Desire
An evaluation of a Serious Game

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2 Introduction

"MOST OF THEM ARE A BIT.. SHIT"
- ERIK VAN DER SPEK ABOUT EDUTAINTMENT GAMES

Serious games have come a long way since the first ones starting to pop up around the early 1980's. Starting out as mostly text based games with the sole purpose of teaching kids at school some specific knowledge or skill. As these games were only educational, they were mostly made by individuals who did not understand the intricate mechanisms behind gaming itself. Therefore, all the games that fell under the group of Edutaintment games in the 80's and 90's were lackluster when compared to other video games made at the time. This is what our dear Professor Erik is referring to in the quote above. Luckily throughout the years, the gaming industry realized that there was actual potential in this genre of games, better and better games were produced. This was also helped by a better understanding of the mind and the need for specific features in games to find them fun. For example, in 1981, T. W. Malone published a paper about that games are intrinsically motivating players to learn something and how they are fun. He stated that a game needs at least three parts to motivate players and be fun: it needs to challenge the player, allow the player to take part in a fantasy and engage in the players' curiosity.

In the early 2000's educational games joined the 3d world and in that the learning goals that could be set by games changed significantly. The age of repeatedly doing tasks was over and the age of learning by being immersed in a simulated environment had begun. These games also became popular in more serious purposes like training in the military for fighting and flying strategies. Thanks to this new interest, the production budget for these games increased and companies were able to diversify the games for regular people playing at home on their gaming consoles or PC. With this new revolution for Edutaintment games had renewed interest from players and were now dubbed "Serious Games". The definition of a serious game was also broadened to: "A serious game or applied game is a game designed for a primary purpose other than pure entertainment."(D. Djaouti, 2022)

For this course the TU/e asked groups of students enrolled for the DZC20 course to create a serious game for their open day. The focus of this serious game should be to have a short playable game as goal to let the prospective student learn more about certain majors and motivate them to chose for a major at the TU/e. This can be done in any way the students see fit as long as they follow the guidelines for a serious game.

2.1 Game Introduction

The game presented in this report is targeted towards upcoming first year students and high school students at a TU/e open day. The purpose of the game will be to persuade its audience to sign up for the Industrial Design study at the TU/e while learning about the study, having fun, be engaging and be motivating. The mood of the game will be lighthearted, a little mocking towards the player to decrease the notion that the game is only educational and allow for fun. The structure of the game is a decision based where the player will constantly be given the option between two choices and have to choose one. Each choice can either be positive, negative or both and affect the overall gameplay. At the end, the player will get a score as feedback on how well their product has sold.
To achieve all these points above, the game must be persuasive for the specific audience, have a captivating and instructional design and most important of all, be a fun playable game.

3 Target group and persuasive profiling

An efficient method to make the game as persuasive as possible, is to adjust the persuasion method to the target group. This is a technique used in online marketing and web shops in order to substitute vendors effectively adapting their marketing strategy to the customer. In order to create a persuasive profile of the target group, the target group should first be specified.

3.1 Target group

This game is meant to be played at the open-day at the Tu/e. Moreover, it is meant to be played at a booth where you can ask additional information about the study industrial design. In 2020-2021 there were in total 81430 new first year students (CBS, 2021) in the Netherlands. The goal of the game is to interest open-day visitors in the study Industrial engineering at the Tu/e by teaching them a learning point from industrial design and persuading them to follow the study at the Tu/e. The target group of the game is therefore students who are in the orientation phase of selecting a study. More specifically, the target group of the game are late adolescents averaged around 16-22 years of age, that visit the Tu/e open-day intending to follow a university education.

3.2 Persuasive profiling

There are many ways of persuading a person to take action. Adjusting promotional appeals and persuasion techniques to the unique individual preferences and needs of their customers (M. Kaptein, 2015) is called persuasion profiling. This method works most effectively if the target group is very specific. To be able to make a profile of the target group, we have researched the target group in: their behavior in games and social media; their development in humor and comedy and their understanding of underlying concepts.

More engaging and immersive content will cause more attitude change (E. van der Spek, 2021). Adolescents are massive users of media and they are among the most avid consumers of television, music, games and social media (M. Valkenburg, 2017). Social media is mostly focused on continuously providing a random set of content similar to a slot machine. This metaphor was stated in the documentary 'Social dilemma' which concluded: 'it is the randomness that is so addictive' (T. Harris, 2020). Creating a fast paced game with a recurring random aspect is expected to be an effective method to create a more engaging and immersive game that will in turn create more interest towards Industrial design.

Irony is a common technique in persuasive writing and is also often used in visual constructs to change attitudes (e.g. political cartoons or propaganda). Research has been done to the development of the sense of humor of early adolescents (12-15) and late adolescent (16-19). They are more interested in complex forms of humor involving irony, sarcasm, and cynicism. This is a logical development, since more complex humor requires the ability to understand both a situation and the motives of those displaying that humor-in other words, the social cognition that accompany adolescent development (M. Valkenburg, 2017). This attribute suggests that attitude change/formation through irony is an appropriate and effective persuasive technique for our target group.

To generate a deeper understanding or interest in industrial design, the learning point taught in the game should be associated to the general context of the study. A way of achieving this, is by relating the learning point in the game to a credible and relevant underlying problem or adversary that is tackled in the study. Especially at the age of (16-19) people improve their ability and interest to grasp a broader context (M. Valkenburg, 2017), given that this context is

plausible and logical. This attribute suggests that addressing a common issue or adversary of the study using the learning point, is an effective persuasive technique to associate the game to the general context of the study industrial design.

4 Instructional design

Games used for serious purposes or as we call it "serious games" date back several millennia, migrating from military uses to education and business purposes (). The term serious games is articulated to convey some form of learning material through play and games (). Hence, such games are categorized as designs for "full-fledged games" for non-entertainment purposes ().

