2021

Assessment project 3

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Inhoud

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Concept ..... **Fout! Bladwijzer niet gedefinieerd.**

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Introduction

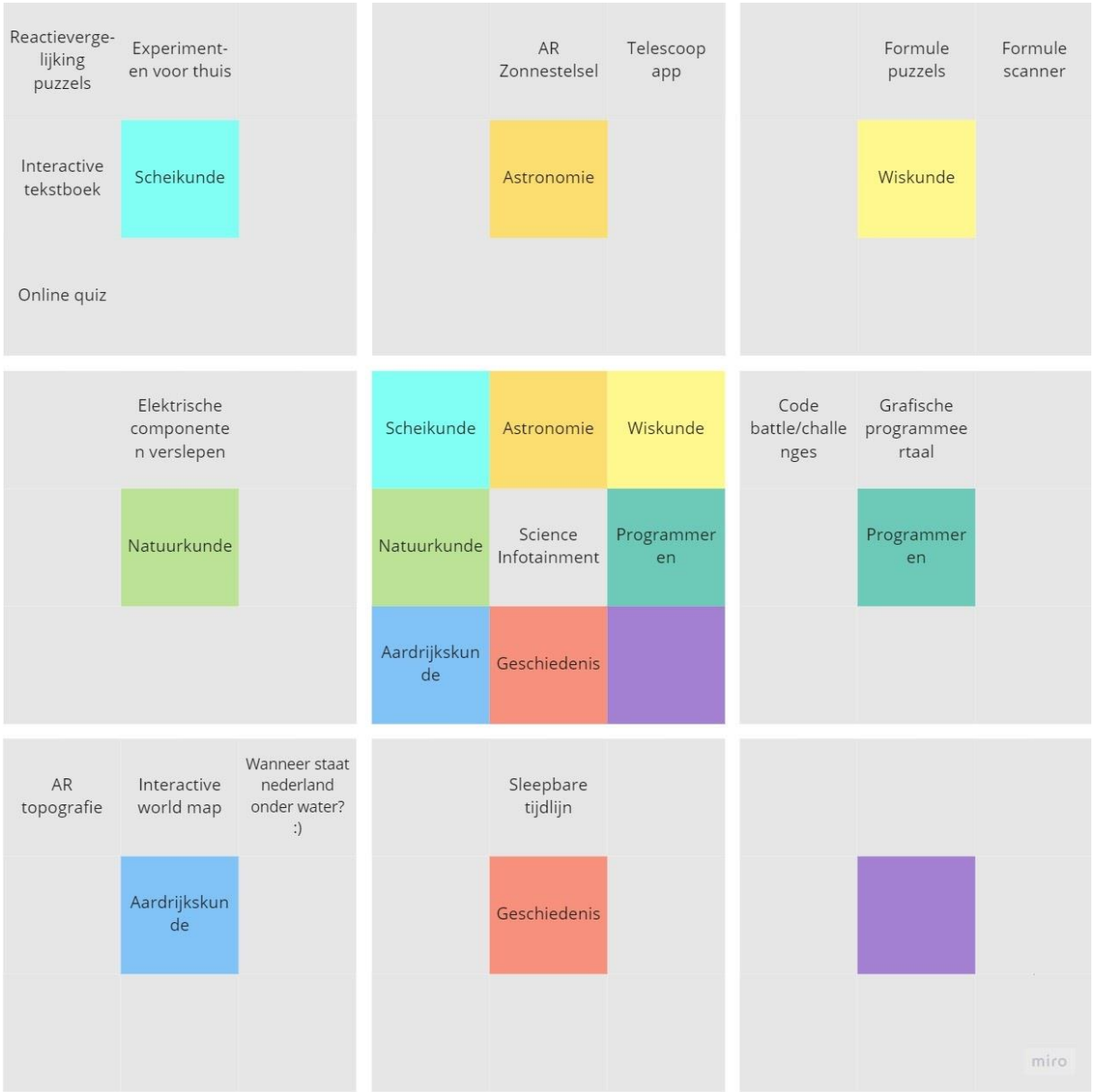
For our third duo project David and I got the topic **Infotainment (Science)**. The persona we could come up with ourselves. We researched online to find the right one. The persona we picked is Frieda.

With these persona's we went through the different iterations of Design Thinking to eventually come up with an app idea. This app idea we then implemented in a PWA (Progressive Web App).

Process

Week 1

First we were interested in the different possibilities of Infotainment within Science. For this we made a Lotus Flower to **Ideate** on the different segments of science.



After this we chose a few ideas to get something going regarding the goals our app needs to fulfill

The ideas we came up with were:

