LEARN BETTER

STUDENT E-LEARNING COMPANION

Date: 11.04.2023

GROUP 3:
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Date: 02.04.2023
Group 3

Design Cycle 1 Activity 1
Design Cycle 2 Activity 1
Activity: Brainstorming and Problem statement
Phase in the design process: Discover
Name of collaborators: THOMAS BRODERICK (22071253), ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

Brainstorming was used to identify issues students were facing regarding studying from home. The goal was to understand the problems users were facing and to generate solutions. (written by Annika)

2) Justification for choice of this method in the design process

Brainstorming is a method used for generating ideas and exchanging information with collaborators on the problem that is being worked on. This method was used to determine the challenge's size at the beginning of the design phase. The brainstorming was performed on a mural to ensure flexibility in what was written and easy collaboration. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

The group collaborated to address the obstacles that students may encounter while studying remotely using a virtual learning application. We thus utilised a mural to assist us in documenting these problems and their corresponding solutions. Then, each group member utilised an affinity cluster in order to consider potential necessary features that our prototype must have. Overall, our objective was to develop an officialised problem statement based on as much insight as possible regarding the fundamental issues that students may face when engaging in remote learning. In our tutorials and through communication outside of classes, we each contributed our individual ideas regarding what we felt virtual learning environments provided and did not provide. Annika sought to focus on brainstorming ways that the prototype could be developed in such a way that develops an app, while Tom sought to utilize his affinity cluster to primarily think of ways to ensure students in virtual learning could be effectively kept on task with their studies. Our group contemplated what would be best tailored to student needs whilst recognising different issues students may face when engaging in a virtual learning environment. We felt that using affinity clusters was an effective way to exchange ideas and knowledge amongst ourselves to reach a well-thought agreement. As a result of these brainstorming activities, the group produced the problem statement: "Students often get distracted when studying remotely. They do not have an authority figure supervising them and have no physical boundaries between studying and off time. This makes it difficult for students to get motivated or stay concentrated. How do we make sure students can motivate themselves and stay concentrated while studying remotely?" This problem statement was written by Annika through a combination of ideas from the brainstorming activities and the affinity cluster by herself, Tom, Yvonne, and Lana. Furthermore, we produced a goal and KPI: “Create an app that helps students to stay focused while also eliminate distractions.” The user’s goal in this would be to be able to concentrate and stay motivated during remote studying. Furthermore, the user wants to get good grades. This goal is hard to reach for the user as previously stated in the problem statement, there are no physical boundaries during remote studying. The user might forget to submit assignment because they can’t keep track of their workload and keep getting distracted by outside influences.(written by Tom)

Date: 05.04.2023
Group 3

Design Cycle 1 Activity 2
Design Cycle 2 Activity 2
Activity: Personas and HMW
Phase in the design process: Define
Name of collaborators: THOMAS BRODERICK (22071253), ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

To conquer the problem that the group chose, "How Might We" statements were employed. The goal was to make the problem more manageable. Furthermore, five personas were created, five of target users and one secondary users, to help develop a solution. (written by Annika)

2) Justification for choice of this method in the design process

A How Might We (HMW) statement turns a challenge frame into a solvable question. It organises the process of thinking about the issue and potential solutions, transforming difficulties into opportunities for innovative thinking.
HMW statements offer brainstorming sessions where you can explore concepts that could assist you in resolving your design challenges.
Personas are designed to create accurate and reliable representations of the designer's most important target audiences to use as a guide. Like HMW statements, it helps frame a challenge into a solvable concept. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

Regarding this stage of the design process, Tom, Yvonne, and Lana were responsible for creating a total of five personas that would demonstrate realistic scenarios in which users are able to utilise the features of the LearnBetter prototype for their own specific needs. Regarding Tom's 'Sarah' persona, he focused on addressing common challenges that can often be related to in-person learning, such as social anxiety, time management, and study organisation. Tom also formulated specific needs for Sarah's persona, such as connecting with peers without feeling intimidated, tools to help her prioritise and track her coursework, and a flexible learning environment that can help fit in with her busy schedule. Tom also wanted to mention features our app prototype contained, such as live study rooms, AI-powered Q&A, and module progress tracking to meet students' needs. In relation to Tom's 'Michael' persona, he wanted to focus on also addressing familiar challenges related to time management, procrastination, and stress with students engaged in a learning environment. Tom again formulated specific needs for Michael's persona to reflect best real-life challenges students may face, such as creating a realistic study plan, tools to help students stay on track and motivated, and a way to balance academic and work responsibilities. Tom then incorporated features present in our prototype, such as personalised study plans, study progress assessments, and stress-reducing music to help demonstrate their potential in a realistic scenario.

Regarding Yvonne's Muire persona, she sought to correlate several key features that LearnBetter offers to a realistic scenario like Muire's, where usage of the virtual learning application could help her achieve her goals. Firstly, Yvonne sought to emphasize the fact that Muire can study from home, which would allow her to save money on transportation costs and use her commuting time more productively through usage of the app's virtual nature. Secondly, she included the fact that

LearnBetter has pre-recorded lectures, coursework material and assignments available online, which Muire can access at any time, making it easier for her to manage her time between her job, college, and her children. Furthermore, Yvonne sought to include how Muire can communicate with her lecturers and other students virtually through the app's chatroom, or live group study sessions. She believed that this would ease feelings of isolation and allow her to ask for help with her work. As a result, Yvonne wrote a scenario that is very applicable to reality in which her persona, Muire, can achieve her goal of graduating and providing for herself and her children through usage of LearnBetter and its numerous features. Next, in relation to Yvonne's second persona, Luke, she decided to create this in a way in which LearnBetter would have several helpful features that will assist him with his studies. Firstly, Luke can access pre-recorded lectures which he can watch at his own pace and revisit if necessary. Secondly, Yvonne sought to apply the focus feature in LearnBetter to this persona to showcase how it could help Luke stay on track by blocking social media apps during designated study periods. She felt that this would help him create a smooth and uninterrupted environment for studying. Thirdly, Yvonne emphasizes the importance of the music feature in LearnBetter, as it will allow Luke to listen to music that promotes concentration and productivity, which can be particularly helpful for individuals with ADHD. Overall, Yvonne's persona ensured that that LearnBetter will provide people in a realistic environment like Luke's with the structure and organization he needs to succeed in his studies and overcome his challenges with ADHD.

Regarding Lana's Caoimhe persona, she sought to emphasize several key features that LearnBetter offers that could benefit Caoimhe in her studies. Firstly, Lana included that LearnBetter provides first-hand help whenever needed, which would be useful for Caoimhe as she struggles with dyspraxia and dyslexia. Secondly, Lana wrote that the focus setting in LearnBetter would help Caoimhe stay on top of her learning by turning off distracting notifications and providing soothing music to assist her brain in staying focused on one task. Thirdly, Lana emphasized that LearnBetter's chat section would enable Caoimhe to talk to others who may be in similar situations and help her realize that she is not alone. Thus Lana sought to write Caoimhe's persona in such a way that it shows how LearnBetter would help Caoimhe, a fictional person given a realistic scenario, stay on top of her studies while also caring for her sister and improve her concentration levels overall, thereby making it an excellent tool. Lana also decided to create a fifth persona named 'Eve', who was a second-year lecturer at UCC. She primarily directed Eve's persona towards addressing the issue of teaching her students effectively within a remote environment. Lana went on to explain that LearnBetter would best serve Eve's situation in the fact that the application's chat feature could allow Eve's students to directly message her – or one another - to ask questions or seek academic help. Furthermore, Lana explained how Eve's ability to upload educational content to the 'Education Videos' section of the application would assist students with accessing all of the necessary material that they require, which thus showcases an example of how LearnBetter could effectively serve both student and lecturer needs.

The group members then created their individual 'How Might We' statements that resulted from brainstorming different solutions to problems that students may face in a virtual learning environment. Many of Annika's HMW statements focused on improving concentration, setting up a productive environment, detecting distractions, motivating students to study, ensuring access to resources, and monitoring students' progress while studying remotely. Furthermore, Tom's HMW statements focused on improving and enhancing virtual learning experiences for students. Some areas addressed were engagement, user-friendliness, targeted support, accessibility, incentivisation, feedback, on-task behaviour, flexibility, active participation, enjoyable learning, and easier access to the virtual learning prototype. Finally, Yvonne's HMW statements revolve around exploring solutions that are focused on improving the issues of time management, organisation, productivity, communication, and interaction between students. Her statements also touch on the importance of mental health awareness, social connection, and practical application of course material.

