ARIDEA
THE FORGOTTEN DESERT

A Bachelor Report

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1.0. Background

This paper presents the bachelor project of Mathias Kaplerud and Adrian Klausen in the course "*ADK2900/SPIS2900 Bachelor project 2023-2024*" at HINN University. The team consists of one artist and one programmer and the main goal for this project has been to make a Survival Adventure entertainment game demo for PC with the use of Unity Engine.

With this bachelor project we wanted to achieve making a playable demo (first area) of a bigger Survival Adventure game. Our production goal has been to implement the core systems that goes into a Survival Adventure game, and make a believable environment for the player to survive and take part in.

The game is set in a desert region where *heat* and *water* play a big part in the survival aspect of the gameplay. We also wanted to bring in elements of *building* and *machinery* as a way of evolving the gameplay for the player and bring more possibilities for the player to get immersed in and take control over their own journey throughout the game.

The popularity of this genre has increased over the years and many games have been made. There are a few examples of survival games set in the desert, like Badiya (Semaphore, 2024) and Starsand (Tunnel Vision Studio, 2024), but these games tend to be more serious and realistic than what we wanted to approach. They focus heavily on action elements with a more mature target audience. Our game is milder in tone and focuses on the survival, resource gathering and hidden aspects. We therefore believe that our idea will contribute and bring something new to the gaming world.

1.1. What our projects is all about

We wanted to make a survival adventure game demo and see if we were capable of making a believable experience within the project time with our limited resources. We have taken inspiration from games in the same genre, like "Subnautica" (Unknown Worlds Entertainment, 2024), "The Long Dark" (Hinterland Studios Inc, 2024), "Raft" (Axolot Games, 2024) and "Valheim" (Coffee

Stain Publishing, 2024), but we wanted to add our own twist to the formula. Our hidden elements, like the elemental ghosts, Arídean items and the way we want to tell the lore of this world, with hidden images in ruins across the Arídean Desert, makes for a different approach to the player experience than that of games in the same genre. We liked the idea of this 4-dimensional space-interaction where remnants of past and future combine with ancient technology.

We have developed the game as if we were to expand upon it in the future. We have therefore approached this bachelor period as we would have approached the first development period of a bigger game, with the end goal of delivering a playable first area of the game. This has led us to build the project with modular components and generic code for easy access and expenditure going forward.

Since this is only the first level/area of a bigger game, and we wanted to stay true to the pace of a development process as if it were the start of a full game development, the different aspects of the game only gets an introduction in our demo. The bachelor project must therefore be looked at as an introduction, or tutorial, to the core gameplay of a full game.

1.2. What can be expected from a playthrough of our demo?

We expect to give the player a Survival Adventure experience where decisions and the progression is placed in the hand of the player. We have tuned the gameplay to focus on the survival elements with a more slow-paced environment, where the player decides if they want to rush through the demo or take time to explore before moving forward.

Our demo has a definitive end where the player places the first of five Arídean keys into the entrance door leading into Arídea. This Journey makes up the introduction to the game and gives the player time to get familiar with the core aspects of the game, being ready to take on the rest of what this world has to offer. At the end of the demo, we want the player to be familiar with the various aspects. Firstly, the environmental influence on their health. We want to guide the player

in a direction for them to survive in a way that the player feels they made their own discovery. We want to reward the player for exploring the map by giving rare items and shortcuts, to spark curiosity and make an expectancy for future areas. We also want the player to know the concept of building and that they are encouraged to build all over the map to either build bases, reach inaccessible areas or to make shortcuts. We want the player to use the option of building as a way of "terraforming" the map and to get ownership of the world. Lastly, we want the player to get a slight introduction to the key factor in the identity of the full game: the Arídean elements (what is hidden), with the elemental ghosts as the front figure. We want the player to sense that there is more to this world than what meets the eye and develop curiosity regarding the existence of ghosts. The ghosts are irrelevant to most of the gameplay throughout the demo, but they are central to the story and in being able to finish the full game. Therefore, we wanted the player to be able to interact with them in our demo.

We want to gradually expand the influence of Arídean elements throughout the full game, and agreed early in the production that this meant we could not bring everything we wanted into the demo. The development of wonder for the player about what the Arídean elements are and how it will affect the story and gameplay further, is an important aspect of the game that will have greater impact to the rest of the story and gameplay if the wonder gets time to grow. Therefore, depending on the player, they may overlook these elements completely throughout the gameplay of our demo. But there are ways to open the world to Arídean elements for players that take their time and pay attention to details, already in the demo.

1.3. Theory and Research Statement

"Video games are complex systems and ideological worlds that invite the player in" - (Squire, 2011, s. 21).

Going into this project we wanted to make a gaming experience that challenges the player to act towards their own approach to their journey. We also wanted to make a game containing segments of risk-taking and relaxation. We have therefore formulated a research statement as follows: "*how to make an open gaming experience where the player is in charge of their own progression and gets invested through a loop of tension and risk followed by relief and satisfaction*".

In this statement lies a hope of leading the player into the state of *flow*. As Csikszentmihalyi describes: "*flow is a feeling of losing the sense of time and concern*" (Csikszentmihalyi, 1990, s. 103). When designing our game, we have looked to Csikszentmihalyi's three terms for entering a successful flow, which are *purposefulness*, *feedback* and the balance between *challenge* and *skill* (Csikszentmihalyi, 1990, s. 103). We believe that the player gets a feeling of purposefulness when they can take charge of their own actions and eventually their fate in the game. Instead of forcing the game upon the player, we want the player to choose their actions based on the consequences of not acting. The making of the sense of consequences lays heavily on *feedback*, which is one of four pillars in McGonigals definition of video games (*goal*, *feedback*, *voluntary participation* and *acceptance* of the rules), where feedback gives an impression of how close the player is to achieve goals or avoid stagnation (McGonigal, 2011). Squire supplements this approach by considering the feedback from the players' investment in the gaming experience itself (Squire, 2011) which supports our approach of the gameplay from the player's perspective. We have used the balance between "challenge and skill" in our game loop of "tension and risk" followed by "relief and satisfaction" in the making of our level. Our level is big and empty, which exposes the player to danger when they are searching for resources. It is a necessity for the player to act fast and make a strategy for surviving the environment when they are "out there". On the opposite side of the spectrum, after traversing the field, the player comes back to their base where they are safer and can use the resources gathered to upgrade themself and make the next adventure easier to overcome. As Squire mentions, *leveling, progression and development are used in games to achieve flow* (Squire, 2011).

Another aspect we have taken into consideration is the *motivation* of the player. Motivation is something that; *influences the initiative, scope, persistence, continuation and quality of goal-directed behavior for the player* (Dweck & Elliott, 1983; Maehr & Meyer, 1997; Maehr & Zusho, 2009), and is considered a part of the inner motivation. Motivation as a term describes *why we continue to act or stop an activity we engage in* (Akane, Jared, Naoko & Gerard, 2014). We have worked towards making a gaming experience that motivates based on the journey itself rather than reaching the end goal, which is Ryan and Deci's (2000) definition of motivation: *it is not the rewards that is motivating, but the journey getting there* (Ryan & Deci, 2000, s. 56). By giving the player freedom, we also make room for motivation in the making of their own story. And by introducing unknown elements (elemental ghosts, hidden items and images), the player gets something unexpected while in a familiar environment, which is what Malone and Lepper have defined motivation in games as:

"*video games are intrinsically motivating, because they promote optimal challenge, imagination and curiosity. They spark curiosity by adding environments that are both new and surprising, but not entirely unexpected. Video games are also made more interesting by adding elements that reality does not possess*" (Malone and Lepper, 1987).

