

Arídea: The forgotten desert

A Bachelor Report



May 14, 2024

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Table of Contents

[1.0. Background 3](#_Toc165597327)

[*1.1. What our projects is all about* 3](#_Toc165597328)

[*1.2. What can be expected from a playthrough of our demo?* 4](#_Toc165597329)

[*1.3. Theory and Research Statement* 5](#_Toc165597330)

[2.0. The Concept 7](#_Toc165597331)

[*2.1. The identity of the game* 7](#_Toc165597332)

[*2.2. Goals* 9](#_Toc165597333)

[2.2.1 Team goals 9](#_Toc165597334)

[2.2.2. Goals of the game 10](#_Toc165597335)

[*2.3. Market and game analysis* 11](#_Toc165597336)

[2.3.1. Is there demand for another survival game? 11](#_Toc165597337)

[2.3.2. Common characteristics of successful survival games 11](#_Toc165597338)

[2.3.3. How is our game unique compared to other games in the same genre and how does it approach the desired player experience? 13](#_Toc165597339)

[*2.4. Target Audience* 17](#_Toc165597340)

[*2.5. Design Pillars* 18](#_Toc165597341)

[2.5.1. Dangerous environment 18](#_Toc165597342)

[2.5.2. Exploration 18](#_Toc165597343)

[2.5.3. Building 19](#_Toc165597344)

[2.5.4. Sense of progress 19](#_Toc165597345)

[2.5.5. Agency 20](#_Toc165597346)

[*2.6. Story* 20](#_Toc165597347)

[*2.7. Level Design* 22](#_Toc165597348)

[*2.8. Art* 23](#_Toc165597349)

[3.0. How the game has evolved 25](#_Toc165597350)

[*3.1. Pre-Production* 25](#_Toc165597351)

[*3.2. Prototyping* 26](#_Toc165597352)

[*3.3. Components* 26](#_Toc165597353)

[*3.4. Merging all together* 27](#_Toc165597354)

[*3.5. Testing, feedback, and corrections* 27](#_Toc165597355)

[4.0. Learning outcomes 28](#_Toc165597356)

[*4.1. Improved skillset* 28](#_Toc165597357)

[*4.2. Team Management* 28](#_Toc165597358)

[*4.3. Pre-production & Time Schedule* 29](#_Toc165597359)

[*4.4. Over scoping* 30](#_Toc165597360)

[5.0. Conclusion 31](#_Toc165597361)

[6.0. Future thoughts 31](#_Toc165597362)

[7.0. References 32](#_Toc165597363)

# 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 designer and one programmer and the main goal for this project has been to make a Survival Adventure entertainment game demo for PC.

With this bachelor project we wanted to achieve making a playable demo (first area) of a bigger Survival Adventure game. Our production goal have 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 to a desert region where *heat* and *water* plays a big part in the surviving 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 and take control over its own journey through 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 and Starsand, 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 grown up target audience. Our game is milder in tone and are focusing on the survival and resource gathering 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 and see if we were capable of making a credible experience in the time of the bachelor project with our limited resources. We have taken inspiration from games in the same genre, like “Subnautica”, “The long Dark”, “Raft” and “Vallheim”, but we wanted to make our own twist to the formula. Our hidden elements, like the elemental Ghosts, Arídian items and the way we want to tell the lore of this world, with hidden images in ruins across the Arídian Desert, makes for a different approach to the player experience than what of games in the same genre. We liked the idea of this 4 dimensional space-interaction where remnant of past and future combines with ancient technology.

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

Since this is only the first level/area of a bigger game, and we wanted to stay true to the progression pace as if it were the start of a game development of a full game, every aspect of the game only get their introductions in our demo. The bachelor project must therefore be looked at as an introduction, or tutorial, to core concepts 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 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 it want to rush through the demo or use time to explore before moving forward.

Our demo has a definitive and logical end where the player gets and have placed the first of five Arídian keys in the entrance to Arídia. This Journey makes the introduction to the game and have given the player an introduction to the core aspects of the game, being ready to take on the rest of what this world have to offer. At the end of the demo, we want the player to be familiar with the environmental influence on its health. We want to guide the player in a direction for it to survive, in a way so that the player feels that it is its own discovery, to increases its motivation to keep playing. We want to reward the player for exploring the map by giving rare items and shortcuts, to spark a curiosity in the player and make an expectancy for the areas to come. We also want the player to know the concept of building and that it is encourage to build all over the map to either reach inaccessible places or to make shortcuts. We want the player to use the option of building as a way to “terraform” the map, make shortcuts for itself and get ownership of the world. At last, we want the player to get a slight introduction to what is the identity of or full game: the Arídian aspects (what is hidden), with the elemental Ghosts as the front figure. We want the player to sense that there are more to this world than what meets the eye, and make curiosity regarding the existence of the ghosts, which most of the time are irrelevant for the player in the demo, but will have a central part in being able to finish the full game.

We want to gradually expand the influence of Arídian elements throughout the full game, and agreed early on in the production that this meant we couldn’t bring everything we wanted into the demo. The development of wonder for the player about what Arídian 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 get time to grow. Therefore, depending on the player, it may overlook these elements throughout its gameplay of our demo. But there are ways to open the world to Arídian elements for players that take their time and pay attention to details.

## *1.3. Theory and Research Statement*

*“Video games are complex systems and ideological worlds that invites the player in”* - (Squire, 2011, s. 21).

