THUNDER

GAME DESIGN DOCUMENT

V.1.0 : END OF PRE-PRODUCTION

Disclaimer

This is a working document.The working language is English for all documents and programming. All names and titles are provisional and may change during the project. Values are projections or rough estimates, they may also change during the project.

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GENERAL CONCEPT

In an isolated community that has lost all ties with modern technology,
you have been appointed Storm Hunter.
As you face the fury of nature,
steer your Bolt Seeker and catch lightning to fill your bunker's batteries.

In Thunder, the player has to fly the Bolt Seeker, a metallic glider, into raging storms. Their main goals are to get the Bolt Seeker hit by lightning and to transfer the energy to the battery as quickly as possible, so as to avoid electrocution.

It's a Virtual Reality (VR) game developped for the HTC Vive. The HTC Vive helps the player's immersion and feeling of facing something huge. It also challenges the player with an immersive motion-control gameplay.

As a Storm Hunter, the player also has to manage their bunker's energy stock and amount of population: Their performance during the storm has an impact on the whole game, which they have to anticipate.

UNIVERSE

POST-APOCALYPTIC WORLD

Thunder takes place in a post-apocalyptic world.
A little community lives in a moving bunker and they need lightning energy in order to stay alive and progress toward their goal.
The life of the community depends on thunderstorms. Their living conditions are poor and hard so they have appointed a Storm Hunter. Their job is to go out during the storm and catch lightning in order to bring energy into the bunker.

BASIC FACTS

GENRE : Action/adventure/VR game

PLATFORM : HTC Vive (PC)

PRIMARY AUDIENCE : VR early adopters (25-35 years old)

TECHNOLOGY : Unreal Engine 4

GAME LENGTH : +/- 3 hours (with DLC)

GAME SESSION LENGTH : 20 minutes

3C // CAMERA

The game is played with a first-person point of view in VR. The VR view enhances immersion and the player's feelings of loneliness, awe, and of being threatened.

3C // CHARATER - WHAT THE PLAYER CAN DO

BEFORE STORMS

Move and manage the bunker
Using a map to choose its destination, the player moves the bunker towards the community's goal. They also manage population which can't be too low otherwise the bunker cannot be driven and the game is over.

Interact with objects
The player can prepare his gear before each storm and choose various equipments depending on the type of storm they will face. They can manipulate those objects and upgrade the Bolt Seeker with it.

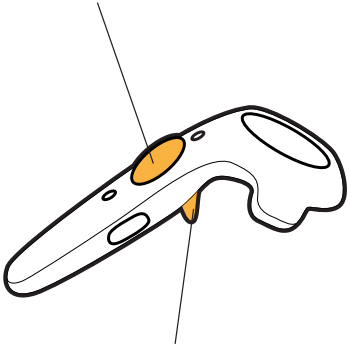
DURING STORMS

Steer the Bolt Seeker
The player has to steer the Bolt Seeker so that it gets hit by lightning. Then they have to plug it on the battery when the timing is right.

Move around and dodge
While steering the Bolt Seeker, the player can move around the 5x5 roomscale area. They have to be careful to avoid flying hazards that can hit them.

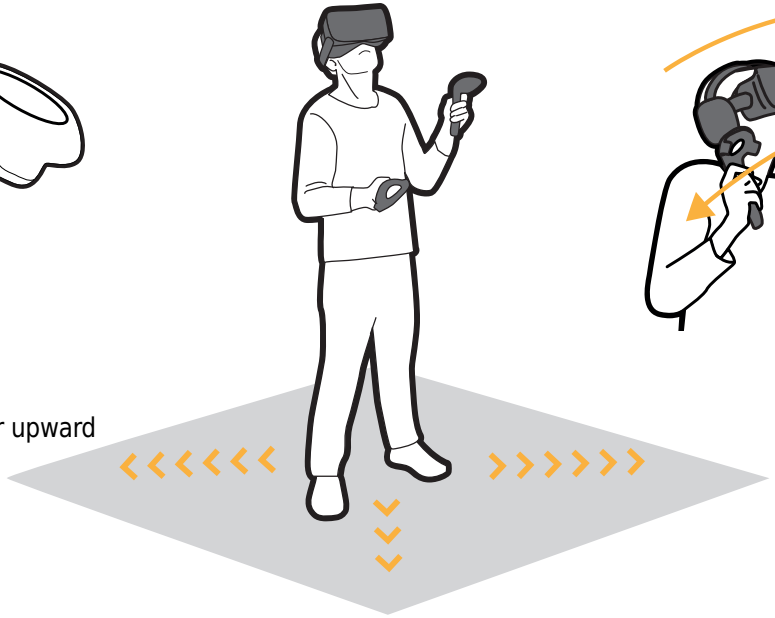
3C // CONTROLS

Plug/unplug the Bolt Seeker cables on the controllers

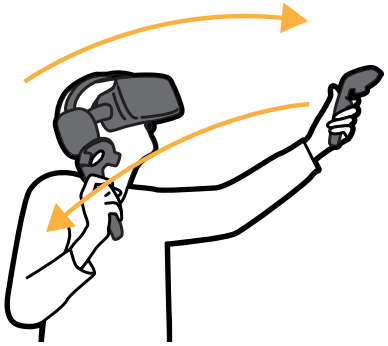


Interact with objects (grab, hold, drop)
/ Propel the Bolt Seeker upward

The player can move around the roomscale area.



The player has to move the controllers in order to steer the Bolt Seeker



THREE MAIN INTENTIONS

Make a game with a strong sense of scales: feelings of vulnerability and awe.

Vive-adapted gameplay : Steering a kite below a thunderstorm

Make players feel they are alone in the thunderstorm to catch lightning and stay alive

STORY

SYNOPSIS

TRAVEL PROGRESSION

NARRATIVE PHASES

SYNOPSIS

After an extreme climate change, the world became a post-apocalyptic one: Cities were destroyed by gigantic and unpredictable storms and the people who survived were forced to live underground. Earth's surface is now wild and inhospitable and the last remnants of civilizations are slowly erased by furious storms.

An isolated community managed to survive in an underground moving bunker, using lightning energy from storms in order to keep moving. They cross the devastated world pursuing a legendary goal: a protected city, still inhabited and were technologies were spared. The bunker is getting old and population is decreasing: the city is their only chance of long-term survival.

TRAVEL PROGRESSION

The community's goal is to reach a legendary city spared by storms. The player leads them as they travel from storm to storm to reach its hypothetical position.

Their mood and state during the travel are conveyed through dialogs and ambient voices : As an inhabitant of the community, the player is immersed into its agitation and can feel the impact of their actions.

As this long and laborious journey goes on, dialogs give hints to the player about how the protected city is a dream shared by the bunker inhabitants in order to keep a goal and some hope, and how it is utopian. Indeed, as they reach the expected position of the city, they will just find ruins submerged by sand.

GAMEPLAY INFLUENCES THE COMMUNITY'S STORY

The storm hunting gameplay has a great influence on the community and on their travel: if the player succeeds in filling the battery, the characters' tone will sound more hopeful and they will be able to reach the next stage easily, although if the player cannot fill the battery, the community will try to keep going with rationed energy: the characters will be less hopeful, the population will drop, and less gear will be available to the player.

The bunker's story and the gameplay are bound together: an energy-deprived population is doomed, which will cause a game over.

NARRATIVE PHASES

Narrative phases are short pauses in the game. They are meant to give the player some time to prepare for the storm after they've chosen their destination. They also introduce audio narrative elements about the game's universe.

INTENTIONS

We chose audio excerpts as a way to tell the player about the community's story, as it seemedless intrusive in VR than video cutscenes. The complex story of the community will be told through audio fragments of characters' testimonies. This indirect way of suggesting the community's past rather than telling it helps the player feel involved and creates a bond between them and the community members. This information about the community's story and the universe they live in will also involve the player in their role as Storm Hunter.

TONE

The narrative phases give the player a raw testimony of what life in the bunker is. It entrusts the narration to ordinary people, who confess to the player through some kind of an audio journal.

LENGTH

The narrative phases are quite short, lasting for approximately 30 seconds. They aim at giving the player a short break before an intense gameplay phase.

AUDIO NARRATIVE EXAMPLES

It's like it will never end. I wake up and the engine's roaring underneath. I spend the whole day crouched in rust and heat to keep it from falling apart. And the night guy comes to take my place and I go to bed. And sometimes I wake up in the middle of the night. The walls shake and the lights flicker, and I hear it calling again and again. It's like I live in a monster's belly, and if it dies I die with it.

ANN, MECANIC

Do I believe in the City? Well. Everyone does, right? I saw the texts myself! It was the day we visited the officers' deck. I remember the bright lights and the clean floor -nothing is as clean downstairs. And the texts -they were in display and we weren't allowed to get close. But I saw the regular and neat words printed from an ancient computer, and I saw a picture of the City. It looked so real! It has to exist somewhere. It's waiting for us to find it. And when we get there I can stop working in this stinking place -I heard they have machines that take care of recycling. We'll all live outside and have a good laugh when we see storms pass far away.

Curt, reprocessing center

GAME DESIGN

THE COMPLETE EXPERIENCE

GAMEPLAY OVERVIEW

FEATURES

THUNDER

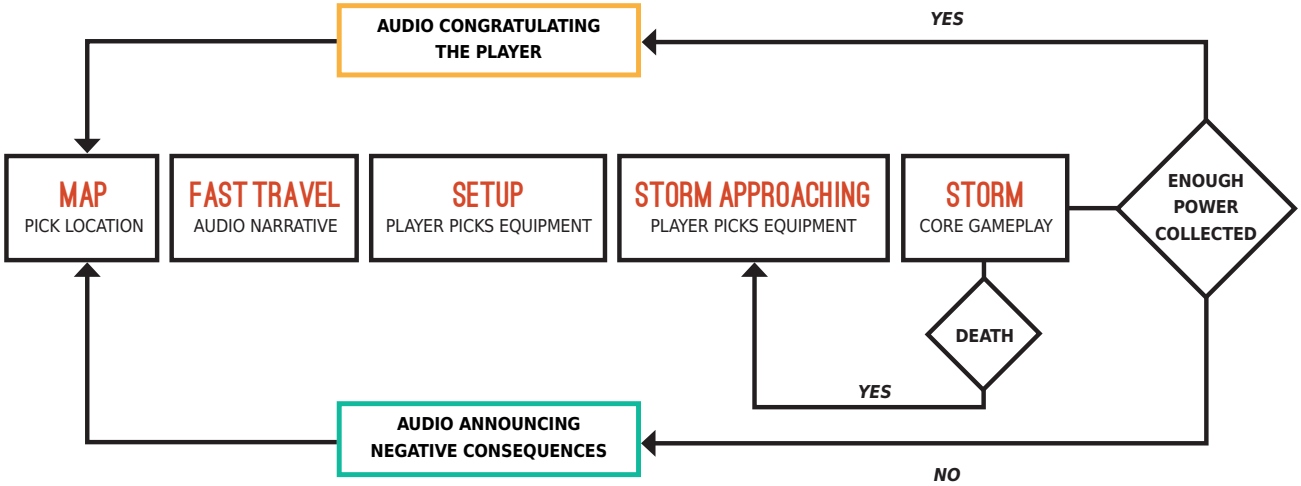
THE COMPLETE EXPERIENCE

A. OVERVIEW OF THE FULL GAME

The VR medium comes with specific constraints. Long sessions can be exhausting for the human brain and body if the playing sessions last too long. We never want our players to feel negatively overwhelmed by our game. So our goal is to create a game that can be divided into small sessions lasting no longer than 20 min. The full experience itself won't last longer than 3 hours.