We hope that with the freedom that comes with our game, we manage to generate motivation that makes the player want to stay in the activity of playing.

Another aspect of game development we have focused on is the aspect of *learning*. As stated earlier, we want to teach the player as much as we can about the game without telling it what to do. Prensky states that: "*it is not the violence or the competition that generates motivation in games, but it is the voluntary learning and mastery of elements*" (Prensky, 2006). He provides five levels of learning that influence games. "*How*", describes the mechanics, rules and environment that the player must always take into consideration. Our game features a lot of menu maneuvering, together with controls, pickups and interactions with trees, plants and ores. Through sounds and outlines we try to teach the player which elements are relevant and what to ignore. "*What*", describes what is feasible and what is not, through trial and error. We give the player freedom of

trial and error by making the player take their fate into their own hands and face the consequences of their actions. "*Why*", describes the actions and strategies of the player. For us to make something that can be interesting and teach what can be done by the player, we have had to be consistent in what the player can do and how we present this. "*Where*", describes the context and what the player gets involved in. The world and narrative are something we want to present to the player gradually throughout the game. Our hope is that the player changes their perception of our world alongside their journey, through new visual feedback as it is revealed. "*About*", describes value-based and moral choices that the player may face. This will not be presented in the demo, but during the game we will ask questions regarding the elemental ghosts and whether what the player is doing with them is morally questionable (Prensky, 2006).

2.0. The Concept

A lot of our development time has gone into making a believable world for the player to take part in. We have had regular meetings where new and old topics have been questioned and revisited. As a result, we have gotten a clear image of what our game is supposed to be and a foundation to build future thoughts, designs and functionality towards.

2.1. The identity of the game

Arídea: The Forgotten Desert is a light-hearted survival adventure game with a darker undertone, where the player explores to gather resources while surviving the harsh desert by building bases and leveling up their abilities, with the end goal of opening the entrance to an ancient, lost civilization.

For a game to gain traction, it needs a clear identity that makes it stand out from similar games. During the pre-production stage of the project, we put emphasis on working out a unique visual style as well as notable game mechanics to ensure our game will be able to stand on its own. The

mechanical identity of our game was largely developed through analysis of similar games and studies of game design. The visual identity is strongly tied to the gameplay and our target audience.

A unique visual style can be important for a game to stand out. Since we are a small team with no prior following or reputation, it is important to find a style of our own. Even though ghosts might not be an eminent part of the gameplay until the latter half of the demo, they are still an important factor of the game's identity. Their visual style is simple, yet cute and recognizable, and since they are central for the story, they make great mascots for our game.

The game loop consists of exploring to find resources and upgrades, and using those to build bases, machinery and equipment to survive the desert. The gameplay is characterized by its survival parameters (such as "Temperature Resistance"), the crystals that reveal hidden objects, the emphasis on adventure and exploration, and the building system with its shelter and machinery. These mechanics complement and build off each other to make up the main systems the player interacts with. Zack Hiwiller points out that *the goal of a game designer is to lead the player to a state of flow by balancing the challenges of reaching a set of goals* (Hiwiller, 2016, p. 87). Raph Koster describes *fun as being synonymous with learning*, and that *games need to contain fair challenges that the player can learn to overcome* (Koster, 2013, p. 46, 38). So, our game is made to challenge the player by giving them various mechanics to learn, as well as an environment that is challenging to traverse and survive. However, since our demo revolves around the introductory area of the game, not all the challenges are as prominent as they will be in a full version, as some will be properly introduced later on. One could argue that setting our demo to a later area would give a more holistic view of our vision for the game, but the player would then not have the experience of learning how to play and what to look for, which could become

overwhelming and likely less enjoyable. This would also require more work from us as developers and would have raised the bar for what needs to be accomplished in an already ambitious project.

While some of our mechanics are standard in similar games, we have tried to introduce them in ways that feel unique, such as adding twists or incorporating the distinctive and recognizable parts of an alien world into the gameplay and world building. For example, we have made the "glue plant" a main component in base building instead of traditional nails.

We will discuss further how the gameplay stands out and how it approaches the desired player experience in the market analysis.

2.2. Goals

Through the project period we have worked towards two separate goals for achieving this demo: one for the development process with the team's roles and dynamics, and one for the game's development itself.

2.2.1 Team goals

Early in the production period we started looking at the long-term goals of the development process and began working on the team dynamics. We built a team contract (see attachment) and have been working towards keeping what we agreed upon. We also used tests from "Prosjekthåndboka" to gather information about the group members and to get to know each other's collegial approaches (Aakre & Scharning, 2022).

We started to develop the core idea of the game and agreed upon what the finished product should be. We landed on the idea of a demo version containing the first area of the game, as the project time period would be too short to make the complete game we wanted to make. We couldn't tell at that point whether we were to continue the development after the project period, so we decided to build the project with a modular pipeline, both in code structure and asset development, to section contents to the finished game and make it easy to go from one module to another. Since

we knew that this would be a big project, we have been using this modular approach effectively, in that we have been able to cut modules without any disturbance to the development process when we realized that we had over-scoped. This has led to a larger planned game than what is presented in the demo, and a foundation that is easy to expand upon in the future. We agreed that what is most important is for the game to be playable and give the player a survival adventure experience, even if the world could be feeling a bit empty. This has helped us focus on the core mechanics of the game, rather than filling the world with content, and made sure that we have worked on the same part together, finishing bit by bit.

2.2.2. Goals of the game

McGonigal defines one of the game's pillars to be the *goal* of what the player works towards. The goal of the game is an important ingredient to the player's subjective experience and the value they get out of it. She continues with the *rules* as a constraint towards reaching the goal, with the *feedback* as essential for the player to know how far away from the goal they are. And lastly, *voluntary participation* implies that the player accepts the goals given (McGonigal, 2011).

At the start of the game, the player receives a clear goal after entering the room with the gate to Arídea: *gather the five keys and open the gate*. The way we decided to deliver this goal is through a player journal where the goal is displayed together with a story description. We have also tried to make the environment show the player why it is there and what its main goal is. The gate has 5 key slots, which set the game scope for the player as it comes back with new keys. This updates the player on how far it has come and how much more is left in the game before reaching the long-term goal of opening the gate to Arìdea.

In a shorter time perspective, the players' goals are to survive the environment and get deeper into the region. As stated earlier, this includes gathering resources, researching them for making new crafting recipes, building bases, and upgrading the player's abilities from the "Skill Tree table".

The order of priorities is up to the player, but every aspect contains short-/ and long-term goals the player need to reach before completing the game.

For a survival adventure game like this it is encouraged for the player to create their own goals as well as the game's, to fill the journey. This can be anything from building a second floor on the base, to starting a crop plot farm. As game developers, those goals cannot be controlled, and are dependent on the playstyle of the player. Our game shines when the player is able to make its own journey, which is a key factor in identifying the game's target audience.

2.3. Market and game analysis

A game designer's most important skill is listening. Not just in terms of hearing, but a deeper, thoughtful listening that leads to understanding what is needed to craft a good game (Schell, 2015, p. 5).

Because of this, we started this project by analyzing other games in the survival adventure genre and began constructing our game based on the feedback we found.

