MINICIPALITY

Processbook STEC project for
Master Digital Design '17-'18

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1. INTRODUCTION

1.1 INTRO-DUCTION

This is the process book for the STEC project done by Bambi Boland, Beatriz Ibeas, Genèviéve Korte and Ondřej Kocholaty for the lectoraat of Play and Civic Media. In this process book we will discuss the creation of MINICIPALITY: a game about how the destruction of Amsterdam brings people together.

The game has two main purposes, first off the game is designed to empower citizens and give them tools to make a change in their neighborhood as well as bringing them together and making them aware that together, no matter how different they are, they can make a change. Secondly the game collects data for researchers to give an insight in the choices people make and how much they can empathize with other people.

Designed to be played in a bar or at a neighborhood festival the game is a 'walk-in-walk-out' type of game with short rounds where a player can join for a few minutes up to an hour or so if they wish to do so. Every player gets assigned a random character from the 20 characters designed that are based on stereotypes of the diverse city of Amsterdam. In the game, the city's wellbeing is defined by five values: safety, nature, happiness, economy and community. Similarly, each character cares more or less about those values, just like in real life. Every round the players have one choice out of three options: they either pick one of the two optional quests, or take some time off to recharge their battery.

In short; the game is an interactive way to empower and gather data while still being fun. We invite you to read through this process book to travel with us through the construction of MINICIPALITY!

We want to thank Nicolai Hansen, Ben Schouten, the Amsterdam University of Applied Sciences, James Peter Perrone Jefferies and Jorik Essen from CMD and the lectoraat of Play and Civic Media for this project.

Bambi, Beatriz, Genèviéve & Ondřej

1. INTRODUCTION

1.2 ABOUT US

1.2 ABOUT US

Bambi
Cross Medial Wizard

Enthusiastic cross medial designer that likes to do crazy experiments to see how new and old tools can be used in new ways. Focussing on the target audience and client I try to create a product that fits all parties. I'm usually good friends with my computer, teaming up with Illustrator and InDesign or writing code, but I also like to go back to the physical world and create with a simple pencil. It gets interesting when I get to combine the two!

Genèviéve
Crossmedial Storyteller & Digital Bard

Every product, idea, concept and person has a story to tell. Every dream and nightmare screams at me to be twisted and turned into a tale or epic poem.
Through narratives and diverse crossmedial solutions I like to tell stories, make characters breathe and transfer ideas and ideals. If we stop telling stories, we stop growing as a collective humankind.

Other interests are game design, research, concepting, critical design and education.

Beatriz
Emotional Designer & Concept Developer

My name means happiness, and in my design work I strive to make users happy. I use technology to create impact, connect people and spark emotions. I'm a Visual Designer and Digital Maker focused on UX and interactive installations.

As a dancer, I see design projects as choreographies that communicate stories and touch people.

Let's make happy users.

Ondřej
Creative Designer

I am not your standard designer. I feel like an artist discovering an underlying truth. I am the fanatical typographer and have four eyes for strong visuals, standing one foot in analogue other in digital. I am not afraid to ask the big questions. I am inspired by music, psychology and big acts of regular people. My aspiration is to create work that will stand out, motivate and change lives.

2. OVERVIEW

2.1 BRIEF, DEBRIEF & CLIENT

2.1 BRIEF, DEBRIEF & CLIENT

The STEC project that was given to us originally carried the name 'Supporting bottom-up empowerment in co-design processes' in the brief that we received. To understand the approach we took we first need to look at the original brief and go from there.

Brief

Why this project: Cities are increasingly being seen as shared resources and arenas for citizens, organisations and municipalities to create together - this process is called city-making. Cities, especially in the Netherlands are increasingly moving from a policy-driven top down approach to wanting a more inclusive and bottom-up approach to developing and generating ideas - empowerment is at the core. This means, that there is a need and a desire to bridge the gap between individual citizens, organisations operating within the city and the larger corporations and municipalities operating as part of the city.

Problem definition and goals: supporting articulation in co-design

Organisations like Play the City, TransformCity and OneArchitecture all use co-creation and co-design to make individuals come together and propose solutions and articulate issues in urban areas. The outputs of these co-creation activities are manifold such as game concepts (Play the City), digital opportunities (TransformCity), and citymaking proposals (OneArchitecture).

While these outputs are very valuable, there is also great value in the conversations, problem framing and discussions had during these co-design sessions,which are not captured in the outputs. We see a potential in using smart technology to capture and bring forward the more ephemeral conversations, problem framing and discussions had during co-design. That means that voices might be overlooked in the translation from discussion to output. As such your brief aims at empowering people in co-design by designing a digital artifact that supports the capturing and bringing forward of articulations of urban issues in co-design, to allow stakeholders to record and draw on decisions and argumentation during co-creation sessions.

Model 1 drawn from Ampatzidou, Cristina, et al. The Hackable City: A Research Manifesto and Design Toolkit. Knowledge Mile, 2014.

2. OVERVIEW

2.1 BRIEF, DEBRIEF & CLIENT

Our take: Debrief

After getting the brief and having discussions with our client we did several brainstorm sessions. First individually and then as a group to come to insights about the directions we all wanted to take in this project. This method allowed us to form ideas on our own at first and then see where it was similar. When we knew this we could decide on a course for the STEC project. We would see similar methods throughout the project where we would come up with ideas individually and then bring them together and perfect them.

Closing the gap

We decided to focus on the area between individuals and the collective. This means that we wanted to make it easier for the individual to connect with municipality but also with organisations and make them aware of aforementioned organisations. When there are already a lot of initiatives available for a better life but people are not aware yet, how do we tackle this? Furthermore, what can we do with the ideas of citizens? How can we (we, as in researchers, designers or municipality) make a better city if we do not grasp what 'better' means?
It was not our goal to come up with the "golden bullet' to problems that play in a neighborhood right now, but rather explore options to include citizens into a city-making process. This means that we wanted to look into how we can transform ideas into actions. How does a citizen go from an idea to an action and what does a citizen want in their neighborhood?

Data collection

Co-design sessions with users are a great method to gain insights but a lot of information is lost due to the high amount of qualitative data that isn't saved. We aimed to come up with a mechanic that would store ideas in an easy-to-code way within the game. This meant that the game itself would not just be a tool for empowerment of citizens but would also be a research tool to kick-start another empowerment line, by collecting the right data we would be able to create knowledge that would help us, or other groups, to design artifacts for citizens. Closing the gap between designers, researchers and the citizens.

For more information on the STEC project, also see *www.stec.design*

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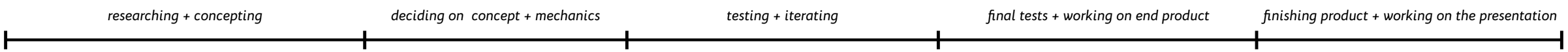
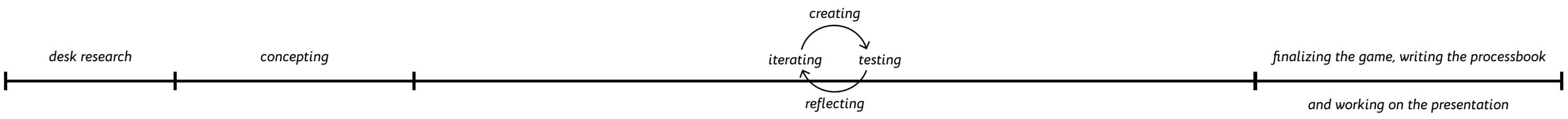
2. OVERVIEW

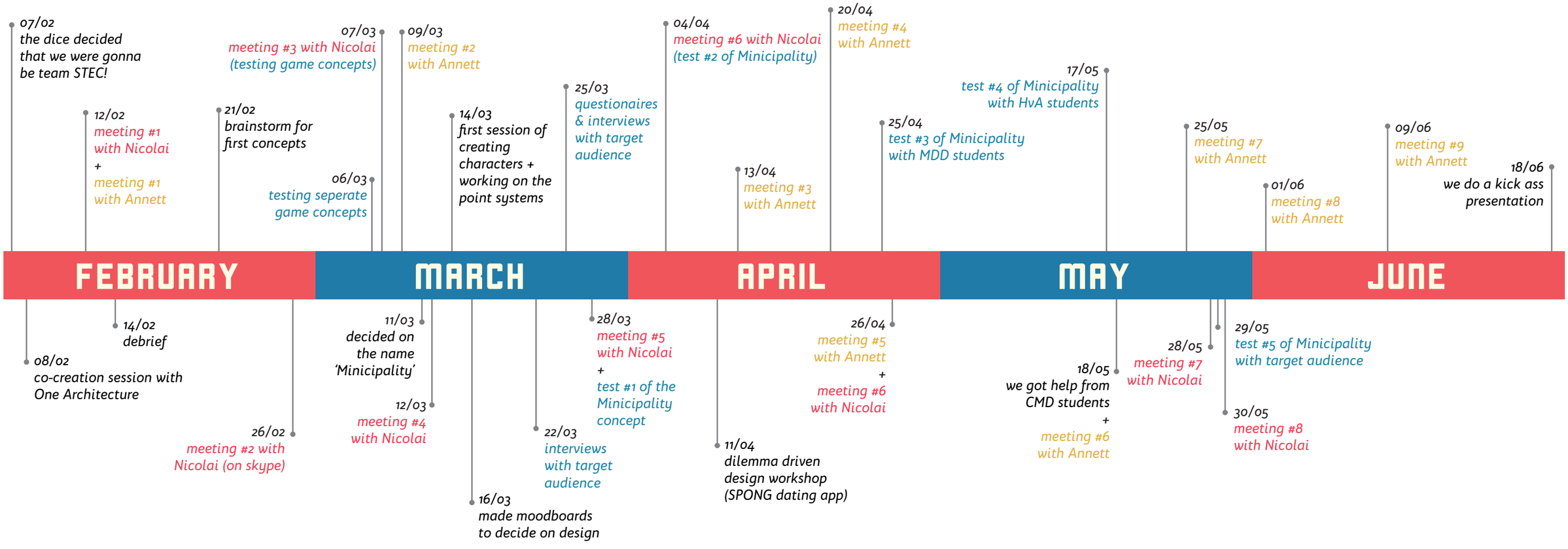
2.2 TIMELINE

original planning



actual timeline



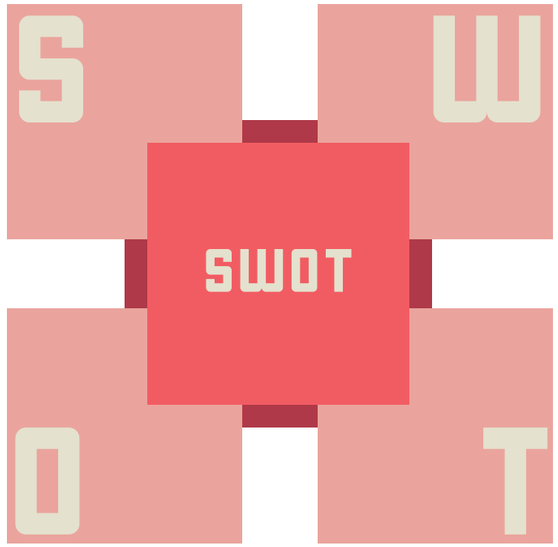


STRENGTHS

- Plays into the trend of digital board-games.
- Is a social experience, designed for a bar or event.
- Easily adapted to new environments.
- Easy to gather data and research insights.
- One time development costs, then low maintenance costs.

OPPORTUNITIES

- Using the existing contacts of STEC to promote and deploy the game.
- Concept fits into the politcal direction of Amsterdam.
- Deployment in different countries or languages in the future possible and likely.
- Visiting conferences and giving workshops with the game.



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WEAKNESSES

- Finding organisations to work with in the different cities.
- Need to be done in a 'workshop' setting, always need facilitators
- In the current design people use their own phone and we are depending on, for us, unknown technologies.

THREATS

- The game might be attracting the wrong target audience when placed in an event setting.
- The game needs to be strong and durable enough for transportation as well as public use ('bully proof').

3. RESEARCH

3.1 BEST PRACTICE: GAMES

3.1.1 BEST PRACTICE: GAMES

Before we started the work on MINICIPALITY we looked at other games that were relevant to our goals and briefing. In this chapter we will look at some of the best practices when it comes to games and game mechanics. Throughout the process of creating the game we also looked at aesthetics and game mechanics of other games to implement and enrich our concept.

Play Buiksloterham
playthecity.nl/page/15751/play-buiksloterham

The game of 'Play Buiksloterham' is based on the fact that the area in Amsterdam has been changing majorly in the past few years. In this game stakeholders are invited to think about the future of the city and strategize about what to do. What we got from this game is the way empowerment works through playing together as well as the usage of real local actors within the game to get insights into the needs and urban dreams of citizens.

Age of Energy
theageofenergy.com

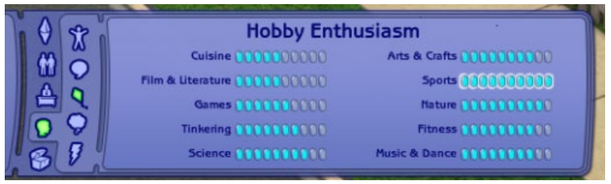
This game is unique because it uses real time smart data as input for the game. It helps players to save energy in the real life and is fun at the same time. A lot of serious games tend to be boring but this game is not. Age of Energy presents a post-apocalyptic scenario where the players have to build a livable community.

Block'Hood
plethora-games.com/blockhood

Block'hood is a game about envisioning your ideal neighborhood which is very much in line with what we are doing with MINICIPALITY. Where as the MINICIPALITY game is multiplayer, Block'hood is a single player urban planning game. It is focused on cause and effect, if you plant a tree it needs oxygen and water which you need to provide. The game is a very good inspiration for other games about this subject, as well as the style which is very aesthetically appealing.

The Sims
ea.com/nl-nl/games/the-sims

We looked at the widely popular The Sims Franchise for the way they convey data to their users. In The Sims there are bars for the hobbies they enjoy. We took inspiration from this element for our value meters because their designs have been proven to work and be understandable.



3.1.2 EMPOWERMENT

Empowerment is a word that has been used by many people in different ways. The dictionary describes empowerment as **'authority or power given to someone to do something'** while not wrong we want to define the term more precise. In the article *'Empowerment: What Is It?'* by Nannette Page[6] empowerment needs two basic things: a requirement that power can change and the idea that power can expand. This is important for us as well, since we are dabbling in playful civic empowerment we want to give tools and influence to citizens to make a change within their own neighborhood or city. In the article they end with the conclusion that empowerment is a 'multi-dimensional social process that helps people gain control over their own lives' [6].

'Empowerment refers to improving the human capability to interpret and influence the surroundings by utilizing the existing capacity for the development of both self and society.'

Is the definition given in the paper 'Citizen Empowerment and Participation in E-Democracy: Indian Context' [1]. While the definition is rather long and hard to say five times in a row the keyword here is improving, which is one of the values we want to underline as well with the empowerment we strive for.

Playful empowerment has three conditions however; motivation (being able), participation (the us) and advocate (the other) [4], which enriches our definition even more. If the kind of empowerment we are chasing is one that is both playful as well as meaningful we need to define empowerment keeping these requirements in mind while designing and doing user tests.

