

GAME DEVELOPMENT
METHODOLOGY

CONCEPTUAL DOCUMENTS

SECOND DEVELOPMENT CYCLE

GROUP 1



UNKNOWN PLANET

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PRESENTATION SYSTEM

GAME EXPERIENCE GOALS

Main goals of the experience we want to promote with the game

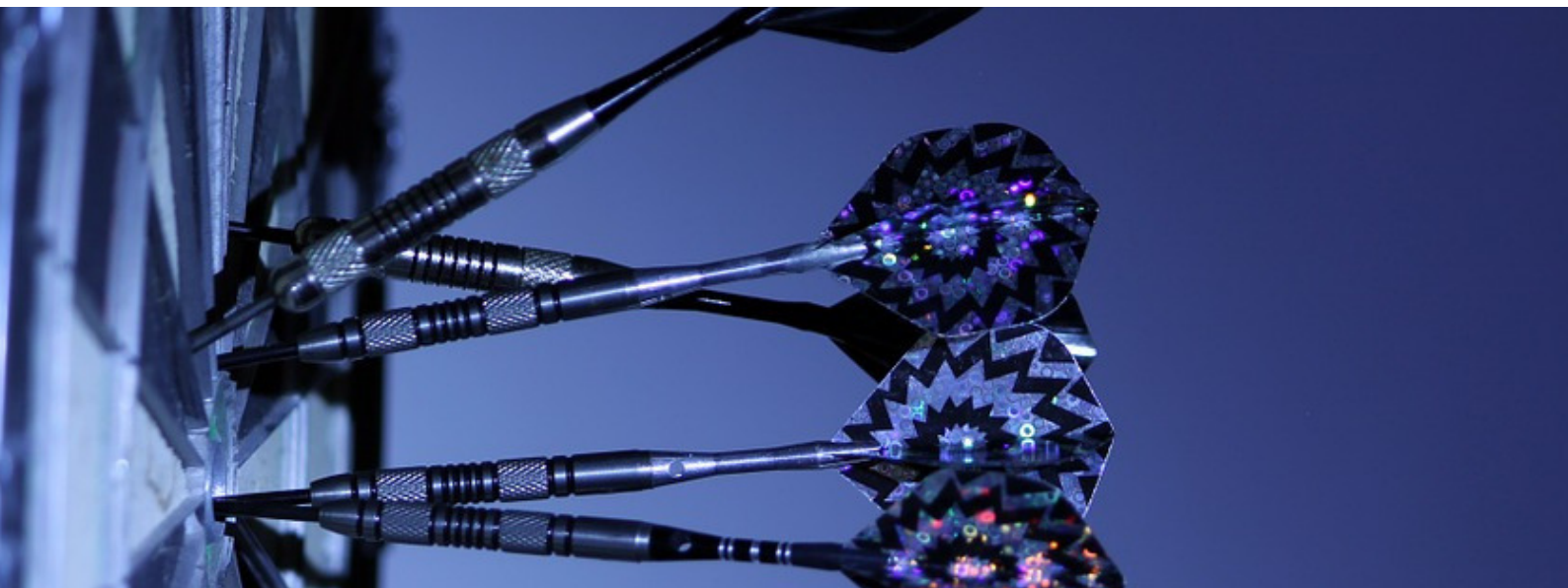
In our game, we want the player to feel like there is a purpose to this exploration and it's not just "a walk in the park". The player should feel like his quest is important and not something to lightly disregard. We will measure this by the time he takes to complete certain tasks or the game itself. Some task will be harder, thus, will take more time to be completed.

We want to player to feel motivated and have hope in finding **the ship's missing parts**. A player that takes too long in finding clues might not be as engaged in pursuing the mission and lose hope. We will "measure" this feeling by asking the player how he feels after a period of time of not having found a ship's part and also how he feels right after he finds one.

We do not want to stress the player to his limits, however, we do want to induce a little bit of stress and/or panic when one of his resources (energy, temperature and motivation) hits the bottom. The player can die of hunger or cold so he must watch out and control his resource bars! We can measure this with an in-game pop-up quiz.

The player has to feel like it is something achievable and realistic, even if at times somewhat annoying or stressful.

We also want the player to feel immersed the environment we create, and make the exploration of the map a captivating task. We can also use another short pop-up quiz to assess the success of this goal.



GAME CONCEPT

THE BACKSTORY

What the player will do in the game?

You wake up dizzy in a place you have never seen before. The last thing you remember was the emergency light going off, as an asteroid collided with your spaceship destroying the safe structure you and your team travelled in.

Your priority is clear: survive this unknown environment until you find **ship's missing parts** and rebuild the fallen spaceship with the planet's resources so you can go back home. However you will soon realise that this is no easy task, so you will have to learn how to survive and manage resources by yourself until you achieve your goal.



GAME CONCEPT

THE PLAYER'S ACTIONS

What the player will do in the game?

The player will feed his character by foraging for food within the vegetation, hunting animals or find water sources in the environment. These will keep his energy in acceptable levels.

By exploring, the player will be able to look for the ship's missing parts, as well as other relevant objects that he might find when looking for clues.

In general, the objects, will reduce some sort of cost of one of the player's actions.

