
BOBO VR
IF YOU CAN SEE IT, YOU CAN SLICE IT!
A three week gamejam project by Pascal Nader, Joanne Acker, Adrian Acevedo, Dominik Mauterer, Jeehee Jeon

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A fourth semester gamejam project by:

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About Gobbo VR

Gobbo VR is a fantasy adventure experience with gameplay focused on sword fighting and mobility.

It was created as part of our studies in the fourth semester of game design at HTW Berlin in form of a three week gamejam. This was the first of two gamejams we did in that semester.

All projects are centered around a general keyword or idea, which we can choose from a selection provided to us by the professors. We chose the theme “VR only”, to familiarize ourselves with the medium. This would be our first project using VR, and for a few members of the team, it also meant using VR for the first time.

Our goal with Gobbo VR was experimenting with the medium and coming up with gameplay mechanics that would only make sense in VR. Things that are fun to do in VR, instead of making the user think “this could have been a flatscreen game as well”.

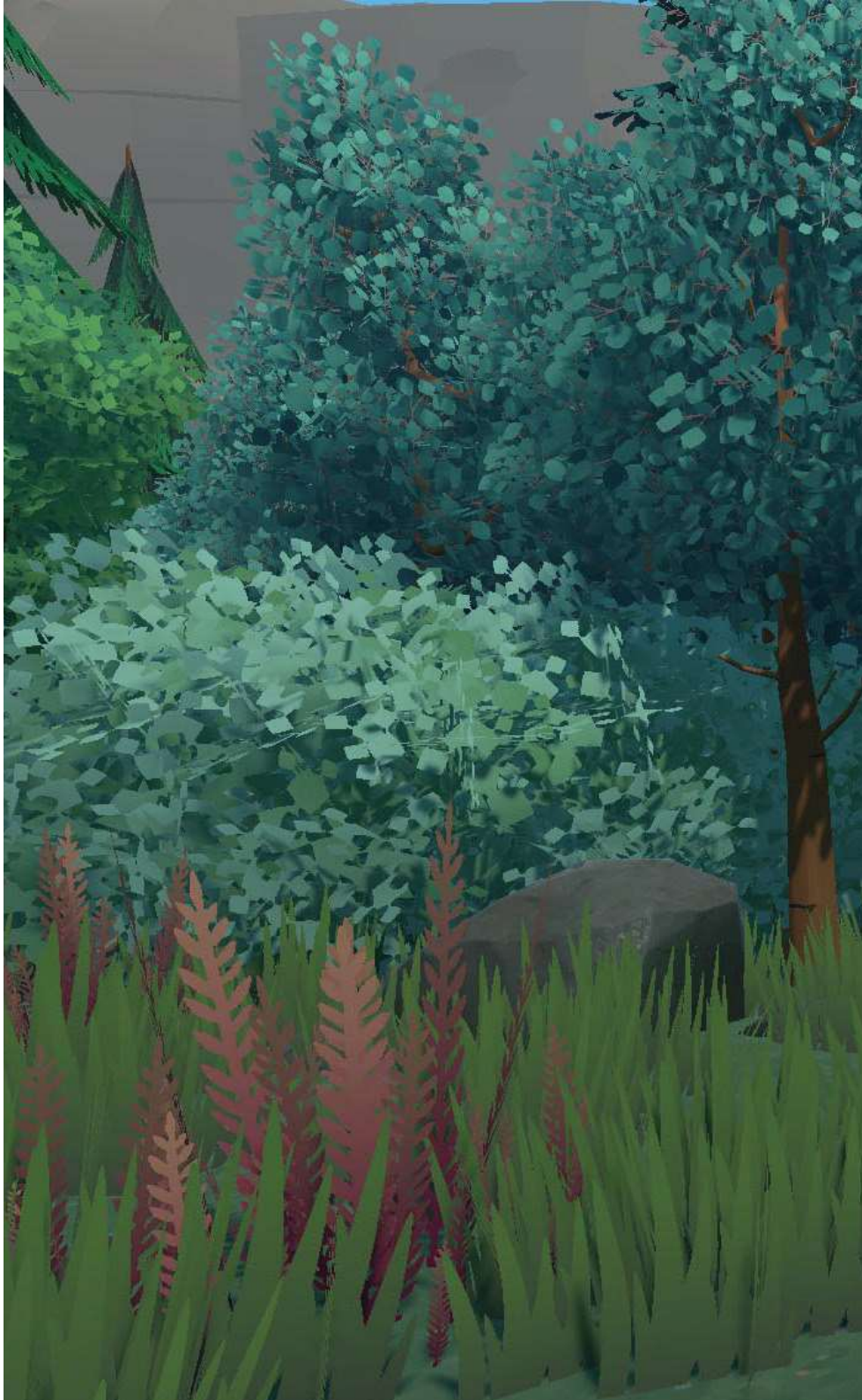
In our quest to familiarize ourself with developing for VR and trying out new things, we quickly established a few key concepts we want to explore with the game:

- The game should have unique movement options that don´t just depend on “move the stick to move forward”

- We like sword fighting. In most VR sword fighting games we have seen, users wiggle their sword until an enemy is dead. How can we translate big and “real” movements into something the user wants to make instead of something tedious that is necessary for fighting?

- What level of abstraction is possible for the user to still accept the world and how far can you push it?

We had a whole lot of ideas and three weeks to make them a reality. This is Gobbo VR.

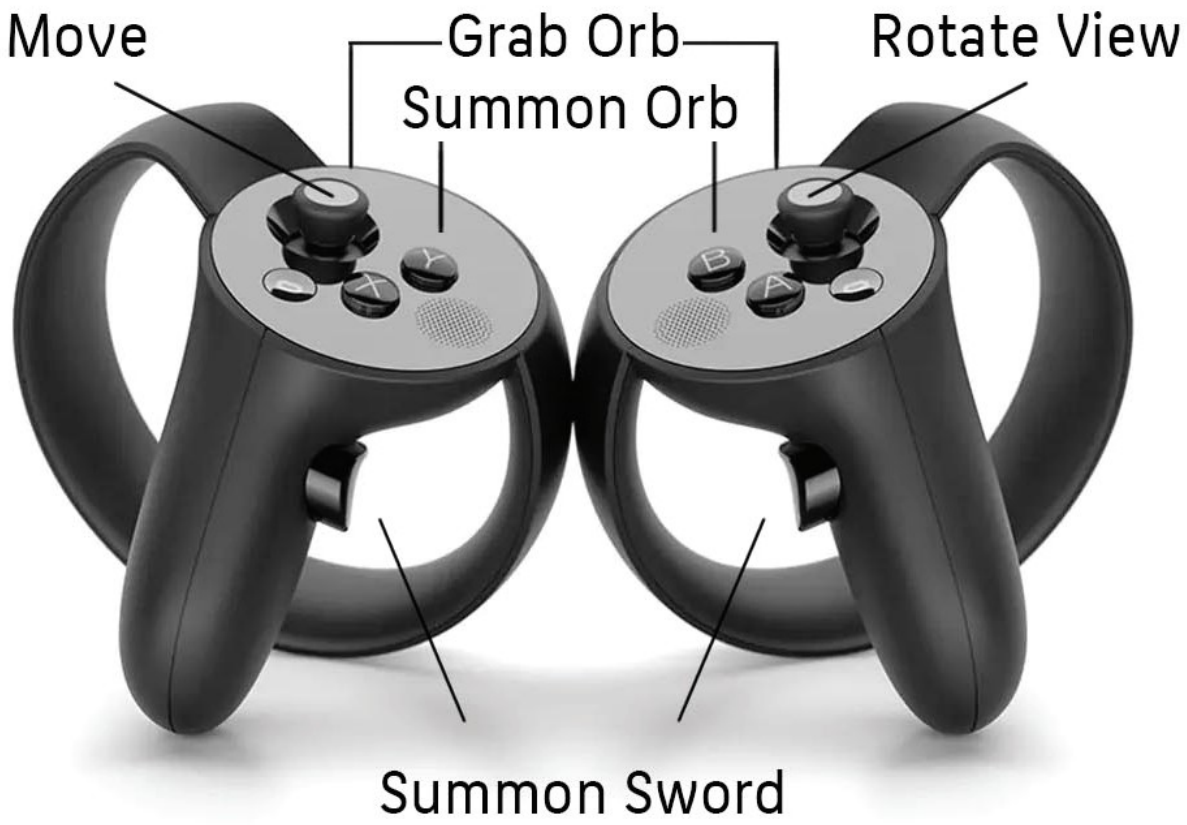


How to play

The player uses an Oculus Quest headset and the Oculus Touch controllers.