Going into this project we wanted to make a gaming experience that challenged the player to take action toward its own approach to its journey. We also wanted to make a game containing segments of risk-taking and relaxation. We have therefore formulate a research statement as follows: “*how to make an open gaming experience where the player is in charge of its own progression and get invested through the 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 it can take charge of its own actions and eventually its fate in the game. Instead of forcing the game upon the player, we wanted the player to choose its 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 taking into account the feedback from the players’ investment in the gaming experience itself (Squire, 2011) which support 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 making of our level. Our level is big and empty, which exposes the player to danger when it is in search for resources. It is a necessity for the player to act fast and making a strategy for surviving the environment when it is “out there”. On the opposite side of the spectrum, after traversing the field, the player comes back to its base (or starting area) where it is more safe and are using the resources gathered to advance itself to make the next traverse more easy to manage. 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: *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 its own story. And by introducing strange elements (elemental Ghosts and 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 wanting to stay in the activity.

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 which the player always must take into consideration. Our game feature a lot of menu maneuvering, together with controls, pickups and interactions with trees, plants and ores. Provided by sounds and outlines we try to teach the player what 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 its fate into its own hands and face the consequences of its 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 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 is something we want to present to the player gradually throughout the game. Our hope is that the player changes its perception of the gaming world alongside its 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 what the player is doing with them is morally questionable or not (Prensky, 2006).

# 2.0. The Concept

## *2.1.* *The identity of the game*

Arídea: The Forgotten Desert is a light-hearted survival adventure game with a darker undertone, where you explore to gather resources and new upgrades before returning to the bases you build to survive the harsh desert, all while trying to open 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 legs. The mechanical identity of Arídea: The Forgotten Desert was largely developed through analysis of similar games and studies of game design. The visual identity is strongly tied to the gameplay and the target audience.

A unique visual style can be important for a game to stand out, and it is a necessity for us if we want our game to have commercial value, since we are a small team with no prior following or reputation. Even though players might not interact with ghosts until they have played for a bit, they are still an important part of the game’s identity. Their style is very simple, yet cute and recognizable, and they are central to the story, making for a great mascot for the game. The overall visual style is also quite cute, colorful and unique for the genre so that it can stand out from similar games.

The game loop consists of exploring to find resources and upgrades, and building bases with machines and equipment to survive the desert. The gameplay is characterized by its survival parameters (especially the temperature resistance meter), the crystals that reveal hidden things, 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 the most. 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 says that fun is synonymous with learning and games need to have fair challenges that the player can learn how to overcome (Koster, 2013, p. 46, 38). So, we have made a game that challenges the player by giving them various mechanics to learn and challenges to overcome. However, not all of them are as prominent as they would be in the full game since we have only made a demo of the introductory area. One could argue that making a demo of a later area and dropping the player into more comprehensive gameplay would give a more holistic experience, but it would also be much more overwhelming and likely less enjoyable due to the lack of introduction to the mechanics. It would also require much more work from us as developers and raise our workload far above what it currently is for an already ambitious project. While some of these mechanics are typical in similar games, we have tried to establish them in ways that feel unique, such as adding twists or incorporating the distinctive and recognizable parts of the alien world into the gameplay. For example, by making glue plants a main component in building bases. 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 development itself.

### 2.2.1 Team goals

Early on 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 have agreed upon. We did also use tests from the “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 did land on the idea of our demo, as the project period time was 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 when we realized that we had over-scoped. This has lead to a larger planed game than what is presented in the demo, which is easy to expand upon further. We agreed that what is most important is for the game is for it 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 focusing on the core mechanics of the game and made sure that we have worked on the same segments together, finishing bit by bit.

As we have worked towards a long-term goal, we have been using the modules to section the project into short-term goals. First, we used the pre-production to get to know each other and

### 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 ingredients to the player’s subjective experience and the value it gets out of it. She continues with the *rules* as a constraint towards reaching the goal, with the *feedback* as essential for the player of knowing how far away from the goal it is. And last, the *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 entrance to Arídia: to gather the keys to the entrance gate. The way we have decided to deliver this goal is by a player journal where the goal is displayed together with a story description. We have also tried to make the environment signals to the player why it is there and what its main goal is. The entrance do have 5 key holes, which set the time 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 more short-term perspective, the goals of the player is to survive the environment and get deeper into the region. This includes gathering resources, researching them for making new crafting recipes, building bases, and upgrade its abilities from the “skill tree table”. The order of priorities it’s up to the player, but this is all goals the player need to reach to complete the game.

In a survival adventure game like this it is encouraged for the player to make it own goals as well as the game’s, to fill the journey. This can be all from building a second floor to its base, to build a crop plot farming system. As game developers, this is goals we cannot control, and are dependent on the playstyle of the player. Our game shines if the player is capable of making its own journey, and therefore our game has a distinct target group.

## *2.3.* *Market and game analysis*

Jesse Schell states that a game designer’s most important skill is to listen. 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). So, we started this project by analyzing the survival genre, and constructing our game based on players’ interactions with other games of the genre.

### 2.3.1. Is there demand for another survival game?

The survival genre is very popular, and it has been for a long time. This brings challenges to new games trying to enter the market, but it also opens some doors. A new game will need a unique identity to be successful, which can be hard to find as it will also need to fit into the demands of the market. As humans, our creativity cannot create anything truly original, but we combine concepts and memories to make new ideas. So, we can be mindful of what concepts we combine by analyzing the market and incorporating elements of games that have already been proven to work, but include new components and twists to create a unique identity.

