

The adventure to yourself

A tool that helps teenagers discover their talents and opens the conversation with teachers and mentors.

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1. Abstract

This thesis aims to help teenagers, aged 14-16, feel confident to express their thought and feelings. By doing so, we aim to create an environment in which teenagers can seek help. Where they can learn how to cope with uncertainties before they turn into bigger and long lasting mental health issues. The thesis does not aim to solve the problem of mental illnesses nor be a solution that prevents it. It aims to create an environment where this changes just enough to move in the right direction and offers a space for solutions with bigger changes.

The thesis starts with research. The research phase consists of literature, interviews with people who work with teenagers and a workshop with teenagers themselves. Four cornerstones are selected from the research to build the design upon. These cornerstones are: the tool will help teenagers discover their talents, give them control, show teens they are not the only ones and use gaming to increase motivation.

Based on these corner stones the tool is designed through ideation, first testing, development and prototype testing, phase. The tool consists of three elements: a game, amulet and application. The first test consists of 23 teenagers in three sessions in which the assumptions and first ideas are tested.

The prototype testing is done during 8 sessions of 6 teenagers. The 48 teens played the game. 42 Interacted with the amulet and 15 offered feedback on the application as well. The teenagers show excitement in discovering their talents through a game. They like the fun and social aspect and the fact that they did not have to assign talents to themselves. However, they experienced that the initial size of the amulet as too big. In the next iteration the size is reduced. Furthermore, the application is given more attention and function. The teenagers express that simply having an object to touch was too abstract. The teenagers also express a need for practicality and understandability.

The designed tool helps teenagers discover their talents through a story based game. The game is played with six teenagers and facilitated by a teacher. The teenagers explore these talents over the next week. Through touching the amulet when the teens use their talents, it functions as a non-intrusive cognitive offloading. Later, the app will send a notification and ask them to explain more about the activity during which they used their talents. The app provides guidance in exploring those moments. It breaks the moments up in smaller pieces. It also covers moments in which teens cannot use their talents. After a week, the teenager can use the application and data they stored during a conversation with their mentor.

I chose to ask feedback from more teenagers during a short session rather than testing the tool over a week. This is the proposed next step of the project alongside development of the app and working together with experts on the story and questions of the game. The test should be validated to start the implementation phase.

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Preface

Before you start reading this thesis, I want to thank my coaches and mentor for guiding me through this project. This includes Manon, you were basically a fourth coach. I want to thank the company, Game Solutions Lab in general for giving me the opportunity and freedom to do the project. Furthermore, I want to thank all the people I interviewed, especially the teenagers who worked with me. The schools who allowed me to test with their students at school have been an incredible help. Without them, the connection and inclusion of the target group would have been more difficult to establish.

Of course I also want to thank my family and boyfriend for offering new insights and allowing me to blabber against them with vague ideas. Also thank you for reading through the report and reminding me to actually write English instead of translated Dutch.

2. Introduction

This thesis describes the design process of a tool that will help teenagers discover their talents. Instead of having a conversation about what their grades allow them to do, the teenagers will have a conversation based on their discovered talents. The designs aim to initiate such a conversations and help teenagers recognize their talents so that teenagers might look at themselves in a different light. So that the tool might help them find what they like, why they like it and help them grow more confident. So that with this confidence and new found way to look at themselves, the teenagers and coaches can start talking about (in)securities and feelings. Allowing the teenagers to seek help and guidance when they need it.

The thesis first offers some background information. Since not all readers will be teenagers themselves, a peek into the life of current teenagers is offered. Showing some of the problems and insecurities that they have and why those are a problem. This chapter also included is why the designer got interested and made the tool. After this background information the exploration and research phase of the process is described. Followed up with a scope. This project focussed on discovering talents to help start the conversation. Talents were chosen because of the following reasons:

- Knowing your talents changes the way teens value themselves, basing it on themselves rather than their grades.*
- Overdoing some of these talents can indicate someone is going down the path of a depression or burn-out. Or at least show that the teen is struggling.*
- Recognizing these talents and understanding the way you think can help knowing what you want later on and which courses you might want to pick based on yourself and not on expectations or wishes.*
- It helps opening up the conversation about the teenagers themselves, rather than their achievements and grades.*

With the refined scope the first ideas were generated and tested with the target group. From these tests the final design was made. The tool is a scenario-based adventure games that produces the players' talents. The players then receive a physical amulet which they will use over the next week. The physical tool will help the teenagers connect their talents to their everyday life so that they can fully be explored. This process is guided by an application.

After a week, the teenagers will have a conversation with their coach or mentor about their talents and how they want to use them later in life. What they find important or might need help with.

A prototype of the design was made and tested in the evaluation chapter. After which the design was altered. The thesis concludes with a recommendation of the next steps, personal reflection of the thesis and discussion.



3. Back story

This chapter gives an introduction to the current situation and why it needs to change. It gives some background information on the situation and how it is currently handled. This is based on news articles and interviews that are included later in the thesis. Lastly, I include why I chose to focus on this problem, my motivation. The next chapter further explores the problem from various sides of the problem. It narrows down the scope as the full problem is too big to solve with one thesis.

3.1 Being a teen

You are a teenager in the year of 2020. You are in high school, and this is the year you have to choose courses. These courses will have an influence on which studies you will be able to apply to. Which decides what sort of job you are going to have. You need to choose, which courses are your speciality and which do you struggle with? At the same time you are starting to find some friends you really like. Some you thought you liked or at least you thought liked you, but just went away. Maybe you'll find your first love.

You are a teenager now and are expected to be more independent. You ride to school, the city, movies, as long as your parents know where you are. Half of the time you might not know where they are.

If you live with both parents, there is a big chance they are both working. They have long days. If you are eating dinner together, you probably talk about the successes you had at school and they had at work. Besides school and homework, you probably do sports or have another hobby that takes time out of your week. You have friends you want to see and talk to, in real life or over the phone. Besides that, you might feel the need to have at least some understanding of what is going on in the world. With the environment, equality, the latest memes, posts of people you know and/or like or look up to. You might be eager to learn new things, new make-up routines, new tactics, or learn about complex subject. You need to do it all, or at least you feel like it.



In bed, at night, scrolling through a feed of sorts, or not, laying in bed. You might have questions. Who am I? What am I doing? What should I be doing? How can I be better? Why am I not like the rest, or better than the rest? Why did I do that, I know I shouldn't, why is it so hard? Others have done so much more at my age. People think I have it together, but I don't. They think I'm smiling but I'm not, but I have to. Otherwise my mother feels guilty. People will start asking questions and I don't know the answers. I don't know why I feel like this. Why I can't understand math. Why I can't just make a decision. Why, how, what. Okay, deep breath. What do I want to do when I grow up? I need to make money. My parents think this career would suit me. My grades should be a little higher and I might be able to do this. If only I could dream...

3.2 Why is this a problem?

Imagine, really imagine, having those thoughts, over and over, simultaneously. Having the feeling you should be different, better. You are not living up to your potential, or even the perception others have of you. Having those insecurities of being less pretty than others, less liked. You probably had those feelings at one point in your life. Now imagine those feelings being confirmed around you. You are getting less likes than her, see, you were correct. They don't like you as much. See you should be better at those courses and become a doctor or a lawyer. Those jobs are valued highly. They get paid a lot. They are worth more.

Maybe you have, maybe you haven't, but imagine not knowing how to deal with those feelings. Being afraid to make someone feel guilty or ashamed because you are not okay. Having no idea how to express feelings, not understanding them. You know how to get grades, and why higher ones are better. You know you should do your homework, achieve, but how can you be, just you? Who is "you"? Not the 'you' you want to be, feel the need to be, just "you". Are you different from the rest? Probably. Are you less than others? No. But you feel like it.

Keeping those things in mind, it is no surprise that, in addition to the 4% of the teenagers between the age of 14 and 18 that are depressed, 40% suffer from symptoms of depression (Bijl, Boelhouwer and Wennekers, 2017). If you stay in this spiral for a long time, it becomes your home, your safe spot, something you know. We know mental health of teenagers and adolescents is decreasing. We also know there is a stigma surrounding mental health. 55% of the adolescents between the age of 16 and 34 feels this stigma (Gaffke and Kamphuis, 2019). Students say: "Accepting that I am depressed or have a burn-out is accepting that I have failed." (interview described in chapter 4.)

The declining mental health is a problem on its own. The bigger problem is that we cannot solve it. There is no capacity to solve the problem once it is there. The waiting lists for mental health are too long and still growing. People with problems only seek help when they need it. At which point it is too late.

3.3 How did we come to this? (No one is to blame)

No one is to blame and we are all to blame. Jolien Dopemeijer, is an expert on student well being. She talked about the influence of the United States. The states is society based on achievements, on business and their net worth. Schools need to achieve higher graduation rates and higher grades. Teens know there is a difference in what they should want and what they want.

Teens are becoming numbers, their grades. When their grades are high, they are doing great, when their grades are low, something is up. Reality does not work like this. If that was the case, universities should have it easy. In contrast, their numbers of students with mental health issues are growing as

well. Arts and creativity are cut out of schools. Social skills should be taught at home. However, at home, there is no room. Parents are busy with ever more demanding jobs. The time they have with their children, they want to spend positively. Because the children are home less and the parents the parents are less involved in their social lives. No one is to blame, we are all too busy. It takes a toll on the teens, so someone has to step up.

3.4 Why I am interested

Depression and teenagers and adolescents with mental health issues are a big topic on the news. That is not the main reason I am interested. I hit a wall myself and I want to help others. Mental health issues can be difficult to talk about and express. I want to help others be able to do so.

When I hit a wall, I lived with it for a while. I felt lost in who I was and got tangled in the feelings and insecurities that came with it. It resulted in me taking a break from my studies.

It took a while to express what I needed because I did not know how to give expression to it. Study wise I was doing okay so there was no seeming need. When I finally found a way to give expression to the wall I hit, I wished I had found that way sooner.

I want to help others find those words. However, this is difficult. Those ways and words only work when you realize there is something is up. When you realise, not everyone thinks like that, or they do and found ways to handle it. When the wall you hit is so thick, you can no longer break it down and move forward. At that point it can be too late.

I wish to help teens realise how their brain is wired. Help them figure out who they are and if they are different that it is okay, beautiful even. I wish to let them see their talents and value those rather than their accomplishments. My goal is to not only show them these talents, but let others see them in this light as well. In doing so I attempt to create a more open environment. One where we can talk about our insecurities.

By figuring out those talents from ourselves and others, aspects that can potentially develop in mental health issues can be recognized in an early stage. Well before it can develop into a serious health issue.

4. Research

This chapter describes the research done during the thesis. It starts with the a short explanation of the target group and describing the methods used. The research insights starts of with those gathered from published knowledge. It is followed by insights gathered during interviews with various experts including psychologists and high school deans. The third section of information is gathered during a workshop with a group of teenagers aged 14-17. The chapter concludes with a setup of for the rest of the thesis.

4.1 Target group

For this thesis, the target group is teenagers. Teenagers who suffer from mental illness, even the early stages, will have to deal with consequences of these illnesses in their later lives (World Health Organization, 2018). I aim to aid with a tool to turn this around. With the tool designed during this thesis I aim to give teenagers confidence and ways to give expression to and ask for help and cope with insecurities. So that they can use these skills later in life. Additionally, teenagers are in their forming phase.

4.2 Research methods

The project makes use of various ways of research:

- Literature research including papers, news articles, and Ted talks
- Expert interviews using the semi-structured technique
- Workshop session with teens on what keeps them busy
- Interviews with teens
- Prototype test with teens

This chapter focuses on the first three parts, the last parts are described in chapter 5 and 7.

4.3 What is known on paper

During the whole project various literature papers, news articles and TED talks were read, watched and studied. This was because new articles and researches closely related to the subject were published during the project. This section includes the most important parts of the research. More research on psychology, the social pressure and education has been done, but not everything is included in this chapter because over the course of the project not everything proved to be as closely related.

4.3.1 SITUATION

First information about the current situation is gathered. This section described what is known about mental health issues with teenagers and how stigma influences people with those issues. Parents want to protect their children from such issues, the second part describes how they currently do this and what this results in. The last two parts describe more about the educational society in which the current teens find themselves and how the lack of play influences them.

4.3.1.1 Mental health

The ever-growing number of teens with depression is a serious health hazard, now and in the future. 4% Of the teens between 14 and 18 years are suffering from depression (Bijl, Boelhouwer and Wennekers, 2017). The number of teens suffering from depression symptoms is even bigger, growing to 40% (Balazs et al, 2013). According to World Health Organization, mental health illnesses begin at the age of 14 (World Health Organization, 2018). Teenagers that do not suffer

from the symptoms might still be developing them on later age. Learning how to deal with those feelings benefits not only those who suffer now, but also those who might suffer in the future.

Getting more familiar with depression will not only help the teenagers themselves, but also others around them. It will help prevent and get rid of the stigma surrounding the subject. Gaffe and Kamphuis conducted a research for 3Vraagt. They found that 55% of the adolescents (16-34 years) who suffer from these symptoms experience a taboo surrounding mental health (Gaffke and Kamphuis, 2019). Hinshaw and Stier state that stigma develop during mid childhood (2008). Teenagers are known to have the same discrimination and negative feelings of laziness connected to mental health problems (P.W. Corrigan and Penn, 1999). The problem goes further than discrimination. People with mental health divert from seeking help and individuals receive the wrong treatment (Griffiths et al, 2014) or inadequate help from peers (L.M Hart et al, 2016). Add the social anxiety of teenagers and the need to fit in (Lev-Wiesel, 2006) on top of that, and the lack of help-seeking doesn't seem strange. "What if they cast me out?"

4.3.1.2 Trying to prevent heartache

Parents aim to prevent their children from negative feelings. Protecting them against failures and helping them when things go wrong. Some parents go too far in helping their children. They erase any negative situation. They are often called "curling parents" (Leclaire, A, 2017) or "helicopter parents" (K. Moilanen, 2019). These parents excel in erasing all the problems that their children haven't experienced any at all. This leads to a lack of practice in how to deal with such situations once they occur. Additionally, these teenagers might feel a pressure to uphold this streak of a "failure free" life. They begin to dread the day of a possible failure. They might feel that once the day has come, they no longer can ask their parents for help. Moilanen showed in her research that there is a connection between "helicopter parents" and low mastery, self-regulation and social competence.

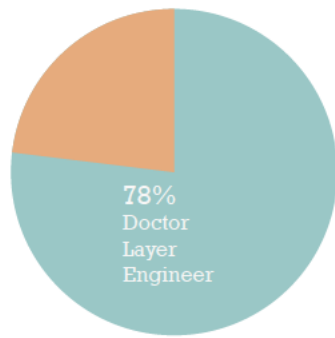
4.3.1.3 Education

Not only do parents want the best for their children, they encourage them to be the best. Children learn from early on that everything is possible, from both parents and society. At first, endless opportunities sounds positive. However, it also means that teenagers develop delusional ideas of what the world is. They later discover that the possibilities are in fact limited (Bij de Les, 2019). Furthermore, looking at the phrase "if you work hard enough", this "means" that if you are not able to achieve something, you simply didn't work hard enough. Even when teenagers do accomplish things and people do celebrate. This notion of everything is possible can create the feeling of an imposter syndrome (S. de Joode, 2019). Anyone can do it if they work hard enough.

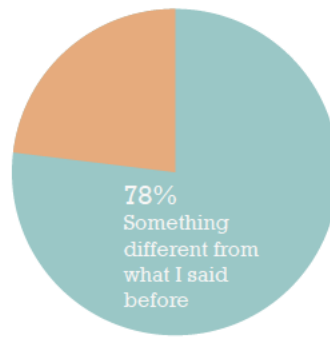
As humans we constantly compare ourselves. We even compare babies. When can they walk, or talk? This comparison makes it difficult to see beyond accomplishments. Especially if we value others' accomplishments greater than our own. Teens at school are all graded according to the same measurements. It often favours one learning style.

Humans prefer certain skills and accomplishments over others. Laurence Lewars showed this in his TED talk. He asked teens the following question: "What do you want to be?" 78% Said one of three jobs, doctor, lawyer or engineer. He then asked: "If everything was possible, what would you want to be?" 78% changed their answer (figure 4.3a). In the Netherlands, this favouritism is noticeable in the course choices of teenagers. Figure 4.3b shows the increase

of beta and economic profiles while culturally focused profiles decrease in popularity.



What would you like to be?



What would you like to be if
you could be *anything*?

Figure 4.3a: Answers by teenagers in research from Laurence Lewers.

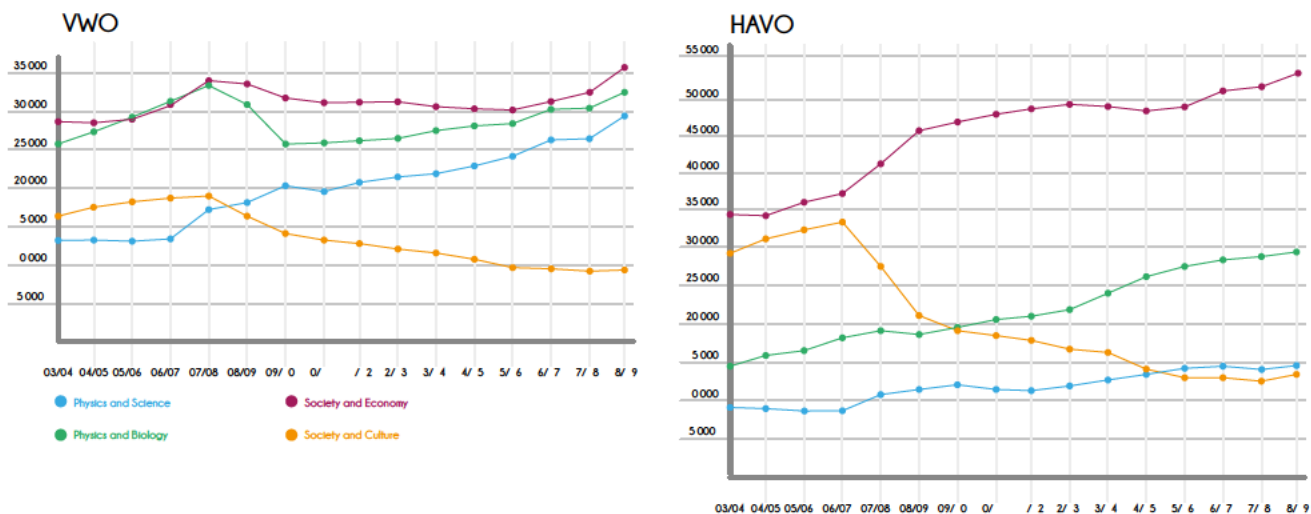


Figure 4.3b: Amount of students per course package, this is based on the statistics of CBS.

4.3.1.4 Lack of gaming

Gray writes in his article about the decline of free play, which correlates to the growing depression rates. Because there is no room to try and move freely and naturally towards what interests you, children don't know what attracts them. Furthermore, free play is a crucial part in the development of problem-solving. Lastly, Grey suggests that free play is an important part of childhood where they were in control (P. Gray, 2010). The fact that these skills are less trained through free play, contributes to the feeling of hopelessness and uncertainty. This is something that the teenagers mentioned themselves as well during interviews. They feel the lack of control or being able to cope with new and uncertain situations.

4.3.2 WHY SOLUTION ISN'T AS SIMPLE

Depression is a difficult subject. It is difficult to help people battle it. Although it might sound weird to outsiders, but people with a depression often find comfort in being depressed. It has become their comfort zone. In similar fashion, not studying for a test can be comfortable. If you fail it is because you did not study, not because you're not capable. If they did study and then failed, there is nothing they can do about it, this can be scary.

Trying something different and new is daunting. A solution that is often used, besides cognitive thinking, is the five-second rule. It's as simple as counting down from 5 to 1 and then, physically, move. Mel Robbins wrote a book about this. The brain sooner accepts the new situation if the person physically commits

to it (Mel Robbins, 2018). After the initial five seconds, the brain starts to think. It starts to doubt and this often leads to inactivity.

This idea connects with the notion that depression and anxiety are things that are felt in the body. It literally manifests itself in the intestines (DeMorgen, 2018). Furthermore, anxiety raises the heart rate and stress eats away the available adrenaline (A. Schwartz, 2014). The body needs to be part of the solution. It helps to change the thinking patterns. That is why people often mention exercise as a way to help with mental health issues.

4.3.3 THEORIES THE THESIS WILL USE:

This section describes theories and literature that is used during this thesis (figure 4.3c). The thesis will use the theory of working with the talents you have based on the book from Luk Dewulf. Furthermore the thesis will use game theory and gamification to engage teenagers in the tool.

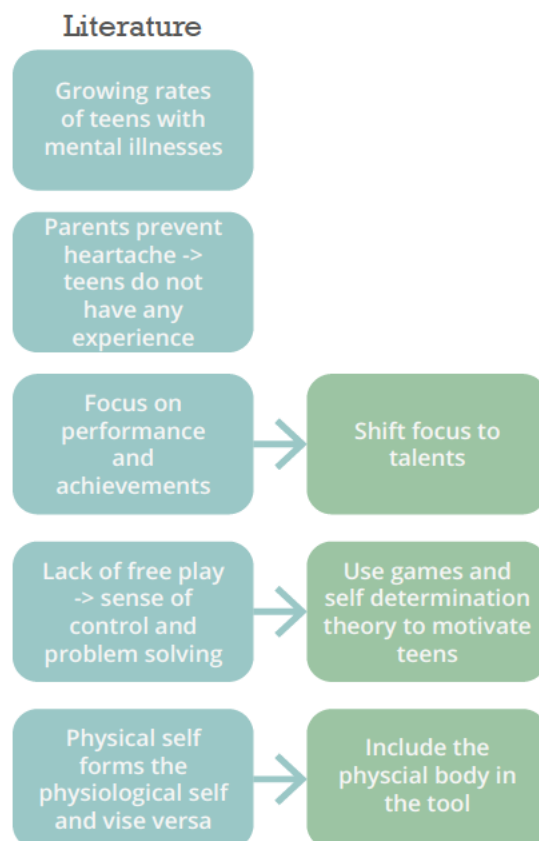


Figure 4.3c: Insights from the literature and how those are translated into the thesis.

4.3.3.1 Talents:

Luk Dewulf wrote a book about talents (Ik kies voor mijn talent, 2012). It describes that when you choose to work the talents you are gifted with, it increases energy and motivation. Everyone has their talents, multiples of them and in some, people overdo. It is important for people know which talents they have. It helps people discover activities they excel in and tasks and jobs that give them energy. Working with these talents will let people get into the flow. Working with the perfect combination of challenge and skill (C. Moore, 2019).

Knowing these talents will help people look at themselves instead of the numbers and grades they obtain. Furthermore, knowing more about talents can help people understand each other better. It shows the difference in how people think. This can help in understanding why people miscommunicate and can help teenagers find other's with the same thinking patterns and talents.

4.3.3.2 Game:

Stated earlier, Gray explained how the disappearance of games negatively influences the coping mechanisms of teenagers. At the same time, gamification and gamifying is a hot topic in terms of behavioural change. Education already uses this impact of games to engage teenagers in school topics using the self-determination theory (Reeve, 2002). Teachers are starting to not only use game aspects in their classes but start to reinvent their classes using roleplaying games, calling it “edularp” (P. Davarsi, 2019).

The public grows more open to role playing and games in general as the “geeky” culture is growing in popularity. Games such as Dungeons and Dragons grow in popularity. The game is used by organisations to help teenagers with social anxiety or autism to develop social skills (Arcadian, 2018, E. Gilsdorf, 2016 and C. Heaton, 2019). This is not surprising. The game create a safe space with a group. On top of that, it lets the teenagers try things out as different characters. It uses storytelling,.

Storytelling is proven to be a powerful tool, especially in this digital era. It offers visual input even if you fill it in yourself and you will (A. Fell, 2017). It also brings emotion to the player (D. J. P. Phillips, 2017). Everyone imagines when a story is told. When a story is told people automatically fill in gaps (Z. King, 2014). How you fill those gaps says something about you.

Researchers shows that storytelling and role playing are proven to be suitable replacements for personality tests. Instead of answering easy to manipulate answers on a questionnaire, the players in this case go through an adventure. Each time they find themselves in different scenarios. They are offered different options, which option you choose shows your personality. Through testing, the researchers showed that their games generated similar results to the questionnaire (J. McCord et al, 2019).

These are not the only researchers that use games or gamification. Anouk Tuijnman developed a game that helps teenagers better understand depression. The game lets players help their “niece” who suffers from mental health issues (A. Tuijnman, 2019). In the game, the teenagers become familiar with the symptoms of mental health issues and learn ways that can help. The game is accompanied by a lesson plan in which the game and the scenario is discussed in the class. The research shows that teenagers change their opinion of the scenario and become more comfortable in talking about it.

4.4 *What is known by the environment*

Even though new articles keep popping up and the knowledge is recent, the thesis used knowledge that stands closer to the teenagers as well. 14 Experts surrounding the target group have been interviewed. The experts included experts such as confidants and psychologist. Additionally, 4 adolescents were interviewed. These adolescent have dealt with mental health in their teen years. This section includes insights from these conversations. The interviews were conducted face to face and over the phone.

4.4.1 METHOD

The interviews were conducted using the semi-structured technique. Each interview included questions on the well-being. They were asked how much and at what times students required assistance. Questions connected to the occupation of the interviewee were also included. An audio recording was made during the interview. The interviews were transcribed and summarised in English. These summaries are found in appendix A. Based on the interviews with the experts and the teenagers, which is included in the next part of this chapter,

persona's were made (Appendix C) This appendix also includes a depiction of the environment and opportunities.

4.4.2 INSIGHTS

This section lists the different insights gathered during the interviews (figure 4.4a).

Interview

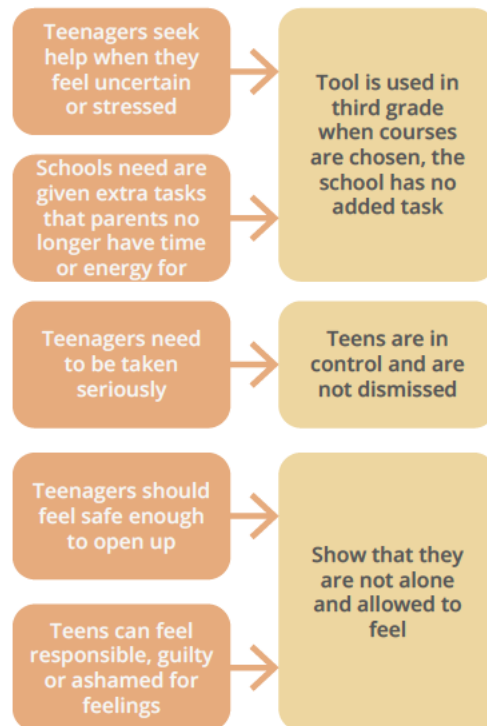


Figure 4.4a: Insights from the interviews and how those are translated into the thesis.

4.4.2.1 What they see happening in schools

- The interviewees saw a rise in 14 to 16-year-olds who need guidance.
- Teacher step in when they see behavioural changes with their student, they find it difficult to distinguish changes with hormonal changes. Being closely connected to the teens makes it easier.
- The experts stated that teenagers often feel ashamed and guilty for needing help.
- Teenagers often seek guidance when they experience stress or uncertainty such as moments of choice and exam weeks.

4.4.2.2 The focus on performance

- Western world is focused on performance and achievements on a personal and company level.
- Schools feel pressure to perform and increase their gradings.
- Schools schedules are getting packed with extra modules they need to include from government.
- Things done previously by parents are now done by schools. (drugs/sex education)
 - This is because parents have a limited time and they do not want to spend it on difficult conversations.
- The parents feel pressure as well, the need more and have less time and often do not have time to connect and reflect themselves. This influences their children:
 - the teens' fear of disappointing them;
 - the teens feel a distance, which is increased when they are not feeling

understood;

- the influence of the “curling parent” leaves the teens with a lack of coping mechanisms;
- the parents’ influence the teenagers’ goals and choices;
- parents rather avoid conflict for them and their children, the children do not get experience in such situations;
- or the lack of time they have for them.

4.4.2.3 What the teenagers need

- The teenagers need to be heard.
- The teenagers need to be in a safe space to open up.
- The teenagers need to feel like they are not alone, that they do not stand out.
- The teenagers need to be taken seriously.
 - They need to be involved in their own health journey – help only helps if teens are open to receive help.
- The teenagers need time and space to explore different possibilities.
- The teenagers need time and space to explore themselves.
- The teenagers need time and space to fail and learn from it.

4.4.2.4 Miscellaneous

- Alter egos can be used to connect to situations while they remain distance enough to try new things.
- Higher education teenagers experience more stress based on performance while lower education experience more social stress.
- Schools can be wary to openly talk about mental health, to not enlarge the problem.
- Teenagers sometimes think that their problems are not severe enough to receive help.
- The adolescents expressed that it can be difficult to seek help because it means you are acknowledging that there is a problem.

4.5 What is known by the experts

Even closer to the target group, is the target group itself. Throughout the project, the target group has been involved in three stages, the research, the first and final test phase. The teenager brain is in full development and the way teenagers think is different than how adults think. On top of that it is difficult for us adults to look back at those teenage years, we evaluate those years differently. Lastly, the environment in which I spend third grade 9 years ago is different than the current third grade. That is why the target group has been an integral part of this project. During the first session, the teenagers were invited to think about the problem themselves.

In October the new movement Real Talk started. The movement is part of Game Solutions Lab in cooperation with NCJ, the innovation lab of the youth health care in the Netherlands. Most importantly though, it is the movement of teens. The teens in this movement will have the power. They will think about a way to help their fellow teens beat or advert depression.

4.5.1 THE SESSION

On the 8th of October, teenagers came together to start the movement with a workshop given by me and two other people. During the workshop, the teenagers were asked to talk about what keeps them busy and what kind of solutions they would like to see. They were asked two questions:

- “What are moments or what are topics which make you think What the

fuck?!"

- "How can we Fuck the what?"

After doing this with each other, the teenagers then helped adults do the same. Facilitating them in a similar workshop. This workshop was introduced with a short presentation in which Dutch influencers shared their take on the subject.

4.5.2 THE ANSWERS

The answers on the first questions is shown in figure 4.5a, the more lines surrounding the subject, the more teens that agreed on the topic.

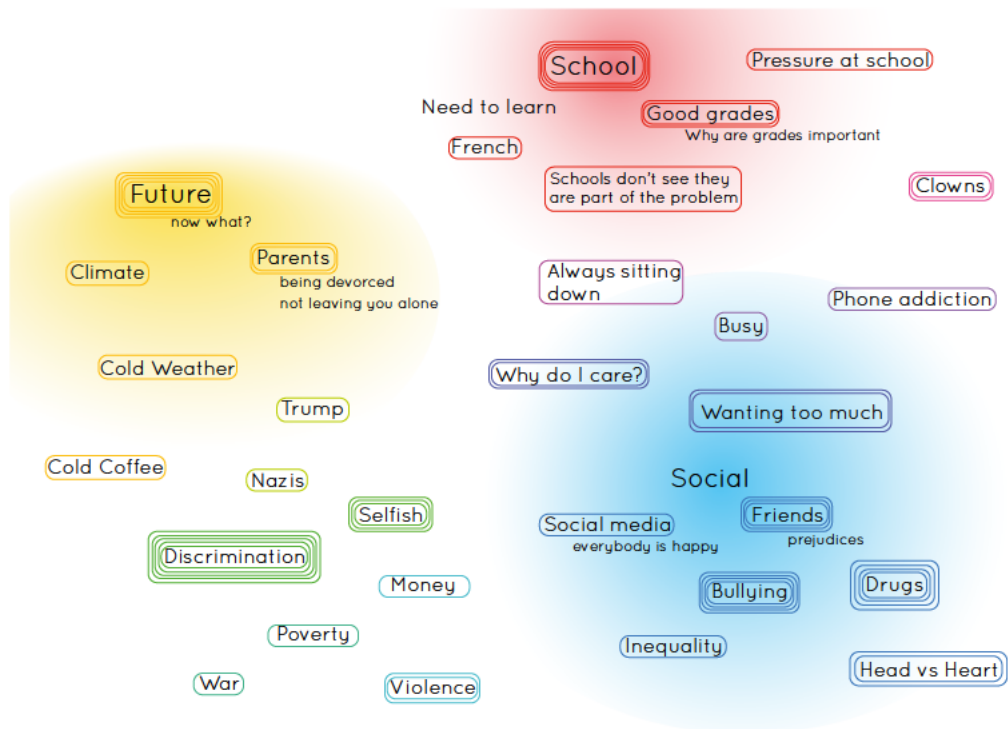


Figure 4.5a: Answers of the teenagers on the questions what topics makes them think "What the fuck?"

Some things that pop out is that social media is not such a big deal. The deal with social media was also beautifully explained by one of the YouTubers. They grew up with the rise of Hyves, one of the earliest popular social media platforms in the Netherlands. *"The thing is,"* they said *"as a teenager you already have insecurities about yourself. That you're not as pretty as others or well-liked. This has always been the case, social media just confirms these insecurities through numbers."*

Society as a whole has distorted values. It has beauty standards that are unachievable. It also gives the feeling that we all should have accomplished amazing things at certain ages. Although these sort of standards have always existed, they are visible now. We can see them constantly. We can see the number of likes and compare them. At the same time teenagers, or adults, are not taught how to deal with this new age. That was the main requests made by the teenagers. Social media does not have to go away, teens want to learn how to deal with it. They want to learn how to deal with their insecurities in general.

The subject that was mentioned more than social media was school, their grades and the mandatory courses. There were multiple possible solutions on this subject as well. One of which was to get rid of tests, but award grades over a longer period. The teens wanted more freedom in what courses they want to do. It is interesting to see that the teenagers don't want to get rid of school altogether, or at least most did not. They instead want a different way to be

valued and graded. They want more attention for their competences, or talents.

Lastly, the lack of control or understanding was something that the teens mentioned on several topics.

They felt a lack of control on world topics like climate and inequality. They did not feel heard. Something Kate Simonds talked about in her Ted talk, I'm 17 (K. Simonds, 2015). They also expressed a lack of understanding why adults were so focused on the money when other things should be more important.

They were uncertain on what they want to be in the future.

They wished for more experience and knowledge on different job opportunities and possibilities.

They expressed a wish to have some time to think about all this. Without the pressure of parents or friends who want to know what you want. It is hard enough to not know it yourself.

4.5.3 AN OPPORTUNITY

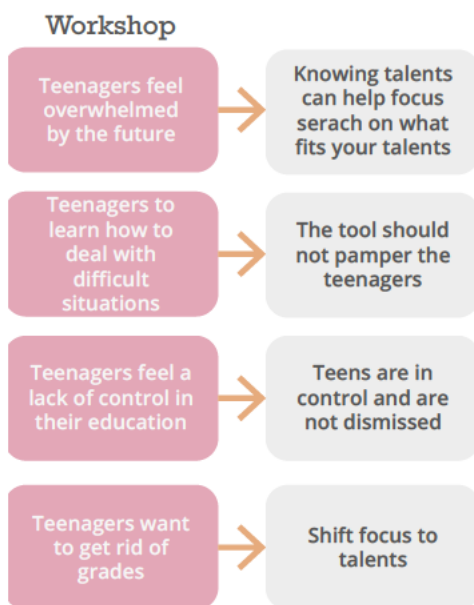


Figure 4.5b: Insights from the workshop and how those are translated into the thesis.

This need for experience and guidance in figuring themselves out is a beautiful opportunity. A new design can help them figure out who they are and want to be. It should use a method that focusses on what fits them rather than who they need to be, or think they need to be. This tool will help them being valued for more than their grades and can give them the strength to see beyond their grades. In the hopes that they might value themselves more and give them more confidence. This in turn can also give the strength and confidence to talk about insecurities. They can learn that feeling insecure is okay. That it is okay to talk about. The teens do not have to have everything figured out but it would be amazing if they can figure a part out or figure out what they do not know and find a way to ask for help.

4.6 What this project will include

Based on the insights gathered during the research phase, the goal of the tool is defined. This section concludes this chapter by listing the focus goals of the project.

4.6.1 DISCOVER YOUR TALENTS

The thesis will focus on how to help teenagers discover their talents. The thesis

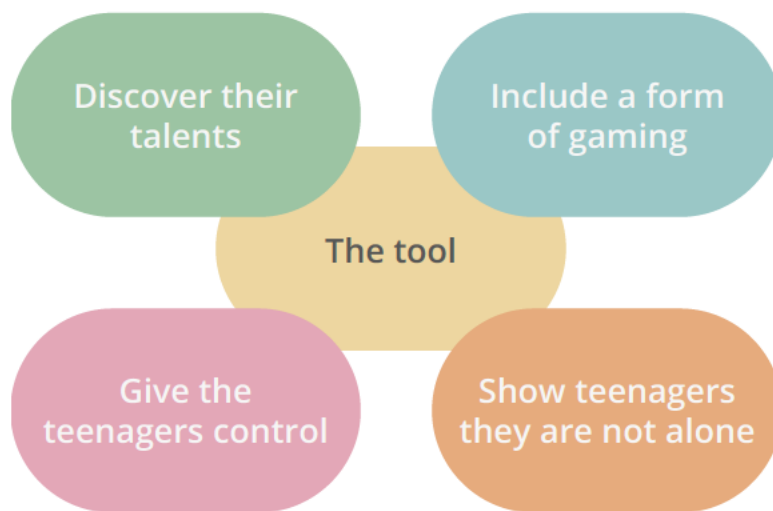


Figure 4.6a: The cornerstones of the thesis

bases these talents on the talents described by Luk Dewulf. The tool will aim to help teenagers reflect on themselves differently. So that they can look at themselves in terms of their talents rather than achievements. Furthermore, knowing your strength and weaknesses will help the teenagers in learning tactics to overcome their weaknesses.

Furthermore, by helping teenagers discover their talents, it helps them in figuring out what sort of courses and studies fits their talents, interests and passion. The idea is that when the teenagers talk to their mentor or coach about choosing courses, this is focused on their talents rather than grades. In doing so it shifts the focus away from the performance culture.

4.6.2 SHOW THAT EVERYONE HAS VALUABLE TALENTS

It is important for the teenagers and environment to show that everyone has talents. Additionally, it is important that the talents are shown as equally valuable. Contrary to the valuing of courses and jobs (section 4.3.1.3).

4.6.3 THE TEENAGERS SHOULD NOT FEEL ALONE

The teenagers should talk with each other as well as the mentor. This way they learn that they are not the only ones with certain talents. The talents described by Dewulf, the talents are influenced by the way people think. Knowing the different talents from each other also shows how people think differently.

When teenagers know they are not the only one, the stigma surrounding problems will be lessened (section 4.3.1.1). The lessened stigma and knowing teenagers are not alone will improve the environment, opening it to teenagers seeking help.

The openness furthermore offers teenagers the space to learn tools and skills that can help them even if, at that moment, they are feeling okay.

4.6.4 YOU DON'T HAVE ALL THE TALENTS

The tool should be realistic towards the teenagers. It should not act like everything is perfect. There are talents the teenagers do not have and that is okay. Instead of feeling down because they do not have all the talents, the tool should show that it offers the opportunity to help each other and learn. The openness expressed in the last paragraph should help in this.

4.6.5 THE MAGIC CIRCLE OF GAMES

The tool will use the power of gaming and gamification. Explained in section 4.3.3.2 gamification and the self determination theory will help the teenagers engage in this topic. Looking at yourself and determining your talents can be difficult or even daunting. Because the tool uses games it creates a safe space and the intensity is lessened.

4.6.6 PREFERABLY: INCLUDING THE ENVIRONMENT

The goal of the tool is not only to change the view of teenager on themselves. The goal is to help create an environment in which the teenagers can express their insecurities. That the environment learns to look at the teenagers beyond their grades. Therefore, the tool should find a way to include not only the teenagers individually, but the environment, preferably the teachers and mentors, as well.

4.6.7 PREFERABLY: PROBLEM SOLVING AND A SENSE OF CONTROL

Gray expressed why the disappearance of free and social play negatively influenced the teenagers (section 4.3.1.4). Preferably, the tool will offer the teenagers what free play normally does. Thus the tool can offer the teenagers a sense of control, for example in how they execute parts of the tool, and a sense of problem solving. This is in line with the teenagers need for a sense of control and sense of responsibility and to be taken seriously.

4.6.8 CHOICES THAT ARE MADE

Based on the research choices have been made that are taken into account during the first phase of concept generation in the next chapter.