The defined serious game for learning is closely related to role playing real-life situations as a challenge and ultimately a professional scenario. According to Dick & Carey () proposed that Instructional design consists of (a) learning outcome (b) learning context (c) learner context (d) performance objective (e) assessment instrument (f) learning content (g) instructional strategy (h) evaluation. These elements enhance learning with the help of the theme, art style and staging used ().

4.1 Gameplay

As a Industrial engineer at a new company, you are given your first project. You will start out in the manufacturing phase, with some object your boss wants you to improve. This object can be a coffee machine, a TV or even a the devils trident. In this first phase, event cards and design cards will pop up on your screen. The event cards represent problems that have occurred to your project group and you have to find a solution for it. The design cards will allow you to choose what extra functionality you want your product to have. However, each choice made has an effect on the cost, the aesthetics, the safety and efficiency/practicality of the product. Once a certain amount of cards have past, you move on to the marketing phase.
In this second phase, you need to design the planning and implementation of the marketing process. More cards will appear and more choices will need to be made. Each choice here affects the cost of the whole project and the targeted user group.
The final score of the game consists of two parts: the amount of stars collected and the profit created. Three stars can be obtained, one by pleasing the boss, one by pleasing the customer and the last by generating enough profit. Once this score has been calculated, the player will be shown a news report on their product and see what consequences their actions have produced.

4.2 Learning outcome

The most important part of any educational material is its learning outcome, or rather, its main teaching goal. The set objective given was to motivate the students to join the TU/e. This goal was projected onto our game by creating an understanding within the player of what this study would entail at the TU/e while having fun. The main goal of the game itself will be to collect a maximum of 3 stars by pleasing the client, pleasing the boss and creating enough profit of the final concept

4.3 Learning context

The learning context of a subject represents the amount of knowledge obtained for that certain subject before learning more about it through the educational material. The choices made in this game are simple in concept. A choice is made based on the problem/opportunity presented, this choice then impacts one or more of the four stats. As this game is heavily based

these single effect/consequence actions, the skills the player should have are deduction and pattern recognition.

4.4 Learner context

To be able to relate to the audience, the skills the audience possesses will have to be taken into account while creating the game. the targeted audience for this game are prospective students for the TU/e, in such a scenario they all have or will graduate from VWO or Gymnasium. Therefore, it can be assumed they all possess a level of skill in deduction and pattern recognition great enough to be able to play this game.

4.5 Performance objective

Next, specific smaller objectives will be set for the player to learn on their way to understanding their main learning goal. The questions posed in front of the user is chosen based on the phase the user is playing in. There is a segue for the player to know how each choice he/she makes influences the scores. However, as the difficulty raises, this becomes less apparent and helpful to the players. This can be seen as a nudging mechanism to implement the right tools for decision making with the objectives in hand.

4.6 Assessment instrument

To assess the players understanding of the game, they will need to perform or undergo a certain test. The players are continuously being tested by keeping track of their designs and testing their statistics. These scores will later on determine how well the product does in the desired market, on which players receives stars. Furthermore, depending on these scores, the profit gained varies and is the bottom line to gain personal as well as company recognition.

4.7 Learning content

The learning content represents the physical materials the player should want/need to be able to play the game. The game is able to be played on a computer or tablet and because it is all installed on these devices, nothing else is needed.

4.8 Instructional strategy

When the learning objectives have been set, it is also important to decide how the players should learn these skills. First the player has to learn to recognize the theme of the cards and the effect they have on the stat bars. This will be done in multiple steps.
First the player will go through a easy level with a set amount of cards where they will be shown what choice effects which stat and by how much. After they have completed this level they will be able to chose between two different difficulties, normal and hard. The normal difficulty will have more cards and these will randomly be picked to allow for replayability. However the choices will not indicate how much they will affect the stats. Lastly on hard difficulty, the card system will work the same as on normal difficulty but now they the choices do not show which stats they affect.
Next, the player will need to learn which choices are approved by the boss and which by the client. Little context will be given by the cards to indicate is approved by either of them, however, the boss and the client will appear on screen to show their appreciation or dislike of your actions. Again with increasing difficulty, this will be shown less and less to the player.
To have the player engage as much as possible with the game, they have to be as immersed as possible in the game. This is implemented in multiple ways inside of the game.
First is to show the player the beginning product and add the extra functionalities chosen with

the cards on the screen. This will create an attachment of the player to the product and help the immersion.
Next, the sound design of the game should be calm and satisfying but also realistic. Some background office noises would allow the user to project themselves into the game even more. The clicking of buttons should sound satisfying to the player to create a pleasant environment for them to be in. For extra learning reinforcement, the stars received at the end will produce a more satisfying sound with each star received.

4.9 Evaluation

With the time constraints posed in front of us, and due to our focus being on iterating and re-iterating it, we were unable to implement few of the ideas that we had discussed which will be explained below.

As mentioned above and earlier, the main idea was the game would have various levels ranging from easy, medium and hard. There were some quirks that we wanted to implement in each difficulty level, however, due to time and other roadblocks weren't able to. For example, in the easy level, the player would have the freedom to see which of the scores get affected and if this affect is positive or negative for every choice he/she would make before making it. Whereas, in the medium level the player would still be able to see which of the scores and statistics would be affected, but would not be able to view if this affect is positive or negative. Further, in the hard level, none of these would be visible, putting the skills of the player to a real test.

In addition to this, the future goal is to implement a tutorial level which would introduce the audience to the setting and game play. This would allow the players get a feel of what to expect and what they would be working towards.

Apart from this, we plan to integrate clientele feedback in order to get a different perspective other than the opinion of the boss/professor. This would provide the audience with the task of tackling between various opinions and improve thinking and decision making skills.In addition to this, the plan is to implement different kinds of bosses, for example, a devil posing as a boss, to increase the playfulness and keep the audience interested in playing and completing the objectives.