2.3.1. Is there demand for more survival games?

The survival genre has been popular for a long time, but got a boost in 2009 after Minecraft Classic took the world by storm (Cox, 2020). This makes it challenging for new games that try to enter the market, but it also comes with some advantages. A new game will need a unique identity to be successful, which can be hard to find as it also needs to fit the demands of the market. In a way, it is impossible to create something truly original, as everything we make is a combination of memories and ideas we've seen before. But as we get inspired to combine concepts we tend to come up with original ideas (aka. IP). It has therefore been important for us to analyze the market and incorporate elements of other games that we know work into our project, alongside making new concepts and twists to create a unique experience.

Since the survival genre is popular, many games have been made. Any new game will have to fight against bigger, more established competitors for their audiences. On the other hand, it also means that there are many players who enjoy the genre which increases the number of possible customers. Games are consumer goods, meaning there will always be players looking for new experiences. When getting tired of playing a game, they will likely look for something new and refreshing, but still within the same genre or style.

2.3.2. Common characteristics in successful survival games

In order to make an enjoyable survival game, it has been helpful to analyze successful games in the same genre. This has given us an idea of what we have had to focus on and what aspects we have had to put more of our time into to raise the quality. Jesse Schell states that *the game is not the experience, but it enables it* (Schell, 2015, p. 11)*,* so we must go deeper than the game itself and analyze players' interactions with games. We have therefore looked at what experiences different survival games give to their players. We narrowed them down to three core concepts we considered important to focus on going into making our game.

The first concept revolves around *options* and a *choice* of playstyles. By design, there is a "sandbox" element to survival games that gives the player control of their own experience. Zack Hiwiller says that *players must have agency for their decision-making to be meaningful* (Hiwiller, 2016, p. 102). Jesse Schell affirms this idea, as he states that *games should give players choices that have a real impact on what happens next and lead the players to ask themselves questions of their next course of action* (Schell, 2015, p. 210). In survival games, there are often many features and mechanics that come together in such a way that it allows the player to choose which part to spend the most time in. They allow the player to direct their playing experience to where they want to go. Take "Valheim", where the player can choose to spend their time building their base, or bark on incentivized exploration and adventure containing intense fighting mechanics with a variety of weapons to choose from. In "Minecraft", the player can choose to build large castles or intricate detailed houses, spend their time mining for resources or going on adventures. The core function of a building system in survival games strengthens the feeling of control for the player as it gives a strong sense of ownership and satisfaction, both in the creating process and for the result.

We have built upon this idea by making the builds cover some of the heat from the sun, making base building an important mechanic for survival.

Survival games tend to have a clear progression, as they often make the player start with nothing but a quest to develop themself and their surroundings. One of the main goals of survival games is to build the player's arsenal and survival capabilities. As discussed earlier, the state of flow is dependent on balanced challenges for the player to overcome. Zack Hiwiller states that *a clear set of goals and progress is a condition for achieving flow* (Hiwiller, 2016, p. 87). A big part of achieving flow is therefore through the player's satisfaction of progressing towards their next set of goals. The progression in survival games frequently gives the player a feeling of mastery and triumph. After playing for a bit, the player can usually look back to where they started and feel great satisfaction over the progress that has been made. In "Raft", the player starts on four planks with nothing but the trash that drifts through the ocean. However, after some time of engaging in the activity, the player can build large ships containing engines, machines and farming areas. In "Ark: Survival Evolved" (Studio Wildcard & Wardrum Studios, 2024) the player starts with nothing and develops the ability to tame dinosaurs and acquire firearms.

Many successful survival games contain a defined game loop of tension and risk followed by relief and satisfaction. The nature of tension and risk means the loop can be broken by failure and dissatisfaction, which gives the player options to create their own risk-reward scenarios. According to Zack Hiwiller, *this is one of the best ways of making decisions interesting* (Hiwiller, 2016, p. 113). For example, in "Subnautica" the bases the player builds are completely safe with oxygen to breathe, but as soon the player leaves, they must face the dark and scary world around them, before coming back after a successful scavenge. Outside, the player needs to have their guard up, but when coming back home the guard can be lowered, resulting in the relaxed part of the game-loop.

The concept of survival games can appeal to our core as humans because they make us rely on ourselves as we continue surviving, advancing and expanding our competence and dominance. To make room for this, a survival game needs different features that complement each other to create a holistic experience. For our game we have focused on these three aspects as we believe they make up a good foundation for the experience.

2.3.3. What makes Arídea unique and similar to other games, and how do we approach our desired player experience?

As stated earlier: for a game to become successful it needs a unique identity. The identity and uniqueness of our game is built on our analysis of competitor's design and gameplay. We have used this analysis to build distinctive features that feel familiar, but at the same time provide gameplay and a visual style that differentiates.

The most central mechanics of our game are the *survival parameters*, *crystals* that reveal hidden elements, the *resources* and *upgrades* you get through exploration, the *building system,* and our way of upgrading the player through *skill trees*. So, why did we choose these mechanics as the main focus of our game, and how was the process of making them viable?

2.3.3.1 Survival Parameters

The importance and severity of survival parameters may vary from different games within the survival genre. We wanted the management of survival parameters to become an important aspect of the player's experience, alongside the freedom of adventure and exploration. In "Subnautica", the water and the concept of *holding your breath* has been turned into a major mechanic as the player needs to manage their oxygen to survive. Instead of water, we have taken the *temperature* and the player's *tolerance* of it as a substitute to drowning. Games like "The Long Dark" and "Skyrim" (Petrovich, 2022) have taken this into account, but not as the main mechanic. Our focus on temperature has made the desert a natural setting, as it is warm during the day and cold during the night. Not many survival games take place in a desert, which makes the setting somewhat unique. Since we only provide a demo, this temperature parameter is not as prominent as it would be in a finished game, as more areas could provide longer distances to travers and warmer temperatures that need to be prepared for. We believe that this contributes to the game loop of tension and risk as the player leaves their base for the harsh climate, followed by relief and

satisfaction as they return to their safe space. It also gives a clear sense of progression when the player can survive longer in extreme temperatures as it upgrades its arsenal and abilities.

2.3.3.2 Crystal and hidden elements

The mechanic of crystals that reveal ghosts, objects and symbols has not been explored in many survival games. It can give our game a clear and unique identity as well as an interesting gameplay mechanic, as it incentivizes exploration and drives the story. We may expand the function of this mechanic in later biomes, like lighting up bigger ruins or revealing jumping puzzles. As an introduction, we felt like keeping the interaction as simple as possible, with a possibility of expanding the complexity as the game progresses. We wanted the crystal and ghosts to have a simple and recognizable visual design, making them easy for players to grasp and remember. Alongside the desert setting, those are strong components of the visual identity and visual storytelling.

### 2.3.3.3 Exploration, resources and upgrades

Adventure and exploration are a big part of many survival games, and the environments are often what drives the motivation for further research and examination. To achieve a sense of unfamiliarity among the more familiar desert, we decided to take the design of the plant life towards a more alien feel and take the technology and ruins towards a more mysterious and ancient style. Raph Koster says that *games need to exercise the player's brain and implement unknown or unpredictable variables to stay interesting* (Koster, 2013, p. 38). An unknown world incentivizes exploration, but also carefulness, to strengthen immersion as the player does not know what could happen around the next corner. This gives the player more agency, as it accentuates the risk-reward decision-making of exploration. We have also made a clear sense of progression in the resource placement of the level, where new resources get introduced as the player explores. Since we want the player to explore, this becomes a central part of the game loop, as exploration and adventure becomes

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synonymous with tension and risk. We also give the sense of progression through the drop rate of items. Larger trees need upgraded tools to be cut and provide more resources. To achieve this effect, it is important to regulate the random drop rates in a way that feels good for the player, by adding more items to stronger tools and larger trees, as it fits. This is one of the balancing aspects of the game, which we have focused on when asking for feedback from play testers.