- The tool will be used in third grade of HAVO or VWO.
In this grade, the teenagers need to choose which courses. This is thus a moment of uncertainty during which they often seek guidance.
For teenagers to know which talents they have can help them during this moment of choice, knowing which courses and study fit with their talents.
Creating a tool for this situation offers a clear function and goal for the school to use the tool in. Schools already offer guidance and courses around. The tool will thus not add more load on the schools.
- The tool will involve physical movement and interaction
Tools for preventing depression or exploring yourself and your talents are currently not including movement and the physical body. This is thus a new perspective on the problem based on the fact that the physical body and physiological body do interact (section 4.3.2).

5. Concept Development

The last chapter described the theories and knowledge gained during the project. This chapter describes how these theories and ideas were formed to first design. Although these first designs did not all make it to a final design stage, parts of them did and parts showed what the design should not be. This chapter explains five of the early designs briefly. With the first ideas and the knowledge from the last chapter, three groups of teens were contacted to test those theories against. Based on these three sessions, the idea for the final design formed. The concept and design are described in the next chapter

5.1 Ideas based on theory

Various ideas are presented that were based on theories or insights of the research phase. Some are more direct translations whilst others are interpretation or derived from the insights. The ideas explore different ways of using your body and using game and story elements. The designs furthermore, explores how direct or indirect the talents are discovered. Each idea includes:

- The angle that was taken to generate the idea.
- A description of the idea.
- A comparison to the goals established in chapter 4 section 4.6.
- The part, if any, that is tested in the next section.

Those goals were:

1. Discover your talents
2. Show that everyone has valuable talents
3. Teenagers should not feel alone
4. You don't have all the talents
5. Magic of games
6. Preferably: Include the environment
7. Preferably: Problem solving and a sense of control

Different Self

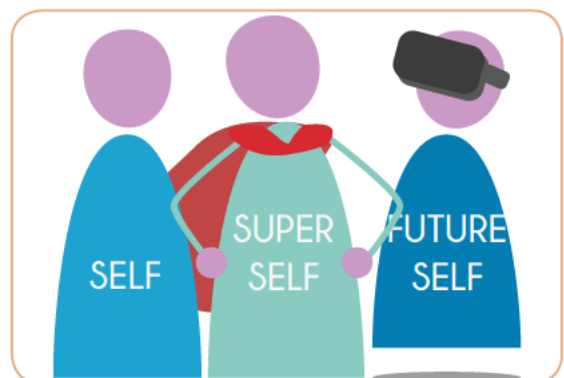
The focus on talents aims to let teenagers look at themselves differently. So that they reflect and value themselves based on who they are. This idea aims to start this reflection. Let the teens reflect on themselves differently and offer them the confidence to do so.

This idea asks teenagers to describe themselves, describe who they would want to be, a super self, and who they realistically will become, their future self.

The tool lets the teenagers practice in describing and discovering themselves. The tool guides them in assigning talents and skill to themselves and encourages them to help others.

1. This is most prominent in this idea, the teenager discover and assign the talents themselves
2. The tool will show how the talents can be used and why they are talents.
3. Because the tool has talents stored, teens will not think they are alone, otherwise the tool wouldn't know about the talent, the tool can also give examples of others with these talents.
4. The tool does show other talents they will not assign to themselves. This is where the tool encourages the teenagers to seek help by others.
5. Although the tool creates a safe space in the sense that they do it individually, it does not use games or gamification.
6. The environment is only included if the teenagers do talk with each other based on the encouragement or they themselves involve others.
7. There is no problem solving in this tool, there is a sense of control because they can assign their talents themselves and have control over when they want to find more information.

A: Are the teenagers able to assign talents or challenges to themselves?



Day of Choice

This idea explores a possibility of using Dungeons and Dragons in schools. The game, as described in section 4.3.3.2 of the last chapter, is known to help teenagers develop their social skills. In this idea it aims to help teenagers see the use of different talents as well as creating a safe space through game and alter egos. This version does not have the same stats and skills as the original game but would be an adapted version.

The whole school will spend a day role playing. The teachers offer different tables with different roles and the students can explore the world as they wish. They can join different tables and choose different adventures throughout the day. The players each have their app that records their character progression and story. At the end of the day, the students have written their own stories and can read those of others.

The day mixes students from different ages and classes. They will join together in adventures. Some adventures will include topics that they might struggle with (for example losing someone) so that they can try them out and see how others deal with them.



1. The tool will have a character generation in which they will put their own talents, during the game itself they can discover additional talents they have.
2. The game D&D itself lends itself well to showing how different talents are useful in different scenarios.
3. The game is played together, they can learn from each other and meet other people with the same ideas and/or talents.
4. No character has all the talents, you need each other to fulfil the quest or task.
5. The tool uses a game and characters to create the safe space.
6. Both teachers and students from the whole school is involved.
7. The teenagers will have control over their character, their actions and which games they will join. The game itself promotes creative problem solving as well.

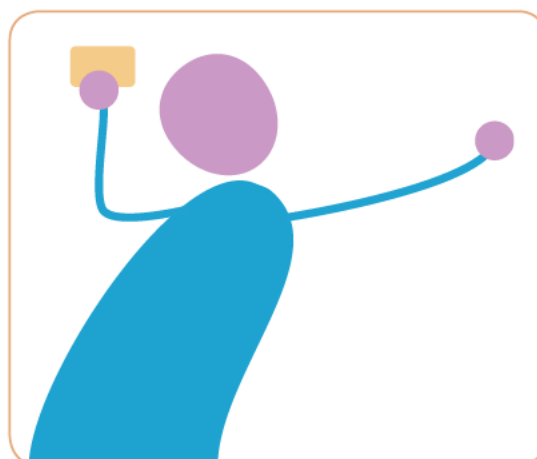
Try to Win

This idea focuses on the idea of letting teenagers experience failing in a safe environment. The idea encourages the teenagers to use their whole body.

During the game the players are encouraged to try something they might have never done before. The players pull prompt card. The player will need to try and do the action after a count down from 5 to one. The player can do the prompt successfully and earn points or (purposely) fail and increase their bonus to earn more points in future rounds.

The game does not only encourage trying new things, but also awards failing. It offer an opportunity for the players to practice failing at something in front of a group.

The quick and easy nature of the game is in line with popular games such as 30 Seconds and Who's the man.



1. Other than knowing more of what sort of prompts you are able to learn which one you are able to do, but it has little to do with talents.
2. The game does show that different people can do different tasks.
3. The game is played in a group, it will show others do the tasks and maybe fail.
4. It does show that not everyone can do everything and that this is okay.
5. It is played in a quick and easy game to lighten the mood.
6. Although it is played in a group and teachers can join, the environment is not widely involved.
7. The teenagers can choose to purposefully fail and decide how they go about it but the control and problem solving is limited.

B: Are the teenagers open to acting silly and maybe fail in front of or with a group?

Your Game

Existing games and tools for dealing with feelings or trauma's often arise from people who have dealt with such issues themselves. A collection of such games can be found in Appendix D. Using this idea, the teens could be helped by going through the design process itself rather than a game or using a tool.

The idea is that the teenagers get a tool-kit with which they will develop their own game over the course of a couple of lessons. One of the lessons will explore different questions surrounding the game. The other lessons give time and space to make the game and test the game with each other.

The questions that precede the making of the game will in actuality ask the teenagers questions about themselves. They will have to ask what the theme is. What the goal of the game is and how it would help. They will also dive into what they would want and why. This offers teachers insight in those needs of their students.

1. The tool involves the teenagers using their talents although there is no focus on the talents.
2. By creating their games they use their valuable talents, although they need to be told this later on.
3. The game is later on played with a group and the game could be created in a group.
4. During the creation of the game, the teenagers would need help, they cannot do everything themselves.
5. The whole thing is surrounded of games. Although the tool encourages teenagers to think about themselves and their talents, it does so while camouflaging it in a game project.
6. The tool is used and the game is made during classes which are facilitated by the teacher. However in making the game, the teachers are only involved when they are asked for help.
7. The teenagers do have control in creating the game and use problem solving skills and creative thinking while developing the game.



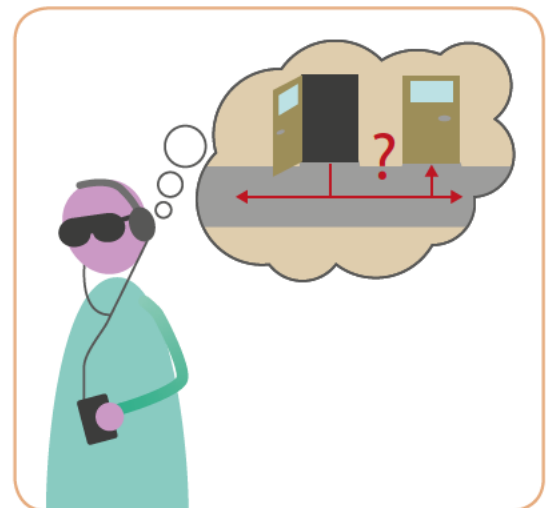
Radio Play

With meditation people often try to focus on other senses and let their minds go free. The idea incorporates the body and senses, the need for control and choices as well as showing the different talents of different people which each have their own strengths.

In this game, the teenagers will have headphones and a blindfold on in class. Through the headphones they will be guided through a radio play in which they can make several choices. The blindfold removes the distraction of sight. Not only will this help them focus on the story, it also ensures that no one will be able to see what they answer. It offers a sense of safety in that regard.

The story of the radio play follows one of two characters who gets out of a hotel. The two different characters are offered different choices. Although no choice is wrong, some choices are better than others based on the character's strengths.

1. The teenagers do not discover their own talents but through the game discover more about talents in general which they can recognize in themselves.
2. It shows how different talents can solve a problem differently through the app.
3. The teenagers see recognisable moments in the game. In the end the users come together for the last part, talking about how others would solve it.
4. The story shows how people use their talents to their advantage instead of using talents they might not have.
5. It mostly uses the storytelling environment.
6. This idea is very isolated, although the last part is done with other teenagers. Teachers are not included other than that they might want to go through the story themselves.
7. There is a sense of control as the player controls the story, however the problem solving is not greatly involved as the different options are predetermined.



C: Are the teenagers open to such storytelling? Isn't it too childish?

5.2 *Back to the teenagers*

The ideas brought up three main questions:

Are teenagers able to assign talents or challenges to themselves?

Are teenagers open to act a bit silly and maybe fail in front of others?

Are teenagers open to a tool that uses storytelling or is this too childish?

I believe it important to test the assumptions and ideas with the target group themselves. The age group of 14 to 16 is difficult to describe for someone who is not in the same age group. The brain is in development and even thinking back to your own teenage years, will not work. The way you think has changed. On top of that, the world of teenagers has changed drastically over time. The session confirmed if the theories were accurate. It also helped getting a better grasp on what the teenagers understood or how they described certain aspects themselves. The test is done in three session with teenagers of the third grade. Two of these session were done at school, one was done with teenagers in an art class. Appendix E has the full test written down. The second test tested a new concept (described on the next page).

5.2.1 *SESSION SETUP*

Two of the sessions were done with a group teenagers, at school (15 teenagers, 9 from HAVO, 6 from VWO). The third session was done during an art class (8 teens). The first two session had a similar session plan, which is described below. The third session was an interview with the whole group (around one big table). I used art and clay as starting points for questions and metaphors. During the three sessions, the teenagers also conversed about school life and what was happening, such as tests. Observing these conversations gave insight and confirmation on how the grades and test influence the teenagers.

Both sessions began with a warming up based on the “Try to Win” idea. The teenagers pulled a card and were asked to do the activity on the card within five seconds. During one of the sessions the teens were asked do to this individually. During the other, the whole group did the task at the same time. This clearly showed that the teens were more comfortable when they were not the only one “acting silly” (figure 5.2a).

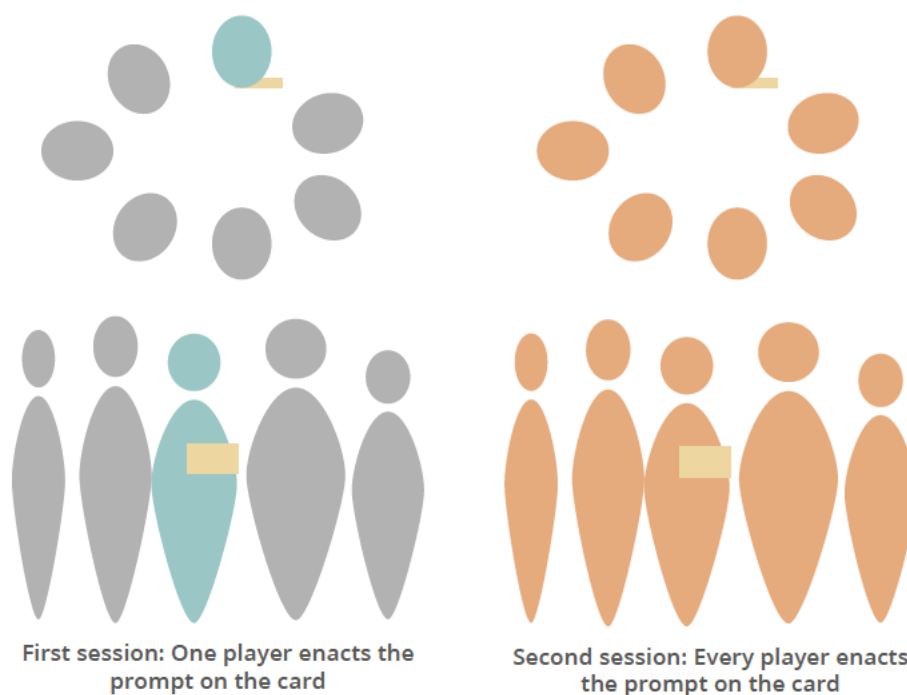


Figure 5.2a: The first session one teenager acted out the card, in the second session the whole group acted out the prompt.

To the King

The six players play as themselves in a medieval town. All the players know each other. The king of the world has send a letter to the town asking specifically these six players to bring an important chest to the castle. He urges them to do it as quickly as possible. However, the chest is fragile and is not supposed to get wet. It must be carried.

GAME PLAY

After the facilitator sets the scene, the six players get the option to choose between two versions of an event. The two events are different but go over a similar situation. The facilitator then reads the chosen event and the four possible reaction of which the players can choose. There are always four options.

After the facilitator reads the event and options, the players choose their option. Based on which option they choose they receive 0 to 2 chips of a certain colour. After this the group discusses the different options and when necessary need to choose one option as a group.

During the game one of the players is asked to carry the "chest" they are to deliver to the king. The player that is carrying the chest cannot place it on the table and has to actively carry it. The chest can be switched between the players.

The events go over different scenarios, like doing a favour, doing something that jeopardises the mission and creative problem solving. At the end of the events, the players reach the castle. The "king" then explains why these players were chosen by giving saying the talents they saw in each of them.

THE GAME ELEMENTS:

The players have choices, not only with their voting cards, which they use to answer the questions but also by which event they want to do. This also introduces an element of chance. The combination with the social aspect makes no two playthroughs the same.

The game uses the element of storytelling to encompass the questions and mechanics. The events are starting points and offer an element of free play. They encourage the players to built upon the set scenario and make the story their own.

All the players work together, not one is better than the other.

The players all constantly have something to do, they do not need to wait for their turn.

Based on the colours of the chips the players collect, their talents are gathered.

The active element helps the teenagers get out of their head. The talents can naturally surface during this event.

THE FACILITATOR

The facilitator has the role of setting the scene and reading the events.

The facilitator also has or can make up additional information the players might require.

More importantly however, the facilitator uses the discussion and activities to observe the players and assign additional chips to them.

EXAMPLE EVENT

The group gets to a river which is too cold and strong to swim. The bridge broke down, now what?

- The players now physically have to move over a space on the floor that is 3 meters wide.
- During the test, the players used chairs that they said would be rocks they throw into the river. One of the players asked if those rocks would not be too heavy for them to lift. The players themselves then argued that they would be able to if they worked together and thus could use it to cross the river.
- The players showed different talents. A leader who clearly took the lead in what has to be done. Someone who questions the possibilities of the solution. Someone who came up with new solutions. Someone who tried out different things on the side and someone who helped others get over the stones.

The other events barely changed over the course and Appendix K shows the final events of the concept.

PRO:

Show that all talents are important.

Offer teenagers the freedom of choice and sense of control.

By showing what they choose they can see similarities with what others chose, they are not alone.

The teenagers do not have to assign talents to themselves.

Storytelling is a powerful method to evoke emotions and capture people attention.

Give every player a moment of importance when the King gives them their talent.

CON:

The facilitator role can be complicated and needs additional help.

The game does show the talents in a group when a teenager is shy they might show their talents less.

These cons are addressed in the next chapter.

After the introduction the teenagers were asked to write down talents, challenges and dreams (figure 5.2b). The first session asked the teens to write down their own talents and challenges from their own. However, this proved to be difficult. Therefore, during the second session, we talked about talents at first and the teenagers were asked to talk about talents in general. The teenagers were also asked to write down their interpretation of Dewulf's talents.

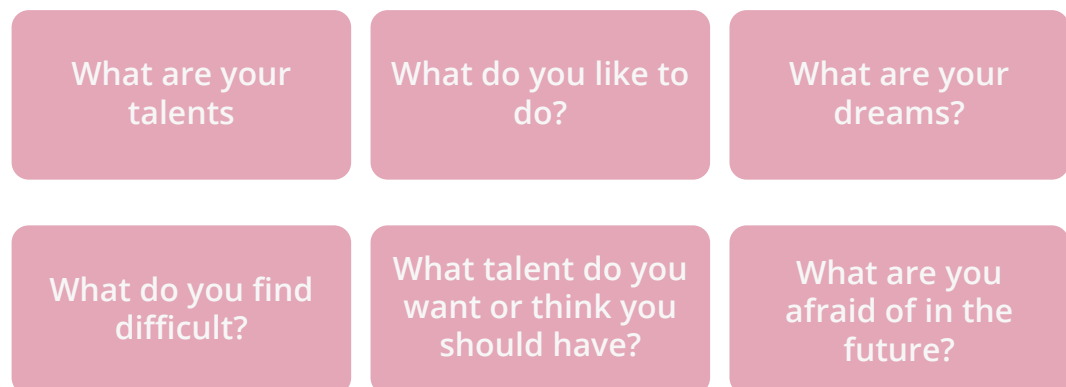


Figure 5.2b: Questions the teenagers were asked, the first session was more personal where the second session asked the teenagers to write down talents in general.

Lastly, the teenagers tested a version of the game. The first session tested the radio play game while the second group tested the game explained on the next page. The first session used the radio play to see how teenagers would react to storytelling and making choices. The second session tested the first concept to see if it worked and was appealing to play in a group.

5.3 Takeaways

The teenagers have trouble writing down which talents they have. Even when talents are given they have trouble assigning them to themselves. The developed concept helps the teenagers in doing this. In the end the teenagers expressed that the talents that were given to them at the end of the game were recognisable for themselves. Giving the talents to the teenagers needs to be accompanied with examples and explanation of what the talents mean to be understood and see the connection with themselves.

The different style of events were initially included in the game to test which did or did not work. For example the active event and the "forced" failure event. During the test it became clear that the different events all gave different and valuable information about the players. The combination of the different events made that the different sides of the teenagers surfaced. Thus the choice was made to include the different events in the final game as well.

During the first test of the final concept idea, the enthusiasm of the teenagers for the game was clearly shown. They expressed that they liked the fact that they could make choices and be active during the game. Facilitating the game showed how well the talents become visible during the discussion about the scenarios and the activity. However, the facilitator needs to be aided in being able to spot these when they are not as invested in the talents as I currently am. The facilitator will also be helped by providing options of extra information when the players ask for it. Although the facilitator would be free to make up their answers on the spot. This is not easy for everyone.

At the start of the game it is important to make clear that the teenagers cannot give the wrong answers during the game or that one answer is better than the other. Therefore, each player will need to receive the same amount of chips at the end.

- The teenagers are less invested when it is not their turn,
- Teenagers have trouble writing down their talents.
- Teenagers write down talents as activities.
- Teenagers interpret talents literal
- Teenagers can better understand talents and words better when metaphors and examples are used.
- Teenagers need something practical and functional, a spiritual or vague connection is not enough.
- Teenagers want to know what they can expect.
- Teenagers want to know if they can do anything wrong.
- The instructions should be in Dutch and easy to



- understand
- When teenagers are more self conscious this is also shown in the answers or lack there of that they give.
- Teenagers can emerge themselves in the story.
- Teenagers are able to build upon given scenarios.
- Teenagers like the added activity.
- Teenagers like to have the option of choice.
- Teenagers take earlier answers into account.
- Any sort of points or chips given are seen as points.
- The game works best when players are comfortable
- During the discussion and activity the facilitator can see different talents of the players.
- The facilitator should be guided and helped in facilitating and observing the players.

5.4 *Next step*

Although the game can replace the questionnaires people normally use to discover their talents, it does not address that people often do not make use of the results of such a questionnaire. To make full use of knowing your talents you need to be aware of them and use them. Using your talents can help you get into the flow. Knowing what the talents are is often not enough, what does help is realizing when you are using them and thus when you can get into the flow. Therefore the game needs a tool to follow up on the talents. The conversation with the coach will not be enough to integrate it in and connect it with their lives.

Realizing when in their normal life they use their talents can help them actually find the moments and activities that allow them to be in the flow. This will further help in finding what helps and suits them. So there needs to be something that you get from the game that helps you extend this knowledge of talent into their everyday life. That is where the amulet described in the next chapter comes into play.

6. Concept

This chapter discusses the designed tool. It first makes a recap on the theories and insights gathered during the research phase and the first target group test. It then explains the focus of the tool. During I discuss how the game helps the teenagers discover their talents. I then go in further detail of the amulet that helps extend the guidance and awareness creation of the tool beyond the initial discovery. The embodiment of the design is briefly discussed as the final design will result in some alterations. A further embodiment and development plan can be found in the recommendations chapter (7). This chapter ends with the prototype that was made and hypotheses for the evaluation phase discussed in the next chapter.

6.1 Foundation

The design made during this project is based on the research done in chapter 4. This section repeats the theories that form the foundation of the design. The insights from the test with the teenagers from the last chapter are included as well.

6.1.1 THEORY

As explained in chapter 4 section 4.6.1, the main theories used during this project are that of Luk Dewulf with his talents and Peter Gray with his theory on the importance of (free) play. The tool described in this section uses the free play to motivate teenagers to use the tool. By giving the teenagers a form of control in using the tool, it aims to make the teenagers more invested in using the tool.

The talents of Luk Dewulf form a basis of the talents that are discovered by the tool. It uses this to help teenagers look at themselves differently and more positively. The tool offers a clear and practical outcome. This is done so that the teenagers have a practical outcome they can use, but the school as well. By offering this practical display of talents the teenagers have, the school can more easily use this. This is done in an attempt to make future implementation easier. Offering something that is different but still recognisable.

The tool focuses on 4 talent combinations that are derived from Dewulf's talents. These two combinations are:

Group responsibility – Individual responsibility

Intuition, gut feeling – Analysing, deliberate decisions or no decisions

Leader, overview – Follow, flexible

Taking action – Taking a step back, calm

More explanation on why these four combinations are chosen is described in Appendix J.

Other theory and literatures used in this tool are:

- Replacing questionnaires with an adventure.
- Offering a “thinking” period of 5 seconds to prevent over thinking.
- Including free play.

6.1.2 INSIGHTS

Not only theory is used during the development of the game. The feedback and opinions of the teenagers remain to be a significant part of the design process. Based on the three test sessions described in chapter 5, the following things are taken into account:

- The teenagers all need to receive the same amount of anything.
- The teenagers describe their own talents as activities.
- The teenagers understand talents better when metaphors and examples are used.
- The teenagers focus better if they constantly have something to do.

6.2 Focus

The goal of the tool is thus to help teenagers discover their talents and talk about those with their teachers and/or mentors. This section explains how the teenagers will discover their talents through a game. The game uses the theory of free and social play.

6.2.2 DISCOVER TALENTS

The teenagers discover their talents through playing a story based game with four events. In the game the teenagers, or players, find themselves in medieval times of King Strander (fiction) They are tasked to deliver a chest to the king. The players are facilitated by a facilitator, their mentor, who sets the scene and tracks the players' talents.

On the journey from their city to the castle there are four events that take place. Each event, the players choose one from two events. The facilitator reads the event out loud and offers four reactions. The players then get five second to chose which reaction fits their own feelings best. None of the reaction options are better than others. The facilitator then tracks the "talentpoints" associated with the choices.

The players then discuss on how they would as a group move forward. They can do this in any way they like, offering a moment of free play. During this time of discussion the facilitator can ask follow up questions, answer questions from the teenagers but most importantly observes the players. They use this time to make notes about how the teenagers interact and what talents they show. Figure 6.2a shows these events. Each event has their own theme. Appendix L explains the themes in more detail.

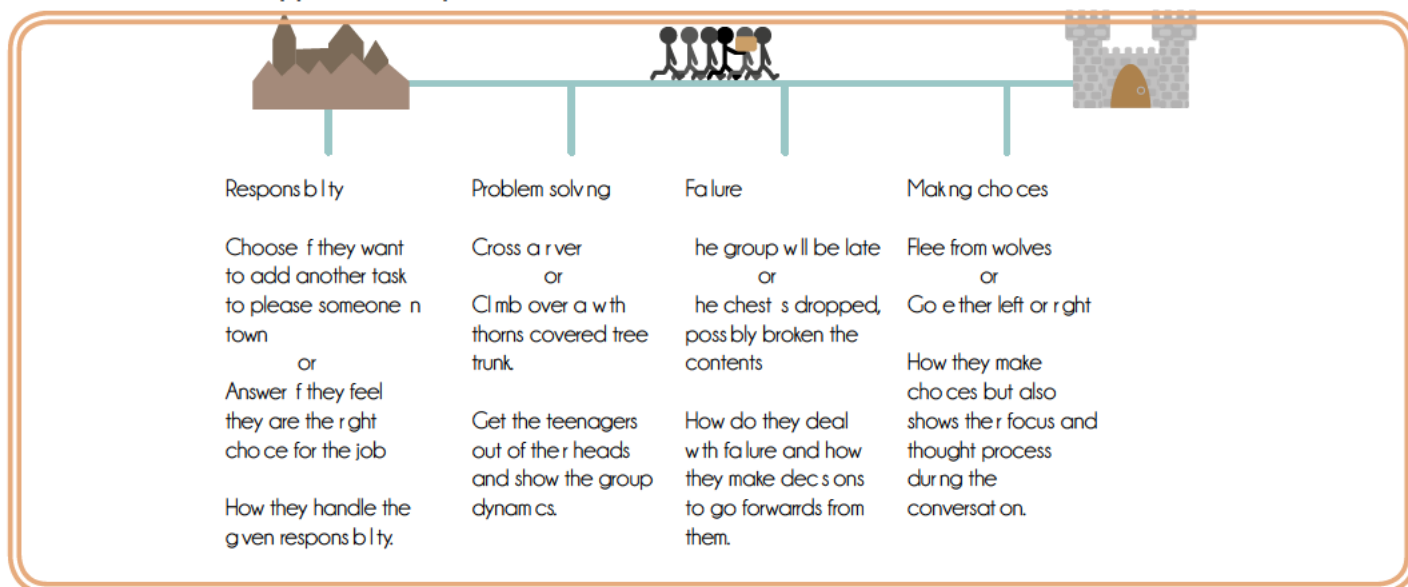


Figure 6.2a: The four events of the game between the town and the castle. Each event has their own theme.

At the end of the game the facilitator, as the king, thanks the players for completing the task. The players are always able to complete the task. The king offers his gratitude and explains why they chose these six people to complete the task. He does this based on the talents of the teenagers. He appreciates each of them and explains how each talent is important. The teenagers then receive a card on which their talents were tracked (figure 6.2b). During this time it is important that the facilitator explains that this is what they observed and the teenagers are free to interpret in their own way.

The chest is a physical prop they need to carry during the game. In it is the amulet the players receive in the end a perfume bottle and some love letters (figure 6.2c). The chest immerses the players more in the game.

NAAM _____

Verantwoordelijk groep

Verantwoordelijk individu

Analyseren voor keuzes maken

Keuzes maken op gevoel

Volgen en flexibel

Leiden en orde

Relax en afwachten

Actie en proberen

Extra opmerkingen en notities

Talent(en):

Figure 6.2b: The talent cards the teenagers receive after the game. It includes the amount of times they showed certain talents as well as notes and remarks from the facilitator. They can write their own talents on the cards as well.



Figure 6.2c: The chest they players are tasked to bring to the King. Between games, the chest functions as the storage box of the tool.

6.2.3 CONVERSATION WITH THE MENTOR

After a week, the teenagers have a conversation with their mentor based on their talents. During this conversation, the teenagers are encouraged to express how they use their talents in their everyday life. For example how they use the talents during classes. The goal of this conversation is for the teenagers and mentor to talk about how the teenager works and thinks rather than the numbers on their report card. By doing this, the conversation about what fits the teenagers is broadened. It furthermore helps the teenager explore what kind of activities and tasks they prefer.

The tool introduces a physical element. This element offers guidance during the conversation. In doing so, it helps increase the impact and effectiveness of the conversation. The product, an amulet, uses cognitive offloading. The user can briefly interact with the amulet, by touching it, whenever they use their talents.

The next section explains the design and functions of the amulet. Instead of the teenager needing to remember everything themselves, they can reverence back to the amulet and application. Furthermore, the physical attribute of the amulet and physical action of touching it will help the students to strengthen their awareness of their talents.

6.3 Design

This section describes the design of the amulet. It explains why the amulet is made a physical object combined with an application. The next section goes in further detail over the physical attributes of the design.

6.3.1 GROWING MORE AWARE OF THEIR TALENTS

The tool aims to not only help teenagers discover their talents, but become more aware of them as well. Therefore, the tool extends its interaction time beyond the game itself. The tool helps to nestle the talents in the teens everyday life. In doing so, it aims to help them get more confidence in their talents and more experienced in recognizing and using them. With this knowledge they can then better discuss with their mentor what sort of activities, tasks and courses fit their talents.

The teenagers use their talents during activities and tasks. According to Dewulf, when you use your talents you get into a flow. You might not experience time anymore and are fully focussed on the task at hand. Even though the tool aims to make teenagers more aware of those moments, it does not want to impose a distraction. The tool therefore uses a quick method of cognitive offloading. The teenagers can recognize they use their talents, touch the amulet and continue their work. After they have finished, the amulet will have send a notification to their phones. The phone can then ask which talent they used. The amulet thus quickly records the use of talents and offers a way to help teenagers remember their talents and when they use them.

6.3.2 THE PHYSICALITY OF THE AMULET

The tool involves the physical body in the process. In chapter 4 the connection between the physical body and physiological self has already been discussed by DeMorgan, Robbins and Schwartz. Making the amulet a physical object incorporates those notions. Because the physical body influences the physiological self (Choi & Chun, 2007), it is important to be aware of the surface of the amulet. We people are influenced by what we touch. In general, soft and smooth surfaces create more happy and positive feelings than rough surfaces (Iosifyan & Korolkova, 2019). The amulet thus has smooth surfaces, we want the talents to be associated with positive feelings.

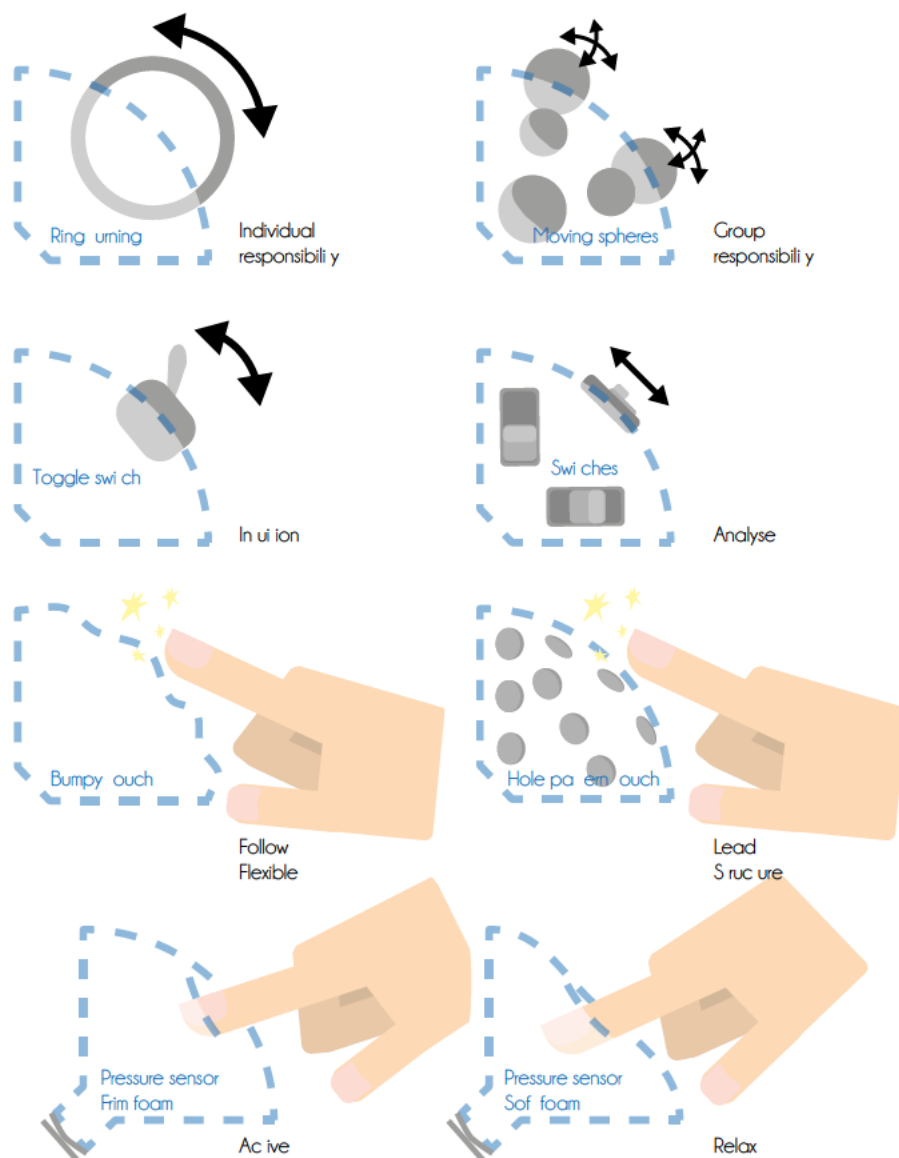


Figure 6.3c: Sensors based on the different talents, later this is simplified to one touch sensor.

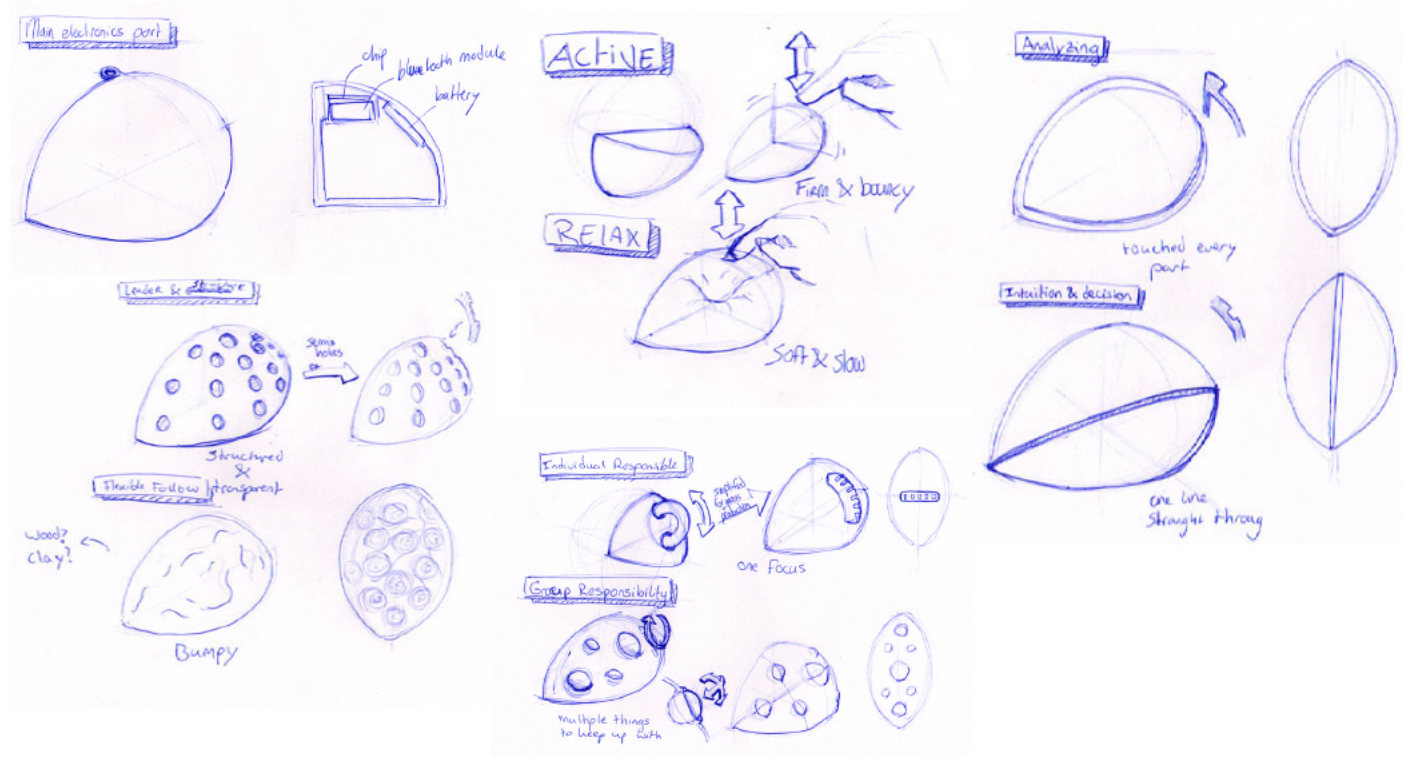


Figure 6.3d: Sketches of the different talent quarters of the amulet.

6.4 Embodiment

Based on the concept, the design is further explored and detailed. The choices for the different elements is described in this section.

6.4.1 THE DIFFERENT TALENTS REPRESENTED

First of all, the look and feel of the amulet is finalized. The amulet is chosen to be made from four different components. Three of the components are representations of the talents and the last component is a plain quarter sphere which will contain the electronics in the end. Figure 6.4a – 6.4i show the different components of the amulet and the corresponding talents. The teenagers can build their own talent sphere, or amulet. They do so based on the talents they received from the king. Alternatively they can choose based on their own vision on which talent best suits them. In doing so they are consciously thinking about their talents. Furthermore, they will be reminded of their talents every time they use the amulet later on.

The representation of the various talents on the quarters is done based on metaphors. This choice is made after the initial tests where the teenagers showed they mostly use metaphors and examples to describe talents. The amulet aims to make the talents less abstract.

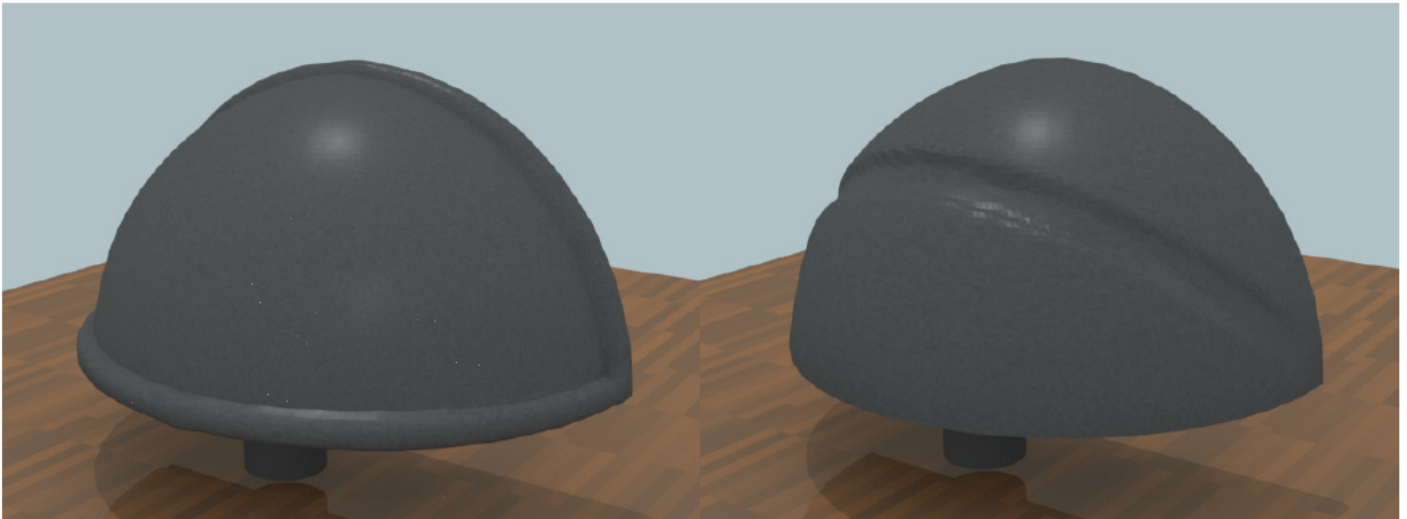


Figure 6.4a: The analyse quarter represents a surface that is been fully explored, no part is left untouched.