Moreover, currently in the game there are specific and chosen number of starting products only present to make choices between. Hence, to further expand the game, one of the learning points is to present the player with different starter products to make more detailed choices. However, the sound in a game plays a very important detail, which unfortunately due to a miscommunication could not be implemented to its full potential. Hence, addition of sounds to the cut scene, end scene, when you complete an objective, last but not the least once the player reaches a new high score.

5 Persuasion

The learning goal of our game is to give the player insight into the design process of a product and experience the different phases. 'The primary aim of persuasive gameplay as such is not to shape attitudes towards the representation of the object or concept presented in the game, but fundamentally towards the actual represented object or concept, that exists in the real, physical, world.' Therefore, we suggest a method and means (a serious game) in which we link the learning point to a common issue:

> although a product seems polished and flawless, it needs to follow strict guidelines in order to not be qualified unsafe, privacy-intrusive or a nuisance. (1)

This method is in line with the persuasive profile of the target group (see Section 3.2). This will be argued to cause an attitude change to a deeper level of understanding and curiosity towards tackling this common issue in the course industrial design. To be able to change the attitude of the player, the game first focuses on conditioning certain behaviour using gameplay mechanics and visual and audible cues. We want the player to initially aim for maximize profit, satisfying requirements and design a cool product, while having fun doing so. After this initial designing phase follows a feedback moment focusing on the achieved score and the decision behaviour, during which the player is solely rewarded, without the main issue being revealed yet. The player then continues and is surprised with an ending scene that further reflects on the choices made and brings the common issue to light.

5.1 Evaluation of persuasion

In the first phase we focus solely on the four statistic bars: 'Cost', 'Appearance', 'Safety' and 'Efficiency' and the design requirements of the professor and client. The aim of this phase is to create an environment in which maximizing profit and strict adherence to the requirements is rewarded. The player, diving into the world of an Industrial Designer, is forced to choose between options such that we have control over the outcome of the final product. Relevance and credibility are important factors for efficient attitude transfer from game to player (M. J. L. Kors, E. D. van der Spek and B. A. M. Schouten, 2015). Besides some intendedly obscure choices (e.g. adding a laser or robot arm to the design), this phase is relatively credible as real design process and the focus on maximizing profit is relevant. We have used several visual and audible cues to supply the player with engaging feedback and reward them for creating a profitable design that adheres to the requirements (See appendix for screenshots from the game).

1. Body language of the professor (thumbs up or down when product is safe or unsafe)
2. Requirements are clearly visible
3. Spotlight on design product
4. Particle effects on part addition
5. Stars for adhering requirements
6. Profit score which is higher for a good marketing strategy and product development

Moreover, the gameplay forces the player to make choices. This motivates the player to make the better (or in some cases the least bad) choice, which can only be based on the statistic bars and the requirements, alongside some common sense. Therefore making the gameplay coherent with the visual cues was an important aspect, since both 'Semiosis Route and Behavior Route have to work in synergy' (M. J. L. Kors, E. D. van der Spek and B. A. M. Schouten, 2015)

to transfer an attitude. Moreover, the cards follow each other up continuously and randomly which creates a more immersive experience (Section 3.2). When the scores of the player are shown, the player has a moment to reflect on the design process and the decisions that were made (downtime), while enjoying the cool design they made.

After the player has made their design and received the positive feedback, the player has one final scene to go through. This surprise-scene will be entered when the player thinks the game is over and the 'Finish' button is pressed to go back to the main menu where they can quit the game. This however brings them to a television scene. The television scene shows you that your product failed to follow general guidelines for products and, depending on your choices, resulted in death, noise nuisance, prison or privacy intrusion. These over-the-top consequences are meant to ironically put the issue (Issue 1) to light. Using irony to change attitude is also expected to work efficiently on the target group (Section 3.2). E.g. whether you chose robot arm or laser, either will cause negative side-effects even though they give positive feedback on the statistics. The ending scene does not have literal text to give the player space for their own interpretation of what went wrong and why. It does include generally known symbols and signs that symbolize a problem or danger.

1. Skull representing death
2. 'Culprit' a word with a negative connotation while this jailed employee was first seen as a co-designer
3. Sound bars indicating noise nuisance
4. Censored (indication privacy intrusion)

The reveal might be strictly perceptive, yet because the outcome is inevitable, it forms a contradiction to the gameplay, which is expected to lead to deeper reflecting. As this contradiction is created purposely, the perception and gameplay are still argued to be coherent. The scene then switches back to positive through an invitation to join the study Industrial Design. This is again a moment of reflection. The point of bringing the issue to light is to change the attitude of the player to be more critical and curious towards Industrial Design. We hope that, alongside the fun parts of designing, questions arise about how to make a good product. The player should be moved to think about how you can actually make products, the designing phases, issues that are overcome, important factors that are taken into account etc. This could motivate the future student to start a conversation and or be interested in the study industrial design. Industrial design is also more practical than most university level studies, and through giving the player a taste of what it is like to actually work on projects instead of only burying your nose in books, we created a bit of extra persuasion to inspire the more practical minded people.

A possible issue of the game is that it is focused on creating curiosity, yet curiosity centered around an issue faced in the study. This could potentially create a negative connotation with the study. However, we do not expect this to be the case. The controllable aspects of the game and the gameplay is centered around the actual design process, making the product profitable and adhere to requirements. This behavior is mostly rewarded. Moreover, the ending scene does not influence the score and it will be part of the result whatever decisions you make, so it will not be avoidable. The ironic fashion wherein the issue is brought to light is lighthearted. As to these reasons, we think that the issue is portrayed as a fun problem that is taught to be tackled in the study and does not create a negative connotation to the study.

5.2 Verification and feedback

To test our hypothesis on persuasion in our game, we have created a survey. As we were an unlicensed development team, the installer came with security warnings leading to less par-

ticipation to the survey. Due to the sample size of $N = 10$, 8 players and 2 non-players aged (18-21), we were unable to make conclusive statements. However we will propose a methodology to test the effectiveness of our persuasive methods. Here, the non-player participants of the survey are used as control group.

