Usability Testing

Uninitialized Local Team: Kaveh Buenaventura, Angela Ferro Capera, Jason Dekema, Ian Dudder, Kez May, Hailey Schauman.

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Usability Testing Methodology

Each team member will complete at least one usability test using the following methodology.

Part One: Provide the participant with context. Describe what our application is, what its goals are, and who it seeks to serve. Next, describe to the participant which persona they are, and what their goals are for the task they are about to complete.

Part Two: Have the participant complete the Icon Quiz to independently test their understanding of what our icons mean to them.

Part Three: Begin with the user on the application's Groups page and prompt the user to complete a task-based scenario, providing them with one small task at a time. Either record the test or take notes based on your observations. Have the participant think aloud while completing the test.

Part Four: Once the participant has completed all the tasks, ask them the five following questions:

1. During this process, how did you feel?
2. Were there any aspects of the application that were confusing?
3. Were there any aspects of the application that you really liked?
4. Was anything missing from the application?
5. Did you ever feel lost while using the application?

Part Five: Based on the feedback from the participant, identify problems with our application and compile a prioritized list of improvements.

Synthesized Findings

Common Problems

Here are some of the common problems we all found to be present in our application:
- Some of our icons were too small and hard to perceive.
- The project management icon did not seem to represent the section well.
- The file storage icon and the project description icon were too similar, and confused with one another.
- While trying to change the view from grid view to list view in the file storage page, it took the participant a long time to find the 'View' button. However, the contrast between the button and the background was too low, so it wasn't obvious to the participant.
- Participants found it difficult to navigate back to the home page. They couldn't identify which icon was the home page, and once they were there, they didn't identify it as the home page.
- Progress bar in kanban board is ambiguous.
- Participant didn't know if the conversations on the communication page were short-term like an email chain, or long-term like a chat channel.
- "Project description" seemed like it should be more of a list of assignments related to a project.
- The overlays on the project description page should have two tabs, one for assignment specs, one for the linked work.
- When clicking on a team, the first screen displayed should be the "Project Description" screen.
- When viewing a conversation, participant was confused on which button to select ("Pop Out" versus "Detailed View").

Suggested Improvements

The following table is the compilation of the most important improvements our team identified after our usability tests. Priority Levels range from 1 to 5 with 1 being the highest priority level.

Improvement	Priority Level
Hovering over an icon should have overlay text identifying what the icon is.	1
Our icons should be larger to make them easier to interpret.	2
The project management icon should be modified to better represent the section.	2
The file storage icon and project description icon should be modified to be distinguishable from one another.	2
The color difference between the background and the buttons should be higher contrast to make the buttons more obvious.	1
The home page should have a more "homey" look to it so that users can more clearly identify it. Similarly, the home icon on the left icon panel should be at the very top.	1
The group page and home page should be separate. The group page should list all groups for all classes, and the home page should list all the classes the user is a part of.	1
Partition the progress bar in the kanban board into milestones. When a milestone is completed, that section of the progress bar should turn green.	2
The right panel (listing a group's members and conversations) should be collapsable on all pages. Furthermore, this panel should not appear until the user has clicked on a group page since it is different for different groups.	1
Add the word 'channel' to the conversations page to indicate to the user that these conversations are long-term, persistent group chats intended to be used for daily communication between team members.	1
Box the project requirements so it is clear they are clickable. Add a hyperlink symbol.	1
The project requirements overlay should be larger.	4
The project requirement overlay should have two tabs: Specs and pending submission.	3
The first screen displayed when a user clicks on a team will display the "Project Description".	1

Reposition the "Pop Out" and "Detailed View" buttons in the "Communication" section	1

Link to Our Prototype

https://www.figma.com/proto/11Vz8KkjLnnWuoAtxtpQNk/DarkTheme_CSS480-(Copy)?node-id=208%3A675&scaling=contain&page-id=0%3A1

Project Page | Link Assignment (Kez)

In this scenario, the user is expected to look at their project description and link a webpage to their project so that it is ready for submission.