As soon the group members were finished writing their individual 'How Might We' statements, each member then uploaded their document to the shared folder on SharePoint.(written by Tom)

Annika's HMW statements:

1. How might we help students concentrate better at home?
2. How might we set up an environment that allows students to work from home?
3. How might we know if students need support when studying remotely?
4. How might we prevent students from getting distracted at home?
5. How might we help motivate students to study remotely?
6. How might we detect when students are getting distracted?
7. How might we ensure students study at home?
8. How might we remind students to join lectures online?
9. How might we know if students are using the resources provided?
10. How might we ensure students have access to the same resources while studying remotely?

Tom's HMW statements:

1. How might we ensure virtual learning is more interactive and engaging for students?
2. How might we design a virtual learning platform that is simple to navigate and user-friendly for students?
3. How might we help identify areas where students struggle and provide targeted support and resources?
4. How might we create a more accessible virtual learning environment for students that might have visual or physical impairments?
5. How might we reward students in a virtual learning environment to incentivize them to stay on task?
6. How might we provide students with relevant educational feedback to facilitate a productive learning experience?
7. How might we design the virtual learning platform to best ensure students remain on task?
8. How can we develop virtual learning environments that allow students the ability to learn from anywhere, at any time, without being confined to one specific location?
9. How might we improve the accessibility of online learning?
10. How might we ensure virtual learning requires active, hands-on student participation?
11. How might we develop a virtual learning experience that creates more enjoyable learning?
12. How might we ensure students can easily access their virtual learning environment?

Yvonne's HMW statements:

Problem 1: Students struggle with time management in a virtual learning environment.

HMW1: How might we design a system that helps students to stay on top of their coursework?

HMW2: How might we provide support to students to help them manage their time more effectively?

HMW3: How might we support students prioritise their academic tasks in order to manage their time more effectively?

HMW4: How might we provide students with resources and personalized recommendations that helps them stay more organised with their assignments and coursework?

HMW5: How might we incorporate features that ensure students manage their time more productively?

Problem 2: Students feel isolated & disconnected from their classmates in a virtual learning environment

HMW1: How might we design a system that creates communication and interaction between students?

HMW2: How might we incorporate mental health awareness for students who are struggling with isolation and mental health problems?

HMW3: How might we encourage students to interact with each other in order to make them feel involved and connected?

HMW4: How might we provide students with opportunities to share perspectives with their classmates in order to build and develop a relationship with each other?

HMW5: How might we design an app that provides more opportunities for social interaction and collaboration among students?

Problem 3: Students lack hands-on and interactive learning experiences in a virtual learning environment

HMW1: How might we design an app that incorporates interactive learning systems that allow students to engage with their course material in a more hands-on way?

HMW2: How might we provide students with virtual labs or simulations that replicates an in-person version?

HMW3: How might we facilitate students with a system that applies course material in a practical way?

HMW4: How might we provide students with a virtual or augmented reality to create engaging learning experiences through the app in a virtual environment?

HMW5: How might we create interactive quizzes and games so that students can interact with course material in a practical context?

Problem 4: Students suffer with technical problems in a virtual learning environment?

HMW1: How might we design an app that is accessible and easy-to-use on all devices?

HMW2: How might we provide students with technical support resources and troubleshooting guides to help them quickly resolve technical issues?

HMW3: How might we incorporate feedback to help identify issues and areas for improvement within the app to enhance their virtual learning experience?

HMW4: How might we provide students with a user-friendly interface that is easy to navigate and has quick access to necessary features?

HMW5: How might we design the app to prioritise accessibility which ensures that all students can access the app regardless of physical disabilities or language proficiency?

Date: 04.04.2023
Group 3

Design Cycle 1 Activity 3
Activity: Sketches
Phase in the design process: Define
Name of collaborators: ANNIKA JUNGFLEISCH (22359923), YVONNE MORRISSEY (22338063)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

Designers use sketching, a specific type of drawing, to suggest, investigate, perfect, and express ideas. The designers can utilise sketching as a first step to address a design issue. (written by Annika)

2) Justification for choice of this method in the design process

Sketching ideas helps focus thoughts and simplifies the process for others to follow and comprehend what a designer is thinking. It is a short procedure to assist in problem-solving. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

During the define phase of the design process, we carried out an activity focused on sketches as a tool for generating and exploring design ideas. Each participant in the group project, contributed their own set of sketches to investigate different design possibilities for the design of our app.

My personal contribution to this activity involved sketching interface designs for the app, including a progress feature where the student has access to viewing how much time they had spent studying in a week and how many lectures and assignments they had completed. I sketched another possible interface design where lectures would be available to watch. Additionally, I sketched possible layouts for the design of the home page. I sketched other design possibilities of e-learning companions including a study clock and a wearable device.
Annika drew sketches of the interface of the app, as well as features that it could include. Some possible features Annika included were, a chat option, a group option, and a music option. Annika also drew sketches of other possible e-learning companions. An example of one involves a USB candy dispenser which the student would use while studying. It would dispense candy after a certain period of time. This product would assist the student in staying motivated.
Tom drew sketches of a possible logo for the app. Additionally, he sketched a prototype of the dashboard page that showcased how the app could be designed to display certain features of the app to students in a user-friendly way. In Tom's sketches he explored other possible learning companion's that we could design. He sketched a microphone where students could ask questions related to their study, and the microphone would give them a response. This would help students get quick answers to their questions without having to navigate away from their work. Another sketch Tom created was a motion detector that would prevent students from getting up and getting distracted. This feature would prevent students from getting side tracked.

The main outcome of the activity was a collection of sketches that allowed us to better understand the potential design elements of the app. By visually exploring different design options, we were able to enhance our understanding of what the app would look like. The sketches provided valuable insights and ideas that we could use to develop our project as we move into the next stage of the design process. (written by Yvonne)

For example, different features from Tom and Annika's sketches were incorporated into our prototypes. The low-fidelity prototype used Annika's sketch as a foundation. For the medium-fidelity prototype, we then went through every sketch relating to an app and included features that we thought were fitting.
From Tom's sketch, the Education Video feature and Progress feature were taken. A combination of Annika's Support feature and Tom's Help feature were also included. (written by Annika)

Date: 04.04.2023
Group 3

Design Cycle 1 Activity 4
Activity: Storyboards
Phase in the design process: Define
Name of collaborators: ANNIKA JUNGFLEISCH (22359923), YVONNE MORRISSEY (22338063)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

Storyboards are a useful resource for idea generation. They are used in design processes to mould the user journey and the persona. They assist designers in creating the requirements for the product. (written by Annika)

2) Justification for choice of this method in the design process

Storyboards are virtual guides that lead you through a design process. They make the designer aware of the design process that will follow. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

During this stage of the design process, each participant conducted their own set of storyboards to explore different situations for the design of an e-learning companion.

My personal contribution involved a situation where buses to university were not running meaning the student would have missed her bus. The student was provided with an app where her lectures were available to watch, and the student's problem of not being able to attend her in-person lectures were fixed.

Lana drew a storyboard of a possible situation where a student is struggling to concentrate due to distractions. In Lana's storyboards, she included features that would be included in the app that would prevent the student from being distracted. Such features included, were a "Restriction" feature which would lock certain apps from being used. This feature would prevent the student from using social media while studying and therefore getting distracted.
Tom drew a storyboard of a student completing a quiz. Once the quiz was completed, the app sent out a notification saying he had completed work. The app also informed the student of the remaining work that he had left to complete. When the student had completed all his work, he would be given a 45-minute study break. This situation would create structure in the student's study routine and prevents procrastination.
Annika drew a storyboard of a student struggling to do coursework. With the help of the app, the student was able to communicate with her classmates about the work. The conclusion of Annika's storyboard was that with using the app to seek help from their classmate's, the student was able to complete the work successfully.