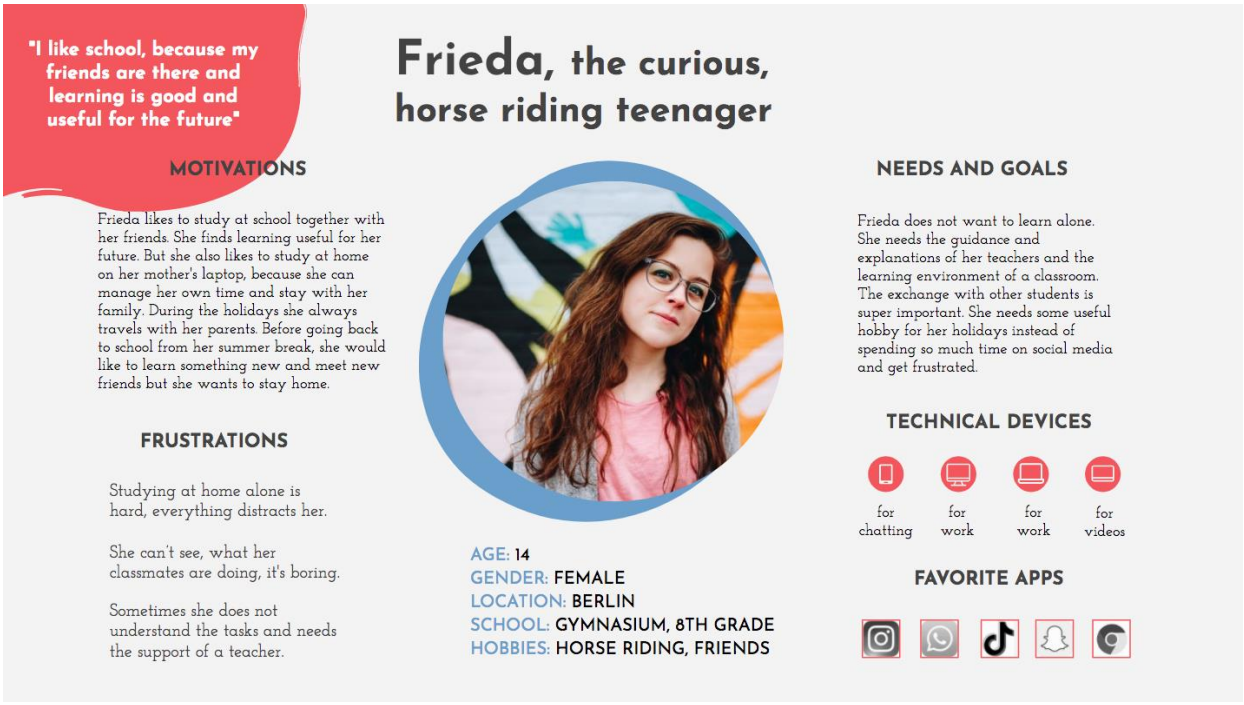
- Math Formula Scanner
- Programming Battles and challenges
- Geography interactive world map

From these Ideas we started to conclude that the main goal of our app would be to learn science in an interesting and engaging way.

Week 2

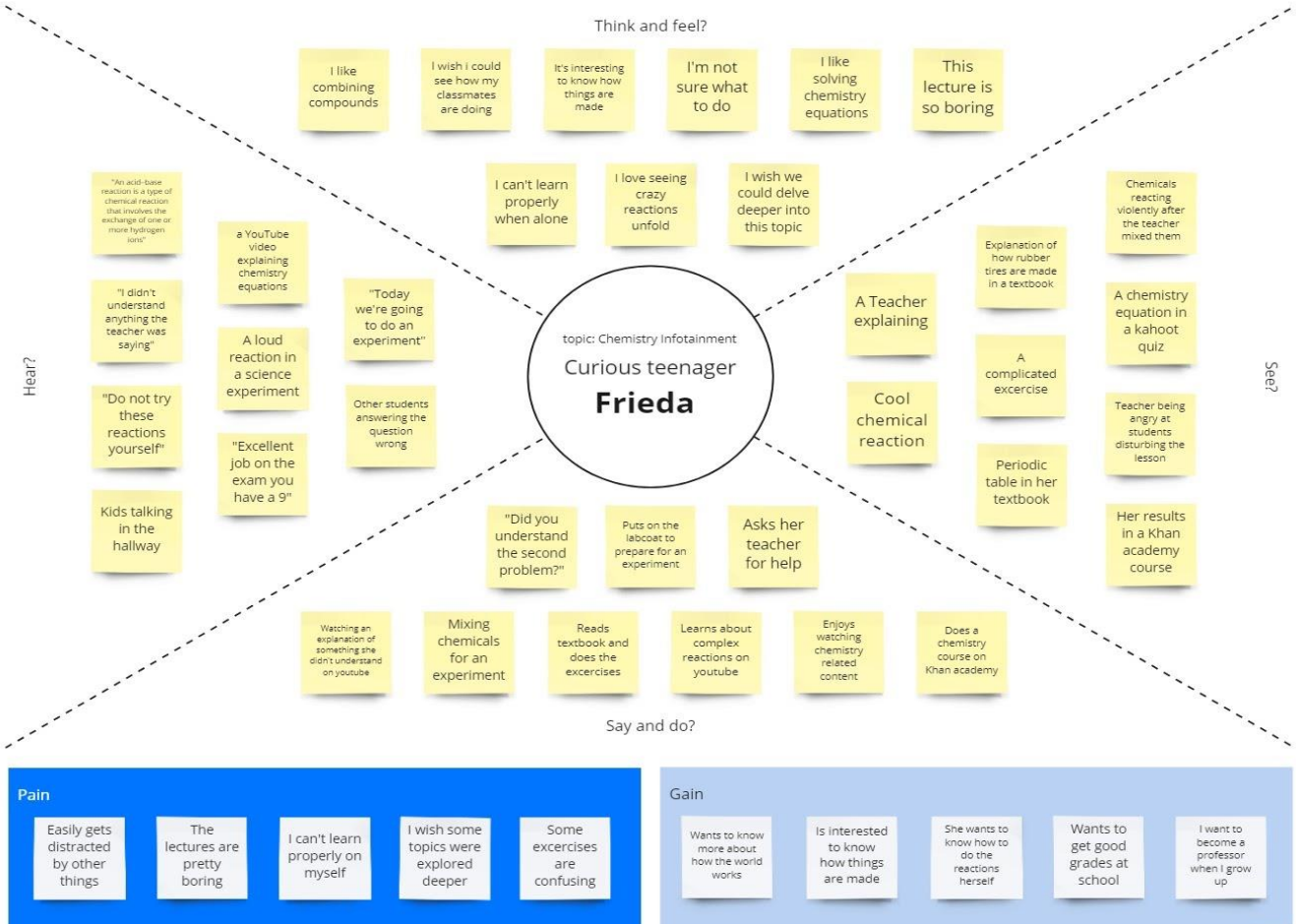
Empathize

First we needed a persona, for this we were asked to go with someone who goes to school. To get a good persona we did research online where we found Frieda.



