouldn’t be good and the students are not engaging with the slides”
- “My power was out and I couldn’t attend any classes.”
- “If Moodle doesn’t have a backup and goes out, it would be a problem for everyone.”

Summary: Older professors have trouble with adjusting to the technology so they cannot provide the same learning experience as in person.

- **Students use lots of outside resources**

- “Chegg for tutoring.”
- “Stackoverflow is great.”
- “Quizlet or WebEx or GoogleMeets.”

Summary: Due to the lack of resources provided by professors who have a hard time adjusting to the online setting students have to look for outside resources in order to better understand course content.

- **Some features on Moodle are outdated and not used**

- “Some unimportant stuff like the badge tab.”
- “People don’t use the Moodle messenger.”

Summary: Moodle messenger is a great example of a feature that none of the focus group members use. The feature is slow and does not provide the same usefulness as other messaging apps.

- **Cheating is easier online**

- “It’s also very easy to cheat online. Being on camera isn’t enough to prevent it. Tracking movements can lead to false positives.”
- “Honor system is not going to work. Online makes cheating easier.”
- “Tests would be easier in person because the rules for demonstrating honesty are difficult.”

Summary: Many students resorted to cheating during the online period of school. Professors also enacted extreme measures to combat this which led to excessive stress in test taking for some students.

- **Inability of some Professors to conducted courses properly when online**

- “Some who post extra material which helps with the assignment and some who just post the powerpoint.”

- "Some teachers don't even do actual classes, just throw assignments on Moodle and let you figure it out"
- "Professors don't have a grade book or don't post the grades. "

Summary: Some professors would not give the same effort in an online class and simply read a PowerPoint presentation. In our focus group we had some who fell asleep during lectures simply because it was not engaging.

- **Easily Distracted Online**

- "Students chatting in the online chat about irrelevant things and the teacher encouraging the candidness"
- "A lot less student/teacher interaction discussion wise. Teachers just stick to the lecture."
- "It's contagious, if most of the students are tuned out then the ones who want to be engaged also tune out."
- "The only class online where that didn't happen was one where the teacher forced us to have the cameras on and engage."

Summary: Being in the comfort of your own home has been a distraction for students and they do not feel as if they pay attention as much as they did in person.

- **More engagement in an in-person class setting**

- "No reason to give attention if professors don't demand it. There has to be an incentive for students to get engaged."
- "Experience depends on how engaged the teachers are and depends on how interactive their teaching style is"
- "Everyone stays perma muted and they don't want to talk to the teachers."
- "At least in the classroom you have to at least act like you're paying attention."
- "It's easier for people to concentrate when in class than online."
- "You can't avoid eye contact forever in person"
- "Math professor forced us to keep our cameras on, which forced everyone to stay awake."
- "Lose interest when professors just read the slides."
- "No reason to give attention if professors don't demand it. There has to be an incentive for students to get engaged."
- "At Least in the classroom you try to actively pay attention"

Summary: Students felt as if it was easier to participate in an in person class because they felt more encouraged to engage versus an online class where they did not have to have a webcam on and could just have the professor talk without any engagement.

- **Moodle is missing some key features for group work**

- "Moodle could work with Discord or create their own substitute."
- "I wish they could set up a way to access assignments from all your years, at least till you graduate, even after it's been wiped from Moodle"

- “Moodle would have to incorporate a live stream lecture system, a recording lecture system, and a Discord type chatroom. The forums aren’t fluid and streamlined enough. The chat works in the browser only.”
- “Group work is hard enough in person, online it’s way worse.”

Summary: Many outside tools could be incorporated into Moodle to avoid wasting time with many different apps or tools. It’s especially difficult to work in groups for projects online. During the pandemic students would have to use more than one software for recorded lectures or live lectures which led to confusion.