Inside the world of Gobbo VR, you can walk around based on your play space, and you can use the joystick on the left controller to move and the right joystick to turn. Objects can be picked up using the Left/Right grip buttons, and you can summon your sword with the Left/Right trigger. To summon back your orb, you can use the Y or B button.

Now you're ready to play, slay enemies, explore the world, collect experience, and illuminate the arena.



Exploring VR

In Gobbo VR, we aimed to ensure that players could experience various aspects of the VR world.

The addition of intriguing physics to objects within the world greatly enhanced the overall experience.

The inclusion of the ability to fly using a sword charge serves to remind players that they are within a virtual realm. Engaging in battles against enemies that can be defeated from multiple angles and carrying the orb, which collects experience from breakable objects in the world, contributes significantly to the immersion factor.

Game mechanics

In order to not overwhelm ourselves with the endless posibilities of a new medium, we decided to reduce a lot of mechanics we came up with in the initial brainstorming into a few main gameplay features.

The goal was to give the players enough interaction to have fun within the world, but not walk around frustrated because everything just feels like a three dimensional backdrop.

Two Main Mechanics

Since we had two people interested in designing and programming systems, we let each one come up with a system of their own that we were going to bring together for a coherent game. Thus the two main objects were born, around which the main mechanics were designed. One is a tool and an extension of the player, while the other is a gameplay goal and motivator.

The sword

Since the main interaction of the game would be sword fighting, early playtests showed that the players would try and use the sword on anything they encounter. Anytime the sword would not react they would be disappointed. So in order to satisfy the need for interaction, we introduced slicing as a main feature of the sword on top of general feedback whenever something is hit, like sparks and haptics.

Enemies can be sliced apart, at their exact point of contact. So can all of the vegetation in the dungeon. This created a lot of fun for the players, because none of the fighting was rigid, every enemy could be defeated and sliced up in a different way. Players would sculpt bushes into different forms by slicing it up however they wanted. And pots and other little objects would of course shatter on impact with the sword. To not make it too easy, players had to hit with a different amount of force in order to break different things. Slicing grass would require much less force than slicing up the enemies at the end of the dungeon.

The other mechanic tied to the sword is the dash. The sword can be charged up and used to dash into any direction the player points towards. It works similar to shooting a bow, except the player is still tied to the arrow. This mechanic is used to dash into enemies, but also traverse the game, as we put canyons in the players way, which they have to dash over with the sword.

To not crowd up their hands, the sword only appears in any hand if the user grabs it out of thin air, like a summon.

The orb

The second mechanic is tied to the game objective. We call it the orb. Once the players enter the dungeon, they see a floating ball in an altar like structure. They can take it out and carry it with them. The goal of the game is, to bring this object to the end of the dungeon and place it into another similar looking structure. This will trigger the last fight.

The orb has a few special properties that tie it into the world we built. A few objects the player can shatter (mainly the crystals encountered later in the game), release floating particles whenever the player breaks them. They avoid the players touch, but are attracted to the orb, and fly towards it when they are near it. The more particles the orb absorbs, the brighter it glows.

Once the orb is placed into the altar at the end of the game, it releases all the particles the players fed it throughout the game and it illuminates the arena.

In order to not always carry the orb around, it can be placed inside an inventory slot above each wrist. In case the player loses the orb, we have implemented gesture recognition. Once a player performes the gesture, the orb is repositioned to the hand the gesture was performed with.

Visual development

For the visual development we decided to indulge in an colorful high fantasy style, often seen in rpg games like the Warcraft games, battle chasers, and old school dungeon crawler games.

The architecture and the texturing were dictated by that desicion.
With a few concept sketches and a lot of reseach we created a modular asset kit wich we could use to create the whole dungeon area in a more time efficient manner.

Since we made our game in virtual reality it was espexcially important to look at performance. Modeling our assets with a low poly count was crucial.
For the texturing we used a mixture of handpainted assets, pbr texturing in Substance painter, and free assets found online, as well as AI based image generation to help us scale up the amount of work we can do.

We used base textures as a starting point for Ai to make variations and enhance the style to our liking. This was helpful since we only hat three weeks for the whole project and did not have time to hand paint everything.