The fact that survival games are popular means that many games have been made in the genre, which means that any new game will have many competitors and could have a hard time standing tall next to other games that are firmly established. However, it also means that there are many players who enjoy the genre, so there are many potential customers. Another thing to note is that games are consumer goods, meaning there will always be players looking for new experiences. When they get tired of playing a game, they will likely look for something new and refreshing, but still within the same genre or style. We have analyzed successful games of the same genre, and we will create a unique identity for our game while staying true to what makes survival games effective.

### 2.3.2. Common characteristics of successful survival games

In order to make a strong survival game, it is helpful to analyze successful games of the same genre. This will give us an idea of where we need to put our focus and what we need to make sure that we do well. The most obvious likeness across survival games is the management of survival parameters, such as thirst and hunger. However, for this analysis we want to go deeper than mechanics. Jesse Schell clarifies that the game is not the experience, but it enables it, so we must go deeper than the game itself and analyze players’ interactions with games (Schell, 2015, p. 11). We have looked for experiences that survival games give to their players. There are many ways we could draw conclusions from an analysis like this, but we have chosen to narrow it down to three concepts we see in other games of the genre that we will focus on for our game.

The first of the three concepts is that the player has a lot of options and a choice of playstyles. There is a sandbox element to survival games that gives the player control over 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 says 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 different features and mechanics that go together in such a way that it allows players to choose what part of the game they want to spend most time with. They allow players to steer their playthrough in a direction they want to go. For example, in Valheim the player can choose to spend time with an intricate building system, but the game also incentivizes exploration and adventuring, and it offers an intense fighting mechanic with a variety of weapons to choose from. In Minecraft, the player can choose if they want to build large epic castles or intricate detailed houses or just build a simple hut so they can spend more time mining or adventuring. Many survival games have a building system, which strengthens the feeling of control as it gives a strong sense of ownership and satisfaction, both in the result of the player’s creation and the experience of creating it.

Games have clear progression as you spend time playing them, and this is especially prominent in survival games as they often make you start with nothing, and one of the main goals of most games in the genre is to build up your arsenal and survival capabilities. Zack Hiwiller says that a clear set of goals and progress is a condition for achieving flow (Hiwiller, 2016, p. 87). As discussed earlier, the state of flow needs balanced challenges for the player to overcome, but such challenges will require goals to accomplish. And so, a big part of achieving flow is riding the satisfaction of progressing towards the next set of goals. The progression in survival games frequently gives the player feelings of mastery and triumph. After playing for a bit, the player can usually look back to where they were and feel great satisfaction over the progress they have made. In Raft the player starts on a few planks with nothing but the trash that drifts through the ocean. However, after they have played the game for a while, they can build a large boat with engines and machines and even farm animals. In Ark: Survival Evolved the player starts with nothing in their inventory, but can later build bases, tame dinosaurs and acquire firearms.

The last of the concepts is related to the game loop. Many survival games contain a 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. This is one of the best ways of making decisions interesting, according to Zack Hiwiller (Hiwiller, 2016, p. 113). For example, In Subnautica the player’s bases are safe and contain oxygen to breathe, but the player must leave for the dark and scary world to progress the game. But when the player returns to their safe haven, they can lower their shoulders and finally relax before they need to leave again.

The concept of survival games can appeal to our core as humans because they make you rely on yourself as you survive, advance and expand your competence and dominance. To allow for this, a survival game usually needs to have many features that complement each other to make a solid experience. So, we have picked out these three aspects of the player’s experience to focus on, to help us tie the mechanics together: control over one’s own experience, clear progression and a loop of tension and risk followed by relief and satisfaction.

### 2.3.3. How is our game unique compared to other games in the same genre and how does it approach the desired player experience?

For a game to be successful, it needs a unique identity. In order to create one for Arídea: The Forgotten Desert, we have analyzed the gameplay and design of other games to see how we can differentiate our game from them. We can then use this analysis to build distinctive features to further create a unique identity and a comprehensive experience that encapsulates both gameplay and visual style.

The most prominent mechanics of our game are the survival parameters, crystals that reveal hidden things, the resources and upgrades you can get through adventure and exploration, and the building system. So, let’s dive deeper into how we have crafted these and some more mechanics to create a unique experience:

The intensity and severity of survival parameters vary from different games within the survival genre. We have tried to balance our game to a point where management of the survival aspect is an important part of the experience, but it also leaves enough room for and incentivizes adventure and exploration. Many games contain water where the player has a limited amount of breath while submerged. In Subnautica, this has been turned into a major mechanic as the player needs to manage their oxygen to survive. We have a similar mechanic, but we have reworked it to function as temperature tolerance instead of oxygen. The concept of temperature as a parameter for the player to keep track of has been seen before in games like The Long Dark or Skyrim’s survival mode, but not often as a main mechanic in the way we are presenting it. This also makes the desert a natural setting for the game to take place in, and there are not a lot of big survival games that take place in a desert. Now, we have only made a demo of the game’s introductory area, so this mechanic is not as prominent as it would be later in the game, where there would be longer distances and warmer biomes. Overall, such a mechanic can contribute to our game’s unique identity, as well as accentuating 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 a safe space. It also gives a clear sense of progression because the player is able to survive longer in extreme temperatures as they upgrade their arsenal.

The mechanic of crystals that light up and reveal ghosts, objects and symbols has not been explored in many games, especially not 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. This could have been utilized later in the game with bigger parts of ruins that are revealed in the light and jumping puzzles that require it, but we didn’t feel that it fit into the introductory area and were afraid that the range of the light would need to be too short at the beginning of the game. The crystals and ghosts have been developed to have a simple and recognizable visual design, making them easy for players to grasp and remember. This, alongside the desert setting, are strong components of the visual identity and the story.