Intro:
- We are UWB students researching software for remote project management on college projects. We have created a prototype of this software and are asking you to test the prototype and help us find improvements before the application goes into development.
- This study has two parts: First, you will complete an activity where you label icons. Second, you will play a role and interact with an application prototype to complete a list of tasks.
- It is important for the success of this study that you are honest and critical of the process. We need to understand what works well and what needs improvement or replacement.
- Example from Sketching User Experiences:
  "You're helping us by trying out this product in its early stages. We're looking for places where the product may be difficult to use. If you have any trouble with some of the tasks, it's the product's fault not yours. Don't feel bad; that's exactly what we're looking for. If we can locate the trouble spots, then we can go back and improve the product. **Remember, we're testing the product, not you**."

Scenario:
> You are a student who is accessing an application that you use for group projects at school. You have navigated to the page that contains all the groups you are a member of. You know that this application allows you to link your files-in-progress to the project requirements so that they will submit automatically on the due date and you will never forget or submit late. You want to make sure that all the requirements for your CSS480 course are linked to files-in-progress.
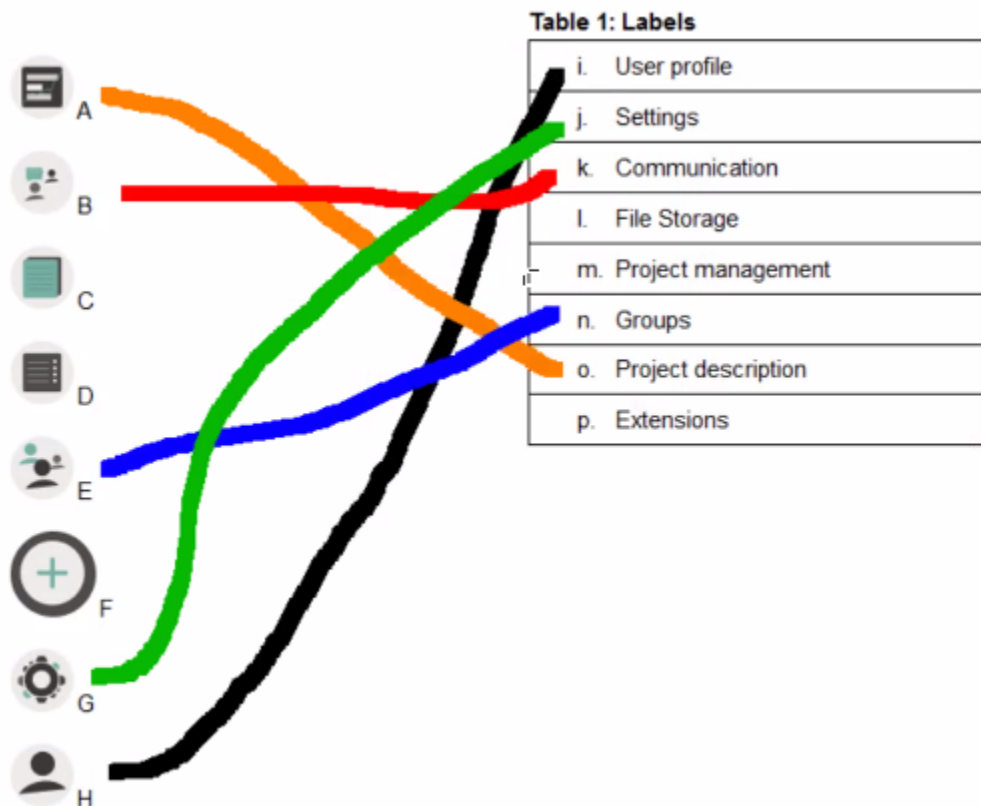
Tasks:
1. First, navigate to the project requirements for your CSS480 course. Once you have done this, let me know you are finished.