The main outcome of this activity was a collection of storyboards that helped us to better understand the situation possibilities of the design of the app. By visually exploring the different problems a student may experience, we were able to refine our understanding of the concept of the app, and what features would assist student's virtual learning experience. The sketches will serve as a reference point as we move forth into the next phases of the design process. (written by Yvonne)

Date: 04.04.2023
Group 3

Design Cycle 1 Activity 6
Activity: Prototype (low fidelity)
Phase in the design process: Develop
Name of collaborators: LANA HOGAN DOWLING (22368272), ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

Designers put ideas into concrete forms, from paper to digital, through the experimental phase of prototyping. To record design concepts and test them on users, designers create prototypes with varied levels of fidelity. Low-fidelity prototypes are typically used to explore and test different design ideas and concepts quickly. Here the problem of students getting distracted when studying remotely was dealt with The goal was to perform user tests at an early stage and decide on improvements. (written by Annika)

2) Justification for choice of this method in the design process

Prototyping a potential product saves time by identifying and formulating the primary direction of the design. It offers the user a comprehensive picture of how the product will appear in the end. Designers may simplify the design development process by prototyping only critical interface elements. As a result, eliminate any unneeded parts. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

We decided to make our low-fidelity prototype from pieces of thicker paper, creating seven phone screens, each showing what would appear on your screen when pressing the different feature buttons. Each screen portrayed another image allowing us to get a rough idea of what the outcome of our app would look like.
I was in charge of making this low-fidelity prototype. Following our group decisions, I put them all together to create a layout for our app and give us a rough idea of what we were looking for in the next prototype. I began by drawing and cutting out seven identical phones and drew different screen results depending on the outcome you were looking for. We had five various features to "LearnBetter," so I drew a rough draft.
The primary outcome of the low-fidelity prototype was to allow us as a group to see what we could change to make the app more accessible and understandable to the public. Also, to give a rough idea of how the app would appeal to those needing it most, begin with user testing. (written by Lana)

Date: 01.04.2023
Group 3

Design Cycle 1 Activity 5
Activity: Protocol for testing
Phase in the design process: Develop
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

A protocol design, also known as a research proposal, is a written study approach. The protocol is valid if the essential information is included in the protocol design. The goal was to be as prepared as possible for user testing and know the app's flow better. (written by Annika)

2) Justification for choice of this method in the design process

While testing, the protocol allows designers to deliver a similar structure to every user. It validates the test. Participants would execute marginally to considerably different tasks if participants went into testing without a procedure and written out tasks. This would render the user testing ineffective. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

After Lana made a low-fidelity prototype during the lab in week 10, I started writing the task list for user testing.
The tasks I developed, which Tom, Lana, and Yvonne later endorsed, were as follows:

For this user test, the app is already installed on the device. We will ask the participant to test three features.

First feature:

1. Please open the app on your device.
2. Select a feature that will let you communicate with a lecturer or classmates.
3. Start a conversation.

Second feature:

1. Please open the app on your device.
2. Select a feature that will let you check your performance in your modules.
3. Based on the performance tracker, tell us how well you are doing in Interaction Design.

Third feature:

1. Please open the app on your device.
2. Select a feature that will let you listen to music.
3. Select one of the preselected playlists to listen to.

Examining how the participant interacts with the app and how quickly the work may be completed would be a priority. Furthermore, the participant would be asked to offer input on how well they could interact with the app and whether it would help them study from home. (written by Annika)

Date: 03.04.2023
Group 3

Design Cycle 1 Activity 7
Activity: Notes and data from user tests
Phase in the design process: Deliver
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

The practice of recording information when performing user research, studies such as user interviews, usability testing, interviews, and so on, is known as user research notetaking. (written by Annika)

2) Justification for choice of this method in the design process

Taking notes is a key aspect of usability research. It will assist designers in recording the user's experience throughout the user testing and reveal insights that participants would not have discovered otherwise. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

I read the instructions to the participant and took notes simultaneously because the low-fidelity prototype's user testing was carried out over spring break.
The participant was a 19-year-old college student.
The prototype was presented to the participant, who was instructed to closely follow the directions. Three of the app's five functions were explored by the participant. Due to the brief time frame for this assignment, we only chose to go through three features. We intended to create a more elaborate version of the app for our medium-fidelity prototype.
After the user testing, the participant was asked for input on the app's general interface, button labelling, app flow, and content. (written by Annika)

Date: 03.04.2023
Group 3

Design Cycle 1 Activity 8
Activity: Findings from user tests, recommendations to improve
Phase in the design process: Deliver
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

The goal of feedback is to increase performance. Participants must assess whether this is occurring and then make changes to the product. Taking notes is an essential part of the feedback to remember and adapt the product later. (written by Annika)

2) Justification for choice of this method in the design process

Feedback helps to enhance the product, promote user engagement, and establish what products users need. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

Regarding the interaction with the app, everything went perfectly. The tasks were carried out effectively by the participant. Every button's function and intended use were evident to the participant. Feedback was given on the content of the app.

Three areas of the prototype received recommendations:

1. The performance feature should be more individualised for each module. In general, it should provide the user with more information about their performance.
2. The feature name “Lock/ Restrict app on device” is too long/wordy.
3. The chat feature misses a screen where users can choose whom to communicate with.

Overall, the interaction part of the app is clearly understandable, and the participant is aware of what to anticipate.
The content of the app still needs to be worked on and improved.
This conclusion was shared with the rest of the group, and with the help of Tom and my sketches and storyboards, a plan for the medium-fidelity prototype was created. (written by Annika)

Date: 04.04.2023
Group 3

Design Cycle 2 Activity 4
Activity: Prototype (medium fidelity)
Phase in the design process: Develop
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

Designers put ideas into concrete forms, from paper to digital, through the experimental phase of prototyping. To record design concepts and test them on users, designers create prototypes with varied levels of fidelity. Medium-fidelity prototypes offer a balance between speed and detail. They are often used to test the functionality and usability of a design. (written by Annika)

2) Justification for choice of this method in the design process

Prototyping a potential product saves time by identifying and formulating the primary direction of the design. It offers the user a comprehensive picture of how the product will appear in the end. Designers may simplify the design development process by prototyping only critical interface elements. As a result, eliminate any unneeded parts. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

Further specifics and app features were decided upon after the group conducted some brainstorming on their chosen communication service.
The "LearnBetter" app name and logo were taken from my storyboard and sketches. Two more features were added to the current five. The group added an education video section from Tom's sketches and a group learning feature from mine. In addition, we changed Support to Settings and Lock/Restrict app on device to Focus.
We chose Figma because of its prototyping capabilities, enabling you to collaborate on a single file, to be able to quickly share your work and to test interactions within Figma.
We divided up the necessary elements for the app between Yvonne and me. The exact division is listed in the Figma file.
While working on the medium fidelity prototype, we communicated via our chosen communication service to resolve arising issues and ensure we created a coherent design. For instance, using the same names and profile pictures for the same person across frames.
While designing the different frames, we started incorporating Figma's prototype function and connected frames with each other to create an interactive prototype.
A screen recording of the app's usage has been uploaded to the shared folder, with screenshots of the app frames and a link to our Figma file. (written by Annika)

Date: 10.04.2023
Group 3

Design Cycle 1 Activity 5
Activity: Protocol for testing (medium fidelity prototype)
Phase in the design process: Develop
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

A protocol design, also known as a research proposal, is a written study approach. The protocol is valid if the essential information is included in the protocol design. The goal was to be as prepared as possible for user testing and know the app's flow better. (written by Annika)

2) Justification for choice of this method in the design process

While testing, the protocol allows designers to deliver a similar structure to every user. It validates the test. Participants would execute marginally to considerably different tasks if participants went into testing without a procedure and written out tasks. This would render the user testing ineffective. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

After Yvonne and I finished working on the medium fidelity prototype on Figma, I wrote the user testing protocol. I incorporated the feedback from the draft submission and included questions we wanted to ask the participant after the user testing. Below is the protocol we used. (written by Annika)

Tasks:
For this user test, the app is already installed on the device. We will ask the participant to test five features.
<u>First feature:</u>

1. Please open the app on your device.
2. Create an account on the app.
3. After you have created an account, sign in.
4. View your profile settings.
5. Edit your profile information.

<u>Second Feature:</u>
P1 will start from the screen they are left on after completing the tasks for the first feature.

1. Return to the app's Home Screen.
2. Select a feature that lets you view your performance in your modules.
3. Go to the part where the app will give you more details on your performance.
4. Select module CS4052.
5. Go to the Lectures of that module.
6. Contact someone for help.
7. Return to the Home Screen.

<u>Third feature:</u>
P1 will start from the Home Screen.

1. Select a feature that will let you chat with someone.
2. Go to chat with the AI.

3. Return to the chat overview.
4. Go chat with someone from your class from module CS4052.
5. Return to the Home Screen.

Fourth feature:

1. Select a feature that will let you learn with others.
2. Select the option to study with people.
3. Join a room.
4. Return to the Home Screen.

Fifth feature:

1. Select a feature that will help you concentrate during your studies.
2. Set a limit for YouTube.
3. Activate the Focus.
4. Return to the Home Screen.

Questions to ask participants after the user test:

1. What part of the app did you like most?
2. What part of the app did you like the least?
3. Do you prefer more but less cramped screens to decide which path you take within the app or more cramped but therefore fewer screens?
4. Did you know how to navigate the app without explicit explanations or instructions?
5. Did you know what to expect from each button?
6. Did a button's action surprise you?
7. How did you feel about the time it took you to complete each task? Does it take too long to navigate through the app?
8. How did you find the shortcuts provided in the app?
9. Any other feedback?