If we define empowerment for our own project, using the above sources as inspiration, it would be:

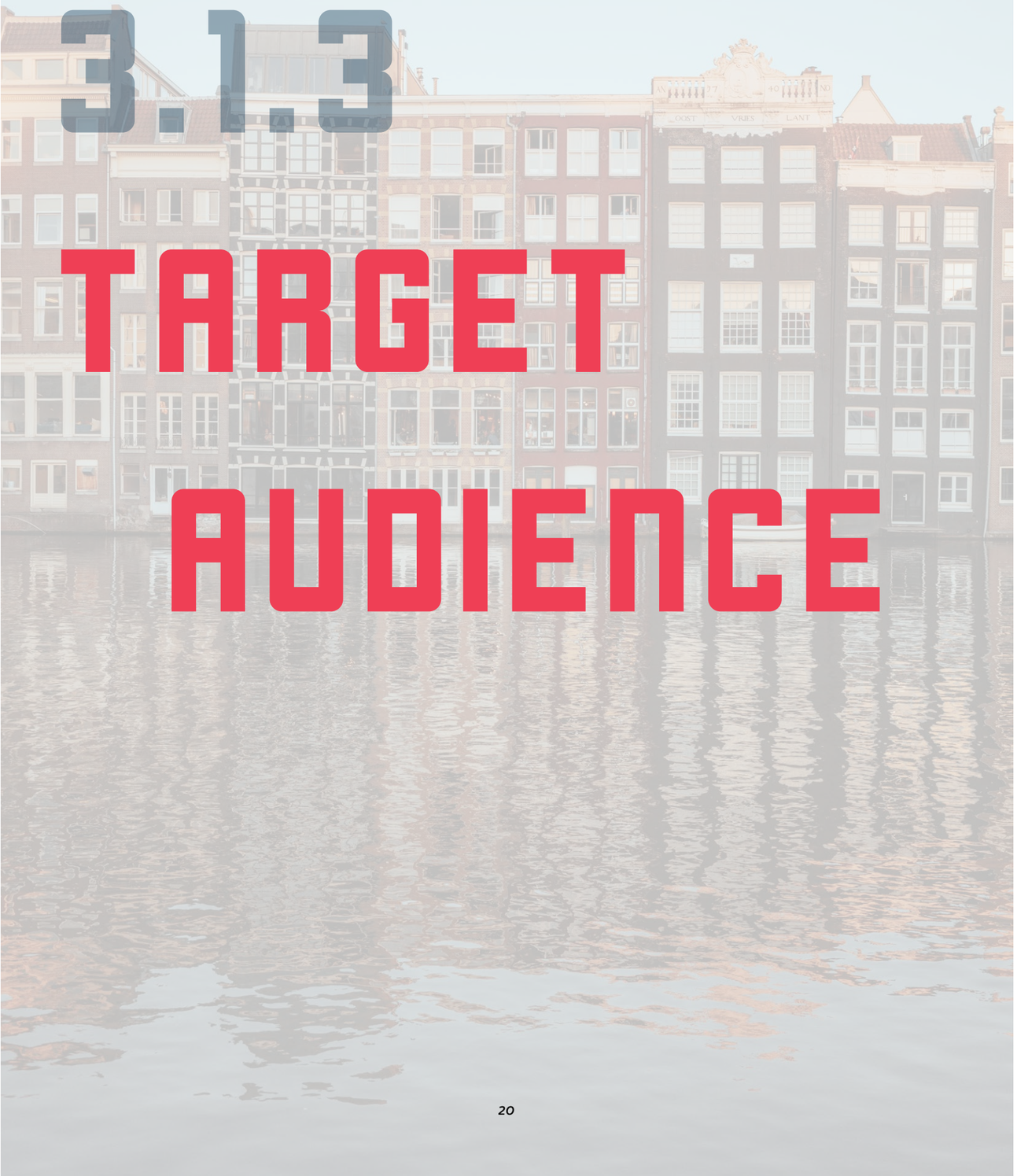
"Giving players the tools and knowledge to improve the lives of themselves and their fellow citizens through motivation, participation and empathy."

But how?
Now that we know what we are trying to accomplish, how do we do it? According to Frank Bold, a law firm that has a focus on social and environmental problems, gives some strong points on what to look at when empowering citizens. Public participation, public control over politicians and administrations, transparence of administrative proceedings, participation of the public in decision-making procedures, an effective access to information and accountability for the impact of actions from authorities [12]. These points are mostly focused on real life situations though and not the playful approach we have taken with MINICIPALITY. Using games for empowerment have to be designed with care because if done wrong it can have very negative effects when we are not inclusive or think about minorities. However games for empowerment (and inclusion) have the power to change the society we live in for the better [7].

There is no step-by-step cookbook on how to make games for empowerment; nor is there just one right way. Through our own field research and experience we know that making games for empowerment can only be done through an iterative process of design and user testing. This is how we made sure the game was empowering; testing it through playtests and interviews afterwards with the players.

Until we got it right.

3. RESEARCH



3.1.3 TARGET AUDIENCE

3.1.3 TARGET AUDIENCE

Our target audience is young people who want to start living in Amsterdam. We could call them as Gen Y which means people with birth dates starting from early 1980 to mid-1990 and early 2000. Generally speaking, the game is to be situated in public places providing opportunities for social interactions and is designed in the way that anybody within this age range should be able to play and understand it. Such places could be bars, community centres and hangout spots. MINICIPALITY aims to underline the importance of connecting the people in their community. One of the ways how we intend to do this is the informational layer, which includes the connection to local businesses, shop owners and services, therefore the audiences might slightly different for different communities. Amsterdam is a city rich in different cultures. There are more than 180 nationalities and 45 percent ethnic minorities [14].

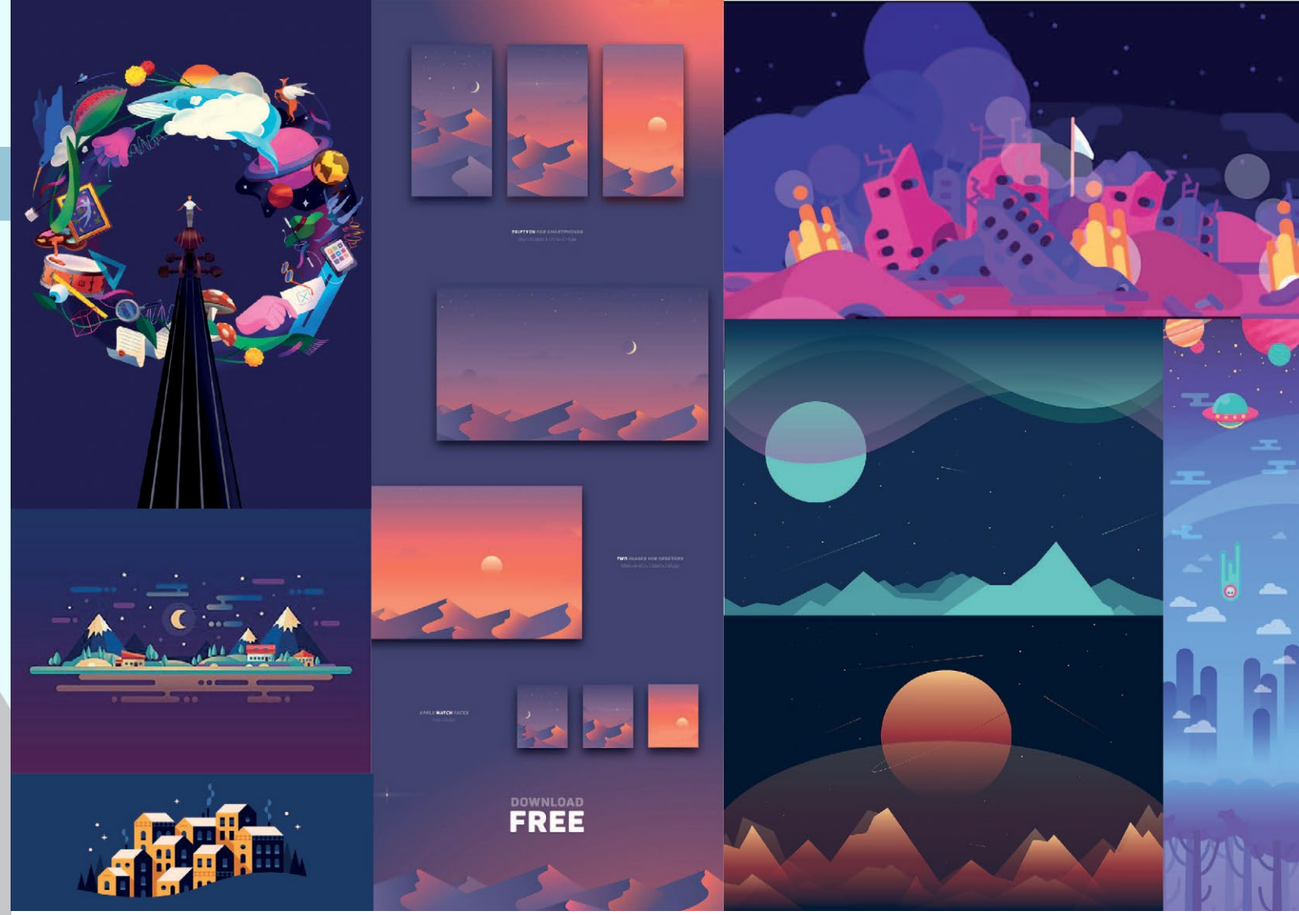
This is the reason why we don't define our target audience by origin or nationality. The game is a tool that connects people regardless of their culture.

3. RESEARCH

3.2 MOOD-BOARDS

We found flat design and semi-flat design a source of inspiration for our moodboard. We saw that animations with that kind of style are emerging and succeeding. As an example we can find “Kurzgesagt” educational videos. This style also applies to digital games like “Monument Valley”, “Life of Pi” and “Evo Explores”.

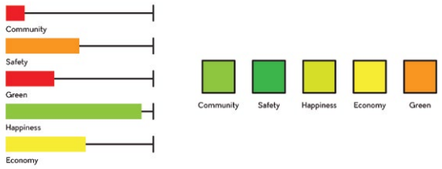
We defined two moodboards that are connected to each other. One of the moodboard refers to the city’s state when it is doing great (meaning that the city’s overall meters are high). The other moodboard makes reference to when the city is doing badly. The color scheme when the city is on a good state uses bright colors. Whereas, when the state is bad, the color scheme is composed by dark colors.



3. RESEARCH

3.3 LAB RESEARCH

What?
MINICIPALITY is set around five main categories (safety, nature, happiness, economy, community) which show the players the city's well-being. Because it is very important that the players understand this part without too much explanation we decided to focus on this specific part of the game in my lab research. To research the impact of colors in these meters we held a survey where we tested three variables: the speed and accuracy of which the participant answers, and aesthetics according to the participant.



How?
The hypothesis was as follows: "If the colors of the meters would change according to the score it represents, the user would understand this information quicker and more accurately." This meant that we needed to test three different dependent variables: the speed of which the participant answers the question, the accuracy of the answer and how aesthetically pleasing the participant finds the meters.

The first thing we did to start with this research was create multiple different designs for the said meters. Then we started looking for a way to track the time it took the participants to answer a question so that we could compare those times to the accuracy of their answer. The online survey-tool 'SurveyGizmo' allowed us to do this so we set up the survey there. Each meter that we showed the participants came with a set of questions: "How is meter ____ doing" (with the blank filled in with one of the five categories: Safety, Community, Nature, Happiness and Economy) and "How aesthetically pleasing was this image?". With the latter we checked which one of the meters are most aesthetically pleasing to the participants but we were mostly interested in the results of the first question.

With the "How is meter ____ doing?" question, we establish the accuracy of the answer but also the speed of the participant answering by tracking the time spent on this question. The participants answered by picking one of the four options: "bad", "alright", "good" and "great" and the answer was correct if it corresponded with the meter the question was addressing ("bad" meaning 0-25%, "alright" meaning 25-50%, "good" meaning 50-75% and "great" meaning 75% or higher.).

In this question we would get two outcomes: "Was the question answered correctly?" would result in a yes or no, depending on what answer they filled in. "How quickly was this question answered?" gave us the time it took the participant to answer in seconds. In the second question, "How aesthetically pleasing was this image?" the participant gave us a score on a scale of 1-10. In total there will be an outcome for each of the three variables, for eight different images containing four different designs. Ten people voluntarily filled in the survey, of which 80% were within the target audience of our project (young adults between 21-35).

After reviewing the results, it appeared that the initial hypothesis was not true. If we look at the averages, the questions of the last of the four designs were answered quickest. The first of the four designs got the highest aesthetic score, but had by far the most mistakes. Looking back at the designs, we realise that the margins between the different meters might have influenced the accuracy of the participant's answers. By looking at the results we suspect that the participants got confused as to which name belonged to which meter. This is something we would take into consideration if we would do a follow-up research project regarding MINICIPALITY.

4.1 FIRST CONCEPTS

After desk research and various brainstorm sessions we came up with several concepts on our own which we would later compare and discuss, taking the strong points from each concept. In this chapter we will explain the first concepts we had for the STEC project.

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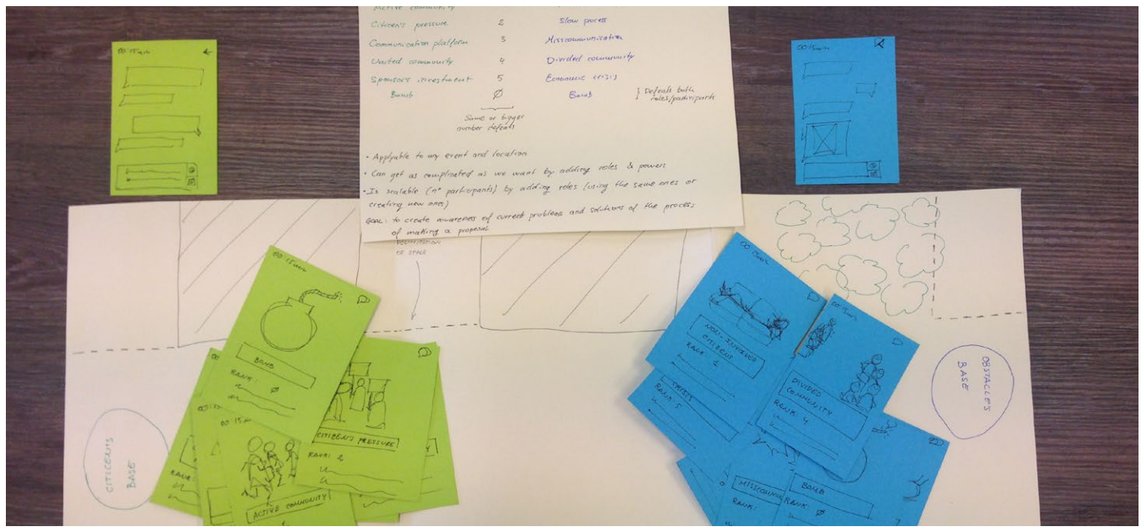
4. CONCEPTING - 4.1.1 CIVIC STRATEGO

Civic Stratego is a human Stratego game, that is to say, instead of using little figures or cards, they players are the actual figures that walk around the playground. The goal of the game is to create awareness of current problems and solutions of the process of making a proposal to change some aspect of the neighbourhood. This is a competitive game; one team plays the role of citizens while the other one of obstacles. Thus, the citizens have to try to overcome (in this case "kill") the obstacles and vice versa. Just like in the real Stratego there are different ranks for each of the players, this would be their roles and ranks:

The players will be randomly assigned a role. They will use their phones to know the details of their role and rank, to communicate via chat with their team members and to access the map (playground). On the following paper prototype you can see the phone´s screens.