For example, finding a hat will keep your temperature stable in the desert, finding a bottle of water will unlock the player the ability to fill up the bottle and drink anytime he needs along his way refilling part of his energy.

The map is composed by different zones thus the player will have to choose his actions and path accordingly (taking his bars into account) as these objects and zones will influence his decisions.



GAME CONCEPT

THE PLAYER'S MOTIVATION

What motivates the actions? What is the player trying to achieve?

The player wakes up disoriented in an Unknown Planet. His actions are motivated by the need to survive and possibility of returning home by rebuilding the spaceship.

Scared and alone, the player will go on a mission to find his lost crew members that were scattered throughout the map after their ship crashed with the Unknown Planet in a tragic accident.

However soon he will realize that finding his friends might take some time and he will have to learn how to survive on his own on the Unknown Planet. This will prompt him to find out how to find food, water and to keep warm.

With the stress of the situation, the player will also have to keep his mental health in check and be strong enough to keep on track of the task of finding his mates. To keep the strength to carry on, he will have to maintain his motivation by retrieving hidden clues throughout the map.

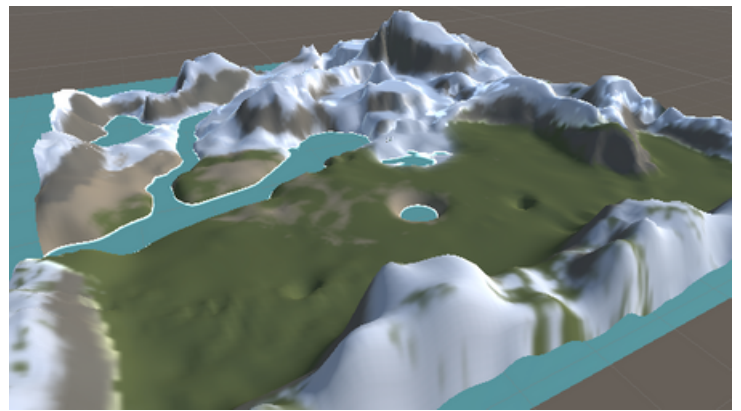


GAME CONCEPT

A VISUALIZATION OF THE GAME

How does the game look like?

We envision our game in a third-person perspective. The Unknown Planet has a wide variety of landscapes. Snowy mountains, pine forest planes and rivers/lakes. For our prototype we are planning on focusing on the snowy forest area. We will try to make a 3D immersive scenario with irregular terrain that can include mountains and hills but also planes with water bodies.

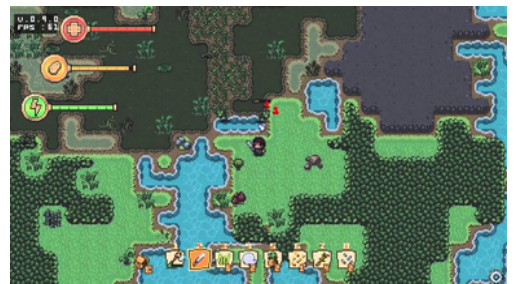


We will need to add water sources to the scenario where the player can get water to replenish his energy. You can see in the image above a prototype we made while experimenting a bit with unity assets.

Visually, we envision it as a colourful, low polygon 3d game, with assets such as the ones seen in the next picture (ignoring the placeholder main character):



We also want there to be bars on screen at all times that indicate the players energy, temperature and motivation, like the ones seen in the next picture (left side):



GAME CONCEPT

A VISUALIZATION OF THE GAME

Moodboard and creature sketches done by our team's artists



GAME CONCEPT

THE VALUE OF OUR CONCEPT

Why is the idea interesting and worth developing? Why is the game fun?

Sure there are many survival games out there, but let's face it. For most them the survival loop ends up being tedious, there is only so much excitement you can derive from an eat→ sleep→ repeat cycle.

Unknown Planet aims to bring back the survival feeling but with a strong sense of mission and a captivating story.

The player will be engaged in the exploration of our immersive scenario while at the same time never forgetting the fragile line he walks of saving his own life.