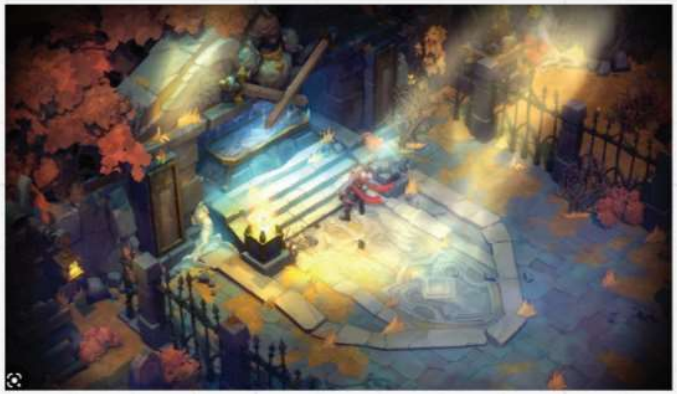
Moodboard and inspiration

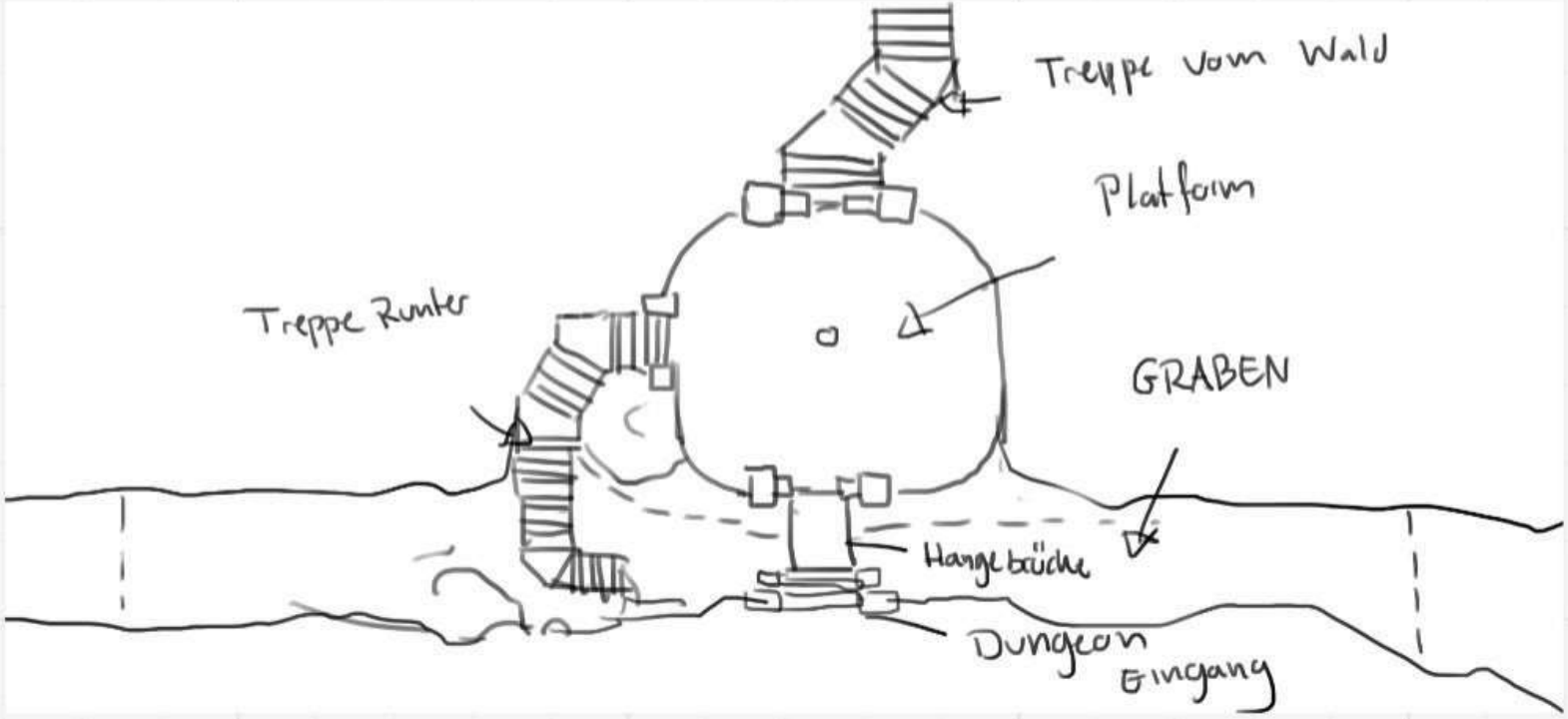
Games shown are Wayfinder, World of Warcraft and Battle Chasers

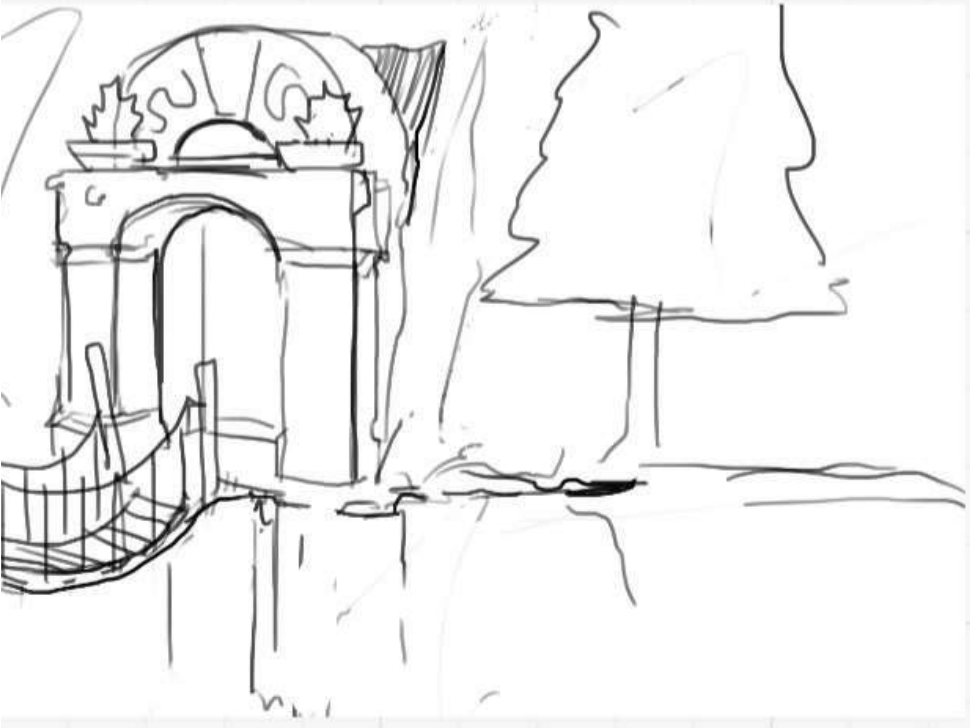








Treppe vom Wald
Platform
Treppe Runter
GRABEN
Hangebrücke
Dungeon
Eingang



Style concepts

We decided early on that we did not want to go for anything realistic. Instead we tried to go for an artstyle which is believable enough when walking through the world but not too realistic when slicing enemies with your sword.

In the beginning we had a much more realistic tone to our design, which we changed to a more stylized and cartoony approach. This helped the fact that we used our own assets together with asset packs to flesh out the world.

Images on the top:
These are the first renders we made to explore an idea we had for the start of the game visually. The player is supposed to wake up in a camp that has been abandoned. This is how we started with the narrative idea for our “journey”, the progression the players follow throughout the game to the end. They start in a forest, come to old ruins and then enter the dungeon

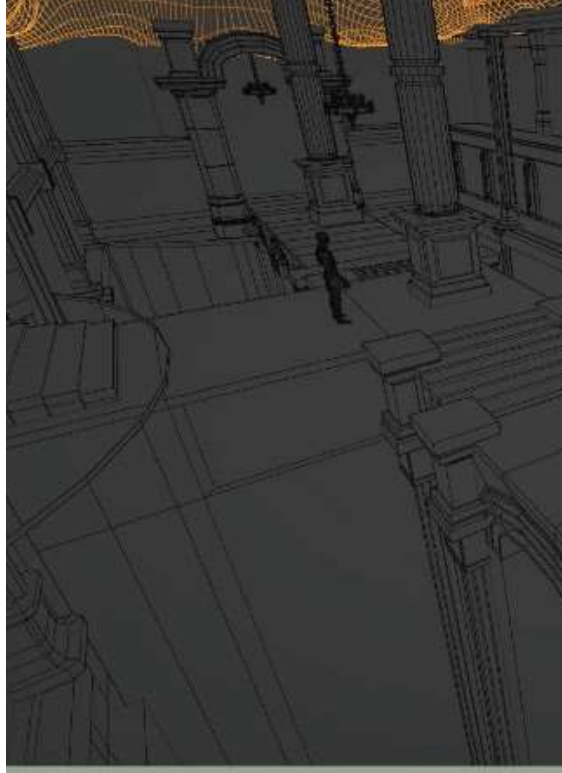
Bottom images:
Concept sketches of how the structure in front of the dungeon entrance could look like. This was later scrapped, but we did model it out and had it in the game for a while. Ultimately we decided to focus on the dungeon, so we removed this piece, as it would have meant a lot of extra work for us at the time.