1. Is the design process in the game credible?
   The players are asked if they think the cards are fair. Although the cards might not specifically be fair or unfair, the environment of a credible design process and the relevance of the scores would suggest that the player experiences the choices as fair. 87.5% of the players experienced the cards to be fair.

2. Does the game fit the context of the open day?
   The participants are asked if they think it is a good idea to have small video games at the open days. Both players and non-players answered that they think this is a good idea for 100%. The participants are then asked how much time they would be willing to spend on a game on the open-day. This is answered with 60% shorter then 10 minutes and 40% shorter then 5 minutes. Lastly, the player participants are asked how much time they spend on the game. This was mostly answered with 5 minutes (75%) which fits with the time the participants are willing to spend on a game on the open-day.

3. Is the issue (Issue 1) interpreted as intended?
   The players are asked directly what they think the end screen means. Most of the answers were in line with the intended issue.

4. Does the issue (Issue 1) create more interest in the study and is it related to the study?
   The participants are asked to describe what industrial design is. The answers of both non-players and players can then be compared to see whether the issue is mentioned and whether the definition of industrial design, is answered more extensively and positively. Furthermore, the participants are asked if they have any questions about how the end screen relates to Industrial design and if so what these questions are. We were not able to make any conclusive statements on this regard.

6 Process

During the first meeting, the team discussed which studies a serious game could be made for, and what such a game would look like. One idea was inspired by the game Reigns, where you make binary decisions on event cards in order to keep 4 meters in balance. Completely filling or depleting one of these meters causes you to essentially lose the game. This first idea stuck with the binary choices and 4 meters from Reigns, and added requirements from a client and a boss. Furthermore, instead of having a fail state as in Reigns, the 4 meters would influence a score at the end of the game. Another game idea was thought of from scratch, where you choose to add certain parts to a design and then market it. Whereas in entertainment games, the first idea surrounding a game might revolve heavily around how fun it is thought to be, both of these ideas revolved around portraying industrial design through a serious game.
These ideas were merged into what has become the core idea for the game that was made. The Reigns-style gameplay from the first idea, along with the marketing from the second. The binary decisions of the first idea were taken as the ”glue” that made sense of the different aspects of the game; the design parts and the marketing decisions were turned into binary decision cards.

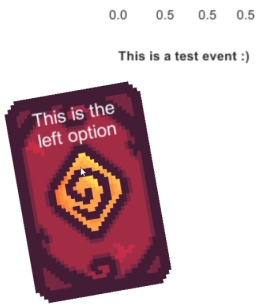

Figure 1: The game demo for the mid term presentations.

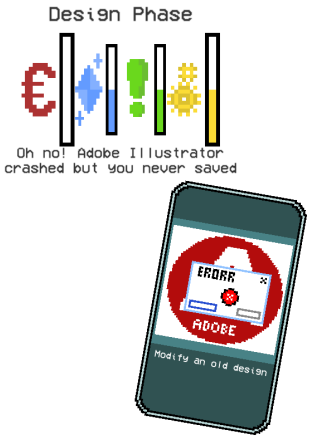

Figure 2: Development iteration where all gameplay is functional.

After this core idea of the game was locked down, fun elements were added to the game scope, in order to make the game more enticing to play. The live design preview was one such element added during this stage, where the parts you choose get added onto the product during gameplay. During this iteration of the game scope, the details surrounding how to bring information to the player were also discussed. In the development process of entertainment games, this stage might be similar to this process, where design might start going in depth into how the player should actually interact with the core actions of the game. Since the learning part of the gameplay of this game is mostly based on testing the player's intuition, the right amount of information needs to be given. If too much information is given, there is not a lot of the "puzzle" left for the player to use their intuition on. For example, the highlighting of the bars at the top of the screen when holding the card to the left or right side to show what stats would get affected, and to what level we show information through that.

After the full scope was thought out, development started in force. The first "checkpoint" that was laid out was for the intermediate presentations. This iteration would be a demo of the main gameplay, namely the dragging of the card and making decisions, the displaying of the four main stats, and displaying all the text associated with the card (Figure 1).
The next game iteration that was aimed for was a functionally complete game (Figure 2). The stats are now shown with bars instead of text, and are enlarged to show that they are affected if that side of the card is chosen. The marketing phase and the requirements of the boss and the client were implemented, as well as the score that represents how well the player performed in those aspects. The profit of the product is also calculated for the end screen of the game. Finally, a small set of cards was made to showcase gameplay, each of which use unique graphics.
The final iteration of game development was focused on polishing certain aspects of game feel, including some of the fun elements and finishing the graphics of the game. The live design preview was implemented, as well as a basic visual feedback where the boss will indicate to the player whether they are happy with the player's decision. To give the player more feedback on parts being added to the design, small particle effects were also added. Finally, sounds were added to complete the final game demo (Figure 3).

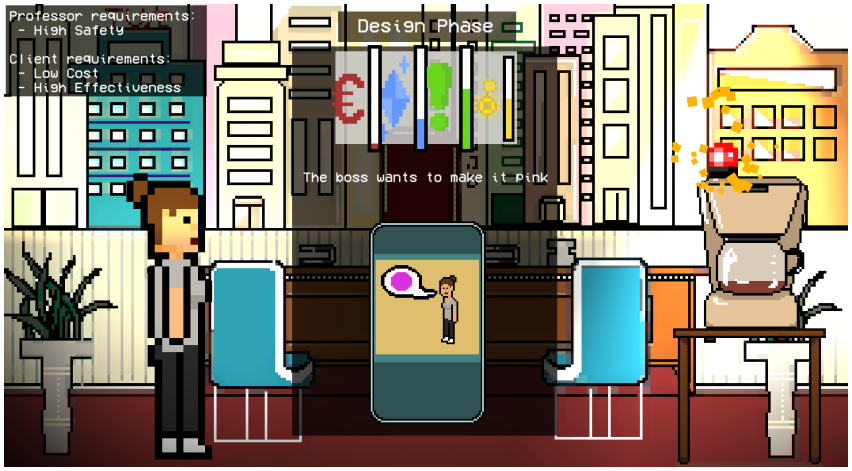

Figure 3: The final game. Particle effects are visible above the coffee machine after the alarm light was added