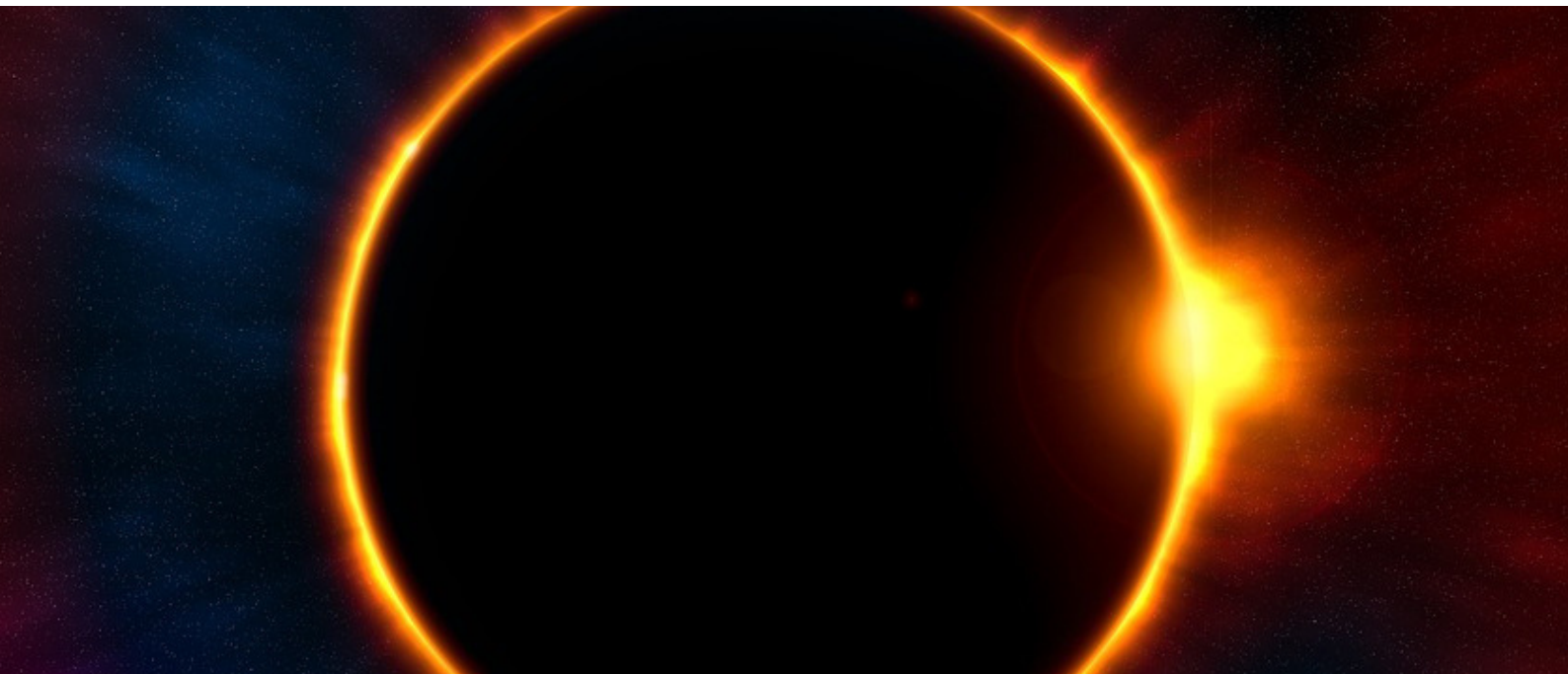
The game will also be humanizing the character on another level by making the player control its motivation, playing with the delicate side of people's needs beside physical wellbeing.



THE FIRST TWEET

Our game in a sentence

**YOU CRASH ALONE AND LOST IN AN
UNFAMILIAR PLANET.
CAN YOU SURVIVE LONG ENOUGH TO
REBUILD YOUR SPACESHIP AND RETURN
HOME?**



COMPETITION

THE LONG DARK

Based on the knowledge gathered from the potential players and our choice on the target audience, we defined a few personas that represent the players of our game

The Long Dark is a story driven first-person survival game. The player starts the game after crash landing a plane somewhere in the northern Canadian wilderness. This is an extreme environment, where resources are scarce, making it a significant challenge to survive while progressing through the game's main storyline. The gameplay "accounts for body temperature, caloric intake, hunger/thirst, fatigue, wind-chill, wildlife, and a host of other environmental factors", as stated by the authors. Therefore, the player needs to forage for food and wood on a daily basis.

The game's vibe is mostly dark, thanks to its difficulty and its story, and the environment is realistic and immersive, as can be seen in the figure on the right.

From this game we took inspirations such as the player's disoriented starting condition, its body temperature, hunger/thirst and the fatigue factors.



COMPETITION

DON'T STARVE

Based on the knowledge gathered from the potential players and our choice on the target audience, we defined a few personas that represent the players of our game

One of our competitors is the game Don't Starve. This is 2D survival game where a scientist finds himself in a Tim Burton style world and has to survive as long as possible.

The strengths of this game include: its open world, player freedom and appealing atmosphere. It is similar to our idea in the aspect of the player having to control several factors such as sanity, health and hunger. This can be achieved by collecting items to craft tools and constantly being on the lookout for the characters needs. The world of Don't Starve also has a lot of mechanics that make the game coherent and addicting: Smaller trees give less wood than big trees, running off road makes you run slower than running on road, cooking food replenishes more health than eating it raw. The game also has a map that highlights important things and allows the player to easily explore the world. There a huge amount of things to explore in the map and the player makes all the choices for himself.

The main weaknesses of this game seems to be that there is no bigger goal to work towards, simply surviving is the main goal which can get boring for some players. Another weakness seems to be the weak attack mechanics. There are plenty of monsters to defeat in this game but only a few limited attack techniques available to the player.