- **Moodle is not very likable, neither on phone nor on a laptop/desktop**
 - “Don’t like the mobile version. Slow and annoying.”
 - “A lot of scrolling and poor compartmentalization. Would prefer a more horizontal, less vertical.”
 - “Manually write down every contact to email in messenger and navigation issues when going back from the participants’ profile to participants list.”
 - “Wish it calculated the grade properly according to the weightage.”
 - “Have to press so many buttons to make a submission.”
 - “Modified file submissions are always labeled as late. There’s no way to indicate it’s an approved change.”

Summary: The Moodle app is essentially the browser form on the phone which is slow and has no real use for the students. It has all the features from the browser which makes it hard to use because it takes more space instead of providing useful tools.

Unused Quotes

- “I like having class structure” (in regards to Moodle’s assignment organization etc.)
- “I like it when they use Kahoot.”
- “In person professors can read the room and the energy and modify their presentation.”
- “I enjoyed doing presentations without showing my face.”
- “Having upcoming assignments it’s all right there.”
- “Keeping track of submissions is easier and convenient than emailing individually”
- “Like that the due date is right there and how much time is left”
- “You can record lectures online and use them for revision, etc or if absent.”
- “You have to make sure you’ve been assigned the right group and it’s up the professors”

Target Demographic

Our target demographic is students from Oakland University with a GPA above 3.0, and are majoring in either IT or computer science. This demographic is who we will be expecting to use the app, and therefore, we will be tailoring the app to suit their needs. Our problem statement is that Moodle doesn’t have enough features when it comes to students

communicating with each other and working in groups. This causes students to use several different apps at once, such as Discord, Trello, and Slack to try and get things done. What we want to do is make Moodle into a sort of all-in-one, allowing students to communicate and set up group projects in one place.

Vision statement

The vision statement is an inversion of the problem statement that serves as a high-level design objective or mandate. In the vision statement, you lead with the user's needs, and you transition from those to how the design vision meets business goals.

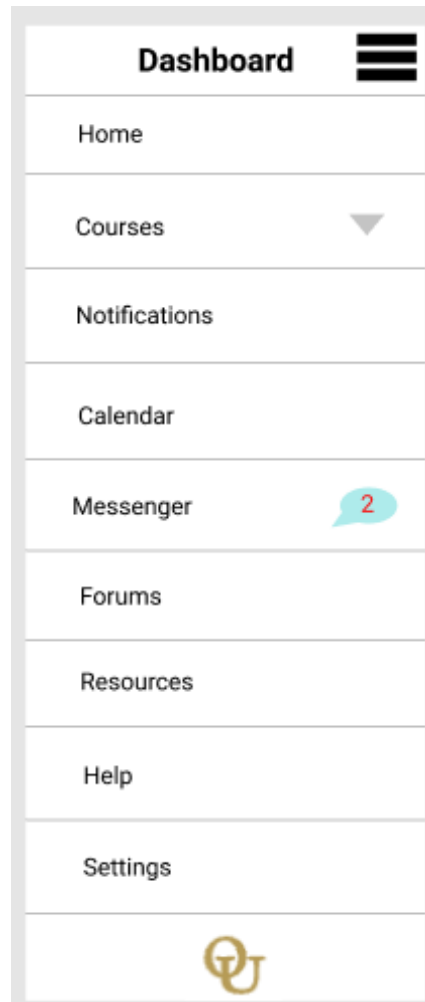
It's easy to miss out on messages and updates from group members when everyone is spread across many different applications such as Discord, Trello, Slack, Google messages, etc., which can greatly affect a group's ability to collaborate and keep track of tasks to finish the project on time, especially when working remotely. These projects tend to constitute a huge chunk of the final grade for most courses and hence it becomes vital to do well on them.

Hence, our solution aims to make it easier for our target demographic to work with their peers on important team projects online by organizing group communication and group tasks under a single School based website/app (Moodle) so that students can easily keep track of their group responsibilities and communication for all of their class projects.