THE COMPLETE EXPERIENCE

B. LOOP OF A GAME SESSION



THE COMPLETE EXPERIENCE

C. TUTORIAL AND CHALLENGE PROGRESSION

TUTORIAL

As every Storm Hunter needs help, the player is guided by Bosun, a character who gives them some advice via a radio. He watches over the player during all the gameplay phases.

The first storm they meet gives Bosun the opportunity to provide the player with a lot of directions about how to to steer the BS, when to plug it on the battery, etc.

The next storms they face are way bigger and disturb the communication between Bosun and the player: the player only gets advice when they have to pick a location or gear depending on the type of storm Bosun detected.

In order to let the player adapt to motion control and VR, the game gives them some time to walk around and manipulate objects during the map and setup phases. The player also has time to steer the Bolt Seeker before the storm comes so that they don't have to discover its controls during a challenging gameplay phase.

CHALLENGE PROGRESSION

Challenge increases on two levels in the game. First, related to the storms themselves, which offer an increasing challenge. They are divided into three phases: in each phase the player has to face a new challenge, such as wind, flying hazards, etc.

Making progress in the game world is also a big challenge. The player gradually has to face new and different types of storms, introducing each time new gameplay mechanics.

If the player loses an important member of the community, he can be faced with a parrticular disadvantage: some items might not be available anymore, as no one will have the skill to craft or repair it.

THE COMPLETE EXPERIENCE

D. CONSEQUENCES OF THE PLAYER'S PERFORMANCE

THE PLAYER COLLECTS ENOUGH ENERGY

The bunker can keep moving while keeping everyone on board alive and healthy. If the player proves to be an efficient storm hunter, the bunker could reach its final destination without losing anyone.

The players wins the game if the bunker reaches the protected city without losing too many people on board.

THE PLAYER DOESN'T COLLECT ENOUGH ENERGY

If the community is not getting enough - or any - power, the backup generators will be used solely to keep the bunker moving forward. Everything else will be sacrificed: detours for food or medical supplies scavenging will not be allowed. As a result, the player will watch the weakest members of the community die first, followed by the others.

The player loses the game if too many members of the bunker come to die for it to keep moving.

GAMEPLAY OVERVIEW

A. GAMEPLAY CORES & MECHANICS

COLLECT LIGHTNING

- ▶ TIMING CHALLENGE FOR BATTERY CHARGING
- ▶ ANTICIPATE WHERE LIGHTNING STRIKES
- ▶ LIGHTNING BOLTS WITH DIVERSE BEHAVIORS

STEER BOLTSEEKER

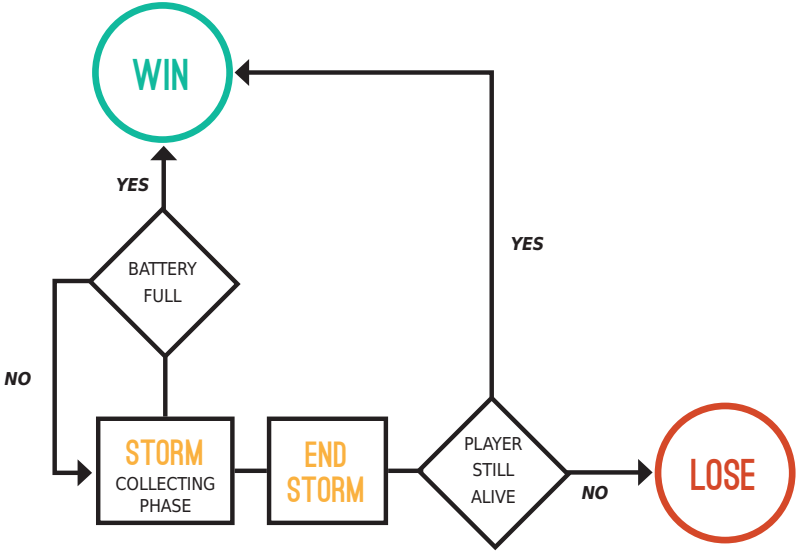
- ▶ GAUGE YOUR MOVEMENTS
- ▶ USE WIND CURRENTS AT YOUR ADVANTAGE

SURVIVE THE STORM

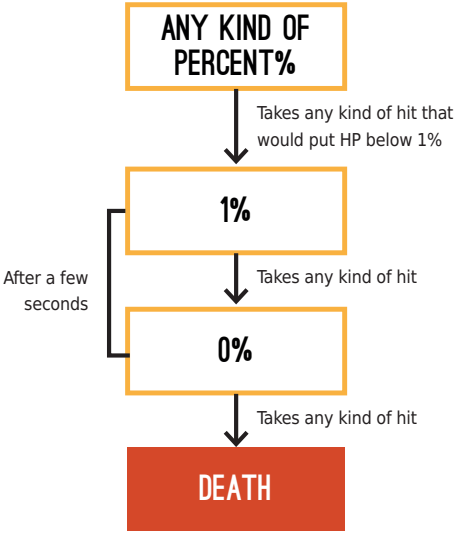
- ▶ AVOID FLYING OBJECTS
- ▶ RISK OF ELECTROCUTION

GAMEPLAY OVERVIEW

B. MICRO WIN / LOSE CONDITIONS



C. HOW DOES PLAYER HEALTH WORK?



FEATURES

A. THE STORM

PHASE 1

▶ LIGHTING BOLTS

- Not very hard to catch. Gives you a chance to get familiar with kite steering.

PHASE 2

▶ LIGHTING BOLTS

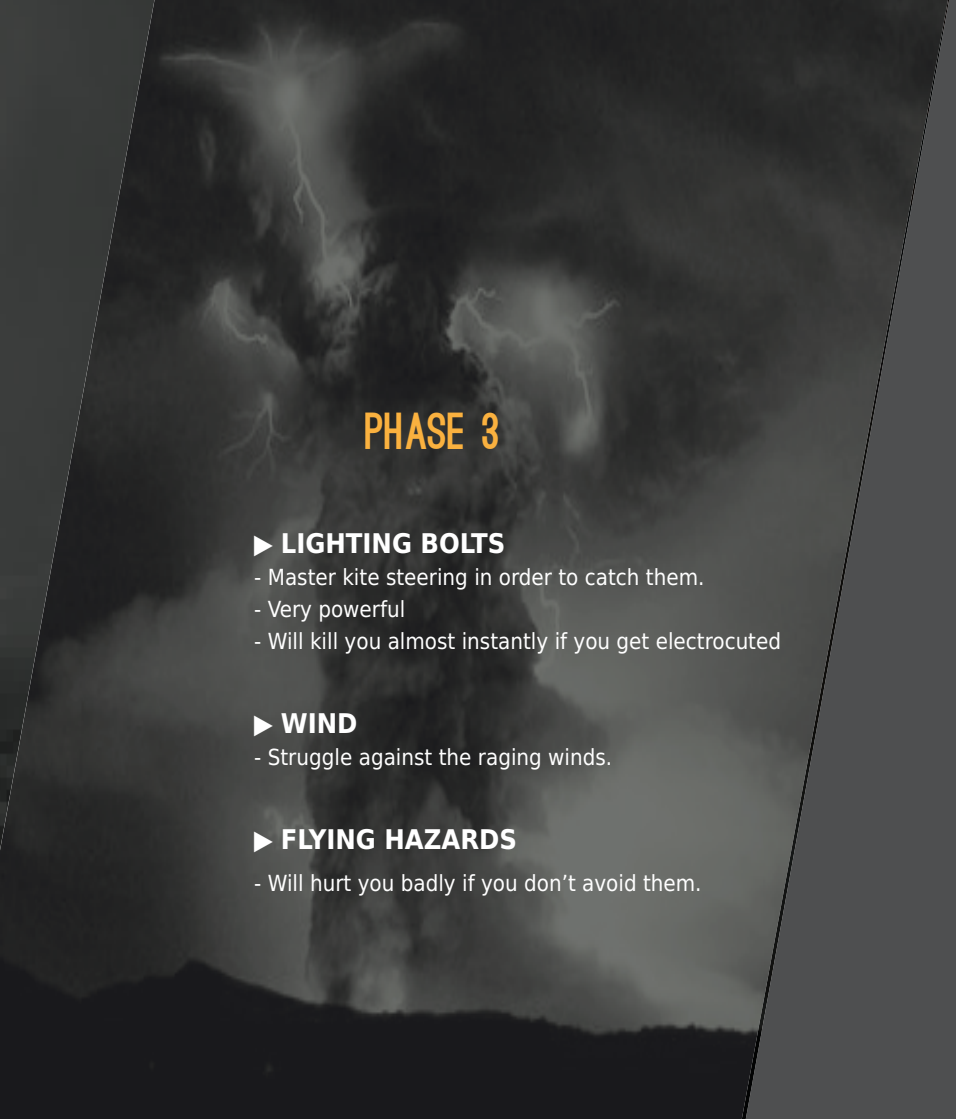
- More observation and steering skills needed to catch them.
- Contain more power
- Will hurt you badly

▶ WIND

- Steering the Bolt Seeker isn't as easy.

▶ FLYING HAZARDS

- Can't hurt you just yet, they are just here as a warning.



PHASE 3

▶ LIGHTING BOLTS

- Master kite steering in order to catch them.
- Very powerful
- Will kill you almost instantly if you get electrocuted

▶ WIND

- Struggle against the raging winds.

▶ FLYING HAZARDS

- Will hurt you badly if you don’t avoid them.

END OF THE STORM

FEATURES

B. TYPE OF STORMS

There will be 3 different types of storms in the full game.
The production pipeline also includes the development of a DLC that will add 2 completely new types of storms for the player to experience.

Storms included in the full game

Storms included in the DLC

POST-APOCALYPSE STORM

Displayed in the vertical slice

Features: The more devastating version of natural Thunderstorms, with winds so powerful that they carry flying hazards.