2.3.3.4 Building System and machines
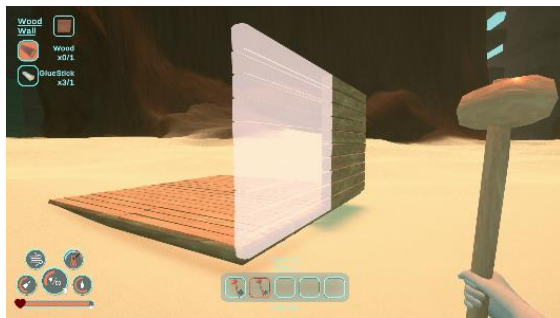
The building system is an important and unifying mechanic, as it provides shelter from the harsh climate. We have provided the game with three tiers of building blocks: *wood*, *stone* and *cryonite*. Each tier covers the player for more heat and cold than the previous and combined with the possibility of building storage chests and interactive tables, makes building and upgrading the base a valuable aspect of the game that pushes the player further into the level as time moves on.

One of the big decisions we had to make regarding the building system was whether the player should build whole rooms, like in "Subnautica", or smaller parts that can make up rooms, like in "Raft". While the former would be easier for the player and allow for faster building, we decided that the latter was a better fit for our game as it gives the player more control and opens for more use of the player's imagination, even if it would require more time and higher level of coding.

The building system is a central mechanic for all three of our focus points regarding the player experience. The player gets to choose *how*, *where* and *what* to build, there is a clear sense of progression in making the building itself (size and materials used), and it acts as a safe haven and a counterpart to the danger of exploration for our desired game loop. Machinery will also be a big part of the building process that combines this segment with the ghosts, as the player gets new ways of acquiring new resources and needs to use the elemental ghosts to fuel them. In the demo, crop plots can be used to grow rare plants only found in difficult places on the map at the player's base and are the only machines we want to give the player in this first level. Even if the focus of the demo has been teaching the player the core mechanics of the game, we wanted to give the

player something they would value at the latter part of the demo. We landed on that control over the plant life would be a good fit, as this will prepare the player for moving forward into other biomes in the future. We have a plan to complement the player's understanding of growing plants with the introduction to both grills and a juicer at a later point, so that the player can start making edible item farms at a higher quality with greater health generation. It is important to note that we have chosen the available ghost for this biome to be of the water element, so that the crop plot could make use of this element. As we move forward, for the second biome we are thinking about introducing the fire elemental ghost to fuel grills and smelting resources. As for the first biome, we believe that the introduction to resources alone is enough for the player to handle, with a natural expenditure into smithing as a second stage.
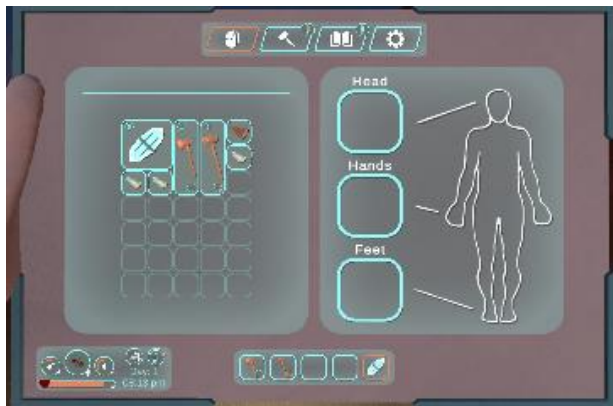
2.3.3.5 Skill Trees
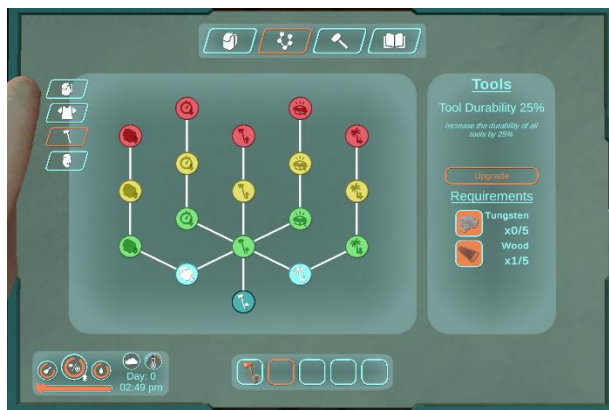
Most games take elements from multiple genres, and survival games tend to contain elements from the role-playing genre. However, while some survival games provide skills that can be improved linearly, like in "Conan Exiles" (Funcom, 2024) or "The Long Dark", there are not many that have *branching skill trees*. Since this is not common, it may be a risky move for us to include, but we have landed on that the implementation of skill trees (which require resources as cost) will work like a *questline* for the player, which will enrich the reason to gather resources and make something more short-term to work towards. The skill trees cover several aspects of the game (the *player*, *inventory*, *equipment* and hidden *Arídean* elements), making the player choose a direction to focus towards and improve. When we provide a different way for the player get its upgrades, we help push the uniqueness of the game.

2.3.3.6 Inventory and menu management

At first, we made an inventory with the possibility of stacking items of the same type, like in "Raft" and "Minecraft". However, as the game developed, we got the impression that it would fit better to change the system to make resource gathering a more valuable process. We looked to "Subnautica", which balances this very well, and decided to change our inventory to become grid-based instead where items do not stack and have the possibility to taking up multiple slots. This lets us signal the importance of an item through its size, rather than in text. Changing inventory type was a crucial decision, as it changed the direction and feel of the game and how the player approaches the level. We believe that it has strengthened the player experience as the player now has to make choices based on which items to save and abandon, together with the sense of progress when being able to upgrade the grid size of the inventory, making room for more items.

The tablet, our menu system, is where the player keeps track of everything in the game. At first, our tablet was packed with different panels. But after some feedback we got the idea of separating the different menus into objects the player can interact with. Our tablet is therefore quite empty at the start of the journey containing only three panels (*inventory*, *building recipes* and *journals*). This gave us the possibility of adding a "Crafting Table", "Research Table" and a "Skill Tree Table" as interactive objects in the world. Instead of giving these tables separate interfaces, we decided to keep them in the tablet as an expansion of the normal panel when

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interacted with them. The "Research Table", which became a new system from this change, has helped keep our resource management in check as the player needs to research items to make recipes appear in the "Crafting table". This way, we now have better control over the items the player may obtain throughout the biome. This have made it easier to design a progressive path of new items to be presented to the player during the level.

These changes have made the tablet and menu system less overwhelming for newer players, while also strengthening the sense of progression as more opportunities appear in it as the game progress.

2.3.3.7 Visual Style
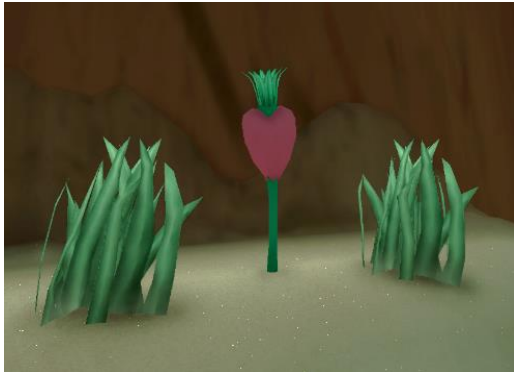
Survival games, such as "Rust" (Facepunch Studios, 2024), "The Forest" (Endnight Games, 2024) and "Ark: Survival Evolved" lean towards a realistic visual style so they can utilize believable surroundings to accentuate the intensity and the survival aspects of the gameplay. When considering the mechanics of our game and their impact on the visual identity, we decided to make the style cute and stylized. Since our gameplay is based on modified versions of systems that work in other games, it has been important to complement this with a unique visual style to provide a fresh experience. The target audience has also been an important factor in the development of the game's identity.

