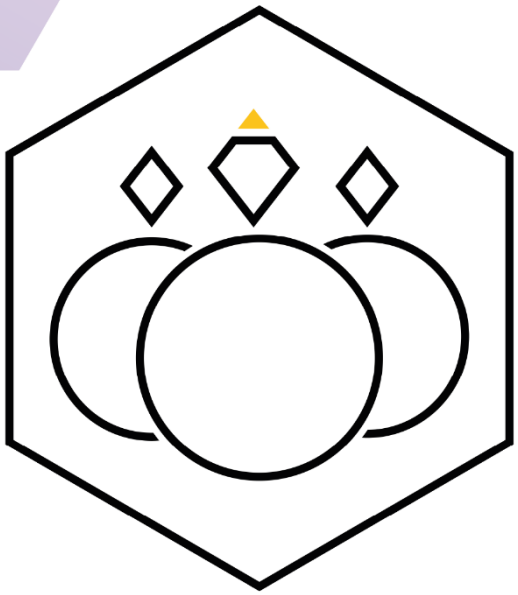

Leaderboard

Group 23
Warmerdam van, Floris | 1842676
Weersink, Carlijn | 1850091
Wiersma, Jort | 1825682
Wiffen, Niek | 1777599
Wilde de, Euwe | 1780514

Menno Stoffelsen

Preface

LeaderBoard is a leadership-training strategy game that offers aspiring leaders a fun way to train leadership. This report shows the exact process of the development of this game, including what we learned along the way. Each week has the same build-up, so it is easy to only look at, for example, the problems and takeaways of each week. We had a lot of fun working on this project, so we hope this report reflects this!

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Chapter 1 | Process

1.1 | Week 1

Introduction of the week

In week 1, we were introduced to the course From Idea To Design. We got to know each other and did a lot of ideation this week. We didn't immediately know where to start, as it was a new subject for all of us. We ended up doing what we thought was the best thing to do. This was that everyone worked mostly individually to gain information, there was not much consultation with each other yet. But in the end, this did not turn out to be the most effective way of working, and Menno's feedback helped us a lot to realize this.

Tutor meeting

We started our first tutor meeting with a short explanation given by Menno in which the course was made a lot more clear. We should have watched a lecture beforehand, so we already knew which assignment we would get for this subject. We also got to know our group and we got along quite quickly. Together, we discussed the assignment and wrote down our interests in a Word Online file. We also started looking for examples of physical and hybrid games, which gave us a clearer idea of what we could make. Soon we came up with our own ideas. These ideas were all written down in a Word Online file. But when Menno came along, he advised us to ideate more together, rather than individually which is what we were mostly doing. Menno came up with a clear and fun example that stayed with us throughout the project. Namely, Menno asked us; what comes to mind when you think of the word fluffy? And everyone in our group thought of something different. For example, one thought of a small dog and another thought of a furry pink ball. From this we could see that we all have different interpretations of things. We needed to work more together rather than individually. Menno also advised us to make drawings and not write everything down in words. This was new for all of us, as we were used to expressing our ideas in words. We liked the tips Menno gave us and benefited from this throughout the project. However, we did find the tutor meeting quite vague at first. We understood Menno's feedback and could definitely move forward with it. Still, it was all quite new, and we had to work differently than we were used to, and this took some getting used to.

Goals for the week

For week 1, we hadn't made any plans beforehand. However, we had agreed on what our goals were for the week. We agreed to do a lot of ideation. Everyone was supposed to come up with as many ideas for games as possible. We had agreed to make lots of sketches of our ideas because Menno had given us this as feedback during the first tutor meeting. He didn't want you to be able to just read things, but to actually see stuff.

Proof

This week, we got to know each other. We also wrote down our interests and did a lot of ideation. Besides that, we also looked for a lot of information of examples of games that are both physical and hybrid to get inspiration. We had also already started thinking about games. We documented all this properly in a World Online file which we called phase 1. In it, everyone had their own section where that person could write down ideas and paste in pictures of their sketches. This seemed very nice and clear. We agreed to come up with as many ideas as possible and would later discuss these ideas in our team meeting. We had agreed to have a team meeting at least every Friday, so that we could discuss where we stood and not all work individually. We all liked this way of working, but quickly realized we needed more meetings. At the teams meeting in week 1, we generally discussed our ideas and what we thought would be interesting to design. The Tuesday before the first meeting, we had met at school and prepared a presentation with pictures of our sketches. In this presentation, we used the sketches of the best ideas. Below you can see some sketches of ideas we had put in this presentation. In the idea of the game follow the leader (Figure

1.1.3) you can see aspects of our final game. You can clearly see the process of the game this way. This was actually the beginning and the first sketch. We were still busy working on the ideation. In the image at the very bottom, you can see a picture that contains sketches made in week 1. Much of it is still language-based.

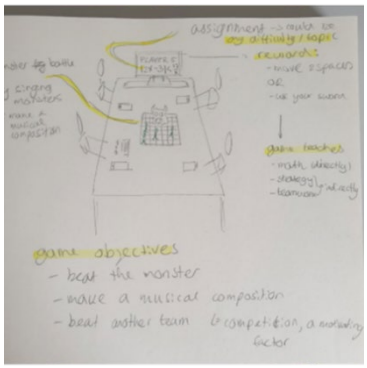


Figure 1.1.1 | sketch 1

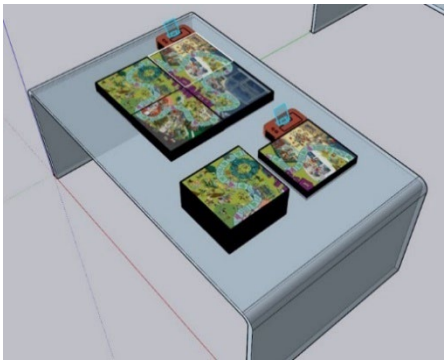


Figure 1.1.2 | sketch 2

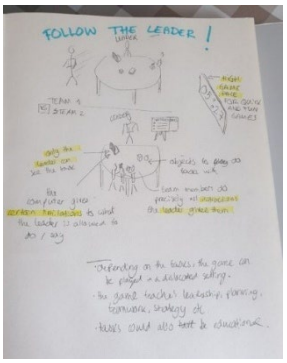


Figure 1.1.3 | sketch 3

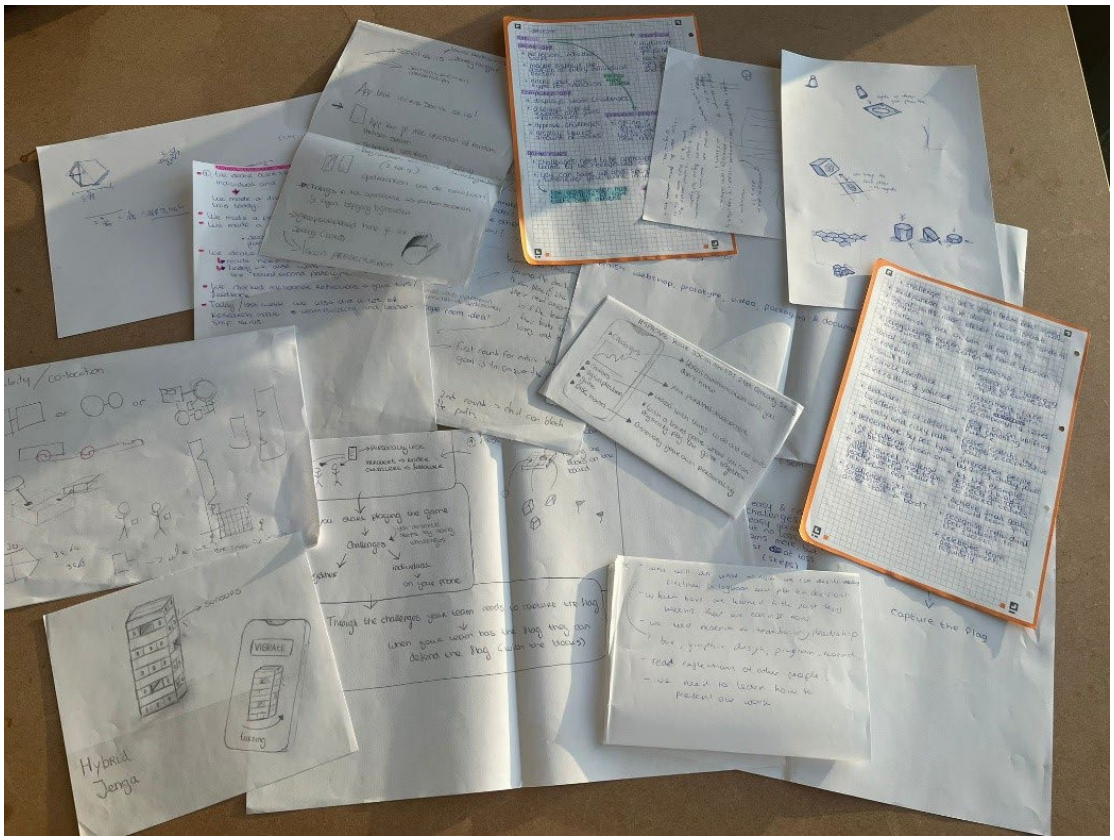


Figure 1.1.4 | sketches

Problems and takeaways

This week, we didn't run into many problems. However, we did find it difficult to decide how to proceed. We were not given a clear example with steps to follow. We had to find our own way of working that we liked as a group. During the first tutor meeting, we quickly went into individual ideation. In the end, we should have consulted each other better because everyone has different interpretations of the game. It was important that we were on the same page as a group. Also, in the end, as mentioned earlier, we could have made more sketches of our ideas. Making sketches

also gives you a visual image, which quickly makes ideas clearer. For many of us, making sketches was new and took some getting used to. Sometimes sketches were not very neat and clear, but with practice this got better and better. All in all, this first week we didn't encounter many problems, it was mainly an introduction to the subject and the start of ideation.

Weekly result

In week 1, we got to know each other and fortunately got along quickly. We also did a lot of language-based ideation this week. We talked a lot together about our ideas after Menno's feedback. It was difficult to decide whether we would work mostly individually or together. We hardly knew each other and had quite different interests. In the end, we found a good middle ground by first doing a lot of ideation ourselves and then discussing it with each other. This allowed us to inspire each other and still work independently. We had to put a lot of hours into this project and couldn't fill them all together.

1.2 | Week 2

Introduction

After the first week, we as a team had good hopes for the upcoming meeting. Every team member had gathered some ideas and visualized these ideas quite well (Figure 1.3.1 and 1.3.2). We putted these few ideas into a PowerPoint presentation to show Menno and the other team what we came up with. We were quite satisfied and felt we were prepared.

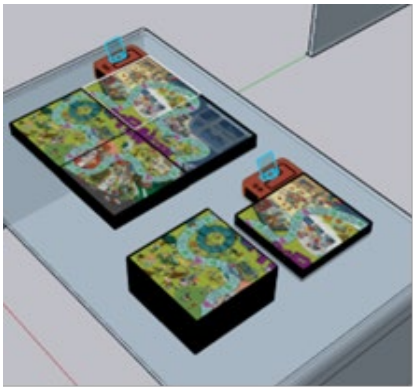


Figure 1.2.1 | idea for modularity

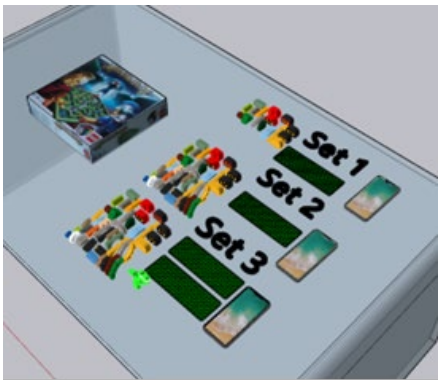


Figure 1.2.2 | idea for creativity

However, during the meeting, we got the feeling that Menno was not that interested in the ideas we had and we did not have a response for that. Menno told us that in especially the first weeks it is not about the ideas you have, but how you got there. Also, by explaining to yourself why certain things are right or wrong about ideas and convincing your fellow team members, you are pushing an idea too much, which you should not do. Looking with regard to the first lecture that Bart gave we put away our ideas and focused on the process: the process of ideation.

Goals for the week

Fortunately, Menno was not only critical but gave us a lot of useful feedback as well. During the meeting the conclusion was drawn that we should define values for our project. Values should declare what we wanted to see within our game and should fit within the restrictions that were set for this assignment. However, defining our values was not the only thing that had to be done before the meeting and continuing the process. It was only logical that we should ideate with the values that we as a team have chosen. So, our goal was set: define our values and ideate with these values. At the end of the week we should have a lot of documented ideas but not a visualization of our final idea. Because every team member should put 15 hours of work every week, into this project we have also decided to focus on self-development. For example: Carlijn would like to improve her English and Floris wants to learn a specific skill such as logo design/creating a digital interface. Menno said that if your teammates have skills you want to learn, learn from them, because you can learn from their process.

Proof

The first thing we did was defining our values. This was a very slow and frustrating process because we had to combine our different ideas, beliefs and visions into one where every team member felt comfortable. The first thing we defined for the game was the method itself, on how we want to define the game:

- The four methods of ideation.
- Every team member works out their own ideas, but also the ideas of other people in order to create a different interpretation on the ideas that are presented.

We did one of the first phases of the ideation process, with the 6-3-5 brainwriting method. Every team member gets a piece of paper and gets 6 minutes to formulate 3 ideas. After those 6 minutes, the papers are exchanged 5 times, so that every idea has been evaluated by 4 other team members. This allowed us to get out ideas quickly and get an impression of our shared interpretations of the different ideas. These are the most important sketches we made:

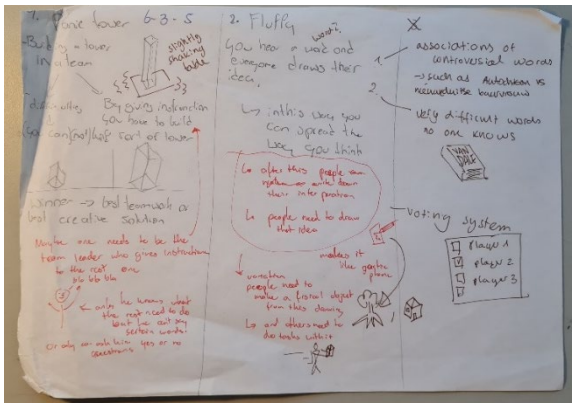


Figure 1.2.3 | 6-3-5 method sketch 1

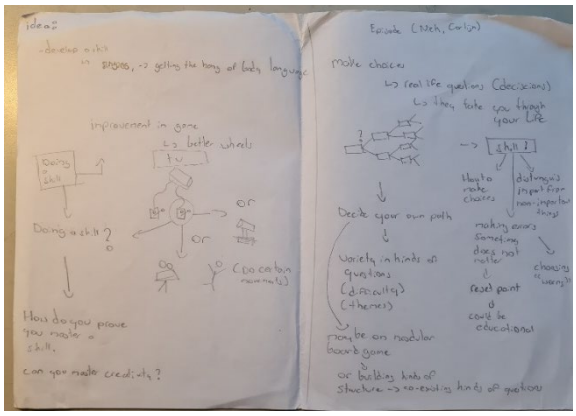


Figure 1.2.4 | 6-3-5 method sketch 2

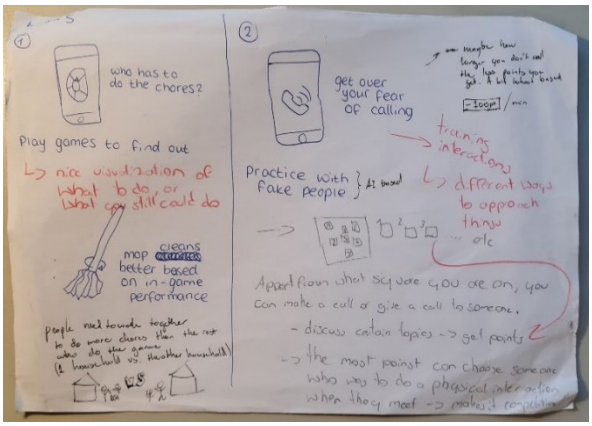


Figure 1.2.5 | 6-3-5 method sketch 3

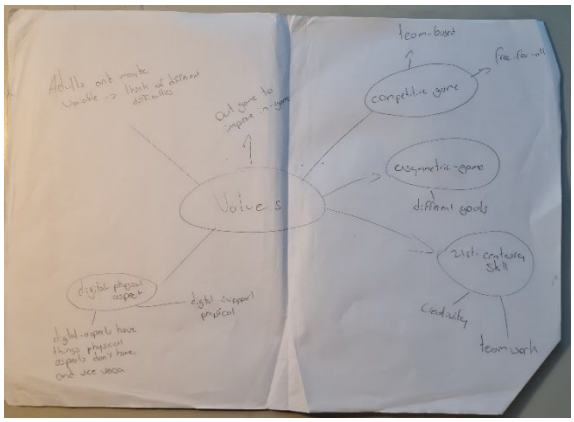


Figure 1.2.6 | brainstorm sketch of values

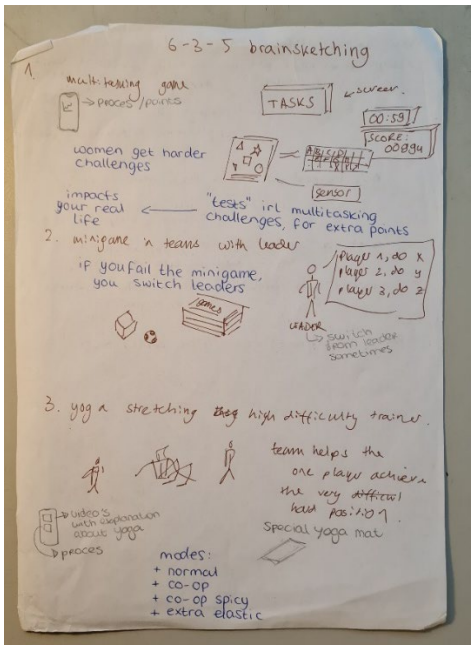


Figure 1.2.7 | 6-3-5 method sketch 4

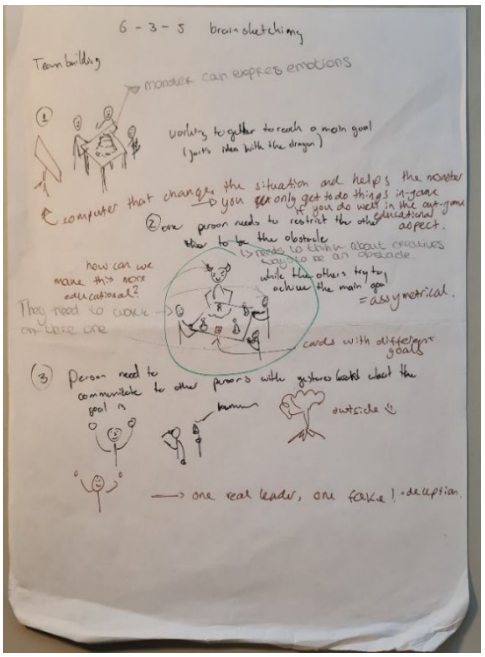


Figure 1.2.8 | 6-3-5 method sketch 5

Starting with sketch 1, what came forward from this sketch is the idea called Panic Tower. This idea stimulated a competitive game, because you would fight each other, or maybe team against team. We definitely wanted to implement this, and that is why competitiveness, became one of our values. In Sketch 2, choosing your own path was a central element. We implemented this in asymmetrical game logistics. This means that players could have different objectives when they play the game. Sketch 3 was more about the digital interface we wanted to create. One of the requirements for the game was, that it should be a digital-physical hybrid game. Sketch 3 and 4 are actually very similar. The idea of integrating a screen that gives you challenges or a surprise question, came forth and fitted the hybridity perfectly. In sketch 5 we created a planning game, this gave us the idea to make our game a skill-based learning game and implement a 21st century skill (Stauffer, 2022). See the planning game in Figure 1.2.9.

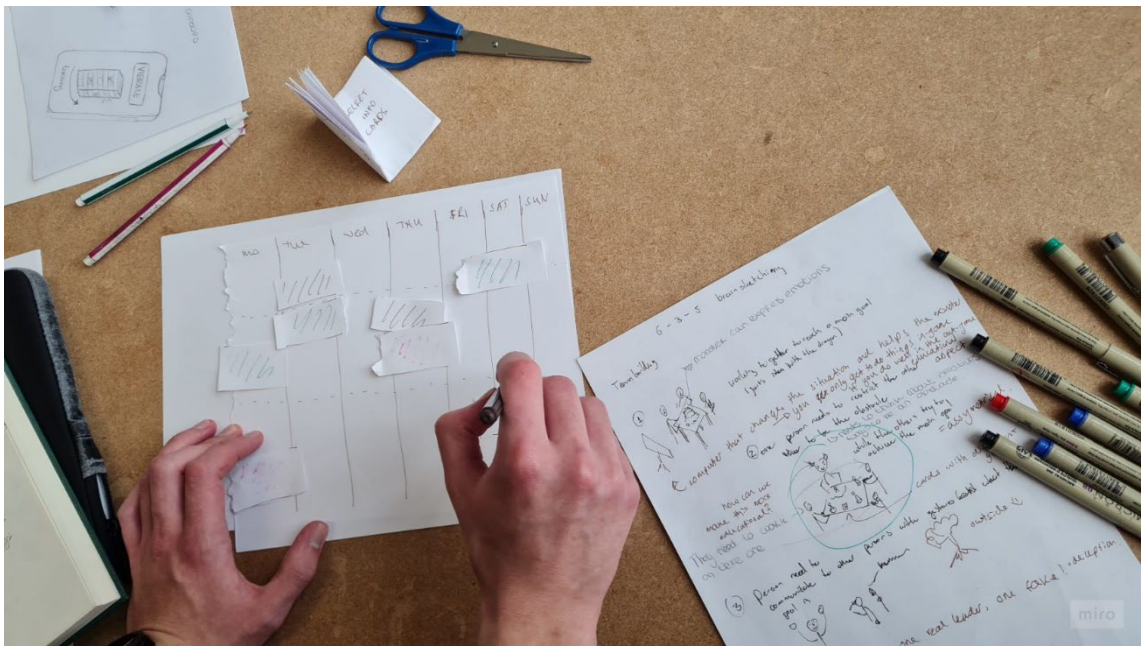


Figure 1.2.9 | planning game and 21st century skill

A 21st century skill, is a skill which is important to student's success in today's world. Not only students but also adults and even children will benefit from these skills. Skills such as creativity, communication and leadership are central. These skills are helpful in everyday life and will train people to what we believe is success. The option of making a game that was based on, for example, math theory was therefore out of view. We wanted that players of our game would learn something they could use in nowadays life. That is why a 21st century skill became one of our values. Defining the goal of the game helped a lot with defining the rest of our values. We would not say it was because we set a restriction, but more because we as a team had a vision of what we wanted to design.

The 6-3-5 method is a perfect example of an ideation method that shows how people interpret

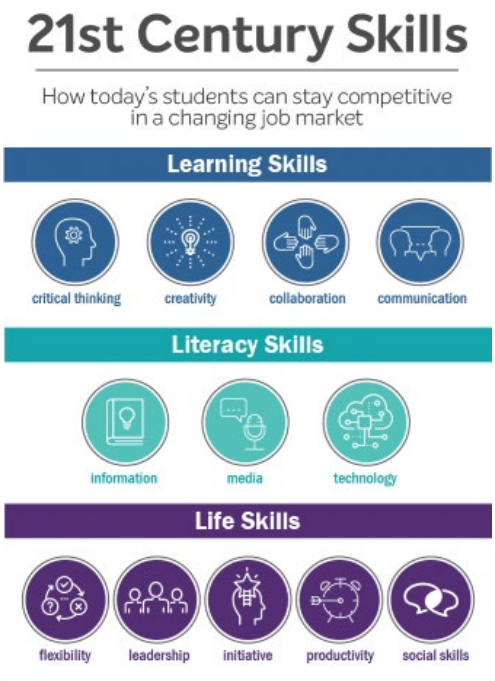


Figure 1.2.10 | 21st century skill (Stauffer, 2022)

ideas differently, as ideas are built upon by others. It also fits perfectly in the brainstorming and sketching phase of the four methods of ideation.

The values:

Not all values are discussed and not every requirement was being met. Look at Figure 1.2.6 where we made a mind map of the values that we have defined. Here we have a sum up of all the values that have been made:

Digital-physical hybridity:

- We want the digital to support the physical, this way people get more physical interaction.
- Creating a digital interface with can for example create surprises and unexpected tasks at any time. This is something that is not possible in a solely physical game.

Skill-based learning:

- We want the game to support learning by doing.
- We want to allow theoretical aspects to substantiate learning the skill, or widen your knowledge about the skill.

Target group:

- The game should be interesting for and playable by adults, but we do not want to exclude students.
- The game is for teams and leaders.

Digital interface:

- We want to create an interface that keeps track of different things, for example progress. For each player individually but also for a team or leader. If players work on themselves, they will become excited to develop themselves and show their progress to other players.
- We want to create an app or program that has a clear and organized space, so it gives a good overview of the game.

21st Century skill:

- The game should for example train creativity.

Competitive game:

- The game should be playable in a free for all setting. This allows player to purely develop their self.
- But we also want to implement team based competitiveness.
- Competitiveness gives players an extra drive to play well and for example win.