We chose this persona because we think it fits the school theme well and that should give us more of a feeling of what this persona might mean for our project.

After finding the right persona we started with a empathy map to help us understand frieda more regarding learning science.



This empathy map gave us the insight into the things we could improve or completely new things to include in our app. The main focus of course is to understand Frieda's goals to come up with our apps goals. And because of that after this we went to the define phase where we define what our app should achieve for "Frieda".

Define

For the define phase we started writing down POV's which are the pain points/goals of our users. Writing them down as POV's helps with overseeing what the user goals are.

- Frieda needs to keep focus because she gets easily distracted by other things
- Frieda wants more enjoyment out of the learning process because she finds it's not engaging.
- Frieda wants to delve deeper into certain topics because she finds them interesting.
- Frieda has trouble understanding certain topics because she finds them confusing.
- Frieda wants to try out different reactions at home but is unsure how to do them safely.

After this we transformed the goals/pain points into app goals and pain points to overcome. For this we used How might we questions which is just a template for a question that helps with coming up with them.

- How might we improve Frieda's learning ability when exploring chemistry?
- How might we keep Frieda focused on her learning process?
- How might we inform Frieda of safe reactions to do?
- How might we help Frieda delve deeper into topics she finds interesting?
- How might we make chemistry exercises more enjoyable?
- How might we help Frieda understand chemistry topics she finds confusing?

After this we expanded our how might we questions into the 5 W-method. This is to get a real grasp of how Frieda might be helped with our ideas and features.

How might we improve Frieda's learning ability when exploring chemistry?

WHO Frieda

WHAT She has trouble learning

WHERE At her school or at home

WHEN During chemistry class or when studying alone

WHY She finds the study material boring which takes her enjoyment out of studying chemistry

How might we keep Frieda focused on her learning process?

WHO Frieda

WHAT She easily gets distracted

WHERE At her school or at home

WHEN During chemistry class or when studying alone

WHY She finds the study material boring which causes her to look for distractions

After this we felt ready to come up with the problem definitions. These are useful for the ideation phase so we know what to ideate for.

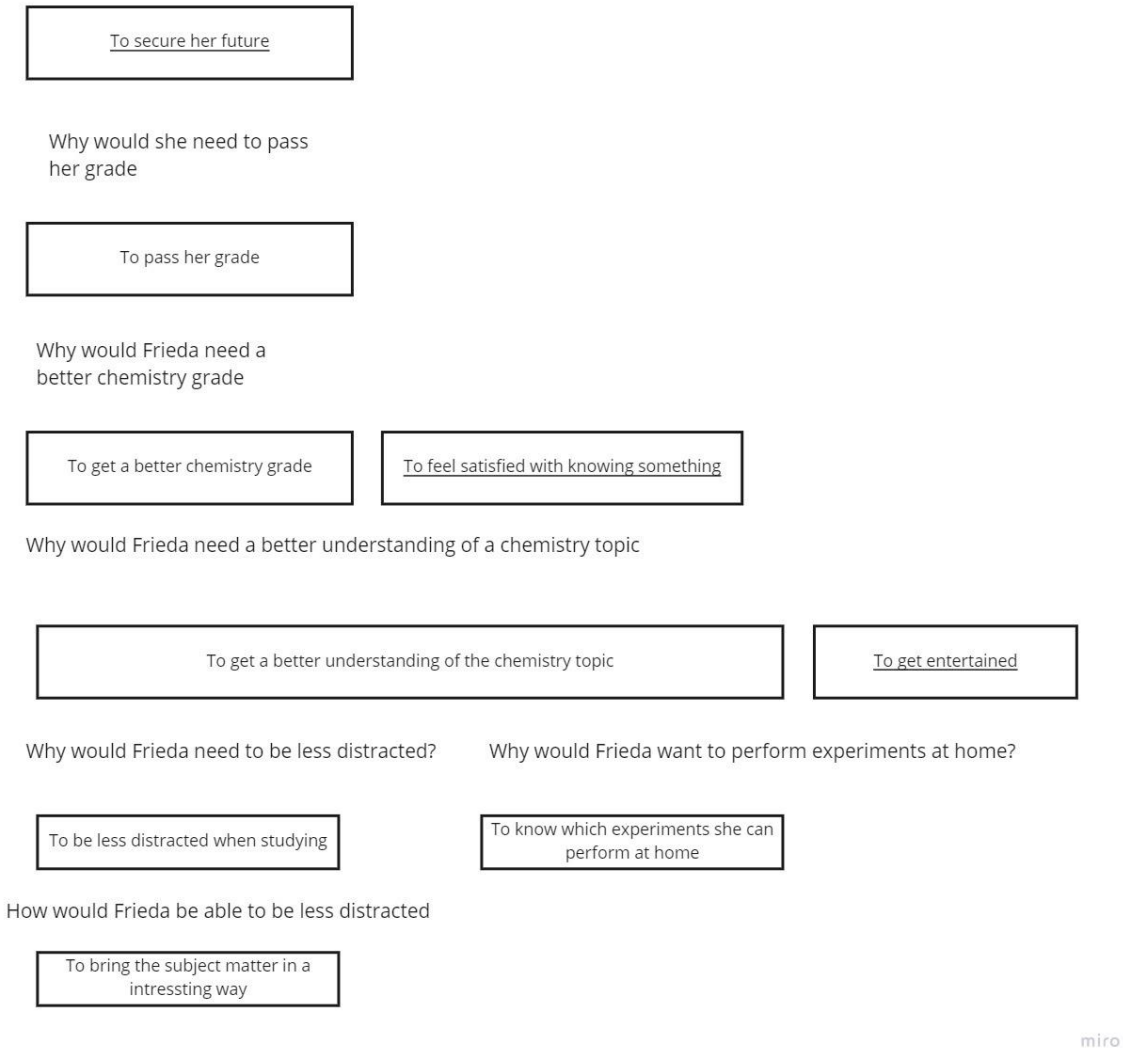
- Frieda gets easily distracted when studying chemistry.
  This is a problem because it causes her to not study as much which leads to a worse understanding of the topic.