2.4. Target Audience

While cartoony styles are often associated with younger audiences, we find that this is a stigma that is not entirely correct. So, although the visual style of our game leans more towards *clean and cartoony*, there are elements that make it more suitable for a slightly older audience. If we look at *Jesse Schell's list of demographics based on age*, teens tend to seek competition and mastery or real-world problems and communication (Schell, 2015, p. 119). We have made a single-player game with a somewhat slower pace of gameplay combined with activities like planning and decision making. And since there is a darker moral undertone to the story, we think our game is

more fitting towards young adults. Hopefully, several other groups will find our game enjoyable, but we see elements in our game that will fit this target audience the best. Our game is suited for gamers who like to take their time, manage to take care of themselves regarding survival elements and enjoy exploration. In terms of style, our target audience should handle deeper and darker themes but prefer cute and endearing over dark and morbid.

2.5. Design Pillars

In addition to our three focus points regarding the player experience, we saw the value of five distinct design pillars as a guideline through the development. They have helped us see the gameplay as a whole and learn how to unify the mechanics in a holistic way. But why did we need them and how do they differ from our focus points? Some of them are similar to the focus points, but they are more specifically directed towards the aspects that the player interacts with the most. The focus points are *how* we want the player to experience our game, while the design pillars are the *gameplay aspects* that help us achieve this.

2.5.1. Dangerous environment

Since our game is a survival game, there needs to be something to survive. Both Zack Hiwiller and Jesse Schell bring up an example from "Half Life 2" where a graph shows that the number of deaths per level corresponds to an ideal interest curve. Based on this graph, they have concluded that the number of deaths in a level is an indicator of its challenge level, showing that the interest curve follows the challenge level (Hiwiller, 2016, p. 96) (Schell, 2015, p. 286). To be able to raise the challenge and the stakes for the player, there must be a failure state that threatens them. We have chosen the climate as the base challenge for the player. In the later stages of the demo, we increase the challenge by providing the player with less food and water, moving up in the terrain. We also played with the idea of falling, as we made the later areas harder to traverse. During our pre-production we developed ideas for wildlife (ex. a sand shark that hunts any player within its range)

as well as making the ghosts hostile. We decided to put this development on hold, while focusing on getting the climate to work on its own, making it interconnect with the environment. Wildlife would have helped the world feel more alive and dynamic, as well as giving more variation to the gameplay. We have plans for an "Animals and creatures" patch for the future.

2.5.2. Exploration

Adventure and exploration are natural contrasts to the survival parameters, as they make a threat to the player's health which needs management to survive. Our goal is for the player to explore and find new upgrades and resources to progress the story, but the survival elements limit the player's ability to do so. This encourages the player to be creative and make their choices matter. To reward exploration, we have placed new plants and upgrades in spots that require thinking. It is possible to go straight for the end goal, but it will be easier and probably more enjoyable to take the time needed to indulge in the agency to explore different areas at the player's own pace. As stated earlier, this is one of the main reasons why our game may appeal to a specific target audience and probably is not for everyone.

2.5.3. Building

The existence of the building system is based on the necessity of several other systems to function. It acts as a good contrast to the danger of exploration, which is required for the game loop to work as intended. The player needs this safe space to give agency to their playthrough. How much investment goes into building is dependent on the player, but we hope that the player will feel a sense of gratification and indulgence over their own creation and the safety that comes with it.

2.5.4. Sense of progress

As previously stated, the sense of progress is an important factor in survival games. We wanted to provide the player with frequent feelings of mastery and satisfaction as they accomplish new things, to keep their enjoyment and motivation up. By setting restrictions at the start, we can give a sense of accomplishment and progression when the player lifts these restrictions. By building stronger tools and with the use of the "Skill Tree Table" we accomplish this, giving the player positive feedback on its progress and opening new aspects of the game for the player to explore that can lead to further upgrades. This feedback loop helps direct the player's actions and drive them forward, as discussed by Zack Hiwiller (Hiwiller, 2016, p. 185).

2.5.5. Agency

Survival games are known for their "sandbox" elements which allow the player to indulge in what aspect they like the most. This way, the player is allowed to choose the way of playing the game that suits them the most. As a consequence, the player gets to feel a sense of ownership over their playthrough as it transitions into an individual journey.

As stated previously, we want to provide the player with options that make them take ownership over their own journey. This has been the most important factor going into this project as every aspect has been built with the intention of leaving the player with as much agency over their decisions as possible. This leaves the player with the freedom to do whatever they want to, within the borders of the game.

2.6. Story

Even if the lore of the world has been the baseline for the game to be made, the story itself has not been prioritized throughout the development period, although it was an important factor in steering the direction of the gameplay. Jesse Schell states that *neither the story nor the game itself are what matters, but it is the experience the player has playing the game that makes an impact*. He then continues to say that *stories and games are methods that can be combined to create greater*

experiences (Schell, 2015, p. 297), meaning that games can convey storytelling at deeper levels, where several factors play a part in the full experience.

Early in the project period, we had established the lore and some main story segments about the ancient civilization of Arídea that we wanted to tell throughout the game, to uncover more layers as the game progresses. In the same way as the market analysis and design pillars helped us unify the different aspects of the game, the concept of the story has affected the direction of the game in the way we have made the visual expression and how we have decided to tell the story in hidden segments.

The story that unfolds throughout the demo is largely told through three types of journals. In the desert, the player will find journal pages from Dr. Asher Stone that tell the underlying story and unveil what happened just before the player arrived. The player also has a personal journal that gets updated based on the player's activities and discoveries throughout the game, like a notebook. We have chosen to not include any NPC's or make big story events since we wanted to focus on the player's journey and the discoveries *they* make about the lore. But we wanted a background story as an incentive for the player to embark on their journey. We were not satisfied with a game consisting of only surviving the elements and gathering resources alone and believe the journal pages are a good way of delivering a concrete background story that gives the player a reason to play without handholding the player or taking away the focus from their journey. The third journal type will keep track of what the player is doing and experiencing, making a day-to-day summary that can be looked through by the player. This appeals to a certain type of player and will help them take ownership of their journey. Since our demo only provides one area without that many points of interest, we have decided to delay the usage of this feature until we have gotten some more areas for the player to explore.

The lore of the ancient civilization of Arídea and its downfall is told through hidden images that are revealed in the light of an Arídite crystal. We wanted to add these images to tell the history of the world and encourage the player to look for secrets and interpret the messages that are given, to build a story of their own. As the game progresses and new areas are added, we want to evolve the story, making the player question what they have interpreted. As for the demo, we will only make a brief introduction to the concept and believe this is enough for presenting the idea of visual storytelling to the player, preparing them for the grand story to unfold later in the game.

At the start of the game, there is a cutscene where a ghost is floating along until it sees the player and drops a crystal, revealing an Arídis plant. This marks the introduction of the ghosts and the Arídean elements, even if the player will have limited access to these features for a while. We wanted to show the player a glimpse of what lies underneath, to catch their interest from the start. This cutscene sets the mood for the game, as the ghost looks cute and a little silly, and gives the player the crystal that can reveal the hidden story and secret resources used further on in the game.