COMPETITION

NO MAN'S SKY

Based on the knowledge gathered from the potential players and our choice on the target audience, we defined a few personas that represent the players of our game

No Man's Sky is an ambitious game. Its genre lies somewhere between space exploration and survival. The player drifts through a virtually infinite universe, thanks to its planet procedural generation technology. Every planet the player wishes to visit is different from all other planets. Consequently, the player deals with different survival needs within each planet: some are filled with radiation, some have no breathable air, some have extreme temperatures, others are plagued by acid rains and some are pleasant and habitable. The player has a spaceship and a multi-tool that allows the player to collect resources from wildlife, ores or other pieces of technology. These resources are reduced to its most canonical form: in the atomic state. This means all wildlife usually yields Carbon or Oxygen, ores yield different forms of Metals, etc. With these resources, the player's multi tool is capable of crafting items, upgrades or bases.

Its procedural generation goes even a step further: both fauna and flora are procedurally generated, which means all wildlife differs from planet to planet. The experience of playing NMS is spectacular for players who just feel like they want to explore, since it is easy to find beautiful planets with breathtaking views, weird vegetation and eerie alien monsters. In order to explore, the player also needs to collect resources to repair/maintain its spaceship and fill its fuel tank. Furthermore, there is an underlying main quest that directs the player to do some missions, which are needed to unlock some features, but isn't crucial for the gameplay.



COMPETITION

NO MAN'S SKY

Based on the knowledge gathered from the potential players and our choice on the target audience, we defined a few personas that represent the players of our game



- Virtually infinite universe
- Lots of different biomes and survival hazards
- Player's multi-tool allows for collecting resources, shooting laser bolts, constructing items and base parts.
- Base building
- Spaceships, space travel, space stations, etc.
- Multiplayer Coop (up to 4 players).



- Even with up to 3 friends, the game is very lonely (there are no NPC's outside stations and other bases).
- In order to explore, the player needs to collect resources to fuel the spaceship and to survive.
- Game becomes repetitive after the player notices some procedural generation pattern.
- Lack of different biomes within each planet.



OTHER REFERENCES

CAMPING AND ORIENTEERING EXPERIENCES

We looked at references and activities outside videogames that are related to the game concept and experience goals that can be a source of inspiration for the development of the game.

We can take some inspiration for our game from camping and orienteering experiences. For example, managing resources is part of the camping experience, while in orienteering you have a goal to reach that includes exploration of unknown territory. If you camp in the wild you have to make sure from the start you will take the necessary food with you, otherwise it will be a challenge to get more without interrupting the experience. Heat and shelter are also an issue.

That's why you might want to plan ahead what clothes to take considering the temperature outside and what sanitary facilities you will have access to.

Orienteering in the wild also comes with similar challenges. How much can you walk before your feet hurt? Can you climb the steep mountain or is it better to go around? How will you find your way again after getting lost? All these questions play into the survival experience feeling we will try to convey.



PLAYER PERSONAS

KID

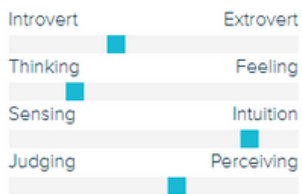
Based on the knowledge gathered from the potential players and our choice on the target audience, we defined a few personas that represent the players of our game



Peter Jones

Age: 10.
Work: Student
Location: Houston, Texas

Personality



Goals

- Become independent.
- Feeling accomplished by overcoming challenges.
- Being able to create his own imaginary world.

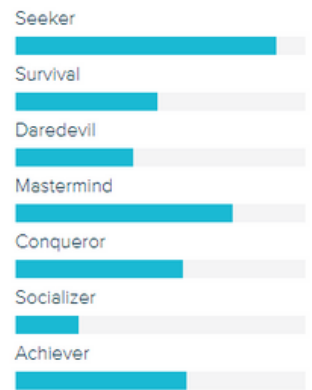
Frustrations

- Still too young to live the life he wants.
- Having to rely on older people for resources.
- Wishes real life had more survival rush.

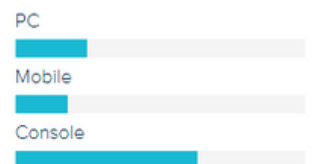
Bio

Peter is a child who is always very excited about leaving school to play one of his games on his console. He is a very independent child, always likes to treat things in his own way, being barred only by the limits of still being very young. So, he always looks for games where he needs to manage resources and find the best strategies to survive. If he is hungry, for example, he likes to go get his food and he loves it when his mother hides his favourite cookies, because he feels challenged to find them. Being as he likes to be in the imaginary world of games. Games in which the player is challenged in this way, starving or needing to find things to not lose the game, are the kind of games that Peter most likes!

Player Type



Preferred Channels



Influencers



PLAYER PERSONAS

YOUNG WOMAN

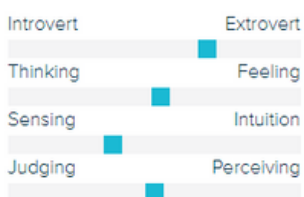
Based on the knowledge gathered from the potential players and our choice on the target audience, we defined a few personas that represent the players of our game



Alice Dominguez

Age: 24
 Work: Mater student
 Location: Madrid, Spain

Personality



Goals

- Taking advantage of her thirst for knowledge to learn as much as she can.
- Learning from her own mistakes.
- Experiencing new things whenever she has the chance

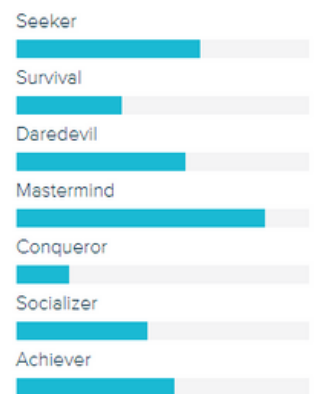
Frustrations

- Knowing that her actions can have negative consequences.
- Feeling like there aren't that many things she has left to explore in her town.
- Becomes frustrated when there is only one way to do something.

