

## Week 4-5: 25 jan- 7 feb

Friday, January 29, 2021 2:55 PM

Hello world. This is my first entry for my thesis project.

01.feb.2021

### Programs i might use for production

- After effects, Maya 2019, Illustrator

BUT

Unreal or Blender?

There are many reasons for why I should use one or the other for rendering and world creation.

I am not looking at Blender as a modelling software when asking this question but rather as a contender for realtime rendering which Unreal Engine also is good for.

One of the reasons I could use blender is because I already know how to achieve the look I want in it.

But there are plenty of reasons I should use Unreal aswell.

Reasons to use Unreal:

- Keep a library of assets and materials etc easily available across all scenes
- Control player characters with walkcycles (make it look more videogamey)
- Work more organized
- Easy to collaborate with other artists or programmers
- Landscaping and foliage tool for easy placement and makes environment creation faster
- Less limitations with Shaders (compared to blender)
- Easier to work with particles
- INDUSTRY STANDARD
- Integration with

Reasons to use Blender:

- Can work with mostly one software for all 3d related work.
- Toon rendered characters are easy to achieve
- Better for animation (character animation)
- Starts running slow if too much polygons

- Both can render transparency



I had a very clear idea in mind for a scene, that i pursued. Im keeping it in my notes to remind myself of pursuing this idea further.

Random notes:

Make maps of the world, before you make the world?

### Subject - Notes/Tools:

It is difficult to focus when starting a project, because there is so much that needs to be done, In different areas of the project.

Recently I have been managing finding the tools I want to incorporate into my workflow for the process diary, organizing, artistic research, exposition and writing.

For example OneNote which I am using now for taking notes. The reason why I am using this application for taking notes is that my notes will be saved to the cloud. Which will make it possible for me to write notes on almost any device or computer. Since OneNote also has a web application. All my progress will be backed up.

When I focus on one task it feels like I am wasting time not working on something else. And if i try to tackle everything at once I will end up doing little work since I get too stressed.

Writing this first entry for my process diary also serves the purpose in finding if it can be easily integrated into my research catalogue page as a PDF.

### Regarding the Process Diary :

Last semester I also wrote a process diary, I want to address it. And what I aim to do with my current Process diary.

- Last semester's process diary was a good start, but what I think didn't work for me was that it didn't serve a purpose to ongoing work and feed. What was missing was that I didn't tackle issues or problems I was facing, but mostly smaller topics my work touches upon.

Currently I aim to keep the process diary closer to a freewriting "exercise". Taking notes and discussing how I aim to solve problems I can see on the horizon.

Write short about my mental state.

Writing this way will give me better material to work with later when documenting my process. (Since I will most likely describe more details that might slip away if I was trying to formulate myself in a more precise manner).

I could say this diary will be more of a tool for me.

### 03.Februar.2021:

I am working with myself. I must know myself better. How do I work, how do I not work. How can I make sure I work, How can I enable work?

I try to enable future work, by doing smaller tasks that will ensentavice or make it easier for me to pursue a task in the future.



## Week 6: 08- 14 feb

fredag 29. januar 2021 15.44

I had a conversation with Martin. We talked a bit about our projects. It gave me a lot of good ideas on how I should go about organizing the project production etc..

Firstly he had some good ideas with trello and using the time plan that is integrated in trello instead of excel, because excel can be hard to understand.

He also proposed using multiple songs and not just 1 song. Which I must look further into. It was something I had not thought of myself.

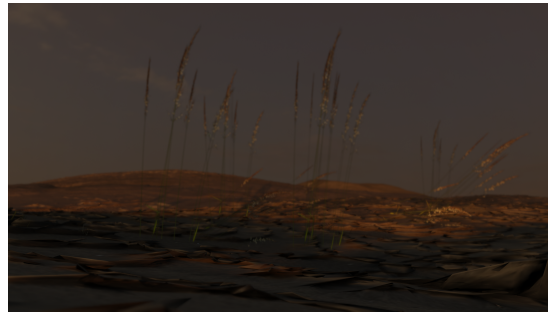
I also discussed the importance of making the digital world seem comfortable and cozy. Give the feeling that it makes sense that they want to live there.

The way the characters are seeking solace in the digital world can reflect my own relationship with computers.