Date: 10.04.2023
Group 3

Design Cycle 1 Activity 7
Activity: Notes and data from user tests (medium fidelity prototype)
Phase in the design process: Deliver
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

The practice of recording information when performing user research, studies such as user interviews, usability testing, interviews, and so on, is known as user research notetaking. (written by Annika)

2) Justification for choice of this method in the design process

Taking notes is a key aspect of usability research. It will assist designers in recording the user's experience throughout the user testing and reveal insights that participants would not have discovered otherwise. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

As done previously, I read the instructions to the second participant and took notes simultaneously because this user testing was also performed during spring break.
The prototype was presented to the participant, who was instructed to closely follow the directions. The app's five features were evaluated. We only focused on five aspects for this assignment because we had limited time.
Below are the notes I took during the user testing.

Participant 2: a 19-year-old female college student at UL

P2 was asked to closely follow the instructions given to her.

When following the task for the first feature, P1 struggled to find the profile settings. She clicked on the settings button first, and after seeing that there was no account option, she went back and clicked on the profile picture.
During the task of features two and three, the participant didn't use any of the provided shortcuts within the app and instead went through every single frame until reaching the Home Screen.
Regarding the rest of the interaction with the app, everything went smoothly. P2 was able to execute the tasks for features four and five successfully.

Answers to the questions the participant was asked after the user test:

1. What part of the app did you like most?
The general design and colour scheme are very soothing. The app is overall easy to navigate.

2. What part of the app did you like the least?
The path to the account setting could be clearer. That the profile picture is clickable wasn't clear.

3. Do you prefer more but less cramped screens to decide which path you take within the app or more cramped but, therefore, fewer screens?
Less cramped but therefore more screens are preferred to avoid an information overload.

4. Did you know how to navigate the app without explicit explanations or instructions?
Yes, the app was easy to navigate.

5. Did you know what to expect from each button?
Yes.

6. Did a button's action surprise you?
No. Maybe that the profile picture on the Home Screen was clickable, but not the action that followed when it was clicked.

7. How did you feel about the time it took you to complete each task? Does it take too long to navigate through the app?
Some features are hard to reach. For example, if you just want to reach your module information, e.g., lecture videos and slides.

8. How did you find the shortcuts provided in the app?
They weren't visible enough and, therefore, not used. P2 would have used them if seen.

9. Any other feedback?
No.
(written by Annika)

Date: 10.04.2023
Group 3

Design Cycle 1 Activity 8
Activity: Findings from user tests, recommendations to improve (medium fidelity prototype)
Phase in the design process: Deliver
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

The goal of feedback is to increase performance. Participants must assess whether this is occurring and then make changes to the product. Taking notes is an essential part of the feedback to remember and adapt the product later. (written by Annika)

2) Justification for choice of this method in the design process

Feedback helps to enhance the product, promote user engagement, and establish what products users need. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

Three parts of the app received criticism:

1. Account Settings
2. Shortcuts
3. Path to module overview/lecture videos

1. Account Settings

To make the profile picture seem clickable, we could add the name of the student who is logged in below the profile picture. P2 confirms that she would have been more likely to click it if the name had been displayed below.
Furthermore, we could add a drop shadow to the profile picture to make it stand out from the background and make it seem like a button.

2. Shortcuts

The app provides two shortcuts.
The first is located within the chat feature. It lets the user return to the Home Screen faster.
We could locate the button higher and highlight it in a more visible colour to make it stand out more.
If the button still gets overlooked, we could consider adding it directly below the back button. This might be challenging as there is little space available there.

The second shortcut is within the performance feature. After the user clicks on “Connect lecturer” or the arrow to get to the class form, the user has a separate button available that returns to the previous Performance Screen. The back button will bring the user to the chat feature screens. Within Figma, we could duplicate the lecturer chat frame and the chat forum frame and change the back buttons path to return to the previous Performance Screen and get rid of the separate button to limit confusion and make navigation easier. If the user selects the chat feature, the chat screens back button will still return to the chat overview as it would be a different Figma frame.

3. Path to module overview/lecture videos

The performance feature leads to a module overview. The module overview by itself is hard to reach. For example, if you just want to reach your module information, e.g., lecture videos and slides, the user has to click through every performance screen.
We could add a module button on the Home Screen to solve this.

Overall, the user testing went very well. The feedback and criticism we got can be easily incorporated into the new and improved prototype. We will continue to use Figma and make our high-fidelity prototype there. (written by Annika)

Date: 10.04.23
Group 3

Design Cycle 2 Activity 5
Activity: Prototype (high fidelity)
Phase in the design process: Develop
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

Designers put ideas into concrete forms, from paper to digital, through the experimental phase of prototyping. To record design concepts and test them on users, designers create prototypes with varied levels of fidelity. High-fidelity prototypes are realistic representations of the final product. They are typically used to test specific features and interactions. They help evaluate the overall user experience in a more realistic setting. We made the decision to reuse our medium-fidelity prototype and incorporate the feedback we got. The goal was to improve our prototype further. (written by Annika)

2) Justification for choice of this method in the design process

Prototyping a potential product saves time by identifying and formulating the primary direction of the design. It offers the user a comprehensive picture of how the product will appear in the end. Designers may simplify the design development process by prototyping only critical interface elements. As a result, eliminate any unneeded parts. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

We continued using Figma as we had a positive experience while creating our medium-fidelity prototype. I duplicated the medium fidelity prototype file and renamed it. It would now be the high-fidelity prototype.
The first change I made was regarding the account settings on the Home Screen frame. I added the name of the student that is logged in below the profile picture. I underlined the name as that is usually an indication that the text is a hyperlink and leads to another page or screen. I connected the text frame to the account settings frame. The user can now click the name or the profile picture to reach the account settings.
Next, I added a drop shadow to the profile picture, as mentioned in the user test findings.
Furthermore, I changed the first account settings frame. I moved the whole layout to the middle of the screen as the flow of the app seemed disrupted by the frame coming from the left side.
The second change I made was the shortcuts. I first changed the colour and size of the return home button within the chat frames. This change did not seem enough. I felt like the button would still be overlooked. I used one of Figma's plugins to insert an illustration that would become the new return home button. I increased the size and placed it higher on the screen.
Furthermore, I duplicated the lecturer chat frame and the chat forum frame and changed the back button path to return to the previous Performance Screen. I then removed the separate button to limit confusion and make navigation easier. If the user selects the chat feature, the chat screens back button will still return to the chat overview as it would be a different Figma frame.
The third change I made was the module overview path. I add a module button on the Home Screen. It is connected directly with the module overview.
A screen recording of the app's usage has been uploaded to the shared folder, with screenshots of the app frames and a link to our Figma file. (written by Annika)

Date: 10.04.23
Group 3

Design Cycle 2 Activity 3
Activity: Presentation of the improved (final) prototype
Phase in the design process: Deliever
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

Designers might create presentations on the improvements they made between prototypes to give their clients insides into the design process. It allows clients to understand how their money is used and how new data from user testing and general feedback is processed and incorporated. (written by Annika)

2) Justification for choice of this method in the design process

Presenting improvements between prototypes can help the client understand the design process and the designers themselves. It contributes to finding errors in the development. Additionally, presenting the changes between prototypes gives designers a better general understanding of where the prototype and development are heading. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

After I finished the high-fidelity prototype on Figma and the other group members approved of the changes, I started making the presentation of our group results and improved prototypes.
I used the material from the shared folder. I uploaded the screenshot I used to the shared folder as well.
I started the presentation by stating our problem statement, goal and KPI. After that, I delivered one sketch of each group member and our storyboards to showcase our thought process before finalising the idea for our app prototype.
The presentation then goes over our low-fidelity prototype. How I inserted the pictures in the presentation shows how a user would interact with the prototype.
After that, I included our user testing protocol, notes and findings.
The presentation then presents the improved medium-fidelity prototype.
The user testing protocol, notes and findings again followed this, before introducing our high-fidelity prototype.
Because the high-fidelity prototype is very similar to the medium-fidelity one, I decided not to go over every single frame again and just show the improvements I incorporated based on the feedback we got.
The presentation ends with a video, a walk through the app's usage, and our conclusion. (written by Annika)

Date: 10.04.23
Group 3

Design Cycle 2 Activity 9
Activity: Graphical user interface
Phase in the design process: Develop
Name of collaborators: ANNIKA JUNGFLEISCH (22359923)

Group Project Title: Student e-learning companion

1) Presentation and purpose in the context of the problem we were trying to address

A Graphical User Interface is an interface that uses interactive features like a button or menus to manage interactions with the system. It is a visual representation of an interface that shows an application's layout, features, and functionality. It allows users to interact with the interface as they would in a finished product. The goal was to determine the best way for a user to interact with the app and then design an interface. (written by Annika)

2) Justification for choice of this method in the design process

Graphical User Interfaces, or GUIs, are easier to understand for most users than text-based interfaces. Users can quickly identify, categorise, and explore choices because symbols, forms, and icons depict data. A feature can be obtained with just one touch. Its simplicity has taken over as the standard user interface for mobile devices. (written by Annika)

3) Description of the activity, personal contribution, and main outcome

Using Figma's built-in prototyping tools, we simulate user interactions, such as clicking buttons or navigating between screens, and see how the interface responds to user actions. Therefore, we have already created a GUI prototype with our medium-/high-fidelity prototype.
While creating our prototypes, we kept simple fonts and pale backgrounds to ensure readability. Once we had a functioning GUI prototype with Figma, we could use it to gather user feedback and test the user experience.