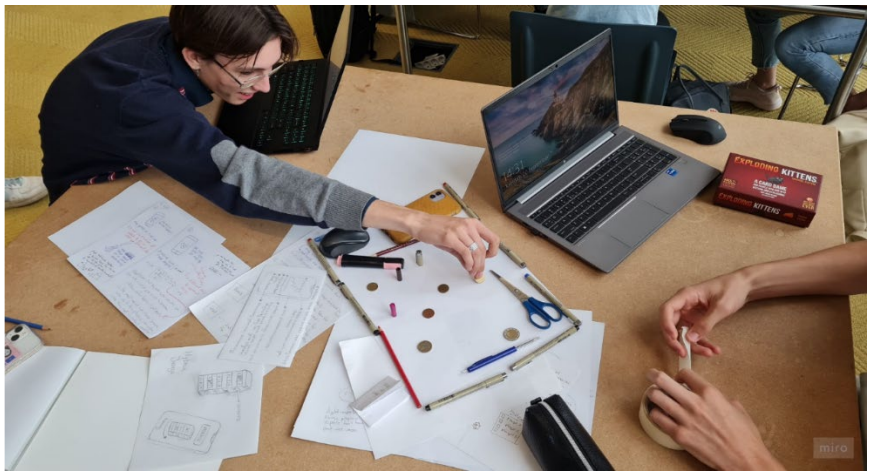


Figure 1.2.11 | lo-fi prototyping, defining values and discussing ideas

Some more ideas:

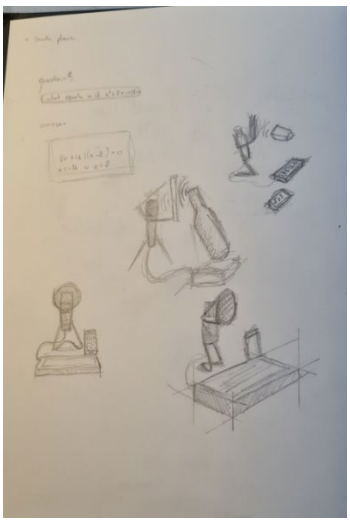


Figure 1.2.12 | learning music as a skill, by making it

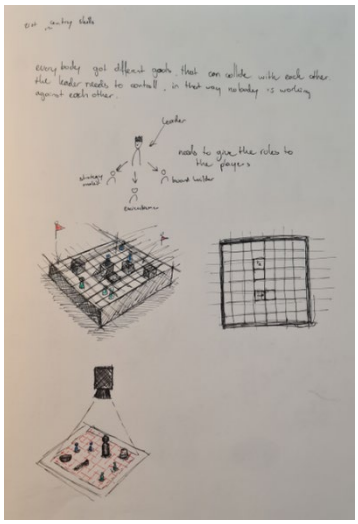


Figure 1.2.13 | a modular board with a feature of capture the flag

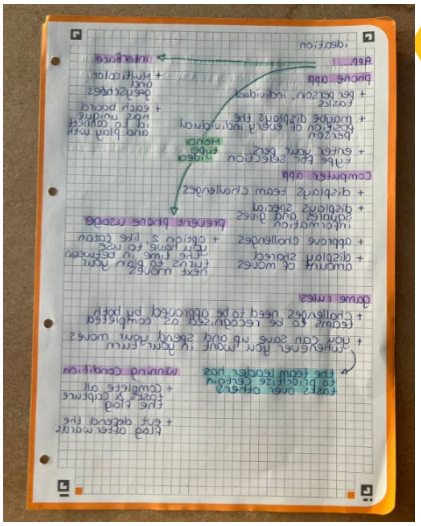


Figure 1.2.14 | an explanation of how we want to implement the digital interface

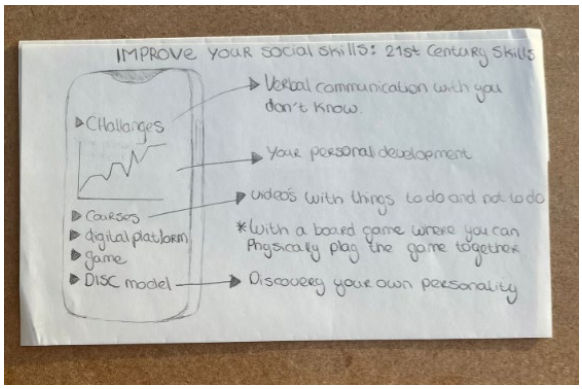


Figure 1.2.15 | an idea on how to keep track of the progress that is being made in-game and out-game

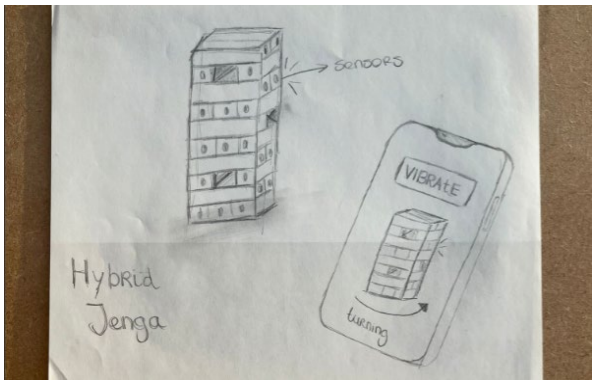


Figure 1.2.16 | keeping online track of block that are moved physically

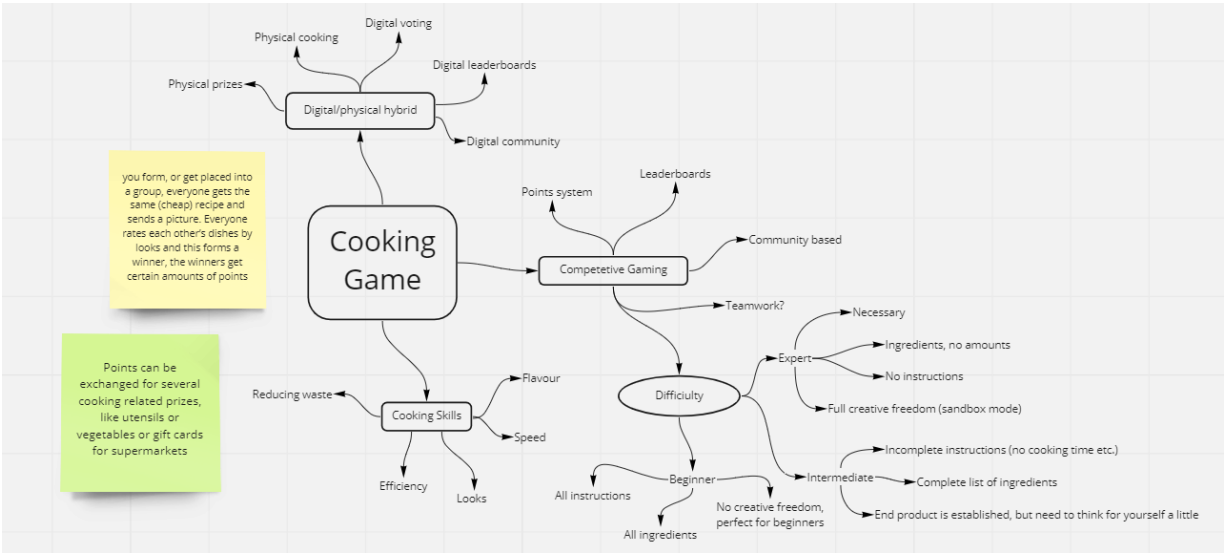


Figure 1.2.17 | an idea where learning a physical skill such as cooking was implemented

Takeaways and problems

To end week 2, a very busy but useful week, we generated a large amount of ideas. Using the four methods of ideation (of which we used 3), helped us getting an image of what we did want in our game and what we did not want in our game. Therefore, the methods helped us generating ideas. Using lo-fi prototyping which is shown in Figure 1.2.11. gave our entire group an easy base on which we could ideate, which this gave us the option to create more depth in our ideas. Looking at the documentation of the brainstorming, sketching, research and prototypes of each other but also ourself gave us a base on which each team member could elaborate their ideas. This meant that if a team member asked the person who was explaining their idea the question "why? Why is that? Why do you think that?", they could answer it, because everyone understands what they are talking about. Communication was therefore crucial in this week.

The problems that we had this week where quite frustrating. The process of defining our values went slow and required a lot of attention. What we have also seen is that you cannot ideate enough. When you think you cannot go deeper into an idea, you get a what if. What if we would approach it this way? We will not say this is an endless circle, but the process of ideation keeps repeating itself. This was something we as a team found quite hard because it was hard for us to make a decision.

1.3 | Week 3

Introduction

This week was mainly oriented around the exploration of the identity of our project, and the creation of the identity of our game. This week we continued defining our values, what our game must stand for, how we want to execute this, and the way in which we want to communicate this to potential players. We created the first tangible prototypes for our board, and the pieces, to be able to experience our game in the best way possible. (Figure 1.3.8) We had created the prototype for our interface, and in the process got more and more insights in the aesthetic of the game, and how we want to apply this to the right target audience.

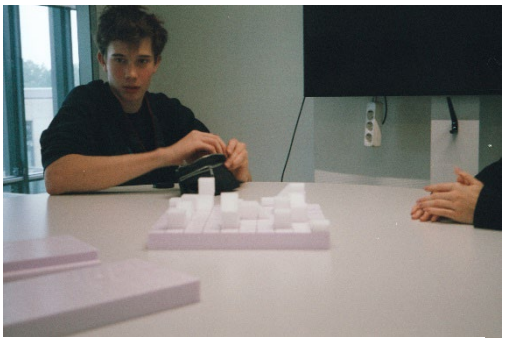


Figure 1.3.8 | Board prototype

Tutor meeting

In the tutor meeting with Menno we discussed previous week's progress. The most important feedback we received was that we should not limit our design decisions based on what we are able to create. Sometimes the idea is the most important thing, thinking of how to execute the plan is the second step. It is perfectly okay to integrate an aspect that you cannot execute physically, and mentioning that if you had the capability, you would like to add that aspect. Menno also added that we needed to envision our focus point more: we had to create a clearer image of what we wanted to create, or in what direction we wanted to develop. Menno did not only advise us on content-related matters, but also on our process, and the keeping track of our process. He told us that we need to document everything we had done, concerning trying things out. Write down the insights we have gained by trying something out, as well as writing down which insights we already had, and how these might have been altered by these tests. The last remark we received was that we needed to document and show everything and anything that had helped us in the design-, and ideation process.

Weekly goals

After our tutor meeting we had decided to completely finish defining our design concept this week. Other goals were creating a first prototype for the board; creating a first draft for a digital interface for a phone, as well as a computer; filming the first shots for the midterm video; and editing this same video. We also hoped that creating these first drafts would help us envisioning the possibilities for our game, as well as being able to iterate upon this.

Figure 1.3.1 | Ideas and values miro board

Proof

To follow up on our meeting, and our plans of choosing a final idea, we quickly collected all our ideas in Miro, so we would have a clear and structured overview of our different ideas. (Figure 1.3.1) To finalise our idea, we decided to create a trade-off matrix using our already defined values, as well as all of our ideas we had thought of. (Figure 1.3.2) This gave us good insights on which ideas best matched our values, and which did not match that well. This lead us to choose a "team based capture the flag with hidden information and a challenging environment" as final idea. We immediately made some sketches for the digital interface we had envisioned, to go with our final idea. (Figure 1.3.3)

Figure 1.3.2 | Trade-off Matrix

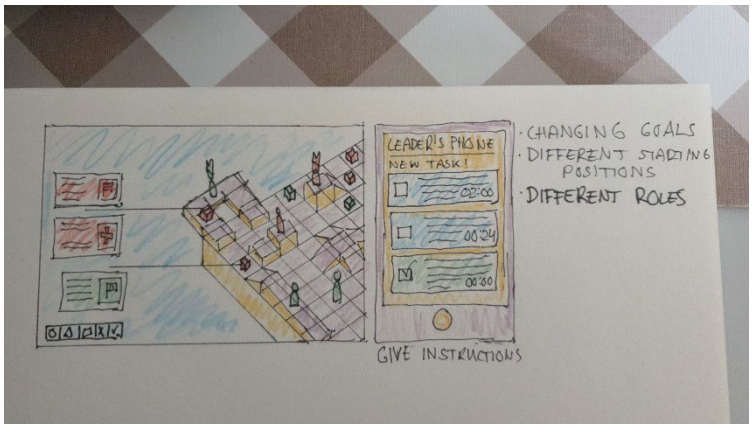


Figure 1.3.3 | Digital interface sketches

We also made sketches of the board and the pieces to go with it, where we initially planned on using squares as base for the board. (Figure 1.3.4) After envisioning the looks and aesthetic of our game, we worked on the storyboard for the midterm video. (Figure 1.3.5) Simultaneously, we started work on the foam version of the board, and the foam pieces on the board. (Figure 1.3.6 & 1.3.7) At this point we had clearly established the vibe we were going for, for both the board and interface, as well as the video. The next step was creating the digital interface, we decided to go for an interface to support the physical game, rather than the physical and digital aspect having similar importance. This lead to an interface mainly aimed at having an overview of the board, and showing information concerning the board and the pieces. Our target audience was supposed to be students, but also companies, and teams within these

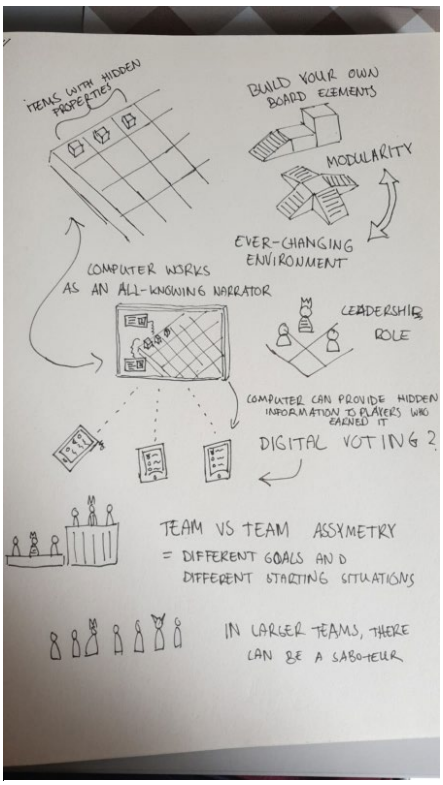


Figure 1.3.4 | Board sketches

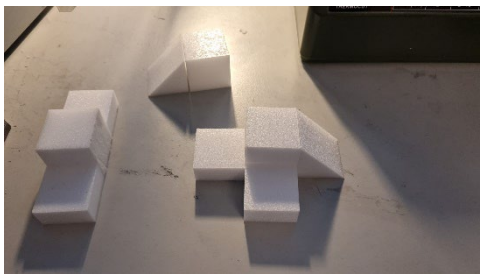


Figure 1.3.6 | Foam pieces

Figure 1.3.7 | Foam prototype

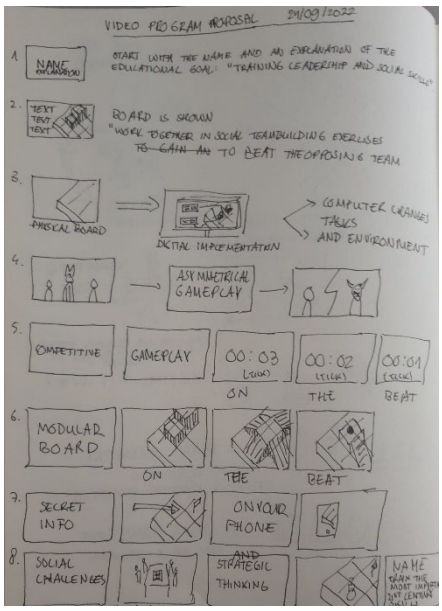


Figure 1.3.5 | Storyboard videos

companies. We had originally created an interface using a purple and yellow oriented colour scheme, (Figure 1.3.9 & 1.3.10) but thought we might need to professionalise this a bit more, so we also added a more neutral colour scheme. (Figure 1.3.11) Later on in the process we established that our game was supposed to be a fun way of learning leadership skills, which is why we decided to keep the colourful scheme as our standard, because it made the game feel cooler and more appealing. Since we had most of our aesthetics and plans laid out already, we needed to find some music to fit the overall feel we wanted to radiate. This took a while, but was definitely worth the time. (Figure 1.3.12) The last work this week was filming the video, this mainly happened on Monday and Tuesday, we shot various scenes we had envisioned in the storyboard, this took longer than expected, but did turn out nicely. (Figure 1.3.13)

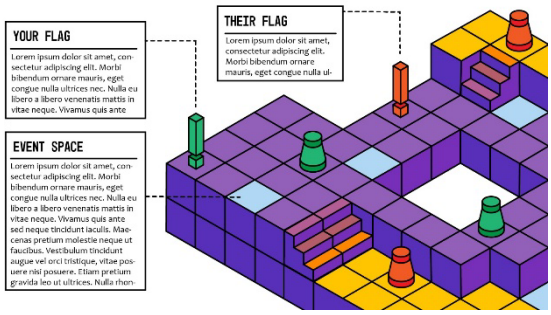


Figure 1.3.9 | Colourful interface

	#FFC600
	#FF8800
	#B55D6A
	#B55D95
	#9360B9
	#772FB9
	#582FB9

Figure 1.3.10 | Colour palette

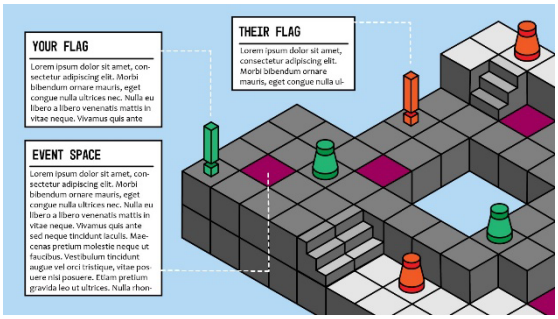


Figure 1.3.11 | Neutral interface

Problems and takeaways

This week we realised the importance of documenting everything, and the importance of quantity over quality, at least in the early stages. We found out that having loads of semi-elaborate ideas was more useful than having several elaborate ideas, because elaborate ideas would quickly lead to us experiencing tunnel vision, without having considered all aspects of an idea, as well as whether the idea actually conforms to most of our values. Having many semi-elaborated ideas gave us more creative freedom, more insights in the possible areas of exploration, and after working them through our trade-off matrix, we obtained insights on the possibilities of combining certain ideas to optimise them for our values. During the filming of our midterm video we did not run into many issues, but we did underestimate the time it took to set up, and film al our shots. This lead to us missing a calculus lecture, which was a bit of a miscalculation (pun intended). Not taking the previously mentioned issue into account, the planning and time management this week was successful, there was a good balance in the work that needed to be done, without being too ambitious and pushing ourselves too much.

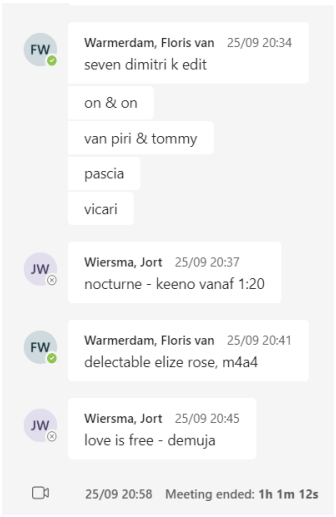


Figure 1.3.12 | Music

Figure 1.3.11 | Filming midterm video

Weekly result

At the end of week 3 we had successfully created a prototype for our digital interface, which was both aesthetically pleasing and functional. We had created a prototype board, which really gave us a feel for what we were actually creating. The board prototype also gave us the best way of iteration, namely physical experience. We had recorded all the footage needed for the video, and had a good base for starting the editing process. We had clearly delimited the values of our project, and we had determined what we wanted to achieve, and in what ways we could knead this project to our liking, within the margins we had defined.

1.4 | Week 4

Introduction of the week

In week 4, we finished and handed in our 60-second prototype video. We also watched the 60-second videos of all the other groups. It was really fun and educational to see what everyone had made. Furthermore, this week we also made a clear plan for what to do in the following weeks.

Tutor meeting

This week during the meeting, we showed and explained our chosen idea to Menno. In addition, we had mainly looked at what we were going to do next in our process because we were well on track. Menno also advised us to give each other feedback. This seemed very useful to us, as there were of course various points of improvement for all of us. As a result, we decided to sit down together right after the meeting and give each other feedback.

Goals for the week

For week 4, we aimed to hand in the midterm video well before the deadline. In addition, we planned to make a planning for the following weeks and start the next ideation phase.

Proof

This week, we edited and handed in the 60-second video. We had done a few shots the Tuesday after the meeting that we were still missing, which went well so we finished this quickly. We had also decided, following Menno's advice, to give each other feedback, which is later discussed. This ended up helping us a lot. During Thursday's lecture, we already started watching the videos of each group. This was a lot of fun but also instructive. We had discussed the feedback we had received from our video in the teams meeting on Friday. We all agreed with Bart's feedback. Our video looked nice and neat, but the idea of the game was not made clear in the video. Interestingly, we didn't really know how the game was going to work yet either. We still needed to do a lot of ideation on this. Therefore, we had made a plan for the coming weeks. This plan stated what we wanted to do for the coming weeks.

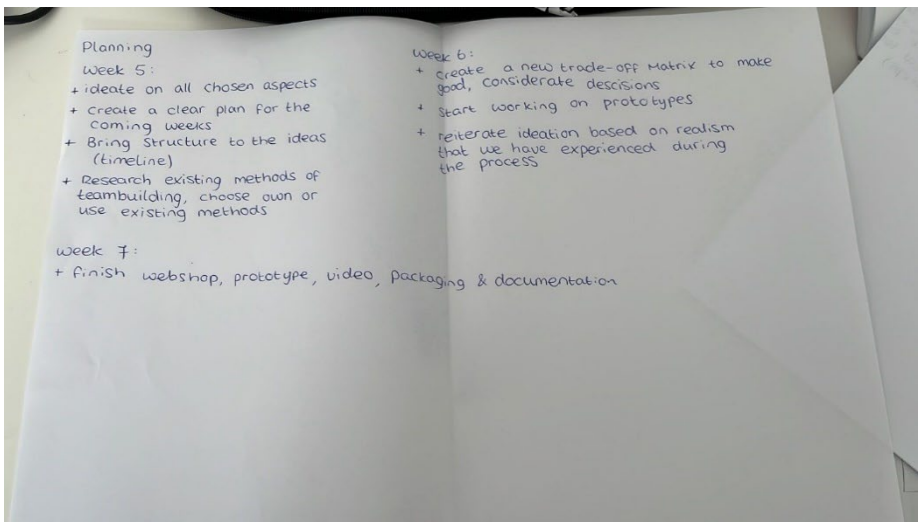


Figure 1.4.1 | planning

On Monday, we met at school to discuss the planning for the coming week and the aspects of the game that still needed ideation. We also looked at the things we had already ideated on at home.

Problems and takeaways

We had decided on Tuesday after the meeting to give each other feedback on Menno's advice. We gave each other tips and tops, and some group members also came up with points of improvement for themselves. For example, Niek thought he should be present more often, Carlijn thought she should share her ideas more and dare to say more, Floris should not get too deep into his ideas but be open to other ideas and Jort and Euwe should not take on too much work, but also trust others to carry out certain tasks. Because we communicated about these points of improvement with each other, the atmosphere in our group was very good. If a group member did something the others didn't like, we discussed it with each other, so that there were as few miscommunications as possible.

This week was also the deadline for the 60-second video. Bart's feedback on the video was that he thought it looked "crazy cool", but he didn't understand a "metric jack shit". We understood well where this came from. This video was well done, and the shots were very nice. However, it was very unclear what our idea meant in the video. It would have been wiser of us to put a voice-over below the video, to explain the game clearly and briefly. Also, our video was 61 seconds instead of 60 seconds. Bart was not happy about this, which we understood, of course. The assignment was to make a video of maximum 60 seconds, and it is not the intention to hand in a 61-second video. We didn't expect this to be looked at so strictly, but we understand future clients will not accept any deviations from what they have asked.

Weekly result

In week 4, we finished our midterm video, provided each other with feedback and looked at out own points of improvement. In addition, we made a planning for the following weeks.

1.5 | Week 5

Introduction

In week 5, we spent most of our time on excessive ideation within our design concept, bringing structure to our ideas and conducting research on team-building and leadership. Our largest problem has been figuring out what we mean with "team-building challenges" in our game, which was a central element in our design concept. We recognised that we had not been clear about this, which resulted in very different interpretations of these team-building challenges.

Tutor meeting

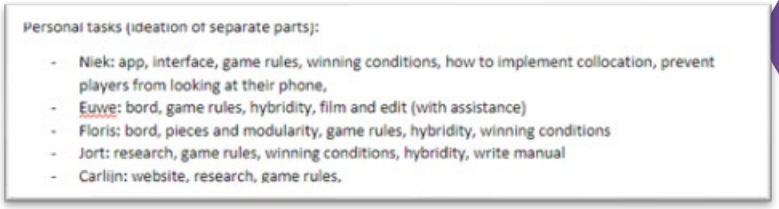
During the tutor meeting, we watched our video and received the same feedback we got during the lecture: our video looked very cool, but was totally unclear. The video was unclear, mostly because our design concept itself was still unclear. We did make a well-substantiated choice for the design concept, which is why it did not need to be changed, but the concept had some vague elements still. This is why our mission for week 5 was to make the design concept clearer, and ideate on all different aspects of the game. Another thing we should pay attention to is that there already exist a large number of leadership training programs. Therefore, we should conduct research on what has been done, what we can learn from it and how it could perhaps be improved.