Available upgrades: Force-field barrier that can shield you from flying hazards.

DUST STORM

Occurs in desertic and arid environments, where dust and sand have accumulated.

Features: Dust clouds that make it hard for you to keep track of the Bolt Seeker's position. Stifling atmosphere that will slowly asphyxiate you if you're not wearing a mask.

Available upgrades: Powerful LED on the Bolt Seeker, making it visible even through dust clouds. A mask equipped with a filter, so as not to ingest too much dust.

ICE STORM

Combines heavy snowfall with strong winds and hail.
Features: Snow lowers your visibility dramatically and hailstones can hurt you or damage your kite if you haven't upgraded it.

Available upgrades: A protective suit that helps you survive the freezing temperatures, and an aluminium layer added to the Bolt Seeker that makes it resistant to hailstones.

ACID STORM

Storms carrying acidic rain, wiping out all plant and animal life.
Features: The acid will hurt you and damage your Bolt Seeker if not properly protected. Rain also lowers your visibility.

Available upgrades: Protective suit and helmet to shield you, and an anti-corrosive version of the Bolt Seeker to resist the acid.

FIRE STORM

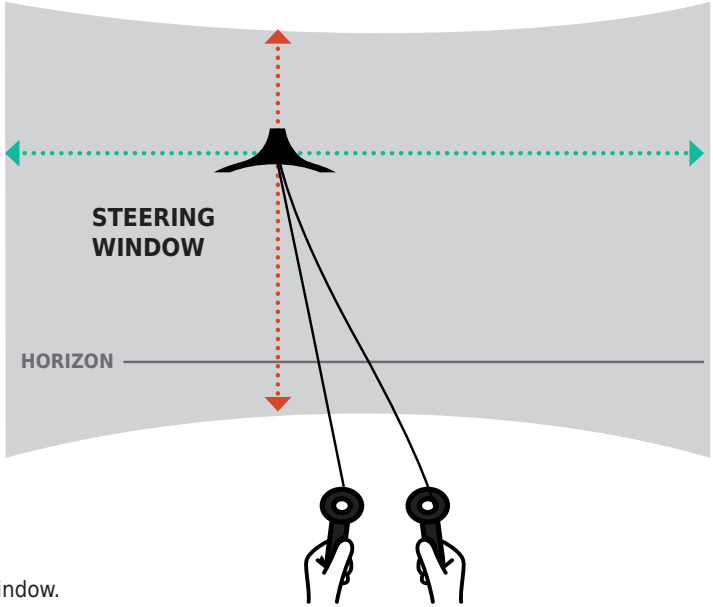
They form in the aftermath of great fires, when the air has gotten extremely dry.
Features: Unpredictable fire blasts occurring randomly. The blazing clouds of these storms produce incredibly powerful lightning.

Available upgrades: A mini-shelter, under which you can shield yourself from the fire blasts. A protective suit that helps you survive the extreme temperatures. And a fire-proof layer added to the Bolt Seeker that will prevent it from melting.

FEATURES

C. BOLT SEEKER

The Bolt Seeker is the player's main tool, required to catch lightning. Steering it is the main stake in the game.



STEERING THE BOLT SEEKER

The player controls the Bolt Seeker's moves on a curved window.
The Bolt Seeker can be moved on the X & Y axis (in blue and orange on the drawing), but not on the Z axis.
The player's moves in the roomscale space don't influence the Bolt Seeker's position.

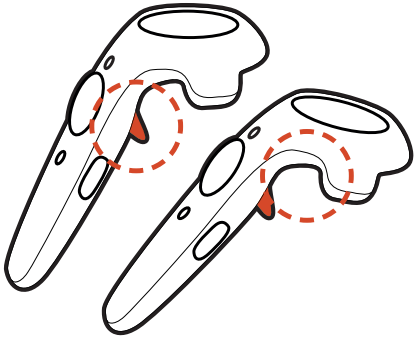
CONTROLS

Y AXIS

In absence of any input, the Bolt Seeker will lose altitude

One trigger pressed: It stabilizes

Two triggers pressed: It gains altitude

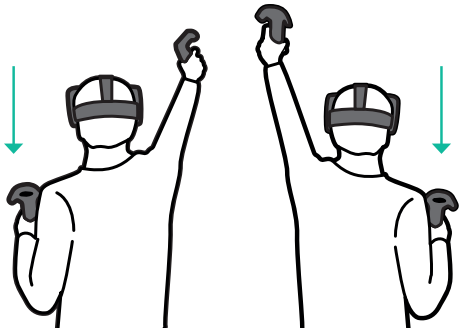


X AXIS

In absence of input, the Bolt Seeker stabilizes

Left controller pulled: it moves to the left

Right controller pulled: it moves to the right



FEATURES

C. BOLT SEEKER

UPGRADING THE BOLT SEEKER

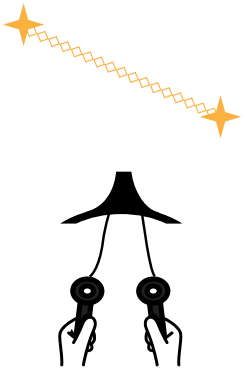
Depending on the type of storm the player faces, they have to equip the Bolt Seeker with various pieces of gear in order to protect it from the elements. Those items are unlocked as the player explores new environments where the community can scavenge materials. This upgrading step happens during the setup phase, when the player can manipulate the Bolt Seeker. This feature creates a bond between the player and their main tool, which is very old and sacred. It also gives them a hint of the crafting and scavenging tradition of the community.

THE STEERING CHALLENGE

The main stake during storms is to catch lightning with the Bolt Seeker. It involves understanding the steering mechanics.

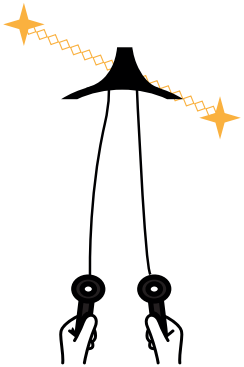
STEP1

Sparks forming to announce lightning



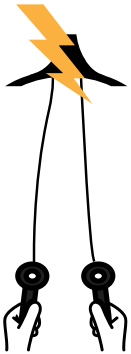
STEP2

Player has to bring kite on the path



STEP3

Lightning spawns



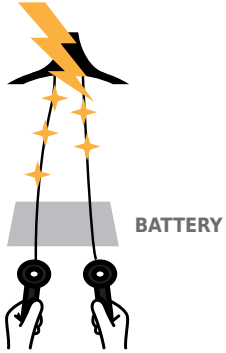
D. ENERGY COLLECTION

THE TIMING CHALLENGE

After the player catches a lightning bolt with their Bolt Seeker, they have to plug the cables to the battery in a right timing so that they collect a maximum of energy without being electrocuted. This second part of the gameplay is therefore centered on timing and risk taking.

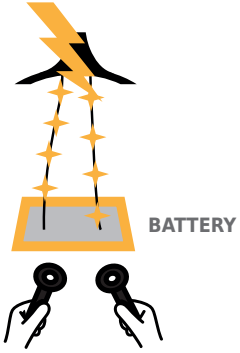
STEP4

Electricity passing through cables



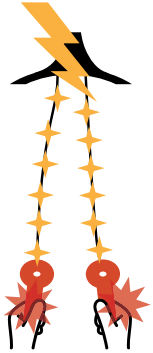
STEP5

Player has to plug kite on the main battery on time



STEP6

If player doesn't plug cables on time -> **electrocuted**



FEATURES

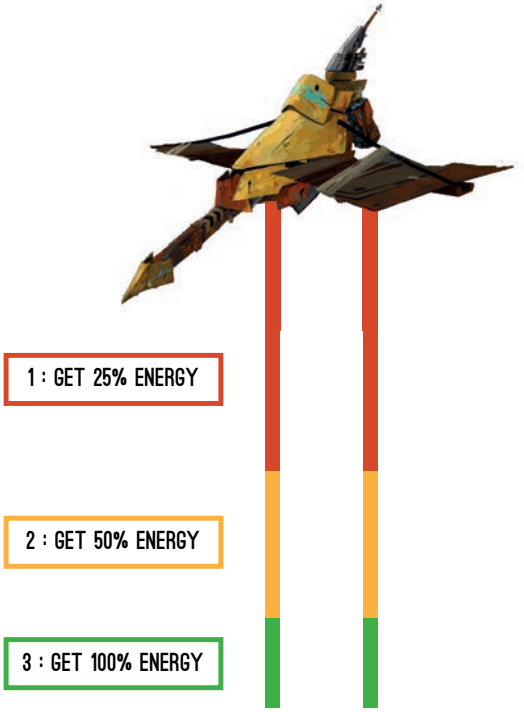
D. ENERGY COLLECTION

RISK TAKING MECHANICS

When a lightning bolt is caught, the electricity progresses along the Bolt Seeker's cables. The more the player waits, the more electricity is collected when they connect the cables to the battery.

But they also take a greater risk: if the electricity reaches their hands, they lose health points until they effectively plug the Bolt Seeker on the battery.

Filling the battery efficiently the battery determines how much electricity will be available for the next stage of the community's travel. As it is a victory condition of the game, the player has to take risks to be a better Storm Hunter and to preserve their community's population.



IF PLUG CABLES ONTO BATERY

USER EXPERIENCE

INTENTIONS AND CHALLENGES

THE CHALLENGES OF VR

BENCHMARKS

PROCESS

DESIGNING AND TESTING PROCESS

FUTURE COURSE

INTENTIONS AND CHALLENGES

WHAT DO PLAYERS EXPECT

Due to that, there is little data available yet on the types of players and their expectations in order to build personas.
To be able to gain insights on the players we compiled data from game reviews on Steam of any VR game and VR games that were similar to our own.
We also have run focus groups around the start of the project in order to get insights on the expectations of players on a game such as Thunder.

We wanted to figure out what they wanted in a VR game, what they want to see in a game about storms and in a VR game about storms.

VR GAMES : Participants want games that were specifically designed for VR. Games that would not work if they were not in VR.
They want to be able to explore and interact with extraordinary environments, face dangerous situations all from the safety of their houses.

STORMS and VR STORM GAME : One thing that participants made very clear is that they expect to be awed, to feel vulnerable in front of the forces of nature. They want to get as close as possible to the storm, maybe be at the heart of it, something they could not do in real life.

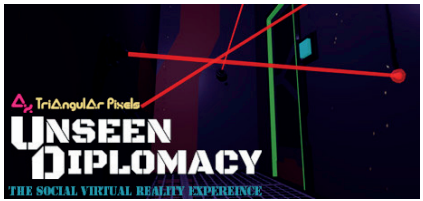
INTENTIONS AND CHALLENGES

THE CHALLENGES OF VR

Making things in VR is a lot like sailing in uncharted waters. For instance, while you can easily find verified heuristics for regular games, finding them for VR proves to be challenging.
A lot of the things we are used to simply do not work in VR. It has not been around long enough that common uses have been solidified.
As such, we had to be on the lookout for anything that could negatively impact the experience of the players.