7 Evaluation

7.1 General

The main goal of this course was to develop a serious game to promote a study of the TU/e and attract prospective students. To achieve this, we took the study of Industrial Design. After a brainstorm discussing multiple concepts regarding multiple studies, we dropped the idea of making a Cities: Skylines concept and used the Reigns inspired card concept for I.D. This turned out to be the right call, since it would have been a massive workload and multiple members of the group mentioned that they preferred to actually get a more advanced final product rather than a complicated concept without any realisation. This shared vision was followed, and therefor we focused on creating the concept in such way that we could come up with a proper game and realisation. This was achieved through using one general game mechanic consisting of binary card choices to affect 4 stats.

With this general concept in mind, as well as a target group, we had to determine ways to add persuasive aspects to our game that would be coherent with the target group. At first this turned out to be quite the difficult task, yet after all the lectures and some scientific research, we did manage to include multiple persuasive aspects that also align with the target group. The only discussion point left is whether it was a good plan to use an issue as faced with during the study, as this could potentially result in a negative connotation towards the study. We don't think this will actually be the case though, since this scene is purely used as an eye-opener, while the rest of the game is focused on positive feedback.

Throughout the course, we did experience some difficulties both regarding technology/working at home, as well as some communication troubles. Issues as non-working code as a result of different Unity versions could have easily been prevented with some simple clear communication. There were also a couple meetings we had to do with a reduced team as a result of people missing thanks to bad communication or planning. This was only on individual cases though, and were always solved in a decent way. The communication and planning did improved throughout the course, and the last couple of weeks we were able to really keep our meetings short, efficient and on time.

The general group atmosphere was good, the regular two meetings a week planning kept us up-to-date and on schedule. The workload was sufficiently divided so that everybody got

to do their parts. The actual coding guys might have done a bit more work, yet in general the workload was divided fairly and to capabilities. The online meetings were a bit demotivating, we probably would have gotten even more out of this course would we have been able to actually go to physical lectures, and work together physically.

7.2 Personal

7.2.1 Onno Kniknie

In the beginning I came up with the idea inspired by the game Reigns, where the binary choices + 4 stats were converted to represent an industrial design process. Further on in the project I mostly wrote code for the back-end of the game, for example making classes that translated card or requirement info in files to info or data structures to be used by the game. Next time I would push myself to put more time into development early on, in order to have more time for the report later in the course.

7.2.2 Matthijs Limpens

First of all I tried to bring structure to the meetings to make them as efficient as possible (with mixed results). I tried to offer and discuss all my ideas and give other space to do so as well. I have mingled with many different parts of the game such as the card movement, the animated design parts, some card ideas, some visual effects (I finally figured out unity's 2d lighting system!) and creating an end screen. I found it difficult to make the game persuasive but I also really tried to contribute in that part. I also put a lot of the different components together after Onno made the core game mechanics. I really liked working together with our team and I think I had an active role in the meetings and outside of meetings and I am happy with my contribution. I also tried to offer my help as much as possible. Next time I will try to start earlier with developing the first mock ups of the game so we have more time to change things before finalisation (we can then go through more iterations). I would also try to more effectively distribute tasks among people who are good at certain parts of making a game.

7.2.3 Thomas Wezel

During the previous course of this learning line, I mainly carried my group on a quite difficult game to develop, resulting in a massive workload on my back. For this 2ND course in the DZC-line, I decided to step down from this carrying mindset and lower personal ambition a bit. Looking back at the past weeks, this turned out to be a good choice. The work was better divided and more efficient, while still keeping that standard high. I am quite experienced with unity, so during concept development I mainly worked on all the different unity mechanics, for example the coding and designing of the menu's, intro scene, final feedback scene, persuasive scene etc. I also made the actual card designs used during the main gameplay. This course was for me a great opportunity to learn more about learning and persuading aspects of (serious) games. I also learned about the differences between 2d and 3d games. In the past my experience was focused on 3D games, yet this experience taught my a lot about the values of a 2d game and what impact it can make, despite the maybe lower graphical quality. I do feel that I may have dropped the responsibility a bit too much during this course, so my next goal is focusing on finding that balance between over-doing and under-doing on the personal ambition.

7.2.4 Koen van Ruremonde

Not having done the first course in this line, I started out having more troubles to create a clear picture for myself of the project itself. Furthermore I also did not have any game design

experience yet so I also did not fully understand what was even capable for us to create. The first thing I id for this course however was to follow some course on unity to gain a grasp of the possibilities. I do have some knowledge about games as an avid gamer and sometimes game tester, so I made myself useful with the ideas behind the game. Later during development while other members were focused on coding the game, I decided that I should focus on the aesthetics of the game instead to not slow the others down with my limited experience.

7.2.5 Anusha Ravishankar

This course was a nice continuation after the first course of this learning line, by opening up new opportunities and windows to explore. With the freedom given during the first course, it made it a little more chaotic and stressful to be conclusive on a decision, which led to ups and downs. However, with the structure and breakdown of the design briefs and criteria's, it felt more smooth flowing and comparatively more laid back. Moreover, with the idea set in stone from the initial phases, it was a much more easier task to divide the tasks conveniently. Though I decided to take upon a much lesser burden compared to my first course I really enjoyed working on the pixel art. My main goal was to improve my creativity skills and apply more of the design aspect of game design rather than the technical parts. Hence, why I stood back from the coding tasks. Apart from this, I tried to put forward ideas for how the structure of the game should be, what needs to be focused on, what can be taken as a future learning point since I had an experienced perspective. I focused mostly on background development and iterating. Moreover, I attempted at animating the characters to perform and say certain dialogues, which didn't quite pan out due to it looking more robot-like than human-like. However, I did not quite dabble with unity, which I hope to do in the near future since I am very much interested in game design. Apart from this I tried to put how much ever effort I could and take on the bigger part of the report as I felt like I could do more. However, for the future I will try to take up the technical parts in order to learn about the backend of game design. Further, I really enjoyed working with the group and with the environment they had created.