The game is applicable to any event and location. It can also get as complex as the situation asks by adding more roles and powers. It is also scalable to diverse number of participants.

CITIZENS	RANK	OBSTACLES
Idea (equals Flag on traditional stratego)	0	Take action (equals Flag on traditional stratego)
Active community	1	Non-involved citizens
Citizen's pressure	2	Slow process
Communication platform	3	Miscommunication
United community	4	Divided community
Sponsor's investment	5	Economic crisis
Bomb	-	Bomb



4.1.2 JAMOA

**JAMOA is Uzbek for Community*

JAMOA is a game about the roles within a community and how much power parties have. It is a game to create mutual understanding, to bond over common goals and issues and will chart the wishes but also the possibilities of the citizens and municipality. Through a role reversal roleplaying game people will have to get into the mindset of another- which will underline not only where they are different but more important where they are the same.

Played on an interactive table (or ideally an interactive tabletop that can be easily moved around) the game will need a game master which will be provided by the makers, these are the storytellers of the game.
The interactive table will function as the gameboard and display a neighborhood that is similar to the neighborhood where it is played but not a one on one copy. The players will get a character sheet that is based on research (what kind of people live in the neighborhood- are there a lot of elderly? There will be at least one elderly character card in the game). Based on what is viewed as the main issue within the neighborhood the game will have a goal. Examples of goals are; increase the Green score to 100, increase neighborhood happiness to 100, or create a circular system within the neighborhood.

Roles & players
The roles are based on the local neighborhood but there will always be one or two members of municipality roles in play. Next to that imagined roles could be; people from a minority, a low-income household with young children, an elderly person, a high-class business owner and a mid-income restaurant owner that needs tourism to survive.
The players are imagined to come from all walks of life. Ideally you want two members of the actual municipality to play as non-municipality. This also allows them to discuss themes like safety, green energy and immigration with the community.

Currency & scores
To make the game playable even for people that are not comfortable with difficult numbers or are not used to it, the game will be played with a numerical system of 100 for each counter (Happiness, Green score, Safety, Economy, Workplaces). The municipality will have a currency of 1000 and the other roles will have more or less depending on the role. Roles that deserve welfare will get this from the municipality. In the game you can lose and gain currency and every action will have influence on the five counters mentioned above.

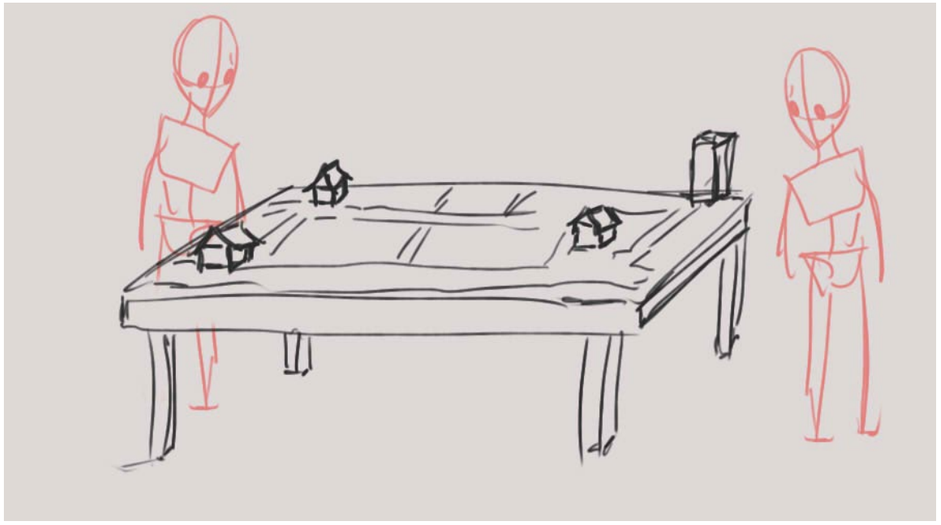
Events
The game will be played in rounds, every round are two weeks in game time (this means that every two rounds people will get paid for example). At the start of every round there are events that influence the game. For example there can be a downward economy due to regulations or an offer for renewable energy. However, the players will have to discuss out loud. If you play the role of a house mother that faces a wind farm to be placed in her backyard- do you care as much about renewable energy? Even if the value of your house goes down?

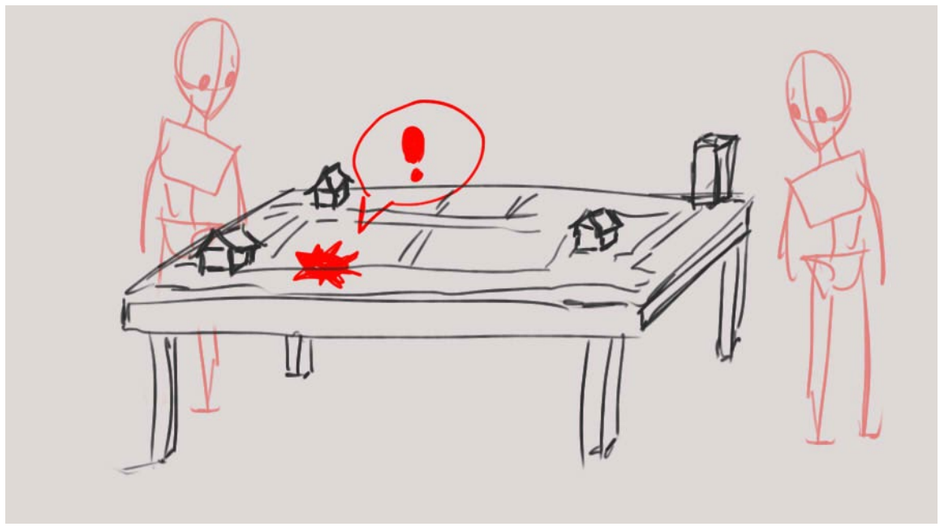
Setup & creation
In preparation of the game there will be a plastic collection event where the community can collect their plastic and hand it in. This plastic will be reused to 3D print and create the plastic sheets for laser cut game pieces. These pieces will be used in the actual game and are from their own community. After the game the players can take the pieces with them, aside from one that will be kept for the game makers to have a growing collection of houses from different places. This keepsake is not only cute or fun, it is also a way to make people remember the event and have a physical reminder of the things they discussed. It can be used as a conversation starter.

4. CONCEPTING

Tushun is the Uzbek word for 'understanding'. Therefor this game is about understanding; not only other people but also the way a neighborhood can take action. It is often hard to do something due to doubt or questioning what to do, who to speak to and where to go. Tushun is a game that will empower citizens through light roleplay and allows them to practice certain actions in the safe world of the game. Understanding each other and the consequences of actions is often hard too; we can be biased towards the people living next to each other, to battle these stereotypes the game will play with the way we look at each other in a playful way.

The game can be played in two ways: either the standard way, where normal procedures are used that are common in The Netherlands or specific way, where before playing the table is updated with specific information about that neighborhood/ parish. Ideally a member of municipality is also present to answer questions.





4.1.3 TUSHUN (JAMOA 2.0)

The game of Tushun
The game will be played on a large interactive table that looks aesthetically attractive, this is needed because the table will be placed in a public space like a bar or an event. The game plays out in short rounds and mini 'levels' allowing people to walk in and out the game without 'having to' stick around and disturbing the game flow.

On the interactive table there is the neighborhood of Tushun, which bears similarities to the neighborhood where the game is played. There are laser-cut houses placed on the table that signal where our main characters will be living. One of the characters has a thought, idea or problem. The table will make a sound and start flashing in a color to signal the start of a 'level'.

For example, the elderly character of Greet de Jong has a problem, she wants more lights in her neighborhood. Where does she start? Options pop up on the screen, to visit a neighbor for example, call the municipality or write a letter. In case of Greet, who doesn't own a computer, when you click the 'look on the website' option, a pop-up will appear that says that 'not all members of the community own a computer but maybe Greet can ask her neighbor?'.

Another example is when there is a pop up in the apartment, a young man named Eric has a lot of trouble with loud sounds. He needs to find the culprit and a row of 'suspects' is shown. Stereotypical teenagers, a family from Suriname, Greet de Jong, an artist living alone and some others are shown. Who do they 'knock on the door on' first?

Obviously it is Greet de Jong who has lost her hearing so much she doesn't know she is watching Agatha Christie's murder mysteries so loud the whole building knows the gardener did it.

If the players click on a different picture first the neighbors will react in a certain way, also challenging stereotypes as they go.

A third example is a notification pops up with the municipality now the players have to step into the shoes of the municipality. What if the crime rate went up in the neighborhood? where do they get the money and resources from to battle this issue? A neighborhood watch? Or get money from the local art and culture fund to hire more police? The action/ reaction will become clear and the way the municipality has to divide their resources becomes clear.

The table will record what options are clicked first and in what order, this way you can see what people think is the right solution.

By playing through these 'puzzles' you get to raise the neighborhood levels. The 'quicker' you go through the puzzles (with as little clicks as possible) the more points you get. Raising the neighborhood quicker.

The game is fun but also informative while connecting people and making them more likely to communicate. It is key to have a facilitator present that asks the right questions like 'why' and 'how' and 'have you seen something similar in real life'. It could be good if the facilitator can control the game from a secondary device and input, for example, specific events. If a player mentions they have problems with filing a complaint about the waste disposal system for example, they can input an event that has to do with that, playing through the event in Tushun.

The game offers a high amount of empowerment for agency and impact because it connects to real world solutions and offers hints to how someone would take action when facing a problem. For the same reason, it scores high on action and scenario building when taking into account that real world problems can be placed into the events. The understanding and perspective empowerment comes back in the stereotypes that are present in the game, challenging those as well as making them a point of conversation.

4. CONCEPTING - 4.1.4 CIVIC MONOPOLY

Civic Monopoly is a role-playing game where each of the players represents different social-positions of a neighbourhood. As an example, some of the main roles would be the municipality, a wealthy citizen, a local business owner, a less privileged citizen, a discriminated citizen, etc. The goal of the game is to create awareness about the different social-statuses on a neighbourhood and the influence and power this situation gives them. Therefore, if your character is a discriminated citizen and wants to make a proposal to the municipality, you will need to overcome more obstacles than others.

The game is played with the smartphones and around a digital table where the main map and scores are visible. The game also makes use of the physical space around. For example: if your character is a poor citizen, your chair will be placed far from the table and with an obstacle midway so that, wherever you want to talk, you will need to jump over the obstacle and approach the table.

Civic Monopoly's player journey would be as follows:

1. Starting state: each player is assigned with a character and depending on your social-status you will be placed on a better chair and closer to the digital table.
2. Appearance of a proposal to have a change on the fictional neighbourhood. The player that plays the role of the municipality receives a proposal.
3. Municipality decision to announce the proposal or dismiss it. The municipality player can decide if he/she wants to be transparent and open to democracy the proposal of dismiss it without anyone knowing about it.
4. If the municipality announces the proposal, a discussion is being opened among the players in order to convey each other and reach consensus.
5. Voting starts through the smartphones
6. Consequences of voting system are applied to the digital table and scores.

4.1.5 STEREO STORIES

'Stereo stories' is a concept for a card game that would be played in a community center or another moment where many citizens from the same neighborhood gather. The only thing the game offers is a deck of cards with portraits of people with extreme stereotypes, the rest of the story comes from the players. The game is played by a group of two to six people who live in the same neighborhood or building. Each player grabs one card from the hidden stock and they lay them next to each other on the table. It's up to the players what happens next. They are asked to collectively come up with a story based on the idea of the characters on the table living together in some kind of community. The players can create a story where the people have a fight, or maybe have a very good time together.
The goal of this game is to help people talk about the problems they might have in their own neighborhood. By using the stereotypes they can come up with extremes, and by using fictional characters they can project their own problems on the characters, without being afraid of talking about their own problems.

An extra outcome of this game is the data received from the people playing. A moderator will be present every time the game is played, and they will make notes of what happens in the game. By observing how the players tell the story, and reading between the lines, they will learn more about the specific neighborhood and see what kind of problems there might be, or what the neighborhood might need.

Pictures by *Joel Pares*

4.2 MINICI-PALITY CONCEPT

After creating the concepts we narrowed the concept down to one. We did this through taking the best characteristics of each of the proposed games. This meant that the final game concept of MINICIPALITY consisted out of aspects of all our ideas and truly represented the vision we had as a group about what was vital for the game to be fun, empowering and convey the ideals we wanted to bring into the concept.

The concept of MINICIPALITY has, as described in the introduction, two main purposes. The game is empowering in bringing citizens from a neighborhood together and giving them relevant information about the municipality, culture, neighborhood initiatives and opportunities. Secondly the game has been designed as a tool for research. The data that the game teases out of the players are valuable insights into the mind, motivations and level of empathy. This way we can use the game to design better for a neighborhood in the future; underlining the empowerment once again. MINICIPALITY is a full circle, not only is it a playful empowerment tool on it's own, it also gives us tools to make more empowering designs.

MINICIPALITY described in one sentence would be 'A cooperative game that is played on an interactive table (much like the table from Kodisoft, for interactive dining experiences) with smartphones as controllers, where you are placed in the shoes of a randomly assigned character to build up a neighborhood after the apocalypse.'

The game randomly assigns one of the twenty characters to the players (characters are called Minicipalitans) with their own values and backgrounds that are designed to make it easy for people to 'step into the shoes of someone else'. This is done through the use of stereotypes that give the players easy reference points.

The game starts when a minimum of two players logs in through an easy mobile website and get their minicipalitan. They start in level 1 where the world has just experienced the apocalypse, it is up to the players to build up the town through choices that are given by the game. Do you want to build a high-security prison or a plastic surgery hospital? It depends on what you value. All actions of the players influence not only their own mood but also the overall score of the neighborhood (see chapter 5.3.2 Point systems.)

As the players go through the levels they build up their 'ideal' town based on the choices; however it isn't the same players all the time, you can easily log out and walk away, only for someone else to log in again and continue playing. If played continuously, by four players it would take about two hours to fully complete (10 levels total).
The game is designed to educate and empower the players that they need to work together to make the neighborhood better and compromise. While the game collects all the choices made by the characters (quantitative data) it would also be useful to collect the discussions for more qualitative data.

After one full game is played, the game can be reset and played again by different people; since the players always get random minicipalitans to play, the playthroughs are never the same.