2. Now, see if all the requirements have a linked file-in-progress. Tell me once you have checked all the requirements.
3. One of the requirements is not linked, link it to the URL for your Figma prototype.
4. Check to see if the prototype linked successfully.

Include the following pieces of information in this section:
5. The user's answers to the icon quiz.
    a. Labeling
        A. Feed like a main page of an app
        B. Messages between people and friends
        C. No idea
        D. No idea, to do list?
        E. Friends list
        F. New post
        G. Compass? Exploring? Public projects?
        H. My profile
    b. Matching

Table 1: Labels

i.	User profile
j.	Settings
k.	Communication
l.	File Storage
m.	Project management
n.	Groups
o.	Project description
p.	Extensions

6. Your observations during the test. Point out which areas the user struggled in and which parts the user did intuitively.
    a. Tried to click the file storage it didnt work
    b. Found the linked file and it didn't register to him
    c. Tried clicking everything at random

d.   Starts right clicking on different files in file storage, is really lost and confused
e.   Gives up.
f.   Reflection: confused by linked file-in-progress. Saying assignment would have helped.
    A.   Was expecting an instructions and assignment tab on overlay
g.   Hit link and it opened the preview and he was confused.
7.   The user's answers to the five general questions.
    a.   During this process, how did you feel?
        A.   Confused
    b.   Were there any aspects of the application that were confusing?
        A.   Navigating
        B.   The project description with linked file in progress was really rough
        C.   Links in groups were straightforward
    c.   Were there any aspects of the application that you really liked?
        A.   Really liked color scheme
    d.   Was anything missing from the application?
        A.   Didn't explore enough to think that or know that
    e.   Did you ever feel lost while using the application?
        A.   File in progress was the only weird thing
        B.   Also, there was no home icon, make groups home instead
    f.   Anything else: nope!

<Prioritized Improvements> Identify what problems your participant encountered. Create a prioritized list of improvements to our application.

File System: Viewing and Downloading a File (Ian)

In this scenario, the user must navigate to their group's file storage, find the PDF file, view a preview of it, and download it.

Introduction
- **Application Description:** My team and I are developing an application to help students collaborate on class projects. Our goal is to provide them with all the tools they need to work on their project in one place. We want to minimize the burden of using many different applications to collaborate.
- **Participant's Role:** For this test, I want you to pretend you are a student enrolled in CSS 480 who is working on a project for the class. My team has developed a prototype for this application and we want your feedback and criticism to help us consider how we might improve it.
- **Test Overview:** First, I will have you look over the icons we designed and try to match the icon to its meaning to make sure our icons convey their meaning well. Next, I will have you complete a task within our prototype to determine how usable the application is. Lastly, I will have you reflect on your experience and answer some final questions for me. This process will hopefully take no longer than 30 minutes.

- Remember, any criticism you have will help us improve our design, so please share your true thoughts and feelings regarding your experience even if they are critical. We're looking for aspects of our application that are difficult to use so that we can improve them. Please understand that any frustration or confusion you experience is our application's fault, not yours. Lastly, **remember that we're testing the product, not you.** (Adapted from *Sketching User Experiences* example in Section 6).

Scenario:

For this test, you will play the role of a student enrolled in CSS 480. Last week, you wrote a paper for your team's project that you are particularly proud of. Because of this, you want to download the file to save it.

Tasks:

1. You load up the application and find yourself on a page listing the groups you are a part of. Navigate to your group's file storage. Let me know when you think you have completed this.
2. You don't remember what the name of your file was, but you remember it was the only PDF file in the main folder. Locate this PDF file and view a preview of it. Let me know when you think you have completed this task.
3. Now that you see the preview of your file, you know this is the right file. Download the file. Let me know when you think you have completed this task.
4. Return to the main File Storage Page. Let me know when you think you have completed this task.

Bonus Tasks:

5. From the file storage page, change the view.
6. Select File 1 and click edit.
7. None of the buttons on this page are interactive, but is there anything that you feel is missing?