Adventure and exploration is a big part of many survival games, so to put our own spin on it, we put the game in an unfamiliar setting in an alien world. This is most prominent in the plant-life, technology and the ruins of the ancient civilization. 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). So, a completely unknown world incentivizes exploration, but also carefulness, to strengthen immersion as you don’t know what could be around the next corner. It also allows us to make a more unique visual style and identity, as we get to shape the world how we see fit. This gives the player more agency, as it accentuates the risk-reward decision-making of exploration. There is also a clear sense of progression to the exploration since different resources and items are available at different parts of the game. And it is a central part of the game loop, as exploration and adventure is in this case synonymous with tension and risk. We have also intentionally added a little bit of randomness to the exploration through the drop rates of some resources. This type of output randomness can create engagement, as good results feel satisfying when you know there is a chance of bad results. In our case, it becomes a light form of gambling without extreme costs or consequences. However, it is important to regulate the randomness in a way that feels good for the player. We initially had too much of a gap between minimum and maximum drops, resulting in the minimum amount feeling too low and the whole system feeling annoying rather than the maximum amount feeling rewarding. So, we made the gap smaller and the system felt better. One could argue that this randomness is so small in the grand scheme of the game that the unpredictability is not enough to impact the game’s ability to stay interesting, but it does add a dynamic element that the player might need to adapt to, which means they need to stay mindful of their activities.

The building system is an important and unifying mechanic, as it provides shelter from the harsh climate to varying degrees based on the building material used and it gives a place to drop off resources and build machines that will help you in your further travels. One of the big decisions we had to make with the building system is whether the player should build whole rooms, like in Subnautica, or smaller pieces that can form rooms, like in Raft. While the former would be easier for the player and allow for much faster building to give more room for the other parts of the game, we concluded that the latter was a better fit for our game, as it gives the player more control and puts the experience in their hands to a bigger degree. The building system in our game is a central mechanic for all three of our focus areas for the player experience, as the player gets to choose how and what they build, there is a clear sense of progression in the size, content and material of the base, and it acts as a safe haven and a counter-part to the danger of exploration to allow for the desired game loop. And although crop plots to grow plants are the only machines in the demo of the game, there would be more later, such as an extractor to obtain water from ghosts. This means players could build a safe space wherever they want if they have the necessary resources and upgrades, which would be necessary to survive in later areas. This would tie the different aspects of gameplay even closer together and put the experience in the player’s own hands.

Most games have elements of multiple genres, and survival games can often contain elements of role-playing games. However, while some survival games have skills, like Conan Exiles or The Long Dark, there are not many that have branching skill trees. We have implemented skill trees in our survival game as it can accentuate the freedom of choice and give the player more control over their own experience, and it also gives a clear sense of progression. The reason this is not used in many survival games is probably because it can be elaborate and complicated to plan, so it is easier to go with a compromise of having a linear skill system, which can also be easier for the player to grasp. But we believe that skill trees help push the uniqueness of our game, while fitting well with the player experiences we want the game to have.

To start off, we had a bigger inventory with the ability to stack items of the same type in one slot, like in Raft or Minecraft. However, we saw that our game was more about exploring to find resources and being smart about how you use them, rather than a constant flow of intake and usage. Therefore, we saw a necessity for a different system, which would make the player more conscious of their inventory space. So, we changed into a system closer to what is seen in Subnautica, where items don’t stack and some of them take up multiple spaces. This strengthened the player experience as the player now has to make choices to manage their inventory, and it makes the sense of progression feel stronger as the player upgrades their inventory space.

After the first test of our game, some of the feedback we received was that the menus felt overwhelming. This was partly because it was a very early, unfinished version of the game, but we still saw value in the feedback and understood that the player needs to start with empty menus, so we can introduce things to the player as they go. At this point, we had already planned to have blueprints that unlock options for the building system, but we also saw the necessity of a research table that gradually unlocks recipes for the crafting table. This feature can also be seen in other survival games, such as Raft. This change makes the crafting menu less overwhelming for newer players, while also strengthening the sense of progression as more opportunities appear later in the game.

Many survival games, such as Rust, The Forest and Ark: Survival Evolved lean toward a realistic style, so they can utilize believable surroundings to accentuate the intensity and the survival aspects of the gameplay. Considering the mechanics of our game and their implications on the visual identity, as well as the necessity of unique design to stand out, we decided to make the style cute and stylized. While the gameplay has unique elements that contribute to the identity, it is still mostly based on modified versions of systems and rulesets that work in other games, so it is important to complement it with a unique visual style for the game to be able to stand on its own. The target audience is also 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 is 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). But we have made a singleplayer game with a somewhat slower pace combined with activities like planning and decision making. And there is a darker moral undertone to the story, more fitting of a mature audience. So, our game is generally a better match for 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 in regard to survival elements and enjoy exploration. We imagine this game is perfect for someone who is fairly new at their job, who comes home after work and wants to relax and take a break from the real world. In terms of style, our target audience are okay with deeper and darker themes but prefer cute and endearing over dark and morbid.

## *2.5. Design Pillars*

In addition to our three focus areas of the player experience, we saw the value of expanding upon them with five design pillars. They help us see the gameplay as a whole and learn how to unify the mechanics. But why do we need design pillars and how are they different from our focus areas of the player experience? Some of them are the same or at least very similar to some of the focus areas, but they are more specific to the particular aspects of the gameplay that the player will interact with the most. While the focus areas are how we want the player to feel and experience our game, the design pillars are the aspects of the gameplay that help us achieve that.