5. CREATING

5.1 PAPER PROTOTYPING

5.1 PAPER PROTOTYPING

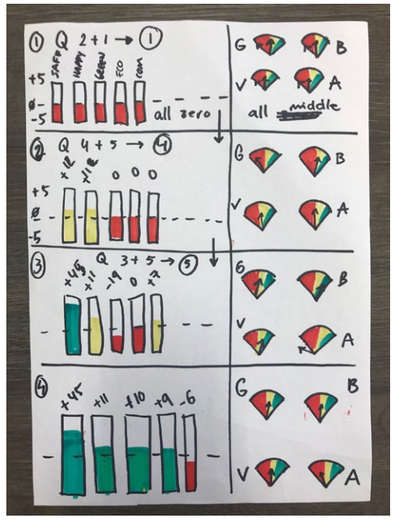
To get to where we are now, we've done many tests with paper prototypes. These allowed us to quickly test specific things without spending too much time on the design of the prototype and were the foundation of a big part of our process.

For the first concepts that we created (see chapter 4.1 First concepts) we had come up with individual concepts and the paper prototypes helped us to explain the concept to the rest of the team and we could easily see if this was something that would be empowering and fun to play. Once we had combined our concepts we did a couple tests with the team to see how exactly the concept worked and how we could expand it into a playable game.

In order to make a playable prototype without losing too much time going into details we created a simple version of the idea we had for the big screen (For a more detailed explanation on how we created the concept of the design and world building itself see chapter 5.7 Worldbuilding). We printed all the different optional layers and cut them out so that we could easily change the environment like it would in an actual digital game.

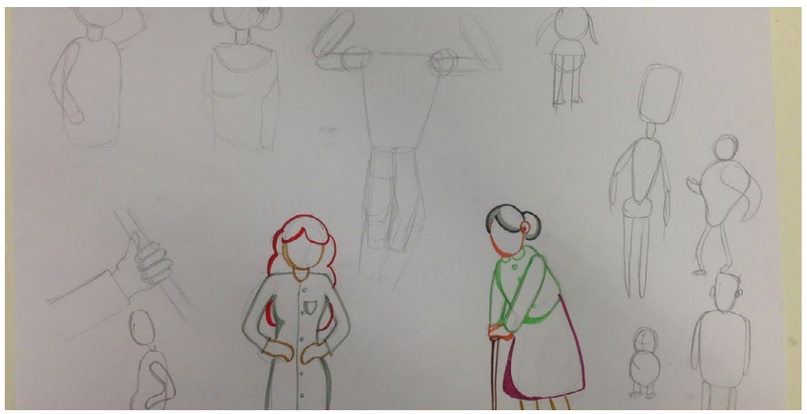
In this first phase of the project we had focussed on what the big screen would look like, what the characters would look like and how the point system worked. After multiple tests we had a good idea of how the big screen could work, what it would look like and how it would change depending on what the players did.

The second important part to prototype were the mobile screens. Because this is how the players interact with the game, we needed to make sure that it was clear without too much explanation so that (potential) players could jump right into the game. In the previous prototype tests we had written down the points and calculated how they changed ourselves but in order to do user tests with people that hadn't played the game before we needed to make that a bit easier. In the first user test we had created a sketch on what the mobile screens could look like, including the character's most important information and a short summary explaining the game. Apart from these two important parts we also needed the personal well-being to be visible so we used a scoreboard like design with well being "coins" that the players could give and gain.



5. CREATING

5.1 PAPER PROTOTYPING

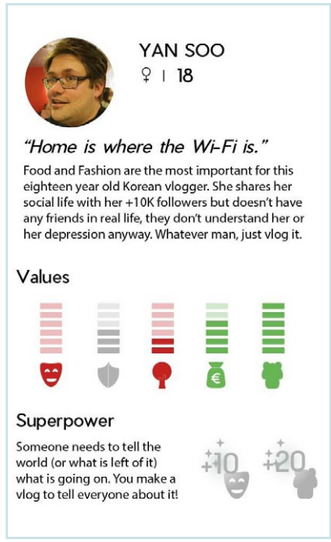


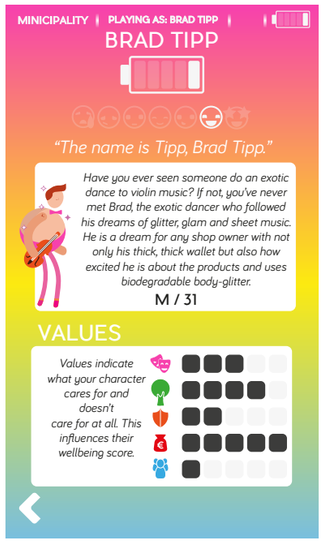
5. CREATING

5.2 DIGITAL PROTOTYPING

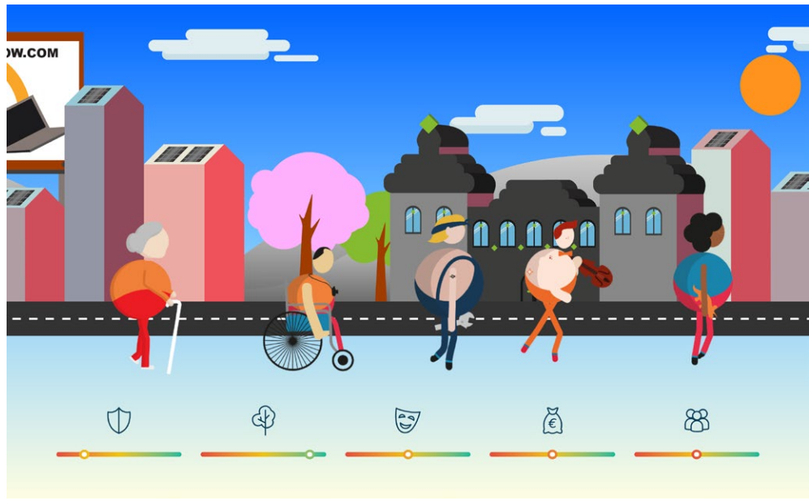
Apart from quick-prototyping on paper it was also important that we did digital prototypes, to look at the possibilities but also to be able to do user testing with a prototype that gets closer to what the end result would be.
Once again, we had two main components to work on. The big screen and the smaller mobile screens. For the smaller screens we've ended up with an Adobe XD prototype that we could easily edit and looked very much like a real web-app for the user. This allowed us to test all the different screens and options the players would have in the game and like this we were able to quickly see if this design was clear for a user.

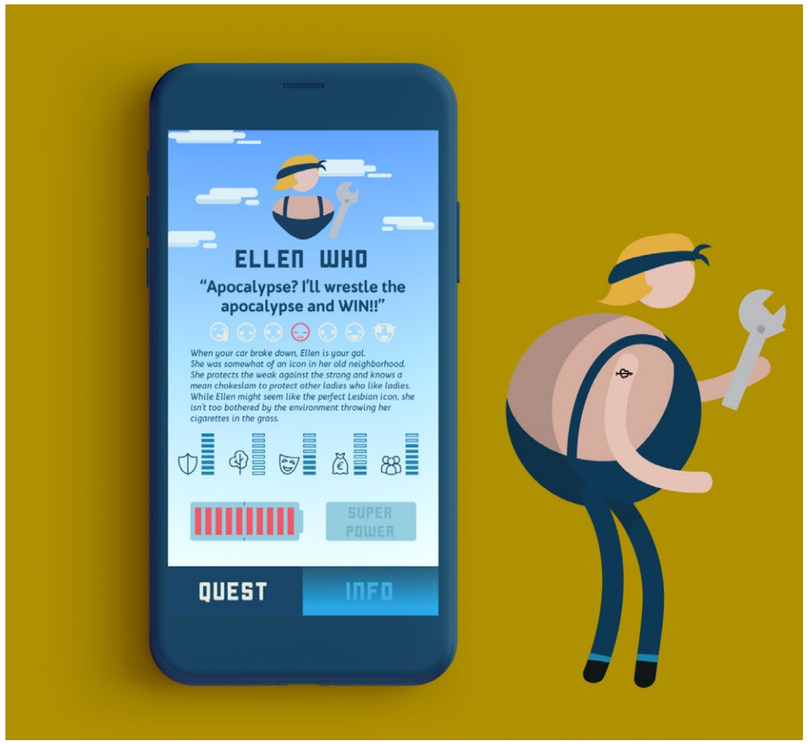
Prototyping the big screen was a bit more complicated. The elements we had in mind weren't very complicated but they each had different requirements. Because we had a web-app game in mind, and this overlapped with the knowledge we already had, we decided to create prototypes in HTML. The different elements we were working with were the background; the characters; and the well-being meters. With simple CSS animations we were able to create a moving background that was created out of a long stretched image that was being pulled from right to left, infinitely looping. Every time the players would build something the image will updated with the building added. For the characters we used the same technique, even though we initially thought about using looping videos. Instead of a video we used a long string of images again, this time with all the different frames from the walking animation. Finally, for the well being meters we used a simple HTML slider that can be changed from both front- and backend.

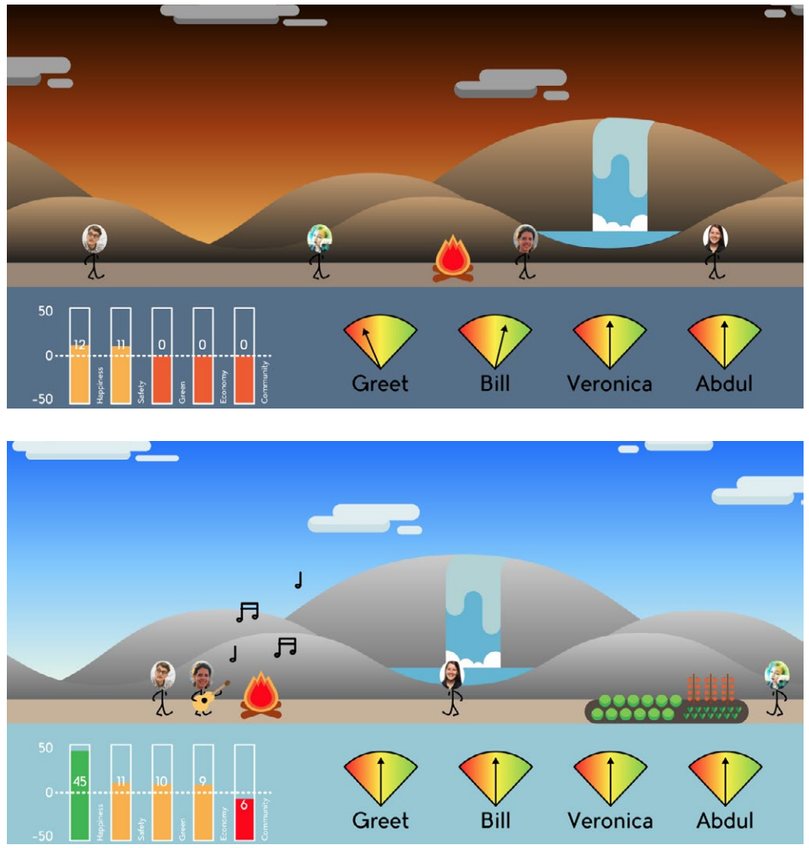


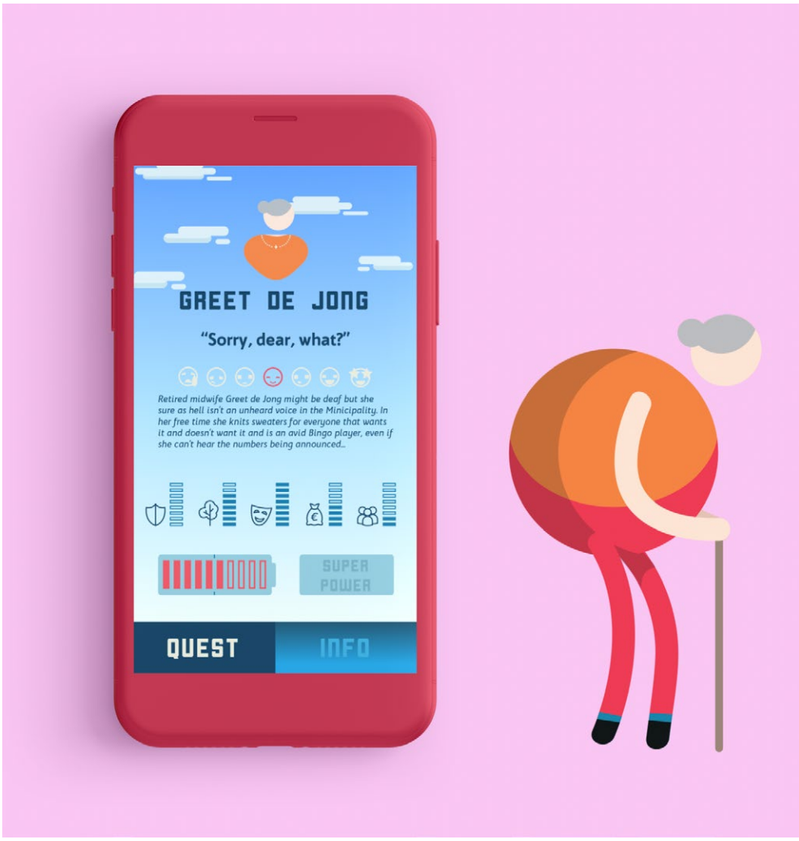


5. CREATING









5.2 DIGITAL PROTOTYPING

5. CREATING

5.3 TECHNOLOGY

5.3.1 HTML/CSS

The prototype would be build as a web application. After making a priority list for all the parts of the game, we decided to start with the front-end and work our way to the back-end. We considered using Javascript but for the dynamic parts and animations but the latest versions of HTML and CSS enable all the functions our prototype required. We searched for the tools that we would use to extend the prototype further and possibly finish and deploy the game. There are Javascript libraries from GSAP, namely TweenLite and TweenMax that enable advanced animations in a web browser as well as a timeline control.

5.3.2 POINT SYSTEM

Part of the technical work of the game was given as a short assignment for a five-hour hackathon at the Leeuwenburg location of the HvA. A group of CMD third-year students had a chance to chose assignments prepared by the MDD students. Our project was chosen by James Peter Perrone Jefferies and Jorik Essen. Our assignment consisted coding the backbone of the backend, which is the point system. We explained the system within the context of the game and proposed to use javascript as a tool. We suggested defining properties of users, tasks and the categories for points. James and Jorik managed to come up with the stand-alone functional prototype with a wireframe of the front end. Users have an option to choose and join one of two randomly given tasks. After applying the tasks, you can see the change in the categories. Although the work done by CMD students is not complete enough to incorporate it in our prototype, it was a significant contribution. An example is the use of socket.io which is real-time processing Javascript engine. This tool is an excellent solution of using the phones together with a screen device.

5.3.3 ANIMATIONS

It is a well-known fact, that animation is a time burdensome process. That is why we searched for a tool that would make this process more efficient. We considered several options, beginning with After Effects, Animate CC and Character Animator. We decided for the Character Animator, mainly because it has already built in walk cycles that are easy to customise. Because of this tool, we were able to go through several iterations of character design without always starting from a scratch. The variability of the movement that comes with using Character Animator became a great supporter of the nature of each character. Simply said: the way how the characters move reflect what kind of people they are.