Testing Notes and Observations

1. The participant's answers to the icon quiz.
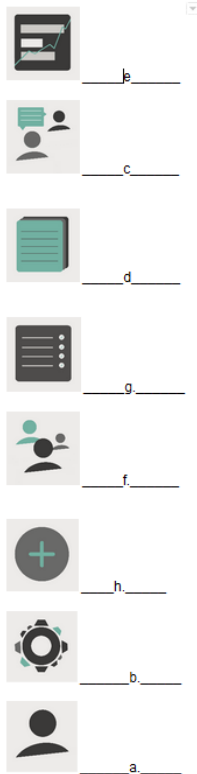   **Score: 100% correct**

Icon Usability Test

Table 1: Labels

a. ~~User profile~~
b. ~~Settings~~
c. ~~Communication~~
d. File Storage
e. Project management
f. ~~Groups~~
g. Project description
h. ~~Extensions~~

_____e_____

_____c._____

_____d_____

_____g._____

_____f._____

_____h._____

_____b._____

_____a._____

2. Observations during Test
   a. Icon quiz - he didn't think the project management icon seemed to fit. Nonetheless, he got it right. Also thought the file storage and project description icons were very similar to the point of being interchangeable.
   b. Got to file storage without issue.
   c. Found PDF and opened preview without issue.
   d. Downloaded without issue.
   e. Completed bonus task without issue.
   f. Problem: closing the right panel got rid of the main screen.
   g. Problem: Confusion navigating back to the home screen at the end.

3. The participant's answers to the five general questions.
   a. During this process, how did you feel?
   Felt pretty good. He thought it was a pretty good prototype. He's impressed with it.

   b. Were there any aspects of the application that were confusing?
   The placement of the home screen. He expected it to be at the top of the left icon panel. He also expected the home screen to list classes and the group page to list groups for all classes.

c. Were there any aspects of the application that you really liked?
Liked the preview option for the files before downloading.

d. Was anything missing from the application?
Didn't know if the right panel could contact the group, or the communication page would. Didn't understand if the communication was like email or discord. He prefers discord text.

e. Did you ever feel lost while using the application?
Only at the point when he wasn't sure how to get to the home screen. Still isn't sure if it is *the homescreen.*

f. Is there anything else you would like to comment on?
   i. There should be a more identifiable home screen. He expected the home screen to be at the top of the left icon panel. He also expected the settings to be inside of the user profile. Or the user profile inside of settings.
   ii. Based on the placement of the groups page on the left panel, he did not recognize it as our home screen.
   iii. Likes the idea of conversations (on the right panel) pulling out the popout menu below.
   iv. Expects that clicking a person's icon on the right panel to show their account (not necessarily a conversation with that person).
   v. The right panel shouldn't appear before you click on a specific group. He thinks the right panel should be for the current group (not all groups) so it shouldn't appear before clicking on the group. (Right panel should not be on the Group View page).

List of Improvements

Improvement	Priority Level (1 to 5 where 1 is highest)
The project description and file storage icons should be made more distinct so they are not so similar to one another.	3
The project management icon should be more representative of its meaning.	3
The right panel (listing a group's members and conversations) should be collapsable on all pages. Furthermore, this panel should not appear until the user has clicked on a group page since it is different for different groups.	1

The home screen should be at the top of the left icon panel so that it's the first thing the user sees when looking at the panel. Having it at the top will emphasize its importance.	1
The home screen's design and content should make it feel more like a homescreen. In its current state, my participant felt that it seemed more like a sub-page than a main home-page.	1
The groups page should list all groups for all classes rather than listing the classes themselves, since a class can contain multiple groups.	1
My participant was unsure if clicking the user icons on the right panel would show their account or start a conversation with them. We should improve our design to clarify that the user can initiate a conversation with a group member through the right panel. Perhaps we could add a "chat" button next to each group member to indicate that the user can initiate a conversation by clicking that button, and then have the user taken to a view of the group member's account when clicking on the group member's user-icon.	2
Based on the current view of the communications page, my participant was unsure if the conversations were independent strings of messages with short lifespans like emails, or if they were long-term, persistent chat rooms like discord's text channels. We should reconsider the design to clarify this better.	2