Weekly goals

In week 4, we planned to spend week 5 working on the ideation of all individual aspects of the game, bringing structure to ideas and conducting research on leadership training and teambuilding.

Proof

Our week started with a lot of ideation. We used a list of elements in our game that should be ideated on and divided these elements. We made sure that most elements were being ideated on by multiple people, so that we could work and think together. Examples of elements we ideated on were the board, pieces, modularity, playing in dislocated setting, leadership (switches), roles, gamerules overall, physical-digital hybridity, starting positions, asymmetry, materials, aesthetics, winning condition, app usage, the saboteur, team interactivity, playing with an uneven number of players, name and logo, use of cards and, most importantly, how we want to implement challenges in our game. This last example was the most difficult, because we had decided to use leadership-training and team-building challenges in our game, but did not think thoroughly enough what these challenges could look like. We came up with the following realistic options:


Personal tasks (ideation of separate parts):

- Niek: app, interface, game rules, winning conditions, how to implement collocation, prevent players from looking at their phone,
- Euwe: bord, game rules, hybridity, film and edit (with assistance)
- Floris: bord, pieces and modularity, game rules, hybridity, winning conditions
- Jort: research, game rules, winning conditions, hybridity, write manual
- Carlijn: website, research, game rules,

Figure 1.5.1 | ideation division

- Challenges could be team-building minigames that teams have to complete together, or even out-game objectives that do not directly train leadership or strengthen teams
- Challenges could be questions that test knowledge on leadership
- Challenges could contain in-game elements only and thus train leadership indirectly instead of directly
- Challenges could be a combination of in-game objectives and out-game minigames
- Challenges could be given to both team unexpectedly by the digital interface
- Challenges that oppose other challenges, such as individual challenges that interfere with team challenges

- Challenges that were person-specific based on their Myers-Briggs personality tests.

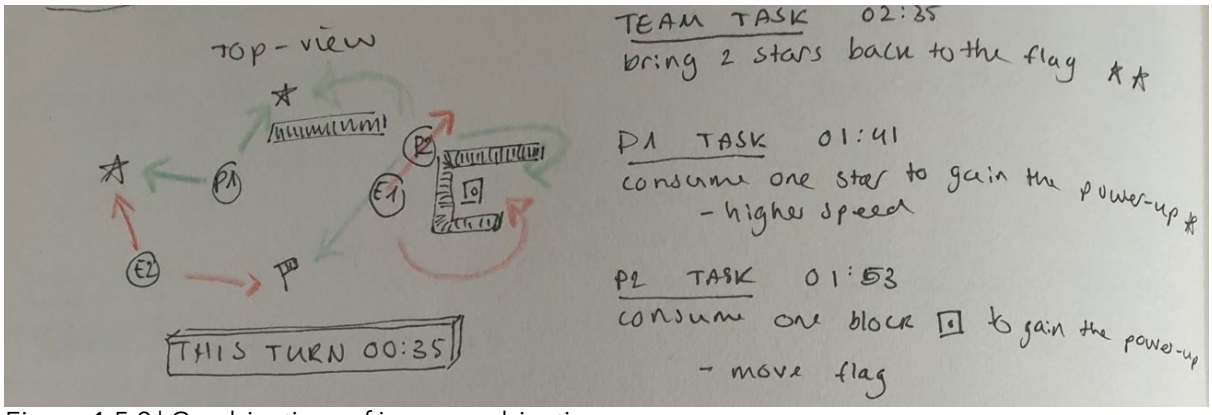


Figure 1.5.2 | Combinations of in-game objectives

Figure 1.5.2 contains a sketch of what the combination of various in-game objectives could look like. Together, and combined with other elements such as (which we later decided to use) limited discussion time, complicated strategic situations and lack of information, these objectives create a stressful situation for the leader. Using this method, leadership is trained by creating simulations of stressful situations in which leaders have to perform. This is the option we chose to use after multiple prolonged discussions, as it seemed to be the best option to train leadership. Using team-building minigames could have been suitable as well, but it was difficult to think of or find such minigames, as it was important that they were very short (to keep the pace high) but still effective. Research towards such minigames was ineffective. Other research, mainly *Research on leadership selection and training: one view of the future* and *The brave new world of leadership training* suggested leadership can be improved by training stress-resistance for leaders in an action-based environment that forces leaders to be strategic opportunists and interpersonally competent (Fielder, 1996; Conger, 1993). In addition, all of this should be trained repeatedly over a prolonged period of time, with time for reflection and feedback. We did not implement this latter point, because we simply forgot to include it. It can be concluded that we should have spent more time structuring our findings, as we only remembered it when our tutor made a comment on reflection time during the final exhibitions.

In week 5, it was difficult for us to use all four methods of ideation. It seemed to us that language-based ideation would be the most useful in defining gamerules. It was, however, useful to sketch examples of an in-game situation to give a better impression of what result our gamerules could have. Of course, it is most important to actually try out these gamerules to get a feel of how they play, which is why we started working on a digital prototype so that we could quickly play our game. The prototype was played and finished in week 6.

In addition to gamerules, we spend time ideating how our game should look, including the board, name and digital interface.

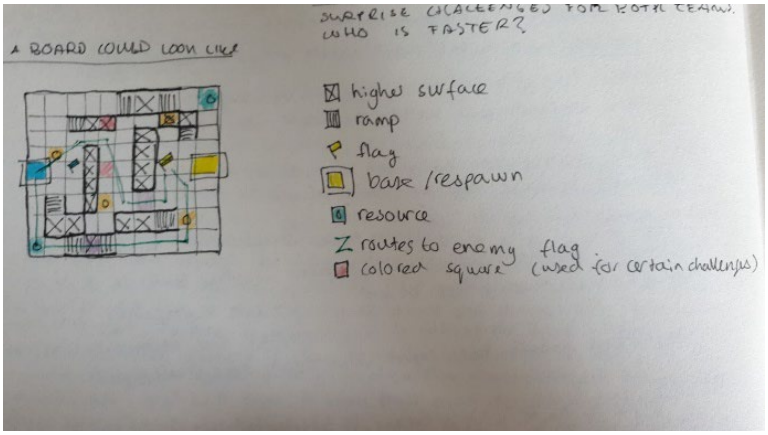


Figure 1.5.3 | An impression of what the game could look like

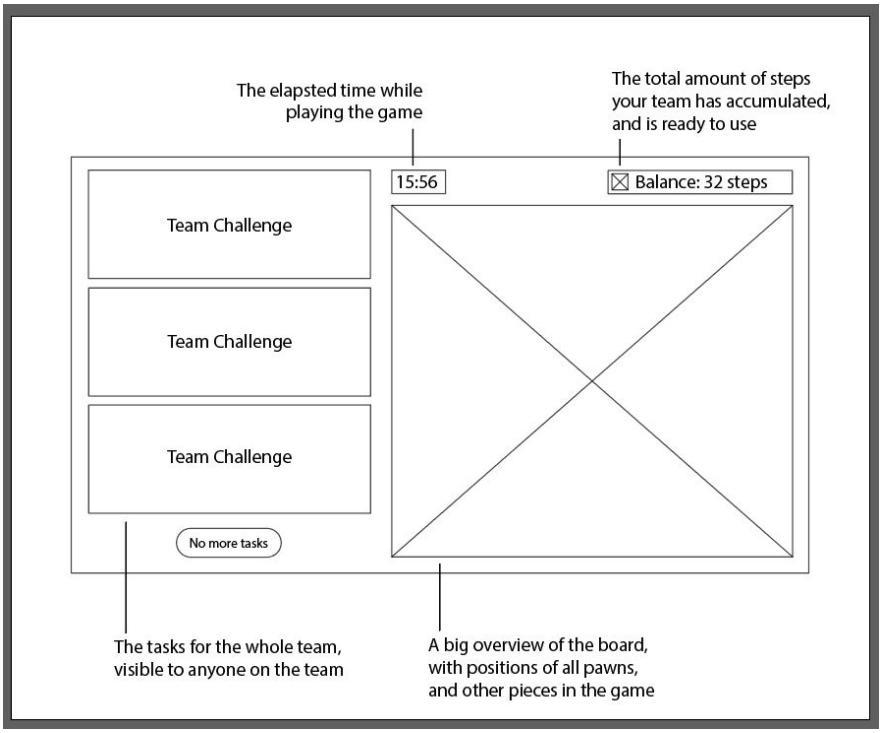


Figure 1.5.4 | Impression of the digital interface

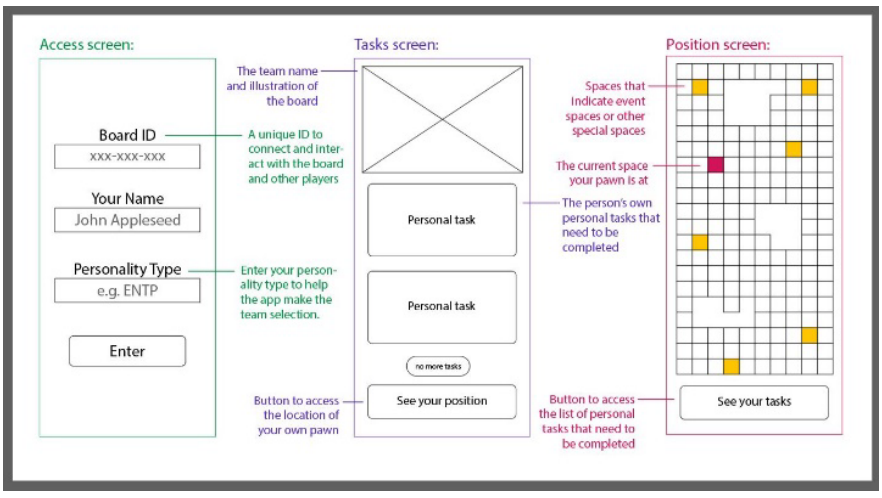


Figure 1.5.5 | Impression of the digital interface

These pictures are examples of impressions we had of the digital interface in week 5. The interface contains elements that have been discarded, such as the team-based step balance. We used an AI, *Business Name Generator* from *Namelix.com*, to come up with names for the game - mainly as a form of inspiration (Namelix, n.d.). The name LeaderBoard funnily comes directly from an AI suggestion! Some other names we came up with include Out-social the flag, On board!, Lead it!, Taming the game and Effective Collective. The last two examples show that AI does not always give great results.

Problems and takeaways

As mentioned previously, our main problem was defining the role of challenges in the game and how they could train leadership. In the future, we should spend slightly more time envisioning how the values we define will work. We shortly considered taking a step back and reconsidering the use of challenges, but this was not really an option, because the decision we made when we defined the values for our game was simply too founded to take a step back. We consider this to be a good thing. What we could have done better when we defined our values, was making combinations of different ideas without properly considering an example of this combination in practice. Furthermore, we should have structured our ideas and research better, because we missed some ideas when we started making decisions, and we forgot to use a critical research result, which was the importance of including feedback and reflection in leadership training. In addition, some group members should have kept track of their own ideas better, for example by doing all ideation in one sketchbook.

Final results

In week 5, we did a ton of ideation of various elements of the game. We structured our thoughts and conducted research on relevant topics, being leadership training and teambuilding. We slowly got a better idea of what our game would look like. In addition, we started working on the looks of the game, such as the digital interface and name.

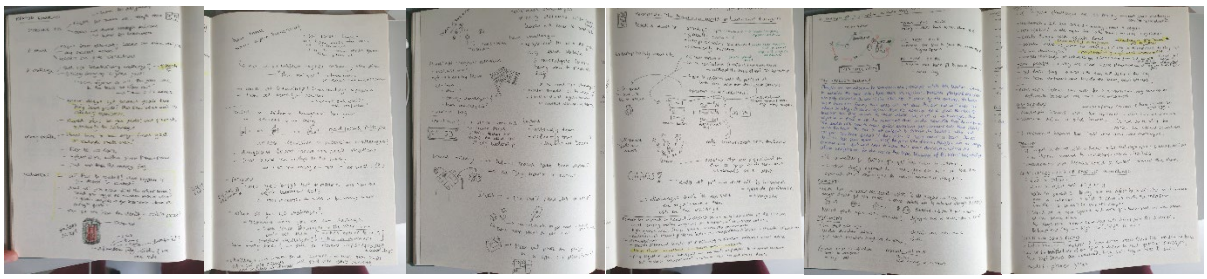


Figure 1.5.6 | An impression of the ideation of week 5

1.6 | Week 6

Introduction

We considered week 6 to be a very good, positive and motivated week. We spend week 5 working on complications in the gamerules and extensive ideation without seeing a lot of results, but this changed in week 6. By then, we knew fairly well what the game was going to look like, and we spent our time playtesting and making improvements to the game, as well as working on the manual, looks, packaging, website, digital interface, board and pieces. It was great to actually play the game and see that it was actually great fun to do.

Tutor meeting

The tutor meeting that week 6 started with was very positive. We were reminded that we should think bigger: we should think of what our design would look like if there were no limits in time, money and technical elements, because the final exhibition does not expect a final product but simply a product that is as final as we can make it. Therefore, we would learn more if we started thinking without such limits in mind.

Also, because the course is about creativity and aesthetics, we should spend more time on packaging, color scheme, fonts, style and material use, and be able to explain why we made certain aesthetic choices.

Finally, we were advised to think more about our game in the long term. Because skills take time to develop, we should think of ways to make sure players keep playing our game, while also making sure that the game consistently trains leadership instead of becoming too easy.

Weekly goals

In week 4, we planned to spend week 6 on making founded decisions of different elements in the game (which we ideation on in week 5), working on prototypes, finding elements that were not properly ideation on in week 5 and ideating on those and having a finalized design that is ready to build for the final exhibition. We did not follow this planning exactly.

Proof

As has been mentioned in this week's introduction, week 6 was a productive week in which we were motivated to finally make the game which we had been working on for so long. In week 6, we finished the first playable version of our game, which included the first manual. We used a fully digital version of the game, which we played together in Miro with very primitive looks. We used Processing to make the digital interface, a skill we learned in the Creative Programming course.

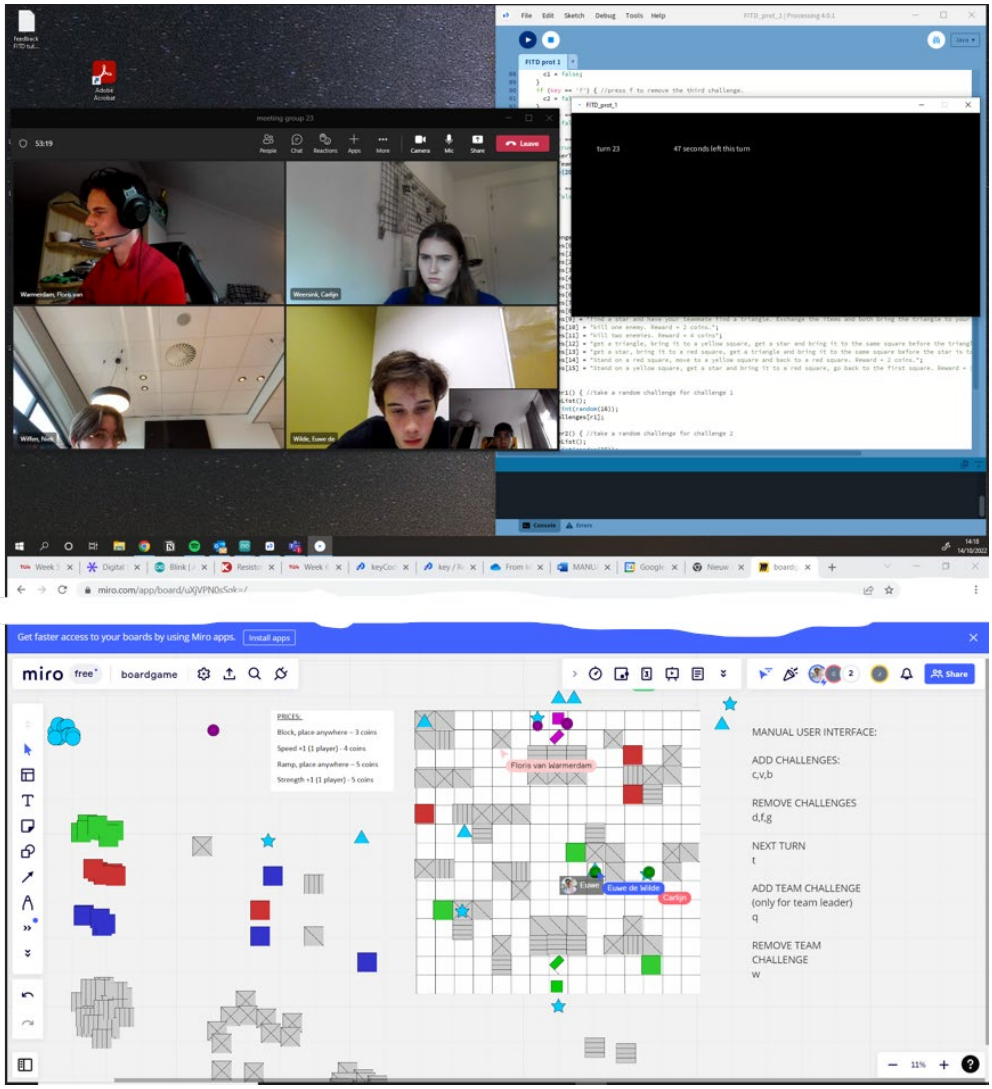


Figure 1.6.1 | Playing the first playable prototype online

Everyone had the same basic program that showed challenges and rewards, which we used to keep track of the in-game objectives. We used rules that were written in the first manual, but changed them on the fly because we were very quick to see aspects that were incomplete or inefficient. We noticed that the game did not yet train leadership the way we wanted it to, as there was not enough pressure on team leaders. Later, we decided to show team objectives to leaders only, which made the leadership role more important. We also noticed that the prices in the shop were way too high, and also thought of the option to add a physical shop to the game, as in this early version it was possible to make purchases at any time. After playing the game and making a lot of notes, we spend time ideating on the problems we found, which resulted in the second iteration of the manual.

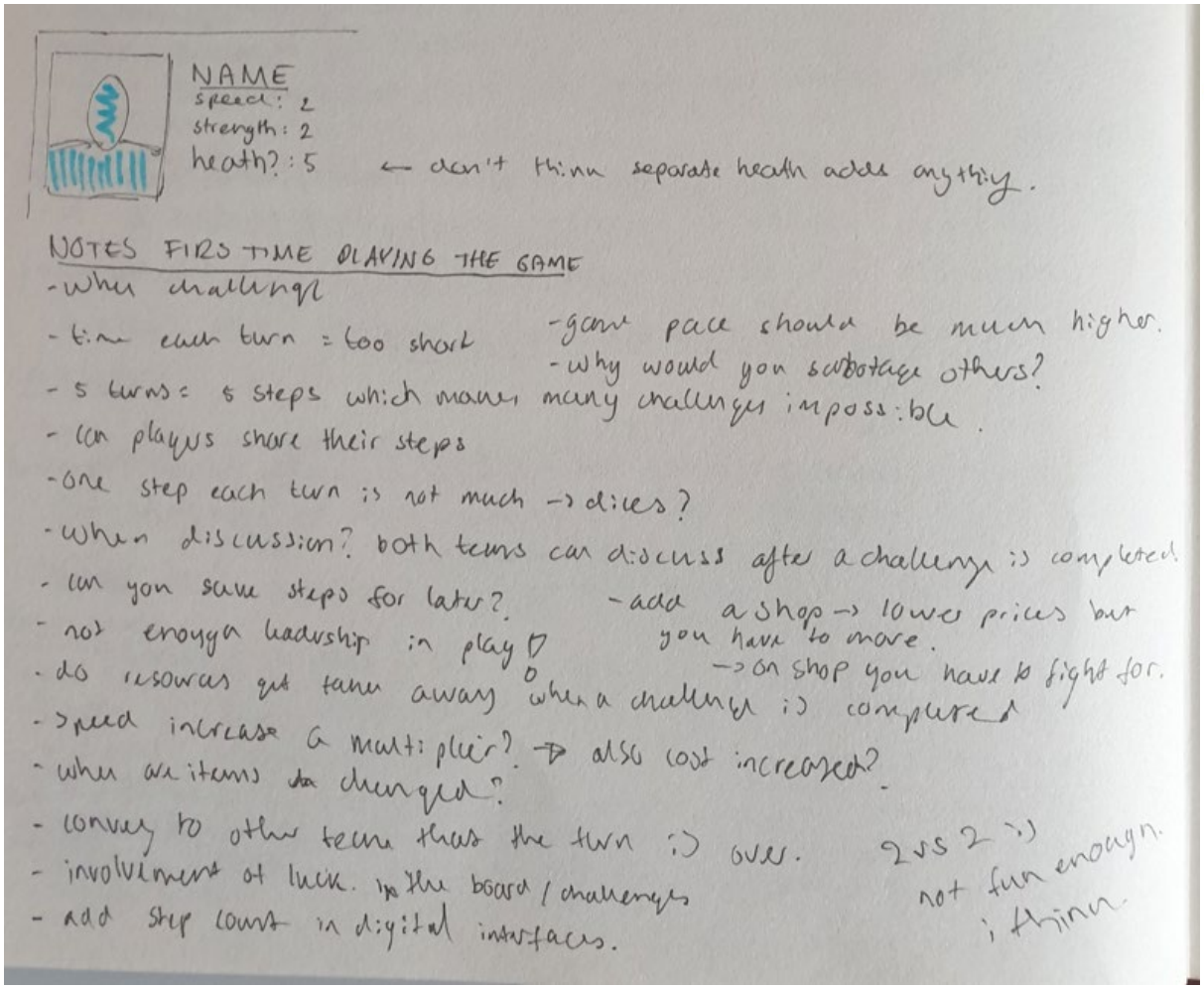


Figure 1.6.2 | Some notes we made when we played the game for the first time

In addition to playtesting and updating our gamerules, we spend some more time working on the looks of our design. We picked a color scheme that represents the feel of the game, worked on the logo and packaging and started working on the realization of what we had in mind.

Figure 1.6.3 | Logo iterations

Figure 1.6.3 shows a simplified logo creation process. We used DALL-E 2, "a new AI system that can create realistic images and art from a description in natural language", as a starting point for our logo design (OpenAI, 2022). The prompt we used was 'simple logo design for a leadership skills game, vector art'. The result was the first logo shown in the picture. We then went through a number of iterations until we arrived at the final logo design.

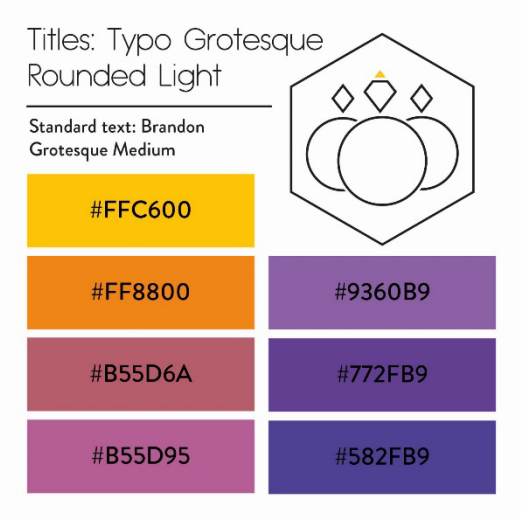


Figure 1.6.4 | The style that we used throughout all elements of the game

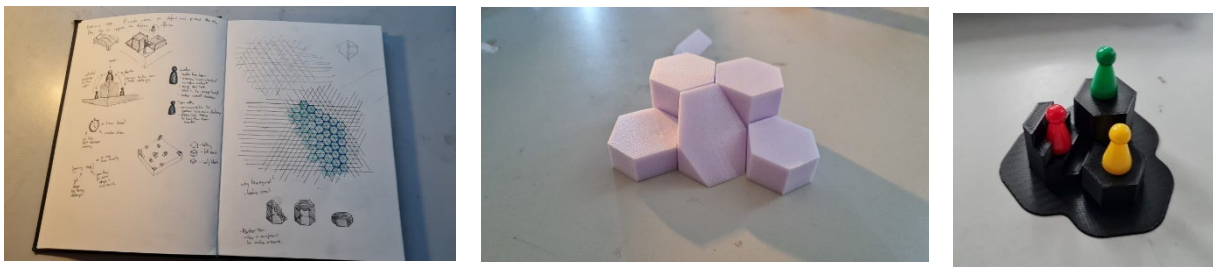


Figure 1.6.5 | Board and pieces iteration

Figure 1.6.5 shows the development of the board and pieces on it, moving from a square board with cubes to a hexagonal board with hexagonal pieces. The board is discussed in week 7.

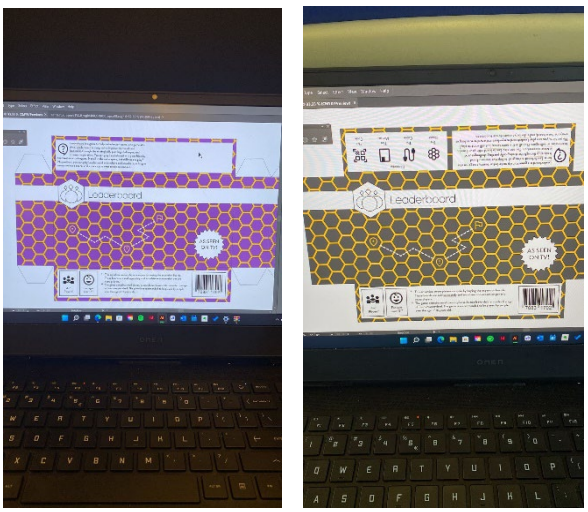


Figure 1.6.6 | Trying out different colors for the packaging

In week 6, we started experimenting different possibilities for the packaging design, which we continued in week 7.