Figure 6.4b: The intuition quarter represents a clear choice, through the middle.

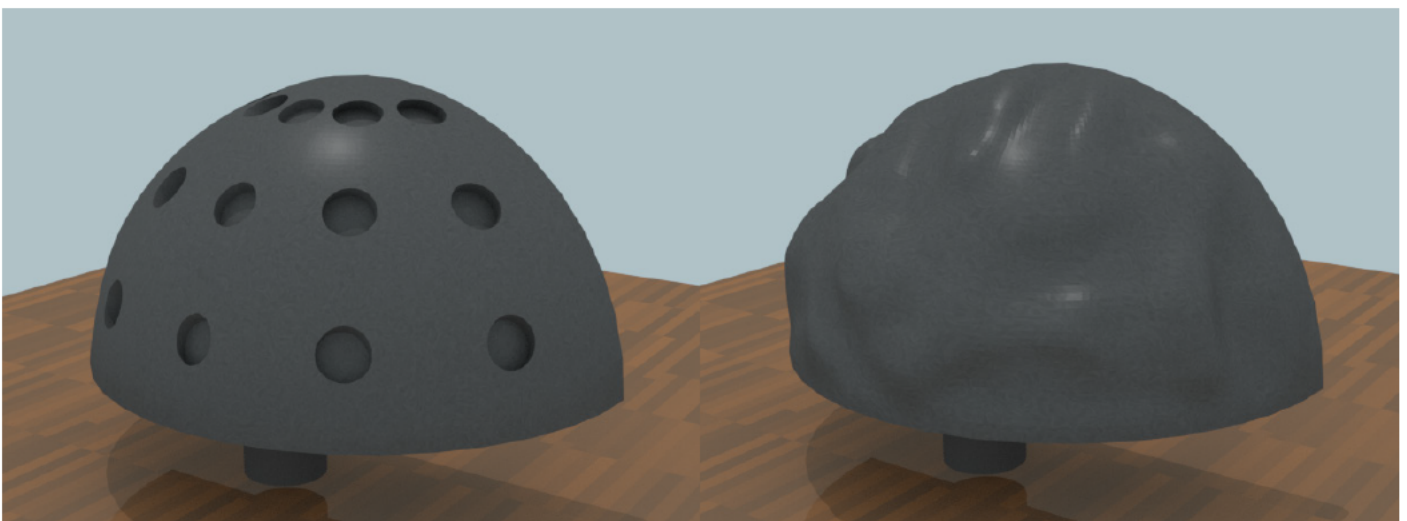


Figure 6.4c: The leader and structure quarter represents a pattern of holes that show everything and makes the amulet transparent.

Figure 6.4d: The flexible and following quarter shows bumps and movement, to represent the ease of movement of those with this talent. Going wherever they need to go.

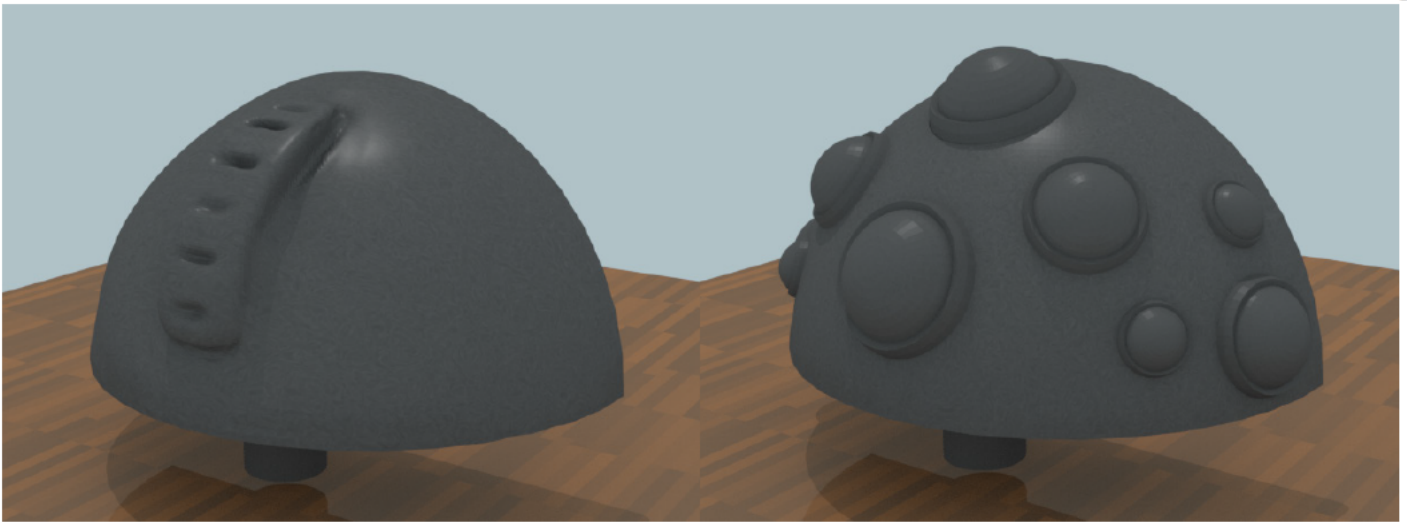


Figure 6.4e: The individual responsibility shows the one focus, the rad that should keep turning before it can help others move. Figure 6.4f: The group responsibility shows the different objects that are juggled by people with this talent.

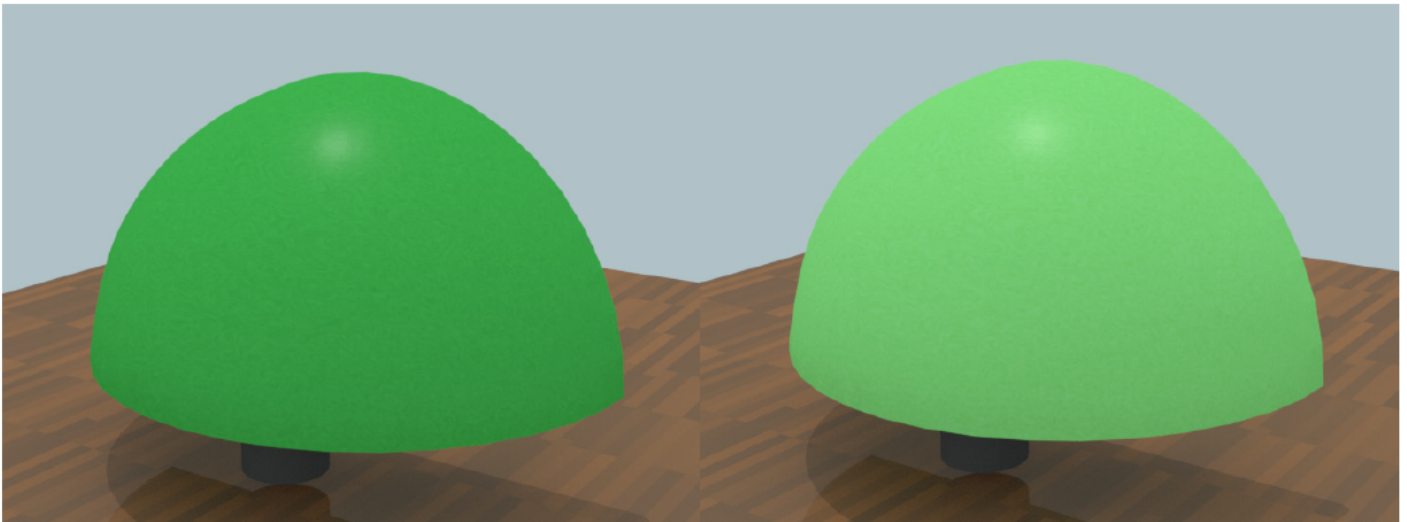


Figure 6.4g: These two talents do not really show their talent, they are felt by squeezing them. The active quarter is bouncy and immediately ready for a next squeeze while the relax quarter takes its time to return to the original position.

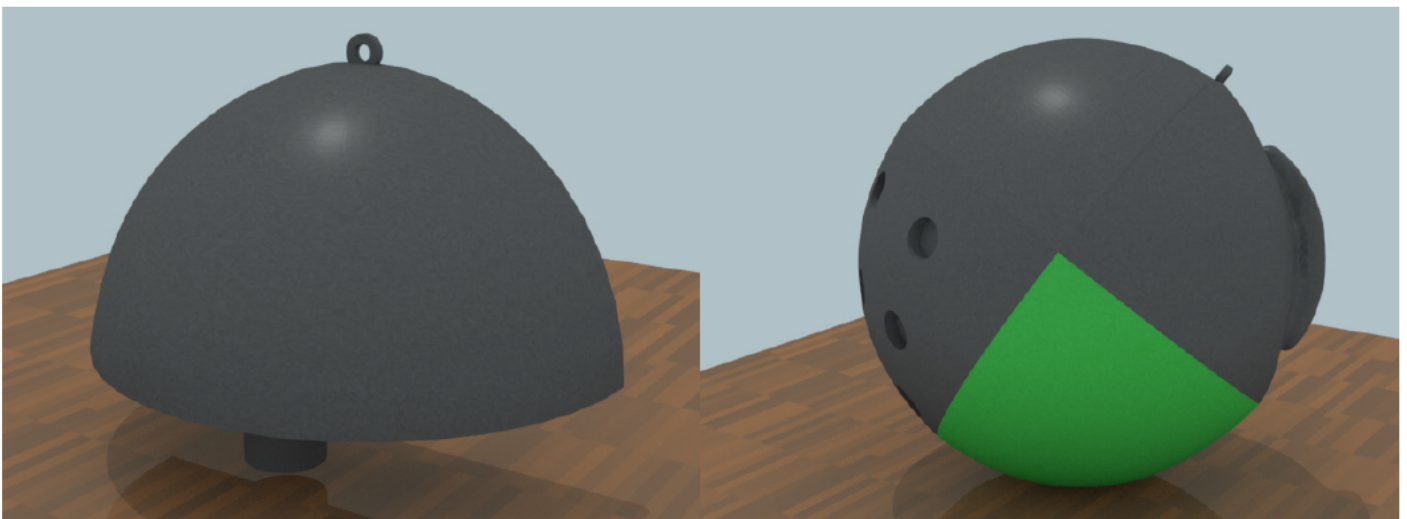


Figure 6.4h: This is the main quarter which houses the electronic components. It also includes a hole through which a string can be attached to attach the amulet somewhere.

Figure 6.4i: This is an example of a combined amulet.

6.4.2 THE TECHNOLOGY OF THE AMULET

After some reconsideration, the choice was made to make the interactions with all the different talents the same. The reasons behind this decision are:

- There are more talents than are discovered, if teens are working with different talents, the amulet should encourage use, rather than discourage use.
- Rather than just touching the amulet, the interaction would require more time and attention to interact with the right talent.
- Generalizing the talent interactions between all the talents simplifies the production, assembly and electronics of the amulet.

The sensor used by the amulet is a touch sensor based on electric paint from bare conductive. This paint is non-toxic and can sense touch. Whenever the amulet is touched anywhere, the amulet sends a signal to the phone over Bluetooth. Figure 6.4j shows the schematic of the amulet.

Bluetooth was chosen as a communication module because nearly all phones nowadays have Bluetooth. The hypothesis is that the teenagers can connect with the Bluetooth from their phone and do not mind doing so as electronics such as headphones do this as well.

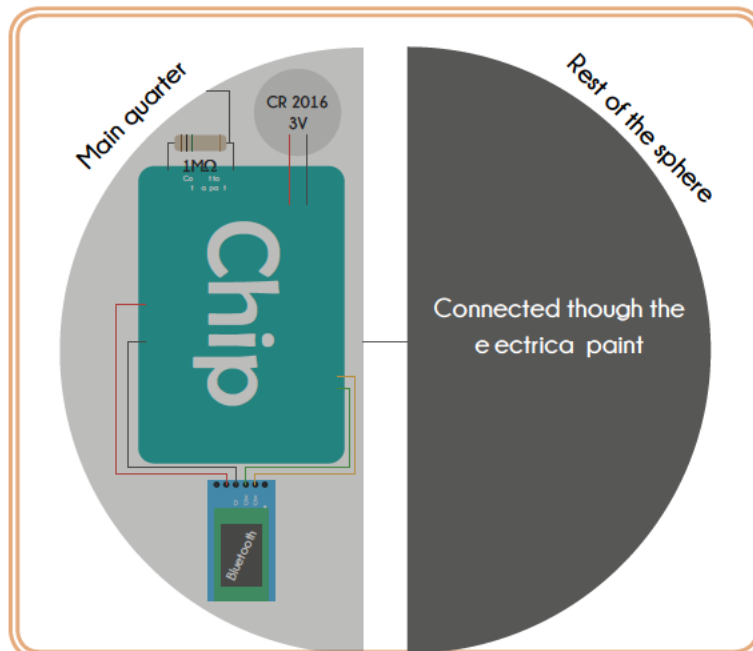


Figure 6.4j: A schematic of the electronics that are placed inside of the amulet. The modules are not in scale.

The amulet will be powered by a rechargeable cell battery, such as the LIR2450.

Figure 6.4k shows the electronic scheme and predicted battery usage of the amulet. The predicted usage is calculated in the worst case scenario where the Bluetooth module is always on.

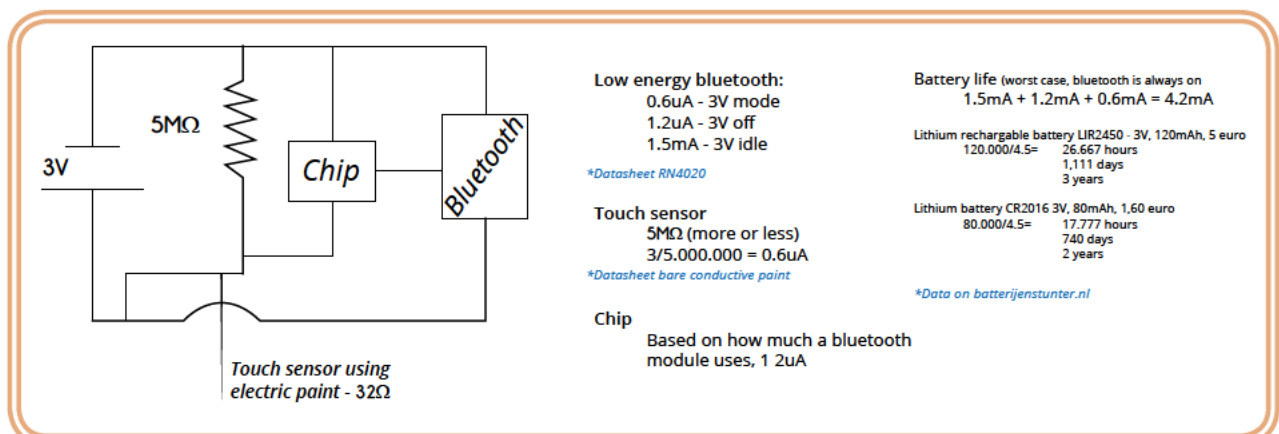


Figure 6.4k: Electronic schematic and calculation of battery life.

6.4.3 MATERIALISATION

The material chosen for this product is a injection mould-able plastic. Different materials for different talents was briefly considered. However, the main sphere quarter needs to be hollow in order for the electronics to fit. Additionally, it needs to be compatible with the Bluetooth signal that needs to come through. Wood would be a suitable solution, since it has a low interference with Bluetooth, similar to plastics. Unfortunately it is more difficult and expensive to hollow wood to hold the electronics. Furthermore, the amulet will be painted so the positive feelings associated with wood (Hollins et al, 1998) is not used.

Furthermore, the tool should be inexpensive. Schools do not exist to make profit and have a limited budget. In order for the tool to be as inexpensive as possible, the production cost should be as low as possible as well. By integrating the production of as many parts as possible together, the cost can be lowered. The talent quarters of the active and relax talent are still made of a different material, two different kinds of foam as described in figure 6.4g.

6.4.4 DIMENSIONS

As for the dimensions of the amulet, there are three things that were considered. First, the electronics would need to fit inside the amulet. Secondly, the amulet will be hold in hands. Other sphere objects that are hold in hands are evaluated. Thirdly, the amulet needs to be moved frequently. It should therefore be as small as possible to easily fit in bags.

Firstly, the biggest electronic components are the battery and the Bluetooth module. The Bluetooth module as a dimension of 19.5mm by 11.5mm (Mouser). The rechargeable cell battery has a diameter of 24.5mm. The quarter of the amulet which holds the amulet is 30 mm to comfortably fit the battery and room for the material thickness and a way to fit the battery to the amulet. The minimal diameter of the amulet would therefore be 60mm.

Table 6.4a shows the different diameters of different ball sizes. As shown, a standard size for stress balls is 63 mm and 70 mm. Both of these sizes were bought and tested to hold by various people (6 in total). Of those some people preferred the bigger one, others the smaller one. In the interest of the third consideration, the smaller, minimal size of the amulet is chose. Figure 6.4l shows a drawing of a plain version of the quarters with measurements.

Table 6.4a: Different sizes of regular balls hold in hands.

Ball	Size
Tennis	65-68mm*
Baseball	73-76mm*
Softball	97.1 mm*
Stress ball	60-70 mm**
juggling balls	60mm***

* Topend Sports - Sports ball size (diameter) comparison

** Bought stress balls at SoLow

*** Bol.com relaxdays 6 jongleerballen

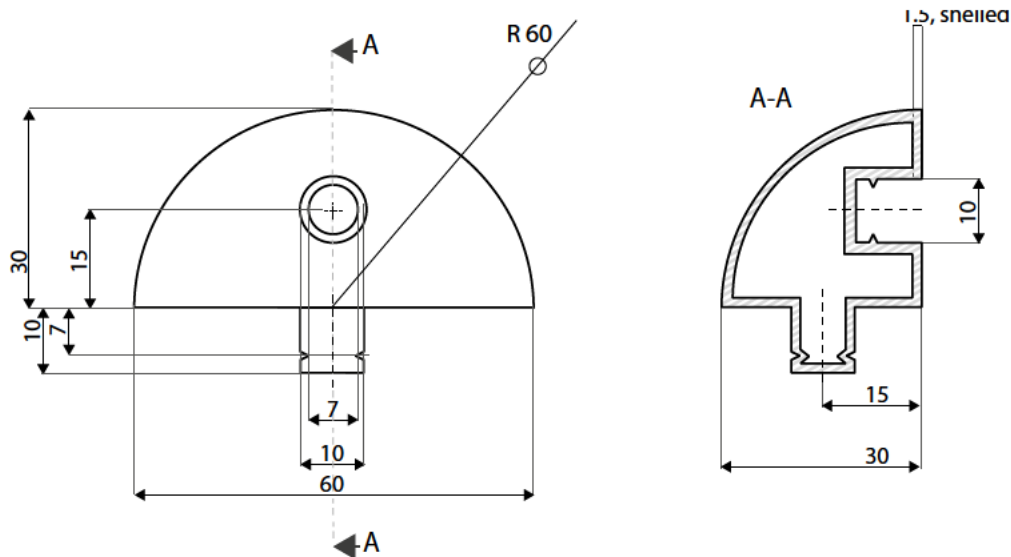


Figure 6.4: Drawing of a plain quarter with the intended sizes.

6.5 Prototype made

The next chapter evaluates the designed tool with its intended target group. This section shows the prototype made which is tested.

6.5.1 THE GAME

For the game, the basics of each scenario was written as well as the possible reactions and which talent points each reaction would give. Choice and event cards were made using printed cards and paper tape to make the cards sturdier. For the talent cards, illustrations of the final talent cards were printed on plain paper. The chest used in this setup is a wine chest. Figure 6.5a shows the printed game elements. Figure 6.2c already showed the chest prototype.

During the game, I as the facilitator, was able to build upon the scenarios if this was necessary or was able to improvise answers on questions from the players. These improvisation moments were written down. Every time a group asked something similar, similar answers were given. These notes and remarks are included in the print and play version offered to the schools that participated.

6.5.2 THE AMULET

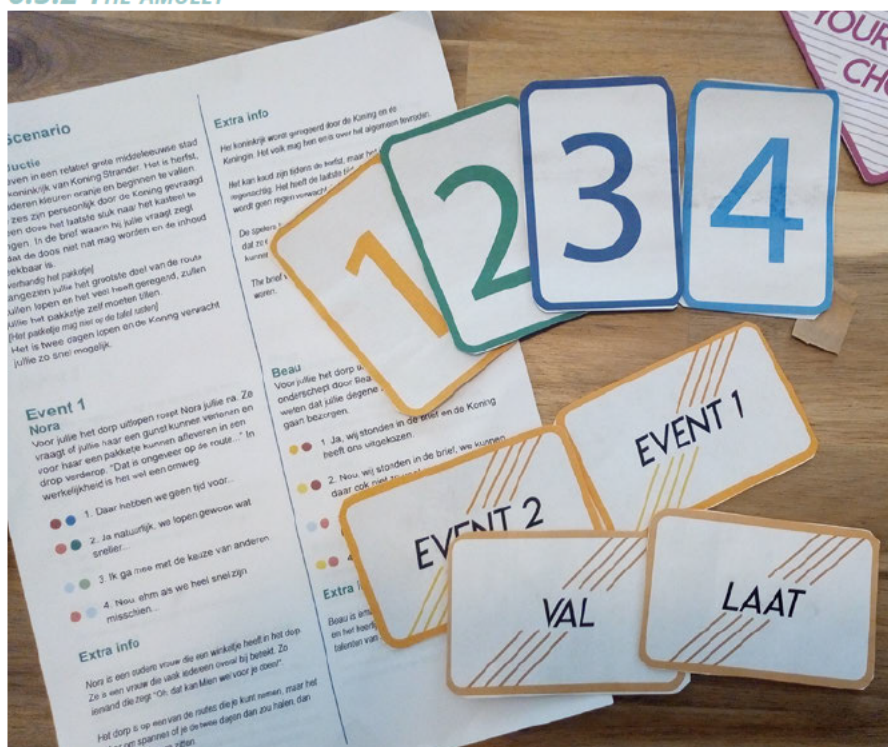


Figure 6.5a: The printed prototype of the game.

For the amulet, the prototype was made using SLA 3D printing. These prints were cured and sanded. Each of the quarters was printed twice. One of each amulet quarter was then painted with the conductive paint. This way, there was one full set of the amulet plain, and one full set painted with the electronic paint (figure 6.5b).

The “electronics” quarter of the painted amulet was then connected to an



Figure 6.5b: The printed prototype, on the left the one painted in conductive paint and connected to the arduino, on the right the different talent quarters unpainted.

Arduino via a wire to act as the Bluetooth module and processing power (figure 6.5c). The amulet was thus able to, via a computer, measure when someone touched the amulet. Table 6.5a shows the measurements done during a morning where I myself used the amulet.

6.5.3 THE APP

Table 6.5a: Printed result of using the amulet one morning.

Time	Hold
10:07:26	1.00
10:07:34	2.00
10:07:53	7.00
10:08:01	0.00
10:08:12	0.00
10:09:19	0.00
10:09:39	16.00
10:12:19	0.00
10:20:34	168.00
11:05:10	12.00
11:10:02	31.00
11:18:22	17.00
11:42:43	193.00
12:08:44	34.00
12:09:07	1.00
12:13:50	2.00
12:19:45	79.00

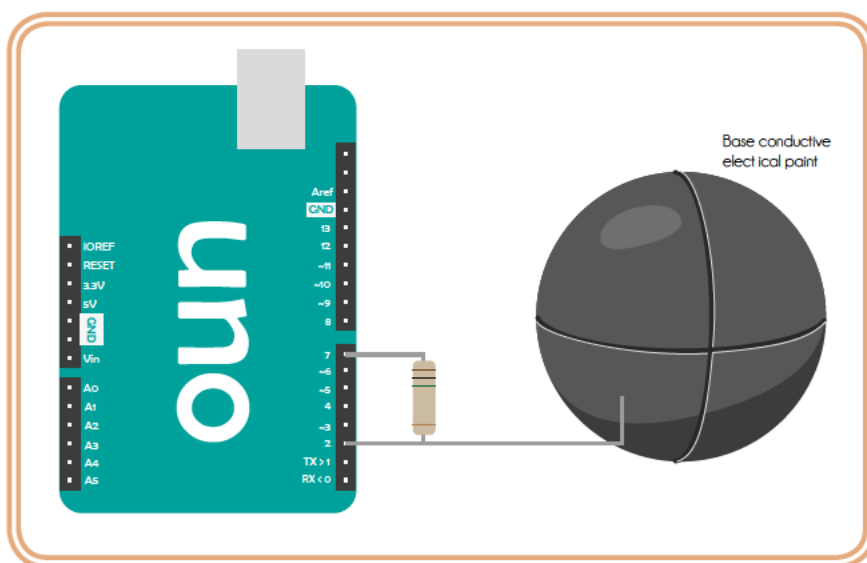


Figure 6.5c: Schematic of the Arduino setup of the prototype.

For the first test a simple application was made using the Whappbot method of Game Soltuons Lab. This first application simply offered two conversations. One where the user just used the amulet and an evening version. In the first version, the amulet asked why you touched the amulet, whether you were stressed, bored or used your talents. When you used your talents, the app asked you to write down which talent you used during which activity. With the other two options, the app send some words and encouragement and brought you back to the beginning.

The evening conversations asked if there were any moments you forgot to touch the amulet when you used your talents. If so, the user is asked to once again write down which talents and during which activity.

The next chapter shows how the application is further developed and extended in between tests.

6.6 Testing the prototype

The last sub-chapter already expressed that the design is tested by the intended target group. The next chapter goes over how these tests were conducted and what the outcomes were. It also explains how the final design changed based on this test. This section goes over why the test was done and what was expected.

List 6.6a: The hypotheses and expected outcomes which are tested in the next chapter.

The teenagers can find themselves in the theme of the game.

Based on the test in chapter FM, it is expected that the teenagers can find themselves in the theme of the game. They will no find the game to childish to play or engage with. Because the theme and time, medieval times, is common knowledge, the players will be able to build their reasoning and ideas on this theme.

The teenagers see their talents in the talents they received from the game.

The teenagers will recognize their most prominent talents that are discovered during the game.

The teenagers will connect to the metaphors of the amulet.

The teenagers will be able to connect most of the talent spheres to the talents. Especially the active and relax combination will be clear as that combination is made from a different material. If they were not able to make the combinations, the combinations will be clear after the explanation.

The teenagers are open to use the amulet over a week.

Some teenagers will be sceptical to use the amulet or find themselves not in need for such a thing. Most of the teenagers will be open to the idea of using the amulet. Especially because they will only need to use the amulet for a week. They will find the amulet easy to hold and store in their bags

The application and amulet can guide teenagers in finding out how they use their talents.

After discovering their talents and how those talents are most commonly used, the teenagers will be able to see how they use their talents in everyday live.

Integration of amulet and phone will be no problem with today's teens.

Because teenagers are used to using their phones for different things and devices such are headphones are often already connected through Bluetooth, they will have no problem with connecting the amulet to their phones over Bluetooth. They will also have no problem in using an application to store information.

7. Evaluation

This chapter evaluates the design made during the project. This is done through testing with the target group and conversations with high school coordinators on the feasibility. Before the game was tested with the target group, it was play tested with friends and family to work out some of the game rules (figure 7a). The end of the chapter explains how the feedback and evaluation proposed changes for the final design of the tool. Recommendations for the further development of the design are made in chapter 8. Chapter 10 section 10.2 reflects the final design back on the scope set in chapter 4.

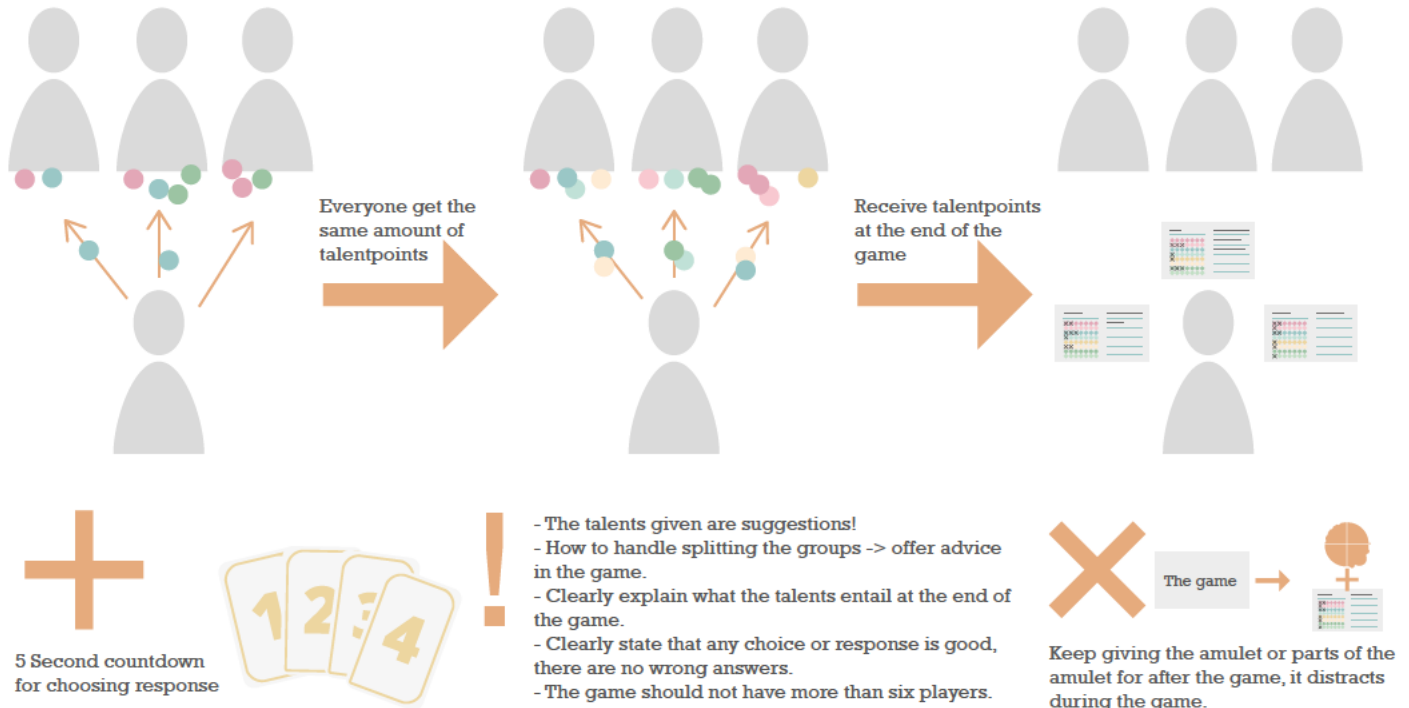


Figure 7a: Changes to the game based on game tests with friends and family (Appendix M)

7.1 Test with teenagers

To properly evaluate the design, the design is tested. Similar to the earlier test of chapter 5, the final design is tested with the target group. This sub chapter describes the tests that have been done. In between tests iterations on the final design have been made. The iterations were made so that these could be tested and compared as well. The list 7.1a shows the hypotheses that are tested and the outcomes of the tests

List 7.1a: hypotheses and the outcomes

The teenagers can find themselves in the theme of the game.

Although some teenagers thought it would be childish at first, they were all open to go with the theme of the game.

The teenagers see their talents in the talents they received from the game.

Most of the teenagers could find themselves at least in the most prominent talents. However, they could not always find themselves in the talents that were less prominent. They stated that those talents might be shown different in different circumstances.

The teenagers will connect to the metaphors of the amulet.

This was not the case. Even after explaining the metaphors not all of the metaphors were clear. However they were able to make combinations themselves using metaphors.

The teenagers are open to use the amulet over a week.

Most of the teenagers were open to use such an amulet. A third of the teenagers was thrilled

and thought it would really help them or someone they know. About a sixth of the teenagers did not see the use of the amulet. They either were skeptical on how something like that would work or believed they did not need an amulet or app to work with their talents. However, they found the size of the amulet to be impractical.

The application and amulet can guide teenagers in finding out how they use their talents.

The teenagers agreed with this, but stated the application should offer actual guidance and information rather than just counting what they put in. When an iteration was made and the teenagers tested the “stress” branch of the application, they stated that this would really help since it gives clear and practical advice and shows that they are not alone in their feelings.

Integration of amulet and phone will be no problem with today's teens.

Some schools have “phone hotels” so the teens do not have access to their phones. The notifications on the phone should be alterable so that they can be send during breaks. Or never, because some teens, especially the ones who are less interested in using the app, would be annoyed by constant notifications.

7.1.1 TEST SETUP

This part covers the test setup. It explains who were tested, where and why. It includes how the iterations made affected the different tests.

7.1.2 WHO

48 Teenagers evaluated the final design (28 girls, 20 boys). They gave feedback on the game, amulet and application. The design has been tested on three different schools and they had slightly different times available. This, together with the iterations described later on, influenced where the teenagers gave the most feedback on. Figure 7.1a shows the distribution of the tested teenagers.

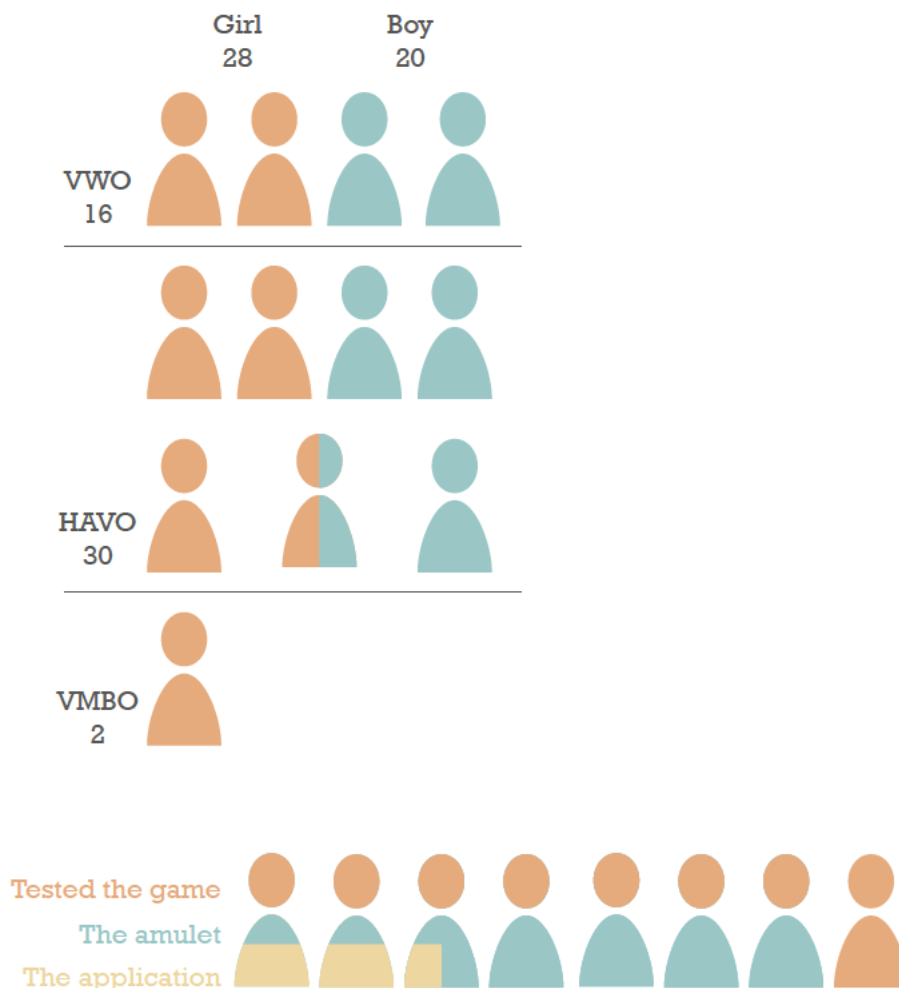


Figure 7.1a: 48 Teenagers participated in the test, this figure shows how these teens were divided.

7.1.3 WHERE

The game was tested at the schools of the students. Most of the tests took place during mentor classes. The students were recruited through schools. The chosen schools were chosen because contacts with the schools were already established through friends and family. The school as well as the students were informed of the test and told what they could expect. The informed consents are included in Appendix N. Since the teenagers were Dutch, the informed consent is in Dutch as well.

Figure 7.1b shows a representation of the setup, including the setup for both active events where tables represented the width of the river or the height of the tree.

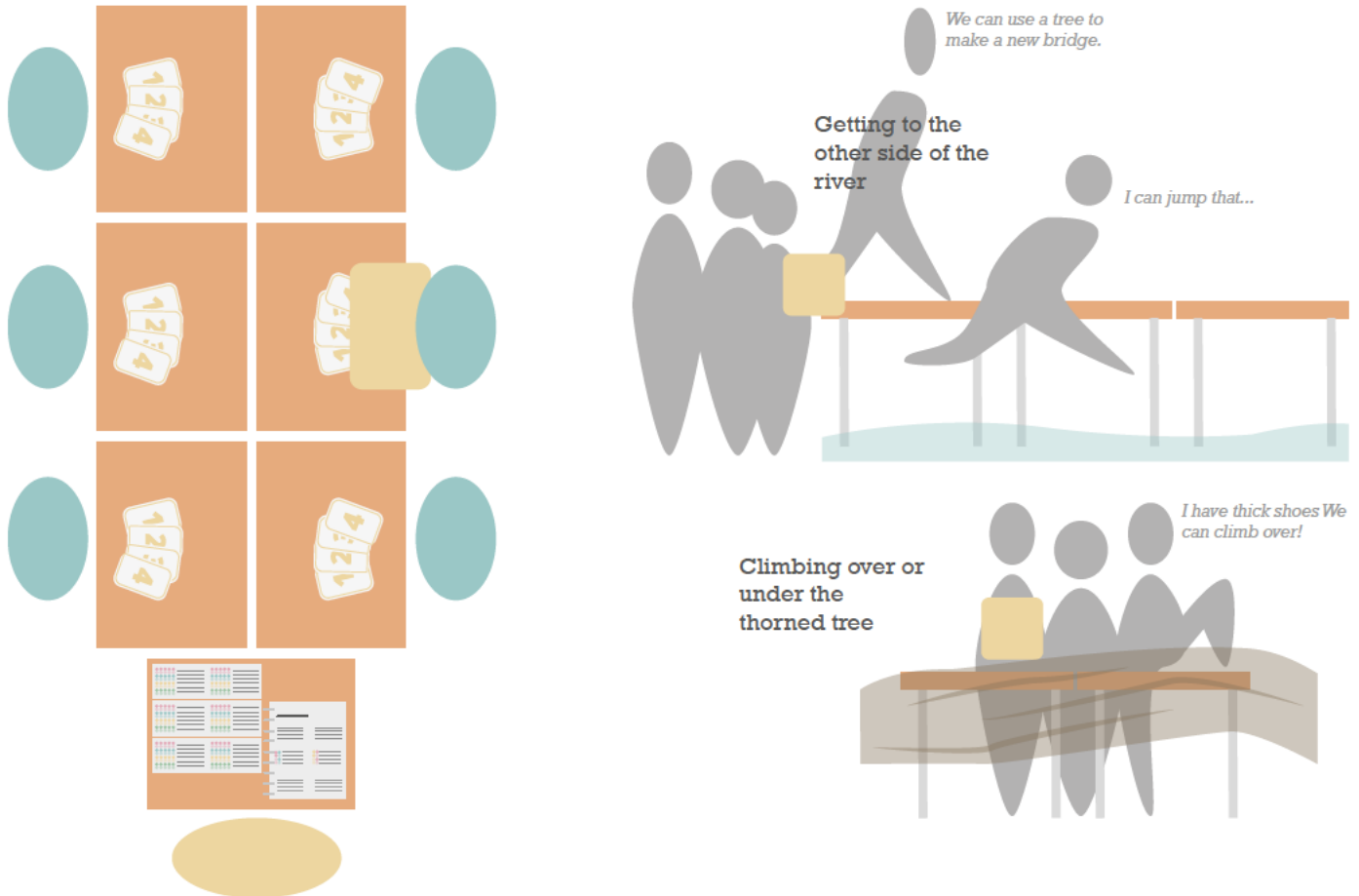


Figure 7.1b: Seven school tables were used as the playing area, for the active events, tables were used to represent the environment.