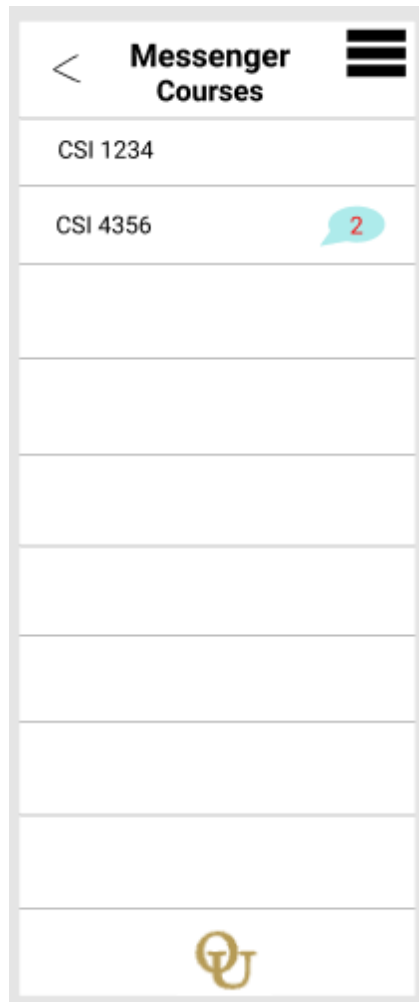
Key Path scenario

Intro: The key path scenario is the specific steps the user will take using our product to achieve their goal. We created the key path scenario to show the design of the app and what specific functions the user will use in order to fulfill their desired outcome.

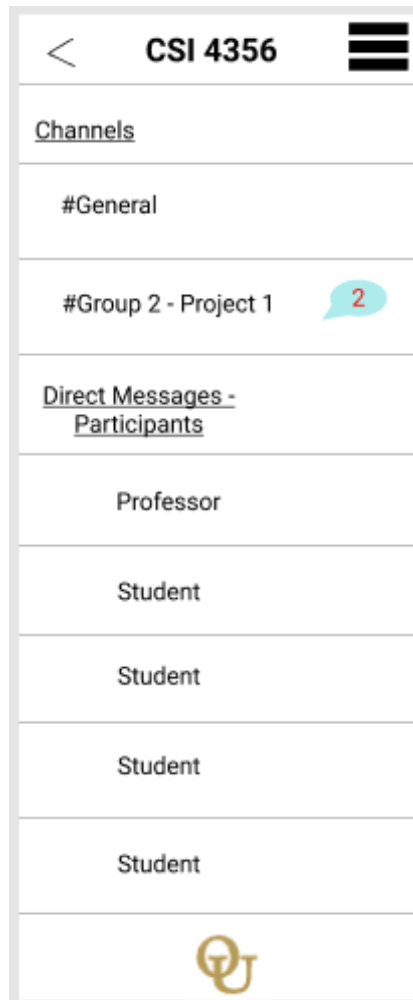
Context: A student has been assigned to a group for a term project and has to maintain clear communication with the other group members and monitor updates about the project tasks with them. The team lead creates a group chat for the members so they can discuss the project.



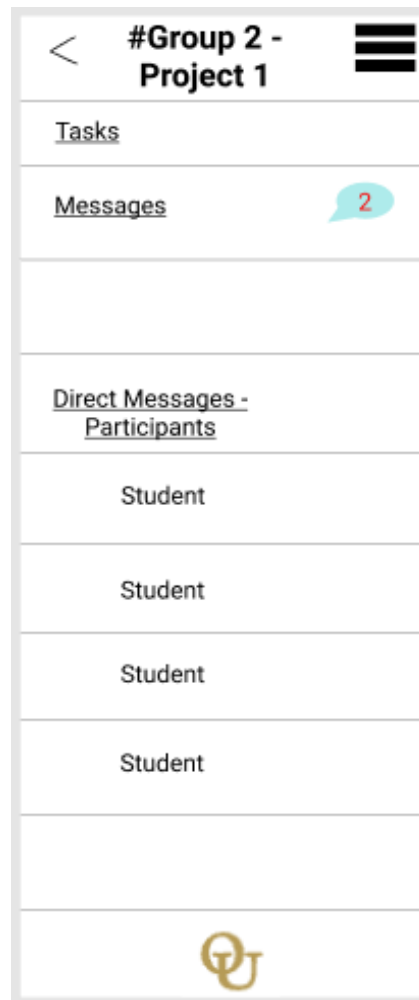
- A student from the group is logged into Moodle and is on the dashboard screen.
- The student notices that there are message notifications.
- The student clicks on the Messenger button under the Dashboard to view the courses.