### 2.5.1. Dangerous environment

The game at its core is a survival game, so there needs to be something to survive. Both Zack Hiwiller and Jesse Schell bring up an example of a graph from Half Life 2 where the number of deaths per level roughly corresponds with an ideal interest curve. From this, they suggest that the number of deaths is an indicator of the challenge level, which is connected to the player’s flow (Hiwiller, 2016, p. 96) (Schell, 2015, p. 286). To be able to raise the challenge level, there must be a failure state that threatens the player. In our case, this is the climate of the environment and its hold on the needs of the player. In the later stages of the demo, we raise the challenge, and thus also the interest, by giving the player less food and water. We initially wanted to scatter some enemies around and have the ghosts be hostile, but we had to cut this and focus on the survival aspects for danger, as we didn’t have time to make enemies and a combat system. This would have helped the world feel more alive and dynamic, as well as giving some more variation to the gameplay. Either way, the environment of our game needs to be dangerous to complete the game loop, so we have focused our efforts on the survival parameters and how they interconnect with the environment.

### 2.5.2. Exploration

Adventure and exploration are natural contrasts to survival parameters, as they clash in a way that makes the player need to manage their choices to survive. The goal is to explore and find new upgrades and resources that progress the story, but the survival elements limit the player’s ability to do so, resulting in gameplay where the player can be creative and their choices matter. We have strategically placed new plants and upgrades in a way that rewards exploration. It is possible to go straight for the end goal, but it will be easier and probably more enjoyable to take your time and indulge in the agency to explore different areas at your own pace. This is one of the ways our game appeals to a specific target audience and perhaps isn’t for everyone.

### 2.5.3. Building

The building system is a very central and unifying part of the gameplay, as its existence is based on necessity from several other systems which rely on it to fulfill the experience. It acts as a good contrast to the danger of exploration, which is required for the game loop to work, since there needs to be a safe place for the player to return and manage their resources. This safe place needs to be built by the player, to give them agency over their playthrough. They can choose for themselves how much time they want to spend building, but hopefully they will feel a sense of gratification and indulgence over their own base. This again comes back to the target audience and how the game is made for players who like to take their time.

### 2.5.4. Sense of progress

A sense of progress is an important factor in survival games and our game is no exception. We want to provide the player with frequent feelings of mastery and satisfaction as they accomplish new things, to keep their enjoyment up. We want the player to look back to when they started and feel like they have grown significantly, to boost their satisfaction. The player can upgrade their character through skill trees to help them survive or just to make certain tasks feel better. By starting with certain mechanics being slightly annoying, we can allow for upgrades that feel natural and rewarding, but it is important to not start too upsetting, or it might feel haphazardly constructed. As the player explores the world, they will reach new areas and find new resources and upgrades that will help them get better tools and machines. Thus, we create a positive feedback loop that results in constant progression, as new resources turn into upgrades that help you get access to new resources. This feedback loop helps direct the players 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 and how they allow players to indulge in the parts of the gameplay they like the best. By virtue of having many elements come together to create the full experience of the gameplay, the player will be able to choose how they use the features to ensure their experience is tailored to them. This also allows the player to feel a sense of ownership over their playthrough as it becomes an individual story. We have tried to put control into the player’s hands through various means. There are skill trees with branching paths that ensure the player not only can but must choose how to spend their resources. We are forcing the player to make choices in order to make them feel a sense of ownership over their playthrough. The building system allows for creativity and individuality which leads to a feeling of ownership as well as satisfaction. The level design is constructed in such a way that the player can, at certain points, choose whether to go the long way around or build a shortcut. It is also made to have some areas that are not in the player’s direct path of progression but will still help them progress if they choose to go there. This means the player can choose where they want to go and what they want to do and allows them to play at their own pace. Although this design pillar in general is not as prominent as it would be in the full game. There would for example be multiple biomes surrounding the current level, which would be open for the player to enter and explore at their own will and pace. You would also gain access to more machines and would have to choose how to spend your resources even more. However, the scope of both the landscape and the items have been restricted for the demo to ensure it doesn’t feel rushed or overcrowded.

## *2.6. Story*

The story was not a major focus throughout the development of this game, but it was an important factor in steering the outcome. Jesse Schell suggests 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). So, we wanted to establish a story for the game and lore for the ancient civilization early in the project, as this would influence every part of the game and unify the experience. Much like how our market analysis and design pillars helped us unify the different aspects of the game, so did the story as it made sure the gameplay and the visual design were tied to the same narratives and themes.

The story that unfolds throughout the game is largely told through three kinds of journals. Throughout the desert, the player will find journal pages from Dr. Asher Stone that tell the underlying story of the game and unveil what happened just before the player arrived. The player also has a personal journal that will be updated based on the player’s activities and discoveries. We decided early in the project that there would not be any NPCs or big story events as this would cost a lot of time and effort that we would rather use for other things. So, we made these two journals to guide the player through the game and make sure they have incentive to keep playing, as we did not think merely finding resources to survive would be enough incentive on its own. We found it important to direct the player without holding their hand, so it doesn’t feel like they have a tutorial through the whole game. The third journal is supposed to give stats of the playthrough to tell the player’s personal story. This appeals to a certain kind of player and can help them feel ownership of their playthrough. However, we did not have time to implement these stats, but the functionality for the journal is there.

The lore of the ancient civilization of Arídea and its downfall is told through hidden images that are revealed in the light of Arídite crystals. We felt it was important to add these images in every ruin and tell a story to give the mechanic room to add to the unique identity of our game, both in terms of its story and the gameplay. But in the introductory area, they give more of a general account of the ruins, whereas the grand story of Arídea and its downfall would come later in the game.