- Frieda doesn't know what reactions are safe.
  This is a problem because it causes her to notwant to try them at home and this is a problem because she won't be fascinated

- Frieda wants to delve deeper into topics but doesn't know where to find the information.
  This is a problem because it causes her to not pursue her interests

- Frieda finds some of the chemistry topics to be confusing.
  This is a problem because it causes her to fall behind and get demotivated.

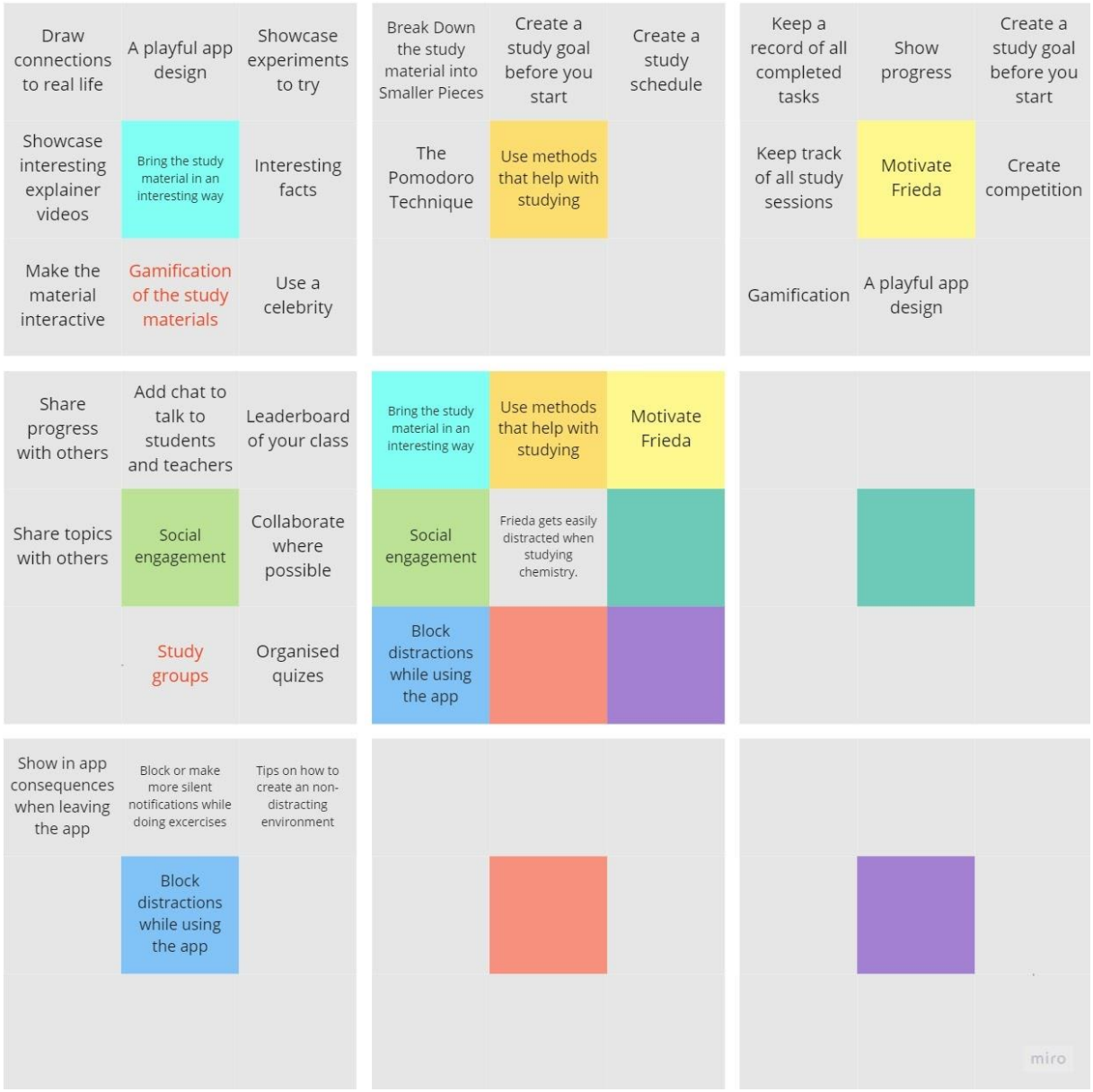
Because we felt we needed to know more about the root causes of these problem definitions we used the how why laddering method.