2.7. Level Design
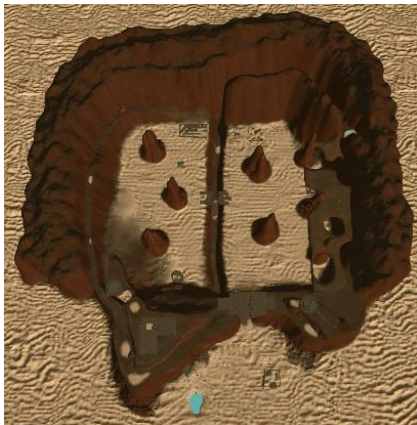
Since we have made a demo, the scope of the game may feel somewhat incomplete and restricted. Our goal for the full game is to have surrounding and intersecting biomes that the player can move in and out of, only restricted by conditions the player has not yet prepared for. These biomes will have their own visual styles, colors and plant life. As the demo only has one biome, we did not want the player to feel like this area was small and surrounded by nothing, so we added tall barriers to stop them from looking out into the void. This may have resulted in the demo feeling more restricted than what we planned for the game, but we decided that it was best to encapsulate the area at this stage.

Richard Lemarchand expresses the importance of *dividing a game into a beginning, middle and end part* (Lemarchand, 2021). We saw the significance of this when we made the area that introduces the player to the game. It was difficult to find a balance for the very start, as the player needs to start with nothing, but still be able to survive the elements long enough to progress further. We concluded that the player had to start next to some sufficient resources and an oasis to be able to stay alive, and lock the weather to stay cloudy for the first two days. We also found it important to provide the three different tables at the starting area for the player to know about their existence and start using them. This starting ruin also acts as a hub, where the player returns to deposit any Arídean key they collect throughout their journey, and end their journey when collecting the last key.

The relation between freedom and progression can be a hard balance. To be able to keep some control over the player's progression and which mechanics they have learned, we have divided the level into smaller areas, which require some progress getting into. Within each area, the player is given some space to explore and the resources they need to progress further. The later areas are not as big and open at first glance. We felt this was more important in the beginning of the biome, as the player is starting to learn the mechanics, which may take up some time and require more exploration to see the possibilities that lie within the map. The player will also be returning to earlier areas through shortcuts, meaning it was important to focus on the overall available space rather than each area individually.

We have given each area optional paths that lead to upgrades and resources that are helpful but not necessary. There are several ways to reach these areas, to further add to the player's agency. The player may jump through puzzles, fall from a higher point, or use the building system to make a path. These are important aspects for the freedom and exploration of the game to come through.

Studios known for excellent level design like "FromSoftware" (Choudhary, 2023) and "Team Ico" (Beham, 2021), often make the player see memorable landmarks in the distance that they later find themselves traversing, as well as being able to recognize faraway places they have already explored. This adds a sense of grandeur to the design as it lets the player see identifiable areas from different angles and lets them develop an inner map of the world and its scale. We have designed the level to achieve this effect by having ruins atop the mountains that the player can see from the oasis at the start of the game. The player is also able to locate the ruins in the lower areas if looking down when getting to the top. This also applies for bases the player builds across the map, making the view feel more personal.

When designing the level, we had to take the building system into account. We discussed if we should prevent the player from being able to build all across the map, but concluded that giving the player freedom is the best way of sparking their inner motivation. So, as the building blocks can be placed all over the map, another decision had to be made. We did not want the player to easily be able to build their way past areas or make silly shortcuts to later parts of the biome. We landed on that a level containing high mountains would fit the best for a starting area, since we wanted to gradually teach and encourage the player to use the building system as a way of traversing the map without exploiting the system, at the same time as this would give an impression of a large world our player is a small part of. To teach the player about their freedom we have added a segment where they must build a path over the gap of a fallen bridge, going from area one to area two of the biome. We therefore know that the player knows about the freedom of building when it reaches area two, leaving us able to play with this aspect of the game in this area, making available shortcuts if the player is willing to take them.

2.8. Art

As stated earlier, the visual design was an important focus area for the game's unique identity. Jesse Schell writes about *how the aesthetics of a game can shift a player's experience, as it draws*

the player into the world of the game to make it feel solid, real and magnificent by creating an atmosphere (Schell, 2015, p. 385). The visual design of our game is stylized, light-hearted and cute. We wanted this style so we could develop a distinct look that felt somewhat wondrous and appeales to a target audience who likes a relaxed experience with pleasant visuals.
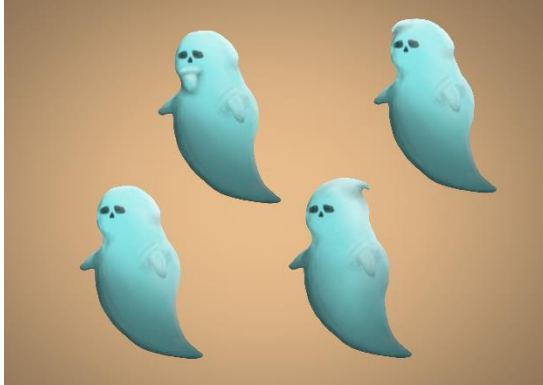

A lot of time was spent developing the visual style before any assets were made. This was a challenging process, as we are a small team with only 1 artist, who specializes in 3D animation. One of the first problems we met was the speed at which concept art was made, as our artist is not proficient with 2D art. We saw the need for a full conception process for the more central parts of the visual identity, such as ghosts and different landscapes, which took up a lot of time. But when started working on the 3D models (building blocks, machines, plants, ore veins and items) the phase increased as it was easier and faster to jump straight into concepting in 3D.
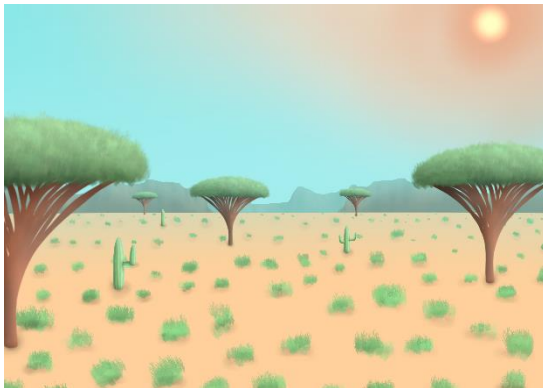
For the plants and the ruins, we didn't have time to make proper concept art. Instead, we tested out the use of AI (Krea (Krea, 2024)), since this (or similar programs) will become a tool that is important to grasp the essence of when working in the industry. We felt it was difficult to guide it into the area of the specific results we wanted, even if it can generate based on our design of shapes, images and colors. We learned that to be used properly, it requires a person who is experienced with visual design to evaluate each result and their usability for the specific project. We ended up with images that were helpful as general inspiration, but not for direct use in our game (see attachment).
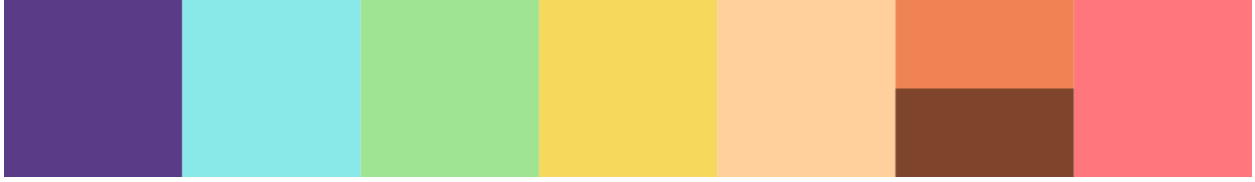
One of the first things we did was to create a limited color palette to develop the style of the game. The finished assets in the game stay close to this palette as it helps us unify the design through holistic color use. As the colors are one of the most central aspects of the visual design, we have reflected the style of the game through soft, yet vibrant colors.