7.2 Iterations between the tests

The first test day, three groups were tested. During this test it became apparent that the different quarters were not that easily connected to the intended talents. The teenagers could connect them to talents, but the connections differed per student. For the rest of the tests, one version of the amulet was painted in the colours corresponding with the colours of the talents on the talent cards. This proved to instantly connect the talents with their amulet parts. Figure 7.2a shows an example of how the talents were connected by the students and the connections that were intended. For the function of the amulet itself, the right connection is not necessary, as long as the teenagers connect the amulet to their talents.

The other major iteration is the one of the application. The teenagers in the first test expressed how the application would aid them and give the amulet more meaning.

"You need the notification on the phone, otherwise it's just plastic."

"The application would help me, because I would forget the amulet."

- interviewed teenagers



Figure 7.2a: The top row is the order in which the teenagers put the amulet parts, the bottom row is the intended order.

The ones who tested the application itself expressed how they would prefer the app to go deeper in the conversation and offer more guidance or explanations. In the last four tests, the application was further developed and tested.

The last iteration was one of the possible answers by some of the questions. With some of the possible answers, teenagers could not always find an answer to suit them. In those instances I discussed with the teenagers which answers were too similar and what kind of answer they were looking for.

7.3 Outcomes

The section describes the outcomes of the test. It describes the feedback given by the teenagers. It also describes some insights I made from facilitating the game with different groups. Figure 7.3a shows the positive and negative feedback gotten from the teenagers and general insights.

Figure 7.3b shows how the feedback of the teenagers influenced the final design. What parts are changed, stayed the same, added or removed. The idea of the individual game can be interesting to pursue in another project or the further development of the game after the thesis.

7.3.1 LIMITATIONS OF THE TEST

The prototype test was limited in the sense that the teenagers were not testing the amulet over a week. The feedback given is thus based on the immediate use and reaction of the amulet. How the amulet and application are used in a real setting, for a full week remains to be tested. The choice has been made to test in a limited time to increase the amount of teen that test the product and minimize the impact on the current school activities.

Furthermore, the teenagers were recruited voluntarily. Teenagers who are more open and extroverted are naturally more inclined to volunteer. This was also expressed by some of the teachers and students themselves. They were one of the more talkative groups within a class.

Positive



Negative/concerned



Insights

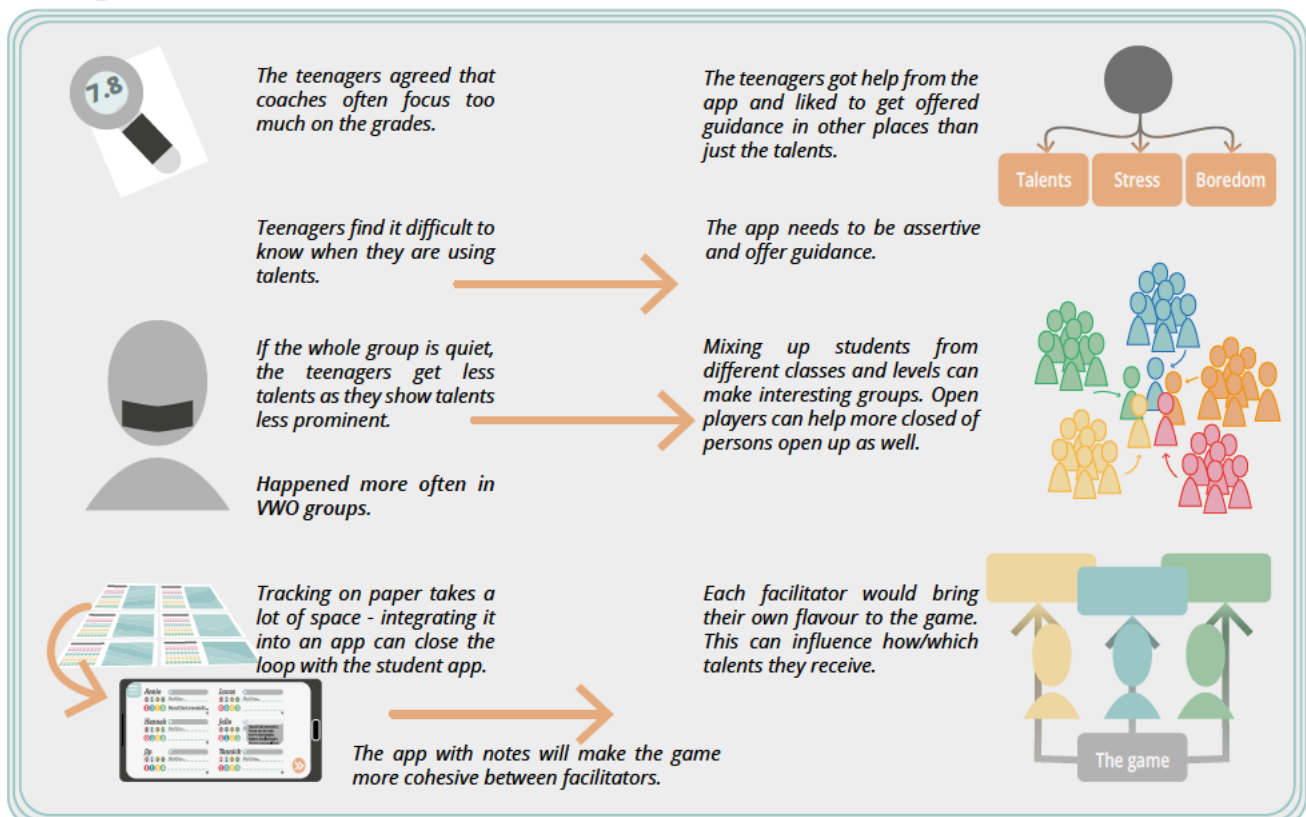


Figure 7.3a: Feedback and insights gathered from the prototype test with teenagers.



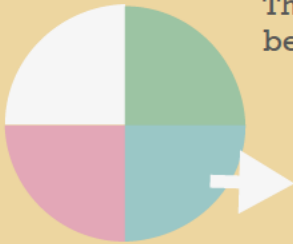
The game helps the teenagers find their talents, which they find difficult to assign to themselves. The teens generally agree with the talents the game generated. Although some surface based on the group it is played in.



The amulet offers teens a way to consciously work on their talents without keeping them from their tasks. It is important to keep the application from being intrusive as well. Interaction with the app will be initiated outside of classes.



The biggest complaint with the amulet was its size. It is not easy to take with you because it will need to be carried in their bag. Which makes it easy to forget. The new version of the amulet is smaller so that it can be put on a keychain or pocked.



Instead of tracking talents on paper, the facilitator will track the talents on an application. To keep the physical transference of the talent to the teens, the talents are uploaded to the amulet which is given.



The application has an important role.

- Offers concrete and practical guidance
- Can offer more information on talents and stress for the teens to look up at their own pace

Colours are added to the (new versions of) the amulet. This is the connection between the talents and the amulet. However, the teenagers can choose their own colours to give meaning to.



The connection with the talents solidified after an explanation of the connection. The connection is generated rather than automatically created. This can be done with the plain amulet with different colours as well. This would furthermore simplify the production and distribution.

- All amulets are the same shape
- The tool does not contain extra elements that won't be used (like extra quarters of the talents)



The solo game will not be included in this design. However I can see it as a future addition to explore in a different project.



Figure 7.3b: Changes made to the game, amulet and app.

7.4 Evaluation from high schools

Besides the test with the teenagers I also explained the tool to deans, coordinators and coaches (6 in total). This sub chapter describes some of the insights gathered during those conversations (7.4a). These insights especially go over the practicality of the tool. How this is further implemented is discussed in chapter 8. The following notions were represented most prominently in the conversations.



The schools want to focus more on helping students find their talents and competences. It could fit in the existing LOB* journey that the students follow. The game, amulet and app offer additional guidance rather than stop with offering the talents. Mentors were interested to see the students and get to know them in this new environment.



A class cannot do it with everyone at once. This makes planning the tool more difficult. Because the talents are gathered in a group, you only gather the ones that are shown in groups.



There should be a focus on the teenagers discovering their talents and starting the conversation. *However, a subgoal of the tool is to make teachers more aware and involved in looking at the students this way as well.* Effectiveness depends on the openness and involvement of the facilitator.



Mentors of the students might not be the best fit as facilitators since they already have an opinion on the student.

* LOB is a course that helps high-school students make choices in courses and later on helps them look at what kind of jobs they want to have and study they want to do. This is often done with (online) questionnaires but often also involves internships.

Figure 7.4a: Insights gathered during conversations with school coordinators, mentors and deans

7.4.1 WHO WILL BE THE GAME MASTER?

The students, or players of the game are the most important component of the tool, they are the focus. They are however, not the only components. The person facilitating is a component as well. It will not only give mentors a chance to see their students in a different city, it influences the flow of the game as well and in the end, they are a big part in the conversation about the talents. Therefore, the tool serves not only to change the view of the teenagers, but those of the mentors as well. However, in order for this to effectively work, the questions of who is best to facilitate the game was rightfully asked.

In the case that a mentor has a pre-existing judgment of a student, this could cloud their judgment. This will result in a suboptimal game play and unfair assignment of talents even. Although this can partly be solved by streamlining the observation during the game using real life examples, it cannot be fully overcome. Therefore, other option of facilitators are considered.

Figure 7.4b shows that the best option to facilitate the game is by using teachers and mentors from other classes. Appendix O includes all the arguments. Below, the advantages of this facilitator are described.

- ***The tool still makes the teachers familiar with the talents.***
- ***Since the facilitator is someone in school, the knowledge gained about the teenagers can be found in school. It is for example not lost when the facilitator finishes their day.***

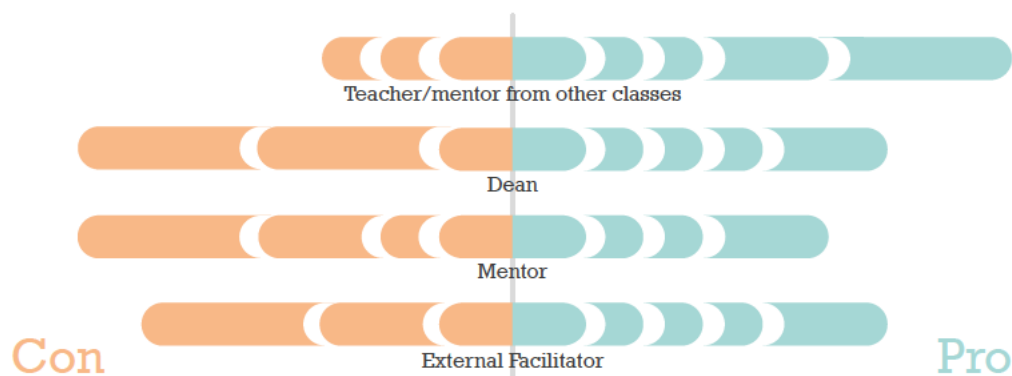


Figure 7.4b: Weighted pros and cons of different facilitator options. The reasons are written in Appendix O.

- ***Because the teachers of the school are involved in the tool, the environment it attempts to create is not only created through students, but teachers as well.***
- ***Multiple teachers can facilitate more teens, the dean for example does not have to do all of them.***
- ***Teachers who are more open to the game and talents can be chosen to facilitate.***

Workshops can be offered to give teacher some experience with the method. Additionally they can learn from each other, even the teachers who chose not to facilitate such sessions.

7.5 Influences of the evaluation

The feedback given and insights gained lead to changes for the design. The adaptations to the design that are made are described in this section. Some of the adaptations that are suggested are not included in this design or are recommended in chapter 8. This sections also explains how the changes to the tool, such as the reducing of the amulet, influences the of the tool.

7.5.1 THE GAME

The changes to the game include some minor changes to possible responses and the transition from tracking the talentpoints on paper to an application.

Even though a few teens and adults suggested a more private or solo game, this is not done. It is true that some talents might show differently in solo games or with different groups, the main talents of the teenagers will still show. Furthermore, does the social game enhances the social interaction. The teenagers can learn from each other and learn each other's talents and how they use those as well. Other teenagers realized and appreciated this.

"I like the fact that we can discuss in the group and help each other."

- interviewed teenager

Although another proposal was to include external facilitators for the game, I chose to not do this. The game has a main function of showing talents to teenagers. However, an underlying goal is to include the environment, in the form of teachers as well. That is why I was so glad to hear teachers being open and enthusiastic about this idea and about looking at talents rather than performances.

A change made is to move from pen and paper tracking to digital tracking of the talents. The tracking will run smoother and the notes and observations become more cohesive. This is due to the fact that the game can offer suggestions to the

facilitator. Due to time restrictions, the application is not developed during this project. The application the players use after the game has been given priority.

7.5.2 THE AMULET

The most prominent dislike with regards to the tool was the inconvenience of the amulet. Even though a big part of the teenagers felt like they would benefit from the amulet, the amulet was too big to easily take with them. The reason of the current size was partly due to the fact that the electronics needed to fit in one of the quarters.

The test showed that the teenagers assigned their own talents to the amulet quarters. They were able to connect them themselves. During the observation I noticed that the teenagers often got stuck when they needed to choose a third talent to include. Offering the different colours made it easier to connect them to the talents but they still gave their own interpretation. It is chosen to reduce the amulet's size. This will make production easier and cost go down. To offer a personalization to the amulet still, the amulet is instead painted in the different talents colours. Two halves of the amulet are twisted onto each other to create the amulet offering two talent colours the teenagers can choose. During the testing, teenagers tried to assemble their own amulets and often struggled choosing a third talent. Lowering the customization to two options is therefore not expected to be a problem.

The new amulet is made using two shells that click together over the electronics. With this new design, the electronics can be easily reached when they are broken or the battery needs to be changed. Figure 7.5b shows the new design of the amulet.

The amulet will have a diameter of 30mm. A small test was done with a prop of 30 and 40mm. 30 mm proved to be the best compromise between a comfortable holding size and fits in your pocket or on a key-chain. The battery (23mm) and Bluetooth module (19.5mm) fit comfortably in this size. Figure 7.5a shows a drawing for the new amulet. The size is 33mm to make two sphere halves with the electronics part in the middle.

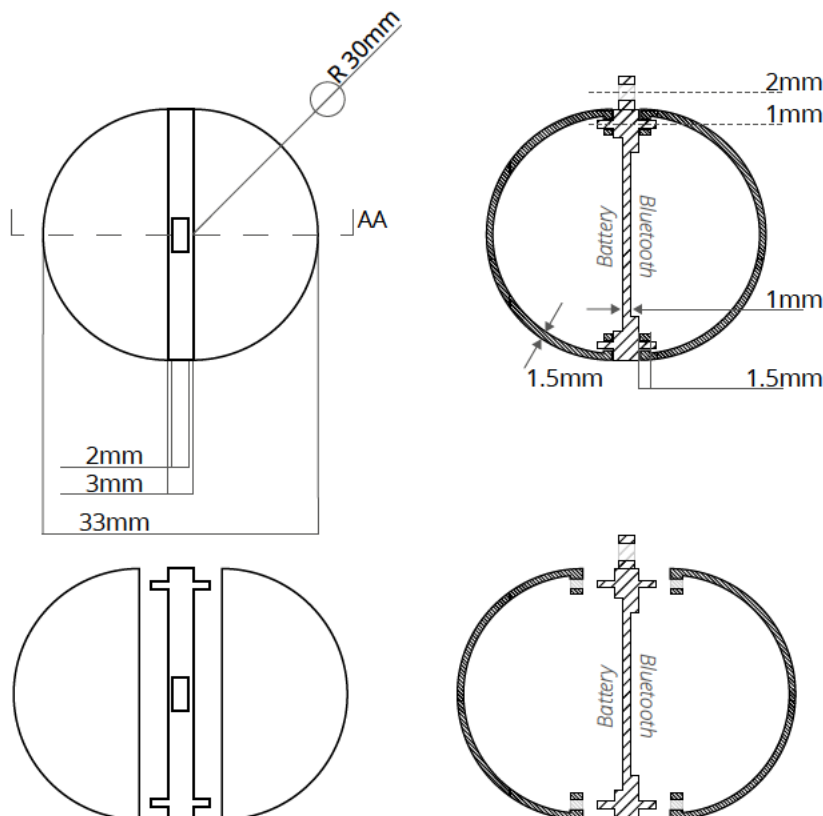


Figure 7.5a: Drawing with measurements of the new amulet.

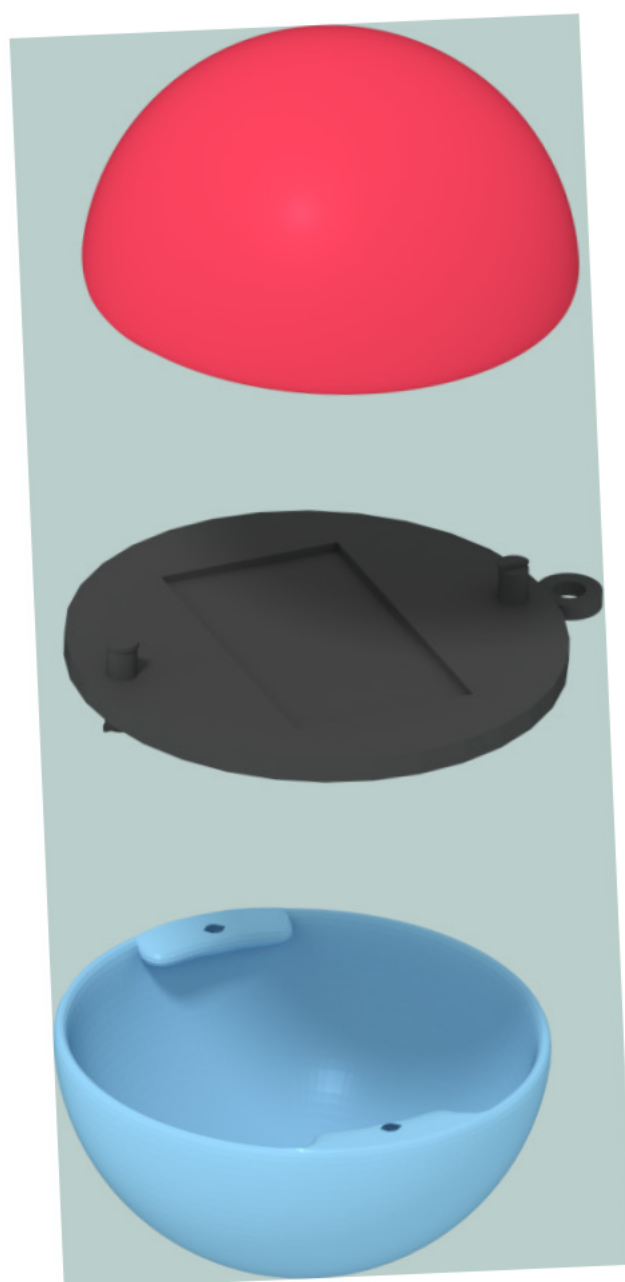
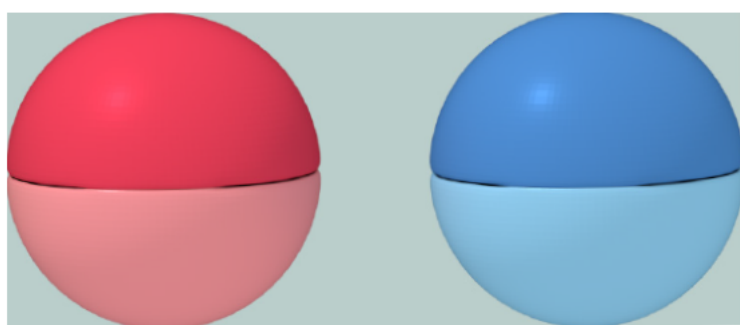
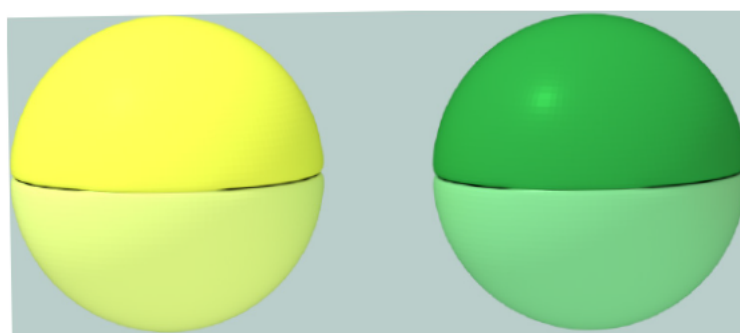
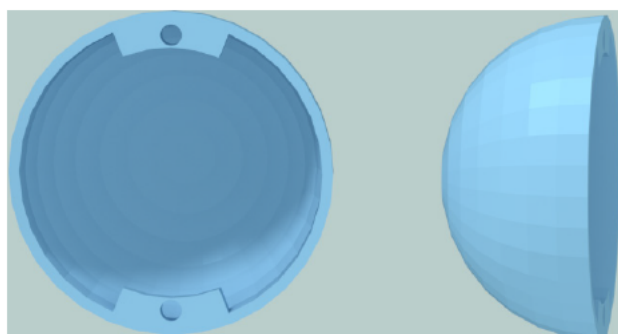
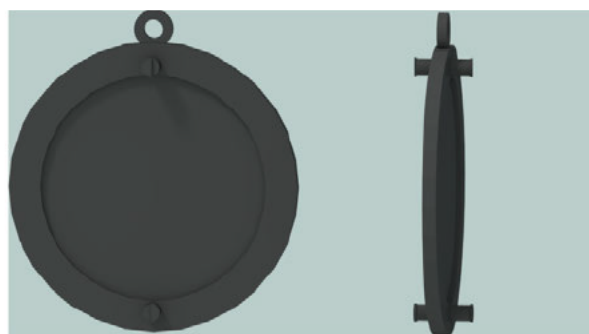
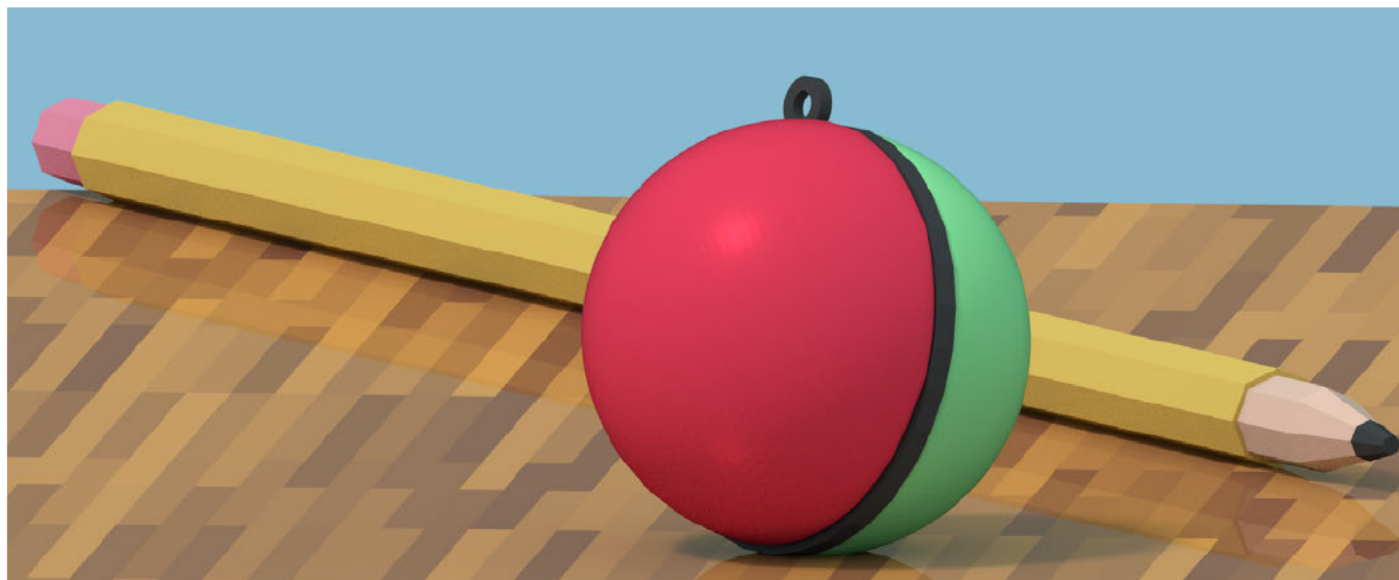


Figure 7.5b: Renders of the final design of the amulet. Render with pencil for size - Exploded view of the three elements, the black element will include the battery and chip/Bluetooth - Front and side view - Different colours based on the talents.

Based on the new size and the components inside the amulet, the production of the amulet would be around €5,77, including the battery and Bluetooth module. A breakdown of the cost can be found in Appendix P.

Another practical change of the amulet is the way it is activated. The amulet will not send a message to the phone unless it is touched two times. This way, there are less unintended touches of the amulet, for example when it is picked up to be moved.

7.5.3 THE APPLICATION

At first the application worked more as a counting mechanism than as an extended guidance. During the early testing, it became clear that the teenagers required the tool they used to show its usefulness. The teenagers expressed their need for clarity. Something that would vaguely help would not convince them. Offering an application with straight to the point guidance and advice will. Most of the teenagers and people in general, only showed interest in the amulet after the connection with the phone was explained.

The teenagers who tested the application expressed how they need to have some feedback from the tool. The teenagers expressed how they were glad that the tool offered them guidance in finding their talents. They were also glad the guidance did not stop there. During the explanation 3 teenagers expressed they thought they would not be able to recognize when they were using their talents. The application will thus guide them in this. Instead of simply asking what talents they used, it will also go over how you can recognize talents being used. It furthermore offers guidance during times when you do not use your talents. Times when you are stressed. During personal testing with an amulet over the day, I noticed I grabbed the amulet when I was stuck with something.

With one of the groups, the first branch they wanted to test is the stress version. They mentioned finding the information it offered helpful. Although it was a bit too much all at once.

During the conversation with the mentor, the application can be used by the teenager to have a point of reference. They can share the statistics on how often they used their talents and during which courses. However, they do not need to. Furthermore, the application offers answers on various questions to be stored so that they can be read later. Some categories however are behind a code. The teenager can write down if they are not feeling well or are stressed. Those answers are private and should stay private as long as the teenagers wants. No data is therefore directly shared with the teachers, other than the initial talents from the game. The information is also not stored in the cloud, but rather on the mobile devices themselves. After the game, the amulet can be used to transfer data from the facilitators tablet to the teenagers' phones.

For this project an application is made using the GSL Whappbot technique. Figure 7.5c shows a summary of the conversations and functions of the application.

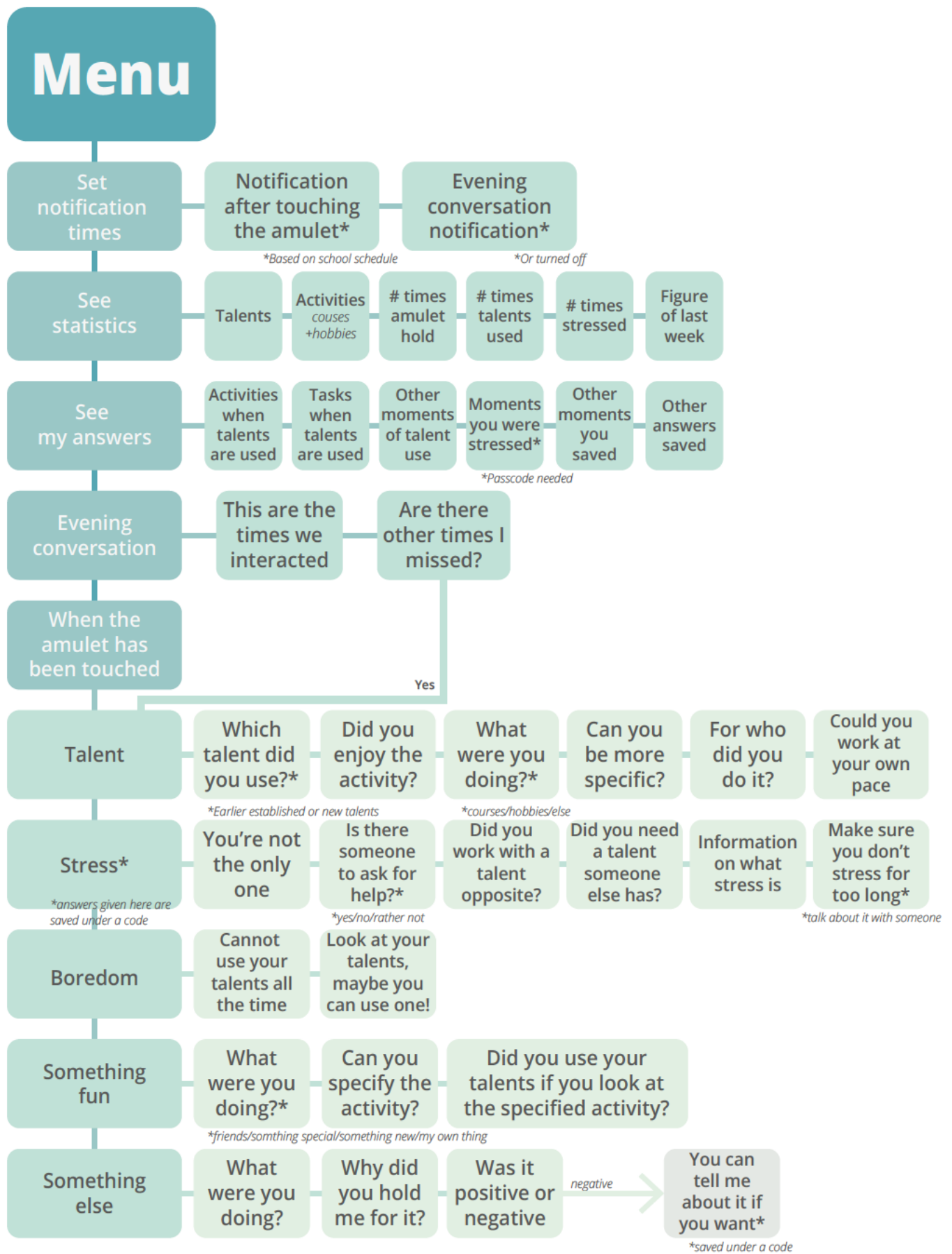


Figure 7.5c: A summary of the different functions and steps the users goes through when they use the app.

8. Recommendations for the Implementation

To help teenagers discover their talents through the tool, various steps need to be made to implement the design. This chapter gives recommendation on how such thing could be done in three steps. The first step is described detailed below offering recommendations on how to bring the three elements of the tool to the next testing and validation phase. The second step would be to start the implementation of the tool and see how the tool preforms with less guidance. The last step is the full implementation. Included in this step are a recommendations on the four P's. However, those might change based on findings of the first and second step.

8.1 First step - validation

The first step describes the polishing of the design. This includes iterating the game with experts and the application. This part goes the elements of the tool. It shows how the game and application should be designed. I conclude this step with a recommendations for the validation test. This first step should prove the effectiveness of the tool.

8.1.1 THE AMULET

The amulet design needs few iterations for this step. However, it needs to be made into a working prototype. For the first test there is a limited amount of amulets needed, six in total, twelve if there are two tests taking place simultaneously. Therefore I recommend producing these amulets by hand. The amulets are made by 3D printing the two shells and electronics holder, painting them by hand with the electric paint, placing the electronics inside with a cell battery and clicking two parts together.

I would recommend a SLA printer since they can print multiple of the amulet shells at the same time and has a smooth surface so that minimal sanding is needed. Furthermore, the paint easily grips to the material.

8.1.2 THE APPLICATION

The teenagers that tested the prototype in the last chapter expressed how important an application would be. Not only because it would help them remember to work with their talents, but also because it would show the usefulness of the whole tool. The application can show teenagers who might be more on the sceptical side how talents are used. It can offer the teenagers practical information and guidance.

For the validations, the app needs to be build. Currently it is a website without any design. To implement this in a final design it should be made and designed. In the figure below there is an example of what the application could look like.

8.1.3 THE GAME

Currently the scenarios of the game and the choice options were written by the product designer. The choices given have been changed and adapted based on answers the tester would have liked to give. However, they are not verified by someone like a psychologist. I recommend that this is done before the next testing phase.

Additionally an application needs to be made for the facilitator to track the answers of the players. This can be part of the first app to make integration between the players and game facilitator easier. Furthermore, the application will offer the facilitator options in notes to the players. This will make the addressing of talents and notes more cohesive over different facilitators. A proposal for the application is shown in figure 8.1a.

Annie

Lucas

Player 3

Player 5

Player 6

Evenement 1

Nora

Beau

Nora vraagt jullie een pakketje voor haar aftelever in een dorp wat ongeveer op de route ligt. Dit betekent dat jullie later aankomen bij de koning. ⁱ

1 Nee daar hebben we geen tijd voor.	Annie 3	Lucas
2 Ja, we maken wel vaart.	Hannah 2	Jelle
3 Wie is Nora, waarom zouden we dit doen?	Jip	Yannick 3
4 Ik weet het niet, hoe ver is het om?		

<div>Annie</div> <div>0 1 0 0</div> <div>Notities...</div> <div>1 0 1 0</div> <div>Houdt het overzicht...</div>	<div>Lucas</div> <div>3 1 0 0</div> <div>Notities...</div> <div>0 0 0 0</div>
<div>Hannah</div> <div>2 1 0 1</div> <div>Notities...</div> <div>0 0 0 0</div>	<div>Jelle</div> <div>0 0 0 0</div> <div>Notities...</div> <div>2 1 0 0</div> <div>Houdt het overzicht. Focus op de taak. Komt met ideeën. Neemt beslissingen. Maakt overwegingen.</div>
<div>Jip</div> <div>0 1 0 0</div> <div>Notities...</div> <div>1 1 0 0</div>	<div>Yannick</div> <div>1 1 0 0</div> <div>Notities...</div> <div>1 0 0 0</div>

Figure 8.1a: Proposal for how the facilitator application could look, with some functions.

8.1.4 THE TEST

Besides additional prototype testing for the game part, the tool will need a validation test. It will be difficult to validate the tool with hard numbers, but the experience of the students and teachers can be gathered. I therefore propose a test where the same class is divided into different groups. There will be four different groups:

- 1 A group that will play the game, receive the amulet and the app.
- 2 A group that will play the game and use the app (without the amulet).
- 3 A group that will play the game.
- 4 A control group.

After a week the teenagers will have a conversation with their mentor. The students will be asked how their conversation went. If applicable they are asked how they experienced the tool. Example questions are included in appendix Q. This appendix also offers two ways into how to divide the class in the four groups.

The mentor will be asked if they see a difference with the different groups. They should also be asked if they see a difference between similar conversations last year or how they approached conversations after they had conversations with students who played the game and maybe used the application. These last two questions are to see if the tool also changed the way the mentor approaches the conversation.

This test will help to validate if:

- the game offers value;
- the game offers value on its own or if it needs the application/amulet;
- the application offers additional value;
- the amulet offers added value as the theory suggests.

8.2 *Second step – testing in the wild*

After the tool has been finalized and validated I propose the next step of implementation. To take the tool to the next level, the tool needs to be used without guidance or facilitation of the designer and company. Or at least with the same amount of facilitation as the final implementation can offer. For example, the tool can be offered with a workshop for the teachers to get familiar and learn the tool, but could also be offered without. Similarly, the tool should be working as intended as well. Especially the amulet should have all the implemented technology at this stage.

During this step the amount of tools distributed is still fairly low. The distribution will be with schools who, themselves are open for a new tool and ask for it. The product will therefore be produced on demand. During this stage of the implementation a middle ground between mass production and manual labour needs to be found. For example, the amulets could still be 3D printed with a professional printer, but the amulets should not be painted by hand. Instead, a better solution would be to use a paint bath where the amulet parts are dipped into. A similar solution could be used in the final phase. I recommend having a stock of the Bluetooth, chip and battery combination to be implemented on supply. Those will be manufactured by a third party. It is beneficial for the price to buy in bulk. It also negates the waiting time on a third party.

The game itself can be printed on demand or in small quantities through printing companies. The application itself at this point has been made. The application might demand a code that needs to be used to activate the app. Furthermore, the application will need maintenance to keep it up and running. Other than the printer quantities being smaller and the fact that the amulet is manually added to the package, this part of the tool is production ready and can be quite easily be up-scaled.

8.3 Third step – full implementation

The third step would be the full implementation of the tool. It is a product that can be sold and distributed without much of an issue. There is less need to actively promote the product amongst schools. Schools instead find the product themselves. Figure 8.3a shows the 4 P module to implement the product.

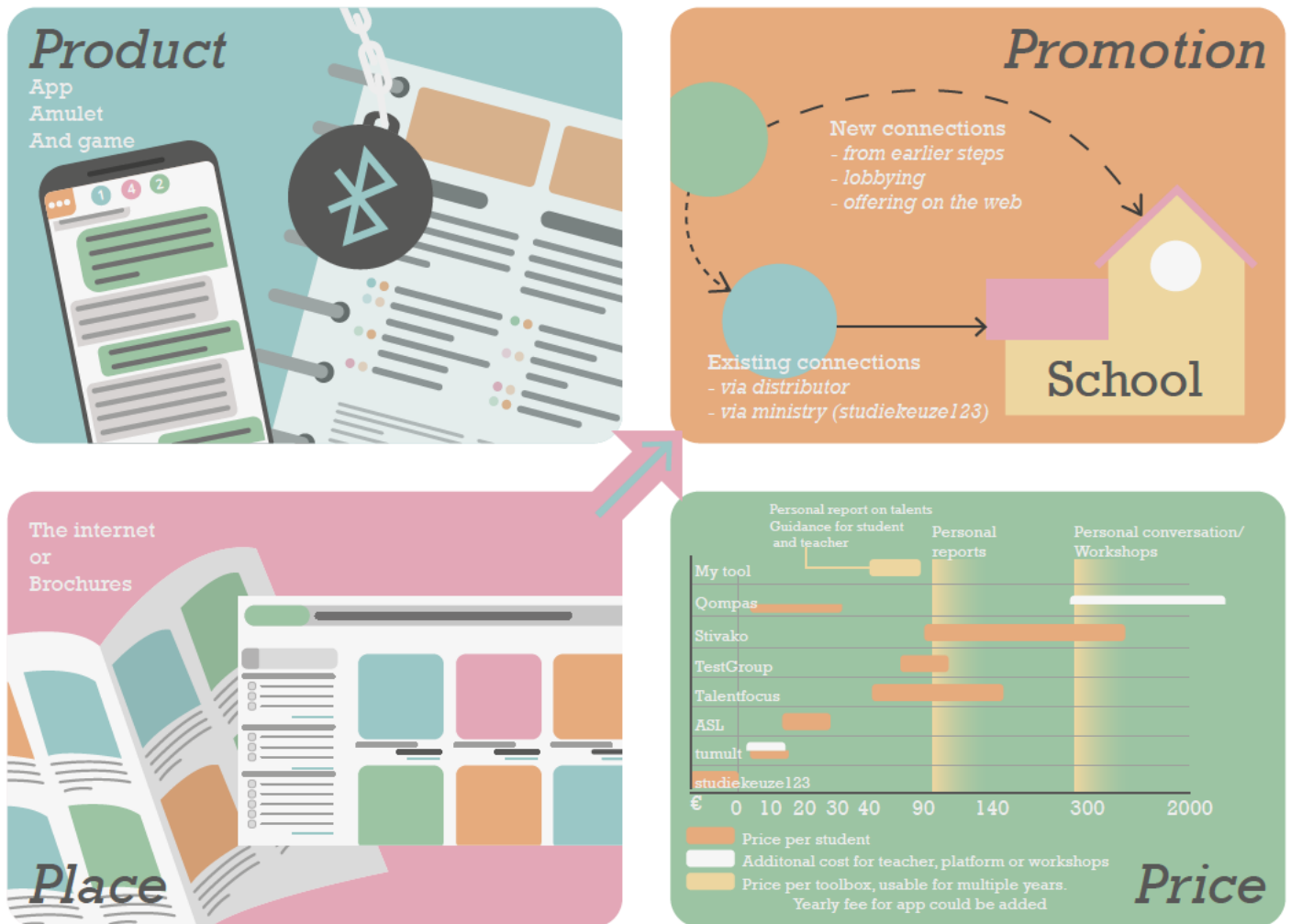


Figure 8.3a: The price, place, promotion and production recommendation based on the current design. This can change based on the validation test.

Two other things to consider during the full implementation is the distribution and the production. The distribution is connected to the price, promotion and place. There are a few ways in which the product can be distributed. The possibilities of these should be explored during the previous step. The data about the demand and effectiveness of the previous two steps can help in determining the right route for the distribution. The company could choose to publish the tool themselves. They can look for external publishers, such as text book publishers so that they already have a connection with the school. Alternatively, the company could choose to work together with distributors of existing tools, or tests that currently help students choose their courses.