Designing the world

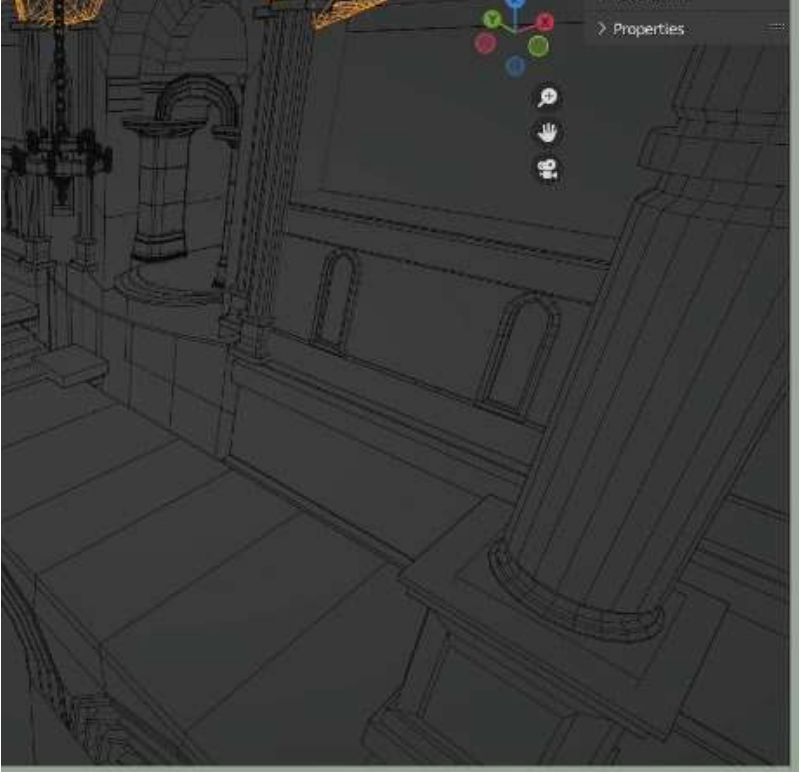
We approached the worldbuilding through a vision we called “the journey”.
It was a series of places we wanted to show and tie different parts of the gameplay into it.

The players start in a forest clearing where they see a lot of trees, a winding road and a stone which had a floating sword on it. After the player takes the sword, they follow the road, on which they encounter their first enemy. Once it is defeated, the players keep following the road through the forest until they come to a cliff. The road ends here, but on the other side, an opening in the mountain shows the path they have to take. With the sword dash ability, they can leap over the cliff into the entrance of the dungeon. After another jump on top of a platform in a big dungeon-esque room, the player encounters a bunch of enemies, but also the first altar. It has a round object inside it, which the player can take with them. The path goes further into the mountain, now only a dirt tunnel, with crystals growing on the walls which the player can shatter with the sword. After a series of dashes onto stone platforms, the players arrive in a big circular arena. They place the orb in another altar in the middle and begin the final encounter. Four enemies try to defeat the player, this can be done over and over to have fun with the fighting system until the players end the game.

From that journey, we divided up the environments needed to make the game.
We needed a forest, a dungeon entrance, a big dungeon room, dirt tunnels and a final arena at the end. Those were divided up between the 3D artists and after a few greybox prototypes we produced textures and assets that have an overlap between the places, so they can be tied together in their design while being visually distinct.



A typical process of our workflow. To test things out quickly, we would export whole rooms like this to use with basic colliders to look at in VR. Often it would look and feel completely different from how we expected it to be on a flat screen. Things were higher but closer together, it was much easier to spot modeling problems, flipped faces and other errors in VR, that would have not been noticed as easily just by modeling them on the computer.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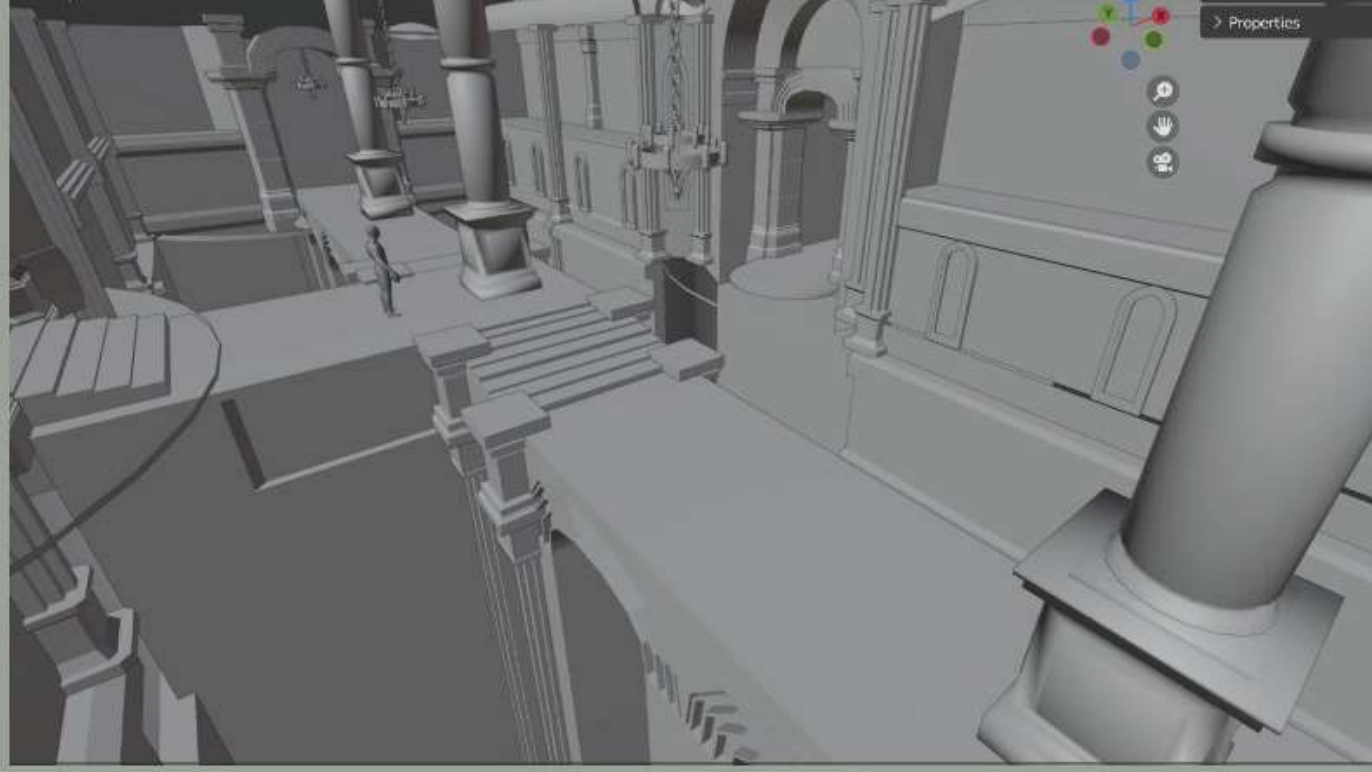
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Transform
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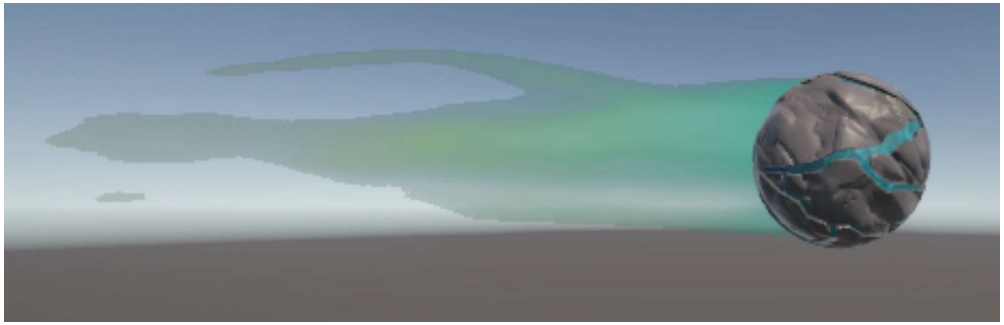
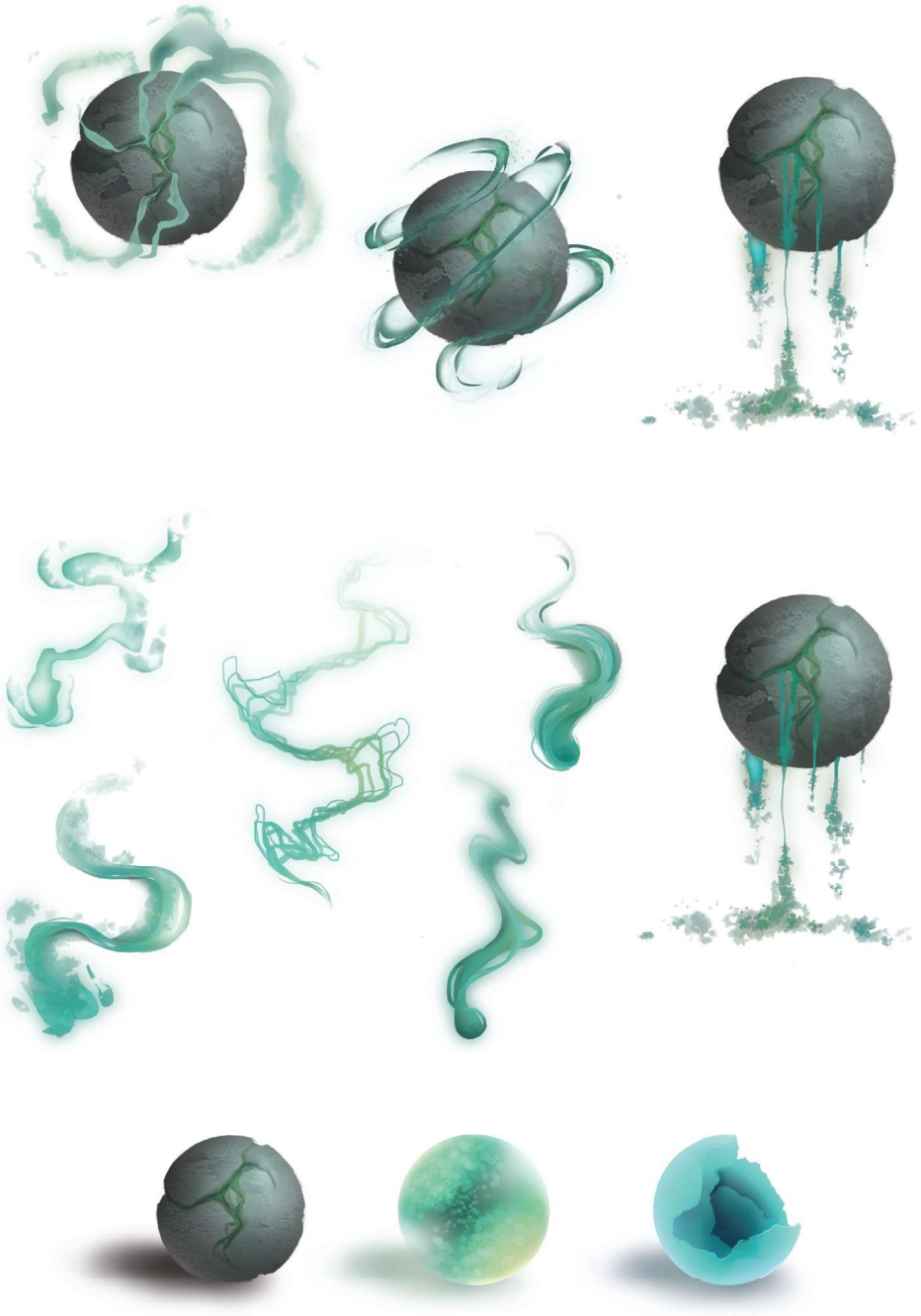
Hero Assets