This method helps us find the root causes and possible solutions to pain points.

Ideate

For the ideation phase we used a lotus flower with a problem definition in the middle and also multiple mind maps to really come up with a lot ideas of what our app might contain.



Explainer videos	Graphical overview of all information	Illustrations explaining topics
	Clear explanation	

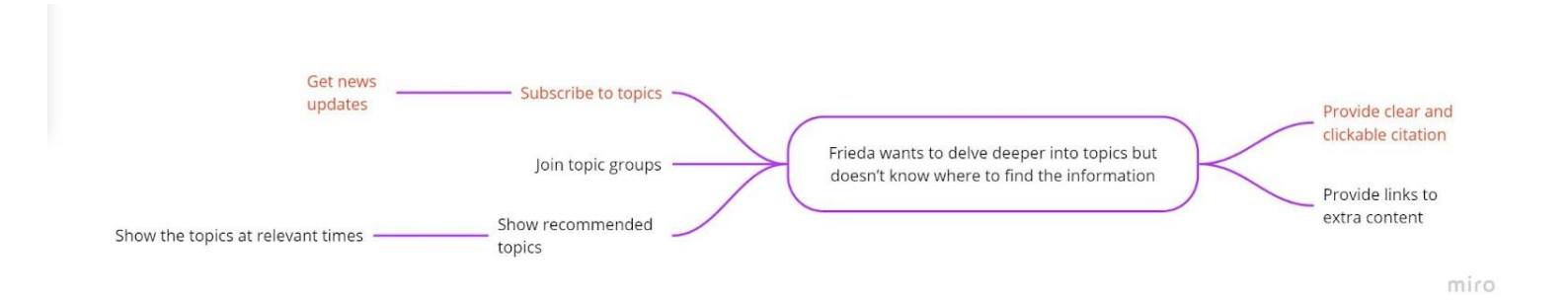
Quiz	Interactive items in the app	Short video depicting the reaction/ effect
	Interactive examples	

Mascot teacher	AI teacher	Able to ask questions the teacher can answer
	Online teacher	

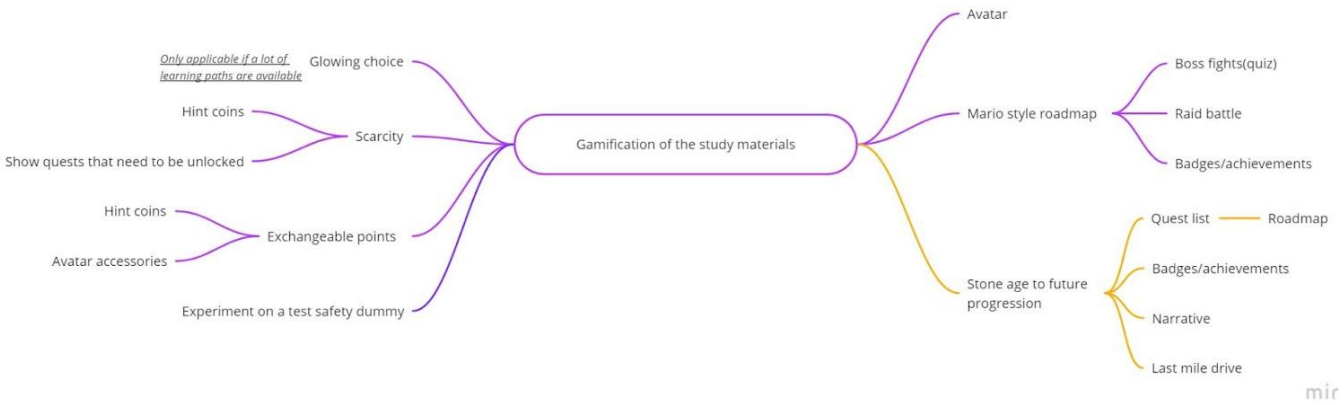
Roadmap	Progress percentage	
	Structured guidance	

Clear explanation	Interactive examples	Online teacher
Structured guidance	Frieda finds some of the chemistry topics to be confusing	Knowledge sharing

Able to indicate what is confusing	Able to see score of other people	StackOverflow style solution to confusing things
	Knowledge sharing	



Because we though gamification could contain a lot of ideas we also made a mindmap for that.



After this we also chose some ideas we liked the most so we could get an idea of what our app might look like.

Frieda wants to delve deeper into topics but doesn't know where to find the information

Subscribe to topics

Provide clear and clickable citation

Frieda gets easily distracted when studying chemistry.

Virtual laboratorium

Gamification of the study materials

Roadmap

Safety mascot

Subscribe to topics

Virtual laboratorium

Gamification of the study materials

Roadmap

Able to indicate what is confusing

Provide clear and clickable citation

miro

Frieda doesn't know how to practice chemistry safely

Safety mascot

Virtual laboratorium

Able to indicate what is confusing

Frieda finds some of the chemistry topics to be confusing

Able to indicate what is confusing

Subscribe to topics

Provide clear and clickable citation

Week 3 and 4

Prototyping

For prototyping we are required to get a good idea of what our app should look like. For this John helped us by saying we should come up with Big Ideas. We tried this however we found it quite hard to do since we have no real world basis to go on.