Moreover, all of us read the midterm reflection of somebody else and gave feedback on it, as was suggested by our tutor, and considered the longevity of the leadership training. This longevity could be improved upon by adding different gamemodes and including a training plan that can be followed by groups of players. This plan would change the gamerules slightly each week, making the game more fun but also more difficult.

Once more, we would like to note that this week was one of the happiest and most motivated weeks of the project, and it is important for us to know why it was. The first time we were really enthusiastic was in week 3, right after we had chosen a design concept after a (seemingly) long time of discussion, ideation and structuring. After making the trade-off matrix, we knew we were on the right track and were motivated to start working on the realization of this concept, as well as making the video. In week 6, we were happy because we could finally play our game, and because we noticed that it was a lot of fun. We got inspired by the huge amount of new ideas we came up with while playing the game, and got to improve the game in a lot of areas. We estimate that more than 50 percent of the manual had to be rewritten after playing the game for the first time. In addition, because we noticed that the game was in its core what we imagined it to be - a fun way to train leadership while still having the feeling that you merely play a game - we could really start building the board and pieces, as has already been discussed before. In week 7, we continued the physical and digital building of the game. We consider it to be important that we remember the times we were this enthusiastic and motivated, so that we can remember them in harder times, especially in more difficult or energy draining projects.

In week 6, it was good to see that we utilized the reflective transformative design process: we had previously envisioned what the game would look like, we could validate our ideas by playtesting, we made and sensed the physical and digital components and we analysed and reiterated the gamerules.

Problems and takeaways

We did not encounter a lot of problems during week 6, but we did learn a lot. Firstly, we noticed that actually playtesting the game was extremely insightful, and it seemed that we should have done so earlier in the process. Everything can be changed, after all, and speculating about how certain things play out in-game can never be as efficient as testing how these things play out. In addition, we learned that it is important to think big in design projects like these. We learned that projects are never completely finished during exhibitions or demo-day, and we learned that it is completely possible to fake prototypes just to show how something is supposed to work. Furthermore, we were reminded that aesthetic choices should still be made with reasoning behind it. However, this was still difficult, as there were many colour palettes that seemed no better than others in this particular case. The same goes for fonts: as long as the font was professional and readable, it was difficult for us to define a reason for the choice of fonts. It seems that we should learn more about the subject or simply practice more aesthetics.

Once more, we realized the importance of reiteration and the reflective transformative design process. It has been difficult in the project to actively use all parts of this process every week, but whenever we do use all of them, quick and strong results are visible. In future projects, we should remind ourselves of this and act accordingly. This goes hand in hand with reminding ourselves of the good times in projects, which have been discussed above: the moments after broad ideation and difficult decision making are the happiest moments in the project!

Weekly results

In week 6, we spend time playtesting and reiterating the game. We wrote a manual, finished a digital prototype including a working digital interface, and updated all of those according to newly founded insights. In addition, we worked on a style to be used in all elements of the game, as well as working on the pieces and the board.

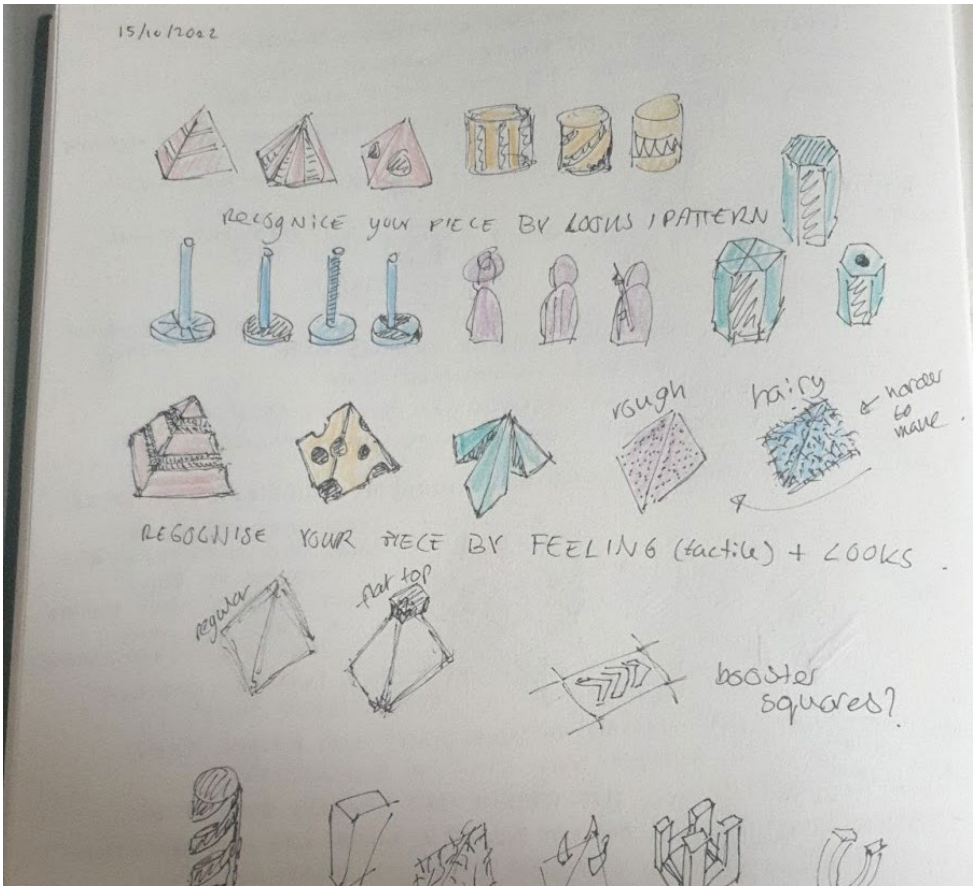


Figure 1.6.7 | Pieces ideation

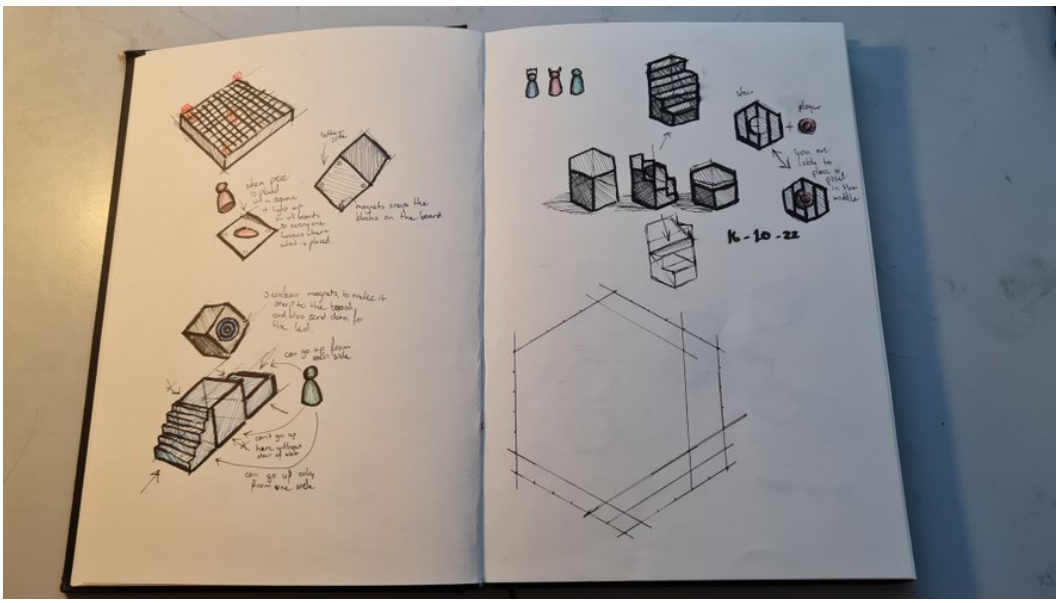


Figure 1.6.8 | Some more ideation of the board and blocks

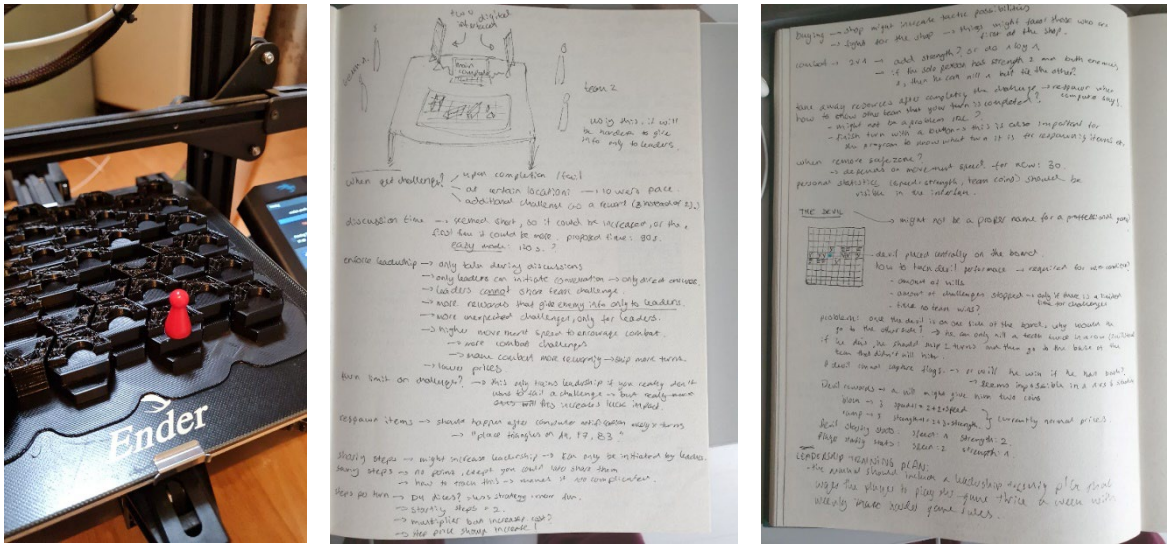


Figure 1.6.9 | 3D-printing blocks and Ideation before rewriting the manual

1.7 | Week 7

Introduction

Week 7 was a busy but very productive week. We saw everything we worked on in the past weeks coming together. Time was very valuable this week because the deadline was approaching and things needed to be finalized. We spread the work among us so everyone could be focused on one part of the process, but we still supervised and reflected on each other's work. At the end of week we needed to deliver the video, prototypes, packaging and webshop. It was a busy week but we all managed to complete our tasks and we were able to combine everything in a final concept.

Tutor meeting

We were quite excited going into this meeting. We saw everything coming together where we worked on in the past weeks which was quite fun to see. The meeting was overall very positive and our tutor mainly gave us advice about things we should look into. For example, that presentation day should be a moment of reflection that should be included in the report. In the coming years we will have many more presentation days, so it is good to reflect on what went well and what could be better next time.

Our tutor also noticed our excitement for the project and said that we should keep that in mind for our next projects. Not every project goes the way you like it, but how can you still be motivated to work on that project and how do you keep that excitement? You should be mindful of those things.

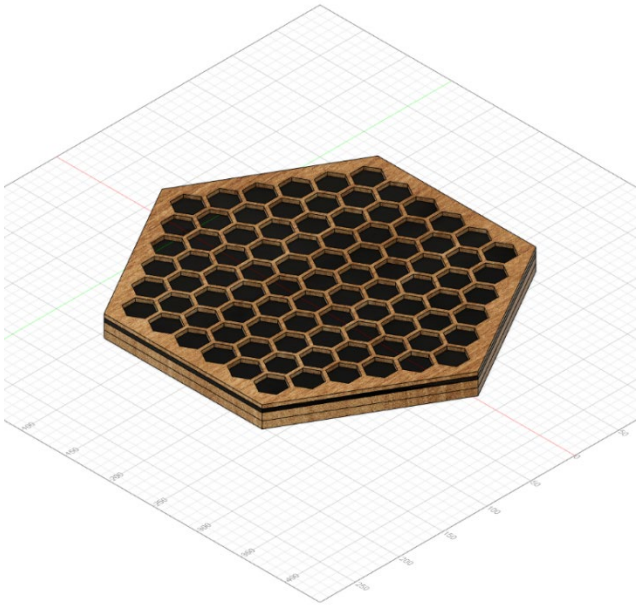
Weekly goals

At the end of week 7 / beginning of week 8 we should have finished the following things.

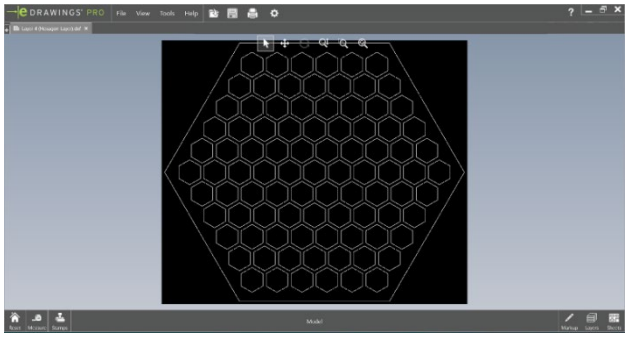
- The 90 second video
- Prototypes of the board, pieces and interface
- A mock-up webshop
- Packaging for the board
- Documentation of the process

Proof

Week 7 can basically be summarized in a single word: Prototyping. We did it a lot. During this week the concept of our game was coming more and more into reality. We made the board that we had designed on paper in fusion 360. This 3D perspective gave us a bit of a glimpse of what the board was going to look like in space, instead of being flat on paper. After the board was approved by everyone in the group we downloaded the dxf-files which we needed to laser cut the board out of plywood and PVC.



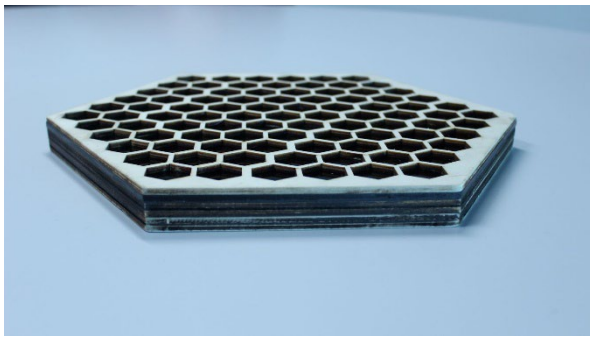
1.7.1 | 3D model of the board



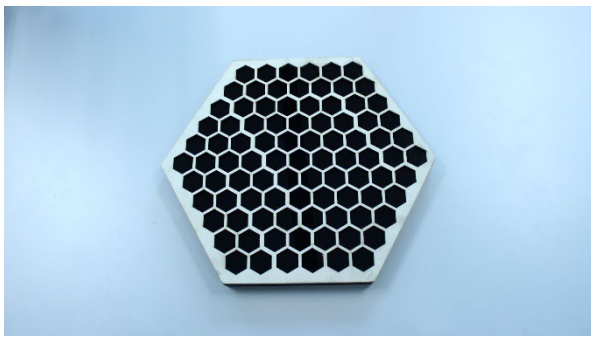
1.7.2 | .dxf file of the board

1.7.3 | top part of board

When everything was cut out we assembled the different layers by gluing them together. We thought the final design looked quite smart.



1.7.4 | side view of assembled board



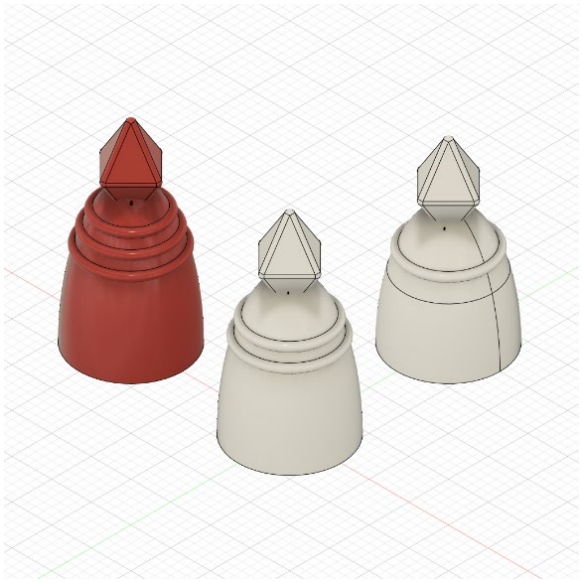
1.7.5 | top view of assembled board

We also printed a lot of pieces for the board this week. The hexagonal pieces were already designed the week before, but we needed more of them. Some of them needed to be colored for objectives in the game. So we bought some yellow and purple spray paint to match the theme of the game and painted them. We did not encounter many problems during this process.

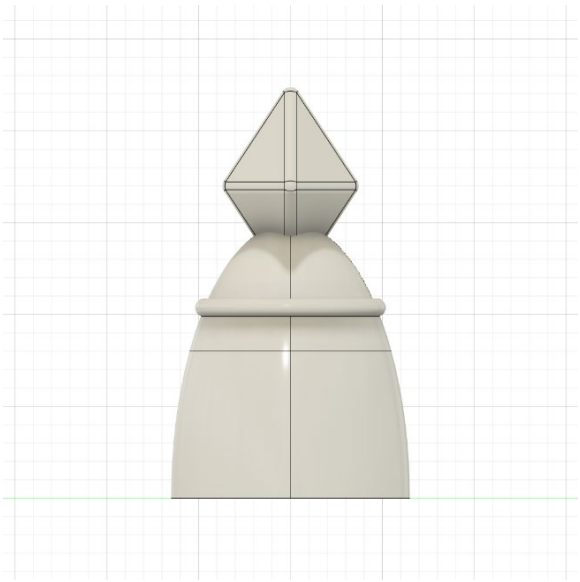
1.7.6 | pieces being spray painted purple

1.7.7 | pieces being spray painted yellow

We already designed the hexagonal pieces but we still needed to design the pawns, shop, spawn points, etc. For the pawns we looked into how the different roles should feel, we used the research we did in week 6 for that and based the design further on the logo that we had. We came up with the following designs for the different pawns.



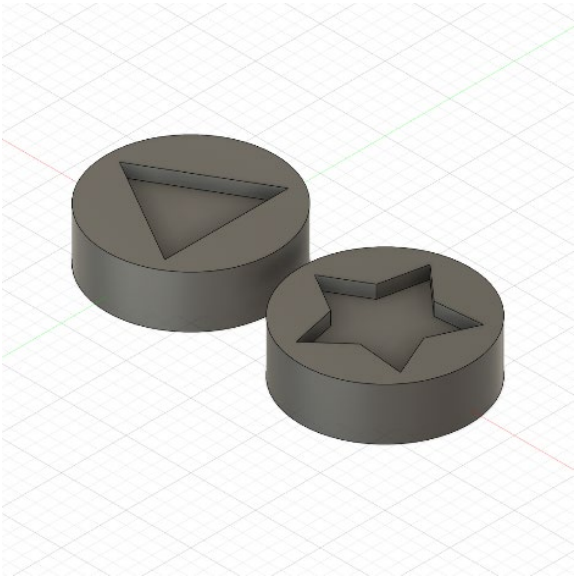
1.7.8 | 3D models of pawns



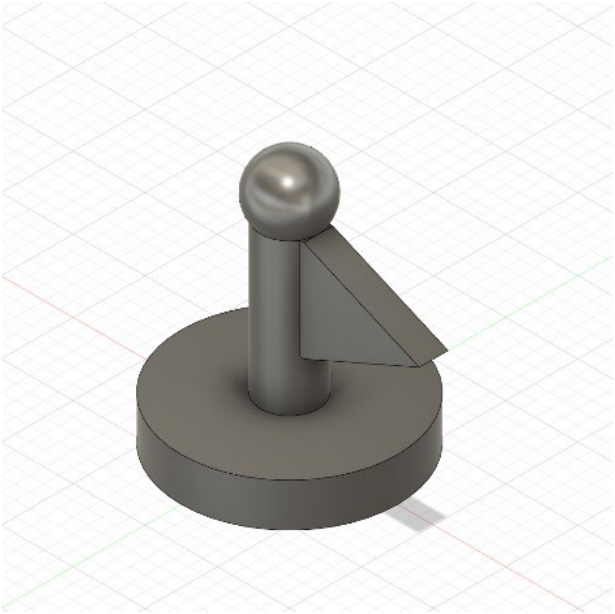
1.7.9 | side view of pawn model

Here, the number of lines on the pawn shows which role you have. One line means team member, two lines means leader and three lines means rogue. The leader and rogue are also a bit taller than the team members. You can see which team you are in by the color of the pawns. By doing it this way it makes it more clear by feel and view which role you have.

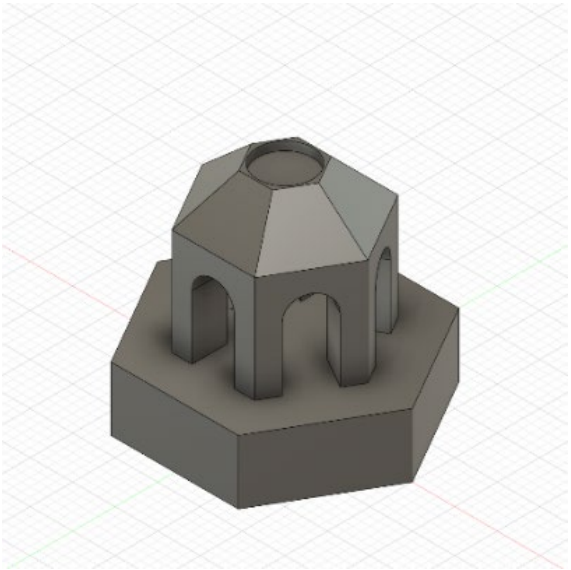
As said before, we designed some other pieces for the game that you can see here below. They are used in-game for objectives and playability.



1.7.10 | 3D model of the resources



1.7.11 | 3D model of the flag



1.7.12 | 3D model of the shop

The digital interface also had to be adjusted. While we thought the one we made for the first iteration looked smart, it was not always as clear where the pieces were on the board. A pawn would sometimes be standing behind a building block which obstructed the view in the isometric interface. That is why we decided upon a top down view for the second iteration of the interface. We thought it was more clear and it looked a bit less chaotic.

1.7.13 | Interface of the game

We also started working on the design of the packaging. We were debating if we wanted the box to be rectangular or hexagonal. We came to the conclusion that a hexagonal box would be a bit too much, because everything was hexagonal shaped. We also noticed that the information on the rectangular box looked less cramped than on the hexagonal box. That is why we eventually opted for a rectangular box.

1.7.14 | 3D model of hexagonal box

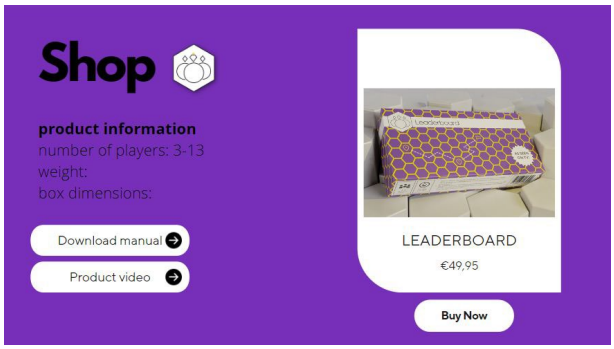
1.7.15 | 3D model of rectangular box

1.7.16 | design of rectangular box

While the prototype of the board was slowly coming into existence, we noticed some things needed to be adjusted in the manual. Some things were not explained well enough, like the role of the rogue and what different building blocks do, and needed to be supplemented. So we made a third iteration of the manual. The different iterations of the manual can be found in the appendices (appendices C to E).

1.7.17 | playtesting the game with new rules

The website also needed some updates after making all these new prototypes, so we made some adjustments to get it up to date.



1.7.18 | Webshop

It was nice to see everything coming together in week 7. The game was becoming more and more real by the day. It was good to see that our hard work paid off.

Problems and takeaways

We did not run into many problems in week 7. We were just very busy working on the deliverables. We did not always agree when we made certain design choices, but we always found a solution to make it work one way or another. Good communication helped a lot. When we wondered why something was done in a certain way we would just ask: "Why?" Questioning certain design choices helped us decide why one was better over the other. Overall, we are very pleased with the productivity of week 7.

Weekly results

In week 7 we built the board, designed and made the game pieces, redesigned the interface, designed the packaging, adjusted the manual and updated the website.

1.8 | Week 8

Introduction

Week 8 was the last week of our project, this meant that work was mostly based around finishing and finalising. This was definitely the way in which we approached this week. We had worked hard to finish all of our deliverables on time, as well as preparing for the project exhibition, which was of course an important moment of reflection. This last week we experience an extra good sense of cooperation as we got together more often than before, and helped each other where necessary. We did not only prepare our deliverables, but also different elements for the fair, including a pitch, tangible prototypes, and several items to make our stand more appealing to a viewer.

Figure 1.8.1 | Final packaging

Tutor meeting

This week we had decided to not request a tutor meeting, because we were all very driven, and had a very clear vision of what we wanted to create, and how we were going to create this. We felt like we were working towards a realistic and well planned goal, we were confident in our plan, and did not feel the need to be coached anymore.