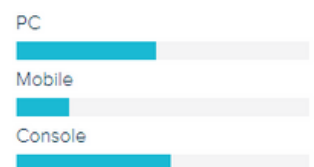
Bio

Alice is a college student who is in the final stages of her master's thesis, almost entering the world of work. She is a bit of an "out of the box" being always exploring different perspectives of everything, in various aspects of her life. When driving, she likes to always explore different routes, managing to escape, most of the time, the large crowds of cars on the road or other adversities to successfully achieve a destiny. Alice is also a gamer in her free time, and like in everything else in life, also when she plays she likes games with big maps that she can explore to reach a certain point by follow different alternatives. Having different scenarios in a single game and the challenge of moving from one to the other to reach a place, is something that always motivates her to take breaks in her thesis to go play.

Player Type



Preferred Channels



Influencers



PLAYER PERSONAS

MIDDLE AGE MAN

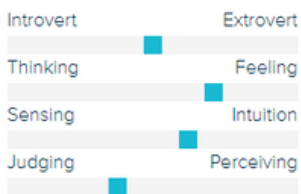
Based on the knowledge gathered from the potential players and our choice on the target audience, we defined a few personas that represent the players of our game



George Hart

Age: 56
 Work: Graphic Designer
 Location: Glasgow, Scotland

Personality



Goals

- Playing games to relax after work.
- Feeding his passion for intergalactic fantasy.
- Learning about other peoples visions of what life in other planets is like

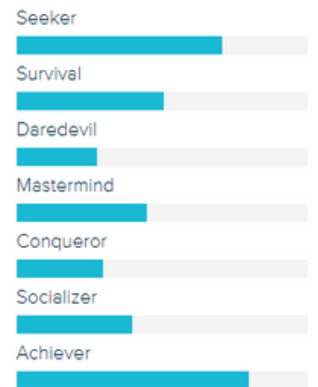
Frustrations

- Has run out of space simulators to play.
- Can't actually go on a space trip.

Bio

George is a man who works for many years in a graphic design company. He has always dreamed of making a trip to space, especially to know Mars. Throughout his career as a designer, thirty years so far, he has done lots of work designing moons, stars, planets and many other related things. In college he discovered the world of games, and from there he never stopped playing, despite having busy days with hard work. Also, in games he has this passion for traveling to space and for knowing different places from the real life in which he lives. Since he has not yet been able to make the trip, he loves being able to do that in games, even if he must go through big difficulties to reach them. So, George is always on the lookout for new game releases that happen out of Earth.

Player Type



Preferred Channels



Influencers



PLAY SCENARIO

THE BEGINNING OF THE EXPERIENCE

With our personas we specified a few scenarios involving the players and the game, covering activities in the real world and activities within the game

It's the first day of August and despite the holiday season, George is working on one of his company's most important projects. He is designing scenarios for a computer game that takes place on an unknown planet. In the company everyone loves his imagination, he can design things that no one would ever think of. What is challenging and inspiring him more in this current project is the fact that the planet is made up, so he can invent what he wants without having limitations of what is considered normal to exist. In all the graphic design work he does, George delivers himself completely to perfectionism and imagination, trying out thousands of different designs until he feels like he's reached a really good one. So, he loves to work and he works for the others and for himself at the same time. It is the first game that he is designing, however in his free time he plays whenever he can, being like a part-time gamer. Also in games he seeks the unknown and takes pleasure in playing in worlds outside the reality that is to live on Earth.

In his work breaks, he plays a survival game on the company's computer in which the player fell into an unknown planet not knowing where his ship was, so he has to find it to win the game. For this, there are several clues, that he can use, scattered through a map with various adversities on this unknown planet. It is now time for another break and George will then play this game. In his last break he had no chance to play and so he decided to start playing from the beginning of the game. He started by exploring the forest area he woke up on to see if he finds any useful clue. After a few minutes of exploration, the temperature bar started to go low, it was getting cold, so he decided to go to the desert to gain temperature. At that moment, an important call interrupted his game time, and so he had to pause it and wait for the next break.