More information can be found in the report under the medium- and high-fidelity sections.

Overall, using Figma allowed us to efficiently create a high-quality GUI prototype, refine the design through user feedback, and produce an app that met the needs of our target audience. (written by Annika)

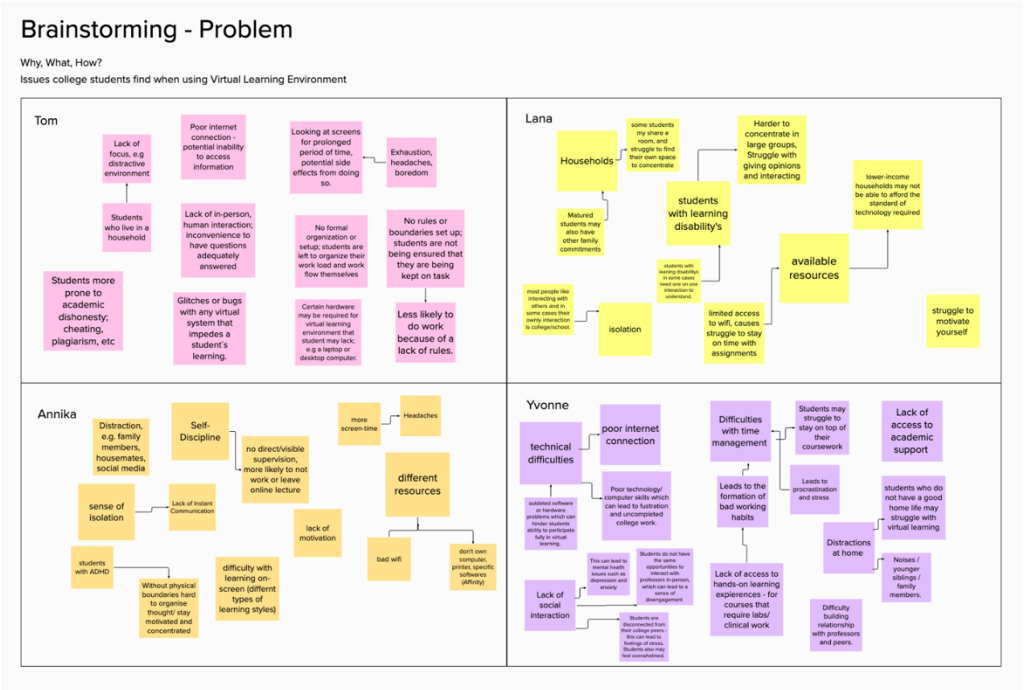
Date: 10.04.23
Group 3

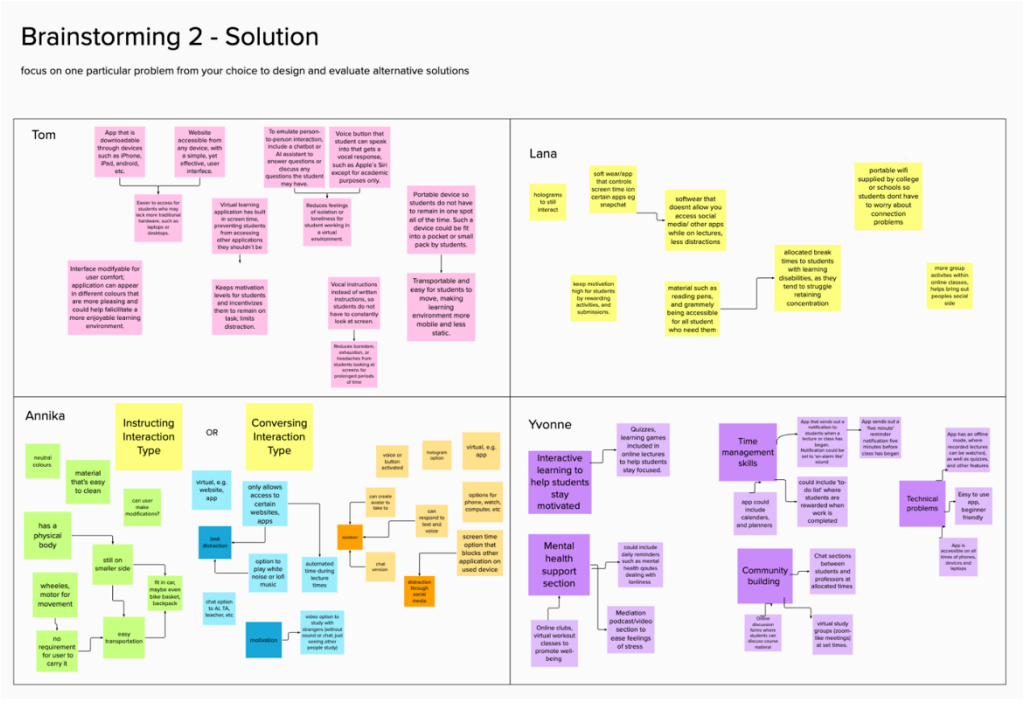
APPENDIX

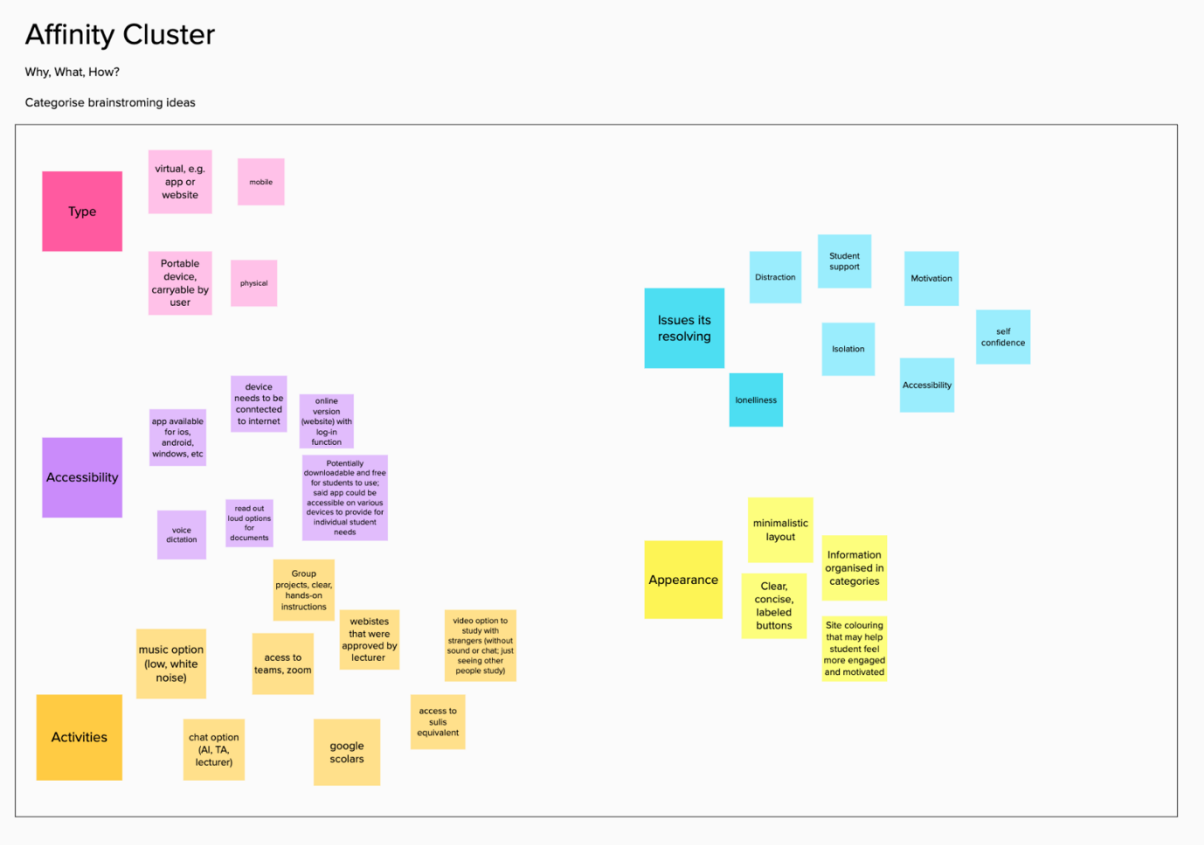
Group Project Title: Student e-learning companion