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[5] Hilde A. M. Voorveld & Margot van der Goot (2013) Age Differences in Media Multitasking: A Diary Study, Journal of Broadcasting & Electronic Media, 57:3, 392-408

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[8] McDavid, Jodi (2020) "The Social Dilemma," Journal of Religion & Film: Vol. 24 : Iss. 1 , Article 22.

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A Visual cues product design

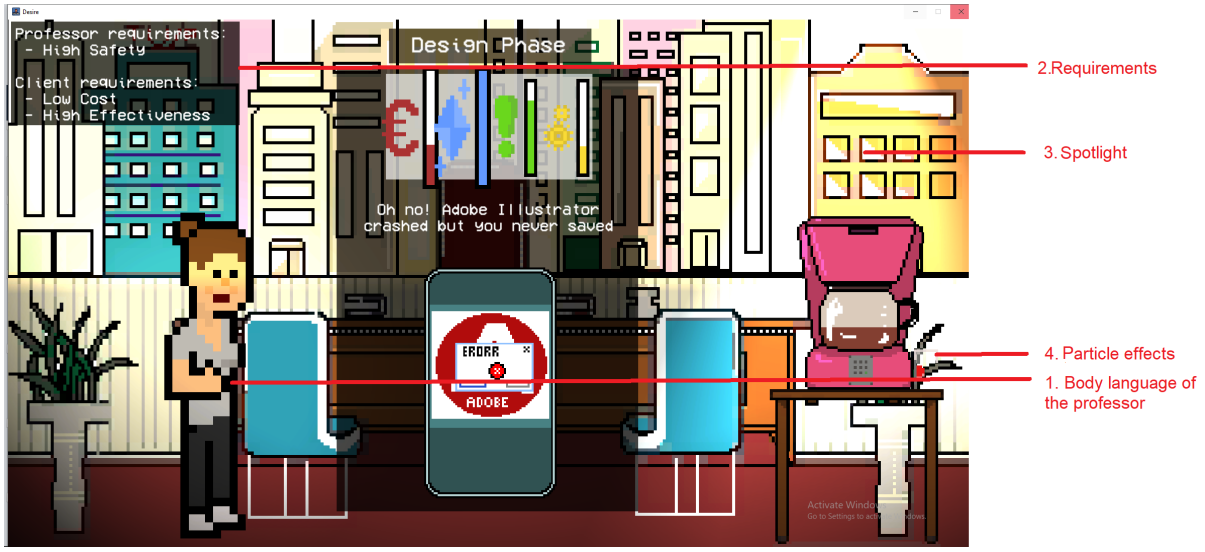


Figure 4: Visual cues 1-4

Figure 5: Visual cues 5 & 6

B Visual cues issue

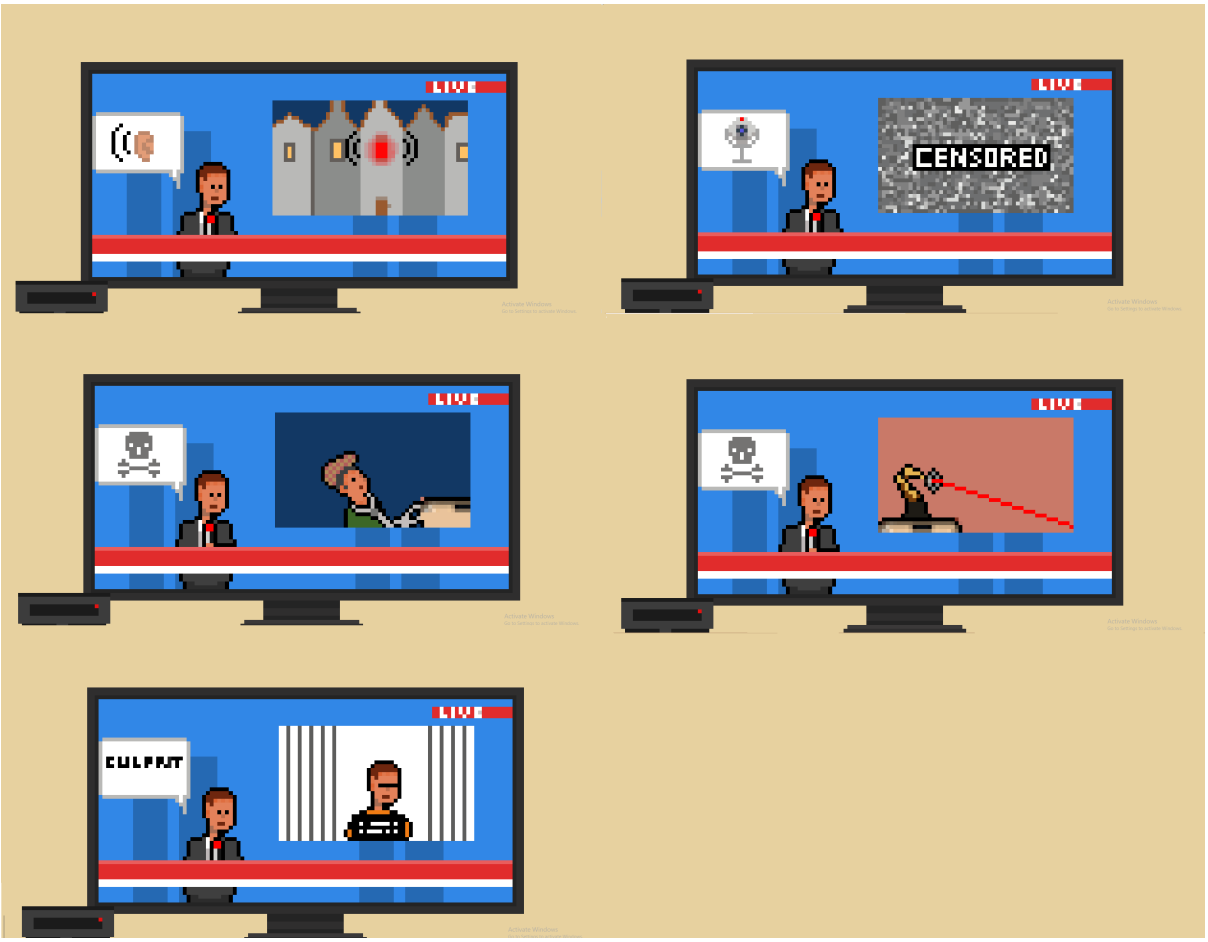