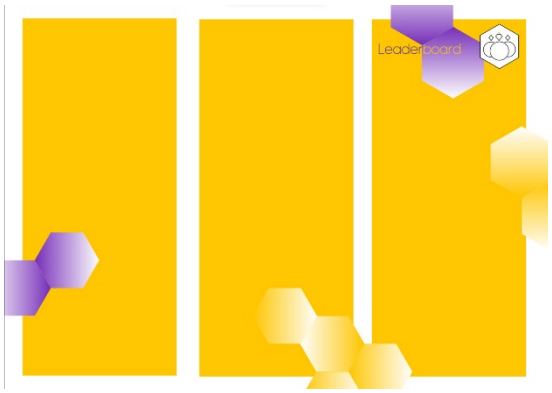


Figure 1.8.2 | Version 1 of the manual

Weekly goals

This week was mainly reserved for finishing our deliverables, so we had to finish our final video; finish the final interface; finalise the website, and apply changes where necessary; building our last prototype/final design for the game board; finishing the pieces, and making them look pretty; prepare a pitch; and finalising a design for the packaging, and building a physical version of the box.

Figure 1.8.3 | Version 2 of the manual

Proof

The week started with an intense day of working on our well divided tasks, we had previously created a design for the packaging, this was a rectangular box, because at this stage we had oriented our game around hexagons, we wanted to create a hexagonal box as well. This decision turned out to be hard to execute, so during the final week we reiterated our work, and reinstated the rectangular box. (Figure 1.8.1) At the same time we kept renewing the manual, and taking into account the insights we gained by playing the game ourselves. During the last week we had come to a final version for the manual, and we started working on the appearance of the manual, and how we could incorporate the consistent graphic design into the manual as well, we created a first version (Figure 1.8.2) but decided that the gradients in the hexagons did not match the overall appearance of the game, and it's attributes. This caused us to change the gradients to conform to our standard, but keeping the original

Figure 1.8.4 | Recording

funky feel we really liked. (Figure 1.8.3) We worked on the storyboard of the final promotional video, taking into account the things we had experienced while making the midterm video. We also started working ahead a bit, and created a first outline, and structure for the final report. The following day we met up at the campus, so we could record some of the clips necessary for the promotional video, (Figure 1.8.4) as well as being able to collectively review the work we had done the day before, and look at what still needed to be done.

Figure 1.8.5 | Video-specific interface

Simultaneously, we created some mock-up interfaces to fit into the final video. (Figure 1.8.5) Shortly thereafter we started work on editing the video, this time focussing more on contents, and the message we wanted to convey in the video, rather than making it look very nice. Since we had now decided upon a final design for the packaging, we also started work on creating a physical model of the box, (Figure 1.8.6) which turned out to be a little bigger than expected. We had made well-considered decisions on the sizes of the box, taking into account the size of the board, space for all the pieces to fit into the box, and dedicated space for the manual, but nevertheless we were surprised at the actual size of the box. Since we had only recently created final interfaces for the digital applications, we had to create some new renders, (Figure 1.8.7) and apply these in the website. We also adjusted some of the text on the website to better fit our values, target audience, and the consistency in text and visuals. (Figure 1.8.8) Because we really valued aesthetic and appearance in our project, we quickly ideated upon ways to make our stand more appealing, and decided to create business cards, and a poster. Because we want to be sustainable we chose to reuse cut-outs from our board to create little hexagon shaped coins, to serve as business cards, adding our logo, and a QR-code leading to our website. (Figure 1.8.9) As for the poster, we wanted to keep it simple, without seeing a loss of information or functionality, we created a poster that showed the physical-digital hybridity, us playing the game, and our name and tagline. (Figure 1.8.10) This way we showed a viewer our most important aspects, namely the hybridity, the fact that it teaches leadership skills, and that it is still a fun and accessible game. We also all studied the pitch, so we would be prepared for any situation, and everyone knew about the most important things to mention during our pitch. The morning just before the pitch we decided to get together and rehearse the pitches, we planned a layout for our stand, and reviewed our work one last time. (Figure 1.8.11)

Figure 1.8.6 | Box creation

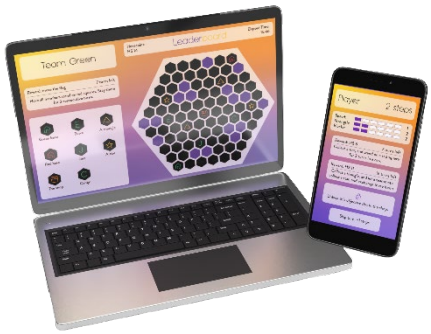


Figure 1.8.7 | Render of final interface

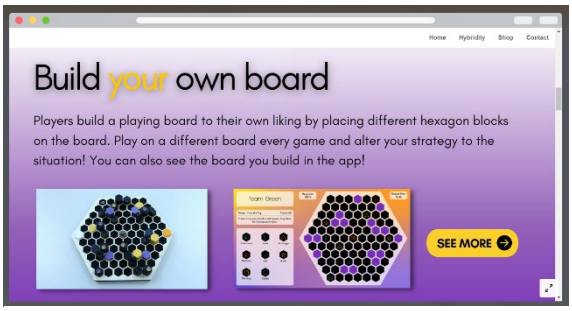


Figure 1.8.8 | The website/webshop

Problems and takeaways

The main problem we ran into this week was planning how we were going to print the visual print for our packaging, when we added our design to a digital environment, the piece did not even fit

on a piece of A0 paper, so we had to take out certain elements, and get creative in assembling the box. We also (quite early in the project) decided upon font families to use throughout our entire project, this later turned out to be an awkward choice. We chose one font downloaded from the internet, which looked really nice, but was hard to apply in every aspect of the project, because not everyone used programs that had the possibility of adding your own font into your project, which caused hassle in the finalisation of certain aspects of the project, like the manual or the website. Would we change this in coming projects is hard to say, because using downloaded fonts gives one more possibilities in creating something unique, but we would have to work on the way we divide work concerning these matters. Lastly, we would like to take the feedback we received at the fair into account. The remark that we by far received the most was the question why our box was so incredibly big, after showing people what needed to be stored inside of the box, they often still looked puzzled. Next time we might have to consider an even more efficient way of arranging the insides of the box, or use a technique to make the box look smaller, without actually shrinking the box. Another thing that was mentioned was, that in their own opinion, they preferred the aesthetic of the board overview of the first version of the interface. The first interface was created using an isometric grid, which resulted in a more interesting appearance of the board, there was more depth and more uniqueness. The final interface was a top-down view of the hexagon board, we chose to create a 2D map of the board because putting hexagons in an isometric grid was going to be very hard to execute. Another reason we chose to do a 2D version was because players get the opportunity to build their own board, which (in a 3D map) can lead to obscurity in the overview due to the blocks having different heights. We had decided that, in the future, we would like to add two modes, one for the clear 2D overview, and one for the nicer looking 3D overview. The last, and probably most important piece of feedback we received, was that our tutor mentioned that the most important phase of learning something is reflecting and evaluating. This was an aspect of the game that we had not explored yet. We had based our learning experience on the fact that leadership and teambuilding was best trained by letting people solve problems under high levels of stress. Any possible future iteration of this project should include multiple gamemodes to keep players engaged, as well as a feedback and reflection system to amplify learning.

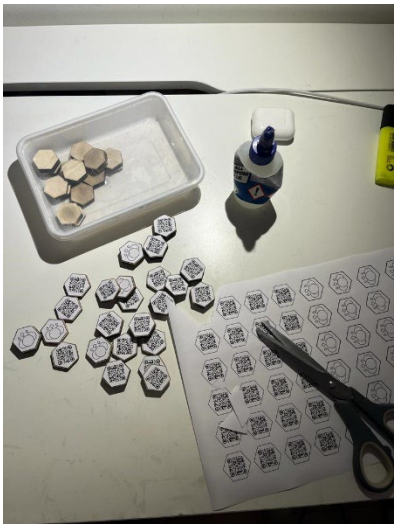


Figure 1.8.9 | Business coins

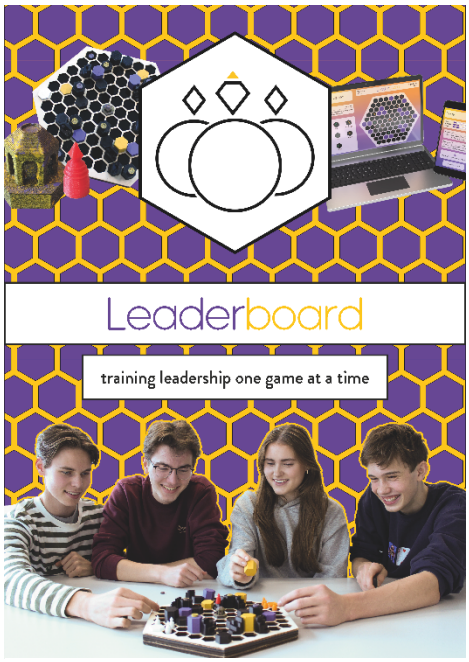


Figure 1.8.10 | Poster

Figure 1.8.11 | Our team at the project fair

Weekly result

At the end of this week we had successfully handed in all of our different deliverables, in a way that we would like to consider to be of quality. We had prepared, and presented our project pitch multiple times to many students, tutors, and high school students that were interested in the study. We had an amazing time, and we have learned a lot, of which many things that we could incorporate into our final report. This brings us to our last activity; the final report.

Chapter 2 | The manual

Leaderboard

Introduction

LeaderBoard is a leadership-training strategy game in which leaders guide their team through a number of objectives with the final aim of stealing the enemy team's flag!

Before the game

LeaderBoard is played with 3 to 13 players. Before the game, players build a playing board to their own liking by placing different hexagon blocks on the board. For an example board, look at picture 1. Make sure the board is fair to both teams, and place team flags far away from each other! In addition to the board, a digital interface is used to keep track of objectives, currency and each player's speed and strength. The digital interface is also used when LeaderBoard is played in a dislocated setting, as the interface keeps track of the board and everything on it. Before the game, the digital interface will divide teams and attribute roles to players. A team consists of a leader and team members, and in the case of an uneven number of players, the rogue is introduced to sabotage both teams.

The Beginning and end of the game

Each turn, all players in a team can move. The digital interface will decide which team starts. After 20 turns, it is allowed to capture the enemy team's flag. As soon as team returns the enemy flag to their base hexagon, they win the game.

Picture 1

Leadership

LeaderBoard aims to improve leadership skills and does so by creating stressful situations in which team leaders have to coordinate their team's actions, considering all in-game elements such as objectives, the rogue, enemy objectives, the winning condition, the team objective and the shop. At the same time, they must instruct their team members while taking all these elements into consideration. The team leader is the only one who is allowed to initiate team conversation and the only one who knows the team objective.

Discussion time!

Perhaps the most interesting element in LeaderBoard is team discussion. Teams are only allowed to discuss game plans and actions during dedicated team meetings. Teams can start a team meeting through the digital interface after 1) an objective has been completed by someone in their team, 2) an elimination has been made and 3) before the game starts. When a team starts a team meeting, both teams get exactly 100 seconds to discuss their plans for the game. This is the time for leaders to ask team members what their individual objectives are, consider these individual objectives as well as the team objective (which is only known by the leader) and give each member proper instructions. It is the leader's role to chair the meeting and lead the team to victory! Team meetings should be started in the digital interface (see picture 2).

Picture 2

Combat

Enemies can be attacked by stepping onto them. The player with the lowest strength is eliminated and will be moved to their base location and skip a turn. This is called respawning. If players have the same strength, they are both eliminated. If two players with a strength of 1 attack a player with a strength of 2, the player all three players are eliminated, as the combined strength of the two attacking players is equal to the strength of the defending player.

Movement

A player's speed can be found in the digital interface (see picture 3). A speed of 2 corresponds to the ability to make 2 steps each turn. Player speed can be increased by purchasing the speed power-up, which can be done on the shop hexagon and will become more expensive when you purchase the power-up more often. Teammates cannot stand on the same hexagon, so when a player respawns on top of their teammate, they must immediately move. There are a few blocks that should be considered for movement:

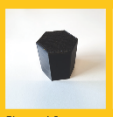
Picture 3

- The high block can only be reached with stairs or half blocks. It is not possible to jump off a high block. (Picture 4.1)
- The half block has half the height of a high block and can be used to move from the ground position to a high block. (Picture 4.2)
- The stairs can also be used to reach the elevated position of the high block but have two other interesting qualities. (Picture 4.3)
  - Stairs cannot be stepped on from the side.
  - Moving down the stairs does not consume speed: it does not count towards the number of steps a player can take each turn.

Objectives

Each player has two individual objectives, which only they can complete in order to gain a reward. Players start the game with two individual objectives and get new ones as soon as the old objective has been completed. They can purchase an additional objective slot in the shop, which will give them to ability to work on three objectives at a time. On top of the individual objectives, leaders receive team objectives that require more work but will give a greater reward. Leaders cannot share the team objective, so they must give smart instructions to have their team members complete the team objective.

Picture 4.1



Picture 4.2

Picture 4.3

What's on the board

- Stars and triangles (Picture 5.1, 5.2) may have to be collected in order to complete objectives. When a player walks over one of these items, they have the option to take pick them up and carry them. It is only possible to carry one item at once. Stars and triangles are removed from the game when an objective that relates to it has been completed, and return at unexpected times of which players are notified by the digital interface.
- Yellow or purple hexagons (Picture 5.3, 5.4) are used in certain challenges and have no other special properties.
- High blocks, half blocks and stairs are used to create an interesting environment. See movement to learn how they affect movement.
- The flags (Picture 5.5) are the final objectives of the game. A flag can be captured by standing on the same hexagon as the flag without moving for one turn. After this, the capturer can bring the flag back to their base hexagon to win the game. If a player is eliminated while they hold the flag, the flag will stay on that hexagon until it is captured again. It is not possible to capture your own flag.
  - Base hexagons (Picture 5.6) are used as homes for teams. If a player is eliminated, they will respawn on the base hexagon. It is not possible to stand on the enemy base hexagon.
  - The shop is used to purchase blocks or power-ups. The prices for these are found in the digital interface. In order to make a purchase, a player must stand on or next to the shop hexagon. (Picture 5.7)

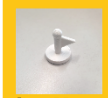
Picture 5.1

Picture 5.2

Picture 5.7

Picture 5.3

Picture 5.4



Picture 5.5

Picture 5.6

The Rogue

If there is an uneven number of players, one player becomes the rogue. The rogue is not part of a team and spends his time sabotaging both teams. He receives special rogue objectives and can purchase the same power-ups as regular players, albeit at different prices and without the options to build or remove blocks. The rogue starts the game with a lower speed but a higher strength and wins the game if no team succeeds in stealing the enemy flag after 50 turns. Rogues cannot capture flags or stand on base hexagons. When the rogue gets eliminated, they respawn on a hexagon next to the shop. This is where rogues start the game. To prevent shoppers from being ambushed, the rogue is not allowed to eliminate a player who stands on a hexagon next to the shop for one turn after he has respawned. One final characteristic of the rogue is his ability to jump off (but not on) high blocks.

The shop

The shop can be accessed using the digital interface, which is where you will find previous purchases as well. It offers the following items and powerups:

- Speed power-up – speed +1
- Strength power-up – strength +1
- Skip an objective (remove either an individual or team objective and replace it with another – single use)
- Prevent an enemy meeting (gives the option to prevent the enemy team from meeting if either their or your team starts a meeting - single use)
- High block to build anywhere
- Half block to build anywhere
- Stairs block to build anywhere
- The option to remove any of these blocks
- Gain a third challenge slot

Building

Building a block requires the purchase of that specific block. After this, the player may build the block anywhere at any time during their turn. Players are not allowed to

- Build a block on a hexagon where a player is standing
- Close off an enemy player from the rest of the board
- Build a block on the base hexagon or the flag hexagon
- Build a block on top of another block

Example team meeting

A leader calls for a team discussion, because one of his teammates had just completed a challenge. He asks what his new objective has become: "Eliminate an enemy that holds an object. Bring this object to your base hexagon." The leader knows that another teammate must eliminate an enemy as well, and wants to combine these objectives with their team objective: "Eliminate two enemies in a single turn". He shares this plan with his team and was hoping to discuss in what way they prefer to spend their newly earned hexacoins, but the time ran out before he could do so. Right after the meeting ends, he sees the rogue standing in between his teammate and the enemy they had planned to eliminate. This requires a change of plans, but they are no longer allowed to discuss. His teammates can choose to follow his lead and fail, or improvise. Hopefully they will choose wisely. Next time, the leader will start the meeting by discussing enemy positions.

Playing with 3 players

LeaderBoard is most fun when it is played with many people but can also be played with only three players. In this case, a team of two players will fight against the rogue. By exception, the rogue is allowed to capture the flag and wins when he brings the flag back to his starting position. The flag can be captured after as little as 15 turns. The team wins the game when they succeed in removing access to their flag by building blocks around it. Notice that it will be difficult to purchase these blocks, as the rogue starts the game next to the shop.

Training plan suggestion

In order to successfully improve your leadership skills, it is important to train regularly. The following training plan alters the game slightly each week to make the game progressively harder for leaders. The plan assumes that LeaderBoard is played at least three times a week. Make sure all participants regularly get the chance to be the leader.

- **Week 1 & 2** (120 sec. meetings, 8 triangles and 8 stars on the board, use the example board setup)
- **Week 3 & 4** (100 sec. meetings, 6 triangles and 6 stars Make the board as interesting as you can!)
- **Week 5 & 6** (80 sec. meetings, 4 triangles and 4 stars)
- **Week 7 & 8** (60 sec. meetings, 3 triangles and 3 stars)
- **Week 9 & 10** (60 sec. meetings, 3 triangles and 3 stars, deliberately design the board so that it will favour one of the teams)
- **Week 11 & 12** (60 sec. meetings, 3 triangles and 3 stars, halve the shop prices)

Chapter 3 | Work division

Work overview	Carlijn	Euwe	Floris	Jort	Niek	Comments:
Midterm deliverables:						
Physical prototype board		A lot	A lot			
Design prototype board	A bit	A lot	A lot	A lot	A bit	
Mideterm reflections	A lot	A lot	A lot	A lot	A lot	
Video program		Medium	A bit	A lot		What shots are going to be made.
Video script			A lot	A lot		What should be in the video.
Filming video	A bit	A lot	A bit	A bit	A bit	
Editing video		A lot				
Final deliverables:						
Video program		A lot				What shots are going to be made.
Video script	A lot			A lot		What should be in the video.
Filming video	Medium	A lot	A bit	A bit	A bit	
Editing video		A lot				
Voice-over		A bit		A lot		
Board prototype design	A bit	A lot	A lot	A bit	A bit	
Board prototype physical			A lot			
Pieces prototype design	Medium	A lot	Medium	A lot	Medium	
Pieces prototype physical		A lot				
Logo design	A bit	A bit	A bit	A bit	A lot	
Name	A bit	A bit	A bit	A bit	A bit	
Packaging design	A bit	A bit	A bit	A bit	A lot	
Packaging physical			A lot	A lot		
Digital interface design				A bit	A lot	
Digital interface working				A lot		
Website mockup design	A lot		A bit			
Website mockup making	A lot		A bit	A bit		
Business card with QR code	A lot		A lot			
Manual text			A bit	A lot		
Manual design	A bit	A bit	A bit	Medium	A lot	
Activities:						
Language-based ideation week 1	A lot	A lot	A lot	A lot	A lot	In week 1, we made a mistake by spending most of our time on language-based ideation
Ideation multiple methods week 2 and 3	A lot	A lot	A lot	A lot	A lot	In week 2, we spend time together ideating using the different methods explained in the lecture
different iterations of manual			A bit	A lot		We spend the last three weeks writing different versions of the manual, that were later improved
research week 1 and 2	A bit	A bit	A lot	A lot	A bit	The research conducted to explore the possibilities of the design brief
research week 5 and 6	A bit			A lot		The research conducted on leadership training and team-building
writing pitch final presentation			A lot	A lot		
board lasercutting			A lot			
3d printing pieces		A lot				
lofi prototype of week 6		A lot		A lot		
logo iteratation					A lot	Moving through different iterations of the logo
Working piece detection		A lot				Making a prototype that shows how we want the board and digital interface to detect pieces that are placed on the board
Final report						
formatting					A lot	The format of the report.
design					A lot	
general introduction				A lot		
text week 1	A lot					
text week 2			A lot	A bit		
text week 3	A lot				A bit	
text week 4	A lot			A bit		
text week 5			A bit	A lot		
text week 5				A lot		
text week 7		A lot	A bit			
text week 8		A bit			A lot	
appendices	Medium			A lot		
Legend:						
A lot: Team member did most of the work for this activity						
Medium: Team member did a sufficient amount of work for this activity						
A bit: Team member contributed a small amount, such as helping with ideation without working towards the final result at all						
Empty: Team member did not contribute enough to have had a noticable impact						

The file is also accessible using this link: https://tuenl-my.sharepoint.com/:x:/g/personal/f_j_a_v_warmerdam_student_tue_nl/EWxXxno05gBJkqrJ1doOorYB_gsA4h2FqP7Ecd9U0vSqzg?e=Qm8HSZ

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Chapter 5 | Reflections

5.1 | Reflection Floris van Warmerdam

Learning experience

Looking back at this project, time was absolutely flying. From the beginning I was motivated, and within the first week I found out my team was motivated too. We started well and in the first week we had good visualized ideas. However, the upcoming meeting did not go as planned. Menno said that becoming a designer is not about forming good ideas (it is a little bit), but about the process you are going through with the aim of becoming a designer. This opened my eyes, because this was a different approach that I was used too. So, for a minute it felt like all the knowledge I had was useless, and this may sound strange but I think that was good. Exploring new methods of forming and creating ideas is something you will probably be doing till the end of your designing career. The four methods of ideation is I think the most useful tool that this elective has brought me. Not because it is simple or very easy to use, but because it gives you the possibility of widening your vision and explore your own creativity. With only words you cannot express yourself. A method so called the 6-3-5 brain sketching method, is a tool which happily surprised me of its impact. Generating ideas, and letting other people explore or expand those ideas, gives you a certain platform on which you can communicate very easily. By visualizing the idea that you generated together, every contributor understands what you are talking about. The different tools that I have gotten to know, will differ my approach as beginning designer for upcoming projects. The insights that I got, getting more knowledge or learning different ways of approaching issues and problems, shape my intentions for future learning. For example, the ideation process that we did, was almost completely new to me, but I liked doing it and will use it in my learning curve and design career. In conclusion, I have learned some valuable methods and tools and really enjoyed learning new techniques for going through a design process. With the fun team I had and the final result we delivered, I could not be more than extremely satisfied.

Group process

Working in a team was not new for me. The past few years teamwork was one of the most important skills to practice. In these so called O and O projects, dividing team roles was important. However, this project we did not start with dividing or assigning team roles, it was all about getting to know each other and develop knowledge about your team. The first weeks we were scanning each other. Looking for each other's qualities but also their pitfalls. Writing down hobbies or talk about games we enjoy to play. Moreover, I did not feel like I was being judged. Therefore, I think that the group morale developed quickly. We all wanted to get to know new people, and I felt like we matched quite good. Being able to work with a team you enjoy spending time with and having a good relationship with your team, increases the chances that you will work harder or more efficiently. Eventually we as a team agreed on dividing team roles. I chose to be/ was appointed as team leader and it was a quite pleasant experience. In a project I like to have overview. As a team leader you should be able to make many visions into one and form a vision that represents your team. You should be on the same page as your team, because you have to use their creativity and knowledge as much as you should use your own. This is something that really popped out in the design process, it really felt like we were adding information and knowledge not like we were competing. Of course there were ideas that were not as good as others but I felt like we were an addition to each other. I think that the experience I had with working in a team, certain ways of approaching for example planning ahead and the knowledge about using tools such as the laser cutter was a great addition to the team. Most of us were specialised in something for example, 3D designing or programming and thus dividing the work went well. Every team member did what they were good at. Not because we wanted the best quality (we did a little bit), but mostly because we could then learn the most from each other. We were all extremely motivated and therefore work was picked up quite easily and quickly. The contribution to the work of each individual was

about equal. Nevertheless, some did a little more work that others, but overall I think the teamwork was very good and work was evenly distributed.

5.2 | Reflection Carlijn Weersink

This first quarter, I was introduced to the course idea to design. I found it a fun and interesting subject. I learned a lot about design and how to go through a design process. Every week, there was an expected result that you had to finish by the end of that week. The way you were going to do this was up to you. This gave us a lot of freedom and sometimes made it difficult. You had to make sure you stayed on schedule, but this went quite smoothly for us. People worked well together, and everyone carried out their tasks on time. The teamwork in our group was very good. The tutor meetings also made sure you kept up to date because you wanted to go to a meeting every week with new information and drawings.

The first few weeks did not go very smoothly for me. During the first meeting of idea to design, I heard that we had to watch a lecture beforehand. Unfortunately, I had not seen this lecture, which of course was not useful for me. This made me less prepared. In the end, this was an important learning point for me. I also got to know my group with whom I had to do the project, we got along well with each other. We soon started to work individually, coming up with ideas and writing them down. Later, Meno told us that we should have ideated together more first, instead of all working by ourselves. We all have different interpretations of things and need to talk to each other. Menno also advised us to make drawings and not write everything down in words. He wanted to see stuff and not only read things. This is difficult for me; I am used to writing down ideas in words. But this is a skill I wanted to develop and decided to buy a sketchpad for this purpose. This way, I forced myself to make sketches, and, over time, these sketches got slightly better and better. Now, I'm pretty good at expressing my ideas in sketches, I personally think.

