

INFO31179 Human Computer Interaction

Assignment Two

February 3 2025

Muhammad Choudhary

991630737

P1) Procedure of NeedFinding

1) Who are the end users (audience) of the app you designed a prototype for?

The end users of my app are students that are enrolled in school such as college or university. These end users are young adults that grew up with smartphones and are technologically savvy. But my app is also designed for mature students, people who are much older and may not be too familiar with technology. The end users of my app are also students with disabilities such as visual, hearing or mobility. Another group of end users are students that are not fluent in English and may need a translation for the language they speak.

2) What should you consider for each group of audience for your app?

The end users that are young adults will want an app that will have a responsive, interactive and modern interface that will keep them engaged. These young adult students will also want real time notifications because they may forget to check the app. They should also be able to sign into the app through existing social media platforms like facebook or google.

The end users that are mature students will need features such as clean and easy to use mobile interfaces. These end users may not be completely familiar with technology and will need help in using the app. The mature students may also be taking care of dependents like children and will need adjustable notifications. They may not want to be distracted with notifications from the app while they are taking care of their children.

The end users that have disabilities need the app to work with screen readers and have the options to customize the app. Users with disabilities should have customization options such as changing the colour contrast, font size and the spacing between the texts. End users with mobility challenges should have easy to use buttons and navigation. Overall, the user interface of the app should support students with disabilities and not hinder them.

End users that are not fluent in speaking English, should be able to easily change the language of the app. The app should support a wide range of languages and should also adjust the user interface to accommodate for different languages. For example, languages like Arabic or Farsi

have text that reads from right to left. The user interface should be flexible and adjust to this change in language. The app should also use universally understood icons, so that it's easy to navigate regardless of the language of the end user.

3) Find similar successful apps (minimum 5 apps) to your application, and investigate what users liked or disliked about the application. Mention top five apps almost similar to yours.

All of the following apps allow users to access their school course materials, deadlines and assignments.

Brightspace Pulse:

User Likes: Easily login with school credentials and access all the course materials. Very easy to stay up to date with courses because of the push notifications. Really great feature to visualize the upcoming assignments and tests through a graph.

User Dislikes: Not able to access all the course material through the app and needs to open up a browser to access it. The app is very buggy and does not show all the course content. It crashes very often and the user interface can be designed better.

Canvas Student:

User Likes: The Canvas Student has a seamless user interface that makes it very easy to use on phones. End users love that it has a lot of tools such as push notifications, send messages and post to discussions.

User Dislikes: Many users complain that the app is very buggy on android devices. Some users find the app difficult to login and sign up for. The initial setup of the app is very daunting for many users.

Google Classroom:

User Likes: Users like that they use all the other google applications such as google drive, slides, docs and sheets with the app. Allows students to really have good discussions on the app.

User Dislikes: Users hate that the notifications are not customizable and are constantly distracted by them. Many users also have a very difficult time to login with their school credentials.

Moodle:

Likes: Offers a lot of customization for users to set up their app. It is also open source and completely free to use. Many users like that you can easily scan and upload documents directly from the app.

Dislikes: The user interface feels very outdated and needs to be updated. Some users also claim that the user interface is very complicated and needs to be simplified.

Schoology:

Likes: Many users like that the app has many features of the website. Features like accessing course materials, quizzes and discussions directly from the app. The app also allows parents to keep track of their children's progress in school.

Dislikes: The design of the app is very clunky and hard to use. The app also crashes very often and makes it very difficult to login.

4) What examples of latent needs can you think of?

Many students use other applications for group chats instead of the app they use to view course material. Their work around for this is installing another communication app and adding all their classmates. Instead, the courses app should have built in features to create group chats per courses.

Many users download course materials when they know they might have connectivity issues or are offline. Users also can only use the app when they have an internet connection. The app should have an offline mode that downloads all the courses for the user. Therefore, the user does not have to fear losing internet connection or manually downloading all the course materials.

Users should also be able to get advanced analytics for how long they spend on course materials and assignments. These analytics should help users in understanding how long it takes them to learn content and complete assignments. All of these analytics will help users learn more effectively and do well in their courses.

Users live in a world full of many distractions and suffer from short attention spans. The app should have features that create a game out of learning. There should be leaderboards, points and rewards for users to keep them engaged. Creating a game out of learning will also help students learn more effectively.

5) What are good ways of finding latent needs?

A good way of finding latent needs is to understand the feedback that users give about the app. But it's not just about taking the feedback directly but instead understanding what work around the user is making to fulfill their needs. Many times users will complain about the app not having a function. But they will find their own work around to complete that function and help fulfill their need. I need to look deeper and understand how I can create a feature to fulfill that need. Another good way of finding latent needs is understanding how the users are using the app. Analyze the behavior of the user and see if they are using the app in an inefficient or wrong manner. This analysis could lead to features that will help users make use of the app more effectively.