The orb

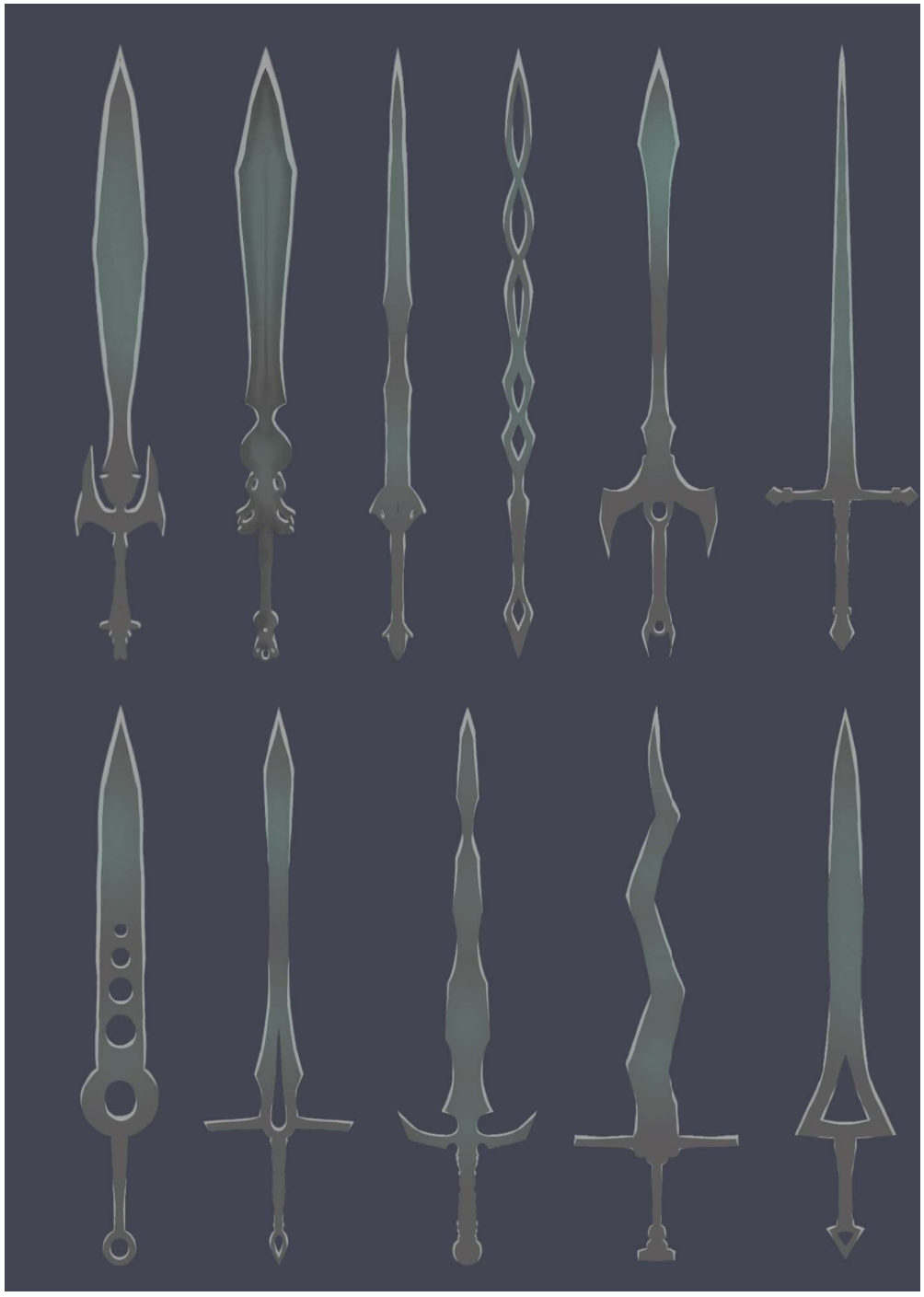
The orb is an ancient artifact which is used to collect traces of magic troughout the ruins. It is also used to trigger the last fight. It resembles a cracking stone sphere which holds the magic in place.