Some companies, such as Qompas, offer more guidance for students and their teachers throughout the whole journey. These could be an interesting fits as they can also offer facilitations of the sessions or further explanation on how talents interact with courses and activities. Qompas offers workshops to set up a CV or for teachers on how to have conversations. The tool could be an addition to their product line. By introducing this tool in their product line, Qompas could help and follow the movement of focussing more on people rather than their accomplishments and grades.

The different distributors have different services with different grades of guidance for both student as teacher. The biggest of those distributors and

their prices are shown in figure 8.3b. Also included are distributors who offer the same or similar service to students themselves rather than the school.

The “production” of the application and game itself will be fairly similar as the

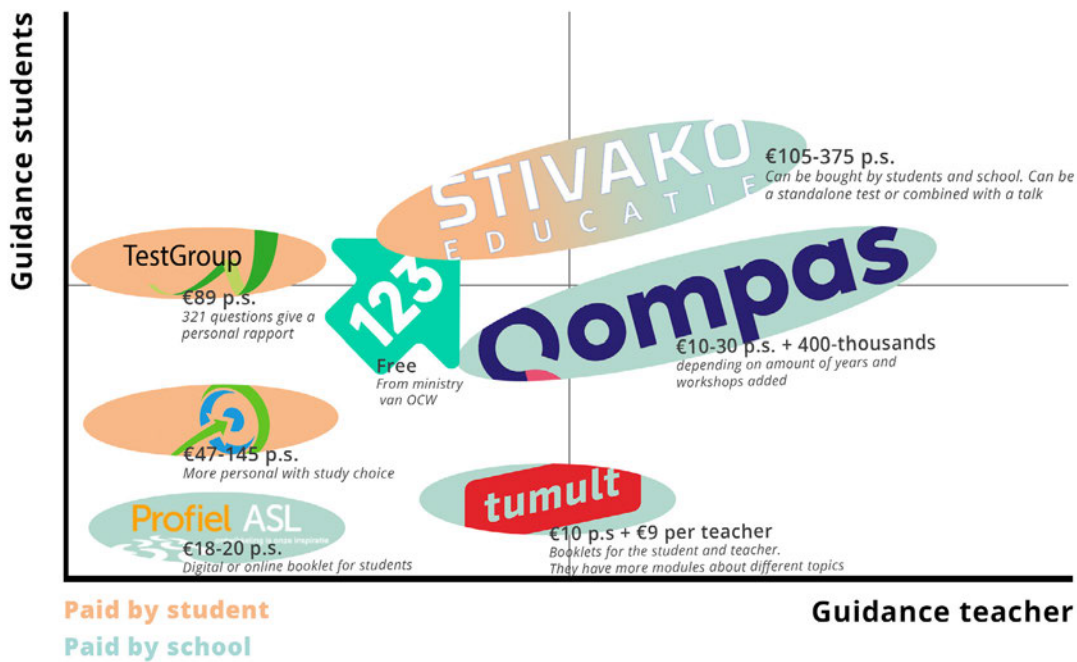


Figure 8.3b: Existing tools for study and course choices, information and prices are based on what is stated on their websites.

previous step. Although costs per game will be reduced as the production size increases. For the amulet the way of assembling the amulet can stay similar. It will use two shells in which the electronics, including the battery will be placed before they are twisted together. Rather than 3D printing, the amulet will be used with a mass production technique such as injection moulding. Injection moulding can offer possibilities such as using renewable plastics. The part of the amulet which holds the electronics should use a clicking mechanism so that they can be easily separated at the end of life.

9. Reflection

This chapter offers a reflection on the design and design process of the thesis. The chapter starts with a reflection of the tool against the scope and goal of the project in chapter 10. This is done to test the final design against the intended goal. Furthermore, a personal reflection on the process and aspects of the thesis is included.

9.1 Product goals

Although this project is a thesis, in the end, it still is a product design. This part reflects on goals I set for this product. I wanted to end this project with a playable prototype that can be gifted to schools that helped.

9.1.1 QUICK TO USE

A personal requirement for the final design and product is that it is quick to use. Especially since it is a game. I did not want it to be a game where all the players need to spend half an hour reading the instructions before they can start. For the final product, this is true. The players itself do not need any previous knowledge other than know how to choose a card in their hand. The setup itself is also relatively simple. For the facilitator they need a little more time. Still, the gameplay itself is fairly simple. They might need a little time to understand how the scenario booklet works and how to observe the players. For the product itself, the use is simple and intuitive.

9.1.2 PLAYABLE PROTOTYPE

In the end I want to have at least one set of playable prototype. In the end I am able to make a printable prototype of the game itself. The amulet prototype is made and working, however it is still connected to an Arduino. This prototype can be made, however, I do not personally have the skills to make and program the technology without an Arduino. The prototype does not work on its own as the final model intended but can be used in this way as well. The first steps of playing the game however could be distributed. Although I recommend a design revision with the help of psychologist or educational professionals.

9.2 Personal Goals

I as a student had some personal goals besides the goal of the design and project itself. My goals were to develop myself as a designer and develop areas I struggle with. These struggles mostly include decision making. This proved to be a point of attention in this project as well. Furthermore, the writing of this thesis in itself was something I knew I would pay close attention to. This part goes into these goals and briefly goes over how these parts played a role and how these were practiced.

9.2.1 DESIGNING A PRODUCT INSTEAD OF A FANTASY

The first thing I wanted to do during the thesis is to make a design and product that could be a product. Often I found that the designs made during the study were fantasies and possibilities of the future. With this project, I wanted to design something I could make. That is why one of the project goals and the envisioned end goal was to have a playable prototype that could be gifted to the schools that helped as a thank you. I believe to have achieved this goal. The design does not solve depression with students in any case. However, it provides a step in the right direction. By encouraging teenagers and their environment to look at talents, the design aids in reducing the stress and pressure on teens. Although the design seems to be focussed on showing teens this new perspective, it includes the environment so that they might change as well.

9.2.2 MAKING A GAME

During my study I have looked at the various fields of design and one that grabbed my attention and did not let go was gamification. Although I have used it to some extent in a side job, there was no real room during my study to explore this field. Through the thesis I wanted to explore this direction further. I did. During my thesis I spend four days a week working on the project and one day working on other projects within the company. In doing so it is clear that this is something I want to continue working with. Using gamification in classrooms peeked my interest as well. I see that there are numerous opportunities in doing so and that the interest in it is rising. It became clear that this indeed is something I want to continue to work in.

9.2.3 DECISION MAKING

This goal proved to be a difficult one throughout the project. I struggle with making decisions. I did so during the thesis. However, I did work on this during the project. I was more conscious of the choices that needed to be made and why I found it difficult to make them. At times I wanted to make decisions. However, I did not because of a meeting with the target group, I waited for their input.

Through coach meetings, the difficulties with making choices became even more apparent. I tried to make choices throughout the project. For example how the game would be played. The theme and story it followed, narrowing the 39 talents down to 10. The conversation with my coach showed these choices were all still superficial. While I thought I was making choices he, rightfully, was still waiting on choices. It helped to be confronted with this, leading to focus more on two talent combinations and work from there.

Similarly, through a confrontation, the choice of the amulet was set in motion. This was a decision that was difficult because the options did not feel right. I was more aware off my difficulties with making choices and why they were difficult. I realized that it was because every choice was, or at least felt wrong. In realizing this, I was able to choose the closest option and improved on it and translated it into something I believed in. At first the physical product part felt disconnected from the game. Now I know it is working and I am proud of.

I already knew I struggled with decision making. Now I am more aware of why I do so. While making the prototype of the amulet, I practiced what I learned. I started working on a part that felt right and build of that.

9.2.4 Focus

During this project the first thing to do was to narrow the focus. Even though I had a clear target group, teens with depression, the problem was still far too big. After narrowing down the scope more, there were still numerous options. I used a game testing mechanism in which the most basic parts are first tested. In doing so, I tested before further developing. It helped too keep the scope reasonable before expanding the design(s).

However, during the project, the combination of a lack of focus and no decision making became apparent. The game aspect of the concept worked and I felt more confident in that part. So I started to focus too much on this part instead of the product design aspect. Instead of struggling with the decision making, I tend to shift my focus on something I can make choices in or can develop further. It is not that I want to include everything, it is an excuse to not make choices.

Therefore I consciously chose to not further develop the story, game and visual aspect of the concept until the physical amulet was developed. Updating the design based on the prototypes still but keeping it in the concept phase.

9.2.5 *WRITING THE THESIS*

Although I pre-written most parts of the thesis report during the project, I rewrote everything for this report. It did however help me keep track of what I had done and concluded.

I found starting the writing quite daunting. Whenever I write something, I tend to lose people in the setup. To build the setup I used a method of writing down the most essential parts on post it's and arranging them in a logical order.

After this, I started to fill in the chapters with the text. This way I knew I did not forget anything. It also helped with figuring out the order of the chapters. Still, I struggle. Especially since the project is not fully chronological.

Another thing I did is to not edit between writing parts. I did so to reduce the amount of weird sentences and half paragraphs. How well I was able to practice this skill is up to the reader of this thesis. I believe I improved and believe there is more to improve. I, for example, tend to write more telling than scientific.

10. Discussion and Conclusion

This chapter forms the connection between the research and project goals and the finalized product. Where the Reflection chapter reflects on the personal goals I had for this thesis, this chapter concludes the thesis. It discusses how the target group is included in the design and how that influenced the outcome. It also discusses how this final design touches on the three pillars of design. Lastly there is a recommendation to go further in this topic. Recommendations of the design itself are discussed in the implementation chapter.

10.1 The final design

Figure on the next page depicts the poster made for this project. It includes the problem found during the research and the new approach this thesis took. It describes the three elements of the tool, the game, amulet and application. Lastly, it shows how the target group was involved.

10.2 Comparing the design against the goal

This section looks at the final amulet, game and application. It refers back to the scope that was explained in chapter 4.6. It reflects on how the designed tool reaches the goals that were set for this project. It also reflects on how the scope connected with the wants and needs of the teenagers.

10.2.1 DISCOVER YOUR TALENTS

The tool has the discovery of talents as its main focus. The tool has a clear goal with clear outcomes in the form of numbers and a report. By doing this, the tool is recognisable by both the students and the schools while it does make them focus on something different. It is easier to implement something recognisable than something completely different.

10.2.2 EVERYONE HAS VALUABLE TALENTS

This part of the tool is partly dependent on the facilitator of the game. The application does offer the information, but this has to be accessed by the teenagers. The facilitator should explain the different talents and make sure they show the same appreciation for all.

10.2.3 TEENAGERS ARE NOT ALONE

By making the tool a social game, it lets the teenagers interact with each other. This way they learn not only about their talents, but others' as well. Since the game explains and assigns talents, the teenagers can see that theirs are not weird. There are others who experience the same. The application can offer information and suggestions. This would not be possible if they were the only one in such a situation.

10.2.4 TALENTS YOU DO HAVE

The application is realistic when it comes to talents people do and don't have. It suggests teenagers to look at how they can use their talents in situations they might not normally use them. However, it also suggests to ask for help when another talent is needed. Not for someone to do it for you, but rather to see how they would do it so that you can learn from it. This way it acknowledges the fact that teenagers do not have all the talents, but still makes sure that they do not forget the talents they do have.

The problem

The number of teens with depression is ever-growing. A tool is designed to help teenagers. It aims to create an environment in which it is possible to learn for teens to deal with pressure and insecurities. It creates a space that shows the value of people and the differences between them.

The designed tool lets teenagers and their environment discover their talents. Knowing these increases self-knowledge and understanding. It offers a different way of looking at themselves.

The design incorporated teenagers during three different phases. It calls upon their self determination though games, offers them a sense of control and opens a conversation to show them they not the only ones with certain feelings.

Four cornerstones

- based on literature, interviews and teenagers

Find Talents



With Games



Give Control



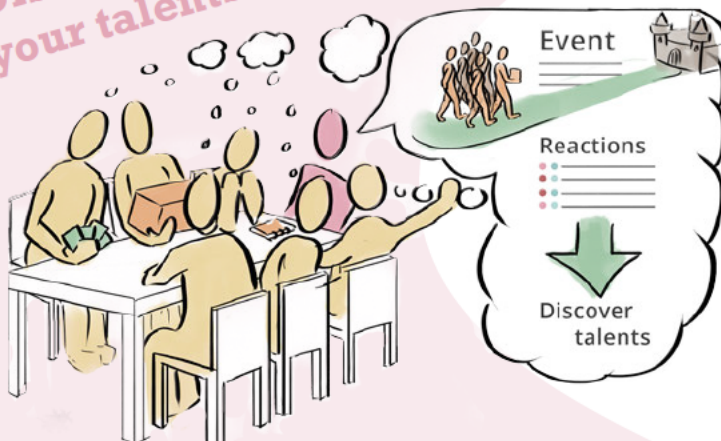
Not The Only Ones



The adventure to yourself

A tool that helps teenagers discover their talents and opens the conversation with teachers and mentors

Discover your talents



The Game

The tool is used to prepare teenagers for their course choices in third grade and later their studies.

The tool starts with a story based game that is played in which six players are asked to deliver a chest to the king. Throughout the journey, the players come across events.

The game leader, a teacher, facilitates them through these events and observes the players. The options the players choose and their reactions during discussion show which talents the teenagers most prominently display.

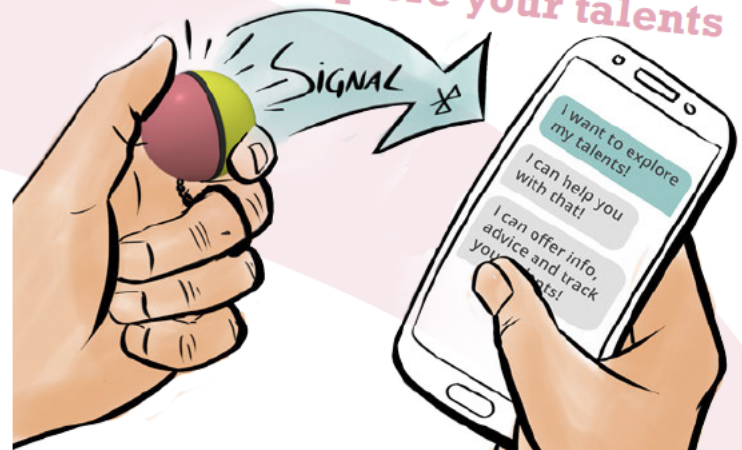
With these talents the players discover more about themselves and what careers, studies and courses.

The amulet and app

The amulet and application guides teens in exploring their talents. Over the course of a week, the teen touches the amulet during activities in which they do or don't use their talents. It acts as a cognitive offloading mechanism. The app guides players in better recognizing their talents. The app asks the teenager what they were doing and to breakdown the activity to see when and where they used their talents.

These insights will provide confidence in the teenager. They can use these insights to start a conversation with their mentor about themselves rather than their grades.

Explore your talents



10.2.5 THE MAGIC CIRCLE OF GAMES

Since the teenagers discover their talents through a game, a safe space is created in which they can try and fail. During the game no answers are wrong as long as they can convince themselves that their solution is possible. During the game, they even seemingly fail. By the end of the game, the King states that there is no problem, that they are even glad they came so soon or are all well and alive. It shows the teenagers that if something goes wrong it is not always a failure. Furthermore, it shows the teenagers and teachers how the teenagers deal with and solve such situations. During testing the teenagers expressed that they like the fact that it was a game in which they could explore. The application extends the safe space. Although the mentor during the conversation with the teenager might look at some of the answers given, the teenager have control on which answers they give.

10.2.6 INCLUDING THE ENVIRONMENT

This has been discussed in chapter 7 section 7.4.1. To not only promote the looking at talents between teenagers, but with the environment of teachers as well, one of the teachers are the facilitators of the game. Even if the mentor of the teenagers has not facilitated any games, they can still be influenced by the teachers who have. If that is not the case, the teenagers have a teacher at school who knows about the talents. This is the main reason the facilitation is not done by someone external.

10.2.7 PROBLEM SOLVING AND A SENSE OF CONTROL

The game does not have strict rules for the players to follow. In doing so it offers freedom and control to the teenagers. After they make a decision, there are still numerous ways in which they can react on the scenario. This helped the teenagers to engage in the scenario and offers the facilitator observations in the thinking of the teenagers. By changing small parts of the game based on what the teenagers do, the influence of what they do grows. The tests showed that teenagers enjoyed seeing their choices and ideas reflected through the game. Most of the teenagers showed almost a sense of pride when they delivered the chest. A big portion showed at least a reaction on which event they chose. I believe teenagers should be offered more control, or at least a sense of control. If they learn how to, they can handle it, especially in an environment where it does not really matter.

10.3 Discussion

This section discusses how I worked with the target group during the design. It also discusses the feasibility, desirability and viability of the designs based on the previous chapters.

10.3.1 WORKING WITH TEENAGERS

During the thesis I aimed on including the target group throughout the different stages of the design. In the end, the target group was included during research, testing the assumptions and testing the design. Although I aimed to include the teenagers during the first design phase as well, this proved to be difficult with arranging session times. Schools are busy and setting up sessions take time. In the end, the target group served more as test and reflection than that they co-create and design. I weighted the remarks and feedback given by the teenagers heavily and used those as cornerstones for the design.

Learning in the first stage that planning session with schools take time, I planned the last testing sessions in advance. However, by planning those

sessions in advance, I could not fully tailor the session to the final design. During the session I worked with the setup by quickening the game portion of the test and limiting the in-depth feedback on this section in favour of exploring the amulet and application. This resulted in a session where the teenagers still tested the game, but also gave feedback on the amulet part.

10.3.2 FEASIBILITY

In the beginning stages of the project I chose to make a tool which could fit in the current school schedule. The tool is connected to making the choice of which courses the teenagers will pick. In doing so I aimed to give the tool a clear goal for the school and teenagers. Rather than having the abstract goal of generating a more open environment, the tool generates talents for the teenagers with which they can explore course and study options. Showing how the game can replace the currently used form of questionnaires, the tool aims to be recognisable and easy to implement. This might result in a tool that does not produce a drastic change but rather produces an environment in which the next change is possible. This way, with several smaller changes we can build up to the big change. The big change is having a more open environment in which we don't value performance as greatly. In such an environment, people are open to conversations on subject such as insecurities and uncertainties.

I believe that with the rise of games and including games in education, this tool can be implemented. Especially now that there are new educators who want to change the system from grades to competences as well. (Based on conversations with people in the field). I also believe this is easier through established connections such as existing distributors of course choice questionnaires. I believe it can be fruitful for both distributors and designers to work together. It will help the distributors to ride along and keep in touch with this new focus on competences rather than grades.

The desire to look at teens differently, for example by looking at talents is on the rise as well. Even when concluding the thesis, articles and programs are started to promote this.

10.3.3 VIABILITY

Frankly, I hope this tool wouldn't be too viable for long. I hope that schools, teachers and students will move past this tool to find their talents and study in an open environment soon. In reality however, I believe the tool will be relevant and viable for some time. Change in such systems are slow. There are a lot of stakeholders involved and a lot of caution when the whole education system is to be reinvented.

Even in an environment where schools are more focussed on the competences of the student rather than the generalisation of society, the tool can still function. Or the tool could function as a mould or starting points of games and tools which are used in lower grades to find competences of the students or students to be. It then functions more as a tool to just find competences and talents rather than one that makes people realise they have them and help them to look different at students.

10.3.4 DESIRABILITY

A conversation about teenagers rather than their grades is desirable for teenagers as well as teachers. The teenagers expressed this during conversations and the first workshop. Teachers and other people who work in education expressed this when the thesis and idea was presented. A tool that helps them discover their talents and shows them how talents are used is

desirable for teenagers as well. They expressed relief that they did not have to address talents to themselves. Which, during the sessions described in chapter 5 section 5.3, proved to be difficult.

During conversations with people in the education sector, their desirability became apparent as well. Mentors of the schools asked when the tool would be finished to use. When you look at programs that are started by schools and teachers, the desirability to help students find themselves and change the focus on competences is shown. Often however, there is a desire to be able to focus on talents, but there are no tools that fit the schools programs. Adding programs leaves even less time in the busy school schedules, especially if the teachers or schools need to invest a lot of time and money. Therefore, the tool was chosen to be implementable in existing programs of schools. However, even if the full tool is not implemented, teachers could still use the game themselves.

I chose the environment of schools for a reason. Teenagers are together in a controlled environment. By implementing it in school, you reach all the students, not just the ones who are already searching for help or guidance. Furthermore, it reaches those who do not need it but can offer it to others. If you judge the desirability on the reactions gotten on this project, the desire is there.

However, it is not necessarily the ideal environment for the company. The company does not already work with (high) schools and would thus need to establish new connections and routes. I believe it is possible, but it might result in this project needing to find a different home to continue. The limited resources and freedom a school has however, could be an extra hurdle.

10.4 Further recommendation

First, I recommend schools and teachers to look into gamifying courses and subject. I do not mean for schools to be one big game. I do mean that looking at competences and skills as things that grow and develop at different rates. I believe there are possibilities here that motivate not only students, but teachers as well. Rather than projecting the message of “not being good enough” it would encourage growth and the message of “not being good enough YET”.

Second, I recommend looking more into how we can help teenagers feel less responsible for the world. I do not mean that they could do whatever they want, but that they are children and they need a space to try, explore and fail. They need space and time to, once again, grow. How can we give teenagers the feeling that they do not have to succeed at first try? How can we do so while we prepare them for the world and let them make choices and directions?

This thesis focussed on teenagers, who are not yet formed and set in their ways. I would therefore also recommend at looking how we can change the mindset of adults as well. Where would we meet adults, who no longer all go to school and have busy lives? Where can we help them learn more about their talents and talents of others without them having to be interested first?

Figure 10.4a shows an envisioned future path of education and how teenagers are taught about themselves and how open the (school) society grows.

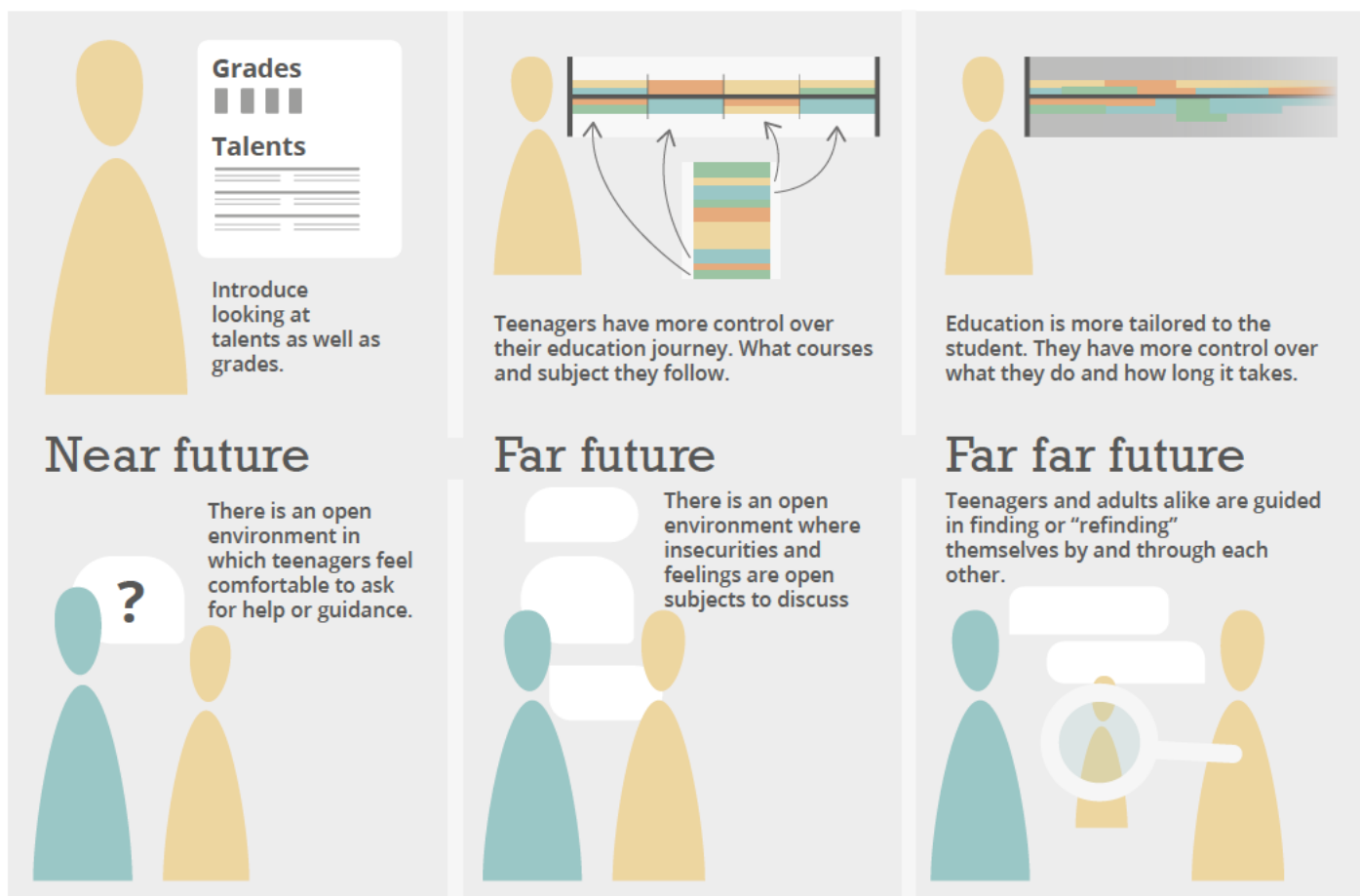


Figure 10.4a: Vision for the future of education and an open environment.

11. Bibliography

Arcadian, J. (2018, 10 April). *Tabletop Roleplaying Games as Social Practice* | John Arcadian | TEDxOhioStateUniversity [YouTube]. Referenced on November 4th 2019, from <https://www.youtube.com/watch?v=QJwsWsTa1hl>

Balazs J, Miklosi M, Keresztesy A, Hoven CW, Carli V, Wasserman C, Apter A, Bobes J, Brunner R, Cosman D, Cotter P, Haring C, Iosue M, Kaess M, Kahn J-P, Keeley H, Marusic D, Postuvan V, Resch F, Saiz PA, Sisask M, Snir A, Tubiana A, Varnik A, Sarchiapone M, Wasserman D. *Adolescent subthreshold-depression and anxiety: Psychopathology, functional impairment and increased suicide risk*. Journal of Child Psychology and Psychiatry 2013;54:670-677. PMID:23330982

Bijl, R., Boelhouwer, J., & Wennekers, A. (Red.). (2017). *Vrije tijd (hfd9)*. In *De sociale staat van Nederland 2017* (pp. 237–266). Referenced from https://www.scp.nl/Publicaties/Alle_publicaties/Publicaties_2017/De_sociale_staat_van_Nederland_2017

CBS. (2019, 14 april). *Vo; leerlingen, onderwijssoort in detail, leerjaar*. [Dataset] Referenced on September 12th 2019, from <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/80040ned/table?ts=1581449265087>

Choi, K., & Jun, C. (2007). *A systematic approach to the Kansei factors of tactile sense regarding the surface roughness*. Applied Ergonomics, 38(1), 53–63. <https://doi.org/10.1016/j.apergo.2006.01.003>

Corrigan, P. W., & Penn, D. L. (1999). *Lessons from social psychology on discrediting psychiatric stigma*. American Psychologist, 54(9), 765–776. <https://doi.org/10.1037/0003-066X.54.9.765>

Davarsi, P. (2019, 20 February). *How Schools Spark Excitement for Learning with Role Playing and Games*. Referenced on January 3rd 2020, from https://www.kqed.org/mindshift/53071/how-schools-spark-excitement-for-learning-with-role-playing-games?fbclid=IwAR2Smh6CKAyfUQohejzji0tD4BsbrDdhTn5TsehCZNYXH8_o-kOujmiY7QY

DeMorgen. (2018, 7 July). *“Depressie ontstaat niet in het brein, maar in de darmen”: zo groot is de invloed van uw darmen op uw leven*. Referenced on November 12th 2019, from <https://www.topics.nl/-depressie-ontstaat-niet-in-het-brein-maar-in-de-darmen-zo-groot-is-de-invloed-van-uw-darmen-op-uw-leven-a10131859demorgen/2f913e607f5f0f87b66-6a5c2c7b85f69d254082ac9856fdfe0b8bcac3afaf224/>

Dewulf, L. (2016). *Ik kies voor mijn talent: wat is talent? Hoe talent ontwikkelen? En wat met waar je echt niet goed in bent?* (Dutch Edition) (01 editie). Tiel, Belgium: Lannoo.

Fell, A. (2017, 13 July). *Why storytelling is so powerful in the digital era* | Ashley Fell | TEDxUniMelb [YouTube]. Referenced on November 4th 2019, from <https://www.youtube.com/watch?v=mSi0kmqOBu4>

Gaffke, P., & Kamphuis, L. (2019, 4 April). *Ruim helpt jonge mensen met psychische klachten durft er niet over te praten*. Referenced on September 23rd 2019, from <https://eenvandaag.avrotros.nl/panels/opiniepanel/alle-uitslagen/item/ruim-helpt-jonge-mensen-met-psychische-klachten-durft-er-niet-over-te-praten/>

Gilsdorf, E. (2016, 21 May). *Why Dungeons & Dragons is Good for You (In Real Life)* | Ethan Gilsdorf | TEDxPiscataquaRiver [YouTube]. Referenced on November 4th 2019, from <https://www.youtube.com/watch?v=6PaHJqpQnyw>

Gray, P. (2010, 26 January). *The Decline of Play and Rise in Children's Mental Disorders*. Referenced on November 4th 2019, from <https://www.psychologytoday.com/us/blog/freedom-learn/201001/the-decline-play-and-rise-in-childrens-mental-disorders?fbclid=IwAR2XkC1qhPnVtHxx147pqENSslXv4VXVTcOmbxBeBp4IEWU7lqlOpvJQd4o>

Griffiths, K. M., Carron-Arthur, B., Parsons, A., & Reid, R. (2014). *Effectiveness of programs for reducing the stigma associated with mental disorders. A meta-analysis of randomized controlled trials*. *World psychiatry*, 13(2), 161-175.

Hart, L. M., Mason, R. J., Kelly, C. M., Cvetkovski, S., & Jorm, A. F. (2016). *'teen Mental Health First Aid': a description of the program and an initial evaluation*. *International Journal of Mental Health Systems*, 10(1). <https://doi.org/10.1186/s13033-016-0034-1>

Hollins, M., Faldowski, R., Rao, S., & Young, F. (1993). *Perceptual dimensions of tactile surface texture: A multidimensional scaling analysis*. *Perception & Psychophysics*, 54(6), 697-705. <https://doi.org/10.3758/bf03211795>

Hinshaw, S. P., Stier, A. (2008). *Stigma as related to mental disorders*. *Annual Review of Clinical Psychology*, 4, 367-393. doi:10.1146/annurev.clinpsy.4.022007.141245

Iosifyan, M., & Korolkova, O. (2019). *Emotions associated with different textures during touch*. *Consciousness and Cognition*, 71, 79-85. <https://doi.org/10.1016/j.concog.2019.03.012>

Joode, S. de (2019, 3 December). *Imposter syndroom: Altijd bang om door de mand te vallen*. Referenced on November 11th 2019, from <https://www.psychologiemagazine.nl/artikel/imposter-syndroom-altijd-bang-om-door-de-mand-te-vallen/>

King, Z. (2014, 15 May). *Zach King: The storyteller in all of us | TEDxPortland* [YouTube]. Referenced on November 4th 2019, from <https://www.youtube.com/watch?v=VMlpxqeol1c>

Leclaire, A. (2017, 15 December). *Gun je kind ook eens een teleurstelling*. Referenced on December 14th 2019, from <https://www.nrc.nl/nieuws/2017/12/15/gun-je-kind-ook-eens-een-teleurstelling-a1584930>

Lev-Wiesel, R., Nuttman-Shwartz, O., & Sternberg, R. (2006). *Peer rejection during adolescence: Psychological long-term effects—A brief report*. *Journal of Loss and Trauma*, 11(2), 131-142

Lewars, L. (2015, 9 June). *Questions Every Teenager Needs to Be Asked | Laurence Lewars | TEDxDhahranHighSchool*. [Video] Referenced on November 5th 2019, from <https://www.youtube.com/watch?v=NEgoEgonx3U>

McCord, J.-L., Harman, J. L., & Purl, J. (2019). *Game-like personality testing: An emerging mode of personality assessment*. *Personality and Individual Differences*, 143, 95-102. <https://doi.org/10.1016/j.paid.2019.02.017>

Moilanen, K. L., & Lynn Manuel, M. (2019). *Helicopter Parenting and Adjustment Outcomes in Young Adulthood: A Consideration of the Mediating Roles of Mastery and Self-Regulation*. *Journal of Child and Family Studies*, 28(8), 2145-2158. <https://doi.org/10.1007/s10826-019-01433-5>

Moore, C. (2019, 4 November). *What is Flow in Psychology? Definition and 10+ Activities to Induce Flow*. Referenced on 13 December 2019, from <https://positivepsychology.com/what-is-flow/>

Phillips, D. J. P. (2017, 16 March). *The magical science of storytelling* | David JP Phillips | TEDxStockholm [YouTube]. Referenced on November 4th 2019, from <https://www.youtube.com/watch?v=Nj-hdQMa3uA>

Reeve, J. (2002). *Self-determination theory applied to educational settings*.

Robbins, M. (2019, 8 October). *The Five Elements of the The 5 Second Rule*. Referenced on November 5th 2019, from <https://melrobbins.com/blog/five-elements-5-second-rule/>

Schwartz, A. (2018, 14 November). *Polyvagal theory unlocks symptoms of PTSD* | Dr. Arielle Schwartz. Referenced on November 12th 2019, from https://drarielleschwartz.com/polyvagal-theory-unlocks-symptoms-of-ptsd-dr-arielle-schwartz/?fbclid=IwAR3V7klG2f-WoioOYd369HR_YQ1dkzCqYzwlvmxsClZQamECI89So1ules4#.XkMDviNCdEb

Simonds, K. (2015, 9 February). *I'm 17* | Kate Simonds | TEDxBoise [Video]. Referenced on November 5th 2019, from <https://www.youtube.com/watch?v=0OkOQhXhsIE>

Tuijnman, A., & Engelse, R. C. M. E. (2018). *Moving Stories: a study protocol on a game-based school program for depression literacy and stigma*.

World Health Organization. (2018, 18 October). *World Mental Health Day 2018*. Referenced on November 11th 2019, from https://www.who.int/mental_health/world-mental-health-day/2018/en/

PRACTICAL INFORMATION ABOUT COMPONENT SIZES AND PRICES:

Adafruit. (n.d.). *Introducing the Adafruit Bluefruit LE UART Friend*. Referenced on January 15th 2020, from <https://learn.adafruit.com/introducing-the-adafruit-bluefruit-le-uart-friend/introduction>

Bare Conductive. (n.d.). *Electric Paint 50ml*. [Webshop] Referenced on Januari 15th 2020, from <https://www.bareconductive.com/shop/electric-paint-50ml/>

batterijenstunter. (n.d.). *Ansmann CR2025 3 volt batterij kopen?* [Webshop] Referenced on February 7th 2020, from <https://www.batterijenstunter.nl/cr2025-batterij-3v-ansmann-lithium-knoopcel-3-vol.html>

batterijenstunter. (n.d.). *LIR2450 batterij 3,6V 120mAh kopen?* [Webshop] Referenced on January 15th 2020, from <https://www.batterijenstunter.nl/lir2450-36v-oplaadbare-li-ion-knoopcel-batterij-3.html>

batterijenstunter. (n.d.). *Panasonic 3 volt CR2016 batterij kopen?* [Webshop] Referenced on Januari 15th 2020, from <https://www.batterijenstunter.nl/cr2016-3v-panasonic-lithium-knoopcel-batterij-3-v.html>

Bol.com. (n.d.). *Relaxdays 6x jongleerballen - jongleer set - juggling balls - circusballen*. [Webstore] Referenced on February 6th 2020, from https://www.bol.com/nl/p/relaxdays-6x-jongleerballen-jongleer-set-juggling-balls-circusballen/9200000124403524/?bltgh=i5BIKkFxRf6c-zcu0sFPGA.1_30.31.ProductPageUrl

Mouser. (n.d.). *113990637*. [Webshop] Referenced on February 7th 2020, from <https://eu.mouser.com/ProductDetail/Seed-Studio/113990637?qs=sGAEpIMZZMsGelYiB%252BjhZoug4L%2FWODSMODQSSzcSzuMpTlvluRrxNg%3D%3D>

Topend sports (n.d.). *Sports Ball Size Comparison*. Referenced on February 7th 2020, from <https://www.topendsports.com/resources/equipment-ball-size.htm>

Appendix A - Interviews with people in the teens' environment

Appendix B includes the consent form of these interviews.

Points from the interview - Psychologist

- The welfare of the Dutch population is declining. There are more opportunities and needs. People NEED to do more
- Even more so with adolescents. They need to do more, can do more, are under a lot of pressure, are still figuring out themselves and have all kinds of hormones that come in to play as well.
- Asking for help is a big step and can take up to six months or a year. After that there is still a whole journey until they get help
- Some students cancel their appointments while they are on the waiting list when a semester goes well.
- In the perfect student world everything magically goes better and is easier. They are in balance.
- In the perfect psychologist world, students take time to pause, reflect and evaluate their life, feelings and energy level. They dare to make choices for themselves.
- The psychologist thinks that by explaining and increase awareness, students can realize better how it works and how to avoid it.
- However, teens in puberty won't listen.
- Knowing what a burn-out is and realizing you are on the path to one is a whole lot of difference.
- Taking care of mental health should be as normal as brushing your teeth for dental health.
- The educational institution puts a lot of pressure on students.
- The educational institute could play a good and big role in increasing the students awareness and knowledge on the mental health subject
- Parents stand to far from the situation to understand their struggles, according to the teens.
- Friends are often only included after the student went to therapy.
- Talking with a therapist is save because it is not a part of the rest of their lives.
- It is important that the other party in the conversation acknowledges and values the feelings and situation of the student. That they really listen. Even without offering a solution.
- New students often miss a safety net in the new city and retreat to their rooms.
- Loneliness is a big problem, not only with elderly but also with students.
- Some students escape their feelings with alcohol and drugs.
- 1 on 1 conversations with a new person does not help, is to daunting.
- Talking and being included in a group, even talking about random stuff helps.
- Talking 1 on 1 via a computer does help, they can walk away from the conversation when they want to.
- The conversation and question for help should come from the student. The environment can throw hooks for them, but they should not force the student to talk.
- Students seek help and arrive at the psychologist at the end of the bachelor. When choices need to be made and things need to be finished
- Best case, they come in their first year.
- Worst case, they come after ten years not knowing what to do anymore
- Teens come in before study stressing on what choices to make. If they should

study or which study they should do.

- WO students are fast to learn from a cognitive standpoint.
- MBO students learn better from practical examples and repeating something until it becomes a habit.
- When mental health issues run in the family, the student needs to keep a close eye on themselves. They more often end up needing the help of medication
- With things like ADHD the medication is used sooner, because it gives a big boost.
- The “me-day” trend is a hoax. “You should do it! But not in my time.”
- Students who are feeling down will be less likely to ask their friend for help when that friend seemingly has a perfect happy life online. They do not want to be a bum.
- In the conversations it is important to include realistic positivity. Not that the world is perfect, but that not the whole world is bad and sad.
- Stress is not just the fear of failing, but it is a big part of it.

There should be more tolerance and acceptance of feeling down. So that you could ask your neighbour for help and they are not too busy and understand and accept your feelings and then help you find the positive things or balance of life again.

Points from the interview – Student counsellor

- Students are most stressed when choices need to be made or changes are determined, master choice, bachelor project, BSA.
- Parents have protected their children so much that they don’t know how to handle failures, which should change.
- Students feel ashamed about their failure and feel like they should be handling it on their own, which should change.
- Students should be aware of the tools and opportunities the institution already offers but their expectations of these tools should be managed by the university.
- The problems of the students should be assessed and “graded” before they join a waiting list.
- Institutions do not have too high of expectations of students, students have it from themselves and others due to comparison. They feel like they need to do a lot.
- The step for seeking help should be lowered.
- The BSA is good because it forces students to determine if this is the right study for them, however it is a harsh line and the timing of when to unenroll is unfortunately timed.
- Students like physical handouts and paper to hold and refer to. As well as students who need to figure things out as students who need to help other students. A guideline helps.