Name of collaborators: THOMAS BRODERICK (22071253), LANA HOGAN DOWLING (22368272), ANNIKA JUNGFLEISCH (22359923), YVONNE MORRISSEY (22338063)

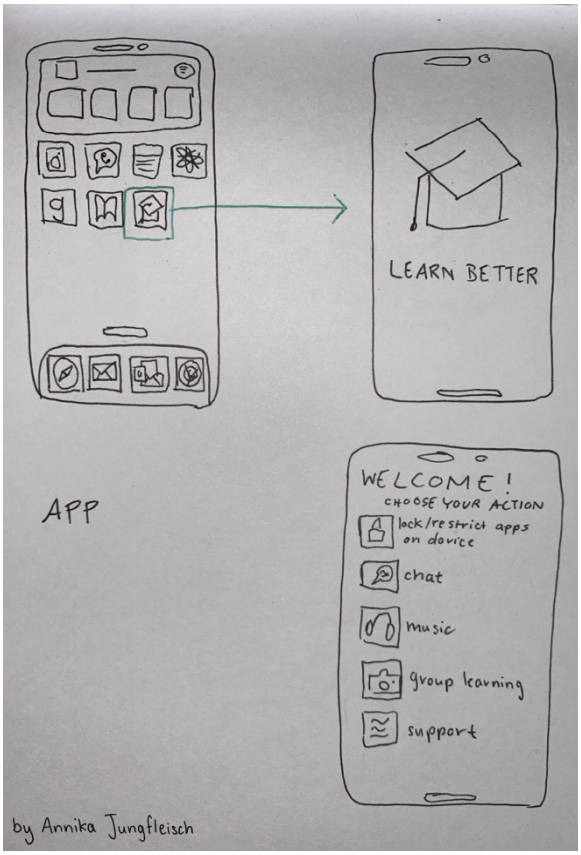
Additional Pictures for Brainstorming:

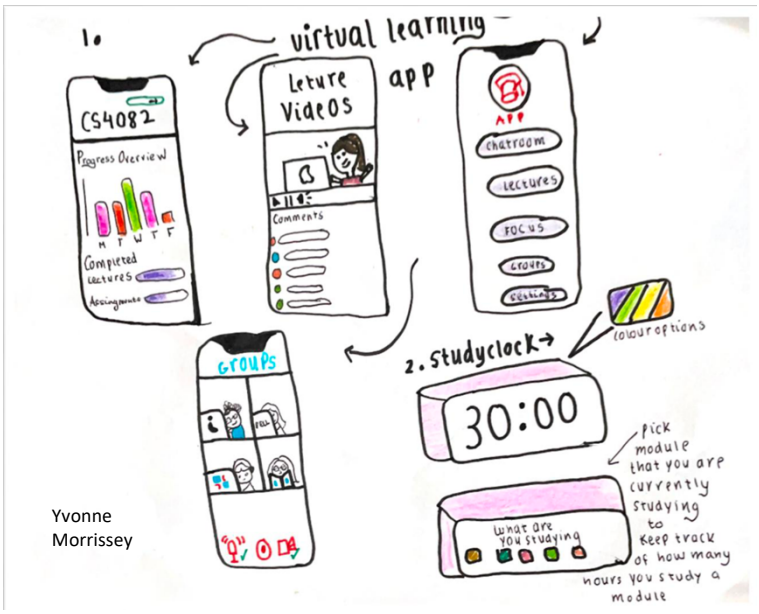


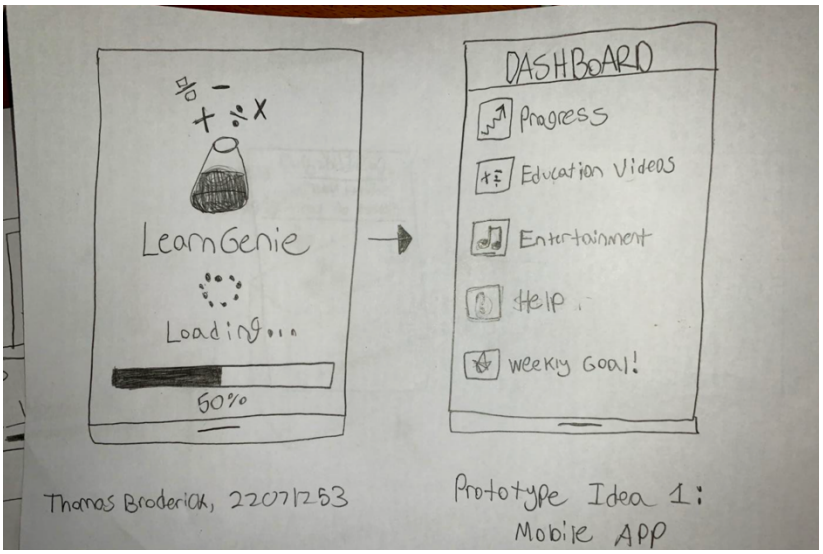




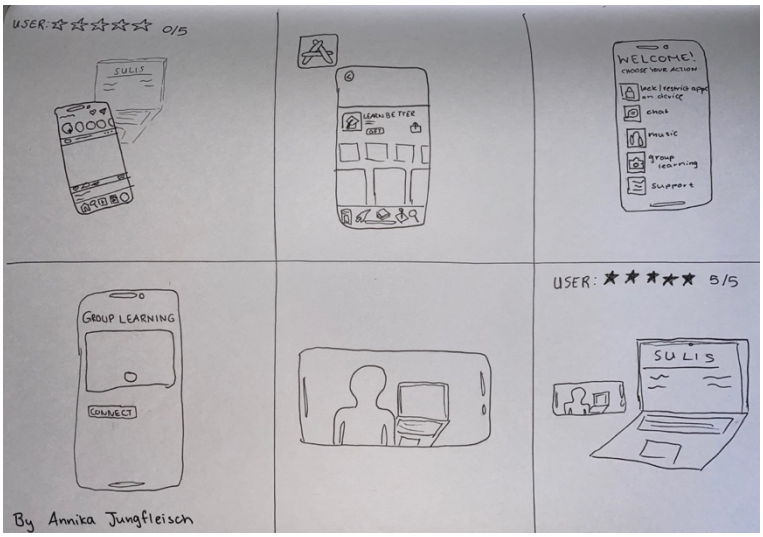
Additional Pictures for Sketches:

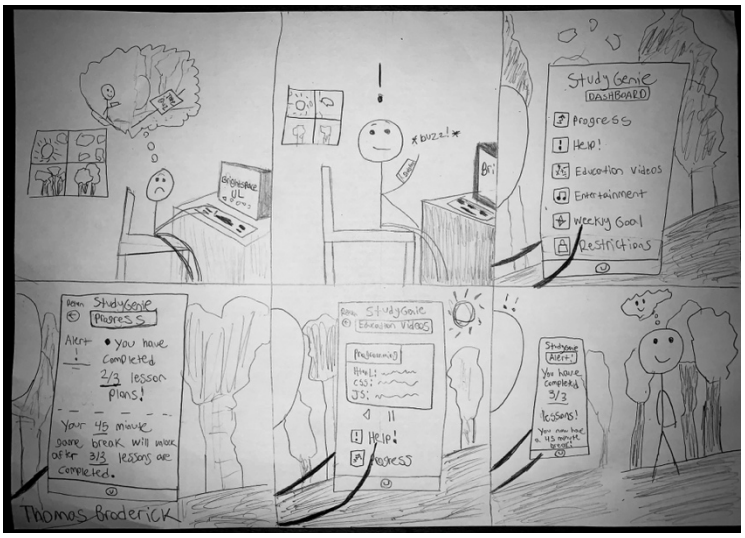


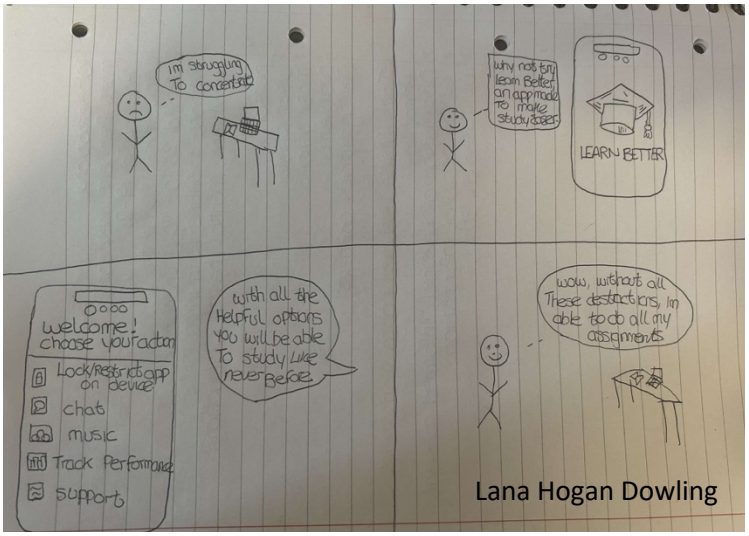




Additional Pictures for Storyboard:

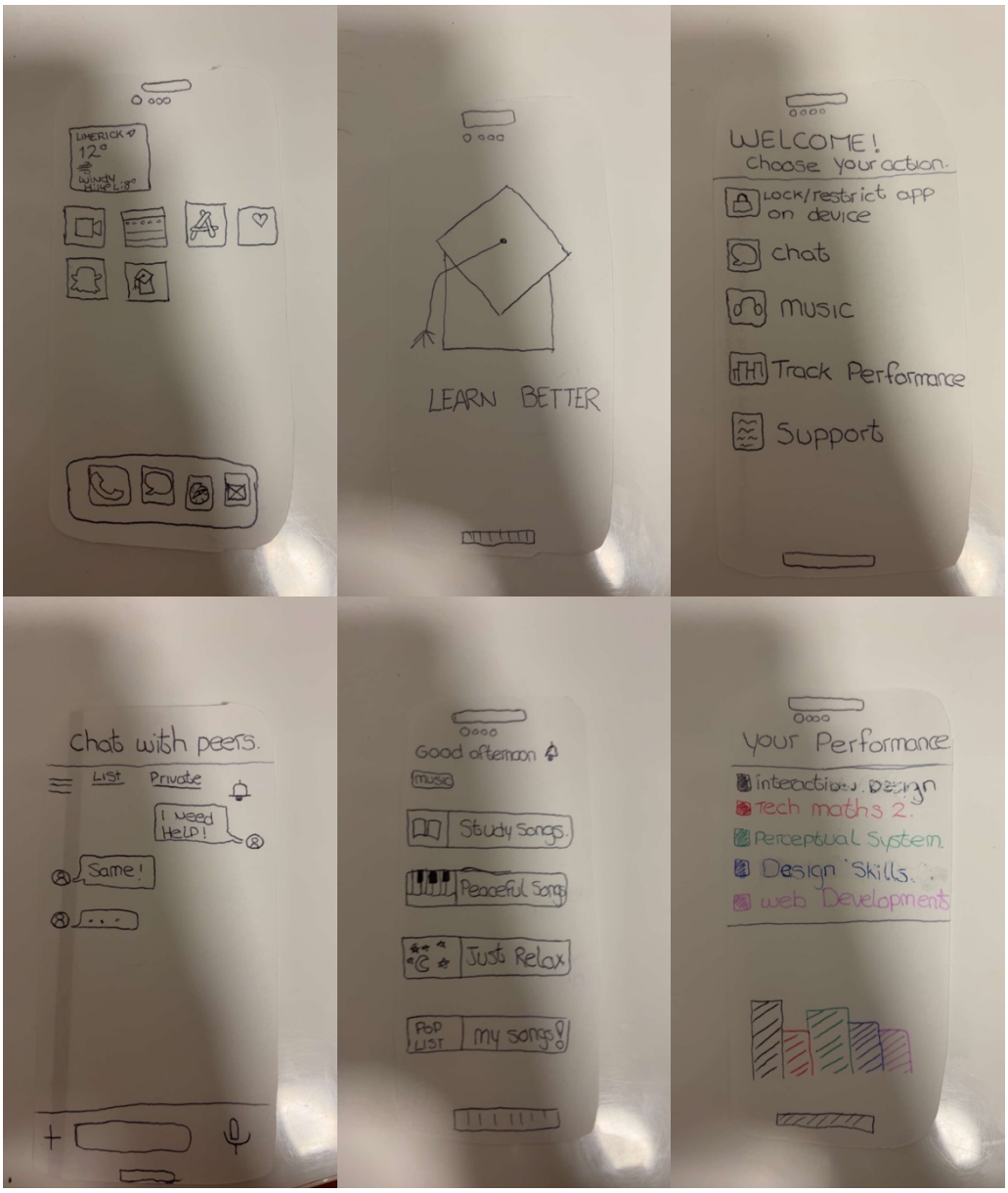



Study Genie
DASHBOARD
Progress
Help!
Education Videos
Entertainment
Weekly Goal
Restrictions
Thomas Broderick

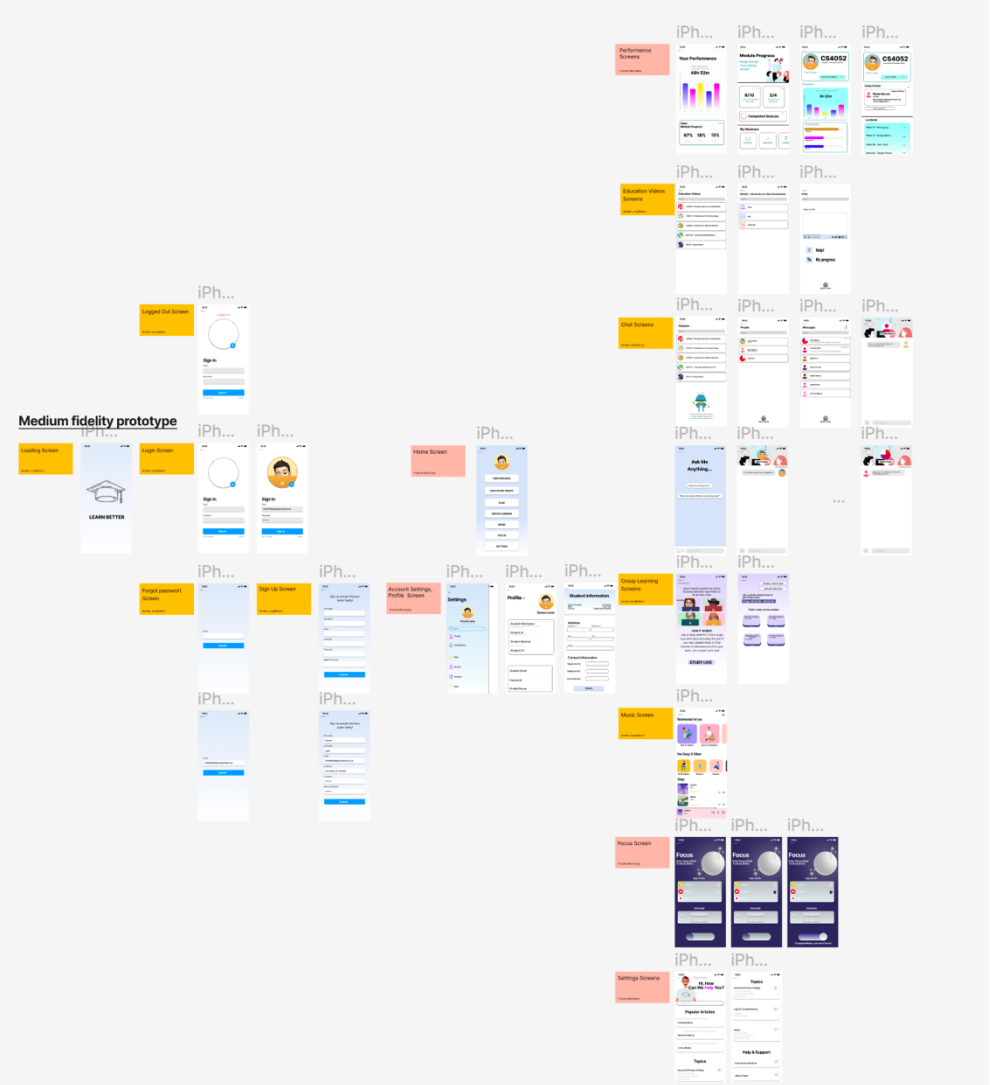

I'm struggling to concentrate
why not try learn Better an appmade to make studying easier
LEARN BETTER
welcome! choose your action
Lock/Restrict app on device
chats
music
Track Performance
support
with all the Helpful options you will be able To study like never Before
wow, without all These destractions, Im able to do all my assignments
Lana Hogan Dowling