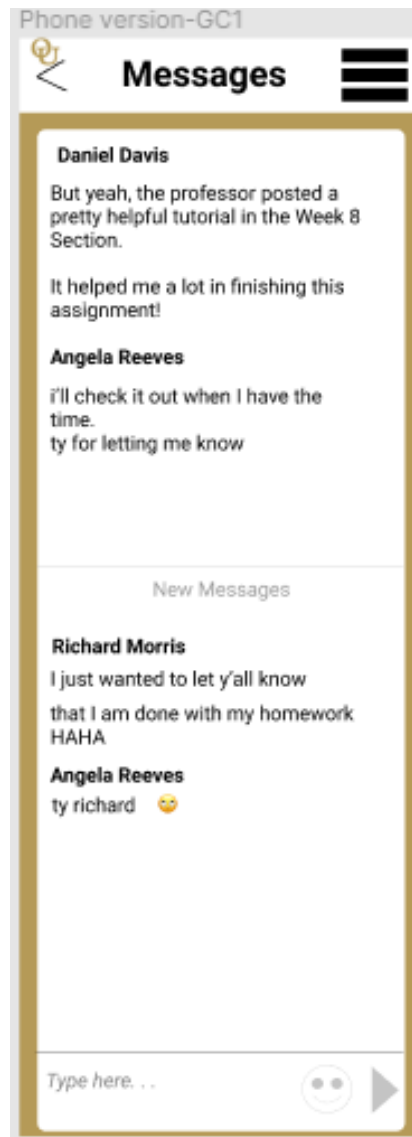
- The student selects the course "CSI 4356" because of the message notifications.



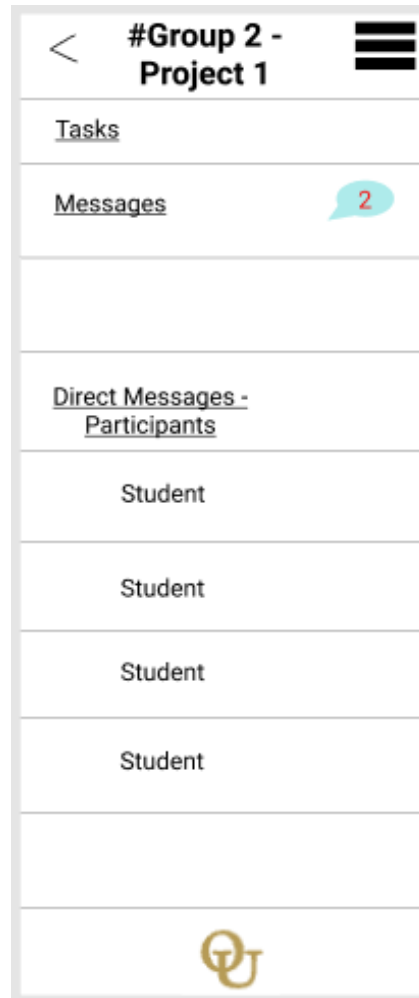
- At the CSI 4356 screen, the student sees that the Channel “Group 2 - Project 1” has two new messages.



- The student clicks on the channel and sees two sections (tasks and messages) along with all the names of the participants.