The challenges we faced were diverse and many just did not exist in classical games. They had to do both with player comfort and interaction design.
For example, we had to look out for motion sickness and not causing it to our players. To convey information, we had to figure out ways that did not involve using a HUD.

BENCHMARKS



To solve the various challenges of VR, we ran various benchmarks on specific aspects of VR games and we learned everything we could from conferences and professional articles.

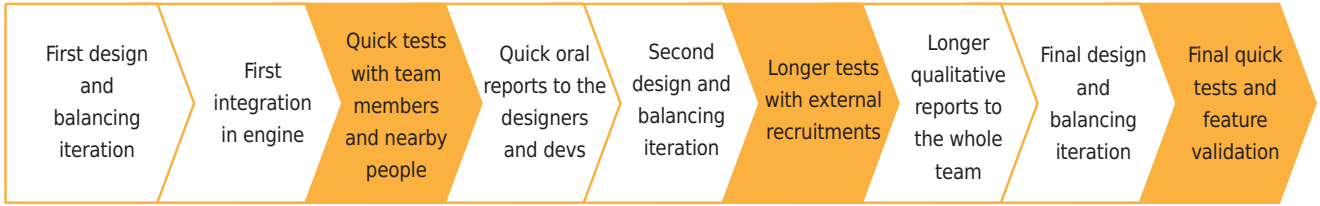
We needed to figure out what to do and what not to do in our own game. From Space Pirate Trainer, we could gain insights on how to handle player movement in roomscale VR, from Cosmic Trip we had examples of interesting environment design.

PROCESS

In order to give players the best experience possible, we have to reach as high a level of polish as possible.
Very early on, all the members of the team were made aware of the importance of testing as the project went along.
The tests enabled us to keep a relatively objective overview of the project and its levels of accessibility and challenge. Thanks to these playtests we also found some features that seemed straightforward and intuitive actually were not.

For example, we ran tests on our control schemes. We have a game inspired by real life steering kite. The intuitive approach would be to make the controls as similar as real life as possible. Testing all the different controls revealed that the most efficient and agreeable one was the one where players had to pull the triggers to make the kite rise.

DESIGNING AND TESTING PROCESS



FUTURE COURSE

User Experience is more than just making sure the product is usable by the users. As the name implies, UX is about the whole experience. From the moment your users hear about the product until they exhaust all your product has to offer.

UX as a whole can be divided in three pillars:

- Usability, which is the ease with which your users interact with your product. It can be about the UI or the controls, readability of the interface etc.
- Usefulness, which is how much your product will attract your users, what is the advantage of using your product over another.
- Affect is the way your product makes people feel, the kind of emotions it evokes in the users.

DESIGNING PLAYER EXPERIENCE

USABILITY

Defining the gameplay interactions in the other phases of the game

Find ways to accustom the players to our controls and the novelty of VR controls

USEFULNESS

Integrate and adapt what players expect of VR games

Make Thunder one of the go-to games to familiarise people with VR

AFFECT

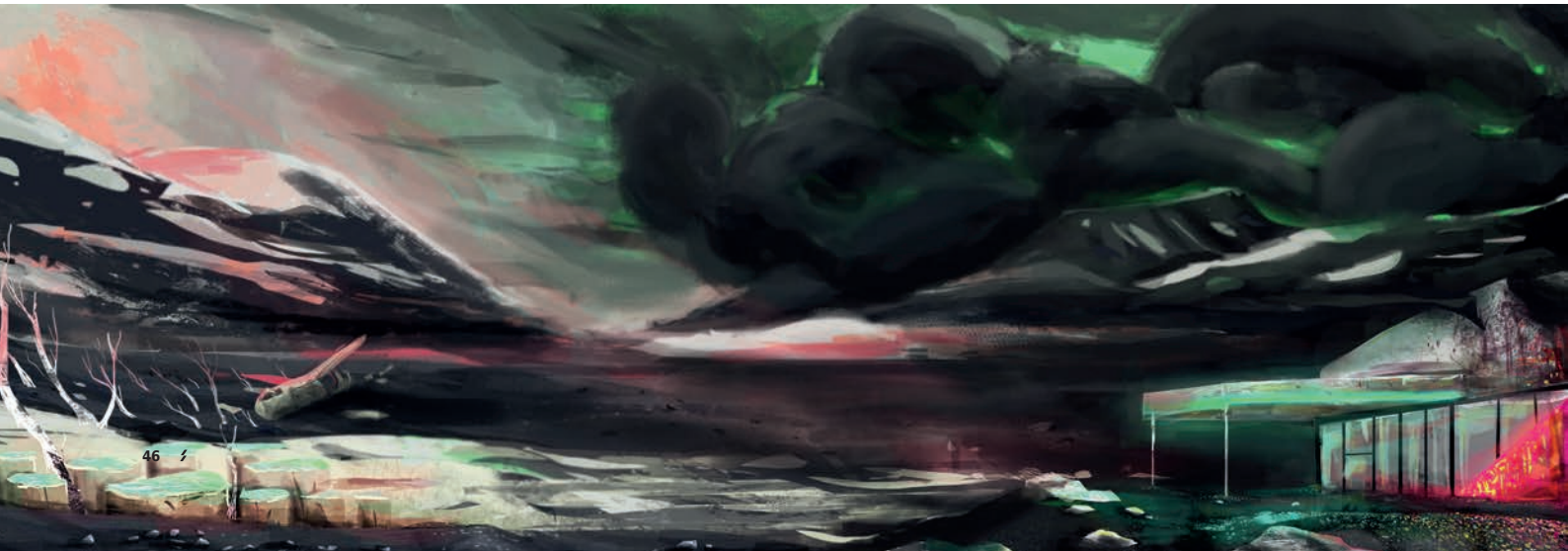
Increasing the immersiveness so that the player really feels IN a storm

UNIVERSE

OVERVIEW

There was a time when humanity was thriving thanks to a clean and renewable energy source. It had been brought about using new scientific discoveries on nuclear fusion. In this way mankind aimed to get free from fossil fuels. Unfortunately, this energy was overspent and elementary particles at their core. They started to rise through the atmosphere, charging it with heavy metals. The impacts hit swiftly: the destruction of the ozone layer, the continuous cosmic rays bombing and the heavy metal clouds charging with energy.

As a result, devastating storms began plaguing the world and the history of mankind was changed forever.
Today, nobody wants to go outside due to the danger of the storms. They raze human cities and buildings to the ground. All communities had to take shelter in bunkers.



LORE

SCIENTIFIC REPORT

NEW FRENCH NATIONAL CENTER FOR THE SCIENTIFIC RESEARCH (NCNRSF)

Report n°2485215 - Language of writing : FRENCH

NCNRSF

En l'an 2[DONNÉES CORROMPUES], la transition énergétique sur Terre a amené une unification des ressources terrestres. L'homogénéisation qui en a résulté a permis la mise en place de plans politiques durables. Pendant [DONNÉES CORROMPUES] années, l'abandon total des énergies fossiles au profit de l'exploitation nucléaire du matériau [CONFIDENTIEL], a développé un système de société économique et humaine entièrement basée sur cette énergie propre, au renouvellement théoriquement illimité, par la mise en place des théories de fusion alternées.

Le premier rapport faisant état de manifestations climatologiques anormales date précisément du 7 Février 2358. Ce rapport décrit une activité climatologique plus conséquente de 123%, sur les hauts plateaux du Rwanda. Ces manifestations sont caractérisées notamment par une apparition spontanée, sans signe préalable, une évolution rapide et fulgurante, ainsi que d'une intense ionisation provoquant un bombardement intensif d'éclairs et de vents extrêmement violents.

Pendant une durée indéterminée, ces manifestations climatologiques se sont répandues, détruisant les infrastructures technologiques, industrielles, et centres civilisés… La surface du globe est devenu inhabitable à long terme en l'espace de 50 ans, selon nos estimations.

La série d'études sur le terrain du professeur Al-Soufi, a permis de théoriser le développement de ces tempêtes.

LORE

Entrée du 21 Septembre 253X:
L'utilisation intense du [CONFIDENTIEL] a semble-t-il généré une altération des propriétés physiques des métaux naturellement présents dans les alentours des réacteurs (rayon estimé à 20 Km). Ces métaux ionisé, dont la composition se rapproche du Fer ont la particularité d'être très réactifs à la conduction électrique, et sont en cela un conducteur négatif/positif extrêmement instable. Ces dites particules, indétectables en faible quantité, ne génèrent de l'énergie que regroupées dans l'atmosphère, provoquant d'immenses cumulonimbus. Leur envol progressif dans l'atmosphère a résulté en un bombardement intensif d'éléments parasites sur la couche d'ozone, la fracturant de manière irrémédiable. L'atmosphère ainsi saturée et toujours alimentée par les réacteurs à fusion de l'industrie Humaine, a permis aux rayons cosmiques de pénétrer et de ioniser ces nuages de particules. Par la suite, les particules ainsi chargées retombent au sol, couvrant la surface du couche ionisée positive. En plus de l'altération des couches inférieures de l'atmosphère, les nouvelles surfaces ioniques ont généré leur propre champ magnétique dû à l'activité climatologique, perturbant en profondeur la stabilité magnétique des pôles.

L'atmosphère ainsi chargée négativement, et le sol positivement, la Terre est devenue basiquement, une énorme batterie, s'alimentant des mouvements continus des orages ioniques (frictions air/sol), et des rayons cosmiques projetés par le soleil. »

Les dernières notes du professeur Al-Soufi, retrouvées peu après sa disparition tragique lors d'une expédition dans une zone à haut risque (activité géo-électrique intense et anormale), suggèrent un corollaire entre la formation spontanée des tempêtes et une forme unique d'intelligence. Le rapport fait alors mention de l'activité géo-électrique de la Terre, comme un immense réseau neuronal, avec pour centres conducteurs les zones d'intenses bombardements cosmiques (Equateur).

End of the report n°2485215

NCNRSF

PLACES

A. OUTSIDE

There is a variety of landscapes. Nature has taken over everywhere. There are still a few ruins, abandoned cities from the previous
civilization that one can scavenge through for technology.
There are unsettled and dangerously modified environments. Plants and animals have evolved too. Their shapes and anatomy adapted to be compatible with the unpredictable climate and be able to weather the storms.

PLACES

B. BUNKER

The bunker is a huge military construction from before the climate change. It can dig underground tunnels and travel long distances. It shelters a community of survivors who power its engines with electricity gathered from storms.