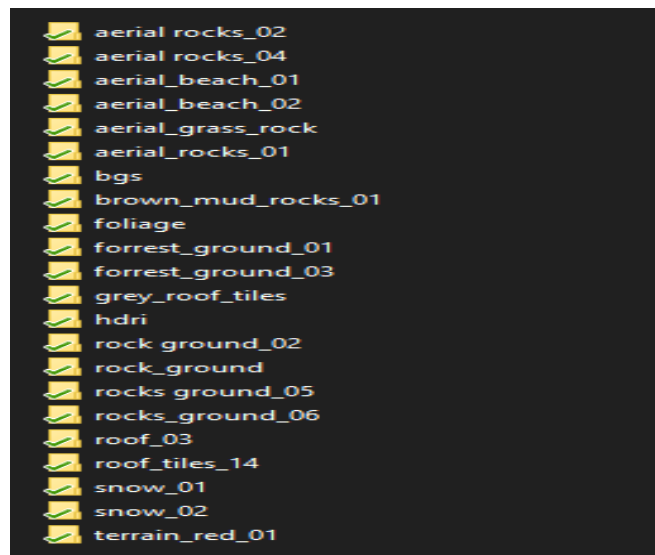
Since I am making a music video, I am thinking of approaching the storyboarding process a little differently. And once the script is finished I aim to make concept art for most of the environments the scenes are set in. Afterwards I think it would be smart to also work on some ideas for motion graphics transitions and effects and how they would work in the different scenes.

Afterwards I can make a storyboard exploring how much graphical elements there will be vs 3d animated etc

I also worked with 3d scanned assets (materials) and HDRI to create realistic scenes. Since I wanted to explore a possible method of working with creating realistic scenes.



I used textures from <https://hdrihaven.com> and <https://texturehaven.com/>. And organized a library of textures so that it would be easy to access and use the material when working.



I made some assets, testing out sculpting. I wanted to see if sculpting could be used for asset creation, both stylized and realistic.

For generic assets, BOX uv mapping worked excellently for uv mapping the object fast.

I plan on making a rough concept of how my research catalogue page can look like. Or at least use the techniques, it doesn't have to look good. But function the same. Using blockouts as to not make me focus or care that it looks good or not.

MESHROOM ER ET GRATIS 3D SCAN PROGRAM :)



## Week 7: 15- 21 february

Monday, 15 February 2021 15:32

Monday:

Today I have been working on some ideas for how I possibly would design my research catalogue project page.

Mainly the work was done for the tutorial page, rough sketches were made to explore different designs.

I want to invite the reader of my exposition into my work in a engaging way. While the tutorial also reflects the content of my project aswell as my methods.

I also experimented with motion blur in After Effects, and using low samples to achieve a motion blur close to what they used on old hardware in games released on N64 and PS2.

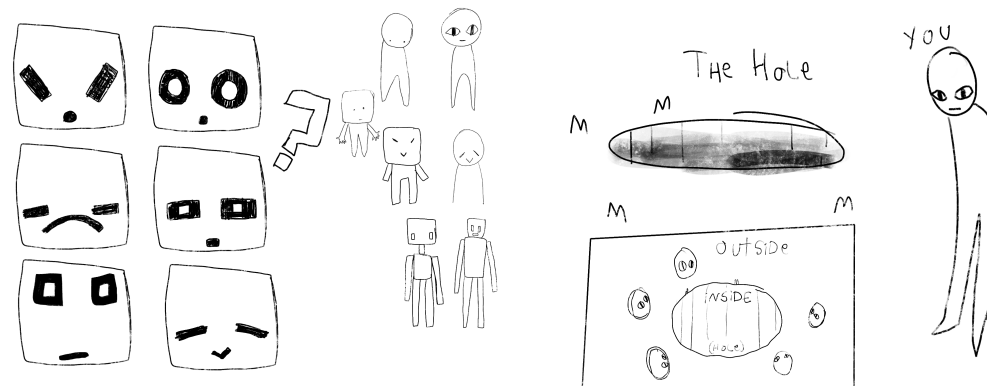
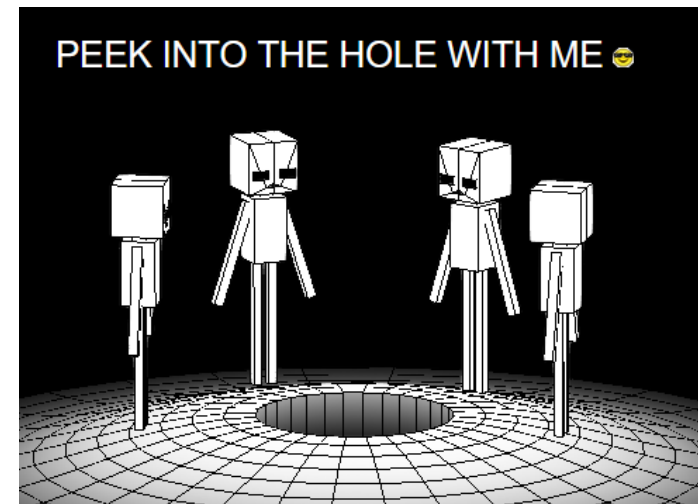


I worked further on my exposition page in research catalogue.