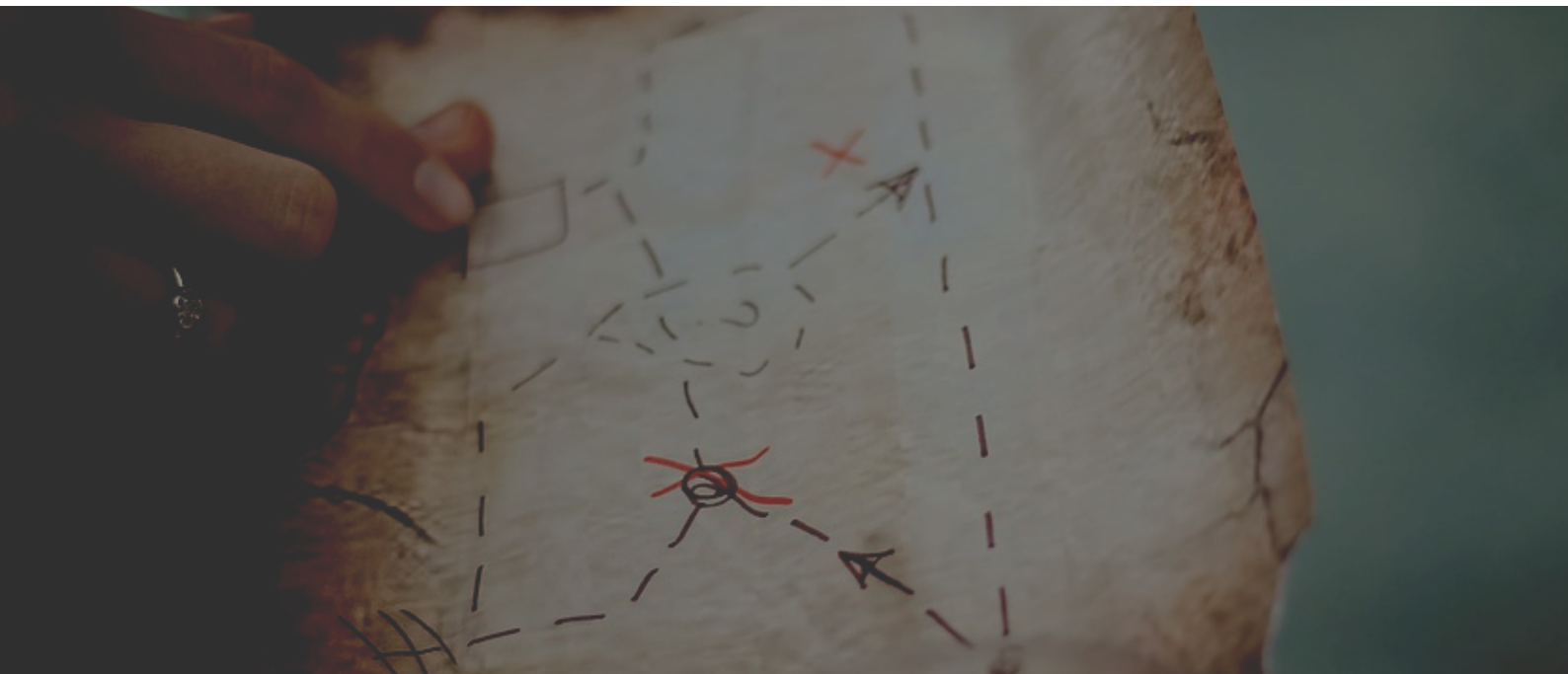


PLAY SCENARIO

THE MIDGAME EXPERIENCE

With our personas we specified a few scenarios involving the players and the game, covering activities in the real world and activities within the game

It's Friday the 13th and Peter came home after another day of school. He is home alone because his mother went to the supermarket after leaving him, and so he ran immediately to his console to play his favourite game. It is snack time, but Peter had been thinking about this moment all day and so there was no hunger that would have stopped him from going immediately into the world of the game. When this little child starts playing, nothing and nobody can stop him, he's always very focused on his goals. He loves that his game player gets hungry to go find hidden food, or when it starts to snow to go find a shelter. His motivation never ends, the harder it is to keep his player alive, the more enthusiastic Peter gets. That's what happened on this day. A while after the game resumed, the power bar started to go low. Peter's smile of enthusiasm began to grow as he was looking closely at the map to quickly find places with food and water, to keep his player alive! Thirst was more than hunger and there was a lake very close, so he went there and filled the bottle he had just won. After that he went to the forest, that it exists near too, and there he tried his luck to see if there were still animals to hunt, and found one! What brought you up the power bar again. Peter's mother returned home at that exact time. So, he took a break from the game and went for a snack.



PLAY SCENARIO

THE END OF THE GAME EXPERIENCE

With our personas we specified a few scenarios involving the players and the game, covering activities in the real world and activities within the game

It is Sunday night, Alice is preparing her lunch to take to college the next day, and the television is turned on in a news show. A report is being shown about life in the largest countries in the world. Since Alice loves exploring large areas, she becomes more and more interested in what they were saying on TV. She quickly began to imagine herself exploring those areas, and as she could not make a trip from one day to the next, the closest she could do was go play one of her games. Alice has a shelf full of games for her console, all with huge exploration maps, which are the kind of games she loves, and the only kind she plays right now. When she finished preparing the lunch, the report was over too and so, it was time to go play, before going to work a little bit more on her master's thesis. In this day, Alice picked a game in which there is a scenario with a mountain similar to the one they showed on television. She had been playing it in the morning, so the game resumed from the scene she had played before. Already very close to finding another clue to the ship, she explored a little bit the map of the area around and she found one that led to a shortcut. It was a very hot way, she would have to cross a desert. But she continued, since she had just found a cap, which would help her maintain her temperature without getting too hot. How she loves shortcuts and all sorts of alternative paths, her good mood increases minute after minute, she is now in the world she most likes! She still made a mistake, tried to look for water in a water source but could not find. Anyway, she walked a little more in the desert, and soon afterwards she found the ship and the last clue she was missing!