We have chosen to use custom shaders for all materials, as this allows us to use the shader graph built into Unity Engine. This has enabled us to add visual elements and customize the look of the game on a much deeper level. Almost all materials in our game use Unity's default "lit" lighting as a base, but some materials calculate additional lighting on top of that to allow for a more stylized expression. Sand was one of the first shaders to be developed. It was important to spend some time creating this since it covers a large portion of the level and was a fundamental starting point for the outcome of the rest of the shaders, in its take on specular lighting. The sand uses randomized normal vectors for rougher transitions between colors and to have the light bounce off small points all over the material, resulting in a glitter-like effect. Similar methods have been used for other materials to give the specular highlights a dimmed glittery appearance. This strengthens the cute and light-hearted expression, as shiny and glittery aesthetics are often considered pretty.

Early in the production period it became apparent that we needed a custom skybox to fit with the aesthetics of the rest of the game. The skybox was an important factor in landing the aesthetics, as the player almost always has it in their sight. Since we have a day/night-cycle, the skybox is important to make the world feel alive as it fades between colors based on the time of day. The stars of the night sky have been designed to emulate the glittery specular lighting of the other shaders.

3.0. How has the game evolved?

The journey from idea to reality has been somewhat problem-free. We have had good communication and have been able to make hard decisions where this has been needed. During frequent meetings throughout the project period, the scope of the game, gameplay, mechanics and items have changed since the beginning of the project period. Some changes have been made based on the time constraint of the project, and some have been made as a result of our vision changing and which games we have looked to for inspiration.

3.1. Pre-Production

Our pre-production began as soon the school year started in august. We had talked a little during the summer and had some vague ideas of what the game could be. As an artist and a programmer, we have different fields we wanted to explore during the bachelor project, for our own sakes, and found a common ground with the concept for this demo. We both liked the idea of a desert setting with hidden components that the player could discover. We also liked the idea of a story that had several layers to it, where the player thinks they are doing one thing, but it later gets revealed that not everything is what it seems. This is an aspect we couldn't bring into the demo, due to time restrictions, but it has been a foundation that we have built the game on.

3.2. Prototyping
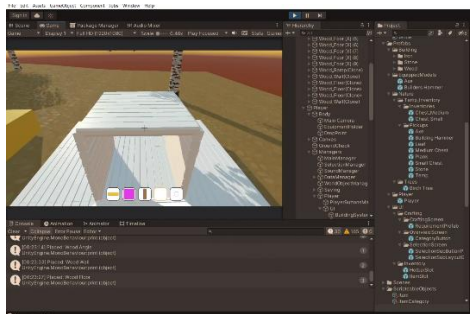
We did start prototyping from the get-go, which we have recognized as a mistake on our part. We should have used more time building the fundamentals of our game before starting to build assets and systems. Almost every element from this period has been reworked in one way or another, which is time we could have used more efficiently with a more developed in-depth plan and strategy from the beginning. But we did use this prototyping process to solidify our idea and make decisions based on how we saw the different systems develop and what we thought we were capable of creating.

We did use a lot of the time building assets for machinery and the building blocks for the building system, together with setting up the inventory-/ and building system. As we have progressed, we realized that the visual expression of the game had to change. At the start of the project, we looked more towards "Raft" as an inspiration, but some aspects have changed to be more directed towards "Subnautica", as we realized suited our game better.

3.3. Components

The structure of our game has been gestalt-oriented, where the parts of the game were made separately with no purpose without everything coming together. It has been a challenge working towards a goal without having the possibility of fully testing how one aspect works in relation to another. Making a game with this structure has been risky, but we believe that we have managed to make a demo that feels holistic with the different parts working together in a good way.

During several meetings throughout the fall semester, we got a good outline of how we wanted our demo to be, and what types of components we should include. Some of the gaming aspects were low-risk projects as we had looked at other games with similar approaches and analyzed them for our purpose. This is components such as the crafting system, which survival parameters to include, and how the item progression should unfold. Other aspects were high-risk projects regarding our own capability to make them and how they would work in relation to the rest of the game. This is components such as the building system, player inventory and making of the machines and the connection between them. This was a critical phase in the development process as it spanned over to the spring semester without any playable parts to test. Since a survival experience contains many different systems to appear believable, we didn't look at the feedback from this period with that much importance. Relevant sections appeared out of place without their counterparts, and for a time we became a bit unmotivated as it seemed too distant for us to be able to merge everything together in time. With a lack of an overview, we could not conclude if what we wanted to achieve would work.

3.4. Merging all together

But finally we got to the point where we could start combining the different parts and see the contour of our goal. Since we had done a solid job making an outline of the project, we did not stumble upon many roadblocks. During this merging portion, we communicated closely through Discord and meetups to make the result as fine-tuned as possible. Since we wanted to teach the player by using the environment, it was important that the layout was planned and executed accordingly. Before pushing a build for playtesting, we spent some time testing and checking that everything was built the way we wanted. This period was filled with debates about whether certain components should be included or not, and where they should be located on the map. Since the gameplay and structure now became apparent, this has been the period where we have had the largest deviation in our visions for the game, as our subjective notions have had time to grow and become individualized. This period has had its fair share of "kill your darlings", but for the most part we have managed to look past our own interests and land on decisions that we believe is the best for the game and the player's experience. Throughout the development we have used Github as our main program for merging our work, together with Discord for sharing progression and discuss thoughts regarding different parts of the game.

3.5. Testing, feedback, and corrections

Our last period has been used to gather feedback from friends and classmates. We have used this feedback to make minor changes and optimization, and focused on this rather than making new systems. According to the feedback we are now where we hoped to be at the start of the project, and we are quite satisfied with the result.

This last period has been crucial in finding the balance of the game. This includes survival aspects such as weather influence, the speed at which parameters drain, and bug fixes together with changing the map to become more intuitive for the player to learn and get involved in the more hidden aspects of the game. Since our game is a more slow-paced experience with a game time of

one to five or more hours, it has been necessary for us to get feedback from players that take a session or two with the game at their own pace. We got comments during the playtest day at the school that this game is not suited for more fast-paced testing in a noisy environment. We therefore took one extra week after the playtest to make changes based on the feedback we got, and built a proper playtest demo for the home audience. This made for more useful feedback which has resulted in many smaller changes in segments that we had not been able to find ourselves.

4.0. Learning outcomes

This was a massive project that we learned a lot from, both good and bad.

4.1. Improved skillset

Throughout this project period we have been facing difficult challenges in making the assets, level design, and in the code. As time has passed, our own skillsets have improved exponentially. This has resulted in a faster development cycle, making us able to produce at a higher level than what we did at the start of the project. What we estimated to be done in a week at the start of the project could be completed in a day at the end. This has also led to some challenges as the quality of our work has increased at the same speed, leaving earlier work to feel outdated and misaligned with how the project has developed. We have had the unfortunate situation of having to rework a lot of our previous work, since some parts have become incompatible with the project over time. Refactoring is an important part of any project, but now we have gotten to a level where we do not need to refactor based on poor planning or lack of structure knowledge, at the same degree. This has led to time loss that we would have liked to use on other segments of the game.