Points from the interview – Expert on student well being

- The problem comes from various factors and parties, including the sole focus on performance, that they are brought up knowing nothing else, the new legislations promoting informal care, the visibilities of everybody’s perfect lives and the curling parents who take away every problem their kids have.
- The pressure is not only a problem with students. It is and it is a very big problem, but it also affects the teachers and professors. They are suffering from the problems and in turn are less available for the students. This increases the hurdle for help.
- Mental health issues are still a taboo. There is improvement with students, but still there is a stigma surrounding it and they refer from talking about it.
- Talking about it helps. But there should be help and people to talk about it with

available.

-Students should be willing to talk to start getting help.

-During the age of studying, the mind of the students is focused on becoming parts of a group and not be cast away.

-What students desire most is the validation. That they are recognized with their problem. That they can see that yes what they felt like is a problem is indeed a problem.

-The validation can be done by showing test results that show that they might have a problem or testimonials.

-Depersonalizing themselves while searching for advice can help. Like the "asking for a friend" method. Some sites already use this method. "How can I see if my friend has a depression?" or "How can I help my friend who is thinking about suicide." At 113.nl

-The language used while offering help should be considered. Which words to use when.

-It is wise to offer small steps each time. So that they can get further help when needed, but are also available to only search for some more information.

-There is no big difference between studies. The MBO has more problems at home, teen pregnancies and stuff, but the pressure is everywhere. Even in primary school (with parents mostly).

-The HBO and WO do have the added risk of drinking. Drinking is a big part of the student culture and looking who is using it as a coping mechanism is hard to see.

-Students often have not yet developed the part of the brain that evaluates long term consequences.

-We should increase and improve the mental health skills of teens and students so that they learn them early on.

-The focus of the brain to be part of a group that happens at this age should be considered during the design.

Points from the interview – Student counsellors (3) and students (3)

-There is a difference between studies and faculties, between cities but also within one bigger organisation.

-It is important that there is a climate that makes it normal to seek help.

-Help should be easily available, you shouldn't have to spend a lot of energy getting help.

-Although it helps to fully guide students the teacher shouldn't turn into curling teachers.

-Helping the student towards help instead of sending them off helps increase the amount of actual help that is sought.

-Alter egos can help break through barriers the first time to lower them for their personal self.

-Alter egos can provide strength in everyday life as well.

-Offering a lot of help and having multiple options for help does not only provide the students with the right amount of help but also brings confidence in teachers to send their students towards help, knowing they will find it.

-The student will not improve their studies if the rest of their life is wrong and costing too much energy. Finding hobby and social contacts can bring energy which can be put towards the study.

-Regular contact between students and coaches provides a close watch on when something changes.

-Giving the students responsibility and seeing how they handle it can show if something might be wrong.

-When someone is depressed, it can be hard for them to plan stuff.

- It helps to keep watching the students to make sure they do not disappear in the system.
- After time it becomes harder and harder for students to return, ashamed of the amount they have missed.
- Re-entering the study after a break for depression can bring stress, which can be increased by age gaps. This can lead to isolation and a relapse.
- Students who have had problems or difficulties often come sooner, knowing they will need help to reach the finish.

Points from the interview - Adolescent

- There is a negative association with psychologist and therapists, if you need them, something is really wrong.
- Teamwork helps with increasing the connection with each other.
- If kids want to bully, they will do it anyway
- Teacher don't do much against bullying, only warnings.
- It would be a good idea to let the kids better understand and know each other. The kids should not be anonymous, they need to know what is going on.
- It could be a good idea for the school what is going on at home. That is when the feelings are expressed.

Points of the interview – High school confidant

- Vmbo is more socially focussed on competition whiles the vwo is more focused on grades
- At the vmbo there is a smaller group of teacher who meet and talk about the wellbeing of their students while meetings about vwo kids are more focused on grades.
- Kids don't have the tools to handle difficult emotions with themselves or help others with it
- In 3rd grade the kids are already hiding their feelings
- Ego based games and tools have worked before with other projects
- The kids need persuasion to go to therapy, they are afraid to disappoint their parents or make the parents feel like they have failed.
- The students are more closely monitored and offered help before they have to ask for it.
- Anxiety and depressive feelings are on a rise within 14 to 16 year olds.
- The kids often find it difficult to describe what they feel or find the source, they often claim the world is the source and grow angry at the world.
- It is difficult to distinguish when a kid is going through puberty or a rough time.
- The school is wary about bringing up the topic, in order to not wake a sleeping dragon.

Points from the interview – High school Deans (2)

- There is a difference between the various parts of the Netherlands. Some cities are far more focused on grades than others
- Kids in this area are learning that they need to get the highest grades to be successful in life
- Parents do everything in their power, or the power of their money to help their kids reach the highest grade
- Kids are therefore focussed on their grades starting at primary school. Eager to make it into VWO
- When it is time to choose their subjects they want only what is perceived to be the "best" or most difficult subjects.
- It is difficult to choose a right study and then get in it
- Fear of failure is more accepted and easier to do something with in a class than

for example depression

- There is a care team for the students with special needs.
- The school feels like they are having a lot on their plate, teaching the kids about drugs, safe sex, social media and now mental well-being and how to deal with the worlds.
- This should be part of the upbringing by the parents
- However parents are often too busy to actually have the time and energy to talk with their kids about the topics
- The school also feels like because the kids are taught that they can make the world and barley have any boundaries, they sometimes have trouble getting them to follow the teachers directions
- Parents find it hard to learn that their kids might not be able to do anything they want
- Parents do not (always) want to monitor what their kids do online
- Teachers try to keep an eye on students by being aware when their actions change

Points from the interview – High-school dean

- Parents or society wants kids to reach the highest possible education.
- The closer a teacher is to the student, the more curling they might become.
- Kids pressure each other into using, keeping up with and reaching the standards of social media.
- Some kids, mostly girls, set high, sometimes unreachable goals for themselves and loose themselves in the study and school work.
- Some parents see only the symptoms, no acknowledging the underlying problems.
- School and parents both have a responsibility towards educating the kids on various aspects.
- The kids are not good with sticking to a plan.
- They have a hard time to work for something that is further into the future without immediate benefits. (That is often what study aid is, accountability and supervision)
- Parents keep a closer eye on their kids, getting in contact with the school when things seem to go wrong. They also look at the absence of their kids.
- Personalized education would work better, going at their own pace and level which can differ from subject to subject.
- Projects can lead to kids spending more and more time on it, trying to ever improve it.
- Parents seem to think MBO is a bit disappointing if that is where their kids strand.

Points from the interview - Adolescent

- Shame not only for your own mental problems, but also for people close to you.
- Afraid of being "crazy by association".
- People "trained" to help kids with a trauma still don't always listen and take them seriously.
- Forcing teens and kids to get help doesn't work.
- Being older I want to figure out why I feel like I do.
- It helps having someone who went to something (a bit) similar.
- It would even help if someone takes a kid serious, actually listening.
- Parents can isolate their kids so that they not see what is actually happening.
- There is a lot of minimizing problems, others have it harder.
- Trying to find common ground with teens can help getting them involved and still make them see what is actually happening.

-Helps to let the kids themselves call out what is happening and naming it (for example why someone would lose themselves in drugs).

Appendix B - Informed consent form

interview adults

Inform of consent

TITLE OF STUDY

Creating a tool to enable teens to communicate their feelings.

PRINCIPAL INVESTIGATOR

Doris Boschma
Integrated Product Design, Delft University of Technology
The Hague
dorisboschma@gmail.com

PURPOSE OF STUDY

You are being asked to take part in a research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information.

The purpose of this study is to get more insight in the problems and experiences of students and teens that are stressed or feeling down. Talking with this group will give insight in the current situation. Learning more about these situations will help to highlight problem areas, wishes from the target group and situations and solutions that already exists and are effective. This research will later be used in the development of a tool that will help improve student welfare by enabling them to express their feelings and thoughts with peers and their environment. The idea is that by doing this students can help each other before help from outside or professional help is needed.

STUDY PROCEDURES

The project is currently in the research state. The interview will be part of the information that is gathered during this stage. Rather than to only focus on literature and stated facts; the experiences surrounding the subject will be included. After the interview the information will be used to develop and design a tool that will help in the solution of this problem.

For this research you will be interviewed by the researcher. The questions will be about your own knowledge and experiences surrounding the subject. You might have had struggles yourself, or someone in your surroundings. Or you work with or for people who have or had mental health issues. The researcher will ask you about the experiences and your story. What have you felt, what did you do about it or your environment, how did that make you feel? The interview will include prepared questions, as questions that will arise during the conversation. Alongside the questions about your experience you will also be asked on your opinions and ideas surrounding the topic. Feel free to express any ideas you have, you will not be judged during or after the interview.

During the interview, the researcher will audio record the conversation. This audio recording is later used to transcribe the conversation. Thereafter, the audio file will be deleted. The transcription will be used to make an anonymous summary of your story which will be used in the project. The transcription will be deleted after the summary is made. Your anonymized story will be used and published in the thesis report. Furthermore, these stories might be used by the Game Solutions Lab or het Nederlands Centrum voor Jeugdgezondheid during their project of youth welfare in general. These companies will have no access to any audio file or transcription. Alongside the stories, the researcher might use anonymous quotes in their report. The researcher will do it's best to minimize the identification as best they can. However, there is no guarantee that no one will be able to recognize your story

This interview will last about an hour. Afterwards you are given the opportunity to leave your email address in case you want to be updated of the project outcomes at the end of the project. You can also leave your email address if you are open to providing feedback on designs made later on in the project. The email address will be saved separately from the interview data to ensure no correlation is made.

The interview and answers will be saved on the TU Delft storage space where it will be encrypted and guarded.

RISKS

To minimize your risks in this project, your data will be saved anonymous. The cited interview answers will not be included in the thesis appendix as it could include comparisons or lead to comparisons of the clients. For example, a participant might compare various cases or various study directions or education levels. Therefore a paraphrased version of the interview answers will be included in the appendix. Such information will therefore be anonymized as [department] or [school].

Another risk is that you might feel emotional during the conversation. Feel free to express these emotions or pause or stop the interview when needed. Be aware that the researcher is no trained professional but they will guide and comfort you to the best of their ability.

You may decline to answer any or all questions and you may terminate your involvement at any moment.

BENEFITS

Stress and insecurities among teens and adolescents is a big problem that keeps increasing. This leads to more stress and insecurities and more (mental) health problems. For this, professional help is needed. However, professional help is not always available. Professionals are too busy, protocols have to be followed and the teens that need help end up lost and on waiting lists. You directly might not benefit, but you will help teens and students who have similar problems you might have had or who otherwise might end up at the bottom of a waiting list to be helped.

CONFIDENTIALITY

Your responses to this interview will be anonymous. During the interview, please do not state your or any names that might help in identifying you or others. Every effort will be made by the researcher to preserve your confidentiality including the following:

- Assigning code names/numbers for participants that will be used on all research notes and documents
- Digital data, including interview answers, will be encrypted and saved on the secure TU Delft Storage Space.
- Any reference to identifiable locations or terms will be changed to a general term.

Participant data will be kept confidential except in cases where the researcher is legally obligated to report specific incidents. These incidents include, but may not be limited to, incidents of abuse and suicide risk.

CONTACT INFORMATION

If you have questions at any time about this study, or you experience adverse effects as the result of participating in this study, you may contact the researcher whose contact information is provided on the first page.

VOLUNTARY PARTICIPATION

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to sign a consent form. After you sign the consent form, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship you have, if any, with the researcher. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

CONSENT WITH AUDIO FILE

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

CONSENT WITHOUT AUDIO FILE

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study. I, however, do not give permission to audio record the conversation but do allow the researcher to transcribe the conversation during the conversation.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix C- Personas, environment and opportunities

BACKGROUND

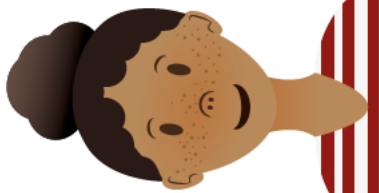
- Lives with her mother, successful businesswoman who travels a lot. They often eat take out at separate times.
- Her father lives further away, she spends a lot of weekends there, with her new siblings.
- Her mother wants the best for her.
- She plays hockey in a team, they are pretty good and the team would like to train for a third evening. Alex is not to happy about it, afraid she would have to stop babysitting and would not have enough time for her homework.
- She babysits a little Nova, who looks up to her. Alex loves this
- Four close friends who she loves deeply, one excels at the same hockey team, another at school, the third has a beautiful singing voice and the forth is so strong taking care of her brother after her father committed suicide.

PERSONALITY

- Always eager to take care of others
- Doesn't want to bother others
- Believes she can do anything if she works hard enough
- Insecure
- She was always pretty good at learning, remembering information.
- Her best classes are French and History
- She is a go-getter, never giving up

WHO

Female
15 years
3rd of VWO
Plays Hockey
Loves rabbits
4 Close friends
Tries to get the best results possible



ALEX

STRUGGLES

- She finds it kind of sad that she will have to drop history. On the other hand biology is mighty interesting and she doesn't want to become a history teacher anyway
- She spends, a bit too much, time in bed at night looking at pictures online. Beautiful girls who seemed to have achieved so much. She feels incompetent and like she has to do more. Planning to make posts in the weekend, feeling like she doesn't post enough.
- Even though she is quite good at remembering information, she is still pretty jealous of her friend who seems to be breezing through the beta subjects
- If Alex gets below a 7, she is pretty disappointed by herself
- Always realises others have it worse, not allowing herself to feel bad

DREAMS

- She wants to go to medical school
 - Her mother always called Alex her little surgeon
 - Therefore she wants to choose the N&G and N&T combined profile but she struggles with physics -> which causes stress and she spends most nights and weekends studying
- Be loved and liked by others, including social media
- She hopes to someday find a boy who will not only become her best friend but also her husband, with two kids. (As of this moment she doesn't have enough time to focus on that
- Once she achieves her goals she is ready to set new ones

BACKGROUND

- Lives with his parents and little sister who want the best for him. He knows they don't have a surplus of money but want to give him everything they can.
- His parents often call him their soccer or athlete star. He doesn't feel that it is justified.
- Alex is more focused on developing socially and athletics than doing school work. He never really liked homework and learning, he preferred working with his hands.
- He is pretty happy with how well his poolside pictures of last summer are doing online. He has a pretty good profile to be honest.
- His friends tease him with the girls who like his profile pictures and seem to like him, some are jealous some are making advances on girls starting to get interested in them.

PERSONALITY

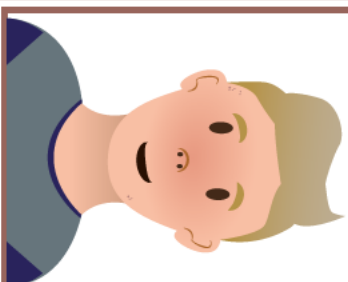
- Happy fellow
- Feels the need to protect his family and especially his little sister
- Appreciates what his parents are doing for him
- Wants to fit in, does not want to end up alone
- Is more living in the now than focussing on the future
- Has a great hand eye coordination
- Best classes are PE and technique

DREAMS

- Want to make his parents proud
- Does not really know what to do after school, maybe he will try to go to the Havo to buy some time
 - Doesn't really like learning
- Would like to work with his hands, maybe something with machines or bikes
- Want to be in a big group of friends hanging out together, playing games, staying friends for ever
- To one day know what he wants and feel great about it

WHO

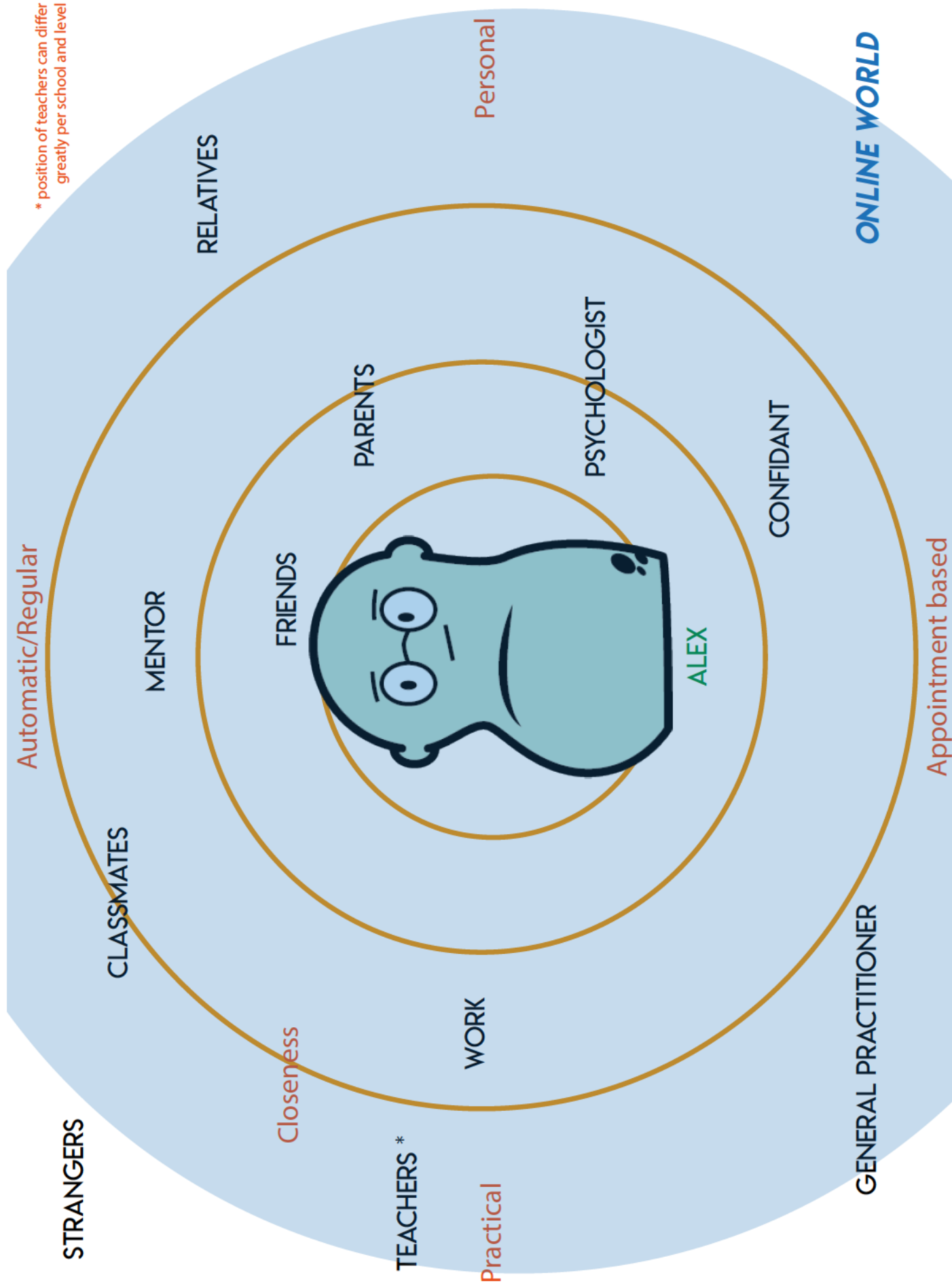
male
16 years
3rd of VMBO
Top scorer of soccer team
Close to family
Big group of friends
xbox over
Playstation



ALEX

STRUGGLES

- Is kind of worried about not knowing what to do in the future
- He is not really interested in the girls at the moment. Not that he is interested in guys, just he doesn't really care right now, but feels like he should
- He agreed to go on a date with one of the girls, but feels bad about it kind of trying to be interested
- He's pretty insecure, those photos online are edited. He still had some fat and made himself more tan and luckily the sunglasses hid the pimples
- He actually feels pretty insecure but doesn't know who to talk to
 - His parents just say they he is just modest and is their strong athlete
 - Also he doesn't want to disappoint his parents by saying he "failed" to feel confident and great



Actions

Kids

Environment

To prevent stigma forming, all people should be addressed, not only the ones needing help. This also gets rid of the problem that it is difficult to see who needs help.

The tool might start with creating awareness, to get kids familiar with the subject but the tool should ultimately lead to actions



Awareness

Spontaneous

Cognitive

Hands/repeating

These could all be various concepts.

A game that explains the brain and mental health by engaging the teens in an interactive and exciting story that will be played anywhere because it is fun.

A tool that the teens will use by themselves that makes them familiar with actions they can take or things they can say in certain situation. Which offers practice in failing

A tool that is used during lessons at school that teaches teens about the brain. The teens have no choice but to use it.

A tool that is used during school with which the kids can train their skills in talking about and taking care of their mental health

Planned/forced

Home

Peers

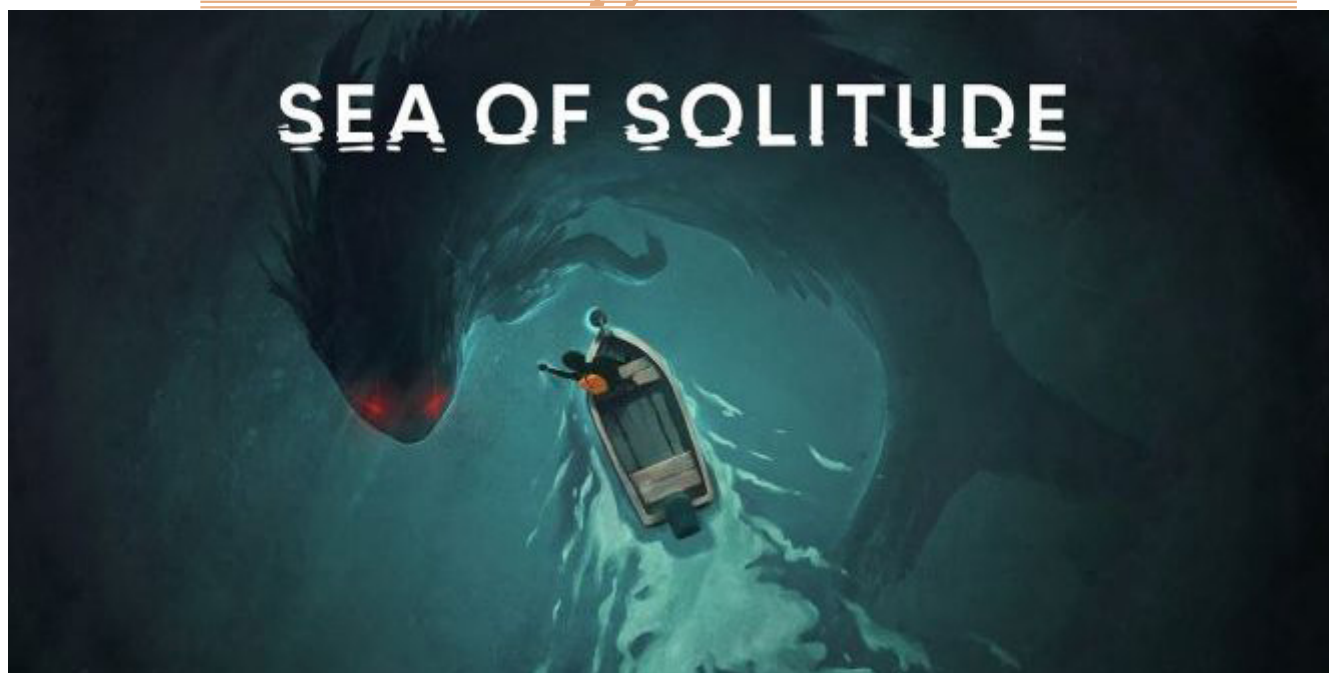
Supervisors

The same reason we will focus on teens instead of students, we want to prevent the stigma from being created in between peers. So that will be the focus group.

Still the location of the use of the product is open. A controlled environment gives a place to test and a way to gather data, it also insures that all kids are using it. However, it also leads to a more forced motivation to use the tool and limiting the teens possibility to use the tool. Talking with teens and developing the tool will give more insight in what the best location might be.

Controlled environment

Appendix D - Games made as a form of therapy



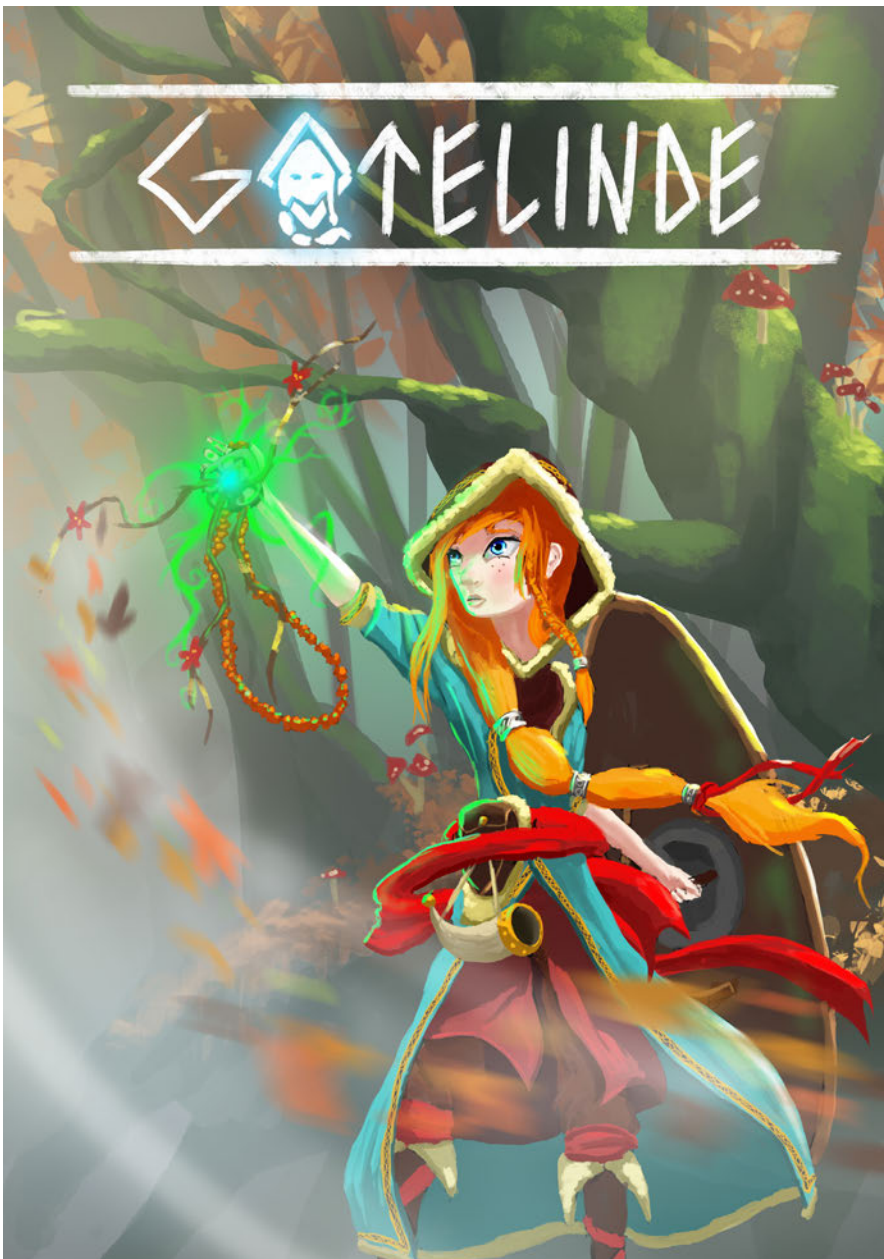
"Sea of Solitude is the most personal game I've ever made so far. I started writing it when I felt the loneliest, in both my private and working life," Geppert said in our interview. "I needed to let that out. It was really bursting out of me. I started writing down the first lines of the story, and the result is all this you see here, the game.



TIE is a game about depression and the daily grind we are all forced too endure. Experience a week of more of the same, every day, through the eyes of our main character as the world and its inhabitants slowly start too become increasingly unfamiliar. Irregularities in the world and from deep within plague your day to day and a strange force seems to tear the very fabric of reality itself, as it becomes apparent that not all is as it seems in this short, atmospheric game about depression and existential dread.



An immersive narrative videogame that retells Joel Green's 4-year fight against cancer through about two hours of poetic, imaginative gameplay that explores faith, hope and love.



The story is about a little germanic girl, at a fantasy location inspired by 600AD germany. She loses her father and little brother in a Viking river raid and flees into the forest to get away from all that's happening and get her loved ones back. This ofcourse doesn't work as she learns death is definitive and she has to learn to cope with it. The 5 levels inside the forest match the 5 stages of grief defined by the "Kubler-ross" model, and I tried to let the current phase of grief shine through anything I could manipulate as developer.

Appendix E - Testing assumptions

The target group is teenagers between 14 to 16 years old. The teenage brain is not yet fully developed and goes through a lot of development during and after this period. This means that it is difficult to say how it was being a teenager. Furthermore, the lives of teenagers now differs from how it was to be a teenager a couple of years ago. It is therefore important to include the target group in the various stages of development. Not only during the initial research and the final testing. During this second research phase, the teenagers were asked to answer some questions about their talents and test a first version of a game. This chapter goes over these three sessions and what information was gathered. These insights are incorporated in the concept chapter that is discussed next.

Between the first and the second session there was almost a month. The concept and project developed further in the mean time and the "story game" concept was developed based on insights of the first session. The third session was with an art class and differed from the first two sessions.

Session goals

As said in the previous chapter, the goals of the session were to make sure that the theories gathered were true for the target group and worked. Furthermore, the basic ideas and principles of various ideas were tested. Small and simple tests were used to see how the teenagers reacted on the various ideas and what worked and what did not. These simple tests are explained below.

These two sessions were used to gather more information from the teenagers. Mostly how they reacted on the new focus on talents and how they understand these. Furthermore early versions of ideas and later the concept were tested to see how they reacted to this. The sessions tested the findings and theories of adults to see how they fit with the actual target group.

Session one hypothesis

ACTING SILLY

One of the things that I wanted to test was how easy the teenagers acted silly in front of each other. Using the 5 second rule a warm up for the session was made. The teenagers were asked to pull a card and do the activity stated on this within five seconds. During the first session the teenagers did this one by one, during the second, the whole group did each activity together.

Hypothesis:

H1: The teenagers will be able to do the activity within five seconds.

H2: The teenagers find it easier to do the activity together.

Additional question:

Q1: What activities find they easy to do?

TALENT WRITING

This was the main part of the session. The teenagers were asked to write down their talents. What they liked to do and their dreams. After this the teenagers were asked to write down what they struggled with, what they would like to be good in, why and what they feared in the future. The specific questions can be found in appendix F.

These questions connected with the making yourself and future self as well as the talent finder. This part of the session tested to see what the teenagers viewed as talents and if they were able to address them to themselves. My hypothesis was that it would be easier to say which challenges and struggles they have. If the teenagers would not be able to do this, then the teenagers

would need additional help with this by the tool.

Hypothesis:

H3: The teenagers will find it easier to write down their challenges than talents.

H4: The teenagers will write down talents connected to school.

Additional question:

Q2: Which talents do they mention and what words do they use for them?

RADIO PLAY

As the last part the teenagers were asked to try out an early version of a game. In this game the teenagers would listen to a radio play through headphones and make decisions on their phones. The radio play can still be played on <https://samantha.dev.gamesolutionslab.com/chat/Hoorspel1>. This part of the session was aimed at gathering info on the theme of the game. Would it be possible to use a thematic story and is the idea of making choices and having a sense of control important for the teenagers. Furthermore the game focussed on talents of the characters that were not attributed to intelligence.

Hypothesis:

H5: The teenagers will be able to engage with the story.

H6: The teenagers will like the power of choice.

H7: The teenagers will be able to see the talents of the characters.

Additional question:

Q3: What do they think of the story, will they find it too childish?

First session

The first session was with a group of 9 teenagers between the ages of 14 and 16, 5 girls and 4 boys. The session started with a warming up where they needed to pull a card from the deck and within five seconds act out what was stated on the card. Thereafter they were asked to write down their talents and challenges on post its and after that they were asked to do the radio play demo game that was made.

THE SESSION

The teenagers had just come from a class where they got back grades. The teenagers talked amongst themselves about this as well. This gave some interesting insights on how they dealt with receiving the grades and comparing them. The teenagers not only looked at the grade itself, but also at their grade in comparison and how it affected their average scores. Some teenagers who received a lower grade contemplated on how to fix the grade or how to tell their parents.

The teenagers however were eager to help with the research. They wanted to know what they could expect during the session and what we were going to do. Quickly it became apparent that certain things were not clear at first. For example, some of the instructions and the informed consent, were written in English. This slowed down the phase a bit as some need more time to understand it. This clearly showed that the final tool should be in Dutch and easy to understand terms.

Other things that stood out was the fact that they wanted to know for sure that the answers were anonymous. They were both with the talents and on a small feedback form. Stating even: "Good otherwise I would put something else down." Showing that they were concerned in some degree with this. However, when the teenagers wrote down their talents, they looked at each other's papers

and sometimes commented on those talents. "You have that talent?" or asking each other for ideas.

The radio play demo had some difficulties as not everyone was carrying headphones or could reach the website. Still, the teens that did were able to try out the game. One of the first things they said and/or asked were: "Is their a wrong choice?" and "Oh it's scary." The game did not have wrong answers and was not intended to be scary, this was interesting to hear. Especially the question about there being wrong choices. As the players reached the end of the game, they were happy they found the "exit" although only one route would not have lead to the exit and was explicitly told that it would not. The teenagers that played the game still were focussed on doing it right and winning, even if their was (barely) and option to lose.

The teenagers that were not able to participate in the game were quickly finding other things to do, like talking with each other or playing with the broom. In the end I was quite happy with the fact that not all were able to participate in the game. Because this behaviour showed how important it was for the teens to have something to do. Even with the warm-up they showed less interest in the game and situation when it was not their turn to do anything.

HYPOTHESIS AND QUESTIONS ANSWERED:

Hypothesis:

H1: The teenagers will be able to do the activity within five seconds.

The teenagers all waited for after the five seconds to do the activity instead of during the counting. Most were able to do it, although some still hesitated after the five seconds. After they were done with their moment some teens were less invested in the rest of the game.

H2: The teenagers find it easier to do the activity together.

The teenagers all looked at the one who's turn it was and for half of the teens that needed to do an activity, they looked around the group especially friends. Although this is a difficult hypothesis to accurately prove, the teenagers seem to hesitate before acting.

H3: The teenagers will find it easier to write down their challenges than talents. This was not correct. Although some teenagers had a difficult time writing down their talents, they still had a difficult time writing down what they were not good at. This was pretty interesting to see. As the teen said "I'm not good at anything." But apparently were also "not not good at anything." One of the teens said "I know that tonight I would have a whole list of talents and challenges to write down." Suggesting that it is difficult to name these things on the spot.

H4: The teenagers will write down talents connected to school.

Most of the talents the teenagers wrote down did indeed connect to the school courses. After suggesting talents such planning and social skills were added by two people. However, they only included these exact talents and did not add on themselves.

H5: The teenagers will be able to engage with the story.

The teenagers easily engaged with the story commenting about it being scary or not. On the feedback form they said to have liked the story. However, this was minimal feedback. At least the teenagers that were able to play the game all finished it and were not distracted by the other teenagers while playing it.

H6: The teenagers will like the power of choice.

The teenagers that played the game did like that they could make choices

and found this important. Although they wanted to be sure there are no right answers in this. To give them full power of choice, there should not be a right or wrong answer.

H7: The teenagers will be able to see the talents of the characters.

This was not apparent during the feedback. The teenagers seemed to see the game more as a game and did not look that deeply into the characters.

Additional question:

Q1: What activities find they easy to do?

Not all the activities were equally easy to do and some they seemed to find more awkward than others, such as hiding. The activities that were easier to do, such as jumping, were sooner done by the teens. Some even though they did not understand the activity correctly. Activities such as "dance like in the single ladies video" were depended on the teen to be understood. The activity of "talk british" was also a more difficult. The activities should have all been movement based and not depended on previous knowledge.

In the end the teenagers did not really seem to like this activity. Some even say so directly in the feedback form.

Q2: Which talents do they mention and what words do they use for them?

Table A talents the teens gave themselves

Your talent	Everyone can do it	Best course	Like to do	Why you like your friends	Future dreams
Courses <i>Dutch/Biology</i>	Courses <i>PE</i>	Various	Hobby <i>Draw/Game</i>	<i>Trustworthy</i>	Job <i>Fun/money</i>
Hobby <i>Sing/dance Game /sport</i>	<i>Nothing</i>	<i>More answers than first question</i>	Active <i>Soccer Dance</i>	<i>Liking the same things</i>	Study <i>Right one Finish Hobby</i>
<i>Learning/plan Socializing lying in bed</i>	<i>Write stories</i>	<i>Lunch break</i>	Chill <i>Netflix/Movie Meeting with friends</i>	<i>Fun & humor</i>	Family <i>Healthy/happy Beautiful</i>

Your challenge	Hate to do	Wish I could	<- Why	Stupid World	Fear in future
Mind <i>Math/physics Making tests</i>	School <i>Homework Tests</i>	Mind <i>All the classes Order in head</i>	<i>More time Less stress Confidence</i>	World problem <i>War/violence climate change</i>	Study <i>Test/dissapoint Wrong choice</i>
Environment <i>Talk to parents Live a good life</i>	Chores <i>Vacuum Getting up early</i>	<i>Whistle Drive a car Get up early</i>	<i>Everyone can do it Am up anyway</i>	Materialism <i>Phone is everywhere</i>	Social <i>Lose contact with friends Living on own</i>
<i>Stay calm</i>		<i>Stay calm</i>	<i>It's embarrassing to lose your cool</i>	<i>You can't be yourself</i>	<i>Future in general</i>
Body <i>Don't break phone Not hurt myself</i>	<i>Be at home</i>	<i>Teleport</i>	<i>Would be awesome</i>	People <i>Non-vegetarians Particular teacher</i>	<i>Not finding a job I like</i>

As can be seen, the talents are mostly focused on courses and activities. The challenges go in more general connection with things like "staying calm". What is interesting to see is that the "Why you like your friends" goes in more abstract talents. In the future section, both positive and negative, there is a big portion focused on achieving, study, job or money wise.

Q3: What do they think of the story, will they find it too childish?

The teens seemed to like the story element in general and could focus on the story pretty well. There were no negative or childish feelings although there was no big positive emotions as well. The story element could be helpful but does not have to be an high quality story per se.

INSIGHTS

Activities need to be simple and movement based.
 The teens do the activity after the countdown, not during.
 The teens seem less invested if it is not their turn or they have nothing to do.
 They need to be kept active.
 The teens have trouble writing down talents they have.
 The teens look at the papers of others when writing down talents.
 The talents written down are almost all activities.
 It is not easier to write down challenges.
 Writing down talents over a longer period of time might give more answers.
 Story is not per se too childish.
 The teens want to know if they can make wrong choices.
 The teens want to know what to expect (if the story is going to be scary, what is happening in the session).
 Instructions should be easy to understand and in Dutch.

Changes for the second session

After the first session some things became already apparent. For example how difficult it was to address talents to themselves. The talents they expressed were all addressed to activities or courses. Therefore, during the second session, the teenagers were asked to simply write down talents. They also went over the talents stated in "Ik kies voor mijn talent" by Luk Dewulf. As the project progressed a new concept was made that was tested during this session as well as a replacement of the radio play. Instead of the radio play, which worked but had limited impact, the group game was tested in this group.

TALENT WRITING

There is a small change in this part. The teenagers were first told more about talents that do not connect to school. Furthermore viewer questions were asked. The teenagers were asked to write down talents in general; what talents they would like to have; and what talents they "need" to have according to others. This was done to see if it was less connected to which talents they have, it was easier for the teenagers to write down talents.

Hypothesis:

H8: After explaining the other versions of talents, the teenagers are able to write down different talents.

H9: The teenagers are able to write down talents in general.

Additional question:

Q4: How do they interpret the talents from Luk Dewulf?

TALENT SPIDER

In between the session the concept further developed. Especially the outcome of the tool. As an outcome of the game, the teenagers get a visual presentation of their talents which they can discuss with their coaches. Instead of using the talents of Dewulf, I translated the talents into ten combinations. More about these combinations in the next chapter. But during the session the teenagers were given empty spiders to fill out themselves. This was to see if they could understand the spider and the talents mentioned on them.

Hypothesis:

H10: The teenagers are not able to read the talent spider.

H11: The teenagers will understand the words on the talent spider.

Additional question:

Q5: Would they prefer a more metaphorical view?

STORY GAME

The concept tested here is a social game in which six players play through a scenario in which they make choices. Similar to the Big Five personality game where a player chooses responses on certain scenarios which represent the different personalities, the teenagers chose answers that related to talents. However instead of doing it solo, it was done in a group so. Discussing what choice to choose in the end. This showed how the players played together and which roles they took in a group.