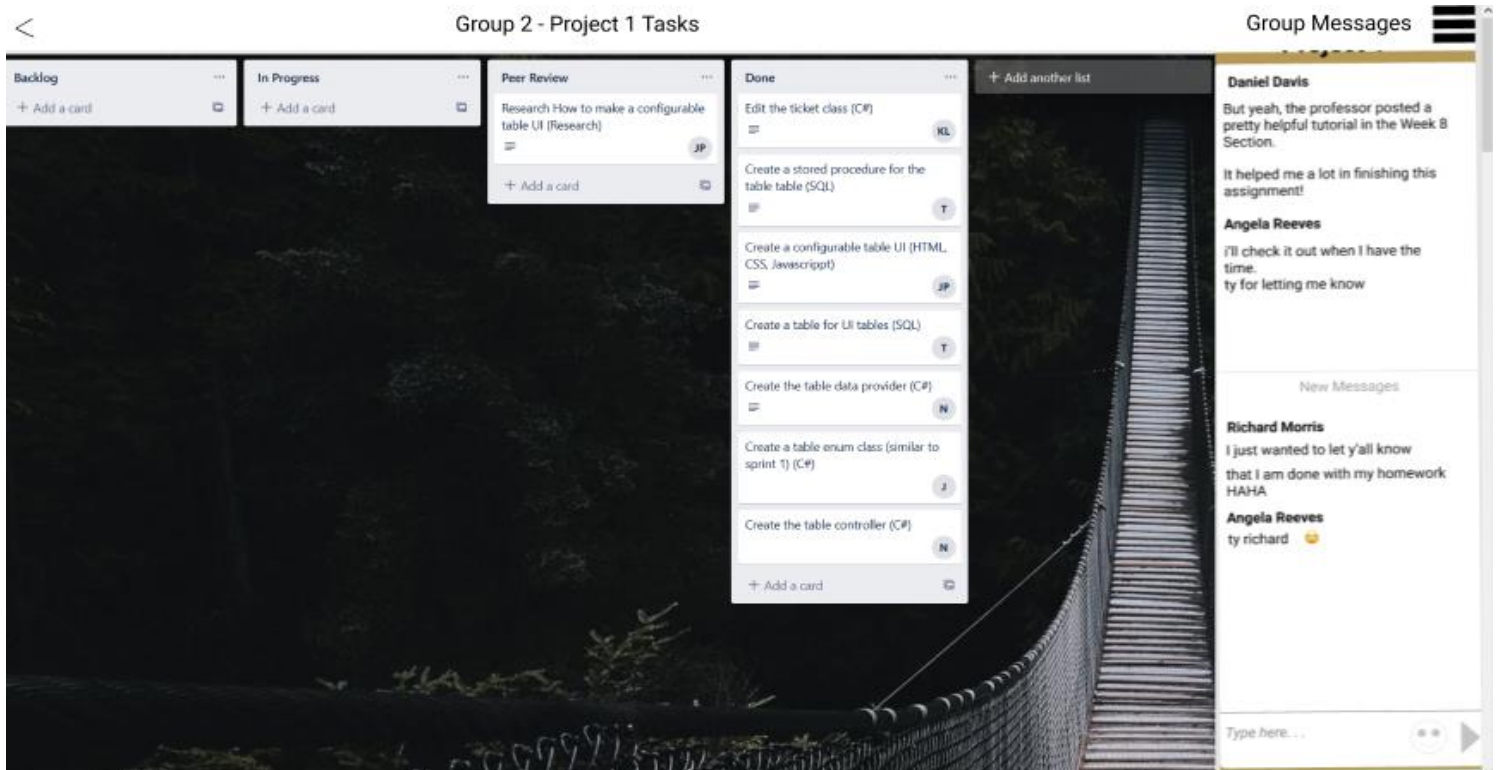
- The student clicks on the messages button and can view the group messages under the group chat.



- The student clicks back to return to the channel main page and selects "Tasks"



- The student views the “Tasks” to check the progress of the project.
(For the Desktop version, both are open simultaneously because of the larger monitor screen as shown below).