Creating a Group & Downloading an Extension (Angela)

Introduction
- **App Description:** This app is a centralized, collaborative tool for students to use while attending UWB. It offers the basic functionality of Canvas, plus the ability to add extensions(making it customizable), the personalized space to share and edit documents with teammates, and the ability to manage teams with project management features
- **Participant's role:** You (Anna) are going to play the role of Sarah Diaz. Sarah is a Junior CSSE student at UWB, transferred from Edmonds College. Sarah enjoys working in teams and working with new technologies.
  - Your first tasks as Sarah will be to create a new group for your CSS480 class
  - Your second task will be to install a new extension
- We're looking for your real opinion on the product. If it is difficult to use, or tasks seem to make no sense, please let us know. If you have any trouble with some of the tasks, it's the product's fault, not yours. Don't feel bad; that's exactly what we're looking for. If we

can locate the trouble spots, then we can go back and improve the product. **Remember, we're testing the product, not you**."

1. The user's answers to the icon quiz.Your observations during the test. Point out which areas the user struggled in and which parts the user did intuitively.
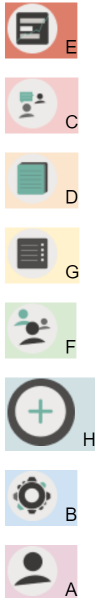
Tester: Anna Jennings

Table 1: Labels

A User profile
B Settings
C Communication
D File Storage
E Project management
F Groups
G Project description
H Extensions

(Icons labeled E, C, D, G, F, H, B, A)

- Anna answered the quiz in less than 10 minutes. She didn't seem to struggle with any of the icons.

2. Observations during Test
   a. Anna finished both tasks in less than 20 minutes. She was able to successfully complete both tests and to explore the rest of the functionality of the prototype
   b. She did not get lost nor confused at any point in the tests

3. The user's answers to the five general questions.
   a. During this process, how did you feel?
      i. She really liked the prototype (specially that it is in dark mode)
   b. Were there any aspects of the application that were confusing
      i. Nothing that she didn't tell me about
   c. Were there any aspects of the application that you really liked?
      i. Color scheme
   d. Was anything missing from the application?
      i. Nope
   e. Did you ever feel lost while using the application?
      i. At the top side of the left navbar, there are two arrows (back and next looking arrows). While exploring the prototype, she mention that having those buttons there without much 'action' made her feel a little lost
   f. Anything else
      i. You guys have put a lot of effort into the prototype

Improvements:
- Adding a hover over to the buttons on the left-side navbar (labeling the button)
- On the dashboard page, it would be a little easier on the eyes if the courses were boxed (like how things are boxed on the Kanban board page)
- She liked the colors a lot and suggested making sure they are accessible for visual impaired users
- In the kanban board, she suggested adding a percentage label or something to describe how much of the project is completed

Task Management: Add a Task to the Kanban Board (Kaveh)

In this scenario, the user must navigate to the kanban board for their group project and add a task to the To-Do list.

Introduction:
This application that we are working on is an all-purpose, extensible collaboration tool designed for all student needs when working within groups. We are currently testing a prototype that we have made and appreciate your cooperation in being part of this usability study.

Scenario:
I'd like for you to imagine that you are a student working on a group project for CSS480. You don't need to know details about what the course teaches, just the name for testing the prototype. Your job is to add a task to the To Do list on the kanban board located on the task management page for your group. **Keep in mind that we are not testing you, but our prototype for this application.**

Tasks:
1. (Starting on the group view page) navigate to your group page for CSS480.
2. Navigate to the task management page for that same group.
3. Add a task to the To Do list on the kanban board.
4. Optional: You decide not to add a new task and instead cancel adding the task to the list.