The sword

The design of the sword is supposed to be special without being an over the top fantasy design. it is a mix between a legendary sword with an exciting past and just an ordinary steel sword. The overall design is similar to the orb to emphasize on their connection to each other.



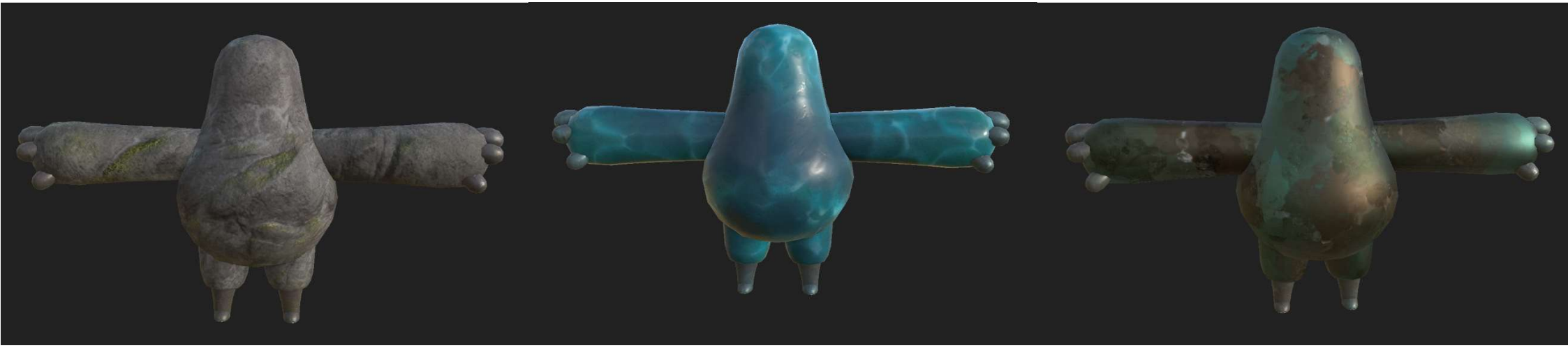
Things to interact with

Designing an enemy

One of the most important things we had to implement was an enemy the players could fight, since our focus was using the sword in the game. But if we would start designing, modelling, rigging and animating an enemy from scratch we could have easily filled the three weeks just with that task. So we decided to use and adjust a character we had lying around in an asset pack

To make it look more grounded in our world, we retextured the single colored characters we had and made three variants for different parts of the game. We wrote a simple behaviour to make the enemy patrol a given area, chase the player when they come into range and throw barrels at them the player could either dodge or parry with the sword.

The enemy variants are not just visually different from each other, the player also needs to use different amounts of force in order to slice them apart. From left to right, the enemies appear in the forest, in the dungeon and in the final arena.