It was now time to go back to her thesis work, unfortunately!



FOCUS GROUP

Potential players contacted by us that will be our focus group and their feedback on our ideas

Our game is being thought to be suitable for all age groups, since it will have different dynamics that would please people from different ages. Being independent of the age, does not imply that it will please all types of players, of course. In terms of player types, it will be more adaptable to Seekers, Masterminds and Achievers. In a few words, players who likes searching, exploring, finding solutions and completing goals.

People seemed receptive to our game idea, specially when it came to the storyline. The feedback we received included that they liked the idea of the motivation bar although it seem like something hard to implement. We were also asked how hard was the game going to be and told we should be careful about the difficulty level. People seemed to genuinely like the concept, but seemed to have diverging ideas on what the game scenario should look like. Some liked our earthly scenarios whilst others prefered it to be a scarier one.

From our research we found that survival games are quite popular within our social environment. A lot of these game are playable in single-player mode although some people prefer multiplayer experiences. Don't Starve is an example of such a game where our focus group was divided between those which prefer single player and multiplayer. Given the time we have to develop Unknown Planet we will surely make it single-player but it did give us some ideas for future extension of the game to multiplayer mode.

When it came to Long Dark, one of the members of our focus group commented on how the high learning curve was an appealing part of the game as it brought back a huge satisfaction for the player when finally completing tasks.

Another comment we took note of was regarding No Man's Sky. It was reported to us that the rate at which resources were spent was exhausting. Even just standing completely still makes the players oxygen levels go down which can be frustrating.

FOCUS GROUP

Potential players contacted by us that will be our focus group and their feedback on our ideas

We attempted to separate our focus group into the three main player types we chose and collect trends in their thoughts after explaining our game. Here are our resumed findings:

Achievers seemed to enjoy our game idea, in particularly the part of collecting spaceship clues. They thought looking for shelter and food would be a bit boring and would instead add another task involving collecting items, like animal dna.

Mastermind types would love our game for the amount of challenges we have to offer. However they expressed some concern on the amount of possible solutions to solve each of the problem and advised us to give the player even more freedom.

Seekers were excited to play the game, or rather, explore the game and search for food, supplies and clues. They think the game has a lot to explore and their will be amazed with the details.



CORE GAMEPLAY LOOP

These will inform the creation of the tech prototype

1

Player explores the map looking for:

- a) Missing parts of the fallen spaceship **(day/night)**
- b) Places to spend the night (caves, areas for fireplaces...)**(day)**
- c) Resources (food, wood, items...)**(day/night)**

2

The survival bars (Energy, Temperature, Motivation) lower with time and with the player's activity. **(day/night)**

3

Player repeats step 1 in order to find a source for his missing bar. (Food or water, clues, respectively) OR attempts to build items that help him survive (e.g. camp fires, tents, water-skin, etc). **(day/night)**