HARSH LIFE CONDITIONS

Post-apocalyptic life is as bad as one can expect: food and energy are rare and must be rationed. Drugs have almost disappeared and diseases cause a lot of deaths. In this high-mortality context, people are not educated. All children learn about is their future job — handling or repairing— and some myths to justify the hierarchy and goals of the community. Then they are sent off to work very young. Most people have to repair the bunker as it is ancient and needs constant maintenance. A small number of inhabitants make the major decisions, like appointing Storm Hunters or choosing the bunker's next destination. This elite is respected and not challenged at all by the common people, who are busy enough working and surviving.

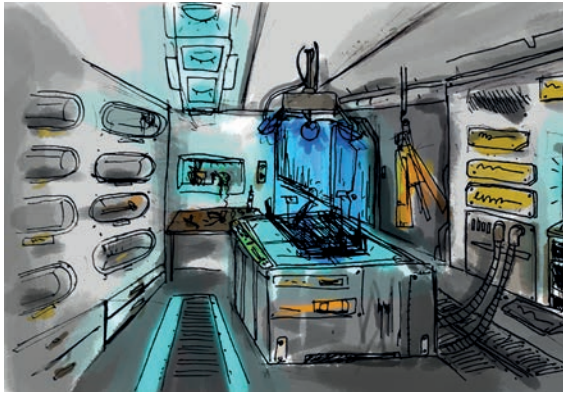
PLACES

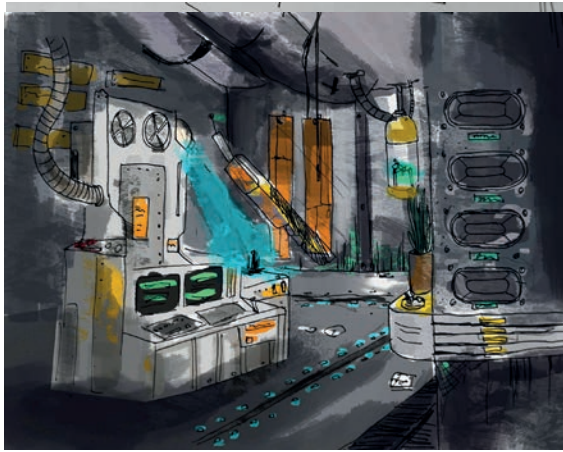
B. BUNKER

THE STORM HUNTERS' ROOM

The Storm Hunters' room is the players' hub. The Storm Hunters are privileged heroes while they are alive and one of their advantages is access to this unique room. Here they can find and upgrade their gear, choose the next storm they will face and prepare for it. This room keeps also a track of each Storm Hunters who gave their life for the community through commemorative plaques. Barometers and other weather measurement tools give information about storms' position and nature.

It is the only place inside the bunker that appears in game. Its visual and audio identity must be representative of the bunker's mood: a narrow and rusted place, with a lot of crafted and repaired objects. In this room the player will be able to glean hints of the community's mood. They can hear people talk as they prepare for the storm.





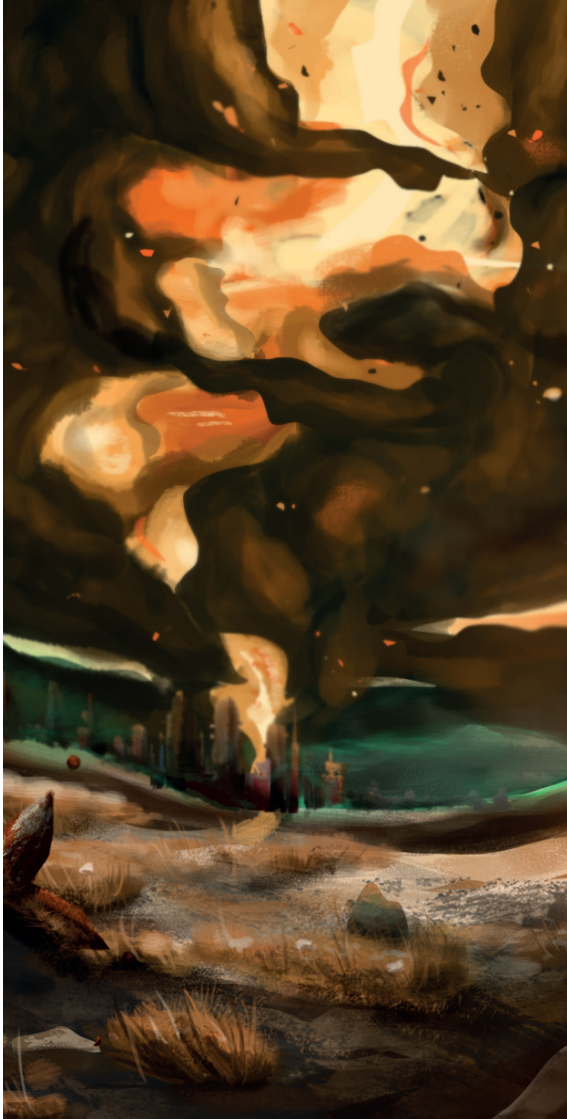
PLACES

C. MAP/TRAVEL

The map gives an overview of the game's world, including all the destinations available for the player. It can be found in the Storm Hunter's room, in a holographic form. The player can see on it their final goal (the preserved city's supposed location) and estimate the distance between the bunker and this goal.
As a Storm Hunter, it is up to the player to choose the next step of the journey, even if the final destination is choosen by the commanders of the bunker.

D. WEATHER/CLIMATE

In this post-apocalyptic world, the weather changes very quickly and is hard to anticipate. Storms are huge and frequent and make life on the ground impossible. Wind and rain destroy every remaining building.
If storms are a threat, they are also necessary for the community to survive. They adapted to this new weather and use a lethal element as their primary source of energy.



ENTITIES

A. OVERVIEW

After civilization's destruction, the only remaining people are scattered all around the world. They try to gather and form fragile communities.

The only entities known by the player belong to the bunker community. They survive by scavenging materials from ruins, hunting animals and insects that live underground and collecting lightnings from storms. They rely on ancient technologies as they don't have enough resources or time to innovate. These old machines need constant maintenance. The community has to gather a lot of parts from the ruins to repair their tools and machines.

As they can't survive where they are, they try to reach a protected location, spared by the storms, where an intact city is supposed to be. This odyssey depends on their ability to collect energy. That is why storm hunting is so important for them: it is their only way to fill the bunker's batteries and to reach the legendary city.

ENTITIES

B. PLAYABLE CHARACTER

As a Storm Hunter, the player is a privileged member of the community, but they're also doomed.

Storm Hunters are picked among the bunkers' population. It is a great priviledge as Storm Hunters are perceived as god-like beings..., especially if they survive a storm. Their role is to track storms, to choose which one they will face, and to collect lightning from it. If they survive, they do it again until they finally perish.

RENEWAL OF THE PLAYED CHARACTER

As Storm Hunters don't usually live for a long time, the player can embody several Storm Hunters. If they die during a storm, they resume the game in the bunker, playing a newly designated Storm Hunter. The player gets hints about the renewal of their character from the walls of the Storm Hunters' room, where new commemorative plaques will appear every time the player dies. They will also get cues from Bosun, who will become friendlier with old Storm Hunters but will be cold with new ones.

Yet, we do not want this renewal to be so obvious. It is important that the player feels like they are playing a full and unique experience. As Thunder is a VR game, it is easier for the player to feel involved if the character they play doesn't have a strong identity. That's why they won't hear the character's voice or breath, nor know their gender or appearance. That smoothes the differences between the several characters the player embodies and let them get more attached to the characters they interact with than with the characters they embody.

ENTITIES

C. BUNKER COMMUNITY

The bunker community lives in difficult conditions, and face a high mortality risk. People spend their life repairing the bunker, eating roaches and moles and dreaming of great cities. They don't know how and why the major decisions are made, but they spend a lot of time talking to each other about what happens in the bunker and know very well the other members of the community. They form a very dirty hundred-people family, who share one dream and work hard to reach it. They are very supportive to the Storm Hunters and are really affected when someone dies.

The player learns about the community during the audio narrative phases and through dialogues with Bosun. It is crucial that they get attached to those characters as their performance during storm hunting have a great impact on them: the player has to be efficient so that the people who tell them their story and intimate thoughts survive.

BOSUN

Bosun is a key-character of Thunder as he is the main connexion between the player and the community during gameplay phases. He is in charge of communication between the officers' deck and the rest of the bunker. Before and during storms, he guides the Storm Hunter through radio communication, gives them indications about the storms and the community's mood and state. He also gives the player some clues about what happened to humanity. As such, he is one of the player's major sources of information about the universe and the community.

ART DIRECTION

OVERVIEW

Thunder takes place in a post apocalyptic world, where the storms have destroyed the previous civilizations, and put the current living world in a chaotic state.

Our objective is to create an environment and a world where the players can feel as survivors, forced to scavenge the ruins to live. Our Artistic Direction highlights a barren and sterile world, where only the remnants of a past world remain . Nature, plants, animals and humans just vanished and only traces can be found there.
In that way, we want to focus the players' vision on their place in that world. How small they are in front of those huge storms, those deserts that they have to go through.

Field, Koola

REFERENCES

We can define our Artistic Direction as “Volatile”. In Thunder there is a contrast between the ground, calm, quiet and no longer alive, and the skies, dark, dangerous and where death comes from. Both phases are opposed. The ground is muddy, atmospheric and dusty while the sky is dark, organic, featuring strange colors.

MOOD AND COLORS

The volatile atmosphere, that the player can see before the storm, highlights the environment and its story. We want to focus our work on the landscape design, with lighting and environment design, to create within the player the feeling of being in the center of a vast dead world. By adding a specific color mood, with a yellowish/reddish tone, the world becomes more volatile and frozen in time. Days of Heaven by Terrence Malik is a good visual reference to understand our purpose: wide landscapes, dusty ambiance and an endless crepuscular tone to express a long and quiet agony.

Days of Heaven, Terrence Malik

In the world that we create, the player can see several remnants of an ancient dead civilization. Those structures, those last traces, give an idea of the technological advancement of the ancient world and make the player feel small in front of them. We refer our work to Simon Stalenhag's paintings, which merge past, future and presents elements to create a brand new world: dinosaurs around futuristic structures, across a road of bitumen etc...

In term of rendering, we wanted to stay close to our concept art. So we searched for something pictural, a balance between photorealism and cartoon. It is shown primarily in the way that we texture our assets and the shape of the clouds. We avoided glossy effects to look more like a painting.

Simon Stalenhag

CONCEPT ART

A. ENVIRONMENT

The world of Thunder is made of wide landscapes, huge wild fields, where brightness contrasts with dark skies threatening the player. In that way, lighting is important to create a contemplative but oppressive background.