As an example, after spending almost a month on development, we had to rebuild the entire building system at one point later in the development period, since this was only manageable by us making it and not by play testers. Rebuilding the system has resulted in it being easier to use than the previous version, but it is still a little clunky at times. We have a plan for making this a smooth experience, but ran out of time before this could be implemented thoroughly. Going into

future projects, we now have the experience of the importance of refactoring, which has given us a more in-dept view on how a project is built and how we should manage our time in prototyping versus making the finished product.

4.2. Team Management

We have learned a lot about how to work in a team. We have had the fortunate situation of being only one designer and one programmer, which have made a clear divide in our responsibilities and made the work distribution clear from the start. As we approached the end of the project period, we have realized that the learning outcome would have been greater if we had been a double in size (one more designer and programmer). There are many aspects to being a larger group that isn't addressed the same way as with being only two, like workload management, merging the project and depending on others. If we were to do this project over, we had gone for a larger group size to get this experience as well.

But working in a smaller group also has its advantages. It has made it easier to get to a common ground regarding the different aspects of the game and the project process. We have heard of other groups dealing with challenges regarding walking in the same direction. This is easier to avoid with fewer people. As a smaller group we have not had any problems sharing our thoughts and getting our ideas out, as one talks while the other listens. We believe that the decision-making processes have taken less time and effort for us in a smaller team, since there are less variables to consider.

4.3. Pre-production & Time Schedule

Our greatest learning outcome has been regarding the importance of pre-production and time-scheduling. We started this project with an attitude that we knew what we wanted to do, and just started making assets and systems before having built a thoroughly worked out plan. This has led us to produce assets and code which didn't make it in the finished demo, and a lot of time has been used unnecessarily. It became February before we had our first in-depth meeting where we built a structured plan going forward and discussed the game in more detail. These meetings should have

been done way early on, and we realized this way too late. After making a day-by-day-plan we were finally able to predict and make decisions based on the deadline. This has made the last part of the production process much more organized, predictable and manageable as a team. We have been able to update each other about our progress and have much more control over the overall progress. Based on our estimates we were also able to set a definitive end to the project and decide what to include in the demo and what to save for later. This has helped us shape the project into a form we believe will feel authentic for the player.

Our respect for the pre-production and the importance of investing time into building a solid framework is our greatest learning outcome from this project. This realization has made us better designers and creators and has given us an important dimension to bring into our next project and/or job.

4.4. The art of over scoping

This bachelor project has given us a scope and direction in what amount of time and work a project of this scale is expected to require. As many before us, we did over scope our project at the beginning. Because of our scope, we have had periods with too much workload, which has resulted in a lack of quality in some segments. If we had a more concentrated game, we could have avoided this and kept the quality in every segment.

All our ideas for a complete game have made us rework the scope several times, which at a point left us wondering if there was any game left. But we have managed to rework the scope and change elements from the game to fit the development period. This is because of our modular structure, which was made based on the thought of a full game. Early on we sectioned the different parts of the game and what we wanted to include in those "packages", as we called them. Early on, we realized that we didn't have the time to make a full game, and since we had begun working on the first package, it was an easy task to cut out the later packages. As a result, we made our demo containing the first package, since this also included background systems which were crucial for a survival adventure game to work properly (like an item system, inventory, health, weather,

movement, pickups etc.). This has resulted in a foundation that is easy to expand upon in the future, and a scope for the demo we are satisfied with being delivered as our bachelor project.

As we have done our research, we have gotten the impression that it is normal to have a modular structure for game development, where new segments of the game get added in patches. If continuing the project, we have a plan of making similar patches, such as "animals and creatures" and packages containing "new biome with new resources, new ghost and new machines that uses those elements".

At a point in the production phase, we had to decide if we should implement all assts made (to show that we had them made) or if we should keep the scope as believable to a first level of a full game as possible. We decided that what is best for the player experience would be a more authentic experience, so we went for the latter. This has resulted in a demo with the progression of an introductory level, even if we have more assets and items ready for use.

5.0. Conclusion

We wanted to make a demo of a larger game that could challenge us as developers and deliver an experience where the player takes charge in the action of their own journey. We wanted to build a foundation for a survival adventure game where the player is taught through gameplay and environmental feedback as it gets invested through the loop of tension and risk followed by relief and satisfaction. Every decision we have made throughout this project period has been made with this in mind, and we believe that the result reflects our vision in a good way.

We have learned a lot through this project as developers. We have learned to work together in a team, working out an idea and making a product together that is playable. And based on the feedback given, we have made an appeal towards our target audience. Our skillsets have increased as a result of hard work over time, but it is the experience through wrong prioritization and poor execution that has given us the biggest learning outcomes.

6.0. Future thoughts

This bachelor project is intended to be a demo of an introductory area of a larger game. We have had to restrict a lot of our thoughts and ideas, but it was still useful to have the idea of what a full game might look like to help our development process towards a common goal.

The entrance gate to Arídea has five key slots. In the full game, the five keys would be placed across five major biomes with the introductory area being the first, smaller one. Each biome would have its own theme with unique challenges for the player to overcome, with smaller biomes intersecting the larger ones. We would remove the tall mountain barrier around our current level and let the player roam freely in between the biomes. This would add agency and freedom to the gameplay by letting the player choose their own path. However, the different biomes would be restricted by different challenges that will need different solutions and progress by the player.

The elemental ghosts would play a much bigger role in the larger scale of the full game, as they would be mandatory to acquire new items and survive the challenges of the new biomes. There would be many more machines in the game that would need to be powered by the elements extracted from the ghosts. The player would continue their clear progression as they unlock more machines and find new types of ghosts. The first area of the game focuses on upgrading tools and finding easier ways to gather resources. After the first level of the game, the focus shifts towards the machines, with the resources as a base line for producing new materials to use for new crafting recipes, unlocking other aspects of the game. The player would also gain a greater arsenal of choices for their playthrough and for the building system, which would become an even more central part of the gameplay. This would reinforce the game loop as the added tension and risk of the new biomes are balanced by the potential safety of the player's bases.

We initially wanted to have combat and enemies in the demo, but we had to cut them due to time constraint. In a full game, ghosts would be hostile with fair warning to the player when they decide to attack. We would also add other enemies as well as friendly animals throughout the different biomes, all with unique alien characteristics. This

would add new sources of resources, and spark the life of the world, making it feel more dynamic. It would greatly improve the game loop as it would add different elements the player needs to survive and adds onto the progression as there would be a whole new aspect of the game to upgrade and discover.

Some of the biomes would be much larger and warmer than the current level. Thus, we would add vehicles the player could unlock in the later stages of the game to traverse the biomes quicker and safer, eventually even allowing them to act as small mobile bases for the player containing chests and heat regulation. If this is not done right, there is a chance it could break the game loop by removing the challenge of the game. But if it is implemented in a good way, it could be a major upgrade that would greatly boost the player's sense of progress and the possibilities of their choices. However, the game loop would need to be held intact by enemies and new challenges for each new biome.

The demo only gives an approximation of how the story could be told. In a full game, the player would keep finding journal pages that eventually unveil that the mentor you have been following and searching for has questionable intentions for his findings. This would add character development that signifies the player's progression and opens for a choice of joining him or stopping him at the end. We have made the implementation of voice acting support for the text written in the journals, for a more immersive experience, and have thought of a personal gallery that will appear in the journals left by your mentor. The lore would unveil the downfall of Arídea's past through the images being bigger in scope and more revealing in its appearance throughout the game. It will be revealed that the ghosts which are roaming across the desert, that the player collects and extracts the element of in the use of their machinery, in reality is Arídean citizens in ghost form, who get their life force sucked out by the player. This will tie into the shadiness of our mentor at the climax of the story.

7.0. References

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