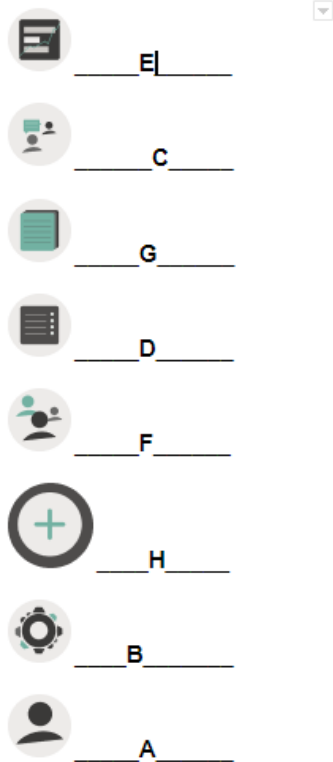**Notes/Observations:**
1. Icon quiz results:

Icon Usability Test

_____E|_____

_____C_____

_____G_____

_____D_____

_____F_____

___H_____

___B_____

_____A_____

Table 1: Labels

a.	User profile -
b.	Settings -
c.	Communication -
d.	File Storage
e.	Project management
f.	Groups -
g.	Project description
h.	Extensions -

2. Quiz observations:
   a. It took her about 5 minutes to complete the quiz
   b. She ended up getting the answers to file storage and project description mixed up
   c. I asked if she felt that any icons were clear/muddy
      i. User profile, settings, groups, and communication were very clear to her
      ii. When told that file storage and project description were swapped she said that it's clearer now in hindsight. At first she thought that the boxes on the project description icon were folders.
      iii. The project management icon was not as clear to her.

3. Prototype test observations:
   a. It took about 10 minutes to complete the given task for the prototype test
   b. The first 7ish minutes were spent getting acquainted to the UI and just clicking around on different things to see what happens
   c. She found the test/task really easy
   d. There was no confusion at any point during completion of the task

4. Answers to the general questions:
   a. During this process, how did you feel?

          i. She was pretty impressed with the prototype and didn't know there was something like figma to design these prototypes

          ii. She made a comment about how thorough our group is and is jealous that she doesn't get groups like this (lol)

    b. Were there any aspects of the application that were confusing

          i. She was confused about which elements were clickable given that not all of our prototype links lead to somewhere

          ii. Suggested some type of line under links that are clickable

    c. Were there any aspects of the application that you really liked?

          i. She liked how simple the interface and clear the interface was

          ii. She made a comment about how she doesn't like seeing a bunch of ambiguous stuff on her screen

    d. Was anything missing from the application?

          i. She said that the colors feel a little bland

          ii. I showed her the light mode and she said she likes dark mode, but maybe with some more colors

    e. Did you ever feel lost while using the application?

          i. "Nope"

5. Improvements:

    a. She'd like a bit more color than just green and black/grey (can likely be fixed by adding some sort of color customization extension, we can probably keep the base colors we have now)

    b. Add some sort of line under links when hovered over to indicate clickability

    c. She'd suggested some sort of indicator on the progress bar to better represent progress (like maybe splitting up the bar into different sections that represent milestones and changing the color of those sections when a progress milestone is met)

File System: Download a File from Shared Storage (Jason)

Intro: We are a team developing an application to help students collaborate for classes. The hope was to make it an easy to use one-stop hub for the most common aspects of group work. The software is intended to be usable by college students and professors from any major. Do note that this is not an actual functioning website, but rather a simple prototype with minor functionality.

Goals: In this scenario, you are a college student working on a collaborative paper with a group for your CSS 480 class. As a part of testing the program, we want you to try and navigate to your group's shared storage space, and download a file from there. Before that, we will have you take a quick quiz, where you will attempt to match icons to their functionality.