Our big ideas:

- Give high school students the power to experiment
- To make learning chemistry fun and accessible for high school students

These big ideas helped us define what the app is going to be. For this we used a MoSCoW and Designs

After this we made a MoSCoW to define the features of the app.

MUST

- User must be able to subscribe to chemistry topics
- User must be able to indicate what they find confusing
- User must be able to create an account(login/register/update)
- User must be able to start a course
- User must be able to answer other users questions
- User must be able to upvote answers

SHOULD

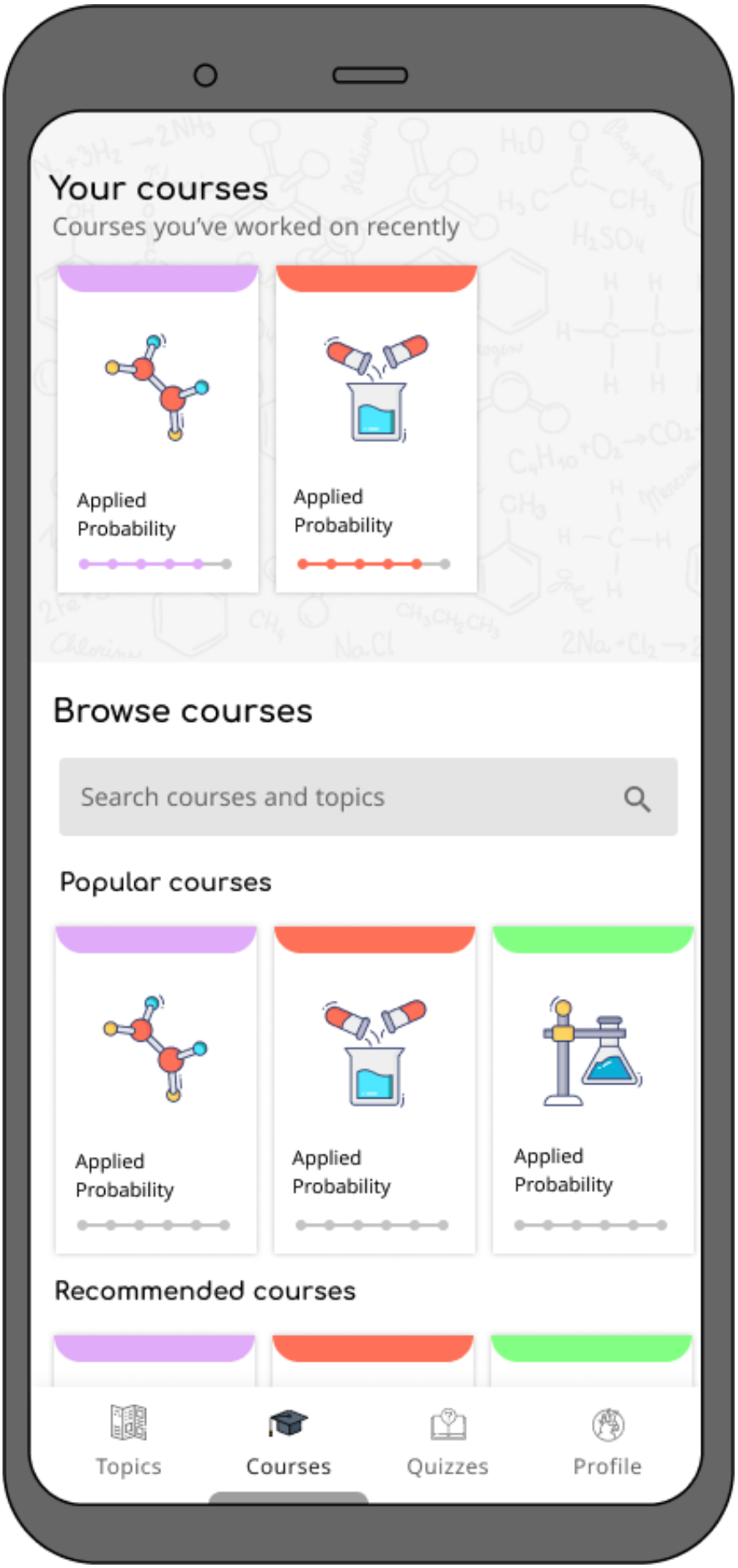
- User should be able to see how far in a course they are
- User should be able to share progress with others
- Users should be able to do a quiz together

COULD

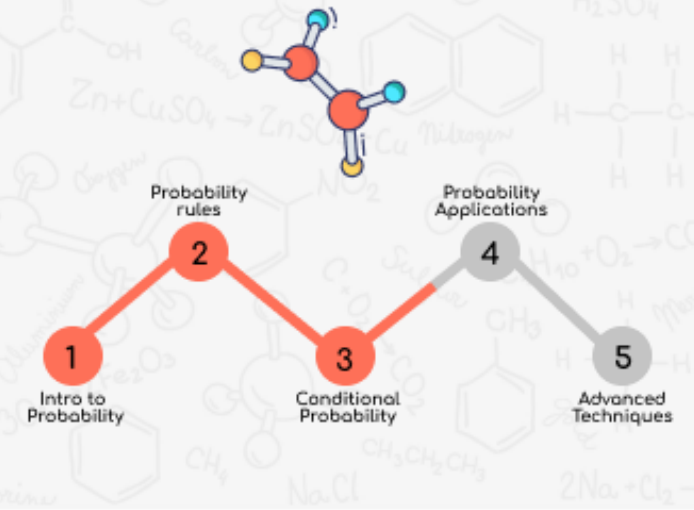
- User has a in app avatar
- Celebrity cameo’s
- User must be able to find citations for the content

WON'T

The designs we made according to the MoSCoW: (on the next page)


Your courses
Courses you've worked on recently
Applied Probability
Applied Probability
Browse courses
Search courses and topics
Popular courses
Applied Probability
Applied Probability
Applied Probability
Recommended courses
Topics
Courses
Quizzes
Profile

Applied Probability



A framework for understanding the world around us, from sports to science.