4

The bar(s) is(are) restored. **(day/night)**

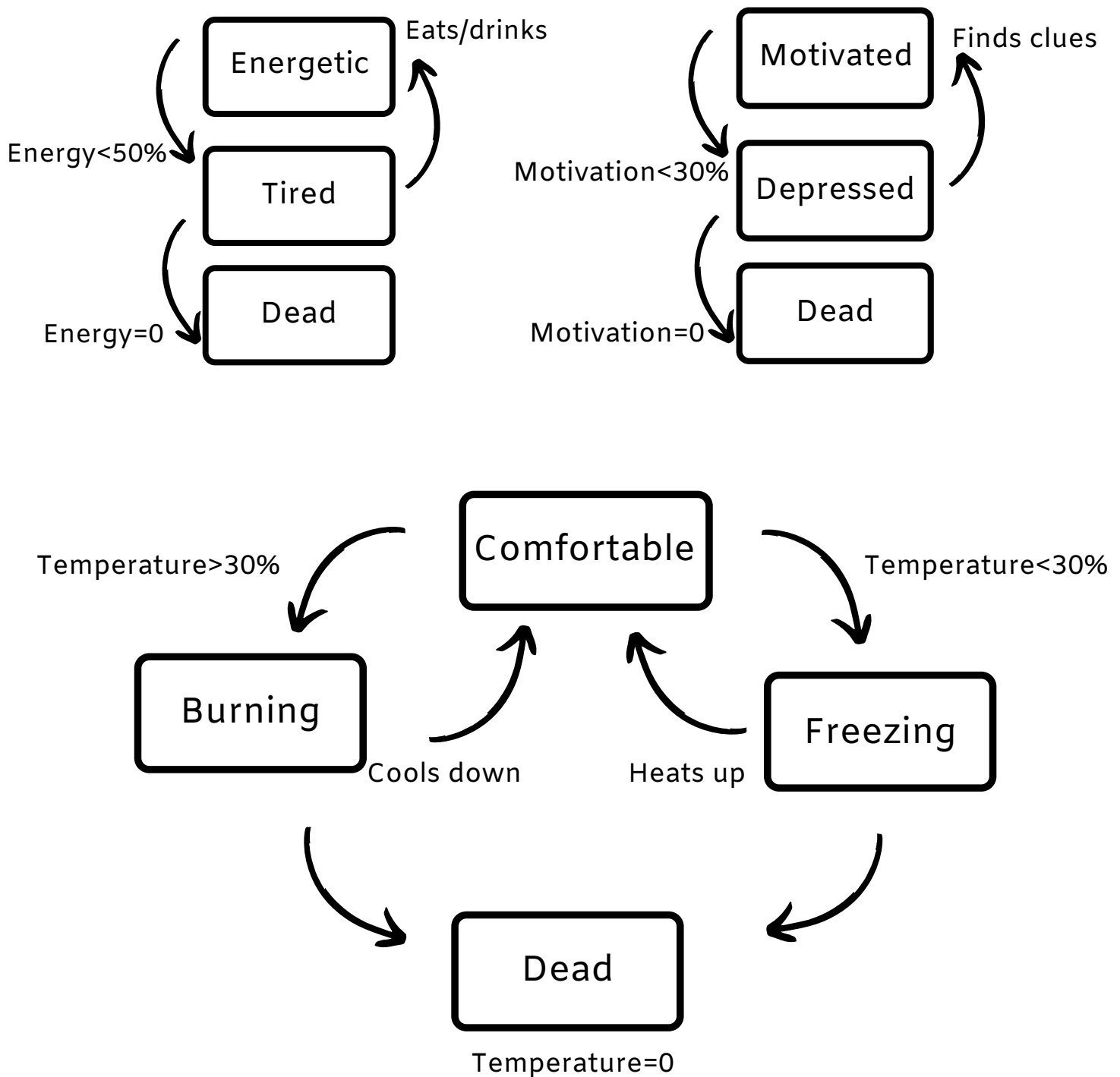
5

The player can focus again on repeating from step 1 OR rebuilding spaceship parts. **(day/night)**

Repeats until the spaceship is fully functioning (all five broken modules).

STATE TRANSITIONS

The three main sate transition diagrams



CONTROL SYSTEM

Allows players to express their intentional changes.

Input devices: **Keyboard and mouse**

The **mouse** movement controls the camera angle.

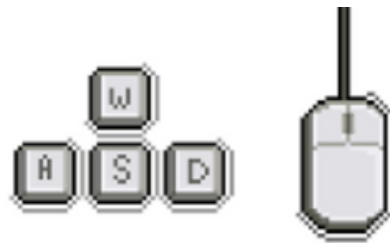
WASD for movement:

W to move forward

S to move backwards

D to move to the right

A to move to the left



Left mouse button - Action

E to interact with game objects. For example, press E to drink water from a river when standing beside it.

B to open a pop-up with the items in the backpack (Inventory) [Only applies if inventory is not already on-screen]

1, 2, 3, 4 to use items stored in the inventory slots. For example, when crossing the desert press 1 to wear the hat you found before.

Shift to sprint

Main Control Loop:

1. The player is on a quest to find the broken spaceship parts
2. Meanwhile, his energy/temperature bar goes low
3. The player walks around the map looking for resources using the WASD keys and looking with the mouse
4. He finds a fruit on the ground and clicks E to eat it restoring some of his energy bar.
5. The player finds a sleeping bag while looking for clues. Presses E to retrieve it.
6. The evening and he decides to click 1 to use his first item to sleep for a few hours. His motivation and energy are filled up.

PRESENTATION SYSTEM

Supports players' interpretation and understanding.

Most of the **screen** of the game will be occupied with the scenario and main character. On the foreground we will need to have the three bars of energy, temperature and motivation. These will either be presented as horizontal bars, or circular ones like in Long Dark. We also have to decide in which corner of the screen they will be positioned.

Another thing we have been thinking about is the **inventory**. One possibility is for the inventory to constantly appear on screen, as a horizontal bar on the bottom of the screen. Another possibility would be for it to appear over the main screen when a certain key is pressed (key B).

As the game progresses and the player finds the parts of the **spaceship**, we will also need to decide where we will show the player how many parts of the spaceship he has already collected. We can add this to the inventory as well, or maybe create another separate component on the screen where we count the number of spaceships parts found.

Another presentation component we have to be attentive to is the **day and night cycle**. The night should fall slowly as a warning that it is approaching, and not abruptly like a light switch. The same thing goes for the day, the night should brighten slowly to warn the player the day is coming.

We also have to consider how some items **break down with the players actions**. For example, if the player decides to chop a tree for wood, should the tree break down and disappear? Or will the tree still be there but deformed?

PRESENTATION SYSTEM

Supports players' interpretation and understanding.

Here's an example of an interface positioning that could be used for our game. The three bars on the top right corner and the inventory on the bottom of the screen. There might be anotehr box on-screen like the one on the top right corner to indicate the number of spaceship parts the player has already found.

Temperature,
motivation and
energy bars

Spaceship parts
found



Image taken from Unity tutorial

Inventory



HOW LONG CAN YOU SURVIVE?

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