In my group, especially during the first weeks, I was in the background a lot. I was not the first person to show all my ideas, but rather was a wait-and-see person. I didn't say much during the presentations either. I found taking the first word very stressful. This was partly because my English is not the best, but mainly out of insecurity. I found this very annoying and wanted to work on it. Above all, I wanted to become less insecure and dare to show my ideas. This was something I started working hard on. I decided to take the floor during presentations and show more initiative. In the end, I am very glad I did this because it is important to be able to present yourself and your ideas professionally, and I think I've grown a lot in this.

I also learned to use various techniques and methods to generate and select ideas. For instance, we used the 3-6-5 method to generate ideas and a trade-off matrix to select our ideas based on our values. I really enjoyed using these techniques and methods and had never worked with these beforehand. I will definitely use these methods and techniques more often in future design assignments.

All in all, I found it a fun and educational project. The course idea to design taught me to open myself up to the potential around me and to seize innovative ideas and turn them into compelling designs. I have also learned to be critical and reflective towards myself and open to improving myself, as a designer. Furthermore, I personally find that I have grown a lot in presenting professionally, this is something I struggled with a lot in the beginning. In summary, I am very satisfied with what I have achieved and the things I have learned for the course idea to design.

5.3 | Reflection Jort Wiersma

The past two months have formed the beginning of my academic career, in which I moved through my first design process. Together with my group, I worked on ideation, value defining, reiteration and the actual making of our physical-digital hybrid educational game: LeaderBoard.

In our teamwork, I have made sure that our planning was well-organized and that we met all set requirements, as well as sharing a leadership role with Floris. The teamwork has been great, which allowed us to avoid stressful situations during the project.

I believe my specific qualities in the team have been consistent ideation, planning, research and language-based work, such as writing the manual. In the future, I would love to spend more time on the actual making of the product, as I think I can develop a lot in this area. This project though, my teammates were much more experienced, so it made sense to let them do graphic design or 3D-printing. I did build the working digital interface, with the programming skills I acquired in the Creative Programming course, as well as contributing to the design of the manual. Still, I would love to learn graphic design, working with video and sketching, as well as both low and high fidelity prototyping. In a future project, I think it would be wise to focus more on these aspects of the design process, as it seems that this is an area I can still improve a lot in as a designer.

Early on in the project, I realized that we were too eager to start ideating, while we should have defined strong values beforehand. I first believed this would limit creativity, but after three frustrating meetings in which we tried to define values, we realized it was much easier to come up with strong and relevant ideas that were more inspirational and could be combined more easily with other ideas. Later, it was easier to choose ideas to use in our design concept because we could select them based on how well they fit the values (using a trade-off matrix). I definitely plan on defining solid values and using trade-off matrices in all future design projects.

I learned a lot when I used the different methods of ideation. Sketching can quickly show others what you have in mind and inspire them. Language-based ideation is great for details, such as when I wrote the manuals. Lofi-prototyping gave us the opportunity to actually play the game, and I plan to use this method earlier in future projects because of how quickly it let us improve the game. I believe we should have used the reflective transformative design process better, as we did envision and validate enough, but should have spent more time making and analyzing. These methods, which we used during playtesting, seemed to be the most efficient. In addition to this, I think I should have used better-structured iteration, as I did not always go wide enough later on in the project. Furthermore, I am not content with my research performance in this project, to which I should have dedicated more time to increase the quality of the final product.

It appears to me that I should find a system to consistently document all the work I do. During this project, I worked in a sketchbook, OneDrive, Notion and Google Docs, and I did not keep proper track of when I did what. In future projects, I will better organize my work and keep a logbook, which will make it easier to show the work I have been doing. I did write weekly reflections, which have already proven to be useful, and we tried to keep a group logbook, but could not sustain the habit.

Shortly, I would like to mention what the best and most motivated times have been in this project, so that I can remind myself of them in harder times in future projects. It seemed that these best moments are the times right after broad ideation and difficult decision making in which I found myself to be the most motivated and excited to work on the project and realize these ideas!

Taking all of this into consideration, it seems to me that I have grown as a designer in a number of areas. I learned to move from a design brief to a design concept by defining values and using different methods of ideation. I worked from this concept to a prototype by ideating on various separate elements of the game and moving through constantly improving iterations. In future projects, I will improve my documentation, use even more of the methods and techniques that

were taught and practice more of the areas in design that I want to improve in. Overall, I expect that this course will prove to be critical for my development as a designer.

5.4 | Reflection Niek Wiffen

These past few weeks have been quite complicated and stressful, a lot of new information, but also many fun experiences. The from idea to design project was probably one of the most elaborate group projects I have ever worked on, but also one of the projects with the shortest timespan. I thoroughly enjoyed the experience, and the work.

I started the project off with little to no experience surrounding a design process. The experience I had beforehand, that I thought could be of use, was group work experience, graphic design experience, en experience in doing projects in English. Starting the project off, our group seemed to really hit it off together. Everyone was very enthusiastic, and motivated to get to work. In the beginning we hit some roadblocks concerning how to get started, since we were not sure what was expected of us, this later changed quickly. During the ideation process I noticed that I would often not give as much input as I would like. I would personally say that I am a relatively creative person, but when I am forced to think of ideas, this gets much harder for me. I the end I might not have given as much input as I would have liked, but I do not think I lacked significantly enough for it to be an issue. This is something I would possibly like to work on, although I am not sure how yet.

The design and planning process went a lot better for me in my opinion, at this point we had made quite clear divisions of tasks, which definitely helped for my personal overview, and my outlook over the weeks to come. Because I have ADHD I need a lot of structure in my work, this is something that was (understandably) lacking in the ideation fase, but greatly improved in the design fase. I mostly took the tasks concerning graphic design up on me, because this is something I would like to think I was good at already. In retrospect I maybe should have also tried out some new things, and area's that I had not yet explored. For a first project though, I think it was a good idea to stick to what I knew, and not overwhelm myself with too many new things and experiences. Next time this is something I would like to "improve" upon.

In my opinion the entire project went pretty smoothly, there were no issues in communication, or in an uneven division of tasks. This is an aspect that we as a group are probably very lucky to have had, and I do not expect the same for every project, but I aspire to create a comfortable and inclusive working environment in a group, to the best of my abilities of course.

In high school I have had many issues with attendance and motivation, and this was something I would have liked to improved upon at the start of my study. Especially in the beginning this appeared to be easier said than done, but I noticed that attendance and communication is very crucial in a time-critical project like this. In our group we openly discussed this issue, and concluded that this was an issue that had already, or could, in the future, hinder group projects. Later on in the process I feel like this had definitely improved.

I think that, because at the start, we had discussed our strengths and weaknesses, we knew who was well equipped to do what. This made for a good dynamic in the group. Like I said, I was mainly "in charge" of the graphic design of the project, which worked very well for me. Because this was something I was objectively good at, I felt like I had a good prominent role in the group, and to me it felt like I was responsible for something significantly important. This has definitely helped me in keeping up with the workload, though it has also created a pitfall. When I enjoy something I fall into a state of hyper fixation, which causes me to spend too much time on certain things, and thus leaving other equally important tasks behind. Sometimes I need to accept that I cannot do everything at once.

In general I think I have learned many things, of which most are things that can definitely contribute to my identity as a designer. In this project I have learned a lot about social-oriented skills, and the next time I would really like to learn more about different practical skills.

5.5 | Reflection Euwe de Wilde

The course *From Idea To Design* taught me a lot about design but even more about the process of designing. I had art class in high school, where you also needed to go through a design process but that was way more laid out. I noticed some similarities between them, like the elaboration of multiple ideas and the exploration of multiple paths, but in this course you had way more freedom. There was still a noticeable structure: extensive research and finding our values in the first week, ideation in the second week, etc. But you needed to figure out yourself how to wander those paths and needed to ask for help when necessary. I noticed that the tutor meetings helped with this. During these meetings you would get a lot of new insights in ways you could improve and what you should do differently next time. For example, in the first week we already started ideating which we should not have started until we defined our values. That is why we got some critique about that from our tutor, so before doing even more ideating we first sat down and defined our values.

I had a good experience working with this group, you noticed from the start that everyone was excited about this project. It was a new experience for all of us but we pulled through. I noticed when I made a design and my team members gave their input, I would use those inputs to improve the design. We would question each other's work often and would regularly just ask: "Why?" About half way in the course we made a trade off matrix, to find out which idea would fit the best within our values. I never used that technique before but it really helped us decide between the different ideas and combine the good ideas into one concept. Something that went with surprisingly little trouble was the final prototyping phase. This is mainly because before going into this phase we specified clearly what needed to be done during this phase. Everyone knew what was expected of them and we all tried our best to make it work.

Some things could have gone better and I have some takeaways for the following projects. As I mentioned earlier we could have started too early in the process with ideating. We noticed that after defining our values it was way easier to do. When the values were not defined our ideas would differ too much and you could not really compare them to each other. Also when we were ideating we tended to brainstorm a lot, but there are way more ideation techniques that can be applied. Like sketching, 6-3-5 brainwriting, lo-fi prototyping, mind mapping, etc. As the project progressed I noticed that we started using more and more of these techniques, in the second half of the course we made a lot more sketches and lo-fi prototypes, but in the first ideating phase we should have used way more different techniques. I know from myself when I am excited about something, I often tend to take too much work on myself. This almost happened in the final prototyping phase, but luckily my teammates prevented me from biting off more than I can chew.

In the midterm reflection I mentioned that I wanted a kick-ass game at the end of the course. Looking back, I would not use that terminology to describe the game for the audience we created it for but I like my enthusiasm. I definitely think we created a slick game and I am very proud of what we made. Not everything went always as smoothly but we managed to overcome most obstacles. At the beginning of the course I did not really know what to expect, but I am very satisfied with what I have learned during the past few weeks. I am definitely going to apply the techniques that I learned during this course. Like the different ways of ideating, how to present your progress and how to work towards a final concept.

I am agitated to see what the coming years of my university career have to offer!

Chapter 6 | Appendix

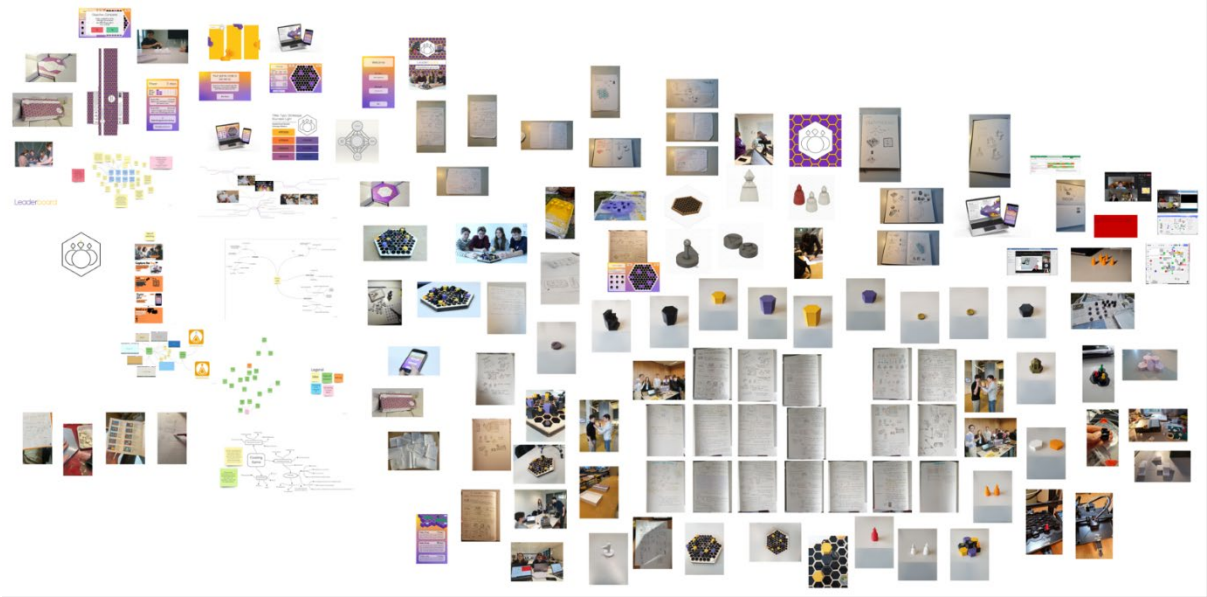
Please note that most of these appendices show a work in progress: they contain spelling errors, misinterpretations of assignments, work that has not been used. We advise to only look at appendices that appear interesting, and not to read every word of them. Nonetheless, the content of these appendices has been of great importance in the process towards the final design.

List of appendices:

- Appendix A | An overview of pictures we made this project:
- Appendix B | The video script for the final video:
- Appendix C | The first iteration of the manual:
- Appendix D | The second iteration of the manual:
- Appendix E | The third iteration of the manual:
- Appendix F | Prepared pitch for the final exhibition:
- Appendix G | Some summaries and notes taken during research:
- Appendix H | The document we used in the first weeks, mainly for language-based ideation:
- Appendix | Midterm video script and video program:

Appendix A | An overview of pictures we made this project:

Use this link to view any picture full-screen https://www.canva.com/design/DAFQ5Tg4uEk/N3cy0ec5B7kkzXlRQPsDKg/edit?utm_content=DAFQ5Tg4uEk&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton



Appendix B | The video script for the final video:

90 seconds video script:

seconds	What you'll see	Voice-over	comments
1-10	Clear beauty shots of the game	LeaderBoard is a leadership-training strategy game in which leaders guide their team through a number of objectives with the final aim of stealing the enemy team's flag	
10-20	Shots of people building the board and seeing it change on screen, then shots of someone playing in dislocation	Build the playing board to your own liking, and let the digital interface make a corresponding digital version for players far away	
20-30	Shots of receiving objectives. Then shots of the rogue ingame/outgame. Perhaps shots of stats that get better	Complete in-game objectives to get stronger and beat your opponent. But, beware of the rogue, who is dedicated to sabotage everyone on the board.	After timing, this took 12 seconds but it's very important
30-35 morgen	Shots of the app in which you can see objectives, rewards, personal strengths	While you're fighting for your flag, use the app the keep track of your objectives, rewards and personal strengths.	
35-45	A leader instructing the team and pointing at different objects on the board. A timer that is started when someone pushes on the "start meeting" button and then runs out.	In LeaderBoard, leaders get a very limited time to construct a strategy and instruct their teammates. By requiring performance in a stressful setting, leadership is trained.	After timing, this took 12 seconds but it's very important
45-50	I don't know honestly, maybe a timer running out and players not knowing what to do. Also, the high-five element could be used again.	Leaders start team meetings to discuss these plans, but cannot speak outside of meetings. This puts their leadership to the test.	
50-60	Design of the shop shown. Building blocks in front of enemy.	If teams perform well, they receive hexacoins which they can spend in the shop to improve their speed or strength, or to purchase blocks that can be built to gain a strategic advantage.	
60-65 morgen	Show leadership training plan (jort's task)	Use the leadership training plan to improve your leadership skills on the long-term.	
65-70	Stealing enemy flag, happy people	The team with the best leader will succeed in stealing the enemy flag, and wins the game!	
70-75	Beauty shots + logo / slogan	LeaderBoard: leadership training gamefied	

75-80	credits		
80-90	UITLOOPTIJD	UITLOOPTIJD	

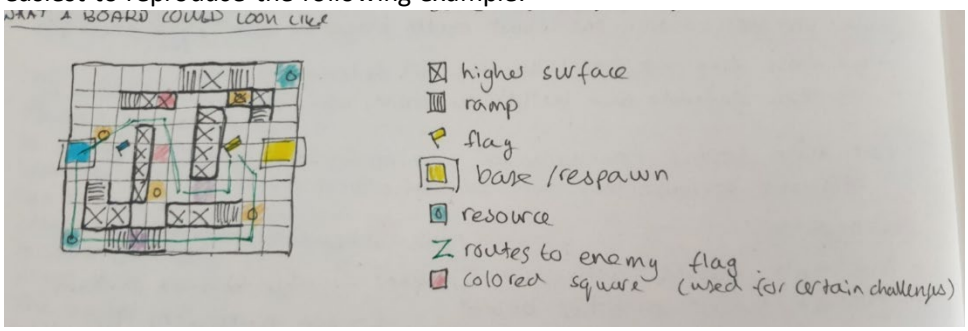
Legend:
Shots that need to be made in on Monday at school
Shots that require digital interface design
Shots that should be made somewhere else, or at least in a different setting
Special comment

Appendix C: The first iteration of the manual

MANUAL 1.0

Pregame:

Setting up the board: Place the board on a stable table and work together (before dividing teams) placing objects on the board. Place team bases and flags far away from each other on the board. Make sure all resources and special locations are spread across the board. For your first game, it might be easiest to reproduce the following example:



Team division: Divide players over two teams. If there is an uneven number of players, the team with more players will contain one devil. Use the **pick devil** option in the app to determine who will sabotage the team. Make sure to fill in the teams in the app. For more information on the devil, read *alternate rules: the devil.* After having divided teams, each team picks a leader who will play a central role throughout the game. Now, place your playing pieces on a square next to the base square of your team.

How to win: Your team wins the game when they capture the enemy flag (which is done when a player succeeds to stay one whole turn on the enemy flag square without moving) and then bringing it back to their own base square. As soon as a player with the flag touches their base square, the game is won. The flag is dropped when the flag holder is eliminated. Afterwards, the team who's flag had been captured cannot return the flag without specific powerups, but for the capturers to move the flag again, they have to capture it first. For the first 20 turns, there is a safe zone around the flags. This safe zone can only be entered by original owners of the flag.

Movement: Each turn, every player can take two steps, unless they have gained special abilities that give them the ability to make more steps. Steps can be vertical, horizontal and diagonal. It takes two steps to step on a ramp when coming from a lower position, and zero steps to step on a ramp when coming from a higher position. Elevated positions can only be reached via ramps, unless players have obtained special items or abilities that give them the ability to jump. Stepping off an elevated position requires a strength of 3 or higher, and will lower that strength with 2 until the next turn of that specific player. It is not possible to move vertically if both adjacent horizontal squares are obstructed. -> you can't go through blocks?

Combat: Enemies can be attacked by stepping onto the same square as they currently are. The player with the lowest strength will be moved to their base location and skip a turn. If players have the same strength, both players are eliminated.
Challenges: To get stronger, players can complete challenges. These challenges give rewards that can be used to become stronger or build obstacles to make it harder for your enemy to capture your flag. Challenges have to be completed within the given amount of turns. Some challenges may have punishments if they are not completed in time. Individual challenges are only visible to individual players and should be completed by them and communicated properly to the leaders. Team challenges are visible and completable by the whole team. Players can complete only one challenge at a time. For example: if a player's individual challenge and team challenge call to collect a yellow circle resource, only one of the challenges can be completed by collecting this yellow circle.
Turns and leadership: Every turn, players have 75 seconds to discuss their plan for the turn. Individual players should communicate their individual challenges and situation to their leader. The leader will give assignments to each player. It is their responsibility to coordinate all options and give assignments that will lead towards winning the game. If a challenge gives information about the enemy (such as their challenges), this information will only be shared with the team leader and he is not allowed to tell his teammates. This way, decision can only be made by the team leader. After 75 seconds, talking (or signing) is no longer allowed. If the leader did not succeed in properly dividing the tasks, players will have to make their own decisions but cannot discuss these decisions.

PRICES:
Block, place anywhere – 3 coins
Speed +1 (1 player) - 4 coins
Ramp, place anywhere – 5 coins
Strength +1 (1 player) - 5 coins

Appendix D | The second iteration of the manual:

MANUAL 2.0

~~**Pregame:**~~

Setting up the board: Place the board on a stable table and work together (before dividing teams) placing objects on the board. Place team bases and flags far away from each other on the board. Make sure all resources and special locations are spread across the board. For your first game, it might be easiest to reproduce the following example:

[INSERT BOARD EXAMPLE]

Team division: Teams and team leaders are determined by the accompanying app. If there is an uneven number of players, one player will take the role of the devil. For more information on the devil, read *alternate rules: the devil*. Place your playing piece on a square next to the base square of your team.
How to win: Your team wins when they capture the enemy flag and bring it back to their own base square. A flag can be captured by staying one whole turn on the enemy flag square without moving. You win the game as soon as the enemy flag touches your own base square. When the flag holder is eliminated, the flag gets dropped and has to be captured again before it can be moved. It is impossible to capture you own flag. For the first 30 turns, there is a safe zone around each flag, protecting it from being captured.
Movement: Each turn, players can take a number of steps equivalent to their speed. The base speed is 2 steps. It can be increased by purchasing speed powerups. Steps can be vertical, horizontal and diagonal (change when we use hexagons). It takes two steps to step on a

ramp when coming from a lower position, and zero steps when coming from a higher position. Higher positions can be reached using ramps or half-elevated positions. You cannot step off a fully elevated block. It is not possible to move diagonally if both adjacent squares are obstructed. (give example). Leaders can choose to move steps from one player to another for one turn, and are allowed to say this outside of meetings. When they say this, there is no returning.
Combat: Enemies can be attacked by stepping onto the same square as they currently are. The player with the lowest strength will be moved to their base location and skip a turn. If players have the same strength, they are both eliminated.
Turns and leadership: At the beginning of the game, every time a challenge is completed or a kill is made, a leader can decide to have a team meeting. Discussion between teammates is only allowed during these meetings. In a discussion, leaders have 100 seconds to give instructions to their team. Feel free to lower discussion time when you get more experienced playing this game. Teammates can only answer questions, and are not allowed to know the team challenge. This way, the leader is the only one who can properly coordinate team gameplay. Some challenges might give enemy information (such as their challenges) as a reward, and this as well will only be shared with the team leader.

PLAYERS CAN ONLY SPEAR DURING MEETINGS. ONLY LEADERS CAN INITIATE CONVERSATION. 100 SECONDS TO BEAT THE OPPOSITION.

Challenges: Each player starts the game with two active individual challenges. Once you complete the tasks of these challenges, you receive a reward. Often, the reward is a certain amount of hexacoins, which the leader will be able to spend on power-ups or building blocks. For example, the leader can spend 4 hexacoins to increase the speed of one of their teammates from 2 to 3 steps per round. Other rewards may be the change to move your own flag or get information about the enemy. Once a challenge is completed, it will be replaced by a new challenge. In addition, it is possible to gain a bonus challenge as a reward of a previous challenge and the accompanying computer program might give both teams a versus challenge at an unexpected moment in the game. The versus challenge will be the same for both teams and its reward will only be given to the first team to complete the challenge. When a versus challenge is allowed, a team discussion is initiated for both teams. Versus challenges are only shared with team leaders, and they cannot give information regarding the versus challenge to their teammate. They should only give instructions.

The Devil: New Name == Rogue
-lower speed
-higher strength
-can jump off and up blocks
-turns: team1 – devil – team2 – devil – team1??

Prices (all for one player): Go to the shop to purchase
Speed +1: 2 + 2x(current speed -1) hexacoins
Strength +1: 3+ 2x(current strength) hexacoins
Place a block anywhere: 5 hexacoins
Place a half block anywhere: 4 hexacoins
Place a ramp block anywhere: 4 hexacoins

Skip a challenge: 2 + (how many times you have already skipped a challenge) hexacoins
Stop an enemy meeting: 6 hexacoins.

Notes:

- You cannot have to items at once
- Three players: one is devil making sure a the flag without a team is not taken
- Make a shop, the devil spawns at the shop in the middle

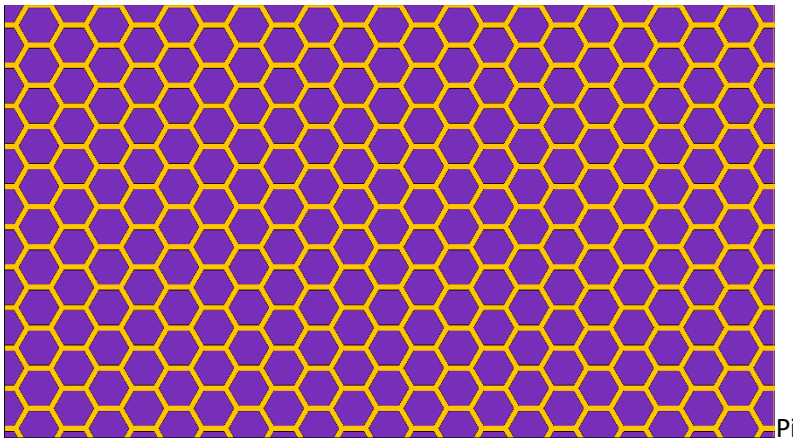
Appendix E | The third iteration of the manual:

Manual 3.0

LeaderBoard is a leadership-training strategy game in which leaders guide their team through a number of objectives with the final aim of stealing the enemy team's flag!

Before the game

LeaderBoard is played with 3 to 13 players. Before the game, players build a playing board to their own liking by placing different hexagon blocks on the board. For an example board, look at picture 1. Make sure the board is fair to both teams, and place team flags far away from each other! In addition to the board, a digital interface is used to keep track of objectives, currency and each player's speed and strength. The digital interface is also used when LeaderBoard is played in a dislocated setting, as the interface keeps track of the board and everything on it. Before the game, the digital interface will divide teams and attribute roles to players. A team consists of a leader and team members, and in the case of an uneven number of players, the rogue is introduced to sabotage both teams.