Early in the game, there is a cutscene where a ghost flies along and drops a crystal. We had planned for this to be in the game long before we implemented it, but we understood the necessity of it when testers said it was hard to understand the significance of the crystals at first. It is quite an important factor to introduce the player to central parts of the game, as it shows that ghosts exist and that they disappear away from the crystals. It also sets the mood for the game, as the ghost looks cute and a little silly.

## *2.7. Level Design*

Even though we have tried to create as full of an experience as we can, the level design is incomplete and restricted due to this being a demo of only the first area. In the full game, the current level would be surrounded by different biomes that would be open for the player to explore as they see fit, but still with balanced restrictions in regards to progression and surviving their challenges. However, we did not want the player to feel like the area of the demo is small and surrounded by nothing, so we added tall barriers to stop them from looking out into the void. This could result in the area feeling even more restricted, but we felt it was more important for the world to not feel completely empty as that could feel jarring and more incomplete.

Richard Lemarchand expresses the importance of dividing a game into beginning, middle and end (Lemarchand, 2021). We saw the significance of this as we understood that we needed to find smart ways to introduce the player to the mechanics of 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 long enough to progress. So, we concluded that the player needs to start next to sufficient resources and an introduction to the functions of what the bases they build can contain by giving them three tables in a ruin near the start. This ruin also acts as a hub where the player returns to deposit any key they collect, thus clearly showing the player their progress and, in the case of the full game, how much is left of the game.

The relation between freedom and progression can be a hard balance to find as parts of the level need to be locked behind progress requirements for the progression to feel natural. To solve this, we have divided the level into smaller areas. Within each area, the player is given some space to explore and the resources they need to progress. The later areas are not as big and open, as we felt this was more important in the beginning of the game, since the player will keep coming back to earlier areas, meaning we can focus on the overall available space rather than looking at each area on its own.

We have given each area optional paths that lead to upgrades and resources that are helpful but not necessary. Some of these areas can be reached through different methods, to further add to the player’s agency. There are also places made for the player to be able to build shortcuts to later areas, opening more possibilities and options for playstyles and paths. All of this is important for the freedom and exploration of the game to come through.

In renowned games by studios like FromSoftware and Team Ico, who are known for excellent level design, the player can often see memorable landmarks in the distance that they later find themselves traversing, as well as being able to recognize faraway places they have already been to. This adds a sense of grandeur to the design as it lets the player see identifiable areas from different angles and sets the scale of the world. We have implemented this by having ruins atop the mountains that the player can clearly see from the start of the game, as well as ruins in the lower areas that they can look down on when they get to the top. In our game, the player’s personally built bases will also act as landmarks with even greater effect, as it will feel more personal to the player.

When designing the level, we needed to take the building system into consideration, as we didn’t want players to be able to easily build their way up to the later parts of the game. But we did want the building system to be a part of the progression of the level design to assert its importance and centrality. Therefore, we have added parts where the player must build across a gap to progress. Early in the development stage, we discussed if we should stop the player from being able to build to the top of the mountain by adding a max height that would gradually get higher with better building resources. However, we concluded this would be too much of an infringement on the player’s freedom and we instead increased the verticality of the level, which retained the freedom while inadvertently also making the level feel more epic by expanding its scale.

## *2.8. Art*

As stated earlier, the visual design is important for the game to have a unique identity and stand out among a plethora of games. 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 Arídea: The Forgotten Desert is stylized, light-hearted and cute. This was a choice we made to be able to develop a distinct look that allows for even the small things to feel wondrous, to differentiate our game from others, and also to appeal to the target audience who likes to relax 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 is more adept in the later stages of game development, although he does have experience and knowledge of graphic design which was very useful. One of the problems we met was the speed at which concept art was made, as he is not a proficient 2D artist. So, we found different ways around this. We saw the need for a full concepting process for the more central parts of the visual identity, such as ghosts and landscape. However, when it was time to make machines, it was easier and faster to jump straight into concepting in 3D, as these are geometric hard-surface models.

For the plants and somewhat for the ruins, we didn’t have time to properly make concept art. So instead, we used an AI to generate images as we wanted to test out its relevancy and estimate how or if it could be used in the future of the industry. Even though the image generator we used, Krea, can generate based on shapes, images and colors you feed it, we found that it was difficult to guide it to specific results we wanted. This could probably be made easier through experience and knowledge, but in terms of its use in the industry, we found that it requires a person who is experienced with visual design to evaluate each result and their usability for the specific project. And in most cases the images would probably have to be edited after they were generated. So, we ended up with images that were helpful as general inspiration, but not as specific concepts.

One of the first things that was done to develop the style of the game was to create a limited color palette. The assets of the game generally stay fairly closely to this palette, as it helps us unify the design through holistic color use. As color is one of the most central aspects of 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 to add visual elements and customize the look of the game on a much deeper level. Almost all materials use Unity’s default lit lighting as a base, but some materials calculate additional lighting on top of that to allow for a much more stylized expression. Sand was one of the first shaders to be developed. It was important to spend some time creating it, since it covers large parts of the level and was a fundamental starting point for the outcome of the rest of the shaders, as they were based on some of the aesthetics and techniques of the sand shader. For example, a central point of the game’s visual style is its take on specular lighting. The sand uses randomized normal vectors for rougher transitions between colors and to have light bounce off small points all over the material, appearing like glitter. Similar methods have been used for other materials, but in a more limited way, to give the specular highlights a glittery appearance. This strengthens the cute and light-hearted expression, as shiny and glittery aesthetics are often considered pretty, and glitter is associated with cuteness.