When it comes to using the animated characters in the front end prototype, we considered using a video with transparent background and various ways of animating a sequence of still images. We did not use video because of it unnecessary computation requirements. We tested whether it is better to use a sequence of separate images or one image with all the phases/frames embedded in it. All the options had the same quality of output so we based our decision on its requirements of the memory usage. The method of using just one file per character proved to be the easiest on CPU.

5. CREATING

5.4 POINT SYSTEM

For a game like this it's important to have a thoroughly thought out point system in order for it to work properly, but also for it to make sense to the player what is happening and why. The point-system in MINICIPALITY can be divided in a couple different sections. There are five categories (safety, nature, happiness, economy and community) that the game revolves around. Each character has their personal values, which influences their happiness and the amount of points they add after a quest.

The categories
The five categories are as follows:

The categories that we choose could be compared to the well-being indicators used by OECD "Compendium of OECD well-being indicators" [13] In this paper they have a list of well-being indicators split between material conditions: income & wealth, jobs & earnings and housing, and the quality of life: health status, work & life, education & skills, social connections, civic engagement & governance, personal security and subjective well-being. The five categories allowed us to give the characters specific values and create quests that had to do with specific topics. The meters are visible on the big screen and give the players live feedback on how their choices affect the MINICIPALITY.

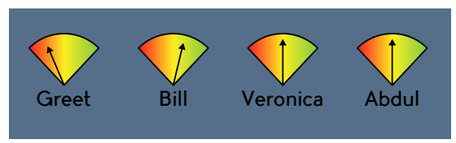
The meters have a value between 0 and 100, and a start value of 50. If 2 or more of the meters are higher than 50, the whole design of the background changes from a threatening, shady background to a more pleasant view with a blue sky.

The values
Each character has a set of values ranging from –2 to +2. For each of the five categories they get a number that shows how much they value it. We started this idea off by giving each character strengths and weaknesses, meaning that they would be better at working on a quest that involved something they scored higher on. Pretty soon we realised that it made more sense to call them values, so that we could use them to affect the character's happiness too.

As seen in the picture, the values are shown on a scale from 0 to 5 for the players, but actually has a number between –2, –1, 0, +1 and +2 for the calculation system.

In the creation of all the characters (see chapter 5.5 Characters) we spread out their values as much as possible. The values have to add up to their story, like how Bill Tyler is a big fan of meat, so his nature-value is –2.
The character's backstory can influence the start numbers of the game too. For example, Greet de Jong will have less bars of energy to begin with because she's an old lady. On the other hand you have Ellen Who, who is very energised and strong and therefor starts with more bars of energy. In other cases it can also influence their happiness, for example Yan Soo, who is depressed, will start her game with a lower happiness than the rest of the players.

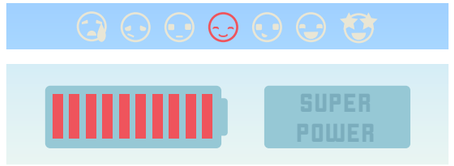
Happiness and energy
When we began working on the MINICIPALITY concept we started off with a single well-being meter for each character, like you can see in the first play tests (see chapter 5.9 Testing). This is something that we iterated on a lot. During the first play tests we were using a simple scale design that has an arrow that can point to anything between red and green. While we were developing the game we realised that we needed a way to make sure that enough people would participate in a quest, instead of everyone picking the 'time off' option to get happier on their meter. This was one of the important things that stood out in this test so we decided to revise the single meter.



5. CREATING

We came up with something we were calling 'hammers' at the time. The idea was that a quest would require a certain amount of hammers for the players to complete it and the amount of hammers drain the player's energy-level. We implemented this during the third user test (see chapter 5.9.3). In this test we saw that it wasn't very clear to the players how the energy-meter changed, and what exactly caused the meter to go down or up. The quests would drain energy from those who would join, but the draining would be worse if the character's values didn't add up to the ones in the quest. E.g. if Greet de Jong who values happiness joined a quest that had a negative effect on the happiness-meter, she would lose a lot of energy. On the other hand, when Bill Tyler who loves to eat meat joins a quest that has a negative effect on the nature-meter he would lose only a bit of energy.

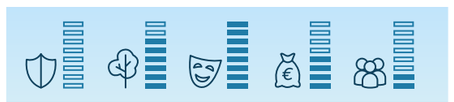
What we saw in this test was that some players still choose to pick the 'take time off' option a lot of the times even when the quest lined up with their values perfectly. This happened because we had implemented the 'superpower' at this point too. Each character has a personal superpower that has a positive effect on the category-meters or the personal score of all the other players. E.g. Ellen Who will fight off a bear when she uses her superpower, causing the happiness to go up with 10 points and the safety with 20 points. Because some players figured that this was an easy way to gain energy and add points to the meters, this play test was mostly about getting to the superpower instead of working together to complete quests, like we meant it to be. After this play test we iterated again on the meters. Instead of a single meter we came up with two separate ones: one for the character's happiness and one for the character's energy. Like this we were able to replace the hammers-idea with bars of energy, and we could have a character emotionally react to the things happening depending on their values.



We did another testround with the four of us and were positively surprised how well it worked. By personally choosing how much energy you want to spend on a quest it increased the sense of agency greatly. In the personal happiness meter we now only looked at how the quests affected the five categories, and compared that to the values of each player. If the quest has a positive effect on something they care about, their happiness goes up, and it goes down when it has a negative effect on something they care about, or if it's a positive effect on something they don't value.

Calculations explained

The amounts of points in the quests are either positive or negative, while the character's values are +, - or 0. To calculate the effect of a certain character joining a quest, we look at the numbers in their values. As seen in the flowchart, Greet's values are as follows:



When she joins a quest that's got a positive effect on happiness, she will add an extra 2 points. On the other hand, if she joins a quest that has a positive effect on safety she will subtract 2 points. The calculation will always be like this:

Quest's effect on category X + (all character's value numbers)

5.4 POINT SYSTEM

E.g. if Greet (–2 safety), Ellen (+2 safety) and Brad (–1 safety) join the quest 'I want to believe' (–20 safety) this is what happens to the category safety:

–20+ (–2, +2, –1), so: **–20–1 = –21**

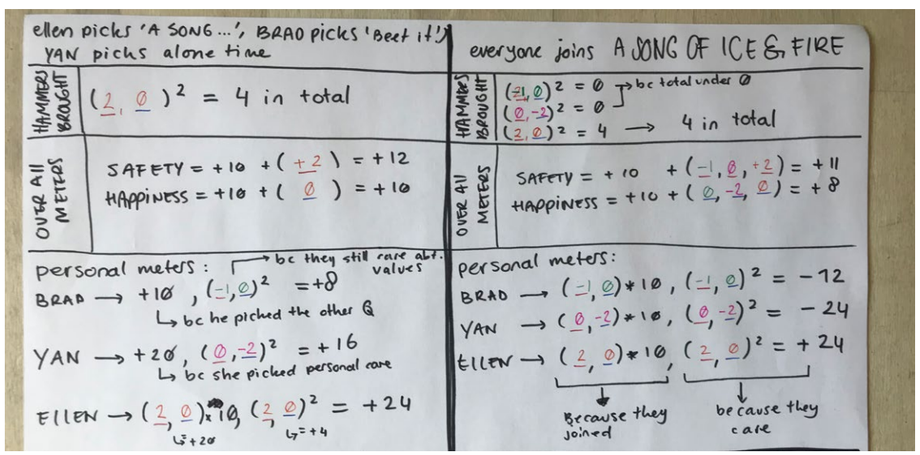
To calculate the effect a quest has on a character's happiness, we do a calculation that's similar but slightly different. A quest always has an effect on all the player's happiness, but the impact is bigger when they actually join the quest.

E.g. if we look at Greet and the quest 'I want to believe'. 'I want to believe' effects the meters as follows: - safety, + happiness, - economy. Like we saw a bit back, Greet has the –2 for safety, +2 for happiness and 0 for economy. The quest's and Greet's numbers for safety and happiness add up, and since Greet has a 0 for economy, we can ignore that one for now. The logic play for the player that is Greet at this moment would be to pick 'I want to believe' (unless of course the other option adds up to her values even better, if the other players convinced her to join them or if she has no energy left). If she joins this quest and the players end up working on this one too, this is what happens:

Safety:	+2 (was –2 but because the quest's value is also negative, it affects the happiness positively)
Happiness:	+2
Economy:	0
____ +	
	+4
____ /2	
	+2

In this case Greet's happiness will go up with 2 full points, like this:

The difference in if a player does or does not join a quest will be in the last division. If the player does join the outcome will be divided by 2, if they don't join the outcome will be divided by 4. This calculation was changed quite a bit over time, but in the end we settled with this because the changes will not be too radical but still understandable for the players. The outcome of this last calculation can be a number with 1 or 2 decimals, which can be translated as follows. Because the interface for the players don't show any numbers, the outcomes can be rounded up or down. When the outcome is 0,5 the happiness will be in the "1"-smiley face, and when it's 2,25 it's gonna be in the "2" smiley face.



5. CREATING

5.5 CHARAC-TERS

5.5.1 STEREOTYPES

The citizens of MINICIPALITY are all caricatures of people or stereotypes. The characters have traits that have been enlarged much like one would see in a cartoon or comic book. The lesbian mechanic is strong as a bear and protective but smokes and is a bit rowdy. The old lady knits and can't hear very well but is kind nonetheless. There is a Chinese tourists with a camera and an autistic girl who has dinosaurs as her special interest.

With 25 separate characters we poke a little fun at everyone, and avoid the stereotype discussion in video games [8] but there is a deeper reason why we chose to take the stereotype-concept from the concept of Stereo Stories (chapter 4.1.5). The characters are designed to be role-played in a quick fashion, people log into the game and then right away need to step into the shoes of the character. This means the players need references for the character they are supposed to be playing, stereotypes are those references or 'handles'. For example, we have a typical Dutch man named 'Paulus van Beek' who loves cheese and cycling. Fitting the stereotype of the Dutch, the stereotype isn't mean or harmful but it is humorous. Which is the line we tried to walk with every character in the MINICIPALITY.

That the characters and their stereotyped and slightly satirical descriptions work we have seen in playtests where people right away start reasoning from their character's point of view. A player in playtest 4: *"I don't care about the BUYMYSTUFF.COM quest, I am old. I am going to rest."* But even in earlier playtests people already argued from their character, when a player got the character of Yan Soo, a depressed young vlogger *"Why do I have less energy? Is it because I am depressed?"* and later *"I am too sad to do this, I am too sad to do anything."*.

Through the characters we can make people think about other people with different lives and values even if the characters themselves are caricatures and raise their awareness when it comes to the lives of other people.

On the following pages you can find our characters as we wrote their backstories, taglines, values and of course our inspiration.

5. CREATING

Greet de Jong - Retired midwife Greet de Jong might be deaf but she sure as hell isn't an unheard voice in the MINICIPALITY. In her free time she knits sweaters for everyone that wants it and doesn't want it and is an avid Bingo player, even if she can't hear the numbers being announced..
"Sorry, dear, what?"

Bill Tyler - Strong and silent, Bill Tyler is the strong fireman of MINICIPALITY saving cats from trees for forty years and counting. Don't swoon too much when he plays the guitar near the campfire and roasts a boar because he isn't that much into socializing with others, don't take it too personal though. It's just how he is.
"Meat, music and Manliness"

Abdul Cerci - He cleans, he's a vegan, he is amazing with kids and he is a total looker; Abdul seems to be Mr. perfect and is known as 'Superdad' in the neighborhood. When he isn't taking care of the kids he is working on his modeltrains and chatting with other parents.
"You think an apocalypse is bad? Try having kids!"

Veronica Swan - Veronica and Mr. Fluffers are an unmistakable duo, the doctor and the canine friend care mostly about books, medicine and LGTBQA+ rights. She is too busy with the wellbeing of humans to care about nature though so you might find trash around her as she is completely consumed by her studies.
"Don't care about what is in my pants but care about what is in my head."

Yan Soo - Food and Fashion are the most important for this eighteen year old Korean vlogger. She shares her social life with her +10K followers but doesn't have any friends in real life, they don't understand her or her depression anyway. Whatever man, just vlog it.
"Home is where the Wi-Fi is"

Elvis Gessafelstein - In his home country there are no seas which is terribly unfortunate for a pirate. Sick of being on the dry land, Elvis came to MINICIPALITY where he loots and parties as he lives his dream of pirating. He might not be the man you want to see your daughter with but mate he can throw one hell of a party.
"Yarr!"

Luna Dindin - This girl is always with her head in the clouds, or well, higher than that. As a young astronaut she knows more about space than the planet we live on. It is not much of a surprise that she doesn't have the most active social life when she is always staring up to the moon.
"To the moon!"

Eider Gonzales - She is fit, beautiful, social and dances. She teaches people yoga and is always optimistic! Eider is the personification of a sunbeam, but much like sunshine she goes everywhere, even if that is a little dangerous. Oh no.
"Ay ay ay!"

Kathryn Sisko - The brightly colored author Kathryn and her cat Popkins are a dynamic duo, when she isn't writing she is ghost hunting in the deep of night. Courageous but not very social. Ghosts are better than humans anyway, especially when you are already a little melancholic.
"Who you gonna call?"

Brad Tipp - Have you ever seen someone do an exotic dance to violin music? If not, you've never met Brad, the exotic dancer who followed his dreams of glitter, glam and sheet music. He is a dream for any shop owner with not only his thick, thick wallet but also how excited he is about the products and uses biodegradable body-glitter.
"The name is Tipp, Brad Tipp."

5.5.2 THE MINICIPALITANS

Randolf Kurt - Randolf is a fan of genuine german engineering and is the best builder around. With precision and experience he can bring any project to a good end. Don't think he just cares about building stuff though; after a long day of construction there is nothing he likes more than watching wildlife documentaries.
"Mein Englisch ist unter aller Sau."

Paulus van Beek - Born and raised in the soil of the Netherlands next to the tulips. Paulus is a strong willed cheesemaker that goes everywhere with his bicycle. The world is better when you are on two wheels in his opinion. Since he goes out on his bike a lot he cares about the environment but isn't always on the safe side when he races through town.
"You can't buy happiness but you can buy a bike and that is pretty close."

Ellen Who - When your car broke down, Ellen is your gal. She was somewhat of an icon in her old neighborhood. She protects the weak against the strong and knows a mean chokeslam to protect other ladies who like ladies. While Ellen might seem like the perfect Lesbian icon, she isn't too bothered by the environment throwing her cigarettes in the grass.
"Apocalypse? I'll wrestle the apocalypse and WIN!!"

Dimitri Basil - The oldest resident is retired circus artist Dimitri. He might be a little forgetful at times but he can juggle his responsibilities very well. Even though it has been long since he announced himself as "Dimii, the chivalric clown", he makes everyone around him a happier person and that makes him happy, even if he has no idea what he just did to make someone smile.
"Wait... where am I again?"