Picture 1

The beginning and end of the game

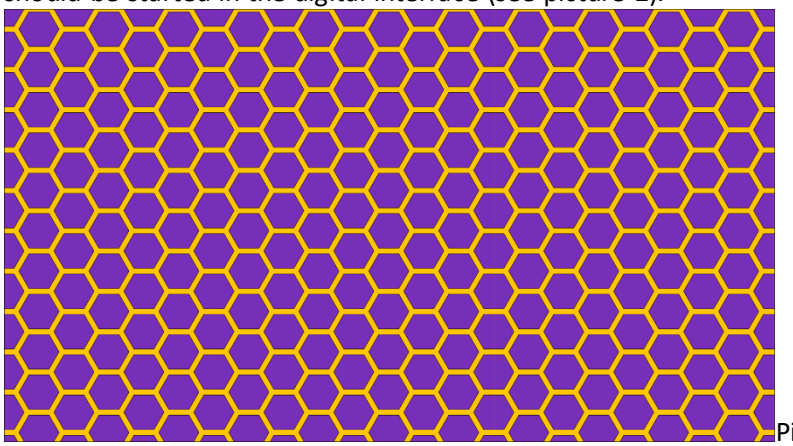
Each turn, all players in a team can move. The digital interface will decide which team starts. After 20 turns, it is allowed to capture the enemy team's flag. As soon as team returns the enemy flag to their base hexagon, they win the game.

Leadership

LeaderBoard aims to improve leadership skills and does so by creating stressful situations in which team leaders have to coordinate their team's actions, considering all in-game elements such as objectives, the rogue, enemy objectives, the winning condition, the team objective and the shop. At the same time, they must instruct their team members while taking all these elements into consideration. The team leader is the only one who is allowed to initiate team conversation and the only one who knows the team objective.

Discussion time!

Perhaps the most interesting element in LeaderBoard is team discussion. Teams are only allowed to discuss game plans and actions during dedicated team meetings. Teams can start a team meeting through the digital interface after 1) an objective has been completed by someone in their team, 2) an elimination has been made and 3) before the game starts. When a team starts a team meeting, **both** teams get exactly 100 seconds to discuss their plans for the game. This is the time for leaders to ask team members what their individual objectives are, consider these individual objectives as well as the team objective (which is only known by the leader) and give each member proper instructions. It is the leader's role to chair the meeting and lead the team to victory! Team meetings should be started in the digital interface (see picture 2).


Picture 2

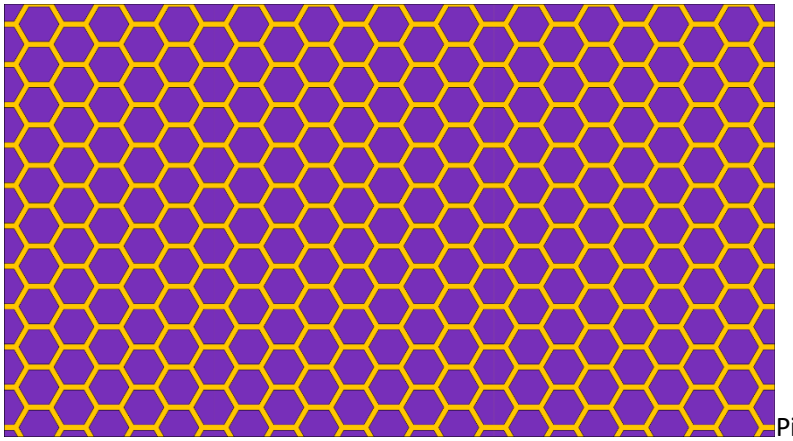
Combat

Enemies can be attacked by stepping onto them. The player with the lowest strength is eliminated and will be moved to their base location and skip a turn. This is called respawning. If players have the same strength, they are both eliminated. If two players with a strength of 1 attack a player with a strength of 2, the player all three players are eliminated, as the combined strength of the two attacking players is equal to the strength of the defending player.

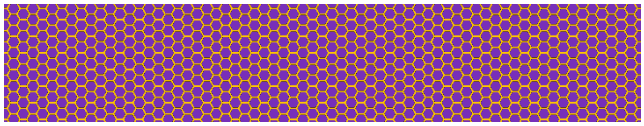
Movement

A player's speed can be found in the digital interface (see picture 3). A speed of 2 corresponds to the ability to make 2 steps each turn. Player speed can be increased by purchasing the speed power-up, which can be done on the shop hexagon and will become more expensive when you purchase the power-up more often. Teammates cannot stand on the same hexagon, so when a player respawns on top of their teammate, they must immediately move. There are a few blocks that should be considered for movement:

- The high block can only be reached with stairs or half blocks. It is not possible to jump off a high block. (Picture 4.1)
- The half block has half the height of a high block and can be used to move from the ground position to a high block. (Picture 4.2)
- The stairs can also be used to reach the elevated position of the high block but have two other interesting qualities. (Picture 4.3)
    - Stairs cannot be stepped on from the side.
    - Moving down the stairs does not consume speed: it does not count towards the number of steps a player can take each turn.



Picture 3



4.1 4.2 4.3

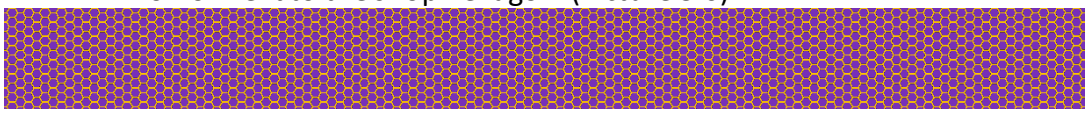
Objectives

Each player has two individual objectives, which only they can complete in order to gain a reward. Players start the game with two individual objectives and get new ones as soon as the old objective has been completed. They can purchase an additional objective slot in the shop, which will give them to ability to work on three objectives at a time. On top of the individual objectives, leaders receive team objectives that require more work but will give a greater reward. Leaders cannot share the team objective, so they must give smart instructions to have their team members complete the team objective.

What's on the board?

- Stars and triangles may have to be collected in order to complete objectives. When a player walks over one of these items, they have the option to take pick them up and carry them. It is only possible to carry one item at once. Stars and triangles are removed from the game when an objective that relates to it has been completed, and return at unexpected times of which players are notified by the digital interface.(Picture 5.1)
- Yellow or purple hexagons are used in certain challenges and have no other special properties. (Picture 5.2)
- High blocks, half blocks and stairs are used to create an interesting environment. See *movement* to learn how they affect movement. (Picture 5.3)
- The flags are the final objectives of the game. A flag can be captured by standing on the same hexagon as the flag without moving for one turn. After this, the capturer can bring the flag back to their base hexagon to win the game. If a player is eliminated while they hold the flag, the flag will stay on that hexagon until it is captured again. It is not possible to capture your own flag. (Picture 5.4)
- Base hexagons are used as homes for teams. If a player is eliminated, they will respawn on the base hexagon. It is not possible to stand on the enemy base hexagon. (Picture 5.5)

- The shop is used to purchase blocks or power-ups. The prices for these are found in the digital interface. In order to make a purchase, a player must stand on or next to the shop hexagon. (Picture 5.6)



5.1 5.2 5.3 5.4 5.5 5.6

The rogue

If there is an uneven number of players, one player becomes the rogue. The rogue is not part of a team and spends his time sabotaging both teams. He receives special rogue objectives and can purchase the same power-ups as regular players, albeit at different prices and without the options to build or remove blocks. The rogue starts the game with a lower speed but a higher strength and wins the game if no team succeeds in stealing the enemy flag after 50 turns. Rogues cannot capture flags or stand on base hexagons. When the rogue gets eliminated, they respawn on a hexagon next to the shop. This is where rogues start the game. To prevent shoppers from being ambushed, the rogue is not allowed to eliminate a player who stands on a hexagon next to the shop for one turn after he has respawned. One final characteristic of the rogue is his ability to jump off (but not on) high blocks.

The shop

The shop can be accessed using the digital interface, which is where you will find previous purchases as well. It offers the following items and powerups:

- Speed power-up – speed +1
- Strength power-up – strength +1
- Skip an objective
    - Remove either an individual or team objective and replace it with another – single use
- Prevent an enemy meeting
    - Gives the option to prevent the enemy team from meeting if either their or your team starts a meeting - single use
- High block to build anywhere
- Half block to build anywhere
- Stairs block to build anywhere
- The option to remove any of these blocks
- Gain a third challenge slot

Building

Building a block requires the purchase of that specific block. After this, the player may build the block anywhere at any time during their turn. Players are not allowed to

- build a block on a hexagon where a player is standing
- close off an enemy player from the rest of the board
- build a block on the base hexagon or the flag hexagon
- build a block on top of another block

Example of a team discussion:

A leader calls for a team discussion, because one of his teammates had just completed a challenge. He asks what his new objective has become: "Eliminate an enemy that holds an object. Bring this object to your base hexagon. " The leader knows that another teammate must eliminate an enemy as well, and wants to combine these objectives with their team objective: "Eliminate two enemies in a single turn". He shares this plan with his team and was hoping to discuss in what way they prefer to spend their newly earned hexacoins, but the time ran out before he could do so. Right after the meeting ends, he sees the rogue standing in between his teammate and the enemy they had planned to eliminate. This requires a change of plans, but they are no longer allowed to discuss. His teammates can choose to follow his lead and fail, or improvise. Hopefully they will choose wisely. Next time, the leader will start the meeting by discussing enemy positions.

Playing with three players

LeaderBoard is most fun when it is played with many people but can also be played with only three players. In this case, a team of two players will fight against the rogue. By exception, the rogue is allowed to capture the flag and wins when he brings the flag back to his starting position. The flag can be captured after as little as 15 turns. The team wins the game when they succeed in removing access to their flag by building blocks around it. Notice that it will be difficult to purchase these blocks, as the rogue starts the game next to the shop.

Training plan suggestion

In order to successfully improve your leadership skills, it is important to train regularly. The following training plan alters the game slightly each week to make the game progressively harder for leaders. The plan assumes that LeaderBoard is played at least three times a week. Make sure all participants regularly get the chance to be the leader.

Week 1 and 2:

- Team meetings of 120 seconds
- 8 triangles and 8 stars on the board
- Use the example board setup

Week 3 and 4:

- Team meetings of 100 seconds
- 6 triangles and 6 stars on the board
- Make the board as interesting as you can!

Week 5 and 6:

- Team meetings of 80 seconds
- 4 triangles and 4 stars on the board
- Make the board as interesting as you can!

Week 7 and 8:

- Team meetings of 60 seconds
- 3 triangles and 3 stars on the board

Week 9 and 10:

- Team meetings of 60 seconds
- 3 triangles and 3 stars on the board
- Deliberately design the board so that it will favour one of the teams

Week 11 and 12:

- Team meetings of 60 seconds
- 3 triangles and 3 stars on the board
- Deliberately design the board so that it will favour one of the teams
- Play on a much higher speed by halving the shop's prices

Appendix F | The prepared pitch for the final exhibition:

We designed a teambuilding strategy game that offers aspiring leaders a fun way to train leadership. In this boardgame, leaders guide their team through a number of objectives with the final aim of stealing the enemy team's flag. Every few turns, teams get exactly 100 seconds to discuss their plans, moves and objectives. This short time-frame pressures leaders to make quick but strategic choices. Because leadership cannot be trained in one day, we added a training plan suggesting a continued training experience. An interesting feature of LeaderBoard is the option for players to build their own board using the different pieces. The digital interface keeps track of this board, shows individual and team objectives to players, and makes playing in a dislocated setting possible. Will you lead your team to victory?

Appendix G | Some summaries and notes taken during research:

Educational games for learning (Noemí & Máximo, 2014)

Educational games can maintain a learner's motivation and interest by adapting the individual learning and gaming experience to each learner's needs, preferences, goals and abilities. Researchers have attempted to develop technology that can take the role of a private teacher and intelligently provide individual learners with private tutoring. Students with one-to-one tutors perform on average just as well as the top two percent of students only receiving classroom instructions. The use of serious games as a learning method in initial training needs to take intro account the profiles of the learners and in particular their previous experience in the field studied.

Serious games that are easy to develop and use, according to this paper:

Panel: players answer questions on five different topics and five different levels of difficulty. When a player on one team does not know the answer, the next team can answer the question. The objective is to obtain the highest score. A driving school that used this game is very content with the results, as 85% percent of users passed their truck-driver's license exam. The game has also been used at the university of Salamanca as a tool for reinforcing the knowledge of students in a marketing-related subject. Students found the game very dynamic and motivating. It caught their attention and enabled them to learn, compete, and game at the same time.

The Island Game: Digital game that promotes innovation among university students of engineering and students at vocational training centres. The skills and abilities these games usually develop are sustainability, teamwork, solidarity, innovation, responsibility, creativity, problem-solving, mathematic precision, etc. In The Island Game, the player is mayor of a small island with both renewable and non-renewable energy possibilities. The aim is to maximize welfare of the inhabitants. Resources and space must be managed precisely.

How can we use this: A game does not directly need to "teach" a specific skill. It can also force the players to learn the skills without mentioning them at all. In The Island Game, players simply have to take care of an island, but the game is designed specifically so that players will unknowingly develop their responsibility, teamwork, creativity and also learn on topics surrounding sustainibilty.

A formal approach to game design and game research (Hunicke et al., 2004) – provided by lecturer MDA framework (standing for Mechanics, Dynamics, and Aesthetics) is a formal approach to understanding games. The consumption of games is, compared to other consumer products such as books, rather unpredictable.

Mechanics describes the particular components of the game, at the level of data representation and algorithms.

Dynamics describes the run-time behavior of the mechanics acting on player inputs and each others' outputs over time.

Aesthetics describes the desirable emotional responses evoked in the player, when she interacts with the game system.

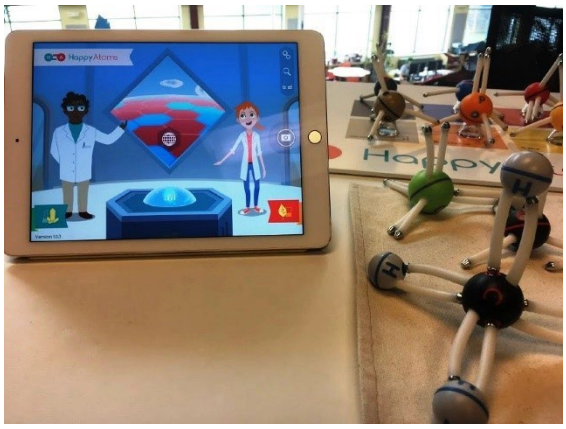
Designers start working from the mechanics, and then move on to the dynamics and aestetics. They must keep in mind that players will start their experience with the game from aestetics and move to dynamics and mechanics afterwards.
In describing the aestetics of a game, it is preffered to move away from words such as "fun" and move to more meaningful vocabulary:

1. **Sensation**
   Game as sense-pleasure
2. **Fantasy**
   Game as make-believe
3. **Narrative**
   Game as drama
4. **Challenge**
   Game as obstacle course
5. **Fellowship**
   Game as social framework
6. **Discovery**
   Game as uncharted territory
7. **Expression**
   Game as self-discovery
8. **Submission**
   Game as pastime

Players may get emotionally invested in deafeating each other, or achieving an objective.
Dynamic models work to create aestetics experiences. Challenge is created through time pressure and opponent play. Fellowship may be created by created a common goal that is more difficult to achieve alone. Once some players get further behind in gameplay compared to others, such as may happen in monopoly, only the players that are "winning" are still invested in the game.
Games need tuning: they need to be changed based on player experience. By iteratively refining the value of penalties, rate of taxation or thresholds for rewards and punishments, we can refine the Monopoly gameplay until it is balanced. In tuning, aesthetic desing vocabulary can help to be specific and work more efficiently.

https://www.parabol.co/blog/remote-retrospective-games/#planets (Parabol, 2022)

1. Planet Orbit, this game allows you to give your opinion about a statement. The game is a fun way to see how a team is aligned about some points, tasks or questions.
2. Lego Retrospective, this game/ activity is a way to let everyone picture and present their idea. Presenting an idea with visuals is extremely important. Words can often be interpreted differently. Lego Retrospective could be used in the final sprint, where aesthetics are very important. This allows every team member to express their final idea, even introverts.
3. Agile Ball Point Game – Find the key to continuous improvement. This game is made for teams who are to focused on the final product or task itself. By creating different kinds of balls (different approaches), teams will considerably think more about the process of the project. This allows them to think further, better and deeper about their project.
4. Rusty Lake Escape Room Games – Escape rooms provide bonding for team and learns to problem-solve. An example is Cube Escape: Paradox.
5. Retrospective Bingo – People need to spot their unproductive behaviors.
6. Agile battleships – first do a round of blind battleships (where you guess where your opponent's battleships are. Then do a normal round of battleships. You will find out how early feedback in teams will lead to radically different outcomes. - teambuilding game
7. Retro's against humanities – A game where reflective sentences with blank spaces are given to players. Example: _____ keeps me up at night. The game is a surprisingly good way to get a professional team to reflect on themselves, their work and the team.
8. Virtual Alignment Game is a game which shows the importance of a clear vision when working with multiple teams. Each group is given a different goal. The teams must find a way of satisfying their goals. But they can't speak to each other.
9.



NoRilla by Nesra yannier and Happy Atoms by Schell Games - New Hybrid Digital-Physical Games May Improve Student Learning | 90.5 WESA

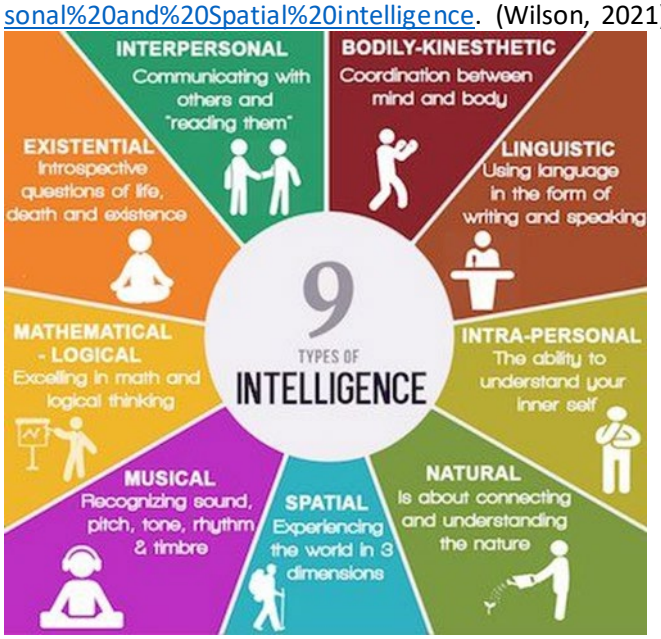
This game was designed to make learning more engaging, Nesra made an app where the idea of pairing the online world and real life educational toys became visible. The game teaches physics at an elementary school. By building certain structures, kids can figure out what structures are strong and which structures are not. Because the brain tends to be more stimulated, learning is improved by 5 fold, according to studies at the CMU and the National Science Foundation. Another example of this kind of game is happy atoms. This game is similar to pokemon go. Instead of finding things, this game lets you build new molecules and broaden your inventory. This way children learn a lot more about atoms and molecules (Reid, 2017).

Let's play: mobile health games for adults - https://dl.acm.org/doi/pdf/10.1145/1864349.1864370

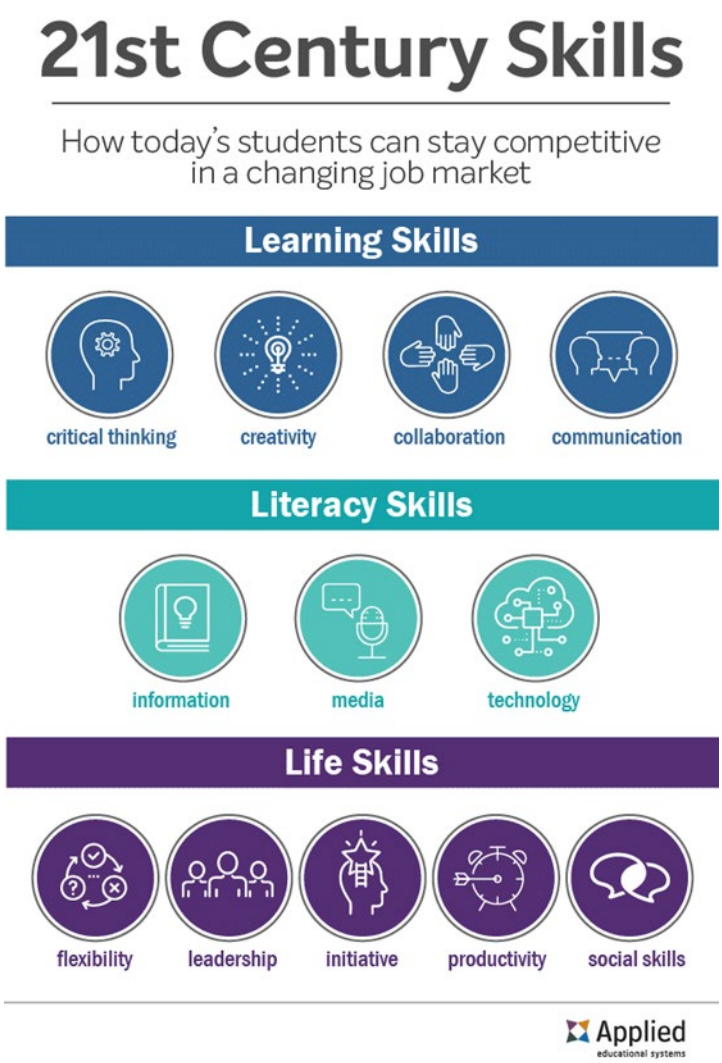
OrderUp! Is a casual nutrition game for mobile phones in which players learn to make healthier meal choices. A real-world evaluation of the game over a period of three weeks has been conducted. Casual games – games that take little time, have simple rules and are often played on a mobile phone to fill time – have not been explored extensively for educational health games, even though they have a large and broad audience (Grimes, 2010).

https://youtu.be/tQ-_DerjVfE Short video on a game that helps in the rehabilitation of children diagnosed with acquired brain injury. (Grendelgames, 2016)

https://grendelgames.com/spotlight/underground/ This game has two Dutch game awards and has been named "a game that can change the world". The game makes it easier for trainee surgeons to achieve their required amount of training hours in a simulation. They do this already, but the game makes it more fun and accessible (Grendelgames, n.d.).
https://www.sacap.edu.za/blog/applied-psychology/types-of-intelligence/#:~:text=The%20nine%20types%20of%20intelligence%20are%3A,Intra%E2%80%93personal%20and%20Spatial%20intelligence. (Wilson, 2021)



An educational game could simply train one ore more of these 9 recognised types of intelligence.
https://www.aeseducation.com/blog/what-are-21st-century-skills (Stauffer, 2022)



An educational game could simply train one or more of these 12 21st century skills

Fundamentals of Game Design (Ernest Adams, 2014)

A game has 4 essential elements:

- Play – Participatory entertainment, your choices lead the chain of events.
- Pretending – Fictional Reality, boundary between reality a the game.
- Goal – Multiple objectives, rules characterize the game's ultimate goal.
- Rules – They establish fairness and meaning behind different activities.

Definition of gameplay lies on challenges and actions

- A challenge is any task is nontrivial (this does not mean difficult) to accomplish. Overcoming the challenge requires mental or physical effort. Challenges can be unique, recurring or continuing. Challenges can be direct obstacles to prevent the player from achieving the goal but sometimes they are optional.
- Actions are defined by the rules. The rules define which actions are allowed, prohibited or required. Actions in video games are fixed, actions in real world are not.

Games can be symmetric or asymmetric

- When a game is symmetric it means that everybody is equal in the eyes of the game. Everyone has the same rules applied.
- When a game is asymmetric it means that different rules apply to different persons. The player try to achieve victory with different conditions.

The brave new world of leadership training (Conger, 1993)

The paper criticizes the current leadership programs, which usually consist of (1) simple skill-building exercises (decision making, communication skills) (2) concepts (distinguishing leaders and managers) (3) outdoors adventures (to build teamwork and experiment with risk-taking) (4) feedback (how you rank on a set of leadership dimensions). The paper mentions that while this is useful, it has been trained for the past twenty years without a visible increase in general leadership skills. In the future, leaders will have to become

- strategic opportunists
- globally aware
- capable of managing highly decentralized organizations

Because the workplace is often among the few communities people are part of, leaders will have to be increasingly

- sensitive to issues of diversity
- interpersonally competent
- community builders

The paper suggests that leadership should be trained close to the workplace instead of in universities with the help of case studies. Leadership training should be more personal. Leadership should be learned in controlled experiences.

Strategic training should help leaders perform under the pressures of combined long-term and short-term pressures.

A single one-time course is insufficient to create and support lasting behavioral change.

Research on leadership selection and training: one view of the future (Fiedler, 1996)

There is not a specific leadership trait. People who have abilities, skills or resources that would assist the group in reaching its goal are likely to be accepted as leaders. People who are good leaders are also good followers.

Most existing training programs are untested and of uncertain value. The research on the topic is scarce and full.

Leadership performance will increase when stress goes down. Leadership performance will only be affected by intelligence if the leader 1) tells the group what to do and 2) the group members listen to the leader and do what they are told.

When interpersonal stress is high (e.g. when leaders have stressful relations with their boss), the more intelligent the leader is, the poorer their performance tends to be.