The imagery is supposed to depict avatars or users (you) taking part in looking into my research, that is depicted by the hole. I had different ideas for how to depict this.

This is what you are greeted with when you enter my exposition.

This is still an early work in progress of this idea. it might change or develop further later.





## Week 8: 22- 28 february

Tuesday, 23 February 2021 16:03

### School assignment:

This week we have an assignment in our 3d animation course. I tried to connect this assignment to my thesis project. The assignment was basically to explore the software Blender further by working on a project of sorts.

My plan for the assignment was to test out the production pipeline for assets, specifically foliage/tree assets. The aim is to make a project file setup that I could possibly use for asset creation during production. Aswell as being able to work more comfortable with asset creation in Blender, since I am used to working in Maya.

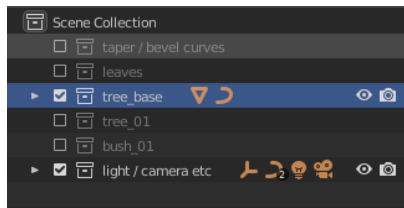
For this assignment I aim to make 2 foliage assets, a bush and a tree. And import it into unreal engine when it is finalized in blender.

This will hopefully give me a lot more insight and a better impression of how I will work during production.

### Efficient working:

I took me roughly 1 day to make the first tree. But once I have the setup I could efficiently make multiple trees and bushes in a days work.

I also prefer making some sort of concept art before modelling so I have a basic idea in mind of how it should look. I would only need a concept for the general idea, not for each asset. As this would take too much time.



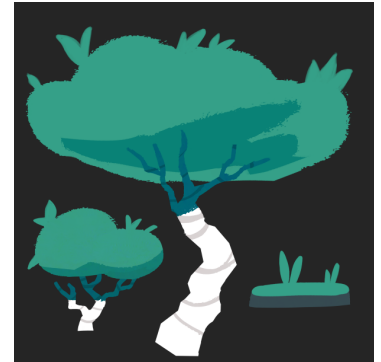
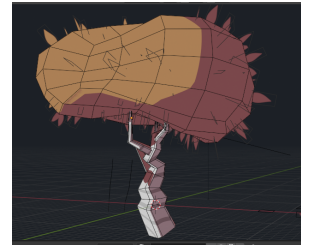
The scene looks something like this.

With a base for the tree that I can duplicate each time that I need to make another.

Then I can keep each model in their own collection.

At the bottom I keep all the general elements such as a camera, lights and measurements to make sure the scale is correct.

For production I should make different base projects like this that is customised for the different types of assets i will make. So that I can work even faster.



### Chat with Martin:

I talked with Martin about making a simple pipeline or mindmap of the asset production process So that I know exactly what to do and avoid searching on google for answers all the time

### Being stuck:

I have also had a problem that I didnt start on storyboarding since I dont know what the world will look like.

That I needed to do concept art first to get a better understanding when making the storyboards.

But to make the concept art I would need to define the style more. (You can see where this goes)

But I have come to the realisation, that I am pretty close to having a style now.

So what I should focus on when I have time to spare is to work on the **CONCEPT ART** for all the areas.

Once I have a general idea of how the world operates I can finish the storyboard.



# Process diary: Week 8

🕒 Created	@May 3, 2022 1:38 AM
🏷️ Tags	Main Entry
📅 Days	22 - 28
📅 Month	February