Results of the Icon Quiz:

_____G_____

_____C_____

_____D|_____

___E_____

_____F_____

___H_____

_____B_____

_____A_____
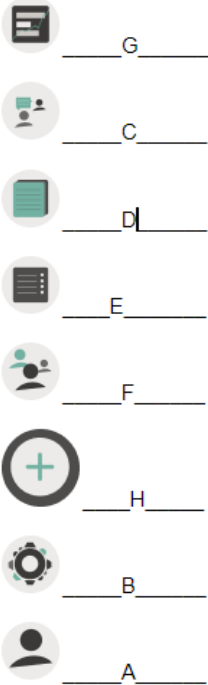
Tester got 6/8 correct. Incorrectly identified the project management icon as project description, and vice-versa. He was correct on file storage and extensions, but said that he was completely guessing on those two.

Result of the assigned task:
The tester was asked to navigate to the shared storage of his CSS 480 class, and download a file from there. He was able to quickly navigate there and download one of the files in the storage. It took him about 15 seconds total. Because he finished so quickly, I decided to ask him to navigate back to the file storage screen and check to see the types of the files, and gave no further instruction. He was quick to navigate back to the file screen, but was confused on how to get the file types to be displayed. After one minute, he noticed the view button, clicked on it, and then switched the display to list mode, completing the task.

Response to the 5 questions
    A) During this process, how did you feel?
        a) He was very impressed with how functional it was for a prototype, and how quickly it responded to his inputs.
    B) Were there any aspects of the application that were confusing?
        a) He was confused about the file types not being listed for a bit. He said he felt a bit dumb when he noticed the eyeball in the other corner to change the view.
    C) Were there any aspects of the application that you really liked?
        a) He liked how clear the navigation was. It was his first time seeing it, but it only took him about 15 seconds to go from home page to downloading a file.

D) Was anything missing from the application?
    a) He couldn't come up with anything that he thought was missing.
E) Did you ever feel lost while using the application?
    a) He felt lost when trying to figure out how to display file types. Took him a minute to notice the view button in the top right corner.

Identified Problems
1) We could use more contrast in the brightness of colors, in order for the buttons to stand out more. The tester didn't notice the view button in the upper right hand corner for a minute.
2) For the icons, we need to make them more distinct, if possible. The icons the tester felt sure about were the profile icon, the groups icon, and the settings icon. Between File Storage, Project Management, and Project Description, he was basically guessing because he didn't really feel there was much of a difference in the icons. I don't think he noticed the thin green line on the project management icon. He said that if it weren't for the provided labels, he wouldn't have guessed what the extensions icon was for.

Communications: Viewing Unread Messages within a Conversation Thread (Hailey)

Introduction
- First I would like to say thank you for taking the time and participating in the usability test. To begin, I will you an overview of my team's project and the study
- We are UWB students researching software for remote project management on college projects. We have created a prototype of this software and are asking you to test the prototype and help us find improvements before the application goes into development.
- This study has two parts: First, you will complete an activity where you label icons. Second, you will play a role and interact with an application prototype to complete a list of tasks.
- It is important for the success of this study that you are honest and critical of the process. We need to understand what works well and what needs improvement or replacement.

Scenario
You are a student who is accessing an application that you use for group projects at school. You know that this application allows you to view project information, manage your team progress, store files and collaborate in real-time, and communicate with your team. You have navigated to the page that contains all the groups you are a member of.