Usability Assessment

A usability test is a method of testing a product by allowing users to interact with the prototype. We did this because it allows us to get reliable data on how a user would react when using our products. Once we go over the data, we can better understand what our users want.

Assumption/Hypothesis:

- The user will have all tools relevant to group work available on the redesigned Moodle.
- Students will be willing to only use the new Moodle app for all group work.
- The redesigned app will allow students to visualize the scope of the group projects.

Research Questions:

- What would encourage or discourage users from using only this Moodle version for all school work?
- What kind of functionalities does our prototype lack which would improve project management?
- How does the prospect of a professor having access to the group affect a student's willingness to use Moodle for group work?

Prototype

[Prototype Link](#)

Our usability test plan was as follows: We conducted a moderated interview with an individual participant, then asked him questions about his experiences with school related group assignments. After that we introduced him to the prototype, guided him through a simple task walkthrough while asking him to think aloud and acknowledge the completion of the steps, and finally we gathered the user's feedback to verify the validity of our hypothesis and assumptions.

Usability Testing Plan

We will conduct a moderated interview with individual participants, ask them questions about their experiences with school related group assignments, introduce them to the prototype, guide them through a simple task walkthrough, ask them to think aloud and acknowledge the completion of the steps, and then gather the user's feedback to verify the above hypothesis.

Rules:

- Moderator only steps in if the user is having trouble navigating certain functionalities or gets stuck.
- Moderator will ask questions after the user has completed going through the prototype.

Script

First of all, thanks for participating in this interview. It shouldn't take more than a few minutes. It involves just a few questions and a demonstration of our rough prototype in order to get some high scope feedback current hypothesis. At the end of the demo, we will have a few questions about your experience going over the prototype. Since I'm not the designer, don't worry about holding back, please be as honest as you can. It won't affect me.

This prototype is designed to improve group collaboration and productivity. It's meant to be a redesign of Moodle, integrating all the features students usually need for group work under one academically oriented app. We would like you to assess this prototype and provide your impressions of its useability as feedback. If you are confused on how to proceed further, feel free to ask for help.

- So to start with, is your major IT or Computer Science?

- Do you have to take any classes where you have to work in groups? How many?
- How many members are typically in a group?
- How was your experience working with them?
- What contributed to that experience?
- What apps do you usually use for your group projects, why?

Let's shift over to the prototype. It's not an interactive prototype but all the important screens are present and you can see both a mobile version and a web version. The web version can display both elements together while the mobile version would require navigation between them. The starting position is the dashboard which is available from the main page of Moodle and you can see that there is a notification alert next to the messages tab. You can navigate the scenario with the following steps:

Prototype Walkthrough

- a. Find Messenger on the dashboard.
- b. Select CSI 4356.
- c. Select Group Project 1.
- d. Navigate to the chat board.
- e. Navigate to the task board.

Post Walkthrough Questions

- How easy or difficult did you find the proposed navigation of the prototype? Did you feel confused at any point about how to proceed?
- Do you think the prototype has any tools which would improve group work for you? Why/How?
- What other apps are you still going to have to use in order to increase your productivity for group assignments? Why?
- Visually speaking, do you think the prototype allows you to view all the important information for an assignment, including the scope? What's missing?
- What did you like/dislike most about the prototype?
- What other features would you like to see in the prototype to make it better?
- Would you consider giving professors access to these groups a pro or a con? Why?

[Usability Test audio link](#)

The Test Process

We conducted a moderated test where our test taker was asked to think aloud as he navigated through the application as instructed by the moderator. We recorded the usability test and analyzed his answers and everything else he said to generate our findings.

Test Findings

The user will have all tools relevant to group work available on the redesigned Moodle.

The participant agreed that a lot of the features in the redesign were tools he used on other apps and that it would make things easier to have everything in one place for many students; however, he noted that the app was missing video and audio calls which are important for collaborative work. Hence, this hypothesis was not fully validated.