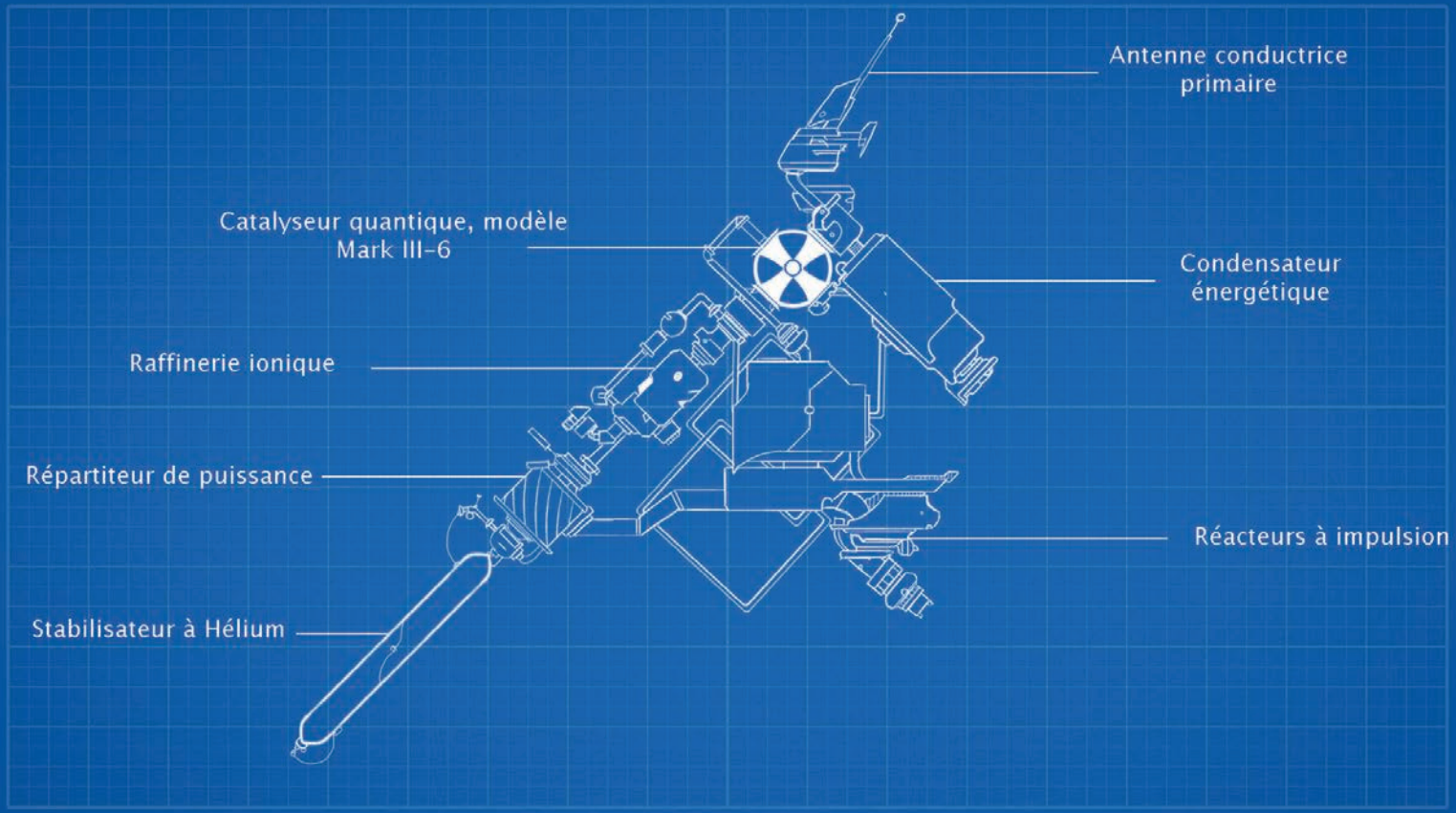
CONCEPT ART

B. THE WORLD

The landscapes the player will cross are full of remnants of the ancient civilization. Those ruined structures are a part of the landscape topology, and constrast with the wild surroundings. Some of them still function but their futuristic design makes it hard for the player to understand their initial purposes. Made of rusty metal, bearing traces of old paint, their appearances show that ages have passed since the cataclysm.

CONCEPT ART

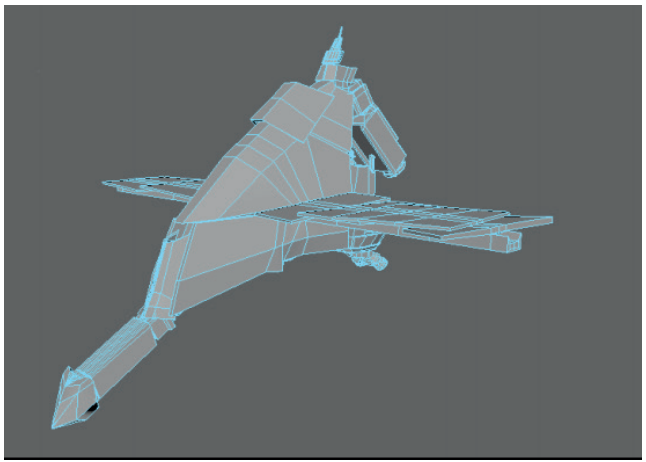
C. THE BOLT SEEKER


Antenne conductrice primaire
Catalyseur quantique, modèle Mark III-6
Condensateur énergétique
Raffinerie ionique
Répartiteur de puissance
Réacteurs à impulsion
Stabilisateur à Hélium

PRODUCTION

A. PIPELINE

CONCEPT ART → MODELIZATION → SCULPTING → TEXTURING → INTEGRATION

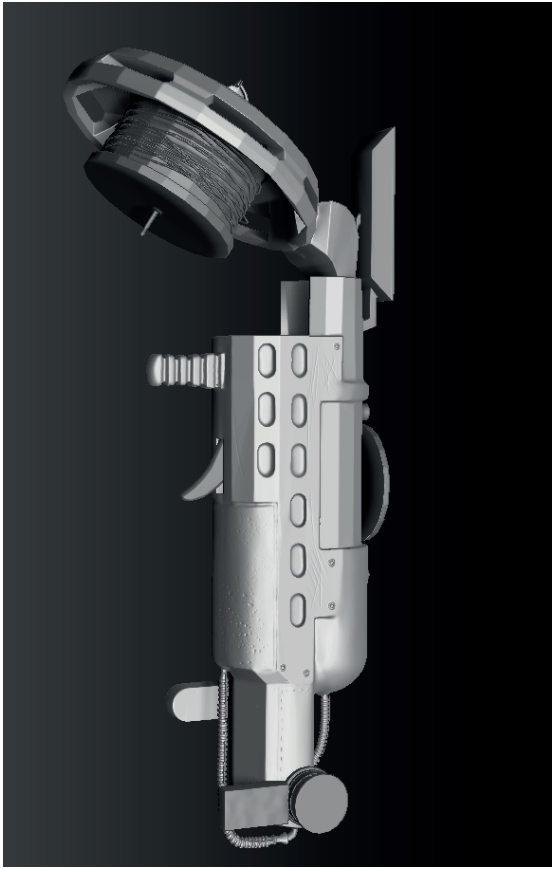


PRODUCTION

B. ASSETS

THE CONTROLLERS

The controllers, closest asset to the players' eyes and also the most interacted with, involved two challenges: being good looking and also reinventing the HTC Vive controllers.
Their design is inspired by a gun, but adapted to look fun.