Icon Test Observations/Comments
- Confused on project description icon - originally thought that was project management

○　To-do list (e.g., project description icon) you think of management

Results
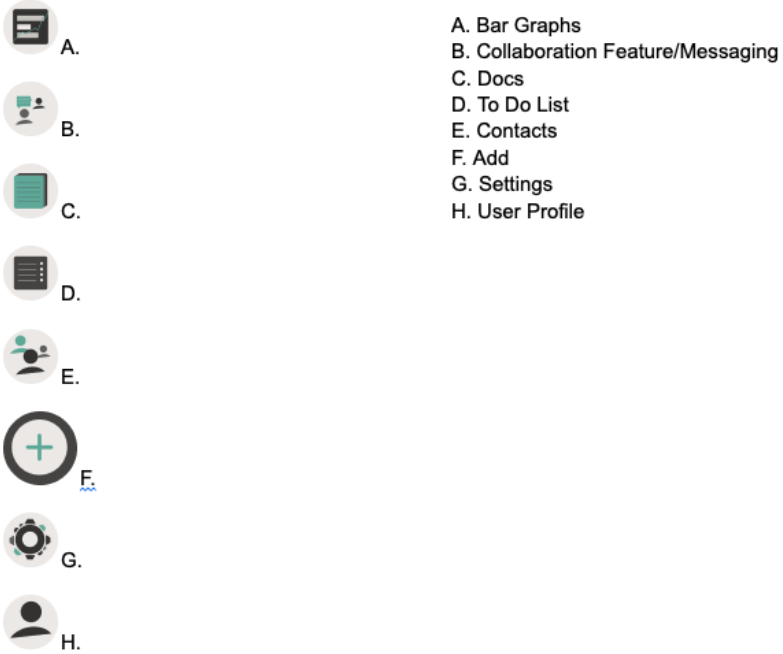
Figure 1: Creating Labels for Icon

A.

B.

C.

D.

E.

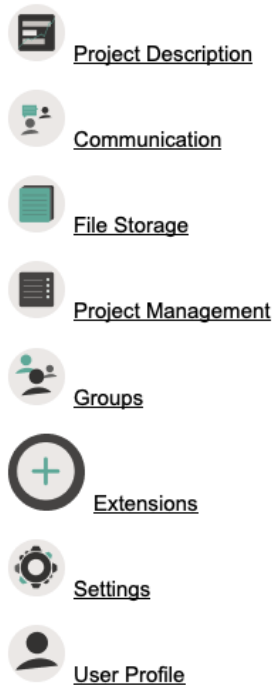F.

G.

H.

A. Bar Graphs
B. Collaboration Feature/Messaging
C. Docs
D. To Do List
E. Contacts
F. Add
G. Settings
H. User Profile

Figure 2: Matching Labels to Icons

Project Description

Communication

File Storage

Project Management

Groups

Extensions

Settings

User Profile

Table 1: Labels

I. User profile
J. Settings
K. Communication
L. File Storage
M. Project management
N. Groups
O. Project description
P. Extensions

Task-based Scenario
1. First, navigate to the "Communications" section for your CSS480 course. Once you have done this, let me know you are finished.
2. Now, reorganize your list of messages by having unread messages listed first.
3. Select one of the conversations to view.
4. View your list of unread messages.
5. Select one of the missed messages to view.

Task-based Scenario Observations
● Originally clicked the Pop Out to view the detailed view

General Questions
● During this process, how did you feel?
  ○ Liked the organization of the application
  ○ Liked the left panel (messages)
● Were there any aspects of the application that were confusing?
  ○ The "Pop Out" and "Detailed View" was misleading
    ■ Suggested different naming conventions or having the "Detailed View" displayed before the "Pop Out"
● Were there any aspects of the application that you really liked?
  ○ Liked organization, panel, and the design
  ○ Reminded them of the Canvas and Discord applications apps
● Was anything missing from the application?

- - ○ Thought it was misleading to have an empty screen when clicking on a group (e.g., felt that something either not loading in correctly or was loading in)
      - ■ Suggested to have the "Project Description" be the main screen when clicking on a group
  - Did you ever feel lost while using the application?
    - ■ N/A
  - Anything else: N/A

Identified Problems
  - Reconsider design for the following icons: Project Description, Project Management, and Extensions
  - Reconsider the home screen when a user clicks on a group
  - Reconsider the layout of the "Pop Up" and "Detailed View" buttons