Ping Lee - At time of the apocalypse Ping Lee was wheelin' around Amsterdam and got stuck here. That is okay though because he still has his camera to catch every event forever. When he isn't travelling he works as an accountant at a high-class firm but his real passion is sharing his photography on Flickr. His pictures have been described as 'So bad they are good' and 'I feel so much better about my own photo's now'. Ping doesn't care, Ping just does whatever he likes doing.
"Where is Museumplein?"

Nuru Muhammadu - This coding girl can make any piece of software with insane precision, she is the living example that Aspergers doesn't have to hold you back in life. Nuru doesn't eat meat for a better environment. If you ever wondered when the first Velociraptor fossils were found, you can ask her because she knows everything about dinosaurs (it was in 1922 in the Mongolian Gobi Desert).
"Code doesn't lie, people do."

Ash Jones - Jones is a tranquil Tarot reader that has reached a level of calm which can't even be disturbed by the apocalypse. They love meditating in nature (and nature loves him, too) and has a natural softness to them that makes everyone around them amored.
"Each morning we are born again, what we do today is what matters most."

Nils Axelsson - Nils is a Scandinavian family man that loves playing board games with his friends and kids. He still believes that his Viking heritage is an important part of his life and can be found mostly at the waterside. This dependable man will protect anyone he cares about and help someone out in need.
"Scandinavian superiority!"

Neil Tennant - Stealing wigs from the rich and giving them to the poor, this fabulous chap will get it all for the lesser fortunate like a Robin Draghood roaming the streets of MINICIPALITY. A dark, glittery hero in the night. Be aware Minicipalitans Robin Draghood is here,
"Och, Elvis! You're a right numpty!"

Skylar Leclercq - This gender fluid young Flemish friend is often found in the fields behind the farm where they create their art that is out of this world, or is it? When aren't with their head in the grains they love riding roller coasters and eating cotton candy.
"It's art mom, you wouldn't understand."

5. CREATING

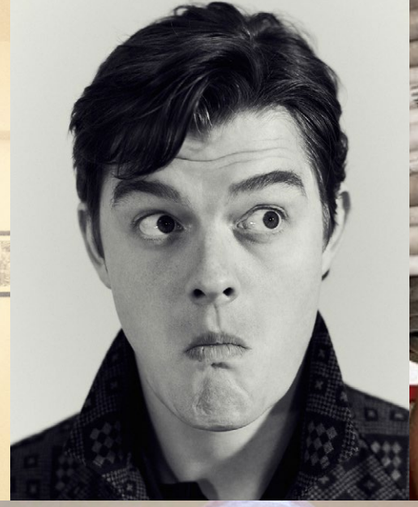
5.5.2 THE MINICIPALITANS

Name	Sex	Age	Is a(n) ...	Career	Wellbeing	Green	Hobbies	Social life						Superpower
Greet de Jong	F	72	Old white lady	Retired midwife	Deaf	Buys local stuff	Knits for a good cause	Plays bingo	-2	+1	+2	0	-1	Knits sweaters for all players +1 personal happiness +20 community
Bill Tyler	M	40	Young black guy	Fireman	Sporty	Loves to eat meat	Guitarist	Introverted	+2	-2	0	+1	-1	Saves cat from a tree +10 nature +20 safety
Abdul Cerci	M	28	Turkish male	Super dad	Abnegation	Fanatic vegan	Model making	Interacts only with other parents	+1	+2	-1	-2	0	Makes vegan food for everyone +1 personal happiness +20 nature
Veronica Swan	F	32	Readhead MTF	Doctor	Cares about LGBTQA+	Too much other things	Reading	Her dog	+1	-2	+2	0	-1	Does a health check up in MINICIPALITY +10 safety +2 personal happiness
Yan Soo	F	18	Female Korean	Student vlogger	Depressed	Doesn't care	Food & fashion	Doesn't talk to her 10k followers	0	-1	-2	+1	+2	Makes a vlog about the life in MINICIPALITY +10 happiness +20 community
Elvis Gessafelstein	M	26	Tall child	Pirate	Has a prosthetic leg	Cares a little	Drinking	Party animal	-2	+2	+1	0	-1	Throws a big ass party +1 personal happiness +20 happiness
Luna Dindin	F	25	Dutch girl	Astronaut	Eh.	Cares a little	Looking at the moon	Below average	+1	0	-2	+2	-1	Builds an observatory +10 economy +20 community
Eider Gonzales	F	23	Spanish girl	Yoga instructor	Fit af	Very much involved	Dancing	Super social	0	+1	+2	-1	-2	Does a super yoga session +10 happiness +2 personal happiness
Kathryn Sisko	F	26	Owner of bright hair	Author	Sad	Neutral	Ghost hunting	Has a cat	+1	0	-1	-2	+2	Hunts all the ghosts out of MINICIPALITY +10 happiness +20 safety
Brad Tipp	M	31	American	Stripper	Very happy	Kinda green	Plays the violin	Very popular	-1	+1	0	+2	-2	Gives a naked violin concert +10 happiness +20 community

5. CREATING

5.5.2 THE MINICIPALITANS

Name	Sex	Age	Is a(n) ...	Career	Wellbeing	Green	Hobbies	Social life						Superpower
Randolf Kurt	M	43	German	Builder	Doing alright	Builds crap	Wildlife docu's	Pretty okay	+2	-2	0	+1	-1	Releases schlager song
Paulus van Beek	M	50	Typical Dutch man	Cheese maker	Very strong upper legs	Pretty green	Cycling	Doesn't go out much (apart from cycling)	-1	+2	0	+1	-2	Builds cycle path
Ellen Who	F	25	Lesbian icon	Car mechanic	Very strong	Chainsmoker	Wrestling	Very good	+2	-2	0	-1	+1	Wrestles a bear
Dimitri Basil	M	82	Eastern European	Retired clown	Dementia	Doesn't think it's important	Juggling	Very social	-2	-1	+2	0	+1	Super magicians clowns act
Ping Lee	M	41	Chinese tourist	Accountant	Wheelchair	Travels a lot by plane	Photography	Virtually social	-2	-1	+2	+1	0	Does everyone's taxes
Nuru Muhammadu	F	20	Black autistic girl	Coder	Struggles	Vegetarian	Dinosaurs	Not existing	0	+2	-1	+1	-2	Hacks into something
Ash Jones	x	30	Floaty Brit	Tarot reader	Very tranquil	Loves it	Meditating	Introverted	-1	+2	+1	-2	0	Grows flowers out of nothing whilst meditating
Nils Axelsson	M	37	Scandinavian	Viking	Generally unhappy	No.	Board games	Happy family	+2	-2	+1	-1	0	Builds life-size boardgame in the MINICIPALITY
Neil Tennant	M	54	Scottish lad	Entertainer	Euphoric	Neutral	Karaoke	Super social	+1	0	+2	+1	-1	Karaoke's a power ballad that pumps up the motivation
Skylar Lecrercq	x	19	Flamish person	Crop circle designer	Eh.	Very green	Roller-coasters	Small group of close friends	0	+2	+1	-2	-1	Summons the UFOs with their cropcircles



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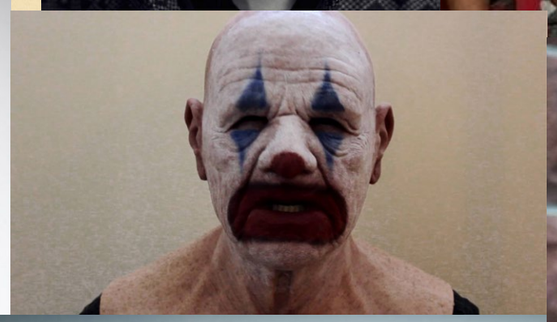
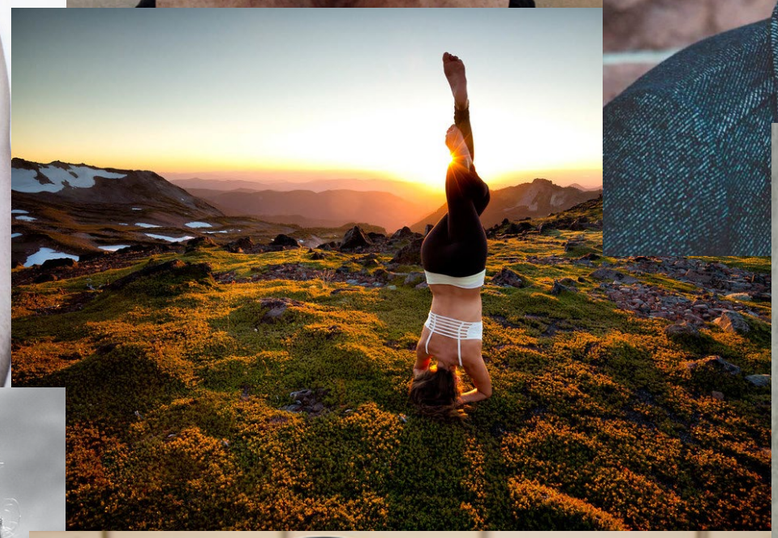
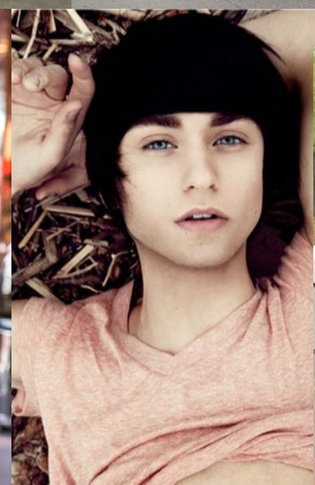
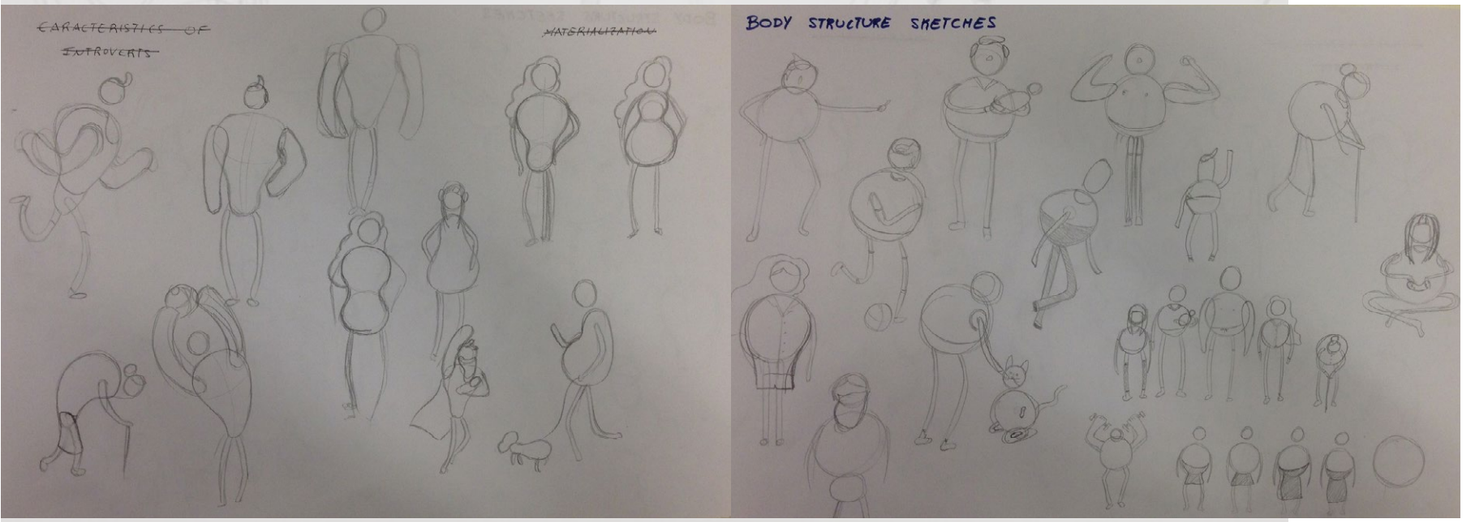




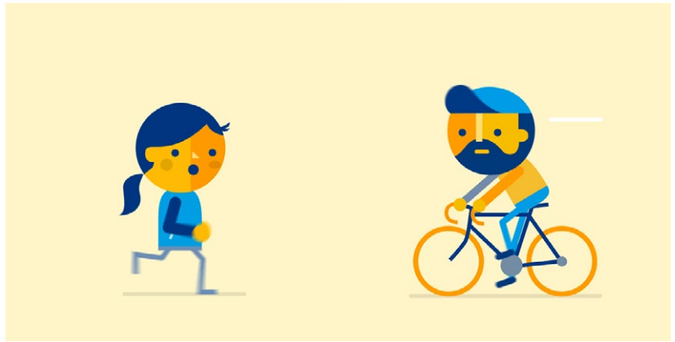


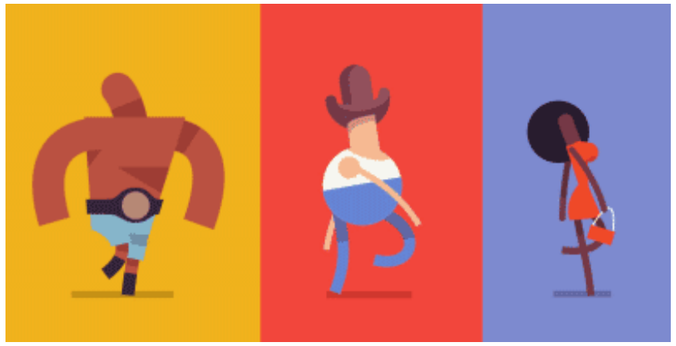
WISH

5.5.3 VISUAL DESIGN



We got inspired by the flat design for the characters. These are some of the examples we looked at:





We realized that having a body structure that could be easily repeatable would be the best option as we had to be open to design as many characters as wanted to. Therefore, we explored with different body structures till we realized that a sphere would be the most convenient one to be animated fast and efficiently.

We agreed on a color palette that would fit the background colors but at the same time stand out of it. We also added multiple skin colors as inclusion and variety is important for our concept. Each of the characters is portrayed with an object that represents them and gives players clues of who the character is. These objects are common tools like a wrench for the character that is a mechanic or a camera for the Chinese tourist character.

Regarding the animation, we also got inspired by the characters listed above. A fast and easy way of animating was priority, that is why, we opted for a minimalistic character design and used the software Character Animator.
With the animation we represented each character's personality. That means, each of the characters has its own way of walking that, apart from being entertaining and fun for the viewers, shows what kind of personality they have. For instance, Greet, the old lady, moves slower than the rest, with very little steps and a bit clumsy. Bill, however, as the brilliant dancer and music lover he is, moves as if he was dancing.