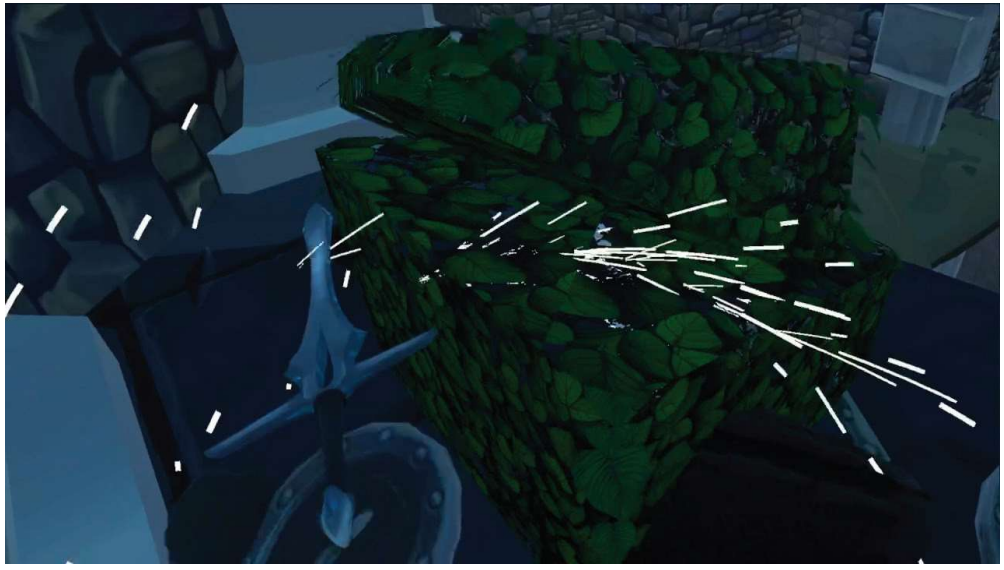


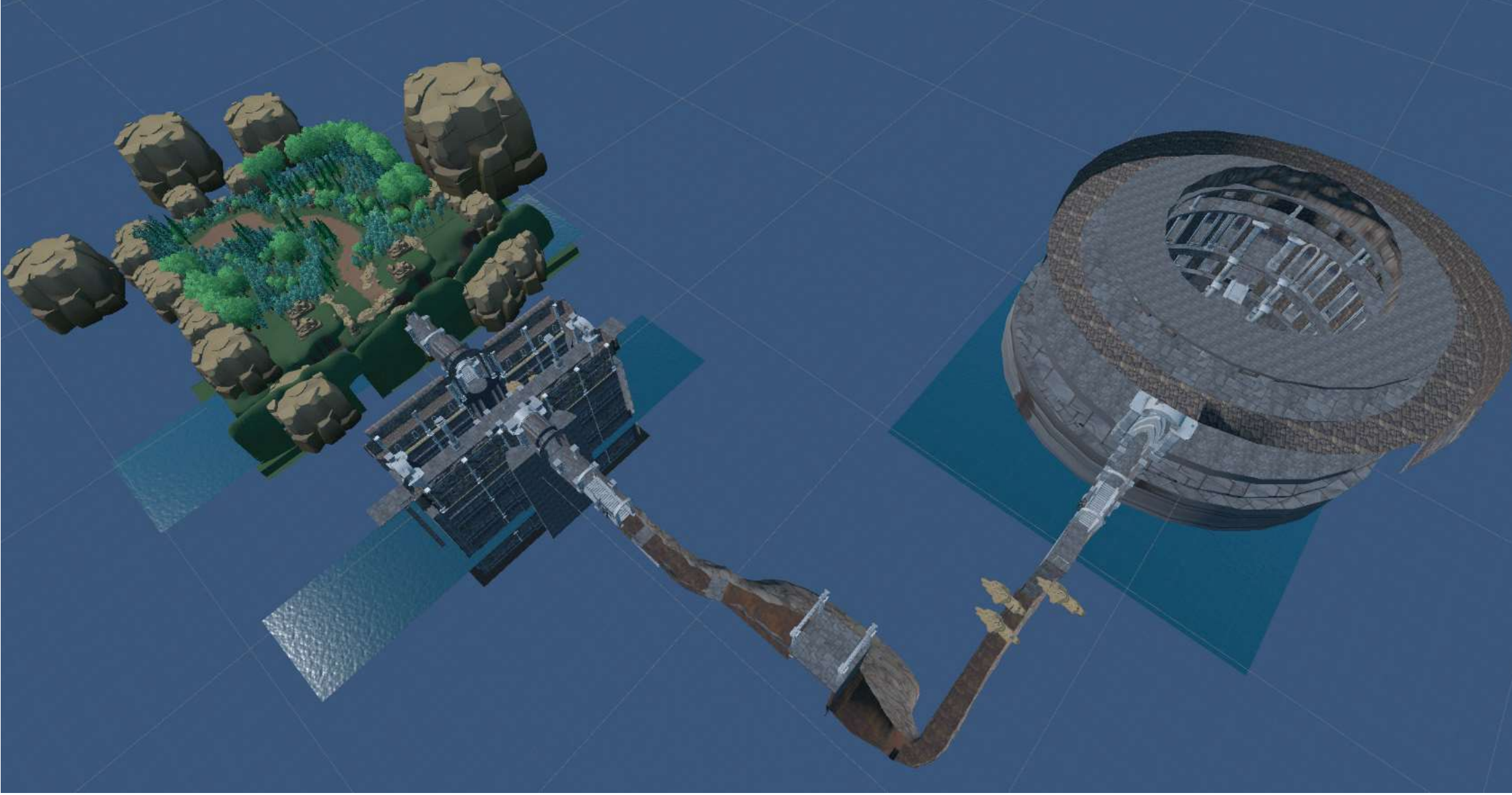
Slicing foliage, enemies and props

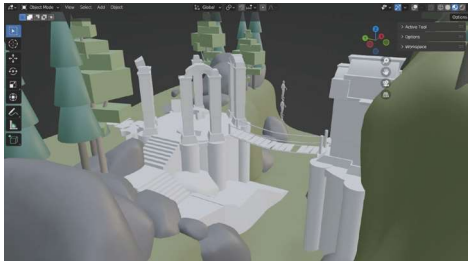
Since slicing became our main focus in the game, we spent a lot of time on that system. An at the time recently released tutorial about slicing in VR became our base we built on. Drawing a plane on the point and angle of impact, the object is then seperated into two. We built onto that system by adapting it for foliage. Instead of just making both object fall to the ground, we can determine if a plant is a floor plant or a hanging plant. Depending on that, the top or the bottom part of the plant will become the new sliceable object after it has been sliced. The other part will fall to the ground and disappear after a few seconds.

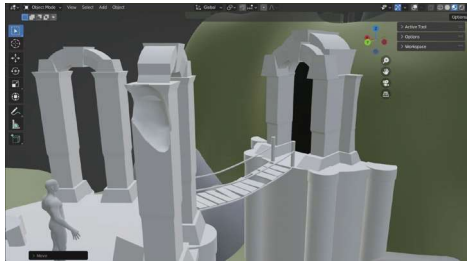
With that, it felt like players could sculpt one object into any shape they want and they did so a lot. Some completely ignored the main focus of the game and just went off to slice foliage like a giant kebab.

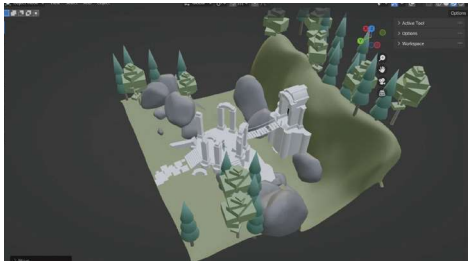
On the top is a screenshot of an early showcase of our destruction system. First, the players get the weapon, then they learn how to destroy barrels that shatter into hundreds of pieces, then the slicing is introduced. In the end, there is an enemy that can be sliced, throws a breakable barrel at the player and respawns when its destroyed.









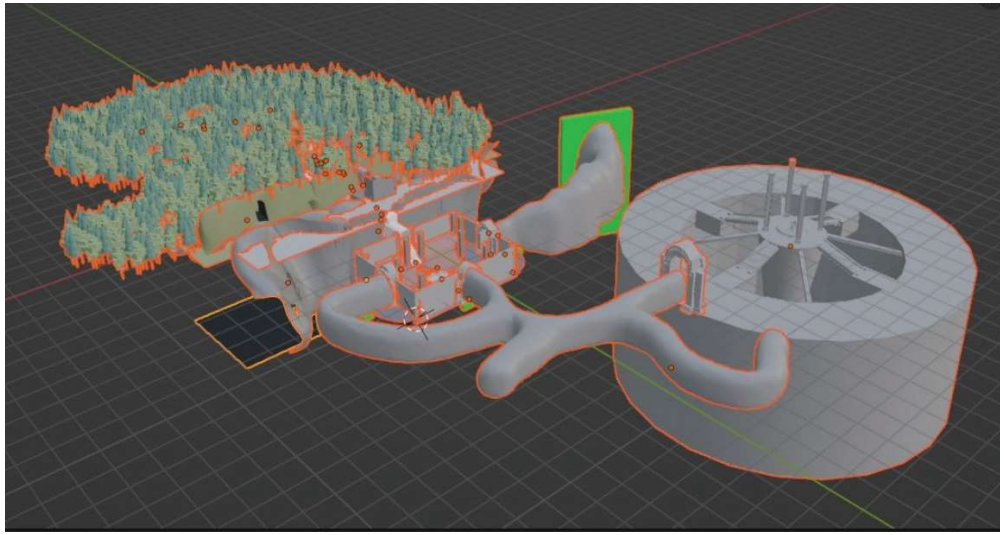


Building a level

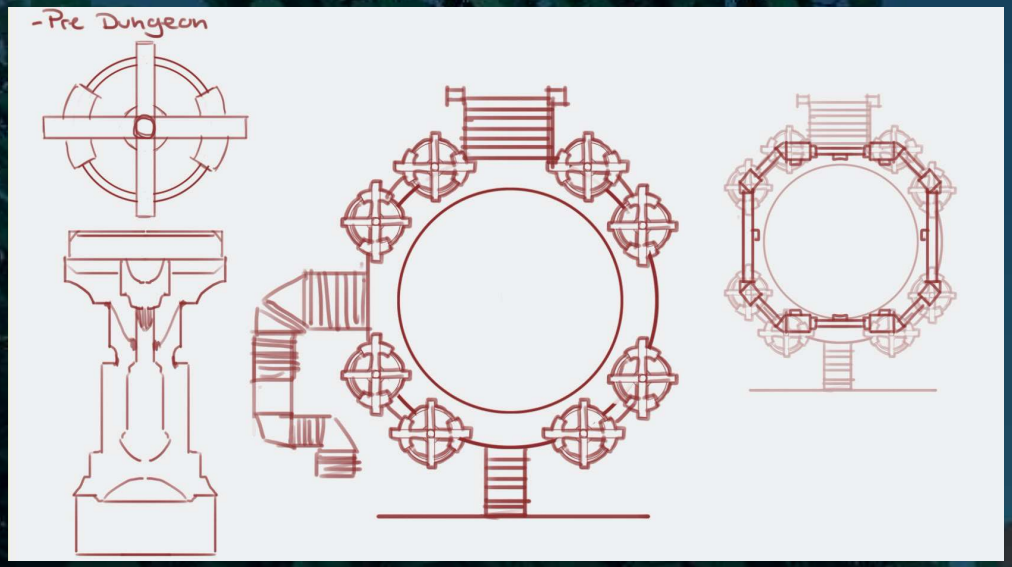
Since we had a limmited time frame, we made sure to communicate thoroughly. With layout sketches we created a map for our level as reference and with moodboard and pinterest boards we made sure that all the artist in the team headed into the same direction.