Needfinding and Requirements Gathering:

The method I used was called hacks and workarounds. I noticed that many students use apps for course content like Brightspace Pulse. They would always leave the app and go to the browser to access the course website like Slate. They are using a work workaround to fulfill the need to access more features. This means that a need that users want is the full functionality of the course website in an app. I also asked other students that are not fluent in English about a work around they use. Students would copy the text from the app and paste it into google translate, in order to view a translation in the language they understood. The app should allow users to change languages.

I also used the needfinding method called participant observation. I used the Brightspace Pulse app and found that it had many user interface issues. The app was very slow and would sometimes load for a long time. I also noticed that there is no dedicated group chat for a course, instead I have to use other apps for group chats. Another issue I noticed with many apps is that they don't confirm before an assignment is submitted. This makes it very easy to submit an assignment accidentally. I also noticed that many apps don't have a screen to get answers for questions and don't have useful error messages that help users.

Based on the method hacks, workarounds and participant observation. I created a list of requirements for my own app:

Being able to access all the course content from the app. All the course content such as pdfs, word document and powerpoints should be available directly from the app.

The app should also have all the important functionalities such as changing language, confirmation messages, inquiry page and useful error messages.

The app should also have a user interface that is easy to use and should not take a long time to load.

Procedure of Competitive Analysis:

These are names of the top five competitor app:

Brightspace Pulse, Canvas Student, Google Classroom, Moodle and Schoology

Competitor Analysis Matrix:
















Features/Parameters	My App	Brightspace Pulse	Canvas Student	Google Classroom	Moodle	Schoology
Course Material Access (10 points)	Yes	Yes	Yes	Yes	Yes	Yes
Submitting Assignment Feature (10 points)	Yes	Yes	Yes	Yes	Yes	Yes
View Grades (5 points)	No	Yes	Yes	Yes	Yes	Yes
Push Notifications (10 points)	No	Yes	Yes	Yes	Yes	Yes
Offline Access (5 points)	No	Only Limited	Only Limited	Only Limited	Yes	No
Third party support like Microsoft Office or Google Drive (5 points)	No	Yes	Only Limited	Only Limited	Yes	Yes
Single Sign On (5 points)	No	Yes	Yes	Yes	Yes	Yes
Support for screen readers (5 points)	No	Yes	Yes	Yes	Yes	Yes
Adjusting Font Size for accessibility (10 points)	No	Yes	Yes	Yes	Yes	Yes
Notification Settings (10 points)	No	Yes	Yes	Yes	Yes	Yes
Different Language Support (10 points)	No	Yes	Yes	Yes	Yes	Yes
Modern UI Design (10 points)	Yes	Yes	Yes	Yes	No	Yes
Search Function (3 points)	No	Yes	Yes	Yes	Yes	Yes
Integrated Email and Messaging (10 points)	No	Yes	Yes	Yes	Yes	Yes
Course Group Chats (10 points)	Yes	Yes	Yes	Yes	Yes	Yes
Total Score	2	7.5	7.2	7.2	7.5	7.5

Please note that the apps that have a feature which is “Only Limited” did not receive any points.

Here is a list of UX/HCI issues of my competitors:

- Brightspace Pulse does not show the course content from the app
 - Users have to leave the app and go into the browser
- Canvas Student may have a Modern UI
 - But has a very complex user interface and is not easy to navigate
- No settings to change the language of the app
- No accessibility support such as adjusting for screen sizes or text to speech features
- No customizations of the colour palette
 - Colour palette of the app does not have enough contrast
 - Makes it harder for users to read text
- Many competitors don't have a feature to read text from the screen
- They also don't have confirmation messages, useful error messages and inquiry pages

Design Principles Score for Prototype:

Design Principle	Score (1-5)	Explain your method for improving the design principle for your app, if not applicable please write N/A
 Discoverability	3	Some buttons could stand out more so that users know that they can take action by clicking
 Simplicity	5	My app has just the right amount of information so that users follow an easy process to complete tasks
 Affordances	3	The buttons should have icons to help users understand that its something they can click
 Mapping	4	The assignment submit button should be two buttons, upload documents and then another submit button
 Perceptibility	4	Their should be checkmarks for users to understand if a message has been read or not
 Consistency	5	The app does have a consistant design to many different platforms people already use
 Flexibility	4	App should have a section called recent viewing that allows student to quickly view content they have already viewed
 Equity	3	The assignment submit button should tell users what file types can be submitted
 Ease	3	Their should be a feature to send voice messages and upload pictures in group chat, makes communication easier.
 Comfort	1	App should have settings to adjust font size and change from light mode to dark mode.
 Structure	5	My app does have a good structure where all the related things are grouped together
 Constraints	3	There should be a dialog box that appears and asks the user if they actually want to submit the assignment.
 Tolerance	3	Users should have an ability to delete messages in group chat
 Feedback	3	Their should be an easy to understant error message if the assignment submission fails. Also provide solution.
 Documentation	4	There should be a help button on the different app screen. This help button should provide link to documentation.
Average	3.53333333	The average will be calculated automatically. If design principle is not related please put 5 for its score