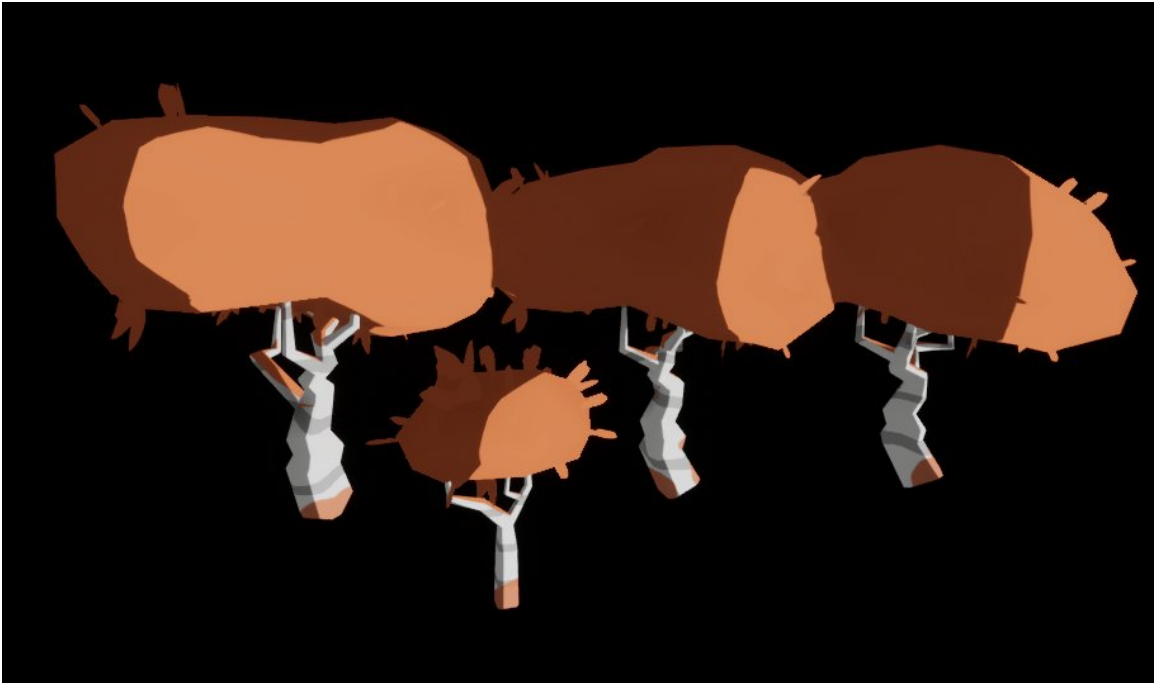
## Pipeline, from Blender to UE4:

I got the trees imported into Unreal Engine 4:

Some things I noticed about this workflow is that there are multiple steps I have to go through until the model is ready to send into UE4.

These steps include:

- Apply Modifiers
- Converting tree branch curves to **Mesh**
- Converting leaf particles to Mesh and **combining into singular Mesh**. (Make single user object & data)
- Combine all meshes
- Apply all transformations
- Grid Fill holes in branches
- Simple projected uv Map
- Bake simple AO to Vertex colour if needed



The trees rendered in the viewport in UE4 with working *cel shader* and procedural materials.

The video *UE4 understanding the Tex Coord* also gave me a better time switching from making procedural material in Blender to UE4.

For the trees one of the main inspirations were some environment art by *YU YIMING*

## Concept art in Minecraft:

I am also trying to use Minecraft as a tool for coming up with ideas for my movie. This picture is a work in progress of what I envision one of the first areas in the movie could look like. Building in minecraft gives me many ideas as i work, so it seems like a good tool for brainstorming.

Another interesting aspect of building in minecraft is that I am building it from a first person perspective of my in game avatar. This gives me a better understanding of the surroundings and hopefully makes the designs have more intention.

(For legal reasons I cant put a screenshot of minecraft in here, but if you are interested to see what minecraft looks like here is a video from Youtube

[https://youtu.be/BvPwKtAAJ\\_M](https://youtu.be/BvPwKtAAJ_M) , by InfiniteDrift)

## Going forward

In the coming weeks I will aim my efforts into making concept art for a scene from my script. And then build a simple scene in UE4 based on this concept. This will give me a much better understanding of how things will look aswell as how I will possibly work during production.

It will also serve as a starting point for making concept art for the rest of the scenes from my script. Which i will work closely with when making the storyboard of the music video. As the movie revolves so much around the environments, I feel that this is an aspect that has to be part of the storyboards.

If I dont have the environments be a key point of the storyboards it would be like boarding a drama movie about emotions without having any characters or not being allowed to draw faces.