Storyboard
I am going to miss my lectures !!
304A
No BUSES running!
no you won't, use the learn Better! app!
LIVE LECTURES
from home!
oh my god!
NO stress
Work done
A+ lecture
...she has never missed a lecture AGAIN!
CS4082 A+
CS4008 A+
MA7042 A+
FD222 A+
CS4033 A+
Yvonne Morrissey

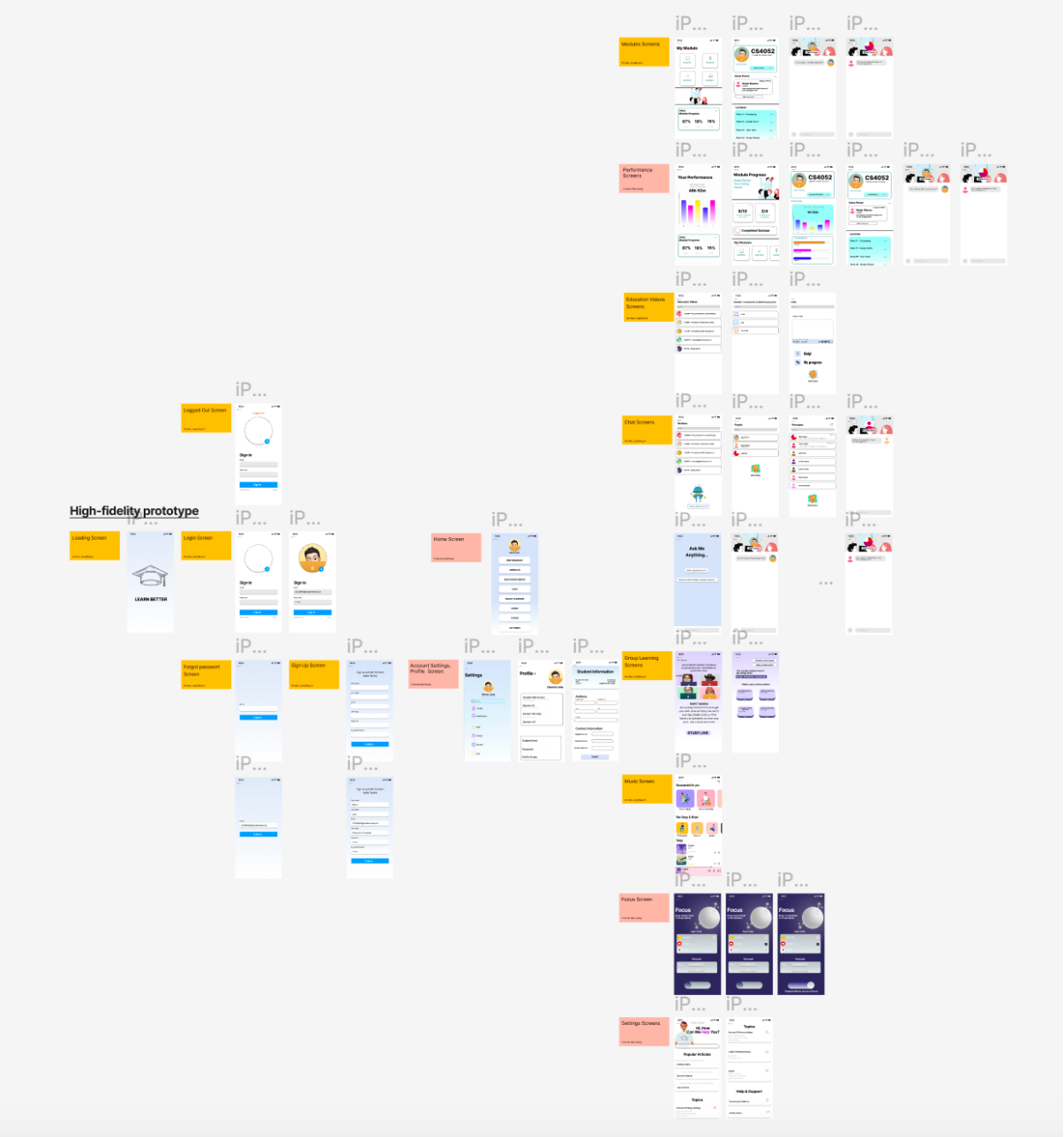
Additional Pictures for Prototypes:
Low-Fidelity



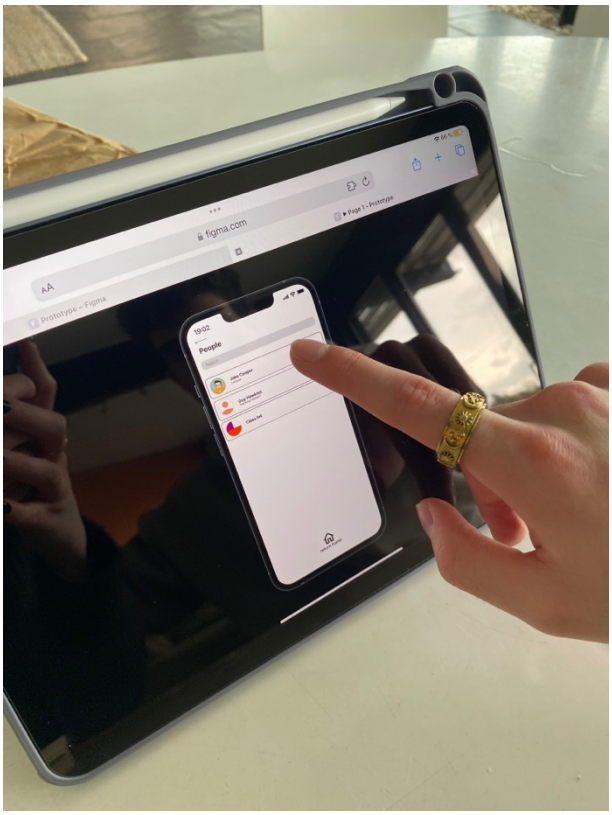
Medium-Fidelity



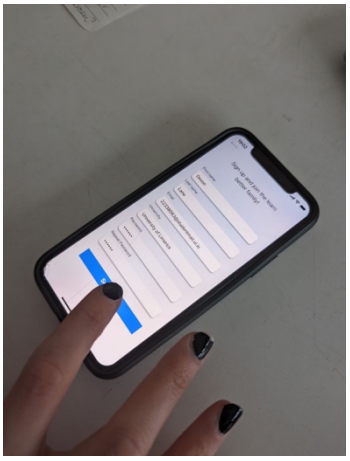
High-Fidelity

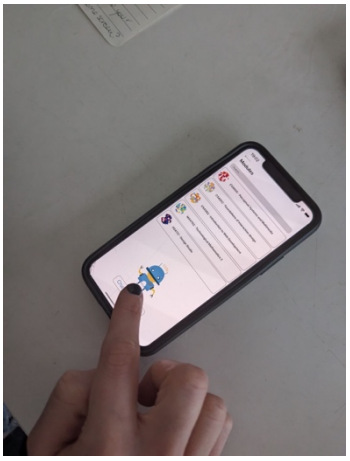


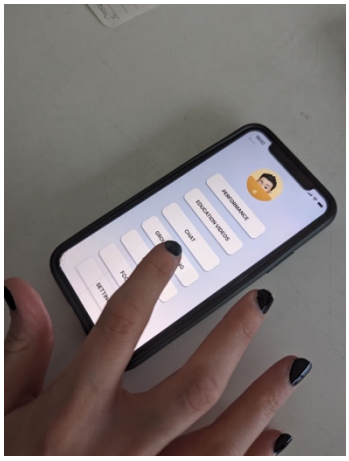
Additional Pictures for User Testing:
User Testing 1



User Testing 2







The
- Reflection
- Brief description of how ideas generated during design sprint were incorporated on the new prototype
- Brief description of interaction modalities to be implemented
- Brief description of chosen interface type

can be found as a separate word doc in the shared folder together with more proof of the completed work.

Link to shared folder: Group 3