It became clear early in the project that we needed a custom skybox to fit the aesthetics of the rest of the game, as there was a jarring mismatch between the world and the sky. The skybox was another important factor in properly landing the aesthetics of the game, as the player can almost always see it throughout the whole game. And it ties the world together when it fades between colors based on the time of day, clearly and easily showing the time, while sprucing up the sky with vibrant colors. To unify the design even further, the stars of the night sky have been designed to emulate the specular lighting of the other shaders.

# 3.0. How the game has evolved

The journey from idea to reality has been somewhat problem-free. We have had good communication and has been able to take hard decisions where this has been needed. During frequent meetings throughout the project, 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 a result of our vision changing and which games we have looked towards for inspiration.

## *3.1. Pre-Production*

Our pre-production began as soon the school were starting up in august. We had talked a little during the summer and had some vague ideas to what the game should be. As a designer and programmer, we have different fields we wanted to explore for our own sakes with the bachelor 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 think it is doing one thing, but later get 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 fundaments of our game before starting building assets and systems for the game. Almost every aspect from this period has been reworked in a way or another and this time could be used more efficient if we had developed a more in-dept plan and strategy.

We did use a lot of the time building assets to machinery and building blocks for the game, together with setting up inventory-/ and building system. As we have progressed, we have realized that the visual expression of the game had to change, together with change in the way we wanted to organize our items. At the start, we looked more towards “Raft” as an inspiration, but have changed this to be more directed towards the approach of “Subnautica” as we thought this suited our game better.

But we did use the prototyping portion of the development process to solidify our idea and made decisions based on how we saw the different systems develop.

## *3.3. Components*

We like to describe the structure of our game as a gestalt build-up, where a lot of building blocks were made separately with no purpose without everything coming together. It has been a challenge working towards a goal without having the possibility to test how one aspect work in relation with another.

During several meetings throughout the fall semester, we did get a good outline of how we wanted our demo to be, and what types of components we should include. Some of the gaming aspects where low-risk projects as we had looked at other games with similar approaches, and analyzed them for our purpose. This is components such as crafting system, which health parameters to include, and how the item progression should unfold. Other aspects where high-risk projects regarding our own capability of making 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 connecting 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 contain many different systems to appear believable, we didn’t look at the feedback form this period with that much of importance. Important aspects may appear out of place without its counterpart, and for a time we were a bit unmotivated as it seemed so far away before we could merge everything together and get a better overview to conclude if what we wanted to achieve actually worked.

## *3.4. Merging all together*

But finally we got to the point where we could start combining the building blocks 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 the merging portion, we have communicated closely to make the result as fine-tuned as possible. Since we wanted to teach the player with the use of the environment, it was important that the layout was planned and executed accordingly. Before pushing a build for playtesting, we did use some time testing and checking that everything was built the way we wanted. This period was filled with debating whether or not certain component should be included or not, and where they should be located on the map. Since the gameplay and structure now becomes 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 have had its fair share of “kill your darlings”, but for the most part we have managed to look past our own interests and landed on decisions that we believe is the best for the game and the player.

## *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. Based on the feedback we are where we hoped to be at the start of the project and are quite satisfied with the result. This last period have been crucial in finding the balance of the game. This includes the survival aspects as weather influence, the speed of health draining, and other bug fixes, together with changing the map to become more intuitive for the player to teach and get involved in the more hidden aspects of the game. Since our game is a more slow-phased experience with a game time of over one hour, it have been necessary for us to get feedback from players that take a session or two with the game, at their own phase. We felt, and got confirmation of this, during the playtest day at school, that this game is not that suited for more fast-phased testing in an noisy environment. We therefore took one week after the playtest day to make changes based on this feedback and built a playtest demo for home audience. This made for more useful feedback which have resulted in change of many minor aspects that we haven’t been able to estimate ourselves.

# 4.0. Learning outcomes

This was a massive project that we have 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 we have progressed through, our own skillsets have improved accordingly. This have resulted in a faster phased development cycle as the time have passed, making us able to perform at a higher level than what we did at the start of the project. What we estimated to be done in a week can now be completed in a day. This have also lead to some challenges as the quality of our work also have increased, leaving earlier work to feel outdated and misaligned with how the project have developed. We have had the unfortunate situation of having to rework a lot of our previous work, since parts have gotten incompatible with the project over time. Refactoring is an important part of any project, and now we have gotten to a level where we do not need to refactor based on poor planning or lack of structure knowledge.

## *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 approach the end of the project period, we have realized that the learning outcome would have been greater if we had been a larger group (ex. one more designer and programmer). There are many aspects with being a larger group that isn’t addressed the same way as being only two, like workload management, merging the project and depending other than yourself. If we were to do this project over, we had went for a larger group to get this experience.

But working in a smaller group 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, and that is easier to avoid with fewer people. As a smaller group we have not had any problems sharing our thought and get our ideas out, as the one talks while the other listens. We believe that the decision making processes have taken less time and effort with us in a smaller team, rather than a larger one, since there are less variable to take into account.

## *4.3. Pre-production & Time Schedule*

Our greatest learning outcome has been regarding the importance of the 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 lead us to produce assets and code which didn’t make it in the finished demo, and a lot of time have been used unnecessary. It became February before we had our first in-dept meeting where we built a structure, plan going forward and discussed the game in more detail. This 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 have 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 an definitive end to the project and decide what to include in the demo and what to save for later. This has helped us shaping 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 have made us better designers and creators and have given us an important dimension to bring into our next project and or job.