This test was mostly to see if this concept has potential and is possible to work and worth exploring further.

Hypothesis:

H12: The teenagers will like the power of choice and control.

H13: The teenagers are able to first choose for themselves and later discuss with a group.

H14: The talents that are found at the end of the game corresponds with what they think of themselves.

Additional question:

Q6: Do they like the game?

Q7: Is the game playable enough?

Q8: What is it like to facilitate the game?

Second session

The second session was with 6 teenagers between 14 and 16, five girls and one boy. They were from the same class and friendly with each other. Again we started with the warming up of the cards, this time however, the whole group, including me, was doing the activity after the countdown. Thereafter the talents and ideas behind it were further explained. The teens were asked to write down their talents and what they would like to be talented at. They were asked to write their interpretation of the talents of Dewulf and asked to look at the talent spider, filling it in for themselves. Lastly we tested the concept of the story game and had a short feedback moment for the game.

THE SESSION

During the warming up it became clear that it was much easier for the teens to do the activities if everyone was doing them. Not only because they were not in the spotlight by themselves, but the activities that were a bit more difficult or needed more explanation were done in the group as well. They could look at each other for guidance. However, the teens were still aware of what they were doing. "The people outside will ask themselves what we are doing haha!" Although they were still aware they seemed less bothered with it. There was more laughter and activeness, even though the first session was around noon and this one was early in the morning.

The teenagers were asking more questions about the talents and discussing them amongst themselves. However, when the time came to write them down, they still struggled. By themselves they started to decide to do the talents of someone else. The hardest thing, according to them, was that everything could be seen as a talent. Interesting to see as well was that these

teens were more afraid of what to expect in the future. Similar to the first group they wanted to know what to expect and this became apparent in this question. Afraid how it would be if they were living on their own or would go to college or university.

When the teenagers were writing down their interpretations of the talents they were still struggling by finding once to give to themselves. Their interpretation at the same time were all fairly literal interpretations of the metaphors. For example: The group animal likes to be in a group. All the interpretations can be found in appendix G.

This literal translation became apparent with the talent spider as well. Because here the literal translation was more difficult or very specific. The prompts around the spider needed more explanation. In the figure the explanation is included as well, the teenagers only had the one (or two) word prompts. After explaining the prompts, the teenagers were pretty capable of putting their own talents down. This figure shows how the various teens rated themselves on the spider.



After these conversations and test, the game was tested. The six teens were all gifted voting card and with me as a facilitator we went through the whole game. The teenagers engaged during the story. Using the set scenario and setting during the game as well. "There might have been bandits on which we could blame this." They were also engaged in the prop of having the chest, this prop therefore needs to be a good prop, an actual chest with something inside. They were able to build upon the set scenarios and come up with their own answers. During one event they needed to "get over a river" which they needed to do in real life by getting over a marked of section of the floor and they quickly used chairs as rocks to climb over. The story worked.

As for the game mechanics. The teens liked to choose between the two events. Feeling like they made a right choice or wrong choice based on what the event was. They also incorporated earlier choices. The coloured chips that were gifted on the one hand worked to see what they chose and how they ranked on the scales. However, the fact that “the other side of the scale” did not get chips did not work. People who chose options that “earned” less chips felt like they made the wrong choice. Everyone should get the same amount of chips.

In the end the teenagers felt like the talents they got and the representation of the chips more or less corresponded with what they would have said themselves. They liked that each person was given their talent in the end, they felt appreciated. The teenagers in the feedback moment said they like the making choices and having an active part as well.

Facilitating this game was doable. During the game and the discussion and especially the active event the various talents could be seen. Although the question on who would facilitate the game did arise. The teens did say they liked the set up of the game as is, with six players and a facilitator that stated the scenario. Not only can the facilitator answer some questions of the setting (“Does the box have a seal and could we remake it?”), but the players should also not know before hand which chips they would get from certain answers. In the next chapter it is further explained how the facilitation can be done by a teacher or student as well using a booklet and examples for them to use.

HYPOTHESIS AND QUESTIONS ANSWERED:

Hypothesis:

H1: The teenagers will be able to do the activity within five seconds.

As with the previous session the teens did the activity after the countdown. However they did so more confidently and could look to others for guidance when they did not fully understand the prompt.

H2: The teenagers find it easier to do the activity together.

Judging by the positive energy, laughter and ease I would say yes. They found it easier to do the prompts. The prompts done were similar to the ones in the first session. The energy at the end was higher and there was more happy laughter instead of nervous giggles.

H8: After explaining the other versions of talents, the teenagers are able to write down different talents.

There were indeed more talents, although most talents were still connected to school or at least activities. However the talents they “should have” were more abstract than literal activities.

H9: The teenagers are able to write down talents in general.

This was still difficult for the teenagers to do. Now there were too many options. The teens were not sure when a talent is a talent. What would be the deciding factor in that.

H10: The teenagers are not able to read the talent spider.

Although the first prompts used were difficult to understand, everyone understood it in the end and was able to fill out the spider. However, they did not seem to really know what to do with it afterwards. (appendix H shows a blank talents spider with described talents.

H11: The teenagers will understand the words on the talent spider.

This is a pretty simple no. The prompts as given were too abstract. After using examples and metaphors they were better able understanding what the terms

meant. Every one of the terms was explained at least once. After explaining they were able to explain it to others however.

H12: The teenagers will like the power of choice and control.

Yes, not only because they felt like they could make the right choice. It was also interesting to see how the different teens defended their choices differently. Not only did the choices of which event they picked make an impact but choosing the reaction worked as well. They were also comparing their answers, seeking out others who said the same.

H13: The teenagers are able to first choose for themselves and later discuss with a group.

The teenagers were able to discuss on their own. Sometimes they simply went for the most votes and other times they discussed more in depth. They asked other players why they chose certain answers. They also discussed the interpretation of the answers which helped in choosing the answers. There was no moment in which the facilitator was needed to make the decision.

H14: The talents that are found at the end of the game corresponds with what they think of themselves.

Not only was this seen in the talent spider, but some of the teenagers said so as well afterwards. They nodded when the answers were given. They appreciated being seen like that.

Additional question:

Q1: What activities find they easy to do?

Quick and moving activities, jumping, dancing, shaking were the easiest and quickest. The active event where the players needed to jump over the river in the concept showed this as well. Once they were all standing and some were trying to jump over or using the chairs, the others quickly followed. This did not need to be a difficult task to be active and get them moving.

Q2: Which talents do they mention and what words do they use for them?

Tabel B talents given

Talents	Talents you want	Talents you "should" have	Dreams	Fears
Active <i>Sport/act</i>	Active <i>Running/dance</i>	Happy <i>Being/making</i>	Arts <i>Dancer/actress</i>	Broken dream <i>Dream is not true</i>
Intellect <i>Being smart</i> <i>Courses</i>	Intellect <i>Being smart</i> <i>Courses</i>	Work <i>Try your hardest</i> <i>Being go-getter</i>	Study/work <i>Earn vwo diploma</i> <i>Specific study/job</i>	Study <i>Choosing</i> <i>Falling out</i> <i>Pay back loan</i>
Hobby <i>Drawing</i>	Hobby <i>Drawing</i> <i>Singing</i>	Intellect <i>High grades</i> <i>Don't abandon school</i>	Materialism <i>Become rich</i> <i>Dream house</i>	Work <i>Not finding the right one</i>
Abstract <i>Leading</i> <i>Making choices</i>	Abstract <i>Don't judge others</i> <i>Making choices</i>	How learning <i>Having</i> <i>concentration</i>	Happy <i>Become happy</i> <i>Make others happy</i>	Growing up <i>Becoming 18</i> <i>Live on your own</i>
"Talents" <i>Spending money</i>			Travel <i>Travel the world</i>	School <i>Choosing courses</i> <i>Failing VWO</i> <i>Exams</i>

Still most of the talents are activity based. Although some are more abstract. With the talents they “should” have there is more focus on achieving and intellect again, aside from being happy which is quite a wholesome talent they “should” have. The dreams are as with the first session often focused on achievements. The fears however, as said before are also focused on the unknown and uncertainties.

Q4: How do they interpret the talents from Luk Dewulf?

Quite literal. Once again, all the answers are in appendix G. Most do correspond with this literal meaning but not all. Most of the times however this leads to a pretty flat interpretation and does not go into the depth and impact of the talent.

Q5: Would they prefer a more metaphorical view?

Looking at how they interpreted the talent cards and the need for examples and explanation a more metaphorical way of explaining their talents might help.

Q6: Do they like the game?

According to the feedback they gave afterwards they liked the game. Apart from one player they were all invested in the game until the end. They wanted to finish it as well before the session ended.

Q7: Is the game playable enough?

The teens were invested in the scenarios and build upon them and addressed it as a game. However, using the chips and not giving equal chips at each answer, they saw certain answers better than others, which made it more as a game but not on the way that is preferred.

Q8: What is it like to facilitate the game?

It is doable with the six people, but a note book is needed. Extra prompts or examples are helpful. For example prompts like “keeps the overview during a discussion” or “offers new insights or possibilities” will help the facilitator to assign talents. Especially if the facilitator is not experienced or familiar with these talents.

INSIGHTS

- Choices in the game which have impact are a good part of the game.
- With little context, the players emerged themselves in the game, using context clues and previous events during further events.
- The teens were willing to take an active part in the game and liked this.
- Using props works, but they should be actual props. (put something in the box)
- Have the opportunity to give more information and context for the events.
- Everyone should get the same amount of chips each event.
- The teens were able to correct and guide themselves during the game.
- Make a connection between multiple events, have an influence on each other. Showing that the choices matter.
- Having a group that is comfortable with each other helps.
- Need to be a game leader who reads the cards and observes the players during play.
- Move about is easier with a group.
- Talents are quite literally interpreted.
- Giving talent examples helps understanding them.

Third session

The third session was different from the first two. This session was with a group of 8 teenagers between 12 and 18 years old during an art class. There were three boys and five girls. This session was dressed up as a guest lesson from me. During the session I used clay to make sculptures of their talents and talking about talents in the meantime. The hypothesis here was that these teenagers would be able to visually shape their talents and explain how these looked. With this information I planned to develop the physical prompt the teenagers would take with them during the game that showed their talents.

SESSION

Shaping their talents into clay proved to be very difficult. One of the teens was able to show their spontaneity in a ball with sprouts from all sides. Another clayed "connection" by making a ball with two slots for hands to hold them together. The others rather clayed something they liked. What I found interesting to see is that a quitter participant kept rolling her clay into a ball, as if making no choices which ended up with a ball.

I therefore went over on focussing more on questions about talents and personality traits and what they thought about those. When asking what "stubborn" meant, they explained it mostly in the standard ways. "Wanting to do you own thing." Or "Neglecting other's advice."

I asked two more questions during the session. One was how they choose their courses. Some using their interest as guidance whilst others used the fact that with N&G and N&T you have the most options. In the end they might not even need the courses. But the fact that they do not know yet and this gives the most option is reason enough to choose it.

The last question was if they ever felt like they were not allowed to feel what they felt. A difficult questions and the participants who were eager to talk expressed this feeling more as white lies. Some of the participants however recognises it but were not eager to express it, which fits the question.

This session showed how big the need of concrete examples and metaphors to choose from are. Even in this group of teens who are familiar with arts and crafts, spending time to indulge in it, concrete examples and words were needed. I also interpreted it as that it does not really matter as long as it is explained that the connection exists or there is space for their own interpretation.

INSIGHTS

- The teenagers need concrete examples, this is done with the scenarios during the game.
- The teenagers need something practical, do not get too spiritual.
- By explaining the talents, examples and activities will help.
- Give the teens space for their own interpretations.
- It is difficult to know what you want in life at this age.
- Expressing what you have trouble with expressing is difficult, which is logical. This fact could also be used as a sign that people have trouble expressing.

Appendix F - Talents questions asked

Post It!

Wat zijn jouw talenten?

Post It!

Waar ben je goed in?
Wat is makkelijk voor jou?

Post It!

Welke vakken vind je leuk?

Post It!

Wat doe je het liefst?

Post It!

Wat vind je zo leuk aan je vrienden?

Post It!

Wat zijn je dromen?

Post It!

Wat kan je nou echt niet? Of vind je moeilijk?

Post It!

Wat haat je? Wat vind je vervelend om te doen?

Post It!

Wat zou je graag willen kunnen?

Post It!

Waarom zou je het willen kunnen?

Post It!

Wat vind je stom aan de wereld?

Post It!

Wat vind je spannend (in de toekomst)?

Appendix G - Teen interpretations of talents

Beautifier

Someone who feels at home with people who value beauty and appearance.

Bridge builder

Someone who builds bridges between two situations.

Busy bee

Someone who is energetic.

Confidant

Someone you trust.

Conscious mover

Someone who is better at moving than at school.

Creative creator

Someone who is creative.

Driver

Someone who pulls others along in things who not necessarily always are a good idea.

Ethos feeler

A lot.

Frontier

Someone who likes to seek out challenges.

Future watcher

Someone who thinks in the future.

Goal finder

Someone who values environment justice and friendship important and hopes that others feel the same way.

Go-getter

Someone who continues on – no matter what!

Group animal

Someone who loves to be in a group.

Grow engine

Someone who wants to always keep growing.

Gut feeler

Someone who knows a lot intuitively and can easily explain these gut feelings

Idea generator

Someone who is always filled with ideas and is always together.

Image organizer

Someone who organizes a lot of things and prefers doing it themselves.

Knowledge sponge

Someone who has a lot of knowledge

Lighter

Someone who quickly takes the forefront and starts doing stuff.

Loyal friend

Someone who has their friends back.

Mistake sniffer

Someone who is perfectionistic.

Moment lover

Someone who enjoys the here and now and doesn't think too much about tomorrow.

Newfreak

Someone who is studious.

Opportunity giver

Someone who never hates anyone and thinks that everyone has equal rights.

Origin comprehendor

Someone who knows how things originated.

Someone who knows how the lifecycle went and is interested in history.

Positivo

Someone who looks on the bright side of life.

Someone who always look for a positive aspect of the situation.

Pro's and Conner

Someone who is good with making difficult and complicated decisions but doesn't take too many or big risks.

Ruminant

Someone who thinks about everything that has happened.

Scheduler

Someone who makes great schedules.

Someone who plans ahead.

Silent helper

Someone who doesn't stand out but does do a lot for others.

Team molder

Someone who wants to bring everyone together, for example when there is an argument.

Thinker

Someone who tries to combine everything.

Unraveled

Someone who loves challenges and instantly understands the challenges.

Visible achiever

Someone who loves attention, compliments and appreciation from others.

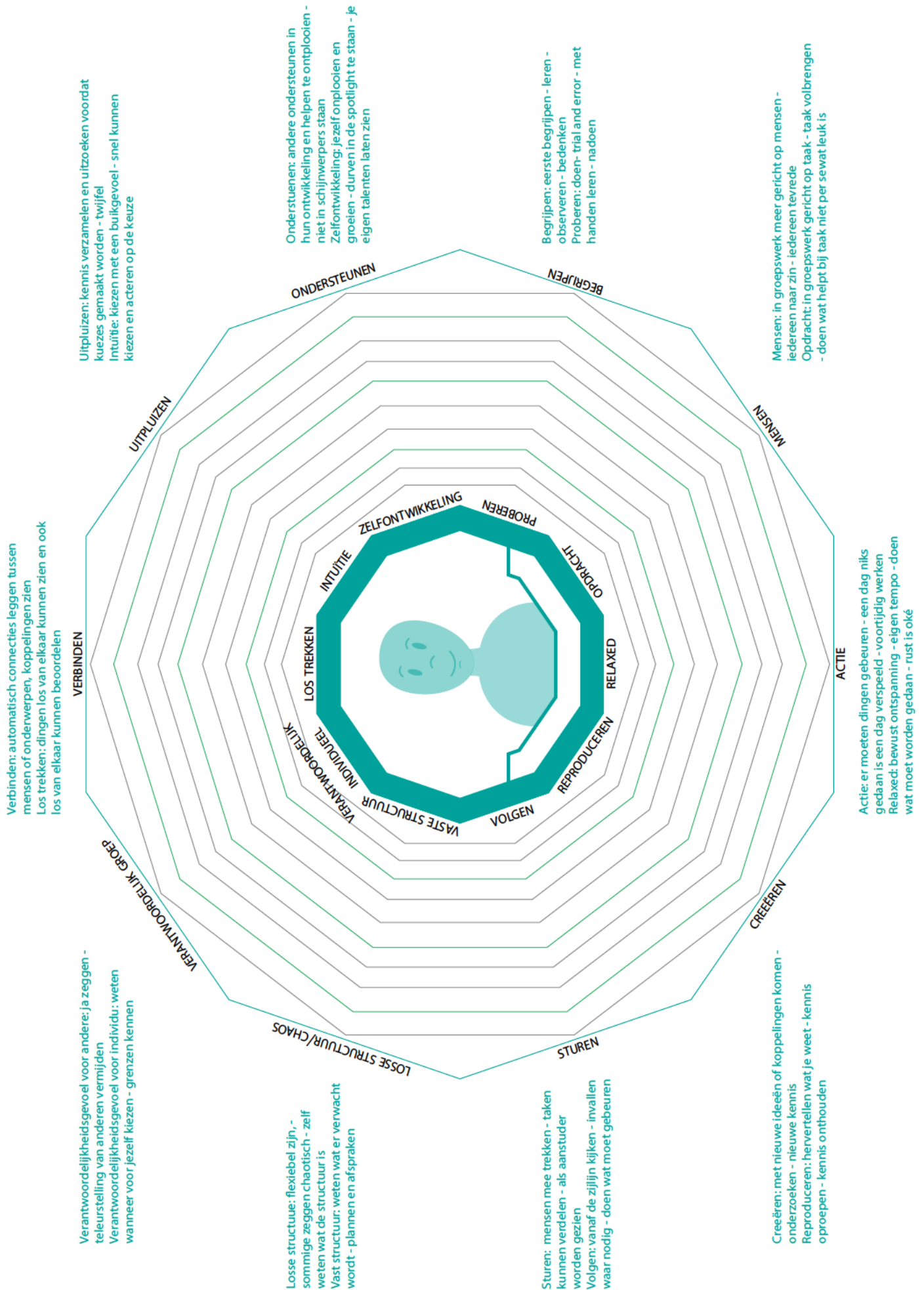
Word magicians

Someone who often makes jokes and can construct beautiful sentences.

Yessayer

Someone who is positive and enthusiastic.

Appendix H - Talent spider



Appendix I - Informed consent first test teens

Geïnformeerde toestemming

TITEL VAN DE STUDIE

Een voorwerp ontwerpen waarmee jongeren hun gevoelens kunnen communiceren.

HOOFD ONDERZOEKER

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DOEL VAN DE STUDIE

Je wordt gevraagd om mee te doen met een onderzoek. Voordat je besluit mee te doen aan de sessie is het belangrijk dat je weet waar je aan mee doet en wat je kunt verwachten. Lees dit bestand alsjeblieft door en besluit daarna of je mee wilt doen. Mochten er vragen zijn dan kun je deze aan de onderzoeker vragen.

Deze sessie is onderdeel van een afstudeeropdracht. De opdracht gaat over het helpen van jongeren met het communiceren van hun gevoelens en gedachtes met anderen. Het doel hiervan is om, waar mogelijk, depressie te voorkomen en anders hier op tijd bij te zijn. Hiervoor wordt een visualisatie ontwikkeld waarmee jongeren hun waarden en talenten leren kennen waarmee een gesprek met mentor of ouder gestart kan worden. Om tot deze visualisatie te komen wordt een spel ontwikkeld dat de vragenlijst die er normaal vooraf aan gaat vervangt.

Dit onderzoek helpt om het spel en de visualisatie aan te laten sluiten bij de doelgroep. Zo worden er woordkeuzes verzameld. Over hoe jongeren hun eigenschappen verwoorden en of de woorden en de visualisatie die uiteindelijk gemaakt worden ook aansluiten en begrepen worden door de doelgroep. Daarnaast wordt gekeken naar het spel element. Welke spellen sluiten aan en hoe reageren de jongeren op verschillende spel elementen.

STUDIE PLAN

Het onderzoek vindt plaats op school en zal ongeveer een uur duren. Het onderzoek zal worden gedaan in een groep jongeren. Het onderzoek zal beginnen met een introductie van de onderzoeker. Hierin zal besproken worden wat we gaan doen en is er een moment om vragen te stellen. Daarna zal er gekeken worden naar talenten en valkuilen. Er zal een gesprek gestart worden over talenten en valkuilen. Daarin zullen de jongeren gevraagd worden over hoe zij talenten zien, wat zien ze als talenten en hoe interpreteren ze de in de literatuur gevonden talenten? De audio van dit gesprek zal worden opgenomen. De jongeren zal ook gevraagd worden hun eigen talenten anoniem op te schrijven. Hiermee wordt er gekeken naar welke talenten de jongeren bij zichzelf zien en hoe ze deze verwoorden.

Ten slotte zullen er tijdens het onderzoek ook een klein prototype testen van het spel. Hierin wordt gekeken naar de eerste reactie op de spelmechanieken en thema. Zonder al te veel informatie over het precieze spel weg te geven, de jongeren zullen in een groep moeten samenwerken en overleggen. De onderdelen van het spel zullen wat kaarten en de jongeren die meespelen zijn.

RISICO'S

De audio opname die gemaakt zal worden (wanneer hiermee is in gestemd) zal versleuteld en anoniem op de beveiligde harde schijf van de TU Delft opgeslagen worden. Hier heeft niemand anders dan de onderzoekster toegang tot. Wanneer de audio opname tekstueel verwerkt is gemaakt zal de audio opname worden vernietigd.

De onderzoekster zal haar uiterste best doen de kans op herkenning zo klein mogelijk te maken. Zo zullen quotes die eventueel toegevoegd worden, anoniem gemaakt worden. (P1: "Ik zie me zelf als een echte doorzetter!") Desalniettemin kan de onderzoekster anonimiteit niet garanderen. Iemand die weet dat je onderdeel was zou je kunnen herkennen ("Dat is typisch iets wat ... zou kunnen zeggen.").

Omdat het over talenten en valkuilen gaat en zelfreflectie, is er altijd een mogelijkheid dat je je iets realiseert wat je emotioneel zou kunnen maken. De onderzoekster zal haar uiterste best doen jou hierin te helpen en verdere zorg te vinden. Besef wel dat ze hier niet geïnteresseerd in is. Je hebt ook de mogelijkheid om weg te lopen en niet langer mee te doen aan het onderzoek.

Je mag altijd weigeren om een vraag te beantwoorden of zeggen dat je niet langer mee wilt doen.

VOORDELEN

Het leven als tiener is moeilijk zat. Met mijn product hoop ik dat ik het een beetje makkelijker zal maken. Verder help je door het meewerken uiteindelijk andere tieners. Om het spel en het product uiteindelijk iets te laten worden waar de jongeren ook echt iets aan hebben is het belangrijk ze te betrekken in het proces. Dit is dan ook echt een kans om te zeggen wat wel of niet werkt of hoe het beter kan. Alles wat jullie zeggen is waardevol en zal meegenomen worden. Tijdens het onderzoek ben jij als jongere ook de expert.

Mee doen aan de sessie kan jou ook al helpen bij het onderzoeken en ontdekken van wie je bent en wat je wilt. Misschien realiseer jij je wel hoe ontzettend handig het is om een groepsdier te zijn!

VERTROUWLIJKHEID

Alles wat je zegt en de creatie die je maakt zal anoniem worden meegenomen in het verslag. Wanneer we het gesprek houden over talenten, probeer dan ook niet je naam of andere informatie te noemen die je herkenbaar maken (dus geen adres of telefoon nummers). De onderzoekster zal haar uiterste best doen om jou anonimiteit te waarborgen, dingen die ze daarvoor zal doen zijn:

- Codenamen toevoegen aan deelnemers en quotes van deelnemers.
- Digital data zal versleuteld worden en veilig worden opgeslagen op de TU Delft Storage Space en audio opnames zullen verwijderd worden wanneer deze zijn overgeschreven. Deze tekst zal vervolgens anoniem gemaakt worden en vertaald, waarnaar de Nederlandse transcriptie ook vernietigd zal worden.

Data van de deelnemers zal anoniem behandeld worden tenzij de onderzoekster wettelijk verplicht is de data te delen met overheidsinstantie. Dit gebeurt bijvoorbeeld (maar niet alleen in deze gevallen) wanneer er kans is op zelfmoord of misbruik

CONTACT INFORMATIE

Mocht je op enig moment tijdens de sessie, daarvoor, of daarna contact willen opnemen met de onderzoekster dan staan bovenaan de data. Deze is ook op te vragen bij de school.

VRIJWILLIGE DEELNAMEN

Je deelname aan deze sessie is volledig vrijwillig. Het is aan jou of je mee wilt doen of niet in de studie. Als je besluit mee te doen wordt je gevraagd op de volgende pagina een van de opties te ondertekenen. Hierin kan je kiezen of je wel of geen video opname wilt. Nadat je hebt getekend ben je nog steeds vrij om te zeggen dat je toch liever niet mee wilt doen. Wanneer dit gebeurt wordt alle data die de onderzoekster al heeft vernietigd.

TOESTEMMING MET AUDIO OPNAME

Ik heb dit doorgelezen en begrijp wat er staat. Ik heb de kans gekregen vragen te stellen en begrijp dat mijn deelname vrijwillig is en op elk moment kan besluiten niet langer meer te doen. Dit kan ik zonder reden of kosten doen. Ik begrijp dat ik door hieronder te tekenen vrijwillig deelneem aan de sessie en er een audio opname van mij kan worden gemaakt.

Deelnemers handtekening _____ Datum _____

Ouder of bevoegde handtekening _____ Datum _____

Onderzoekster handtekening _____ Datum _____

TOESTEMMING ZONDER AUDIO OPNAME

Ik heb dit doorgelezen en begrijp wat er staat. Ik heb de kans gekregen vragen te stellen en begrijp dat mijn deelname vrijwillig is en op elk moment kan besluiten niet langer meer te doen. Dit kan ik zonder reden of kosten doen. Ik begrijp dat ik door hieronder te tekenen vrijwillig deelneem aan de sessie. Er mag echter geen audio opname gemaakt worden van mij.

Deelnemers handtekening _____ Datum _____

Ouder of bevoegde handtekening _____ Datum _____

Onderzoekster handtekening _____ Datum _____

Appendix J - Why these four talents are chosen

The talents

Two pairs of talents are used as focal points of the game. During the first test, however, two more combinations were seen during the game and observation. Although more talents can be tested, this concept version of the game focuses on this limited amount. Not only to have a playable concept to test in a limited time, but also because it helps the game to be more grounded. Including all the talents would result in a long or more superficial game. It would also prove to be more difficult for the facilitator to keep track of all those talents.

THE TALENTS ON WHICH THE SCENARIOS ARE BASED ARE:

Group responsibility – Individual responsibility
Intuition, gut feeling – Analysing, deliberate decisions or no decisions

These two combinations are chosen because they give the teenagers and coaches an idea on how the teenagers think. It can explain why they make certain choices or no choices. The intuition and analysing can give insight into how they would choose courses. The group and individual responsibility shows what information they might consider.

If teenagers are showing these talents in extreme forms, it might indicate that they are suffering from stress or could be prone to depression. People with depression can often feel like they are not being able to make any decision, as simple as what drink you want to have, or make rash decisions, just to be done with it. From the interviews, teenagers who suffer from depression or need mental aid can feel helpless because they feel responsible for their parents' feelings. Teenagers might agree to various tasks to not let anyone down or they could go within themselves and are no longer a part of anything else. Not only does discovering these talents help teenagers and coaches better understand the teenagers if the teenagers show extreme forms it might be a sign they need some help.

THE OTHER TWO TALENT COMBINATIONS ARE:

Leader, overview – Follow, flexible
Taking action – Taking a step back, calm

During the testing, these talents are shown in the discussions of the players. The leader quickly keeps an overview. While some quickly come with various possibilities. These talents also show how the teenagers work in a group. This can be helpful for both the teenagers to know from each other as the coaches to see how group dynamics work. Insight in each other's talents, in this case, helps to better understand each other. It also helps to see how people differ and might prefer different things.

Appendix K - The game scenario

Introductie

Jullie leven in een relatief grote middeleeuwse stad in het koninkrijk van Koning Strander. Het is herfst, de bladeren kleuren oranje en beginnen te vallen. Jullie zes zijn persoonlijk door de Koning gevraagd om een persoonlijke kist naar het kasteel te brengen. In de brief waarin hij jullie vraagt zegt hij dat de inhoud in de kist niet nat mag worden en dat deze inhoud breekbaar is.

[Overhandig het pakketje]

Aangezien jullie het grootste deel van de route zullen lopen en het veel heeft geregend, zullen jullie het pakketje zelf moeten tillen.

[Het pakketje mag niet op de tafel rusten]

Het is twee dagen lopen en de Koning verwacht jullie zo snel mogelijk.

Extra info

Het koninkrijk wordt geregeerd door de Koning en de Koningin. Het volk mag hen en is over het algemeen tevreden.









Het kan koud zijn tijdens de herfst, maar het is vooral regenachtig. Het heeft de laatste tijd veel geregend, maar er wordt geen regen verwacht de komende twee dagen.

De spelers leven in het zelfde dorp en er wordt vanuit gegaan dat ze elkaar kennen. (In ieder geval een beetje, maar ze kunnen ook vrienden zijn.)









The brief van de Koning vertelde niet waarom zij gekozen waren.

Event 1: Verantwoordelijkheid. Nora of Beau

Nora vraagt jullie een pakketje voor haar aftelever in een dorp wat ongeveer op de route ligt. Dit betekent dat jullie later aankomen bij de koning.

-   1. Nee daar hebben we geen tijd voor.
-   2. Ja, we maken wel vaart.
-   3. Wie is Nora, waarom zouden we dit doen?
-   4. Ik weet het niet, hoe ver is het om?

Beau komt op jullie af en vraagt of jullie zeker weten dat jullie dit moeten doen, kan iemand anders dit niet beter doen?

-   1. Nee, de koning vroeg om ons, daar houden we ons aan.
-   2. Nee, wij kunnen dit.
-   3. Misschien, laten we als dorp stemmen.
-   4. Misschien heb je gelijk, wie denk jij dat beter zou zijn?

Extra info

Nora is een oudere vrouw die een winkeltje heeft in het dorp. Ze is een vrouw die vaak iedereen overal bij betreft. Zo iemand die zegt "Oh, dat kan Mien wel voor je doen!"

Het dorp is op een van de routes die je kunt nemen, maar dan zal je een halve dag later aankomen.

Denk erom dat de Koning iedereen in de brief verwacht.

Wanneer de groep zich wilt splitsen (bijvoorbeeld omdat een deel gaat om rennen terwijl het andere deel rustig doorloopt) dan gebeurt dit na event 2. Het deel dat omloopt krijgt dan event 3 Laat, het andere deel krijgt Val. Bij event 4 zijn ze weer samen.

Extra info

Beau is iemand die vooraan staat als er iets moet gebeuren en het heerlijk vind als ze nodig zijn. Ze zijn vooral de talenten van zichzelf.

Wanneer de groep ervoor kiest anderen om een stemming te doen of iets dergelijks zegt de stadsvrouw dat dat niet nodig zal zijn. Ze heeft er het grootste vertrouwen in dat het zal lukken.

Event 2: Oplossingsgericht denken. Boom of kapotte brug

Dit event is wat anders, hier wordt er geen keuze gemaakt maar moeten de spelers fysiek over het obstakel heen komen. Er is hier dus alleen observatie, maar veel talenten worden hier wel duidelijk in kwam in testen naar voren.

Er ligt een boom over de weg. Aan beide kanten groeien doornstruiken die over de boom beginnen te groeien. Hoe kom je zonder kleerscheuren aan de andere kant?

Wie gaat als eerste?
Wie helpt andere?
Wie stelt vragen?

Jullie komen aan bij een woeste ruige rivier. De brug die jullie zouden nemen is ingestort. Grote bokstrukken liggen in de rivier. Hoe komen jullie aan de overkant?

Wie neemt de leiding?
Wie pakt dingen die nodig zijn?

Extra info

De boom is sterk genoeg om iemand te houden, maar de doorns zijn sterk.

De spelers mogen zelf beslissen of iets zou werken of niet. Mochten er hier vragen over zijn dan heb jij het beslissende antwoord.

Bijvoorbeeld een dik kleed om de doorns te bedekken zou kunnen.

De spelers mogen ook meerdere malen proberen de boom over te komen. Op verschillende manieren. Uiteindelijk moet iedereen een keer de "boom" zonder kleerscheuren over komen.









Extra info

De spelers mogen gebruiken wat er in de omgeving staat. Als ze bijvoorbeeld stoelen willen gebruiken als stenen kan dat. Laat ze zelf met een oplossing komen en argumenten waarom het zou werken. Mochten er vragen over zijn, dan heb jij het beslissende antwoord.









De spelers mogen ook meerdere malen proberen de rivier over te komen. Op verschillende manieren. Uiteindelijk moet iedereen een keer de "rivier" overkomen met een droog pakket. Als ze zelf een manier vinden die volgens hun zou werken is dat oke.

Event 3: Iets gaat verkeerd. Te laat of laten vallen

De weg is nat en moeizaam, de reis duurt langer en het ziet ernaar uit dat jullie te laat komen bij de koning (kan ook nog versterkt zijn door Nora's pakketje.)

-   1. Daar kunnen we moeilijk iets aan doen, laten we veilig blijven.
-   2. Dan zullen we des te harder moeten doorlopen.
-   3. Ik hoop dat de koning niet teleurgesteld is.
-   4. Lekker dan! Wat doen we nu?

Terwijl jullie door het bos lopen wordt degene die de kist draagt verrast door een boomstronk, hij/zij valt. Er klinkt gerinkel uit de doos.

-   1. We hebben gefaald! Wat nu?
-   2. Rustig blijven, dit kunnen we vast oplossen.
-   3. Iemand anders kan beter de doos dragen vanaf nu.
-   4. Wat is er gebeurd, hoe gaat het met degene die gevallen is?

Extra info





Vraag bij deze door hoe de spelers elkaar helpen of oppeppen. Wat vinden ze nu het belangrijkste? Hoe denken ze dat de koning zou reageren? Wie komt er nu met oplossingen?

Extra info

Let hierbij op wie zit met dit probleem. Willen ze het oplossen? Gaan ze eerlijk zijn bij de koning? Komt er iemand met oplossingen? Wanneer ze de kist willen openen mag dit, maar herinner ze eraan dat de kist persoonlijk van/voor de koning is.

Event 4: Keuzes maken

Er klinkt gegrom uit de bossen, WOLVEN!
Jij...

-  1. Begint te rennen of een boom in te klimmen.
-  2. Zorgt ervoor dat iedereen veilige wegkomt.
-  3. Kijkt om je heen zoekend naar de beste uitweg.
-  4. Hebt geen idee en raakt een beetje in paniek.

Extra info

Kijk naar hoe ze op elkaar reageren ook. Wat vinden ze van elkaars reacties. Als ze denken aan de situatie, hoe zou die in zijn werk gaan, wie doet wat wanneer? Wie heeft er dan oog op de doos (donker rood) en wie op elkaar (licht rood). Hoe helpen ze degene die in paniek is ook (rustig bedaren- licht groen, of aan de hand meenemen en eerst weg helpen komen voor het bedaren - donker groen).

Uiteindelijk vinden ze een manier om met zijn alle weg te komen zonder al te veel kleerscheuren. Wanneer ze allemaal in paniek raken, komt een ridder van het kasteel de wolven weggagen. Het is niet erg wat hulp nodig te hebben soms.

Afsluiting

Gefeliciteerd, jullie zijn aangekomen in de stad. De Koning verwelkomt jullie in het paleis en bedankt ieder van jullie met een zak met goudstukken.

[Bij het bedanken van de spelers kan je ook zeggen dat de koning bijvoorbeeld blij is dat ze veilig zijn aangekomen met het slechte weer als ze event3 Laat hebben gehad, of wanneer ze veilig zijn aangekomen naar event4 Wolven etc, dat laat zien dat de keuzes die ze maken invloed hebben gehad.]





“Weet je waarom ik jullie nou heb gekozen? Nou ik wist dat ik daarmee het juiste team had. Iemand die verantwoordelijk was... Iemand die knopen kon doorhakken... Iemand die de rest hielp... Iemand die de orde kon houden....”

[Wijs iedere speler aan en geef aan waarom zijn belangrijk waren voor het team met dit soort eigenschappen. Deze kunnen gebaseerd worden op het aantal punten die ze in een talent hebben die ze hebben of wat je voorbij zag komen bij het spel.

Denk aan:

Leider, keuzes durven maken (bijvoorbeeld ook welke van de twee events), andere helpen, doel in ogen houden...]

Jullie staan bij een splitsing. Beide kanten gaan naar het kasteel. Links gaat door het bos en is sneller, rechts gaat langs het meer waar de weg veiliger is.

-  1. We gaan links, door het bos is sneller.
-  2. We gaan recht, langs het meer is veiliger.
-  3. Laten we alle mogelijkheden op een rijtje zetten met elkaar.
-  4. Het maakt mij niet uit, ik kies wat jullie kiezen.

Extra info

Wie kreunde er al bij het idee van een keuze maken? Waarom maakte ze de keuze? Hoe hebben de eerdere events hier invloed op gehad? Wie vind het erg belangrijk dat er eerst even naar de opties gekeken wordt en dat deze worden nagevraagd bij jou?

De kennis over het meer en het bos weten ze van eerdere keren naar de stad gaan.

Kleuren

-  Donker geel is leider, vooraan staan, overzicht houden, licht is mee gaan met de flow van de groep.
-  Donkerrood is kiezen voor jezelf en bij jezelf blijven terwijl lichtrood is kiezen voor de groep en een groot verantwoordelijkheidsgevoel voor andere
-  Donkergroen is actie nemen, niet stil zitten en gewoon doen. Bij lichtgroen ben je wat meer relaxed. Pauze nemen is oke.
-  Licht blauw is uitpluizen en meer informatie verzamelen voor keuzes maken of geen keuzes maken. Donkerblauw is keuzes maken en knopen doorhakken.

Extra opmerkingen en notities

NAAM

Verantwoordelijk groep					
Verantwoordelijk individu					
Analyseren voor keuzes maken					
Keuzes maken op gevoel					
Volgen en flexibel					
Leiden en orde					
Relax en afwachten					
Actie en proberen					

Talent(en):

Extra opmerkingen en notities

NAAM

Verantwoordelijk groep					
Verantwoordelijk individu					
Analyseren voor keuzes maken					
Keuzes maken op gevoel					
Volgen en flexibel					
Leiden en orde					
Relax en afwachten					
Actie en proberen					

Talent(en):

Extra opmerkingen en notities

NAAM

Verantwoordelijk groep					
Verantwoordelijk individu					
Analyseren voor keuzes maken					
Keuzes maken op gevoel					
Volgen en flexibel					
Leiden en orde					
Relax en afwachten					
Actie en proberen					

Talent(en):

Extra opmerkingen en notities

NAAM

Verantwoordelijk groep					
Verantwoordelijk individu					
Analyseren voor keuzes maken					
Keuzes maken op gevoel					
Volgen en flexibel					
Leiden en orde					
Relax en afwachten					
Actie en proberen					

Talent(en):

APPENDIX L - GAME THEMES

The first theme is responsibility. Either, the group is asked to do an extra task that might interfere with the first task. It not only shows directly how the group and individual responsibility is shown. Do they add on a task or make sure the one given is done in the best way possible? The other version is questioning the reason why they are chosen. The players are effectively asked if they believe in themselves, or are doing it because others believe in them.

The second theme is active, either they need to cross a river or climb over a with thorns covered tree trunk. This theme focusses on problem solving and is used to get the teenagers out of their heads and show the group dynamics. At first this was added to show which players make decisions, or try new things and which help each other or are more focussed on getting themselves through the activity the best they can. The leader and follower and active or calm talent is also clearly shown during this activity. With this theme it is important that the facilitator can observe the group.

The third theme involves failure. Either they seemingly will be late, or the chest has been dropped. In both scenario's the players are given options that show how they deal with the feeling of failure or responsibility. Furthermore, they are also shown how they deal with making decisions to move forward, or stay standing still in the current situation. Testing showed that the conversation that happens at this event also shows how they would help each other. The players started discussing on how to move on and not let themselves get down. It not only shows the talents and thinking patterns the players have, it also shows which players help other players and how.

The forth theme is focussed on making decisions. Either the group makes a quick decision, because wolves are chasing them, or need to make a decision which has no real impact, going left or right. Although at first this event was added to mainly connect with the intuition and analysing talents, it also showed the group and individual responsibility talent, especially during the conversation. Some players made sure that everyone was on board with the talent. In the case of the wolf event it showed how the players made choices. Expressing that they might wish they would choose one option, but they knew if it was actually happening, they would make another choice.