CONTINUE COURSE

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nibh auctor sit integer at felis donec. Faucibus augue leo sollicitudin convallis nunc in odio diam. A mattis dapibus fermentum amet justo quisque dictum.

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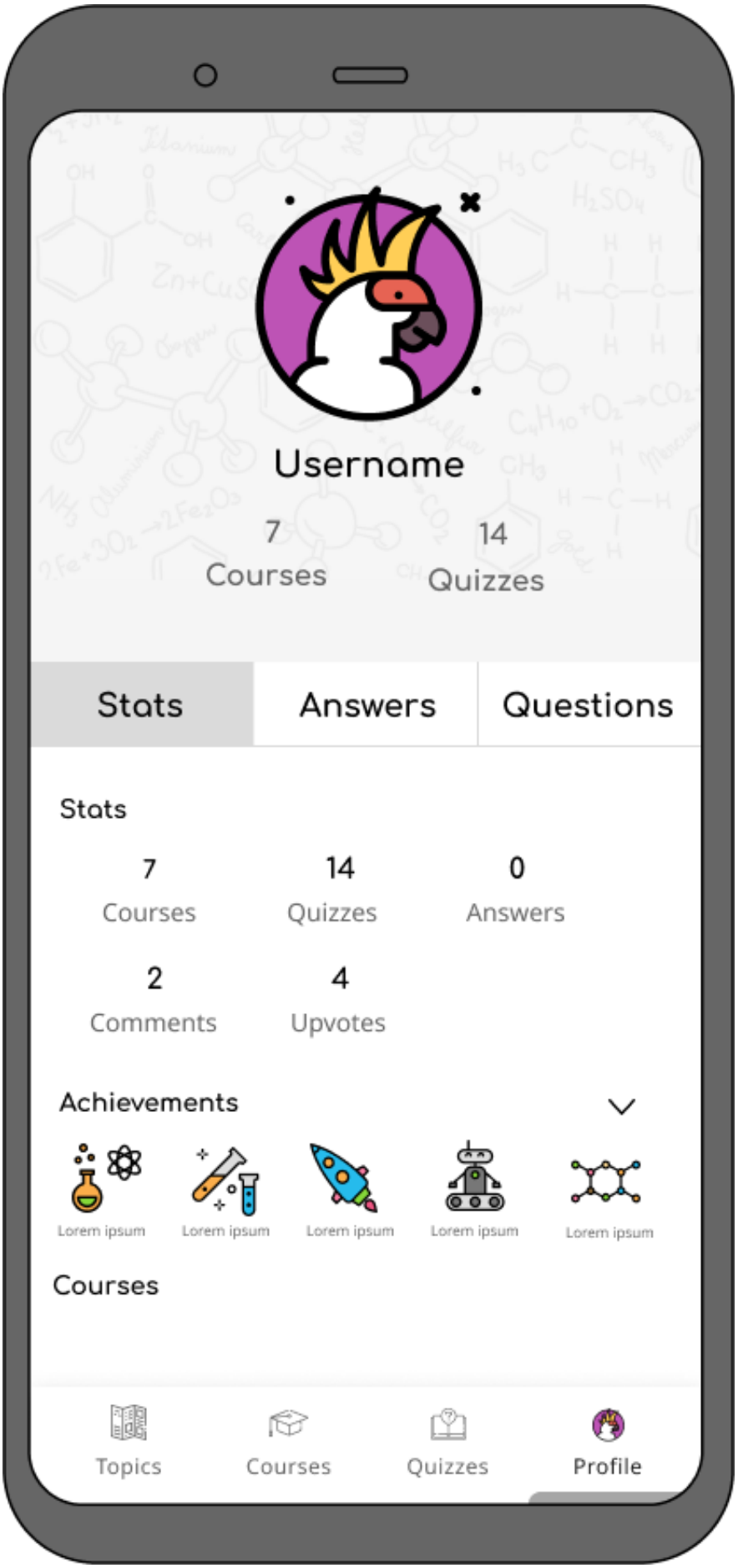
15	60+
Interactive quizzes	Concepts and Exercises