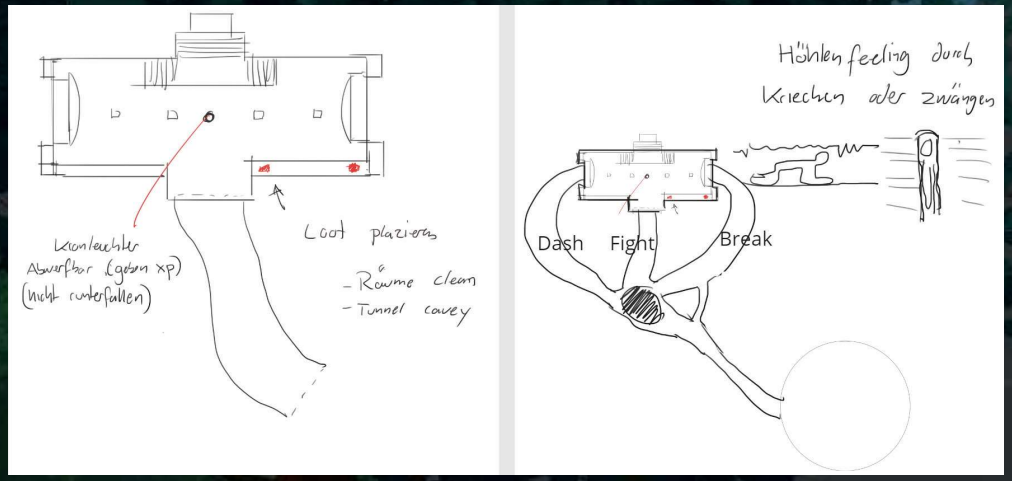
We split the map into two parts, a forest area and a dungeon system, wich was the main gaming area. Over the weeks we made little adjustments on the map so the implimentation of new ingame features could shine.

As we decided to model the most assets of the map ourself we had great control over the layout and placement of our different level parts and features.

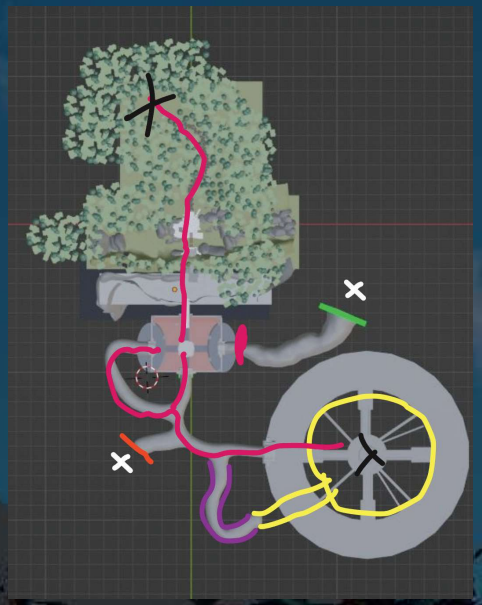


Level design sketches



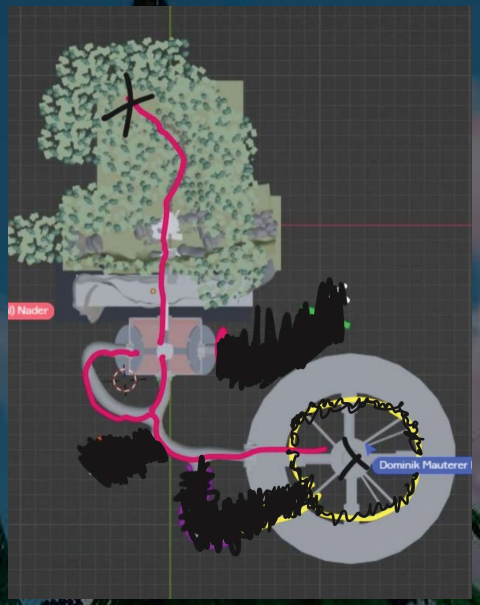


The forest was our intro/tutorial area where there player would learn about our different mechanics in the game such as slicing/ attacking enemies and the sword dash.



If the player enters the green portal they would come out at red portal, which means that the player could skip the area in between, but we would want them to go there to collect remaining energy.

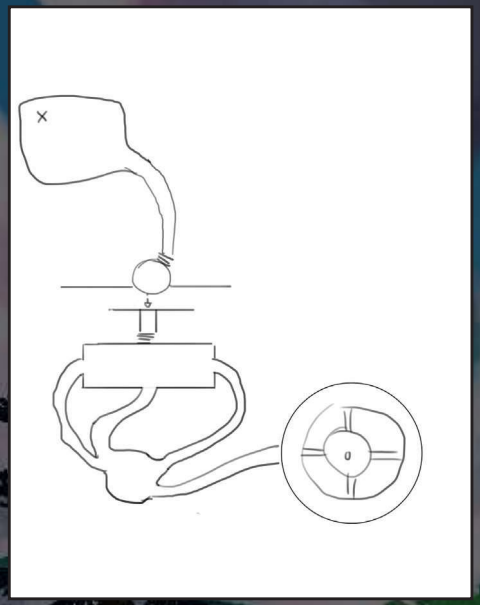
The purple and yellow path should have been a way to get in to the arena from the bottom but we didn't have a connected path there so I advocated to remove that section.



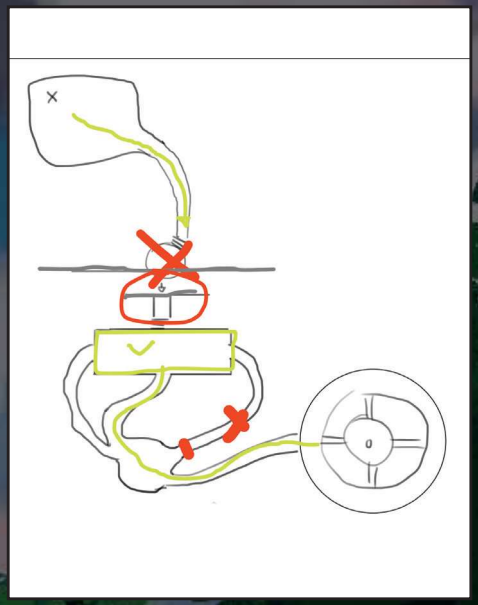
After discussing this feedback with the team we came to the conclusion that this would help to be able to finish the project on time.

We removed the portal idea completely but agreed on having a main path with one optional path that leads to the main path.

Also the arena had no bottom part anymore instead it was the void that served as the restart button for our game.



After even more discussing we wanted to have three paths with three different challenges along those paths. This idea didn't stay because it would have cost us too much time.



We decided to keep the idea of having one main path that leads to the arena. Also we removed the bridge between the forest and the entrance so that we could use the section to teach players a game mechanic.

Image gallery

Playtesting and feedback

While working on different aspects of the entire game, we consistently ensured that people could playtest our game.

After each playtest, we actively sought feedback from the players regarding their thoughts and observations. Accumulating all this feedback provided us with valuable insights for developing a playable VR game.

Changing stairs to be straight ramps instead of having step-by-step stairs significantly reduced motion sickness. Adjusting the movement speed, turn angle speed, and height of the sword jump also helped us improve our gameplay significantly.


NIKE
GLOBETROTTER

Acknowledgements

We want to say thank you to everyone who helped us during the creation process of our project, starting with but not limited to:

our friends and family who helped with playtests and feedback

our classmates who helped with ideas and solutions despite being busy with their own projects

and of course our amazing lecturers Susanne Brandhorst and Thomas Bremer who helped us realize the project to the best of our abilities and kept pushing us to go further with their valuable feedback.

Typeface: HTWBerlin by Jürgen Huber/ Malte Herok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