Appendix M - Family and friends test

We did shit on Christmas with two groups.

Some things that came from this:

FAMILY

- Should there be a timer on how long you get to choose your answer?
- What about the whole is it okay that others see you answers, or are you doing things to please others – is that bad, that is kind of one of the things to test. So it shows a talent in a way.
- Besides to bypass it, the facilitator will have to keep track in some way of what has been chosen, adding another task for them. Or it could be done digitally, getting rid of the more analogue way it is used now. Also, it adds the connection between people seeing others chose the same thing as you.
- Other thing was to clearly state before hand that no answer is wrong and to choose what fits you best, your first reaction. Not trying to think what would be the most approved of by others.
- Things for the facilitator include about people who want to split the group.
- Also explain how the box takes part (for the facilitator to see what they do)
- Maybe only give the “points” at the end of the game. I like this part there is less of a comparison during the game maybe, which improves the game play, will test in the next gameplay.
- End when the King gives the roles and talents of the players, add a flexibility in this. For the players to say if that is correct or not. To not force a talent upon them.
- When giving and letting the players choose the amulet, explain what talents they mean.
- The amulet doesn’t have to register which talents exactly you are experiencing.

YOUNG ADULTS (FRIENDS)

During the holidays the game was tested with a group of friends from around my age. Different from the first test, in this version of the game the players did not collect the coloured chips during the game but I as a facilitator kept track of them on paper. Furthermore, after saying the four options twice, the players got a count down of five seconds to make their choice.

- Having the text in front of me was a lot easier to facilitate.
- Six people to facilitate and observe was doable.
- Writing down what people got was a bit more difficult.
- Needed space for notes of what they were doing during the events.

Feedback from the players:

- Let the players choose the groups in which they are (at least somewhat) comfortable.
- Not having the chips before hand helps keeping focused on the game itself and not on collecting chips.
- At first they were suspicious of the medieval theme, but they liked it in the end.
- Four events is not a whole lot to go over all the talents. They could go for more events, but they were afraid the concentration span of the teenagers might not be long enough.
- They got the feeling everything is basically a talent and worth the same which is positive.
- It’s good to first choose and then show so that they are not influenced by other’s decisions.

- The ones who do not mind being the only one to play “selfish” choice do also often do not mind being the only one to do so. (fits with the personality to be aware of what they play).
- For the final design if others are going to facilitate there needs to be more explanation for observing the discussions and what to say when people chose certain things.

Other insights:

Incorporating the amulet during the game resulted in more questions than that it helped.

In general the amulet given as a thing is a bit weird. Can it be used to throw at the wolves? Why would we even take the amulet add-on? – keep it for the end.

If a player is tired or not invested they can still be observed.

The truer they give answers, the truer they will receive their talents.

Not all the events ask the team to make a final decision everyone agrees on, ask the team to do it depended on the event. Sometimes they might want to combine two ideas in the end, which is fine. Just when they choose for themselves they need to choose one.

One of the testers studies a master of psychology.

Appendix N - Informed consent prototype test School and Teens

Geïnformeerde toestemming

TITEL VAN DE STUDIE

Een voorwerp ontwerpen waarmee jongeren hun gevoelens kunnen communiceren.

HOOFD ONDERZOEKER

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DOEL VAN DE STUDIE

De prototype test zal op school worden uitgevoerd. Dit document gaat over wat de leerlingen en school kunnen verwachten van het onderzoek. Aan het einde wordt gevraagd officiële toestemming te geven voor het onderzoek. Lees alsjeblieft het document door zodat de school volledig op de hoogte is. Mochten er vragen zijn dan kunnen deze aan de onderzoeker worden gesteld.

Deze sessie is onderdeel van een afstudeeropdracht en fungeert als een test van het prototype. De afstudeeropdracht gaat over het helpen van jongeren met het communiceren van hun gevoelens en gedachten met anderen. Dit wordt gedaan door tieners meer vertrouwen in zichzelf te geven en hun talenten te ontdekken. Doormiddel van spel ontdekken de tieners hun talenten en worden deze ook bekend gemaakt aan de mentoren of coaches. Na het spel ontvangen de tieners een fysieke representatie van de talenten die ze mee kunnen nemen in de week daarna om meer bewust te worden van de talenten.

Dit onderzoek is een prototype test. Na onderzoek en ontwerp is er een spel en product ontwikkeld die in deze sessie getest zullen worden. Met de test wordt er feedback op het idee verzameld. Zo kunnen er aanpassingen gedaan worden om het ontwerp beter te maken of kan het leiden tot de realisatie dat het ontwerp, of een deel ervan, niet zijn beoogde doel behaalt.

STUDIE PLAN

Het onderzoek vindt plaats op school in een groep van zes leerlingen. Het zal bestaan uit een introductie, het spelen van het spel, een test van het product wat uit het spel komt en een feedback moment. De gehele sessie zal ongeveer 40 minuten duren. Afhankelijk van hoe veel leerlingen mee willen en kunnen werken zullen er verschillende sessies worden gehouden. Een coach of docent mag aanwezig zijn tijdens de sessies, maar dit is niet verplicht of nodig.

Tijdens de introductie wordt besproken wat het idee achter het spel en product is en worden de regels van het spel uitgelegd. Tijdens dit moment is er ook plek om vragen te stellen.

Na de introductie zal het spel gespeeld worden. Dit spel wordt gespeeld in een groep van zes spelers met een spelleider. De spelers spelen samen in het spel in plaats van tegen elkaar. Tijdens het spel maakt iedereen wel zijn of haar eigen keuzes eerst. Tijdens de spel test wordt het spel getest, niet de spelers. Er zijn dan voor de spelers geen goede of foute antwoorden. Als het spel of de uitleg niet duidelijk is of er een opmerking is zijn de spelers vrij dit te zeggen en vragen. In het geval van deze test zal de onderzoekster de spelleider zijn. Al zou een leerling of mentor deze taak ook kunnen hebben. Het spel helpt spelers met het ontdekken van hun talenten.

Aan het einde van het spel ontvangen de spelers in het uiteindelijke spel een fysiek product. Een prototype versie van dit product wordt ook mee genomen en getest. Dit is een 3D geprinte versie van het uiteindelijke product. Het is een bol dat in kwarten is verdeeld. De kwarten representeren de verschillende talenten. In het uiteindelijke product zal een week worden meegenomen door de tieners. Elke keer wanneer ze hun talent

gebruiken of er mee bezig zijn pakken ze de bol vast. Zo wordt de kennis over de talenten gekoppeld aan het gewone leven en bewuster meegenomen en gebruikt. De bol registreert wanneer hij is vast gehouden wat wordt bijgehouden op de telefoon. Tijdens de prototype test wordt hier ook een versie van meegenomen. Dit prototype maakt gebruik van beweging en aanrakingssensoren en wordt bestuurd door een Arduino.

Ten slotte zal de feedback van de tieners worden verzameld. Iedereen is dan vrij om hun feedback te geven of aan te geven wat ze ook anders zouden willen zien. De feedback wordt ook verzameld door observaties tijdens de sessie zelf.

RISICO'S

Er worden geen audio of video opnames gemaakt, wel wordt de sessie meegenomen in het eindverslag. Alles wat wordt meegenomen in het verslag wordt geanonimiseerd. De onderzoekster zal haar uiterste best doen de kans op herkenning zo klein mogelijk te maken. Zo zullen quotes die eventueel toegevoegd worden, anoniem gemaakt worden. (*P1: "Ik zie me zelf als een echte doorzetter!"*) Desalniettemin kan de onderzoekster anonimiteit niet garanderen. Ouders zouden hun kinderen bijvoorbeeld kunnen herkennen (*"Dat is typisch iets wat ... zou kunnen zeggen."*).

Omdat het over talenten en valkuilen gaat en zelfreflectie, is er altijd een mogelijkheid dat de leerlingen iets realiseren wat ze emotioneel zou kunnen maken. De onderzoekster zal haar uiterste best doen de leerlingen hierin te helpen en verdere zorg te vinden. Besef wel dat ze hier niet geoefend in is. Je hebt ook de mogelijkheid om weg te lopen en niet langer mee te doen aan het onderzoek.

Het ge3Dprinte prototype is niet meer risicovol dan het vasthouden van een stressbal. Eventueel zouden de leerlingen de bal kapot knijpen, zoals elk plastic product kan breken. Ze worden dan ook gevraagd niet hard in het product te knijpen.

Een van de prototypes bevat elektronica. Het prototype is gekoppeld aan een Arduino die dan aan een laptop gekoppeld zijn. Een Arduino kan maximaal 5 Volt leveren. Arduinos worden vaak gebruikt voor het maken van prototypes en is veilig in gebruik. De sensors waar het product gebruik van maakt is een beweging sensor en een stuk aluminium folie dat werkt als een aanrakingssensor. Dit prototype is eerder getest door de onderzoeker op veiligheid.

De leerlingen mogen altijd weigeren om een vraag te beantwoorden of zeggen dat ze niet langer mee willen doen.

VOORDELEN

De scholen zijn onderdeel van dit onderzoek en de test en hebben ook als school en mentoren de mogelijkheid om hun feedback te leveren en te zien hoe het zou werken in binnen school. De leerlingen ontdekken via de test ook al hun eigen talenten en zouden hier direct mee aan de slag kunnen.

Het product en dit project focussen op het welzijn van jongeren en promoot om gesprekken aan te gaan over jongeren en niet over hun cijfers. Door bewuster te zijn van talenten kunnen de leerlingen beter begrijpen hoe ze denken en waarom ze zo denken. Bovendien zal het inzicht geven in welke aspecten, vakken en studies aansluiten bij hun talenten en waarvan zij energie krijgen. Daarnaast wordt dit ontdekt op een nieuwe manier. Niet via gemakkelijk te manipuleren van vragenlijsten. Het geeft dus, gemakkelijker, een eerlijk beeld aan zowel de leerlingen als de coaches.

VERTROUWLIJKHEID

Wat de leerlingen zeggen wordt meegenomen in het verslag. De onderzoekster zal haar uiterste best doen om de anonimiteit van de school en leerlingen te waarborgen, dingen die ze daarvoor zal doen zijn:

- Codenamen toevoegen aan deelnemers en quotes van deelnemers.

- Digital data zal versleuteld worden en veilig worden op geslagen op de TU Delft Storage Space en audio opnames zullen verwijderd worden wanneer deze zijn overgeschreven. Deze tekst zal vervolgens anoniem gemaakt worden en vertaald, waarnaar de Nederlandse transcriptie ook vernietigd zal worden.

Data van de deelnemers zal anoniem behandeld worden tenzij de onderzoeker wettelijk verplicht is de data te delen met overheidsinstantie. Dit gebeurt bijvoorbeeld (maar niet alleen in deze gevallen) wanneer er kans is op zelfmoord of misbruik

CONTACT INFORMATIE

Mocht de leerling of de school op enig moment tijdens de sessie, daarvoor, of daarna contact willen opnemen met de onderzoeker dan staan bovenaan de data.

VRIJWILLIGE DEELNAMEN

De deelname aan deze sessie is volledig vrijwillig. Het is vrij aan de school om te kiezen of ze mee willen doen of niet aan deze studie. De onderzoeker zal zich ook houden aan de afspraken die ze in deze brief heeft gemaakt en ondertekend de brief. Ook nadat de brief is ondertekend kan de school zich terugtrekken uit het onderzoek. De school mag ook aangeven bepaalde dingen niet mee te nemen in de test en hoeft daar geen uitleg bij te geven.

TOESTEMMING DEELNAME AAN DE SESSIE

De school geeft hiermee toestemming aan het houden van de sessie op de school en met haar leerlingen. De school mag op elk moment besluiten toch niet mee te willen doen of vragen onderdelen van het onderzoek niet te doen. Dit kan ik zonder reden of kosten doen. Ik begrijp dat ik door hieronder te tekenen vrijwillig deelneem aan de sessie.

Bevoegde van de school handtekening _____ Datum _____

Onderzoeker handtekening _____ Datum _____

Geïnformeerde toestemming

TITEL VAN DE STUDIE

Een voorwerp ontwerpen waarmee jongeren hun gevoelens kunnen communiceren.

HOOFD ONDERZOEKER

Doris Boschma

Integrated Product Design, Delft University of Technology

Steentijdsingel 27 Den Haag

dorisboschma@gmail.com

0634163607

DOEL VAN DE STUDIE

Je wordt gevraagd om mee te doen met een onderzoek. Voordat je besluit mee te doen aan de sessie is het belangrijk dat je weet waar je aan mee doet en wat je kunt verwachten. Lees dit bestand alsjeblieft door en besluit daarna of je mee wilt doen. Mochten er vragen zijn dan kun je deze aan de onderzoeker vragen.

Deze sessie is onderdeel van een afstudeeropdracht. De opdracht gaat over het helpen van jongeren met het communiceren van hun gevoelens en gedachtes met anderen. Het doel hiervan is om, waar mogelijk, depressie te voorkomen en anders hier op tijd bij te zijn. Hiervoor wordt een visualisatie ontwikkeld waarmee jongeren hun waarden en talenten leren kennen waarmee een gesprek met mentor of ouder gestart kan worden. Om tot deze visualisatie te komen wordt een spel ontwikkeld dat de vragenlijst die er normaal vooraf aan gaat vervangt.

Dit onderzoek is een prototype test. Na onderzoek en ontwerp is er een spel en product ontwikkeld die in deze sessie getest zullen worden. Met de test wordt er feedback op het idee verzameld. Zo kunnen er aanpassingen gedaan worden om het ontwerp beter te maken of kan het leiden tot de realisatie dat het ontwerp, of een deel ervan, niet zijn beoogde doel behaalt.

STUDIE PLAN

Het onderzoek vindt plaats op school in een groep van zes leerlingen. Het zal bestaan uit een introductie, het spelen van het spel, een test van het product wat uit het spel komt en een feedback moment. De gehele sessie zal ongeveer 40 minuten duren.

Tijdens de introductie wordt besproken wat het idee achter het spel en product is en worden de regels van het spel uitgelegd. Tijdens dit moment is er ook plek om vragen te stellen.

Na de introductie zal het spel gespeeld worden. Dit spel wordt gespeeld in een groep van zes spelers met een spelleider. De spelers spelen samen in het spel in plaats van tegen elkaar. Tijdens het spel maakt iedereen wel zijn of haar eigen keuzes eerst. Tijdens de spel test wordt het spel getest, niet de spelers. Er zijn dan voor de spelers geen goede of foute antwoorden. Als het spel of de uitleg niet duidelijk is of er een opmerking is zijn de spelers vrij dit te zeggen en vragen. De spelleider kan of de onderzoekster, mentor of een andere leerling zijn. Het spel helpt spelers met het ontdekken van hun talenten.

Aan het einde van het spel ontvangen de spelers in het uiteindelijke spel een product. Een prototype versie van dit product wordt ook mee genomen en getest. Dit is een 3D geprinte versie van het uiteindelijke product. In het uiteindelijke product zit ook elektronica een versie waarin dit getest kan worden wordt ook meegenomen. Dit prototype maakt gebruik van een Arduino en een sensor die aanraking en beweging meet.

Ten slotte zal de feedback van de tieners worden verzameld. Iedereen is dan vrij om hun feedback te geven of aan te geven wat ze ook anders zouden willen zien. De feedback wordt ook verzameld door observaties tijdens de sessie zelf.

RISICO'S

Er worden geen audio of video opnames gemaakt, wel wordt de sessie meegenomen in het eindverslag. Alles wat wordt meegenomen in het verslag wordt geanonimiseerd. De onderzoekster zal haar uiterste best doen de kans op herkenning zo klein mogelijk te maken. Zo zullen quotes die eventueel toegevoegd worden, anoniem gemaakt worden. (P1: *"Ik zie mezelf als een echte doorzetter!"*) Desalniettemin kan de onderzoekster anonimiteit niet garanderen. Iemand die weet dat je onderdeel was zou je kunnen herkennen (*"Dat is typisch iets wat ... zou kunnen zeggen."*).

Omdat het over talenten en valkuilen gaat en zelfreflectie, is er altijd een mogelijkheid dat je je iets realiseert wat je emotioneel zou kunnen maken. De onderzoekster zal haar uiterste best doen jou hierin te helpen en verdere zorg te vinden. Besef wel dat ze hier niet geoefend in is. Je hebt ook de mogelijkheid om weg te lopen en niet langer mee te doen aan het onderzoek.

Het ge3Dprinte prototype is niet meer risicovol dan het vasthouden van een stressbal. Een van de prototypes bevat elektronica. Het maakt gebruik van een Arduino en is niet risicovol. Er wordt gebruik gemaakt van een beweging en aanraking sensor. Het prototype is getest en veilig voor gebruik. Deelnemers hoeven het elektronische prototype niet te testen als ze dat niet willen.

Je mag altijd weigeren om een vraag te beantwoorden of zeggen dat je niet langer mee wilt doen.

VOORDELEN

Het leven als tiener is moeilijk zat. Met mijn product hoop ik dat ik het een beetje makkelijker zal maken. Verder help je door het meewerken uiteindelijk andere tieners. Deze sessie helpt bij het maken van de laatste aanpassingen aan het ontwerp. Ook kan het zo zijn dat met deze sessie blijkt dat het ontwerp toch niet zijn beoogde doel behaalt. De tieners die deelnemen aan de sessie zijn vrij om dit te zeggen en hun feedback te geven.

Tijdens de sessie wordt het prototype van het product getest en uitgetest. De deelnemers hebben dus de mogelijkheid het product uit te proberen en zo achter hun eigen talenten te komen.

VERTROUWLIJKHEID

Wat wordt gezegd tijdens de sessie zal anoniem worden meegenomen in het verslag. De onderzoekster zal haar uiterste best doen om jou anonimiteit te waarborgen, dingen die ze daarvoor zal doen zijn:

- Codenamen toevoegen aan deelnemers en quotes van deelnemers.
- Digital data zal versleuteld worden en veilig worden opgeslagen op de TU Delft Storage Space en audio opnames zullen verwijderd worden wanneer deze zijn overgeschreven. Deze tekst zal vervolgens anoniem gemaakt worden en vertaald, waarnaar de Nederlandse transcriptie ook vernietigd zal worden.

Data van de deelnemers zal anoniem behandeld worden tenzij de onderzoekster wettelijk verplicht is de data te delen met overheidsinstantie. Dit gebeurt bijvoorbeeld (maar niet alleen in deze gevallen) wanneer er kans is op zelfmoord of misbruik.

CONTACT INFORMATIE

Mocht je op enig moment tijdens de sessie, daarvoor, of daarna contact willen opnemen met de onderzoekster dan staan bovenaan de data. Deze is ook op te vragen bij de school.

VRIJWILLIGE DEELNAMEN

Je deelname aan deze sessie is volledig vrijwillig. Het is aan jou of je mee wilt doen of niet in de studie. Als je besluit mee te doen wordt je gevraagd op de volgende pagina een van de opties te ondertekenen. Nadat je hebt getekend ben je nog steeds vrij om te zeggen dat je toch liever niet mee wilt doen. Wanneer dit gebeurt wordt alle data die de onderzoeker al heeft vernietigd.

TOESTEMMING DEELNAME AAN DE SESSIE

Ik heb dit doorgelezen en begrijp wat er staat. Ik heb de kans gekregen vragen te stellen en begrijp dat mijn deelname vrijwillig is en op elk moment kan besluiten niet langer meer te doen. Dit kan ik zonder reden of kosten doen. Ik begrijp dat ik door hieronder te tekenen vrijwillig deelneem aan de sessie.

Deelnemers handtekening _____ Datum _____

Ouder of bevoegde handtekening _____ Datum _____

Onderzoeker handtekening _____ Datum _____

Appendix O - Who should facilitate

The arguments have a weight (+, -, ++, ---) depending on how big of an influence the argument has. This weight is determined by the designer who kept the (sub) goals in mind while determining this weight.

EXTERNAL FACILITATOR (LIKE ME OR SOMEONE FROM THE COMPANY) :

- ++ Expertise in talents.
- + Experience in facilitating (mentors will gain if they do it more often over the years).
- + Open view to talents and players.
- + All students will play the game in a more unified way.
- + Could mix the student levels.
- Extra cost for schools.
- Mentor/teacher not involved in talent discovery (do not learn about talents themselves).
- Facilitator is gone after the session and no longer part of the student's journey.

MENTOR

- + They have the most (personal) interaction with the teens after the game.
- + They have the final conversation with the teen (involving them at the end and beginning).
- ++ They are a big part of the student's journey.
- + Mentor will learn about talents and about viewing the students differently.
- Already knows the players which might cloud/influence judgement during the game (self-fulfilling prophecy).
- Does not have a lot of time, would need to do all student in the class.
- The information about who the student is remains mostly with the mentor or is shared from the mentor's perspective.
- If the mentor does not have any affinity with (the) game(s), this will influence the game experience and outcome.

DEAN

- + Are part of the student's journey.
- + Do not really know the student, has an open view during the session.
- + Can have conversation about student with mentor from own perspective.
- + Will get to know the students they guide better.
- ++ They already look at how to connect interest and talents with studies or jobs.
- Would need to facilitate a lot of students.
- If they do not have an affinity with games it will influence all the student (and they will probably not buy/use the tool.)
- The mentor does not learn about looking at talents.

OTHER TEACHERS/MENTORS

- ++ Because they don't know the student yet, they can have an open mindset
- +++ The school can recruit and choose teachers who are open to the game and would like to facilitate them.
- + The teachers will learn about talents and will learn about viewing students in a different way.

- + Since there are more teacher, the load of facilitating all the students becomes smaller.
- + There is a possibility to combine students from different classes and levels to diversify the groups and increase connection between classes.
- The teacher is not especially included in the course/study choice of the students -> however they could be and are still at school and available for the students or mentors to ask questions.
- The mentor might not learn about the talents themselves -> although this is not a given as they could be facilitating game session(s) for other classes. Furthermore they can be influenced by the teachers who did.
- Mentor learns second hand about the session and does not learn first-hand about how their students work and interact.

Appendix P - Breakdown cost of final design

Part	Estimated cost	Source	
Bluetooth module	€2,33	Mouser, Part No 713-113990637	Surface area sphere halves is $\frac{4}{3} * \pi * r^3 - r = 15\text{mm} - 14.137 \text{ mm}^2$
Conductive paint	€0,45	Bare conductive website 50 ml, 0.8 m ² = €25.50	
Battery	€1,49	Batterijenstunter.nl EAN 4013674020140	
Chip	€0,50	Electrical engineering student	For such small parts that are require easy moulds, the estimated production cost for mass producti- on is lower or the same
2x Sphere	€0,40	Estimated cost SLA printer	
Electronics component	€0,20	Estimated cost SLA printer	

Appendix Q - Example questions and dividing the groups

QUESTIONS TO ASK THE TEENAGERS AFTER THE FINAL CONVERSATION.

- What did they talk about?
- Do you feel like the mentor knows you?
- What are your talents?
- During what kind of activities can you use these talents?

If they used the application

- How often did you use the application?
- Did the application help during the conversation?

If they used the amulet

- How often did you use the amulet?
- Why did you use the amulet?

THE GROUPS CAN BE DIVIDED IN TWO WAYS.

The groups are divided as is, with all the players in the group having the same experience after the game. This can result in difference between results due to the difference in the game played.

The groups are divided after playing the game, 1/3 of the group has no tools to use after the game, 1/3 has only the application and 1/3 has both the amulet and application. This however can result in the teenagers feeling like they are missing out, or might even feel like their talents are worth less because they didn't get anything. Alternatively it can also be the other way around, feeling less because they "need" the additional guidance.

I would opt for the first way of dividing the groups and testing the test in different classes and schools to get rid of the difference between games and generalizing the outcomes.

Appendix R - Project Brief

DESIGN
FOR our
future



IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

! USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME

Save this form according to the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy".

Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !



family name

initials given name

student number

street & no.

zipcode & city

country

phone

email

Your master programme (only select the options that apply to you):

IDE master(s): ☒ IPD ☐ Dfl ☐ SPD

2nd non-IDE master:

individual programme: - (give date of approval)

honours programme: ☐ Honours Programme Master

specialisation / annotation: ☐ Medisign

☐ Tech. in Sustainable Design

☐ Entrepreneurship

SUPERVISORY TEAM **

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair dept. / section:

** mentor dept. / section:

2nd mentor

organisation:

city: country:

comments
(optional)

|||

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..



Second mentor only applies in case the assignment is hosted by an external organisation.



Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

Tools to help teens feel being heard

project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 02 - 09 - 2019

22 - 02 - 2020

end date

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

Teen and young adult years are different for everyone, but we all use this time to figure out whom we are and whom we want to be. At the end of High School we need to choose a study. A direction on which to focus the rest of our lives. A daunting task, luckily we get help. There are numerous quizzes that help you pick a direction. You get to talk to your parents, universities, students and a counsellor to figure out what might be the right direction for you. But when it comes to figuring out whom we are or how we feel, we are mostly on our own. When you are happy, you can show it. You can include your friends and family in this feeling, show it on social media. When we're down, we keep it to ourselves. Looking around we only get to see the best parts of people. Their struggles are hidden until they are too big to hide.

Therapy seems to be for those who have suicidal thoughts, been in a trauma or have severe mental health issues. The truth is, everyone feels down sometimes and sometimes we need someone to talk to. The first feelings are surrounding stress and fear. If these are not addressed, they can lead to a downwards spiral to where they need professional help. Before that we can talk about it and, together, find a way to turn it around. This is needed since depression, anxiety and burn outs are an epidemic among teens and young adults as written in various news articles and "Teens are not Alright" by Cathy Vatterott (2019). More and more people need professional help whilst the organisation cannot handle it. In 2018 there were 88500 people waiting on mental health treatments according to the NOS. Jeugdzorg is not organised to prevent the problems but to treat the symptoms. This is no longer working, besides, it would be better to solve a problem and "treat" people before they need treatment. Innovation is difficult. Therefore, the Dutch Center for Youth and Health, NCJ and Games Solutions Lab are starting a new project in which the teens will be the innovators. They are setting up a new group of teens that will organise, control and design new solutions. They will essentially be the main problem owners and clients.

Within the overall project of NCJ, the team of teens (Teen team) and Game Solutions Lab, I will be focussing on getting the talk started and to help teens figure out what they are feeling and how to start the conversation. It is not easy to talk about this. Especially when you do not exactly know what or how to say it, or formulate it for yourself if you have not figured it out yourself. I have felt this when I started studying.

Involved parties are:

Dutch Youth Services, Game solutions Lab, the group of teens (to be assembled), Teens/Young adults/students in general (target group), schools/universities, therapists/psychologist.

Depressions, Burn Out and mental health in general is a hot topic. Various organisations are taking steps and are motivated to solve the epidemic. Now is the time to work on it. Working with Game Solution lab and the new team of teens, this will be a new working method which opens various opportunities to work on with the target group (touching on context mapping which I studied during an elective).

During the project there is a great importance in guarding privacy and feelings. During tests and conversations difficult and painful topics may arise. There needs to be a plan on how to handle such situations. Another limitation is that, since it is a (mental) health issue, there are various rules and regulations to adhere to.

space available for images / figures on next page

Personal Project Brief - IDE Master Graduation

introduction (continued): space for images

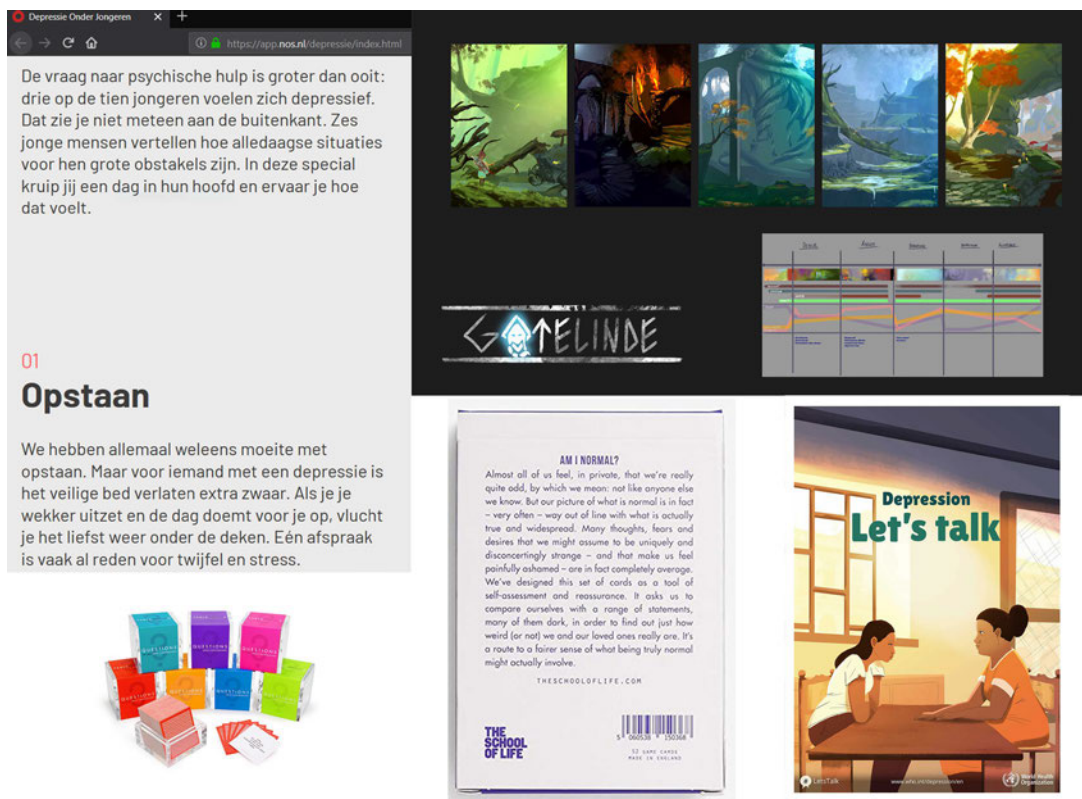


image / figure 1: Various existing products surrounding depression and talking about it.

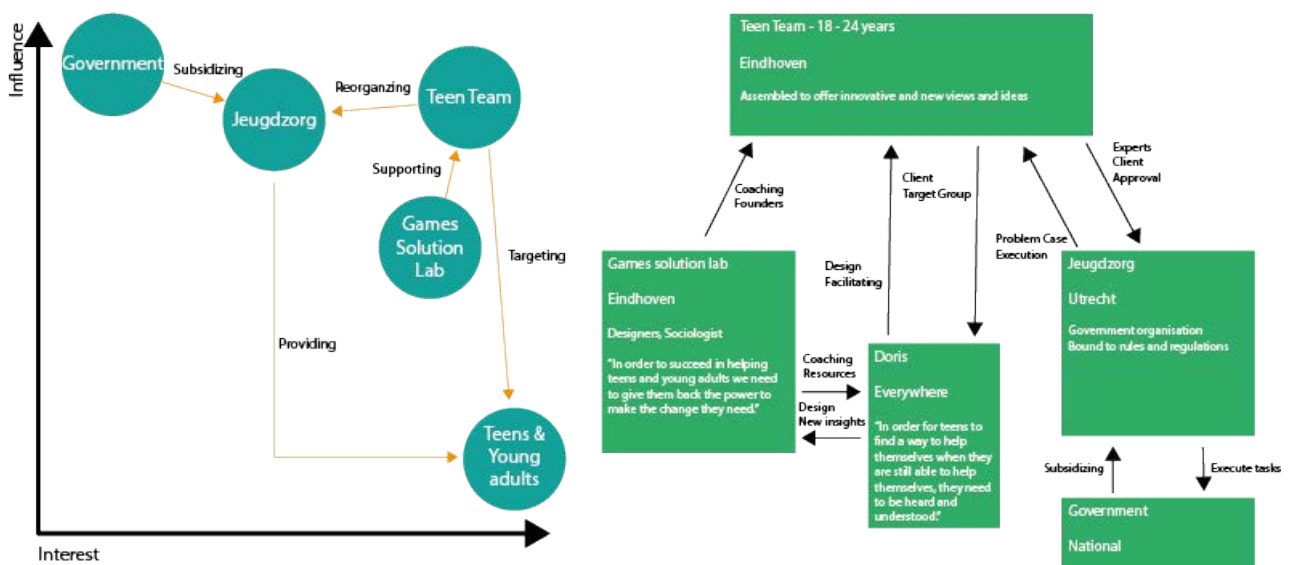


image / figure 2: Chain of command, stakeholders and their interests and influence

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

In general it is difficult to talk about negative feelings and therefore people tend to avoid it. For teens it can be even harder. On social media everyone has a perfect life. Besides, their life is not that hard, they are often told: "You think you have it hard now, wait until you go to college, or work, or have kids, or have teens." As a teen, even if you express your feelings, they might not be taken seriously. Especially feelings that are presented in a vague and incoherent manner can easily be dismissed. This demotivates communication and leads to cropping up their feelings and insecurities. Teen years are all about figuring out what you are feeling and who you are. They should not need to do that all on their own. The goal will be to help teens figure out these feelings and help express them to their peers and family. When the teens talk about their feelings it will be important for them to be listened to and be taken seriously, so that their feelings and emotions are not dismissed and/or ignored.

For this graduation project I will focus on teens in Eindhoven. More specifically, the teens that are about to start their studies next year or just started it this or last year. There is a lot of choice, development and new things. Some might move out from their parents, being alone in a new city. Quite possibly they do not know anyone yet. For this group it will be even harder to find someone to talk to about personal insecurities or feelings. Besides, they are not really adults yet but should act accordingly depending on the situation and person they are interacting with. When they are helped in figuring out their feelings and finding someone to talk about them with, the solution could be translated to other situations as well.

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

To create a tool which enables teens and young adults (aged 16-20, end of high school or the beginning of college/university) to formulate their feelings and thoughts in a concrete and understandable way.

The final tool will enable teens and young adults to formulate their feelings and find a way to talk about them with someone. What is important is that the teens will not only be heard but are also listened to. That their feelings and ideas are validated and valued and their own. The tool should promote a conversation between various people. The teens could use the tool to first figure out their own feelings and then express those to others. This tool will be created with help and feedback from teens. This is vital since the teens will have to use them and they have a vastly different way of thinking and needs than adults or even adolescents.

I imagine the tool to be a product or service that teens can use which will lead them to say: "Yes, I recognise that!", "Oh that's what is happening!" or "I have never thought about it like that" With this knowledge, about themselves, they could start a conversation with their family. Metaphors could help family or peers understand the teens. Additionally the tool will give the teens a way to start a conversation or inform others that they are looking for a conversation. Working together with Games solutions lab this tool could be in the form of a game or gamification. Since, as mentioned before, this is a difficult and fragile subject, enveloping it in a game will encourage more people to use it and talk about it. Making it a multiplayer game it could lead to conversations and people sharing their thoughts and start talking, and maybe discover that they have the same problems.

Personal Project Brief - IDE Master Graduation

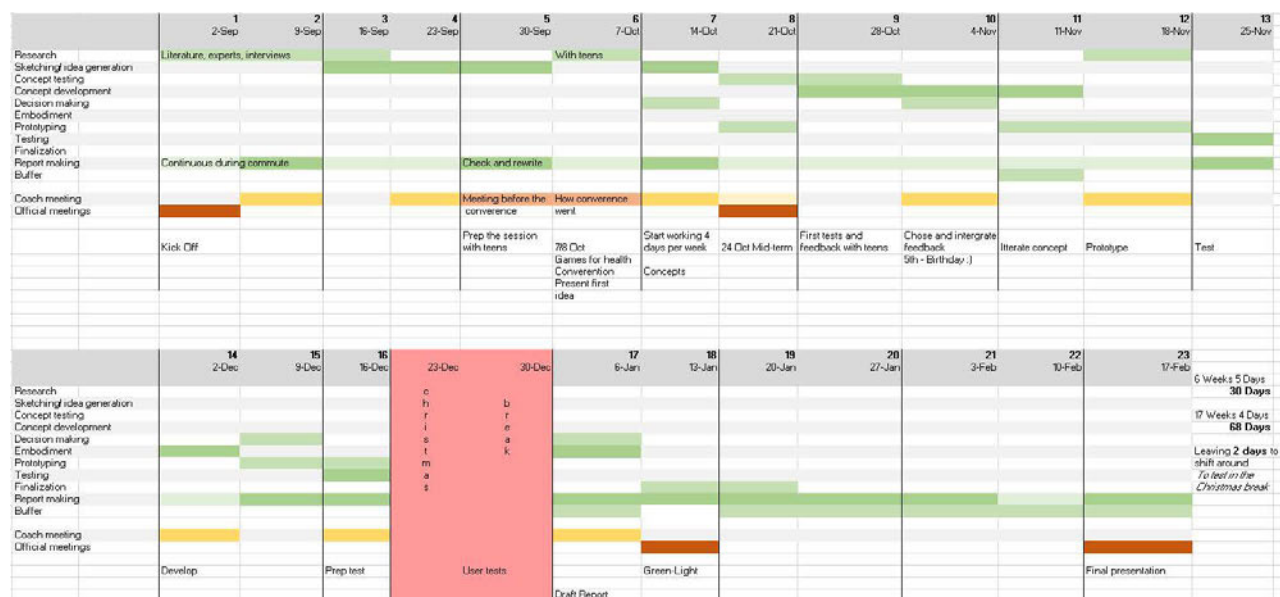
PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 2 - 9 - 2019

22 - 2 - 2020

end date



The plan was to work closely with a group of teens (12-17) that would be formed by the company. In reality, the formation of this team takes a significant amount of time. Although the team and teens in general will still be a big part of my testing audience and feedback loop, they will be less involved in the actual concept generation. With this group, I do want to set up feedback sessions and a test, one during the Christmas break. To have enough time to integrate findings of this session I will work 4 days a week from the 7th week onwards. This extra time also allows some waiting time for planning meetings. The fifth day of the week I will spend working on a separate project within Game Solutions Lab. Which will help to create some distance from the project at times, instead of getting lost within it. 6 Weeks of 5 days and 17 Weeks of 4 days gives a total of 98 days, leaving two testing days in the Christmas break. With my coach Stefan I agreed to meet once every two weeks in which I show him the decisions I made. To update the various parties on the general updates and findings I plan to keep track using a "End of the Week Briefing" method, writing one every week and sharing a drive which includes these documents. Which also form reference points for myself when writing the final report.

On a smaller scale I plan to finish every week with an outcome. Which can be an insight, idea, decision or adjustments to the idea. This way I force myself to create something every week. So that I force myself to get the ideas out of my head and on to paper. During the week I then plan smaller parts of the week goal for every day. Focusing on a maximum of 3 major goals per day. This may increase to 5 if that turns out to be more appropriate.

The commute takes 2 hours. I plan to use this time to already work, for example by writing emails or sections of the report. Due to the traveling time I plan to work at least 3 days on location and the rest at home. So that I can maintain a healthy working method and motivation until the end of the project.

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, Stick to no more than five ambitions.

- Working on an actual product that has potential to be actually used instead of a far future fantasy.

Sometimes at the university we are focused on the future and the research of what will be possible. By combining my project with a company I hope that it keeps my feet on the ground by making sure that the final product is realisable and usable.

- Working with the gamification method or making a game.

This is what (at least as I see it now) I want to work on after I graduate. Therefore I have worked with the Gamelab at TBM last year which was really cool and it confirmed my thoughts on wanting to work in this branch. As a consequence I want to learn more about it in general, how to use it and how to choose between the various forms.

- I want to improve my decision making skills.

Sometimes I postpone on making decisions too much to keep all the options open and not making it final. I will instead focus on other parts and make it bigger so that I can work on that instead of making the decisions. By forcing myself to deliver weekly, review it every week and show my decisions to the coach every two weeks I plan to work on this.

- Keep my project focused.

I often find myself adding extra parts to the project, finding new insights, including new possibilities and sketching new ideas. Instead, this project I want to first finish the main project before adding on extra parts.

- Documentation

I want know that my reports can be improved. I want to improve on :

- showing my progress
- the argumentation
- the setup
- making it a logical story
- the English writing in general.

As mentioned, my personal motivation is that I want to get a feel of game design. At this moment I plan to later work in (serious) game design. Furthermore, I have experienced some of the difficult feelings teens have to cope with. It would have been beneficial for me to have such a tool. Besides, if I am able to make a tool which could help people in these situations, it would be amazing to do so and that I was able make a big difference.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

This will be part of the bigger project that is going on at Games Solutions Lab in cooperation with the Dutch Center of Youth and Health, which is the innovation center of Jeugdzorg. They want to bring a group of teens, age 12-17, together who can matters into their own hands and solve the problem of mental health that exists in our society.