## *4.4. Over scoping*

This bachelor project have 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 of a workload, which has resulted in a lack of quality in those segments. If we had a more concentrated game, we could have being avoiding 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 changed 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 did section in the different parts of the game and what we wanted to include in those “packages”. As time went by, we realized that we didn’t have the time to build a full game, and since we had begun working on the first module, it was an easy task to cut out the later models. As a result, we ended our demo on the first module, since this also included background systems which are crucial for a survival adventure game to work properly (like item system, inventory, health, weather, movement, pickups ex.). This has resulted in a fundament which is easy to expand upon in the future, and a scope we are satisfied with as the deliverance of our bachelor project. As we have done our research, we have gotten the impression that it is normal to have a modular structure to its game, where new elements gets added in patches. If going forward, we would have made similar patches, as “Animals and Creatures” and packages containing “new biome with a new ghost and new machines to use it on”.

At a point in the production phase we had to make a decision if we should implement all assts made (to show that we have them made) or if we should keep the scope as believable to a first level as possible. We decided that what’s best for the player experience would be a more authentic experience, so we went for the lather. This have resulted in a demo with the progression of an introduction level, even if we have more assets ready to use.

# 5.0. Conclusion

# 6.0. Future thoughts

This bachelor project is developed to be a demo of the introductory area of a potential larger game. Thus, we have had to restrict and scope down a lot of our thoughts and ideas, but it was still useful to have an idea of what the full game might look like to help us develop towards a common goal. As such, we decided it was best for the game design document to relay details of the demo and what is relevant for the bachelor project, and then have a separate document with further thoughts and ideas.

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 one. Each biome would have its own theme with unique challenges for the player to overcome. We would remove the tall barrier around the current level and let the player roam freely. 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, which would need different solutions, which strengthens the sense of progress as the player would need to find new ways and upgrades to overcome the various biomes, which also strengthens the game loop as more dangerous biomes contain higher risk.

The ghosts would play a much bigger role in the larger scale of the full game, as they would be necessary to survive the challenges of the new biomes. There would be many more machines in the game that would need to be powered by the essence extracted from the ghost. On top of that different machines would need to be powered by different types of elemental ghosts. This way, there is a clear sense of progression as the player unlocks more machines and finds new types of ghosts. 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 it due to time. In the full game, ghosts would be hostile with fair warning to the player when they decide to attack. There would also be other enemies as well as friendly animals throughout the different biomes, all with unique alien characteristics. This would add a new source of resources, and add life to the world, making it feel more dynamic. It would greatly improve the game loop as it would add different things the player needs to survive, also adding to the sense of 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. 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 well, 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.

The demo only gives an approximation of how the story could be told. In the full game, the player would keep finding journal pages that eventually unveil that the doctor 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, which would be a nice way to end the player’s open journey.

# 7.0. References

Aakre J. D & Scharning H. S. (2022). *Prosjekthåndboka. Verktøykasse for kreative team*. 3. Utgave. Universitetsforlaget.

Akane Z., Jared, S. A., Naoko, H. & Gerard, R. 2014. Do video games provide Motivation to Learn? I Blumberg, F. C. (Red.). (2014). Learning by playing: Video Gaming in Education. New York: Oxford university Press.

Dweck, C. S. & Elliott, E. S. (1983). Achevement motivation. In P.H. Mussen (Red.) & E. M. Hetherington (Vol. Ed.), Handbook of child psychology: Vol. IV. Social and personality development (s.643-691). New York, NY: Wiley

Csikszentmihalyi M. (1990). Flow: The Psychology of Optimal Experience. London, UK: Harper Perennial.

GDC. (2018, 25. february). Sand Rendering in Journey [Video]. Youtube. <https://www.youtube.com/watch?v=wt2yYnBRD3U&ab_channel=GDC>

Hiwiller, Z. (2016). Players making Decisions: Game Design Essentials and the Art of Understanding Your Players. New Riders.

Koster, R. (2013). A Theory of Fun for Game Design (2nd ed.). O’Reilly Media.

Lemarchand, R. (2021). A Playful Production Process for Game Designers (And Everyone). The MIT Press.

Maehr, M. L., & Meyer, H. A. (1997). Understanding motivation and schooling: Where we’ve been, where we are, and where we need to go. Educational psychology review, 9, s. 371-409.

Maehr, M. L., & Zusho, A. (2009). Achevement goal theory; the past, present and future. I K. R. Wentzel & A. Wigfield (Red.), Handbook of motivation at school (s.77-104). New York, NY: Routledge/Taylor & Francis Group.

Malone, T. W., & Lepper, M. R. (1987). Making learning fun: A taxonomy of intrinsic motivations for learning. Aptitude, Learning and Instruction, 3, s.223-253.

McGonigal, J. (2011). Reality is broken. London: Johnatan Cape

Ryan, M. R., & Deci, E. L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. I Contemporary Educational Psychology 25, (s. 57-67). University of Rochester. Doi: <http://doi.org/10.1006/ceps.1999.1020>.

Schell, J. (2015). The Art of Game Design: A Book of Lenses (2nd ed.). CRC Press.

Squire, K. D. (2011). Video Games and Learning. Columbi University: Teachers College

Zucconi, A. (2019, 8. October). A Journey Into Journey’s Sand Shader. Alan Zucconi. <https://www.alanzucconi.com/2019/10/08/journey-sand-shader-1/>