CHARACTERS COLOR PALETTE

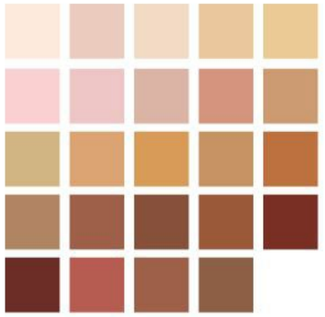
Clothes

Hair

Accesories

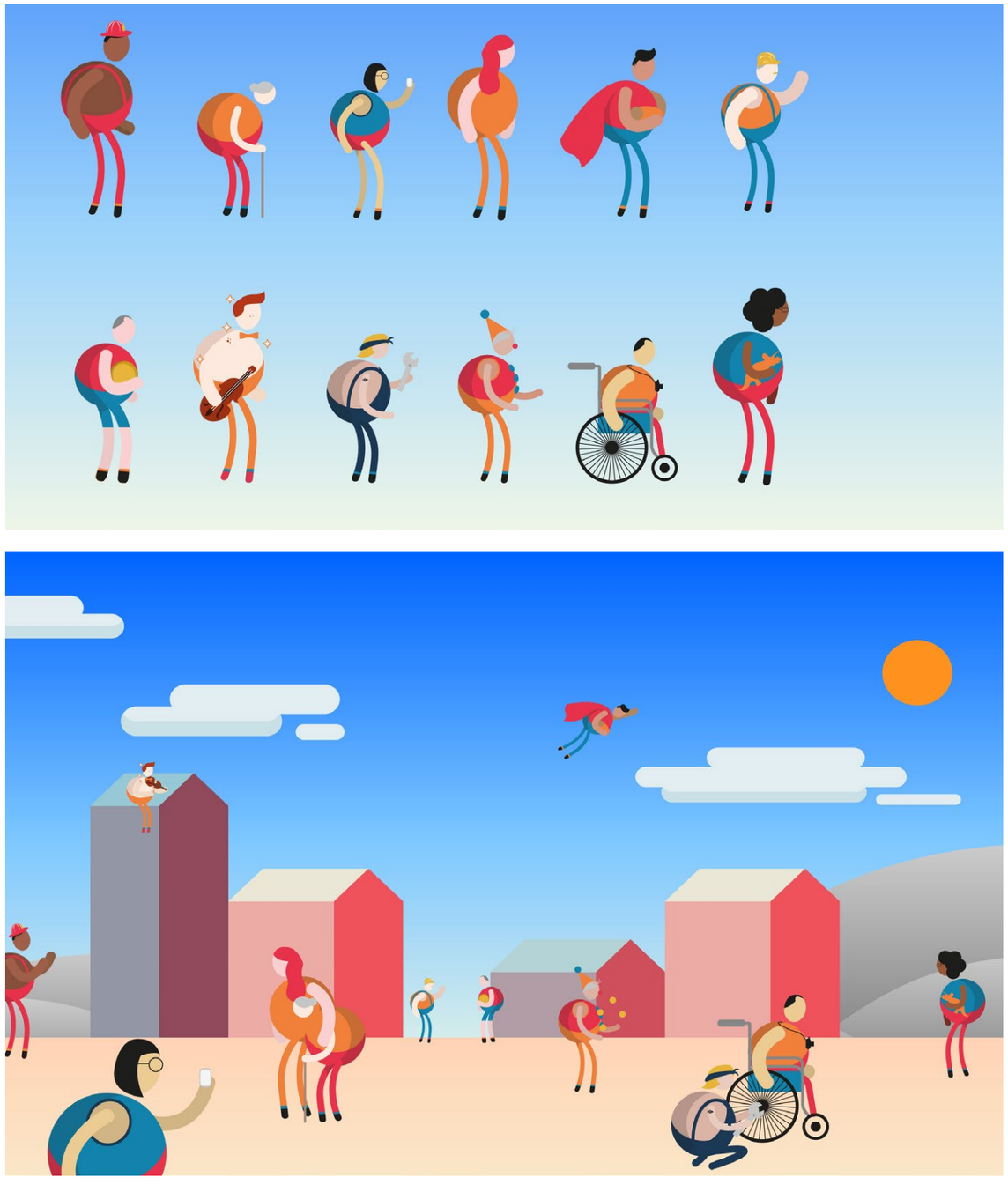
A combination of the previous colors

Skin



5. CREATING

5.6 STYLE SHEET



H1 - CORNERSTONE - 25 PT

H2 - BW Quinta Pro - Black - 15 pt

Bodytext - BW Quinta Pro - Medium - 10 pt

Bodytext - BW Quinta Pro - Black - 10 pt

Bodytext - BW Quinta Pro - Medium Italic - 10 pt

Colors for houses in good state

Colors for houses in bad state

Colors for values

Gradients

Skin tones

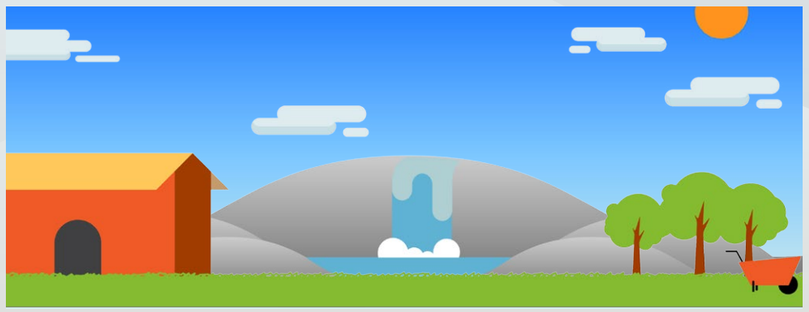
Hair colors

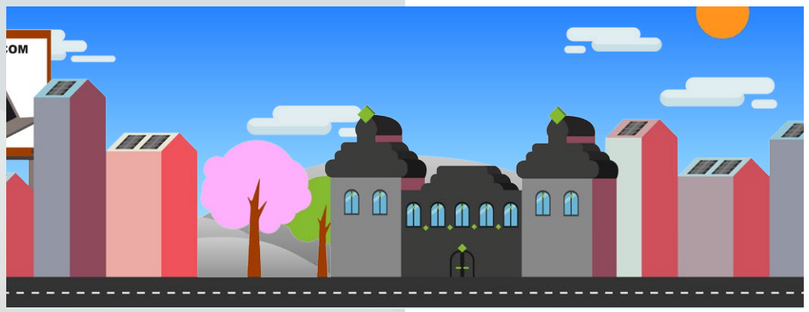
Clothes colors

** Other buildings and accessories are a combination of all the colors above.*

5. CREATING

5.7 WORLD BUILDING





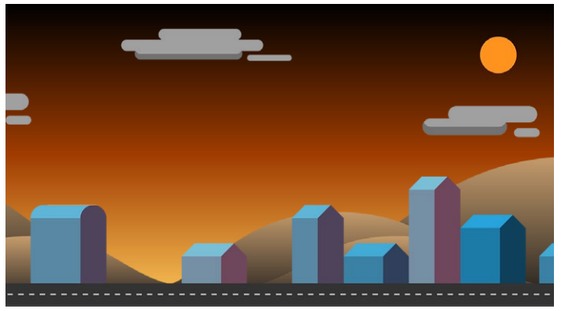
5.7 WORLD BUILDING

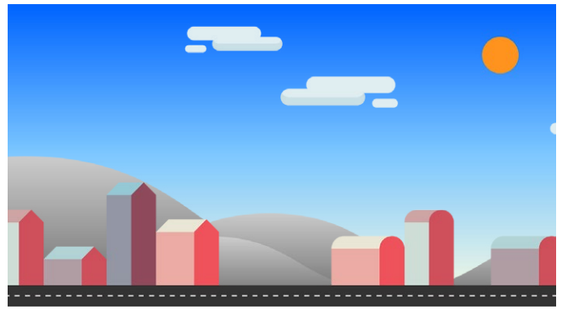
As seen in chapter 3.2 (Moodboards) we started creating the MINICIPALITY world by collecting inspiring other designs and creating moodboards. Starting from this inspiration we decided to work with a flat design which allowed us to create many different buildings and additional objects in the same style, throughout the different levels from 1 to 10.

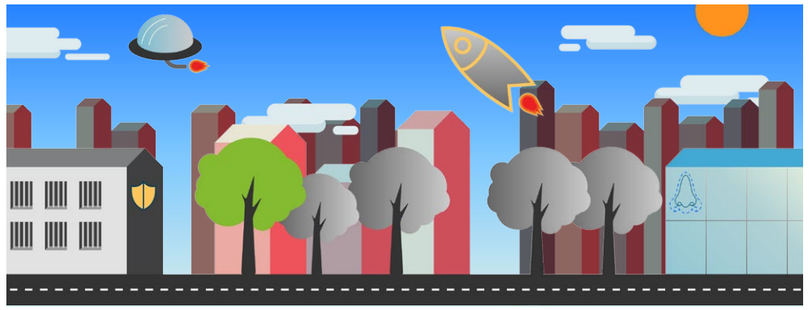
Since the game starts right after the apocalypse in Amsterdam the players start off with basically nothing. The screen contains a background with a sky, clouds, the sun, mountains and a foreground with the characters and whatever they've built. An important part of the design was the instant feedback on how the town's well being meters are doing. When 3 or more are above average, the town will brighten up as opposed to the darker post-apocalyptic feel the town has to start with. Important is that the town can go back to this darker stage at any time, when the town isn't doing too good anymore.

To keep everything in the same style we created a style guide (see previous page) with typography and, important for the world building, color schemes. In creating buildings and items for levels 1, 5 and 10, we could keep the same style without losing the characteristics of the game. Within these buildings we tried to only add the needed details, keeping it simple but accurate and understandable for the players.

As the players work on a more and more evolved town throughout the levels, the backgrounds will change over time as well. In the three levels that we made you can see that in the first level we start off with mountains and a grass surface, where in level 10 we have a skyscraper background that gives a more city-esque feel to the screen.







5. CREATING

5.7 WORLD BUILDING

5.8 NARRA-TIVES

MINICIPALITY has an overall theme to it of slight parody while still holding onto values that are important to us like inclusivity. The narratives of the game are based on this same theme and the tone of voice was adapted to fit the vision of the topic.

Since the game's target audience are millennials there are a lot of references build in to pop culture that are sure (and have proven to) get people laughing. Examples are titles to quests like 'beet it' (a pun on Michael Jackson's 'Beat it') or 'I want to believe' a wink to the immensely popular science fiction series 'The X-files'. These little jokes are designed to elicit amusement and grab the attention of the users. Within the texts of the game there are also jokes that reference to the future narrative ("Whatever it is; a petrock, your limited DVD of the Avengers (now retro) or the ashes of your great-aunt Frida you can sell it online to someone else!").

As mentioned in chapter 5.5.1 (Stereotypes) the cast are based on stereotypes and written in the same caricature style where the characters are an almost cartoon-like version of real life stereotypes. The descriptions of the characters are like the rest of the narrative, including some kind-spirited jokes. This also includes the 'taglines' like 'You think an apocalypse is bad? Try having kids!" or "You can't buy happiness but you can buy a bike and that is pretty close."

5.9 TESTING THE GAME

5.9.1 THE FINAL CONCEPT

The aim of this test was to look at the game mechanics and figure out what works and what does not. We needed to test our point system and figure out what should be the amount of a change (delta value). We had four categories that that reflected overall well being of a character and the community and two general categories. We prepared paper characters, elements, screens and environment from a paper. By doing that we had covered the front-end. For the simulation of the point system and calculations of the changes in categories, we used an excel spreadsheet with predefined functions.

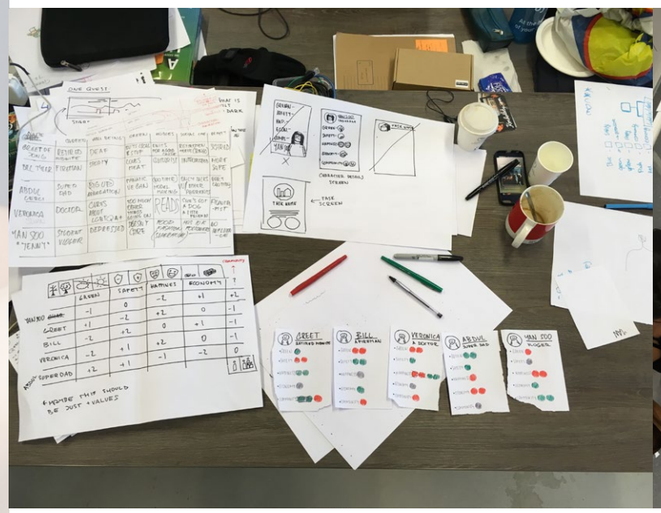
As an outcome of this test, we had a rough idea of a point system. We made some adjustments of the amount of change, so we would stray from the extremes.

5.9.2 TEST WITH THE CLIENT

As the second step, we involved our client in a play test. We used the same method as in the first test, but we iterated on the low fidelity paper cut-outs in order to test if users can understand the mechanics. We were also interested if the proposed game mechanics were actually fun.

Although the client understood the point system and how the tasks affects the categories, it took quite a while. The system seemed too complicated but we understood that it seems more complex than it actually is. This is because we are still using a 'Wizard-of-Oz' method. By using pen and paper we simulate the processes that would happen automatically on the background. It also became more obvious, that we need to name the categories in a better way.

After this test, we came up with five general categories, we added the points the characters needed to add to a task in order to activate it. Again we slightly adjusted the point system in order to make more sense.



5. CREATING

5.9.3 TEST WITH MDD STUDENTS

For this test, we asked four of our classmates to participate in a gameplay of one level, which consisted of several tasks. We were still using paper prototype with the excel sheet. This time it was already with a proposed design of the environment, characters and screens. We were interested in how would users understand the game mechanics from the proposed front-end design.

We have learned that is actually quite hard for users to get an idea of how does the game works. After the test, we iterated on visuals. For the next test, we prepared several versions of the parts of the game that caused issues.

5.9 TESTING THE GAME

5.9.4 TEST WITH HVA STUDENTS

We needed to test how a people who don't know anything about the game would understand the improved design. We picked random four participants from the lobby of Leeuwenburg building. They already could see the environment of the game on the screen.

We could see that some of the design are easier to understand than others. Therefore we improved the design of a screen with a description of characters, the scales that defined characters contribution to general categories, happiness scale and the energy bar.