While the following may seem counterintuitive, experience does not necessarily contribute to performance. In 10 different studies, it was found that experienced leaders perform better under stressful conditions than inexperienced leaders, but inexperienced leaders perform better under nonstressful condition compared to experienced leaders. This could be explained by the theory that experienced leaders are challenged in stressful conditions but not in nonstressful condition causing them to cut corners.

Appendix I: The document used in the first weeks, mainly for language-based ideation

Date: 6 – 9 – 2022

Game requirements:

- Design a physical-digital hybrid educational game.
- Gameplay needs to incorporate both digital and physical aspects.
- Game needs to be able to be played with at least 3 people.
- Remote and local play compatibility.

- Challenging topic (e.g. societal issues or skills).
- Not per se academically educational, just educational in general.

We should:

- Start from self, make a vision.
- Involve others, what is their ambition, opinion.
- Make, sense, do – physical thinking, design action.
- Analyse – non-physical thinking, analysis.

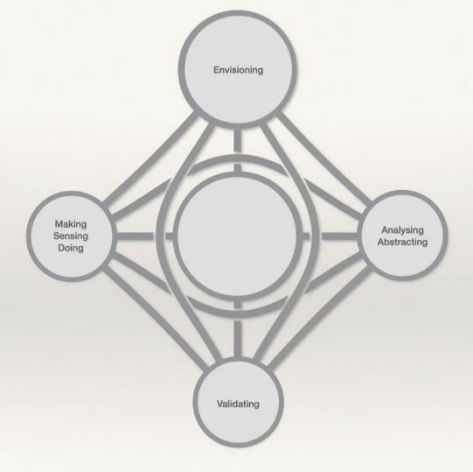
Way of working in the group:

- Tuesdays we make plans and appointments for the rest of the week.
- Teams meeting Friday (14:00-15:30).
- Individual work and report to team.

Homework:

- Get to know each other
- Establish/agree on a way of working in your group
- Extensively research and work on the design brief from all angles of the RTDP, so create a vision of what you want, explore known knowledge, get started on preliminary ideas, and try to consult others.
- Make a founded selection for a topic based on the research and provide arguments

Expected Outcome:



- A group vision on the design brief, exploratory research (push yourself!!!), overview of inspirations, initial ideas.
- Well-documented research results.
- Well-documented process.
- Well-argued, founded selection.
- We expect to not only read but also see stuff.
- Make good idea's visual (13/09/2022).

Interests:

Niek:

- Coding
- Gaming
- Fashion
- Cooking

- Horeca
- Wine

Euwe:

- Making music
- Cooking
- Programming
- Making videos
- Cycling

Jort:

- Making music
- Endurance sports

Carlijn:

- Fashion
- Cooking
- Sport
- Music
- Travelling

Floris

- Travelling
- Music
- Expand my network (meeting new people)
- To figure things out
- To build (Lego for example with my own imagination)

List of ideas:

Actual games no educational aspect (yet)

Learning, academical knowledge

Learning, social knowledge/ helping with "standard" life issues

Floris:

- Lego board game, subscription/ progress based items. Obtained levels and bonusses can be used when the game is played to gather. --> In addition, if players of the game experience a to big difference, in the form of, for example levels and resources. Then a time limiter could be applied. Everyone would have the same amount of time the gather resources of obtain levels. If this measure does not function properly or is not heavy enough, you could differ a player's difficulty in different levels. For instance, player one has difficulty 1, what allows the player to obtain resources at a speed of 2, whereas player 2 obtains resources at a rate of 1,5. In this way both players experience a challenge and when the players meet, they start a new (board) game where the differences are smaller.
- Lego board game, this is an existing kind of board game where you can build your own character, board and missions with the Lego's that are included in the box. This allows you to change the theme of the game and it lets u use your own creativity to build, for example a board. To make this a hybrid digital-physical game, you could add an app where players could learn for example facts, their math problems or social knowledge. When this is done correctly a new "package" of Lego's is unlocked. It is like a subscription and you get progress based items. So the more points you achieve by learning math, the more Lego's you would get.

Jort:

- Game that helps prisoners in the rehabilitative process
- Game that teaches elderly with alzeimers about themselves
- Tower building game connected to a program that shows strengths and weaknesses of the tower.
- Game that helps teachers provide individualised teaching to elementary school students, while not having to separate children from each other. Children can play the same physical game together, but on different difficulties which are provided by the computer. For example, a game that contains mathematical challenges can give smarter children more difficult questions to do the same things on the board. This way children can have fun together without intelligence-based segregation.
    - Sub-idea: children play a character on a tabletop game. They work together to fight a monster. Each turn, a pupil gets their own question based on their skill-level. If they find the correct answer within the given amount of time, they get to do a move on the tabletop board. They can move their character, of try to fight the monster. This way, children work together in a strategic (also educational) monster-fighting game (on the table) while learning math or spelling though a connected computer program.
    - Sub-idea: the same concept can work for adults. While math questions can of course be as difficult as you want them to be, the idea can be applicable in skill-development or other educational courses. Adults have longer concentration spans (I think) which means the monster fighting game can be played over the course of months, for example throughout the educational course. Players can finish assignments to get better weapons and the strategic aspect of the game can be much more complicated with adults.
    - Of course, the objective does not have to be fighting a monster, although I think this will play into the imagination of many. The objective can be many things, such as creating a musical composition: adults will work on assignments and study. As a reward, they unlock new instruments of beats to make a musical composition in a digital music workspace. This could be similar to the game *My singing monsters*.
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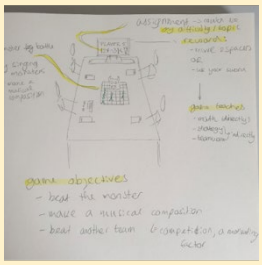


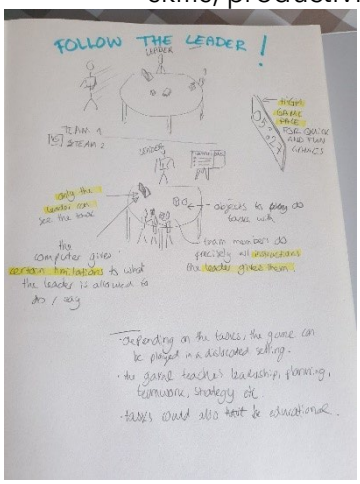
- Evt online aspect fight against other teams

- A playful way of learning investing: In investing, it is easy to make unintelligent decisions, make decisions based on your emotions, place stupid bets or make mistakes in your analysis. The game could consist of cards with certain investment actions on them. You can play these cards do the actions on them, such as go long, go short, buy bitcoin, gold or apple stocks. Depending on the current market, which is simulated (not real) on a computer (digital part of the game) the action you decide to take will either increase or decrease your score. By making mistakes and learning from them, players will teach themselves value investing!
- Making friends: a decision story – This game gives players a scenario and a few things they can do in them. They can choose how they would like to act in the given scenario, which changes the scenario. The computer simulates different people, such as your boss, business partner, friend, homeless man, cassiere. In each situation, it would be wise to act differently.
    - Example story (taken from a book): Mr. Thomas has tried for years to sell fuel to a chain store in town, but the chain store kept importing fuel from far away. Mr. Thomas does not give up and decides to do the following: (now the player can choose an option)
    - Call the chain store with a discount offer on fuel
    - Invite the CEO of the chain store for dinner, and subtly mention fuel when he's become slightly drunk on wine
    - Ask the CEO of the chain store for exactly one minute of his time, mentioning that Mr. Thomas believes that the CEO is an expert on a debate regarding fuel that Mr. Thomas is hoping to win. The result could be higher fuel taxes if he loses the debate.
    - On the back of the cards there will be the following results if he chooses each option:
    - Mr. Thomas gets a secretary on the phone, who mentions that they have a good fuel deal already.
    - The CEO is extremely busy and has no time for dinner with the owner of another fuel company, in which he has no interest.
    - Because Mr. Thomas only asks for 1 minute, the CEO agrees. Mr. Thomas mentions that he believes the CEO is by far the most capable of helping him to win the debate, which will also have a positive outcome for the CEO, if they win. Instead of talking one minute, they talk for close to two hours. The CEO liked the conversation, and when he leads Mr. Thomas to the door before leaving, he mentions that they should meet again, because he would love to place a fuel order for his company. Mr Thomas did not even mention his fuel company.
    - What has been learned: people will want to deal with you, if you become genuinely interested in them!

- Game that uses player's physiological data (heart rate, caloric expenditure) to measure skill and progress. The game gives advice on fitness levels, stress and rest.
- Health related role-playing/simulation game: players take the role of somebody who is trying to engage in healthy behaviours. They have cards in their hands with actions on them: some are healthy, some are unhealthy. The goal is to play the cards in a smart manner so that the player will have a good balance between healthy and unhealthy activities/meals. If you sport too much, you will become fatigued. If you eat unhealthily, you will get penalties such as becoming tired or increasing your chance of sickness. Throughout the game, players go through a persons whole life. The player who ends the game with the most happiness-points wins. Notice that your character will become happy from an unhealthy meal, but only short-term and will also die earlier. If you die, you might have had the most happiness points at that moment, but others who have taken better health choices may still defeat you if they live much longer.
- Game that teaches players to make proper health and food decisions by offering various products with different prices. Cheap foods are often unhealthy, but there are exceptions. Find the best way to spend your money to win the game.
- Efficient planning game: Players fight to make an efficient week planning during a busy (simulated) week. Stress levels, sleep, nutrition and exercise have to be properly managed. But your week never goes as you wish: unexpected work makes your planning harder to make efficient! The game consists of multiple weeks (rounds). If you finish your week extremely stressed, you will take these stress levels into the next round. The player that finishes the final round with the lowest stress levels and the lowest strikes (which you get if your character was not able to finish certain week tasks, for instance as a result of inefficient planning or a panic attack due to stress) wins.
-

- Game in which a group quickly has to follow the instructions of one leader. Only the leader gets to see the instructions and he/she has to organise which group member does what, all within a strict timeframe. Each round someone else is the leader. Successful tasks give points, and the best team wins the game
- Already existing similar example: 30 seconds, where one team member explains words without actually naming them. The team has to guess as many as possible.

- This game trains leadership, communication, initiative, leadership, social skills, productivity. All 21st century skills.



- Music game for high school music class: Groups get a box with different building blocks that all make different sounds. Some sound great together, some awful. This could be made difficult by using complicated sounds, irregular time signatures or blocks that speed up the tempo or add effects to the music.
    - This website does something similar, but is not as complicated as it could be – still fun: https://www.incredibox.com/
- Critical debating game: groups get information on an imaginary topic. They have to consume the information and debate on the topic (they are forced to take a specific side of the argument) with other groups. But, there is a catch: some of the given information on the imaginary topic is misinformation, and some is disinformation. The groups have to be careful with the given information and try to find which sources are not credible. The game teaches information and research skills to high school student who just get in touch with academic research.
- Children's game that teaches spatial skills: Teachers will hide certain objects in a given (safe) area. Children get a map to find the objects.
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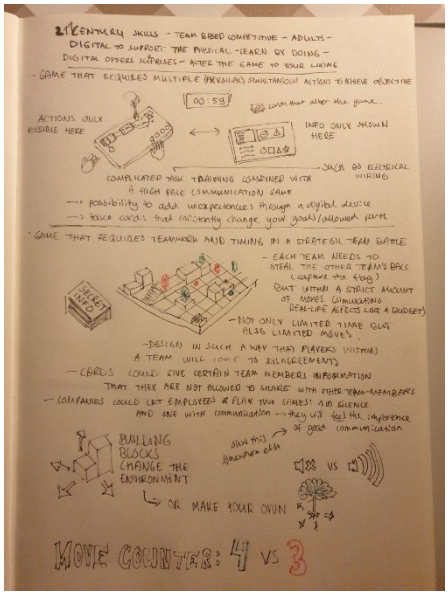
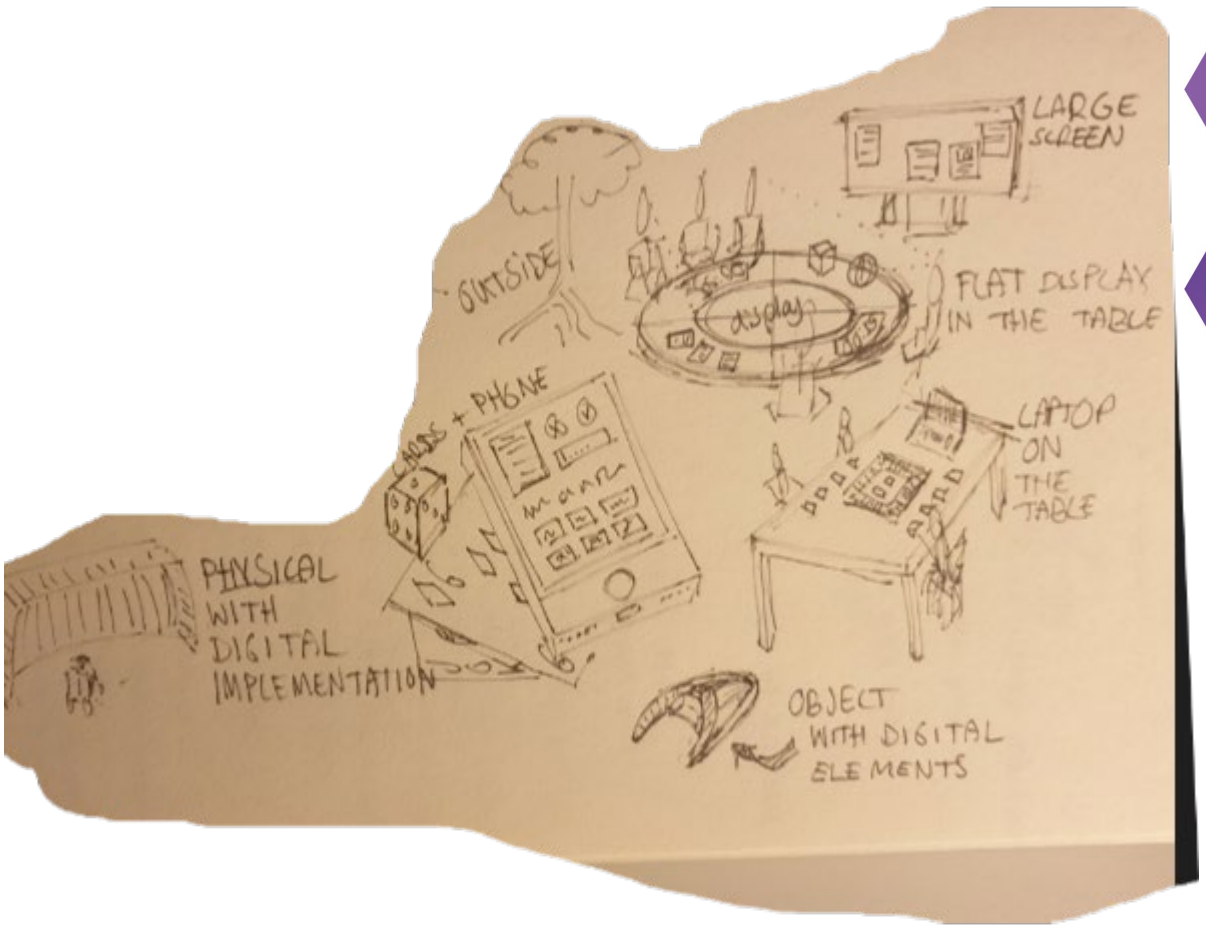

DIGITAL TO SUPPORT THE PHYSICAL - LEARN BY DOING -
DIGITAL OFFERS SURPRISE - AFTER THE GAME TO YOUR LIKING
GAME THAT REQUIRES MULTIPLE (INVISIBLE) SIMULTANEOUS ACTIONS TO REACH OBJECTIVE
00:59
ACTIONS ONLY VISIBLE HERE
INFO ONLY SHOWN HERE
COMPLICATED TASK TRAINING COMBINED WITH
JACK OF ELECTRICAL WIRING
A HIGH RISK COMMUNICATION GAME
GAME THAT REQUIRES TEAMWORK AND TIMING IN A STRATEGIC TEAM BATTLE
- EACH TEAM NEEDS TO STEAL THE OTHER TEAM'S BALL (CAPTURE THE FLAG)
- NOT ONLY LIMITED TIME BUT ALSO LIMITED MOVES
-DESIGN IN SUCH A WAY THAT PLAYERS WITHIN A TEAM WILL COME TO DISAGREEMENTS
- CARDS COULD GIVE CERTAIN TEAM MEMBERS INFORMATION THAT THEY ARE NOT ALLOWED TO SHARE WITH OTHER TEAM-MEMBERS
- COMPANIES COULD GET EMPLOYEES TO PLAY TWO GAMES: ONE SILENCE AND ONE WITH COMMUNICATION → THEY WILL FEEL THE DIFFERENCE OF GOOD COMMUNICATION
BUILDING BLOCKS CHANGE THE ENVIRONMENT
OR MAKE YOUR OWN
VS
MOVE COUNTER: 4 VS 3


LARGE SCREEN
OUTSIDE
display
FLAT DISPLAY IN THE TABLE
+ PHONE
LAPTOP ON THE TABLE
PHYSICAL WITH DIGITAL IMPLEMENTATION
OBJECT WITH DIGITAL ELEMENTS

Euwe:

- Game that learns you how to code
- Game that teaches you how to take care of plants
- Game that teaches you basics of making music
- Game that helps you with doing sport exercises
- Tamagotchi kind of game???
- Game that learns you how to draw
- Ambrasoft but for learning other stuff
- Game where you take care of a plant or another thing, where you get points for treating the "thing" good. You can use those points in a game you can play with your friends. A bit like hayday.
- Game that learns you how to manage your time
- Game that learns you how to stay hydrated
- Game that teaches children about how to recycle
- Escape room game where you work together towards an end goal. Gradually while playing the game the challenges become more difficult. The challenges can be about the diverse topics and interests.
- Racing game on a hometrainer what lets you race against your friends in VR.
- Game where you learn how to play music. The First person records a few sounds, the second player needs to make a beat, the thirth makes a melody, etc. That way you learn how to play music in a fun way.

Niek:

- Game that teaches kids about kinds of plants etc.
- Game that helps people with their cooking
- Collect plants or trees or other objects by scanning them in real life?
- A boardgame with NFC interactivity, physical dice, game board, and pawns, but digital cards, resources, and scores.

Carlijn:

- A game that gives you assignments through the phone that you must perform physically. In this way, for example, small children can learn easily. For example, they may have to build something that a picture shows. You need to scan the results. And you can level up.
- A game where the cards and rules are done over the phone
- A game that teaches you how to lift or anything else that has to do with sports, and gives you exercises. So, you can upload videos when you do the exercise (profs will give you feedback). You can track your progress through the app, and you can battle with friends.
- A board game that you can play remotely with your friends on your phone, but you can also play when your together in the same room. You can then put the phones next to each other and get one big board game. In this way you can play the game remotely or together.
- A kind of digital twister, but educational. You have a board with all sorts of different numbers and you also have the symbols +,- and x on the board. on this board, you can put your hands and feet on the numbers just like in Twister. via a linked app, you are sent a number such as 15. you have to put your feet and arms in such a way that you form the number 15. for example, on 5 and 3 and x, because 5x3=15. this is a fun way for children to learn to calculate. via the app, you can pass on a level. the board can also use sensors to let you know when you have finished. it will then beep.

- A kind of Jenga. You have blocks that you have to stack on top of each other to get the highest possible tower. But the cubes contain sensors that can vibrate. You can make these sensors vibrate via your telephone. You can think up rules, for example, that someone has to answer a question about an educational subject, and if that person does not know the question, the other person can choose a cube that will vibrate in the other person's turn. The only disadvantage is that you cannot play this game remotely. We can, however, create a game in the app that you can play remotely with your friends, and whoever wins can choose a cube to vibrate during the real game with the cubes. You have an app on your phone that allows you to make drawings which can then be projected onto a wall using a device. The other person then must guess what that person has drawn and often gets some tips. This way you can practice your drawing skills. it is also fun because you can see and make beautiful creations. You can also draw circles on a wall, for example, and then try to kick a ball into those circles. You can also think up many fun games with such a device
- a kind of digital monopoly. This board game is actually a kind of large tablet that you can control with your phone. If you buy houses, they will actually be on the digital board game. you receive money via the app so that you cannot cheat. Through the app you can also play the game remotely with your friends. This gives a nice variation.
- A app that gives you exercises with your hand. To use this app you have to put on some kind of glove with sensors in it. These sensors track what you do with your hands. You will then receive an assignment via the app that you must perform. For example, children can practice their motor skills well.

Forms of physical-hybrid games:

- Nintendo switch, Ringfit, Mario kart
- Jachtseizoen
- Wii fit board
- In serious educational games, a game may be played physically but with digital tracking of process, providing the opportunity for players to keep on learning and diving deeper into the subject. This way, the computer serves as a tutor for individualised learning while players play the same game together, but perhaps on a different level. This idea is inspired by this paper which I am currently making a summary of: https://files.eric.ed.gov/fulltext/EJ1053979.pdf
- Mixed reality: your phone adds things to the real world through its camara. (I think Pokemon Go has this?)
- Swift

Notes from tutor meeting:

- Make sure to include information why you like games
- Document everything you do
- WHY? Ask yourself that question
- Reflect! Every week
- Try things out
- Want to see the explorations
- Only if there is work, you can show if you are competent
- Please document your work
- Have fun

Evaluation Teams meeting 09/09/2022:

- Sketch 2/3 of your ideas on paper and add to document so there is no room for interpretation.
- Evaluation/explanation of the ideas that we thought of when not together
- Push yourself to think of a few more idea's – make visual if you think there is potential
- Planned new meeting on Tuesday 13/09/2022 at 12:30

Team roles:

Floris Team leader: this role means, that you keep the overview of the project. You should combine planning, responsibility, accepting you are the point of contact for lecturers and establishing contact with, for example, the client. You make sure that every team member does their work and make sure that the planning of the project is correct and deadlines are being met. The document drafter is the right hand of the team leader, and last but not least, the team leader has to make sure that the contact between team members is good and everyone knows what every team member is doing.

Niek Note taker: this role means, that you take notes of every team meeting, every lesson by the lecturer and also sum up, provided documents and specialists, that can be of use for the project.

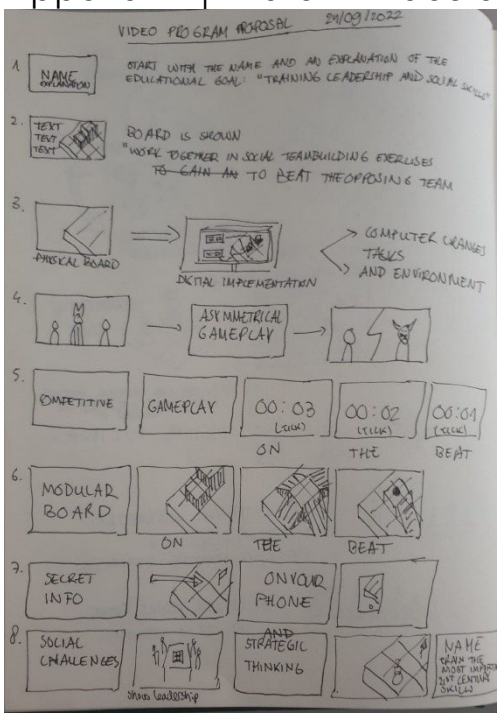
Jort Document drafter: this role means that you make sure that everything in a document is complete, good-looking and matches the requirements that have been set in the given rubrics. They also help the team leader with planning and ensures that deadlines are met.

Euwe en Carlijn member (x2): this role means that most of the time you are the first one who checks a document and compare it with the requirements that have been set for this part of the project. They are extra important for the communication between teammates.

Playing games: observations:

- Cards Against Humanities: It was nice to be able to be bold, to show a bit of personality in your playstyle and be creative to an extent. The game was played around a table but could be played anywhere, both in collocated and in dislocated settings. Playable with as many people as you want. The only items in the game are cards, which does not make it very interesting, but simplicity is not bad in this case. The game is easy to pick up.

Appendix I | Midterm video script and video program:



OPTIONS FOR MUSIC: (does not have to be the first 16 second of the song, can also be in the middle.)

- Love is free: demuja
- Bring the bass back: demuja
- Delectable – Eliza rose, M4A4

01 "out-social the flag: a social strategy game that teaches leadership"
02
03
04 beauty shots + "work together in leadership challenges to beat the opposing team"
05
06
07
08
09 "Physical board + digital implementation"
10
11
12 Beauty shots of both the board and the digital interface
13
14
15
16

17 ”Asymmetrical gameplay”
18
19 show the king and the normal pawns
20
21
22
23 “Competitive gameplay”
24
25 “00:03” (on the beat) (ticking sound) (--> hoeft niet precies een seconde uit elkaar te zitten maar op de beat zou wel gaaf zijn)
26 “00:02” (on the beat)
27 “00:01” (on the beat)
28
29
30 “Modular Board”
31
32 change the blocks on the board on the beat
33
34
35
36
37 “secret info”
38
39 show the location of the flag on the board
40
41 “on your phone”
42
43 show the phone interface
44
45
46 “Train leadership” - “In social challenges”
47
48 show us around the table playing the game
49
50
51 “And strategic thinking”
52
53 another shot of the board with e.g. the flag on it
54
55
56 “Out-social the flag: train the most important 21st century skills”
57
58 Credits
59
60