Students will be willing to only use the new Moodle app for all group work.

The participant agreed that having so many tools necessary for group collaboration found on other apps such as Discord and Trello being included into one streamlined application would encourage students to utilize the platform more and also improve group collaboration and management. However, despite being encouraged to use the app more because of these features, due to the missing the video and audio features, the student could not affirmatively confirm that he would only use this app for all group work. These findings and opinions did not validate this hypothesis.

The redesigned app will allow students to visualize the scope of the group projects.

With the addition of the task board system and the separation of the projects based on classes and project names, the participant agreed that the student would be able to use the app to visualize the scope of his class projects.

What would encourage or discourage users from using only this Moodle version for all school work?

The fact that there is better organization in the mobile app in this prototype would encourage users to use Moodle more than they do now. Also it would no longer simply be an app to get documents from but instead a full fledged application they could utilize for a wide range of uses which they currently rely on other apps for.

What kind of functionalities does our prototype lack which would improve project management?

The participant would like to see screen sharing, streaming and video call tools because students may need to see each other's screens and prefer to communicate

verbally rather than through text. Also more consistent font size and spacing for the menus would make the interface more appealing.

How does the prospect of a professor having access to the group affect a student's willingness to use Moodle for group work?

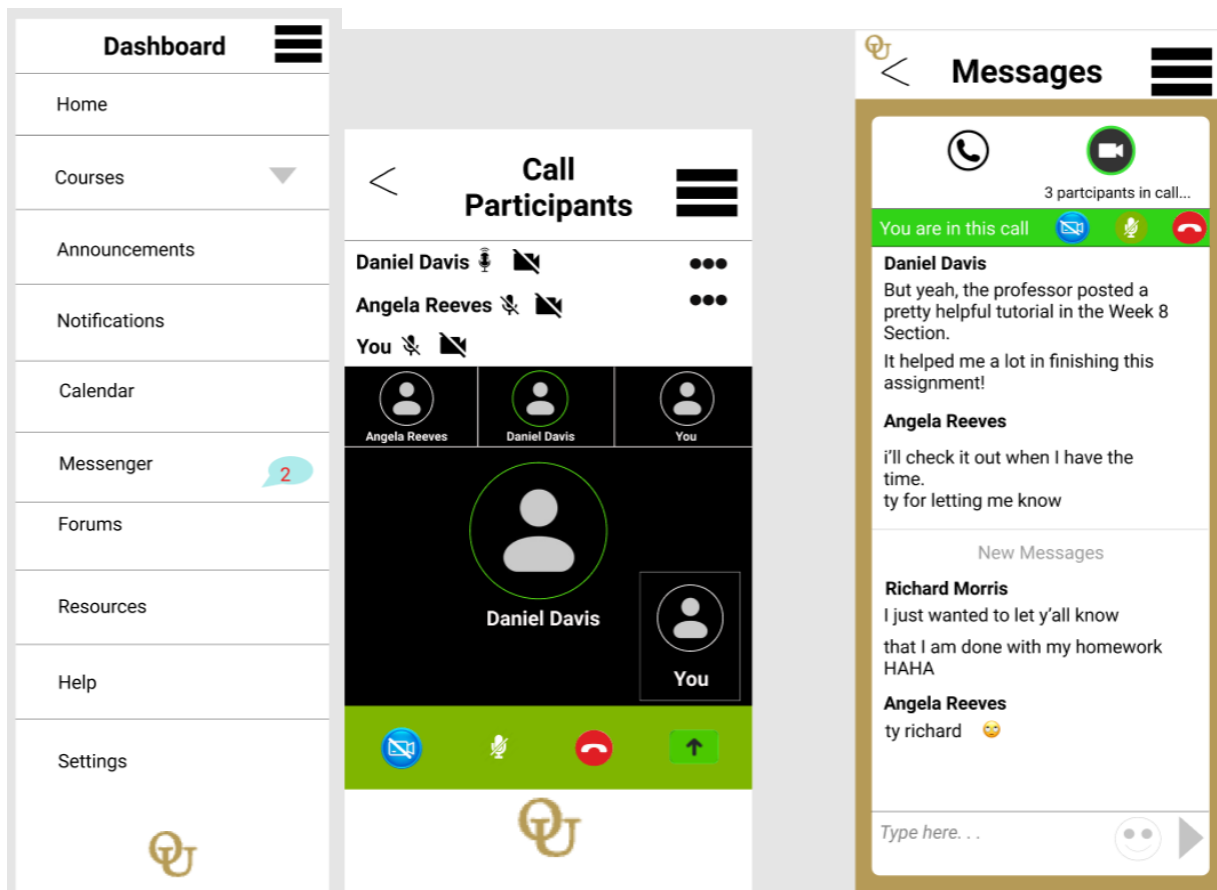
The participant felt that the professor having access to the group chats might create a bias in said professor's mind if he saw that some groups were not as active as the others. However, the student also believes that this would encourage group members to pull their weight and be active in discussions and team work.