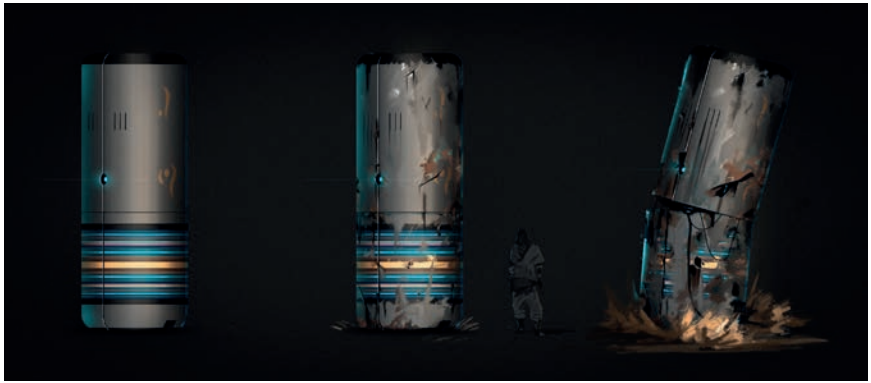


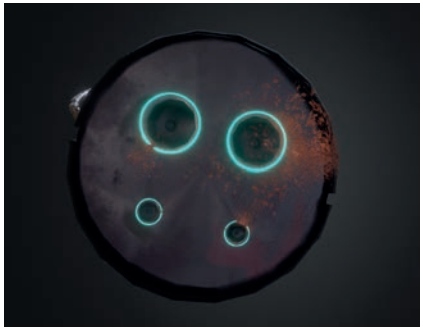

THUNDER

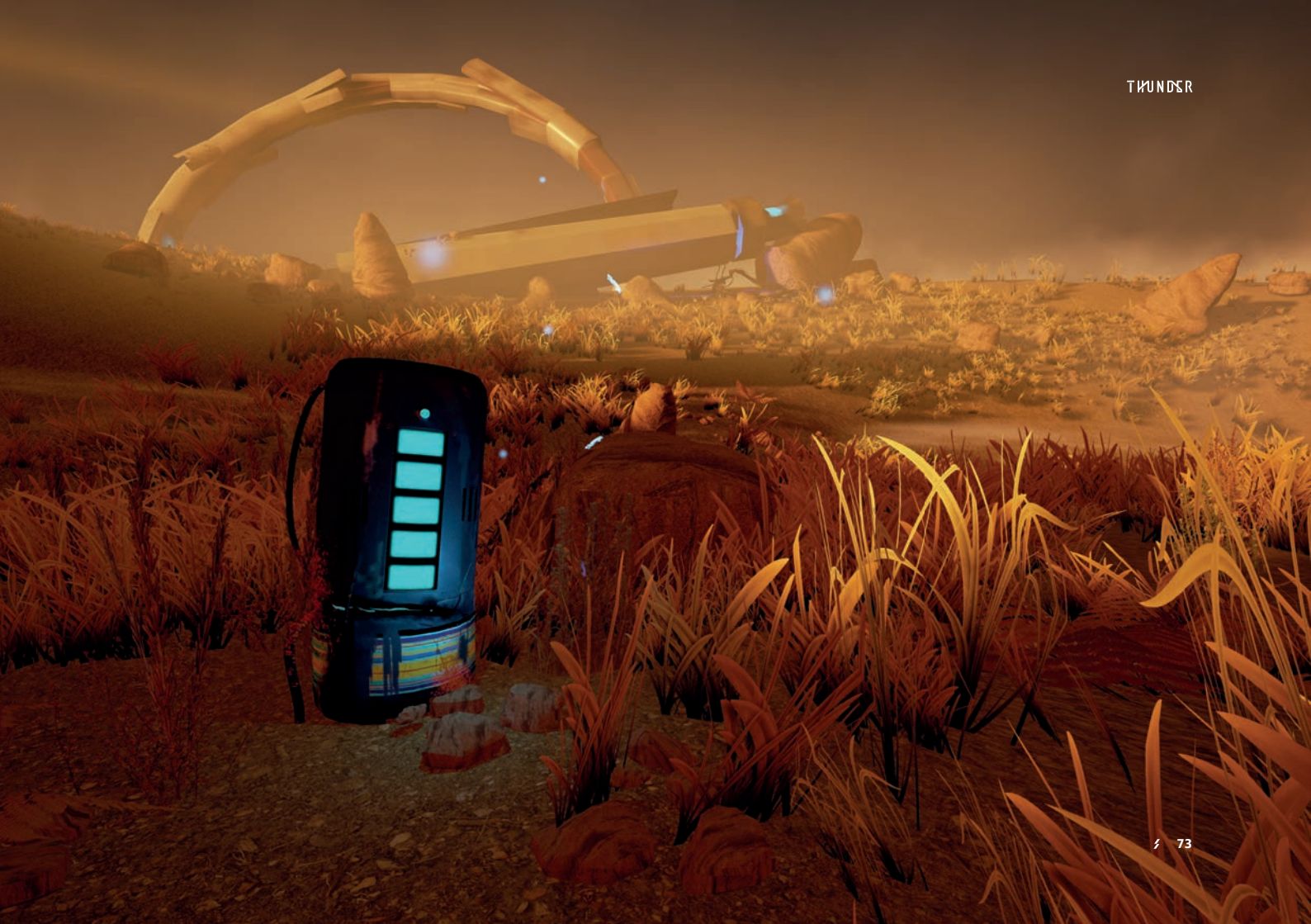
PRODUCTION

B. ASSETS

THE BATTERY







THE STRUCTURES

PRODUCTION

C. ENVIRONMENT

DESIGN & LIGHTNING

We focus the color grading on red and yellow tones, to create a rusty and barren atmosphere. Our main goal is to make the player feel lonely in that destroyed world. The size of the environment and the contrast between the ground and the sky crush the player in this area, and focus their attention on the Bolt Seeker.

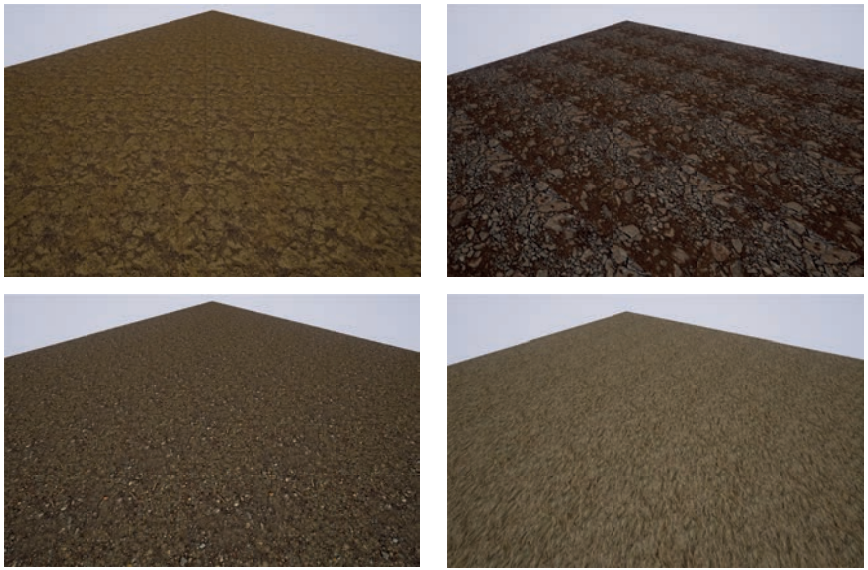
PRODUCTION

C. ENVIRONMENT

MATERIALS

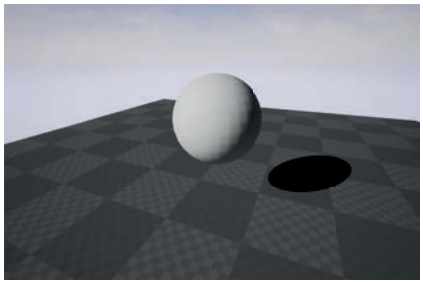
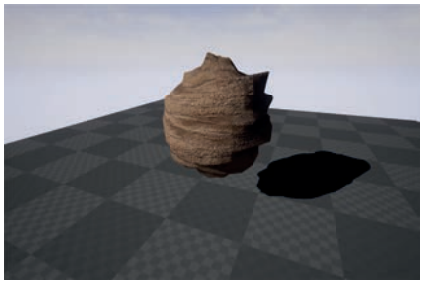
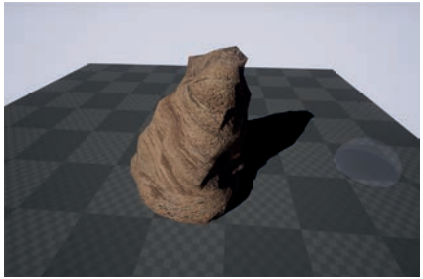
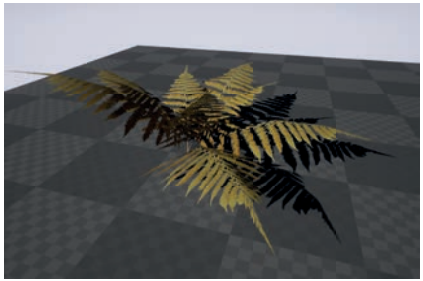
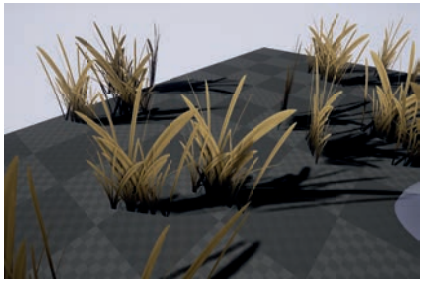
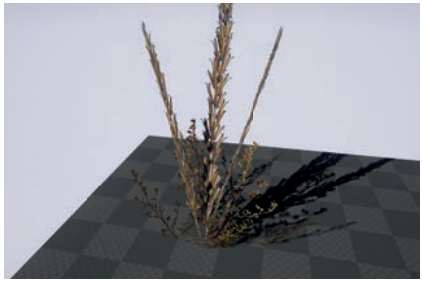
The work on textures allows us to easily create several variations within the landscape design, by applying different ground textures, different grasses, bushes and foliage, or many big or small rocks. By doing this, we simulate a bigger world than the scene. In that way, we create several materials that contain our texture sets, that allow us to paint the landscape and iterate over it.

The rocks are made with simple modelizations, applied as foliages, and share the same material. We worked with a specific one, with displacement, to create different and nice rocks, only via the material.



PRODUCTION

C. ENVIRONMENT

SOUND DESIGN

The universe of Thunder can be divided in 4 entities, each with its own sound identity.

A. SOUND DIRECTION

THE BUNKER
a lively place where people are trying to survive

- ▶ Voices, laughters, cries, acoustic guitars...
- ▶ Basic technology, rusted metal, old radios...
- ▶ Inspirations: Metro 2033, The Last of Us, Mad Max, The Walking Dead

THE OLD WORLD
remains of the ancient civilization

- ▶ Powerful, futuristic technologies
- ▶ Soft synthetic sounds
- ▶ Inspirations: Gattaca, Her, Halo

SOUND DESIGN

A. SOUND DIRECTION

NATURE
a devastated world where life is evolving

▶ Wind, dust, strange animals heard from afar

▶ References: The Last of Us, Mad Max, The Walking Dead

THE STORMS
huge, evil & unnatural beings

▶ Deafening wind & thunder, unleashed elements Frightening, fantastic creatures, the storms seem alive

▶ References: Lord of the Rings, Mad Max: Fury Road

SOUND DESIGN

B. MUSIC

Simple compositions, with sounds symbolizing different aspects of the universe

- Survivors symbolized by acoustic guitars (Light, easy to play instrument), possibly diegetic
- Thunder symbolized by electric guitars and big drums
- Mystical & futuristic aspects symbolized by synths

Musical Inspirations

- Album “The Wall” by Pink Floyd (big oppressive electric guitars)
- La Petite Semaine (sailor’s songs)
- The Last of Us & Metro 2033 (acoustic guitars)

SOUND DESIGN

C. IMMERSIVE SOUND & AUDIO FOR VR

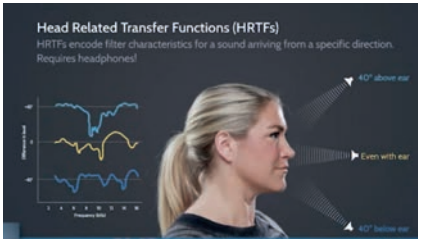
FOR A BETTER IMMERSION, NO AVATAR

In Thunder, we want to offer a completely immersive experience, where the players feel like they are directly in the world of the game without having to embody an avatar. This is why we chose to ban some specific sounds usually heard from the player's character, such as footsteps, breathing, speech, screams...

THE CHALLENGES AND OPPORTUNITIES OF SOUND FOR VIRTUAL REALITY

Thanks to the realtime head tracking, the ability for the players to localize the source of a sound in VR is much better than in traditional video games, even with their eyes closed. However, a number of technologies are emerging, such as binaural sound using custom HRTFs (the acoustic data of the player's head, unique for each player) for an even more precise spatialization.

An advantage of VR audio is that you have much more control over the hardware players will be using. Eliminating poor systems like small speakers allows much more freedom regarding dynamics. This is why Thunder has much more audio dynamics than most video games.