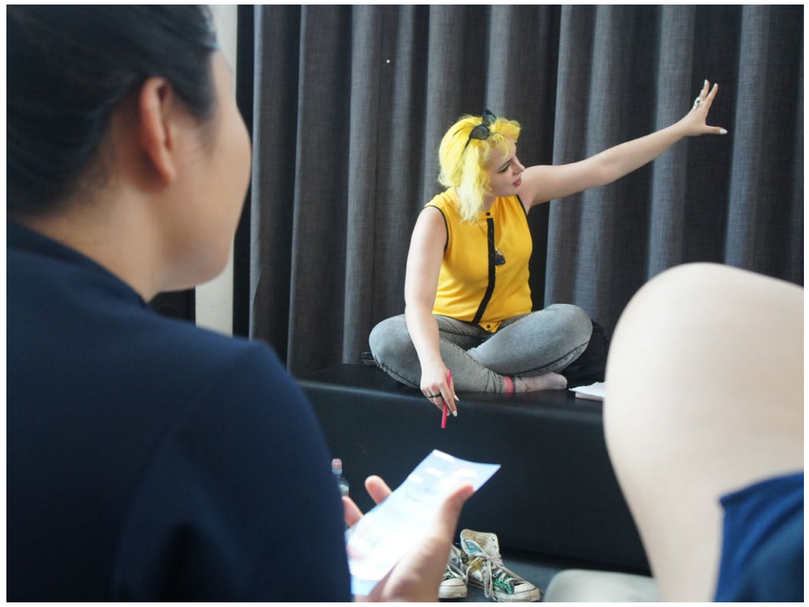
5.9.5 TEST WITH THE TARGET AUDIENCE

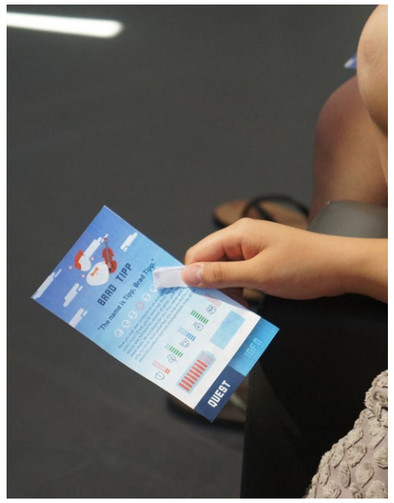
As we still wanted to test with the participants who doesn't know anything about the game yet, we needed new testers. We found four students doing a bachelor study at the HvA, who are going to live in Amsterdam after their studies. We had a half analogue half digital prototype. Screens of the phones were still on paper. The main screen was projected from a beamer. The changes on the screen were done by a member of our team, while another member made the calculations so the effects of the gameplay could be visible on the main screen and the narrator explained the story.

This time, users got immediately involved in the game. They almost started role playing the characters and understood very well how the personal preferences affect the community categories. When they were presented with two random tasks, the participants discussed what would be the best option. Even before completing the first round, participants were fully aware, that 'In this game, it doesn't work to play for yourself. You have to play as a team.' as one of the participants said in the interview that followed the test.

5. CREATING

5.9 TESTING THE GAME





6. GOALS

6.1

DATA COLLECTING TOOL

6.1 DATA COLLECTION TOOL

As pointed out in 'A role-play approach for teaching research methodology in construction management' by Hartmann et al. role playing experiences are a good way to help people become more aware of the complexity of a situation [4]. In MINICIPALITY we use this method where people are assigned a random character from a database of twenty stereotyped characters. These characters are extremes of people we meet on a day to day basis. By randomly assigning these characters to people we tease out their reactions to the stereotypes and how the user thinks the character behaves in a society. During playtests we saw this happening. One player expressed he did not want to play a certain character because her energy level was lower (Jenny, a girl with depression) and expressed understanding upon reading the character description. This was a very simple but clear cause and effect of the game. By observing these reactions as well as the way people speak 'in character' or 'about their character' we can take out some valuable qualitative data on how people view stereotypes.

It is important to note that the characters were designed to portray a wide range of cultural stereotypes. Amsterdam, our target location, is an ideal place to start this project as it is a cultural melting pot with almost every culture represented. Amsterdam has over 180 different nationalities after all [5].

Secondly, we gather data in the game on decisions made, what route do the people take, how quick do they go through levels and more importantly, when we interview them later would they have done the same if they played as themselves or would they have done things differently and why. There is a qualitative quality to this research (recording the choices made by a simple numerical system) as well as the quantitative part which underlines the why of the decisions. Through this we can gather information on motivation as well as personal opinions on what is important for a neighborhood. What do the citizens think a city needs, and what do they think a city needs to do for minorities in society? For example for someone who is in a wheelchair or has depression? MINICIPALITY kickstarts a discussion and allows researchers to start talking about subjects that might not be as easy as address otherwise.

Next to recording the data in the game, after someone leaves the table they get a short survey on their phone to ask them for some more, anonymous, input.

6. GOALS

6.1 AN EM-POWERING GAME

6.2 AN EMPOWERING GAME

Through information layers
Based on the interviews done with citizens of Amsterdam there is a localized information layer present in the game. With this added layer we can link the fictitious world to the real one and underline empowerment and where people can act or be involved in their own neighborhood. While the text has no direct influence on the gameplay of MINICIPALITY we offer a podium for organizations and initiatives in and around a neighborhood.

Topics of the localized information layers are: neighborhood initiatives, a new infrastructure planned, Websites of the (local) municipality where people can find information on how to take action or do something, larger initiatives that are also applicable to the neighborhood where the game is played, culture and entertainment that is linked to the neighborhood and/or quests.

To give an idea of the localized information layers we will focus on the layers we added to the playtest. In the playtest for level 5 we have chosen to focus on the themes in the game for the whole of Amsterdam. We have the Bijlmerbajes experience [4] to match the MAKIN' THE LAW (a safety themed quest). For the religious building quest we have the Buddha exhibition in the 'Nieuwe Kerk' [5]. Both of these are cultural experiences and are there to enrich the life of the players and empower them to go see or do something they might not have considered before. Imagined is that these kinds of information layers would also include more local exhibitions or even invitations to send in your own work to an upcoming exhibition.

More focused on providing information and empowering citizens to take action we have the A PERFECT STRANGER quest that gives players the tools to help out with the refugee situation in the Netherlands and it links to a website that explains how to become a volunteer [1], the LET THE SUN SHINE quests describes the use of solar panels in the fictitious world and the information layer links to a web page about getting solar panels yourself when you are a business or citizen of Amsterdam [2] and lastly we underline the Dutch website 'Marktplaats' who has their headquarters in Amsterdam and give people a page where they can see when the markets are in Amsterdam [6].

With these different kinds of information layers we touch upon several ways of empowerment that link to the 'real world' bringing MINICIPALITY out of the 'just' empowering through metaphors sphere and into a real life effect.

Through game mechanics
The game MINICIPALITY is based around empowering citizens. We use the PLEX/CIVIC method as referenced to in the paper 'Design concepts for Empowerment through Urban Play'[3]

	MINICIPALITY
Agency & Impact	Medium
Relatedness & Empathy	Medium
Understanding & perspective	High
Awareness	High
Scenario Building & Action	Medium

MINICIPALITY has a medium score on agency & impact, while the game simulates certain actions that can be taken in real life it is set in the magic circle where the game world is a safe haven where one can try and fail without real life effects.

For Relatedness and empathy MINICIPALITY scores a medium as well as the game is played in a small group of people only in the moment itself and does not allow for a massive multiplayer setting as of now.

6. GOALS

6.1 AN EMPOWERING GAME

6.2 AN EMPOWERING GAME

The Understanding and perspective is high within MINICIPALITY due to the main theme making decisions and discussing this with other players. There is a clear cause and effect in the game that gives feedback right away and prompts citizens to share their opinion. The Scenario building and Action in the game is medium for the game wants to build a scenario for their ideal community and with the addition of the localized information in the game there is a connection to the real world, even within the magic circle of the game.
The game has a medium score for awareness as the gameplay is within the magic circle and the localized layer placed on top is there for the awareness about subjects in the neighborhood itself.

Through personal values
Through the course of developing the game we were confronted by the way people look at values, as the creator of the podcast 'daily motivation' [5], values are something we have but we are not always aware of while they are a big motivator for our ideas and decisions in life.

MINICIPALITY uses the values as a motivation for the characters that are divided over the players to make decisions. Because the values are not (always) the same as the values of the players we compel the players to think about values and kickstart an awareness that we all have different motivations. This causes that people have to imagine what someone would do if they have a different view on life. This game mechanic empowers people because we give them a tool that allows them to empathize easier.

7. PRODUCT

7.1 FINAL PRODUCT

The final product is a digital game concept that empowers citizens with a bottom-up approach. It is located in bars around Amsterdam where local people go frequently. It is a walk in-walk out game, that is to say, anyone can join the game anytime and can leave whenever they feel like. MINICIPALITY is designed to be played with a group of people, ideally of 4-6. However, the number of players can be scaled up or scaled down.

The game is played around a digital-table while using smartphones. On the digital table the main game is displayed. The smartphones, whereas, are the controllers where the characters information appears.

The goal of the game is to build up a city from a post-apocalyptic situation to a futuristic city. There are 10 levels and whenever you level up, you get closer to the futuristic scenario as it is shown on the background. There are three main meters to take into account while playing:

a) The city's general status meter. This meter is divided in five categories: nature, safety, economy, community and happiness. It shows how well the city is doing regarding those categories.
b) Character's own happiness meter. There are emojis that represent how happy the characters are. The happiness is affected by the community's situation. So, when the community's general scores matches the characters' interests and values, then they will get happier.
c) Character's energy bar. Depicts how much energy the character has left. When the energy is on 0, the character cannot take part on the game anymore. The way to recharge its energy is by instead of taking part on the main quests, taking time for themselves. They will get +2 energy bars.

All in all, the main challenge is to find balance between the city's wellbeing and yours character's one.

Taking the previously mentioned meters into account, on each level players are presented with two quests. For example, quest one can be "Let the sun shine! Get the D, the vitamin D! The sun is shining bright and while it is good for us, we can do more with it. We have to add solar panels to the buildings even if it is expensive, right?." and two "Makin' the law. When good things happen, people get richer, people will want to steal things too. The crime rate in the MINICIPALITY has been rising and that means we need someone to enforce the law. Give the established law enforcers a place to eat donuts, however be aware that not everyone will be happy with this new building.". These options affect positively or negatively not only the community's general scores, but also the character's happiness. As an example, if quest one was selected the community's general score would rise in "Nature" and decrease in "Economy". Also, the characters that value nature would get happier.

For a quest to be completed, the characters need to invest certain amount of energy. The players, have to step on their characters shoes and pick the option that will increase their character's happiness. The goal of this decision-making process is to open discussions among the players so that they can understand each other's point of view and be more comprehensive.

When a quest is completed a pop-up appears on the players phones informing them about current initiatives, local businesses, associations or government's bureaucracy that guides them to make a change on their neighbourhood.

7. PRODUCT

7.2 FUTURE POSSIBILITIES

7.2 FUTURE POSSIBILITIES

The timespan that we had for this project was a little less than five months. Once we started focussing on the MINICIPALITY concept we were dreaming pretty big. Of course we were aware of the fact that we didn't have that much time but to get the best out of the time given, you gotta dream big. We worked as hard as possible and ended up with something that we are pretty proud of, but there are something that we weren't able to do simply because we didn't have the time to work on it or to figure it out. Therefor we have some things that we would work on if we had twelve more months:

Playable prototype
The first thing we would want to work on is to create a prototype that's actually playable. We have a good idea of what we would need for that but didn't have the time to work on this yet.

First of all we would need to turn our mobile phone prototype into an actual mobile-sized HTML website. Once we have this, we could focus on connecting the dots. There are a couple things that are important in this scenario: the calculations, the characters, and it needs to be real-time on multiple devices. The calculations (as seen in chapter 5.4 Point systems) are very important for the game and these need to happen quickly on the backend. By putting all the character's values and the quests's influence on the categories into a database or Javascript file we can write the calculations that need to happen so they happen accurately and fast.

As mentioned in chapter 5.3 (Technology), we had help from a couple CMD students who helped us create a sketch of this idea. The tool that they proposed to use for this is socket.io, which allows us to create a realtime game that can run on multiple devices at once. This will help us to create a game that people can join and leave at any time, like we imagined it. Once a player joins the game they get a randomly assigned character that they will play with in the game.

Because we are working with a big screen that show the players what's going on we have thought about using an interactive touchscreen, which would allow the players to interact with the characters and MINICIPALITY. It could be something simple, like an animation happening when you click on a character or one of the buildings in the background.

Personalising the characters
An idea that we had for the characters in the game was to put the players own head on the animated character's body. We've spent much time on making sure that the players will be able to empathise with the characters as much as possible, but an extra feature that we thought of was including the players own face. It's important that the players take their character's values into account when they make a certain decision, but they don't have to entirely push their own values away. It gets interesting when the players look at both their own values and their character's and putting a selfie on the character's body could help with that. In some of the first user tests that we did we actually had this implemented, and we saw that the players had a lot of fun to see that their own face was walking around in this post-apocalyptic environment.

Implementing this feature was too much work because we didn't have the knowledge needed to create a prototype of this without losing a lot of time. If we had twelve more months we would implement this function by allowing the user to upload a picture from their camera or camera-roll and making it appear in the mobile- and big screens. This also means that if you leave the game your face will still be walking around as a ghost, because even though you're not helping the other Minicipalitans anymore, your past actions are still noticeable!

7.2 FUTURE POSSIBILITIES

Accessibility
Something else that we would want to focus on if we had twelve more months would be accessibility. At the moment, the game is mostly visual, not only the environment and character but also the information. For example the character's values are being displayed as bars, without any text. If we had more time we would make sure that screen readers would be able to read out loud what the character's values are or what is going on on the big screen with the category meters, for example for a player that's visually impaired.

Hello dear, my name is Greet!
We spent much time on the backstories of each character, but at the moment they're only being visualised in the short introduction text for each character, their values and tagline. If we had twelve more months we would create short animations of the characters introducing themselves to the players. This video could be displayed on the mobile screen once someone joins the game. This could help the players empathise with the character and understand their values.

Deployment
The ideal scenario to deploy the game is a bar that is frequented by the young adults from the same neighbourhood. We based our game in the city of Amsterdam. Nevertheless, it could be adapted to other cities too.
The characters have enough variety to be adapted to different places, but if needed, making changes and adding new ones is a fast procedure as we designed the ground for it. Moreover, the only thing that would need a change if the game is deployed outside Amsterdam it would be the information layer about the local initiatives, associations and communities. Those ones, should be replaced by the activities going on the new deployment city.

Examples of where can be the game deployed in Amsterdam are: Tabac, Fest, Hesp, Sexyland, Volkshotel, etc.

7.3 CONCLU-DING

picture: Ilco Kemmere

Conclusion
As described in this process book we have created a prototype and concept for the game of MINICIPALITY. Our main focus has been empowering citizens in a bottom-up way through play. With the project we envisioned an easy data-collection tool that was also fun for the players, with in depth storylines, a world crafted especially for the narrative and bright but modern designs that would talk to the target audience.

Empowerment is a hard thing to achieve but through user research we are confident that we have succeeded in this goal. The game, while still in the prototyping phase, is a strong concept that proves that through play we can empower citizens and transfer knowledge over to players (like the information of how to help refugees or about interesting cultural events in the neighborhood).

It has been a great pleasure for us to work on this project and we have learned a lot about research tools, empowerment and usertesting throughout the past months. If the project was the town of MINICIPALITY, we surely have reached the green values and level ten!

Reflection
We learned that some problem spaces do not allow to narrow as much as we would like the target audience. This makes the positioning of the game harder and more difficult. However, working with and building products for multicultural audiences is crucial in cities like Amsterdam.

We faced difficulties regarding some technical development of the game. As a solution we presented a wizard-of-oz-like prototype.
As positive aspects we could point out that, after several tests and iterations on MINICIPALITY, we carried out a final user test. The feedback we got from it was, mainly, that the mechanics of the game are functioning properly and easy to understand, people got really involved into their character's role, the community feeling increased among them, the players got into discussions and cooperation, and they got empowered and motivated to take action into city-making processes. Moreover, they had a lot of fun.

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MUNICIPALITY

HOW THE END OF THE WORLD BRINGS PEOPLE TOGETHER