Summary of Findings

The prototype was natural and not confusing. The standard menu makes it easy to navigate. It reminds the participant of Trello and he likes the idea of chatting by the tasks. The participant agreed that it helps with communication but would still like Discord for its audio and video streaming capabilities. The app also makes it easy to see the project tasks and scope. The participant liked the collaboration tools; however, the font size and spacing could use some work for better fluidity. The participant agreed that this prototype would increase productivity for group work.

Revised Solution

We've edited our prototype to include a voice/video call feature to allow students access to better communication tools since according to the feedback, conference calls allow for easier and more productive communication between multiple people at the same time. Users can join calls whenever one is started and includes a video enable/disable, voice enable/disable, and a disconnect button. It also displays all users in the group call as well as whatever voice/video settings they have at the time. Lastly, we added an Announcements tab under the Dashboard because students wanted to be able to keep track of announcements from professors.



Revised Scenario Example:

- A student from the group is logged into Moodle and is on the dashboard screen.
- The student notices that there are message notifications.
- The student clicks on the Messenger button under the Dashboard to view the courses.
- The student selects the course "CSI 4356" because of the message notifications.
- At the CSI 4356 screen, the student sees that the Channel "Group 2 - Project 1" has two new messages.
- The student clicks on the channel and sees two sections (tasks and messages) along with all the names of the participants.
- The student clicks on the messages button and can view the group messages under the group chat.
- (NEW) The student decides to join a voice chat with some other students to discuss the project by clicking on the phone icon in the header.
- The student clicks back to return to the channel main page and selects "Tasks".
- The student views the "Tasks" to check the progress of the project.

Discussion and Next Steps

The test was conducted remotely online on Discord without webcams, using only audio communication from three different unmonitored/uncontrolled environments (the participant's, moderator's, and the supervisor's homes). This limited the types of observations which could be recorded from the participant to only audio feedback and also did not allow for isolating the participant from distractions in his local environment. For future tests we will try to conduct the test in person, in a more controlled environment, which would allow us to gather more accurate feedback about the usability by limiting distractions and by being able to observe the participant's visual cues as he navigated the prototype. In person we can also follow the participant's gestures and have a more animated discussion about the prototype, allowing the moderator to improvise with better questions off of the script.

Another thing which would have improved the test would have been using a more interactive prototype which would have helped create a more tangible sense of movement across the steps. We also gained feedback about the need for other features (video/audio call and announcements). If the tests were to continue we would add those features to the prototype and modify the usability plan and the key path scenarios to include specific tasks utilizing those features as shown above. This would allow us to retest the validity of our hypotheses which were not validated during the first round of testing.

We also used both a mobile version and a web version in order to fully demonstrate the prototype but this led to some confusion for the participant because they were not separated or labelled clearly enough. For the next prototype, we will focus only on the platform which is more fully developed.