Link to Figma Design:

https://www.figma.com/design/n3NwHRDDveASKrujJTzNQC/muhammad_choudhary_a2?t=eQj4gn6QlOBVBnXI-1

Link to Github Repo: <https://github.com/freeHashBrown4/muhammad-choudhary-prototype>

Link to Youtube Prototype Demo: <https://youtu.be/OT2PM5JJ2P8>

Please scroll to next page to view screenshots of different screens for the Final Design

Page 7: Course List Screen

Page 8: App Settings Screen

Page 9: Calendar Screen One

Page 10: Calendar Screen Two

Page 11: Individual Course Screen

Page 12: Inquires Screen

Page 13: Assignment List Screen

Page 14: Assignment Submission Screen

Page 15: Submission Confirmation Screen

Page 16: Submission Error Screen

Page 17: Course Group Chat List Screen

Page 18: Course Group Chat Screen

Page 19: Course Group Chat Setting Screen

Page 20: Course Group Chat Keyboard Screen

Page 21: Course Group Chat Message Option Screen

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Course List

PROG3541 Programming Principles
Winter 2025

HIST2545 Early Medieval History
Winter 2025

MATH2564 Discrete Mathematics
Winter 2025

HIST1025 World War 1 in Europe
Winter 2025



Calendar



Courses



Chat

9:41



Settings

Adjust Font Size



Dark Mode



Contrast

100%



Change Language



Calendar



Courses



Chat

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Calendar



February



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Assignment One
HIST2545



Calendar



Courses



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Calendar



February



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Assignment Two

MATH2564



Quiz One

HIST1025



Calendar



Courses



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PROG3541 Programming Principles



Course Information



Schedule



Content



Assignments

————— Recently Viewed —————



Week Two



Understanding Variables



Calendar



Courses



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Inquiries



How to submit my assignment?



How to change the font size?



Where can I find the course content?



Where can I view my assignments?



Calendar



Courses



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Assignments



Assignment One



Assignment Two



Assignment Three



Calendar



Courses



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Assignment One

Due Date:



Monday January 20 2025 11.59 PM

Instructions:

Complete the programming problems under week 1 and submit solutions



Add a file

Only .pdf and .txt files are accepted



Submit



Calendar



Courses



Chat

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Assignment One

Due Date:

Monday January 20 2025 11.59 PM

Instructions:

**Complete the programming problems
under week 1 and submit solutions**

Submit Assignment

**Are you sure you want to submit your
assignment?**

Yes

No



Calendar



Courses



Chat

9:41



Assignment One

Due Date:

Monday January 20 2025 11.59 PM

Instructions:

Complete the programming problems under week 1 and submit solutions

Submission Error

There was an issue submitting the assignment. Please check if you have submitted the correct file format.

Try Again

Learn More



Calendar



Courses



Chat

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Courses Group Chat



PROG3541
Programming Principles



HIST2545
Early Medieval History



MATH2564
Discrete Mathematics



HIST1025
World War 1 in Europe



Calendar



Courses



Chat

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PROG3541 Programming Principles
Group Chat



John Doe

7:08 p.m.

Hello Everyone !!!



Jane Doe

7:12 p.m.

Hi John !!!



Sally Smith

7:13 p.m.

Hi Jane and John !!!

...

7:23 p.m.

Hey Everyone !!!



Type Message ...



Calendar

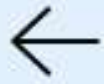


Courses



Chat

9:41



Settings

Notifications



Calendar



Courses



Chat

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PROG3541 Programming Principles
Group Chat



John Doe

7:08 p.m.

Hello Everyone !!!



Jane Doe

7:12 p.m.

Hi John !!!



Sally Smith

7:13 p.m.

Hi Jane and John !!!

...

7:23 p.m.

Hey Everyone !!!



Type Message ...



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PROG3541 Programming Principles
Group Chat



John Doe

7:08 p.m.

Hello Everyone !!!



Jane Doe

7:12 p.m.

Hi John !!!



Sally Smith

7:13 p.m.

Hi Jane and John !!!

...

7:23 p.m.

Hey Everyone !!!



Edit



Delete



Copy



Share



Type Message ...



Calendar



Courses



Chat