Topics | Courses | Quizzes | Profile


Username
7
Courses
14
Quizzes
Stats
Answers
Questions
Stats
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Courses
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Quizzes
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Answers
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Comments
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Upvotes
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Courses
Topics
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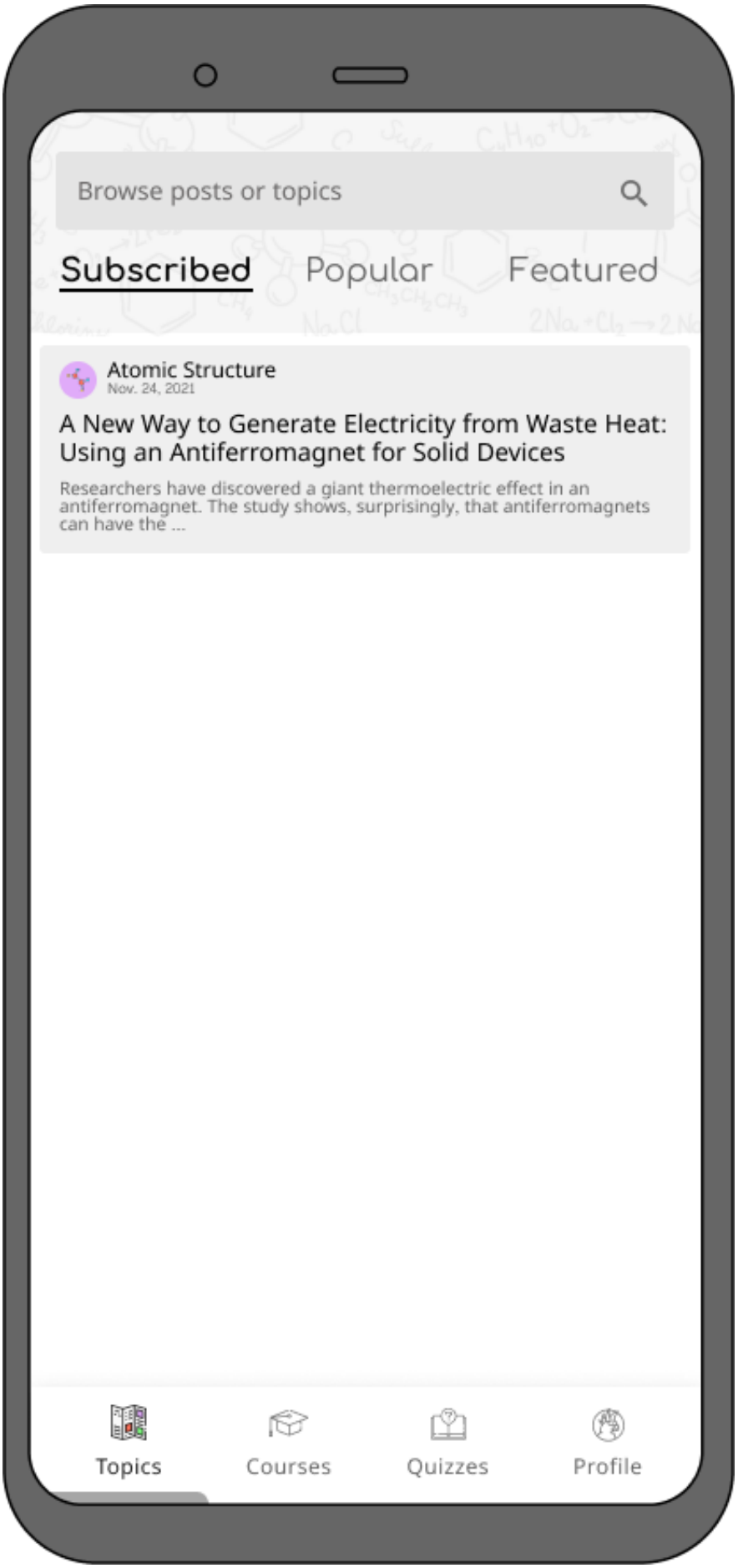
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A New Way to Generate Electricity from Waste Heat: Using an Antiferromagnet for Solid Devices
Researchers have discovered a giant thermoelectric effect in an antiferromagnet. The study shows, surprisingly, that antiferromagnets can have the ...
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Assessment

Concepting

You show you can convert a problem or opportunity into multiple smart mobile concepts based on thorough analysis.

Current Level : **Beginning**

We used the following methods to concept:

- Empathy map
- Lotus flower
- Mind map
- POV
- Why How laddering
- How Might We
- 5 W's

We used the methods within Design thinking when creating the app idea. When doing this we used the UX pillars as a basis for the goals our app would have to accomplish. We also tried to make the app as interesting as possible to and adopt a specific style in the app.

To make the application as simple as possible we try to keep in account our persona to make sure they would understand it. We made sure to keep the application as desirable as possible by discovering user goals and pain points. A generic example is the fact we tried to use graphics that looked similar to each other, so the user doesn't think anything feels out of place.

We tried to make the application more engaging by allowing users to get achievements for tasks performed in the app. The user also keeps a progress on the courses to inform them better.

The individual deliverables are available in the process part of this document

Design

You translate concepts into user friendly designs and validate these designs through user tested iterations.

When designing we made sure to research common ux problems to make sure we don't make the same mistakes and also so we know what is wanted the most. We always value usability over design. We used only SVG's to make the application as seamless as possible for the end user. We made sure each feature in the app doesn't take too much steps to complete. We also make sure that there is just enough information presented on screen to inform the user in the right way.

We added playful elements to the design to try and appeal to the user. Examples of this are bright colors and the bottom tab bar that has an icon that's filled in with color when it's selected. We added avatars that fit the design and give choice to the user.

The designs are all available in the process part of this document

Current Level : **Proficient**

Hardware

You employ relevant mobile hardware.

The deliverables are available in the GIT Repository

Current Level : **Beginning**

Professional Skills

You demonstrate your professional development as a mobile developer in the form of authentic, professional IT tasks in which both the process and the result are visible.

I make sure to try to always perform the best I can and inform the people around me in the right way. This helps making sure things get done. I think I handle situations in the right way. I always try to do the things teachers and students ask me to do.

Current Level : **Proficient**

Software

You implement high quality applications using designs and programming languages on both (mobile) client and server side.

For this outcome I implemented the Course and Quiz pages, the tab bar and also the initial project setup.

The deliverables are available in the GIT Repository

Current Level : **Proficient**