SOFTWARE


MAYA


Ps


SUBSTANCE
DESIGNER

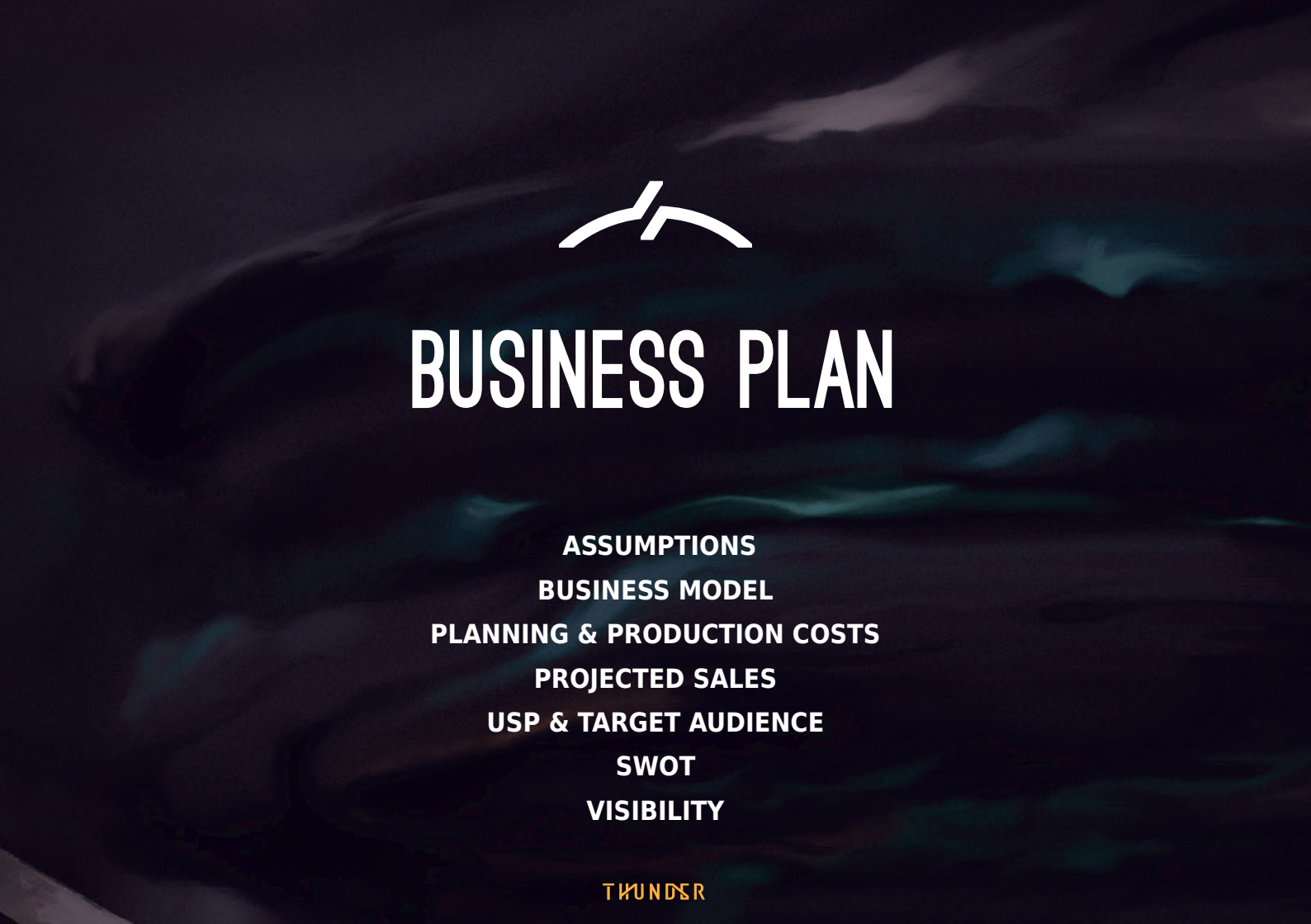

SUBSTANCE
PAINTER


UNREAL
ENGINE


ZBRUSH


Wwise


REAPER



BUSINESS PLAN

ASSUMPTIONS

BUSINESS MODEL

PLANNING & PRODUCTION COSTS

PROJECTED SALES

USP & TARGET AUDIENCE

SWOT

VISIBILITY

THUNDER

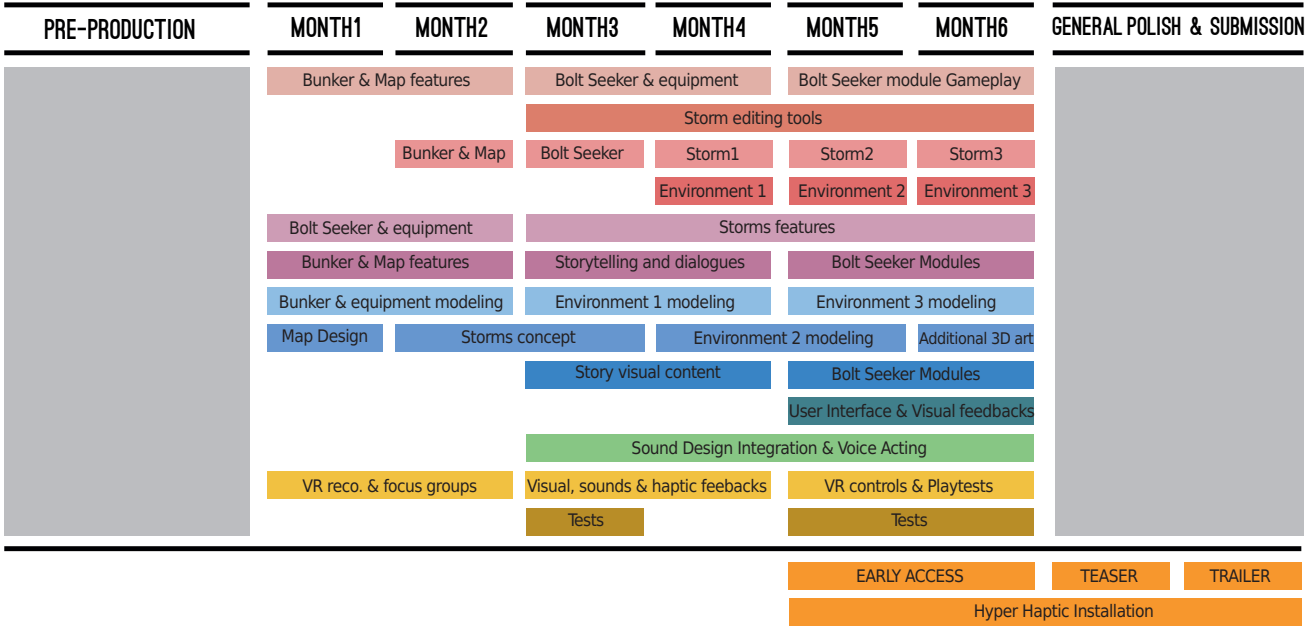
ASSUMPTIONS

- We are pitching this project to an editor
- We are not making this game at our own studio, thus, no budget for marketing or administration.
- We are all interns or junior developers (monthly-man cost : 3,000-4,000 euros)
- The publisher will make a normal marketing campaign.
- We will give our suggestions

BUSINESS MODEL

- Premium digital game ($19/€19)
- Digital Stores (Steam, Humble, GoG, Wearvr, Viveport)
- Additional DLCs (new storms, new environments, new Bold Seeker modules) - €5
- Deluxe version (with all DLCs) - €30
- Collector Edition (with a figurine of the Bolt Seeker) €50

PLANNING & PRODUCTION COSTS



PLANNING & PRODUCTION COSTS

JOB	PRE-PRODUCTION		MONTH1	MONTH2	MONTH3	MONTH4	MONTH5	MONTH6	GENERAL POLISH & SUBMISSION		NUMBER OF PEOPLE REQUIRED
Gameplay Programmer	2	2	1	1	2	2	2	2	1	1	2
GFX/Shader Programmer	1	1		1	1	2	2	2	1	1	2
Game Designer	3	3	2	2	2	2	2	2	1	1	2
3D Artist	2	2	2	2	3	3	4	4	2	1	4
Sound Designer	1	1			1	1	1	1	1		1
UX Designer	1	1	1	1	1	1	1	1	1	1	1
Tester	1	1			1		1	1	1		1
Producer	1	1	1	1	1	1	1	1	1	1	1
SUB TOTAL	12	12	7	8	12	12	14	14	9	6	14
TOTAL	42000	42000	24500	28000	42000	42000	49000	49000	31500	21000	

TOTAL 371,000 €

Men-month cost : 3,500 € (including taxes and additional costs)

PLANNING & PRODUCTION COSTS

CATEGORY	DESCRIPTION	PRE-PRODUCTION		MONTH1	MONTH2	MONTH3	MONTH4	MONTH5	MONTH6	GENERAL POLISH & SUBMISSION		NUMBER OF PEOPLE REQUIRED
Licenses	Adobe CC	50	50	50	50	50	50	50	50	50	50	500
Licenses	Substance	19.9										19.90
Licenses	Maya	1,920										1920
Licenses	Fusion 360	318										318
Licenses	Wwize	6,000										6,000
Licenses	Jira Software (25 users)	1,800										1,800
Licenses	Reaper	60										60
Human ressources	Leisure activities		150			150			150		150	600
Other costs	Snacks, Office supplies	1,800	1,800	1,050	1,200	1,800	1,800	2,100	2,100	1,350	900	15,900

TOTAL 27,118 €

PROJECTED SALES

MAIN GAME

BREAK-EVEN POINT

Production cost	371,000€
Sales Base Price	19€
Steam fees	30%
Unreal Engine fees	5%

30,040 SALES

1xDLC

BREAK-EVEN POINT

Production cost	35,000€
Sales Base Price	5€
Steam fees	30%
Unreal Engine fees	5%

10,769 SALES

SALES POTENTIAL (FIRST YEAR)		SALES REVENUE	% OF GAME COSTS	MARGIN
Break-even point	30,040	371,000€	100%	0
Sales target	50,000	593,600€	160%	222,600€
Sales Potential	100,000	1,224,300€	330%	853,300€

USP

"An VR game where you steer a kite, inside a storm, to catch lightnings"

- Real game created for VR
- Play inside a storm
- A deep encounter between the player and Bosun

TARGET AUDIENCE

- HTC Vive users
- 25-35 year old
- E.U./U.S.
- Localization in Europe : EFIGS (English, French, Italian, German, Spanish)

SWOT

STRENGTHS

A real VR game
Immersive VR Game (the one you show to your friends to discover the VR)
Control a kite : perfect experience for the VR

WEAKNESSES

Student team (lack of experience and reputation)
VR constraints (VR sickness, poor graphic performances)

OPPORTUNITIES

Still a small VR game Market
VR owner market will grow up during the next few years : the game will be sold during a longer period than a “traditional” PC game.

THREATS

Niche game (VR game)
Currently small VR owner market

VISIBILITY

HYPER HAPTIC INSTALLATION (HHI):

Customers & PR visibility (High-Tech & Game Conventions + VR rooms)

Icaros project, first prototype

VR ROOM PARTNERSHIP:

With Mk2-VR / ImaxVR

MK2 VR - First VR-dedicated public space in France

TEAM

PRODUCER
Augustin Dagoret

GAME DESIGNERS
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SOUND DESIGNER
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SPECIAL THANKS

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