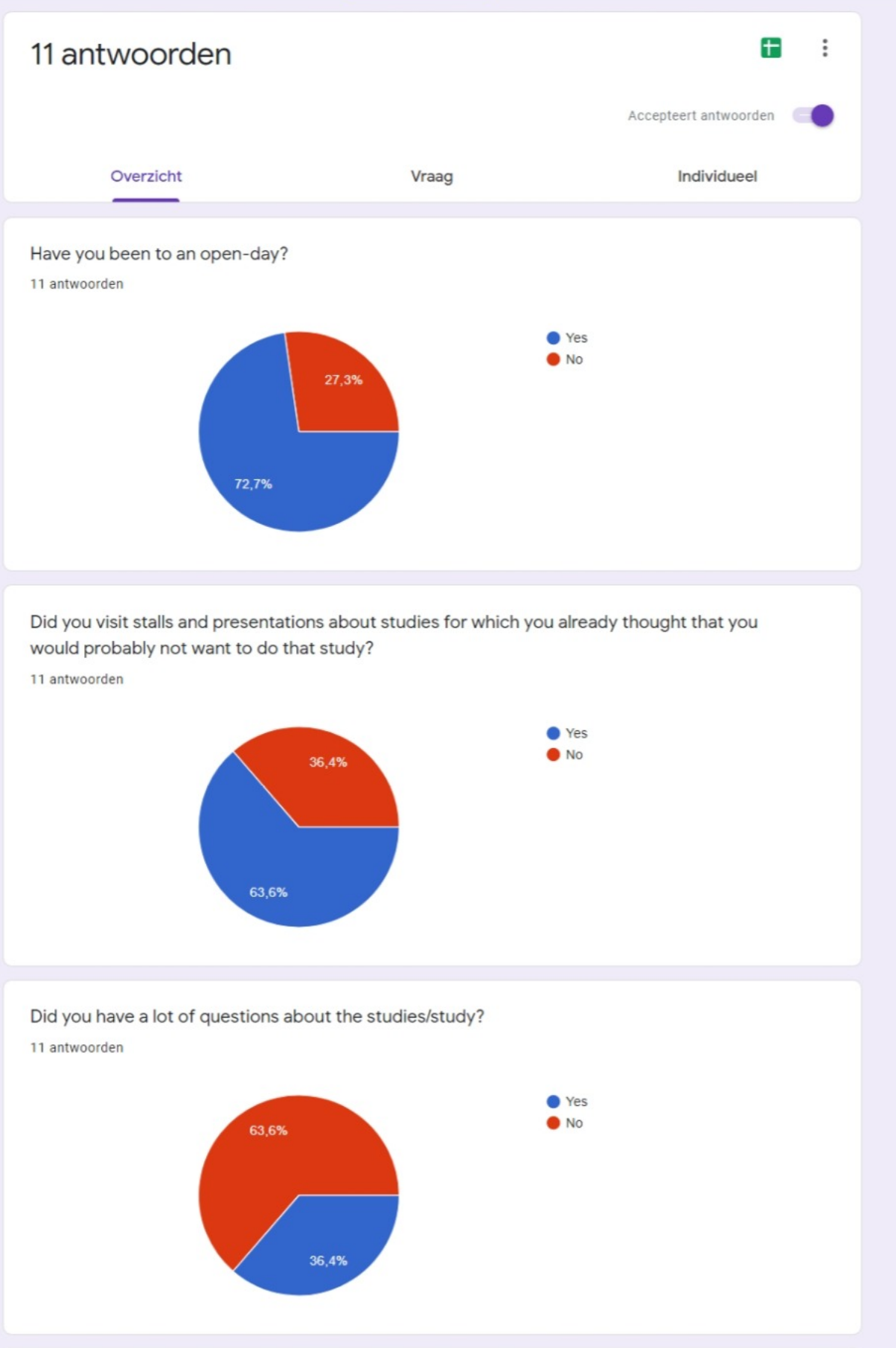


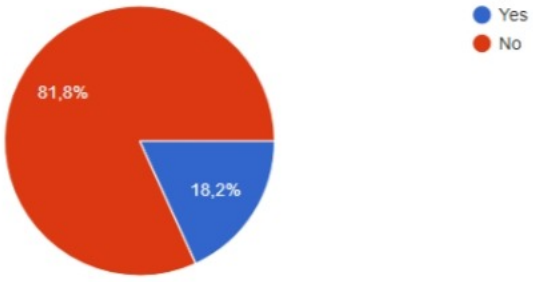
Figure 6: All end screens and visualisations of issues

C Survey


11 antwoorden
Accepteert antwoorden
Overzicht
Vraag
Individueel
Have you been to an open-day?
11 antwoorden
27,3%
72,7%
Yes
No
Did you visit stalls and presentations about studies for which you already thought that you would probably not want to do that study?
11 antwoorden
36,4%
63,6%
Yes
No
Did you have a lot of questions about the studies/study?
11 antwoorden
63,6%
36,4%
Yes
No

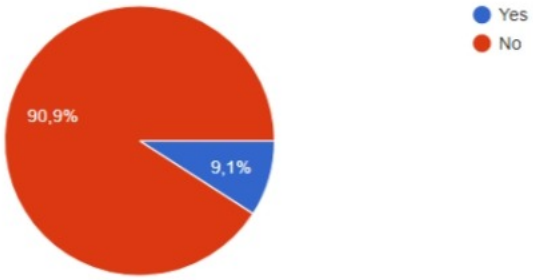
Did you ask a lot of questions about the studies?

11 antwoorden



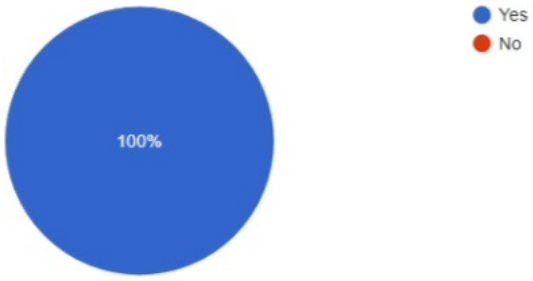
Did you watch any presentations or talked to anyone that promoted industrial design on that open day?

11 antwoorden



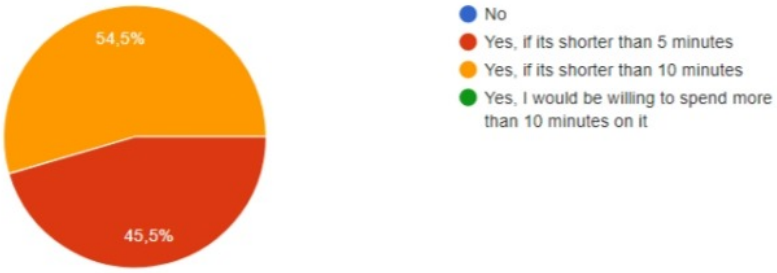
Do you think it is a good idea to have small video games at the open days? (The video games could for example teach you some simple concept that fits with a study.)

11 antwoorden



Would you take the time to play a small video game on the open day? If yes, how much time would you spent on it?

11 antwoorden



What do you think the study is about?

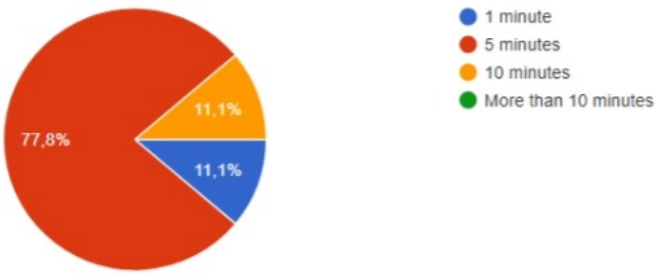
9 antwoorden

- I would assume the study is about designing products fit for various fields.
- About designing, and prototyping and testing new products
- I think it's about product design for everyday life and work, technology, creativity, user interface and experience, innovation, safety, convenience
- Designibg priducts around people. Leading to easy intuitive usabele drvices
- programming and creative design
- Design customer goods
- Aesthetic and user interaction aspects in the development of machines and devices.
- Designing products in a creative and innovative way
- Designing to keep attention

If you have not played the game 'Desire' then you can skip the following questions.

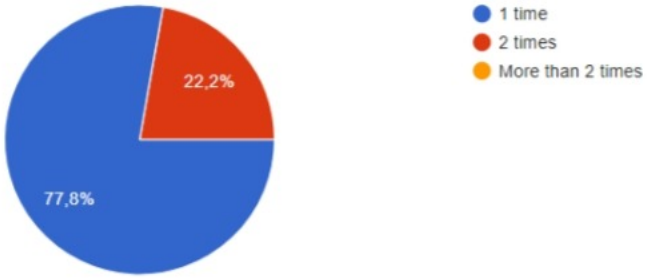
How much time did you take playing the game?

9 antwoorden



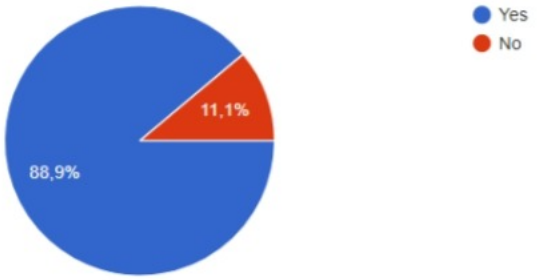
How often did you make a product in the game?

9 antwoorden



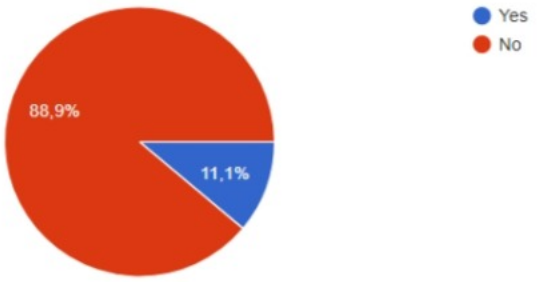
Did you find the influences of the cards on the statistics fair or not?

9 antwoorden



Did you have an idea of how many cards were left?

9 antwoorden



If you did not see the news television scene you can skip the following questions.

What did you think the end screen means?

7 antwoorden

- The end screen indicated my product did not meet industrial standards and as such lead to someone being killed by the product. I think it wants to highlight the importance of several factors when it comes to designing a product.
- The results of my product were presented on the news, and probably my product fails forcing the designer to go to jail
- The television screen: the product was on the news. The end screen "do you want to do this all day? ": to motivate to consider to chose the study industrial design
- I got in jail because i had put lasers on my design :(
- An invitation to choose for the study industrial design
- I have no clue, the sound was not working for me at all
- A scandal

Do you have questions about how the end screen relates to the study?

7 antwoorden

- No
- No. It's very clear.
- What are the main capabilities you learn in the study?
  Do you design and create products yourself?
- not really
- No questions
- Please explain

Thank you for taking the time to fill in the form and for maybe have played my game.