## Resources used 🧐

### Unreal Engine 4 Cel Shading Tutorial


In this Unreal Engine 4 tutorial, you will learn how to use post process materials to create a cel shader. Developing realistic-looking games in Unreal Engine 4 is easy due to physically based

 <https://www.raywenderlich.com/146-unreal-engine-4-cel-shading-tutorial>





UE4: Understanding the TexCoord

 <https://youtu.be/y4eyL9vcvXE>



<https://www.artstation.com/artwork/BeyJA>



the references are color coded in the text

# Process diary: Week 9

🕒 Created	@May 3, 2022 1:39 AM
🏷️ Tags	Main Entry
📅 Days	1 - 7
📅 Month	March

## Notion

I have recently been starting to use an app called notion, which helps me gather all my work into a hub and also make plans. Earlier I used trello, so what I have done is transferring my setup from trello into Notion. But with Notion it is much easier to structure everything properly, thus improving my workflow.

I noticed its been hard to keep track of all the tasks for this project. So a program to keep track of all this was definetly needed.

## Minecraft concept art

Today I finished a minecraft build of the first scene for my movie. I will use this build as a base and reference when making concept art for this scene.

### (missing screenshot of the minecraft house i built)

This building is supposed to be the workshop where the main character lives.

When building the scene like this I get a fully 3D environment I can use for planning the composition that I envision for the final scene aswell.

The Main Idea for this house was for it to have many floor and rooms for storing valuable items, relics and tools.

The next step in the process, should be to dissect this image and building, as to understand which assets I will need to make it in Unreal Engine 4.



for some reason i thought i should make it into a modular building i can make in ue4.

But i will keep each building as static building.a modular set would only be needed for use cases where i need MANY buildings.

## Going forward

Next I aim to take this concept into 3d and model it. Then make some basic assets for the rest of the scene.

# Process diary: Week 10

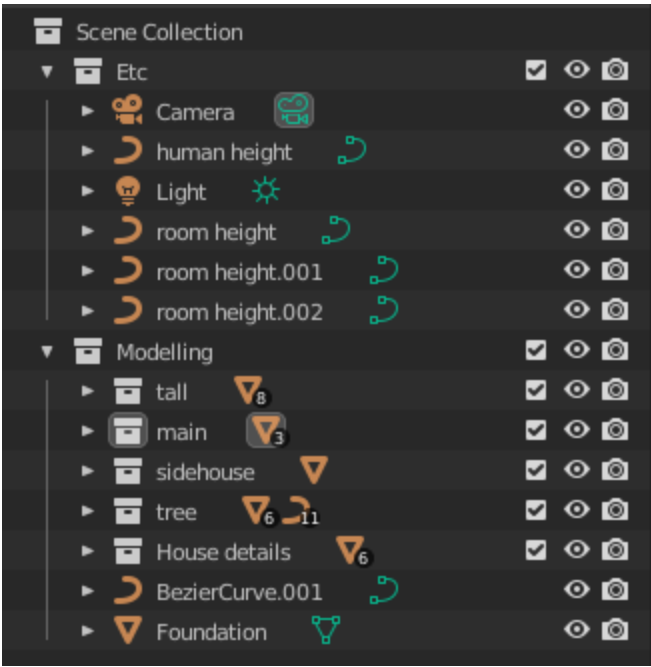
🕒 Created	@March 8, 2021 10:33 AM
🏷️ Tags	Main Entry
📅 Days	8-14
📅 Month	March

## Modelling process

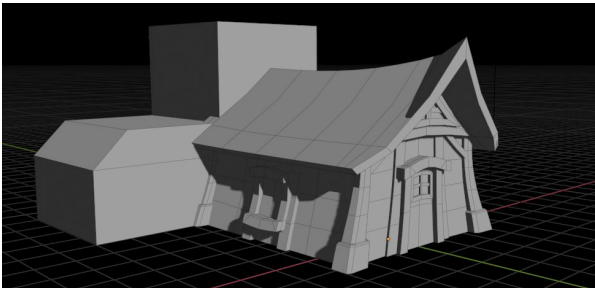
Structure:

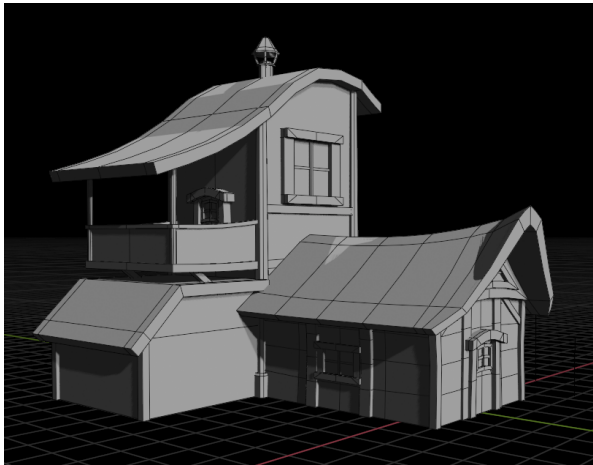
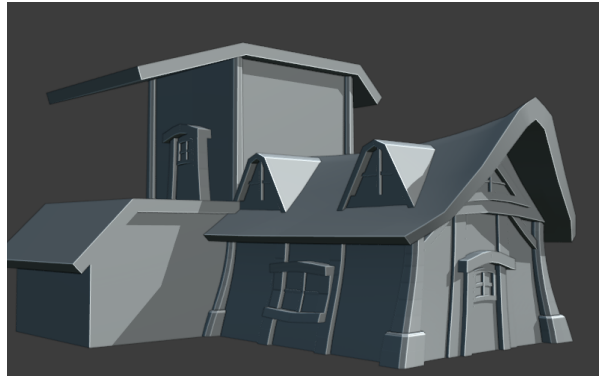
When working on this I also wanted to find the proper way of working on specific assets like houses. I structured the project file into two sections, ETC and Modelling. Etc contains lights and camera and objects not related to the modelling process.

Then inside the modelling folder i have specific folders for each part of the house. Inside each folder i allow myself to work a bit less structured and dont really name each object as they will all have to be merged and renamed by the end of the process.



Blocking:





When blocking I made sure to have as little geometry as possible as to make it easy to iterate on the design and make possible changes.



I tried to make the modelling process as non destructive as possible. One way I did this was by using "Lattice" modifiers which allow me to bend and exxagerate the shapes of the house while still keeping the lowpoly mesh "underneath".

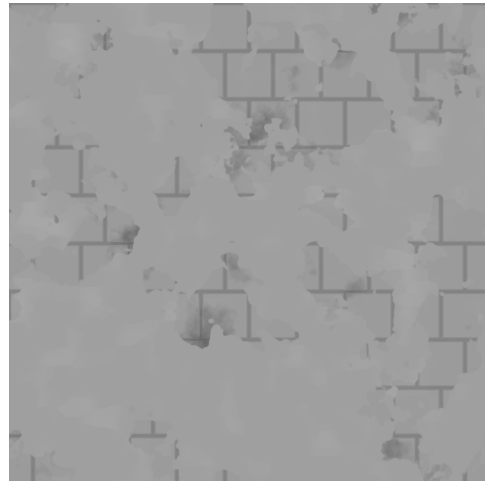
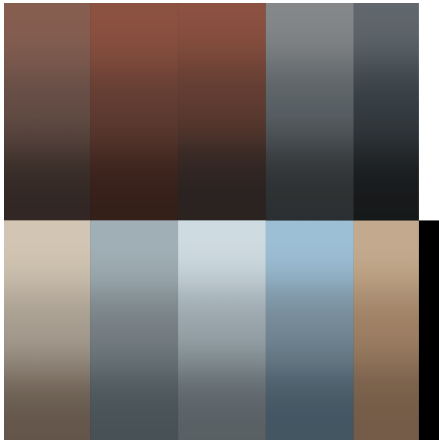
This is a part of the process I will definetly use during production.

Cleanup:

I had to remove countless edgeloops since i used a subdivision modifier to add extra topology so the model could receive the deformation applied by a lattice modifier. Looking back I should have added these edgeloops manually since it would have made the cleanup process much easier.

Texturing:

The house is textured in way where it gets color information from an array of gradients. Then shapes and patterns are multiplied onto these colours to add more textural quality to surface.



## **Adding something unique, making the house a character:**

I realised there was something missing from the house, something to make it look more interesting. It was missing its "story" or "character". Something that would make us "the viewer" believe that people had lived there through generations.

I did not have much to figure out a deep story for the character element I would add. But I knew that if I added something special to it that it would seem a lot more interesting.

The new element I added to this house was the tree growing around it.

This was inspired by a house from the cartoon "Adventure Time"

[https://en.wikipedia.org/wiki/Adventure\\_Time](https://en.wikipedia.org/wiki/Adventure_Time)

# Process Diary: week 11

🕒 Created	@May 3, 2022 1:43 AM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Practice in Substance Designer



[https://en.wikipedia.org/wiki/Kiki's\\_Delivery\\_Service](https://en.wikipedia.org/wiki/Kiki's_Delivery_Service)

I am working on learning Substance Designer so that I can implement it into my asset creation workflow.

Getting familiar with the toolset is important so that I will be able to create what i aim to do.

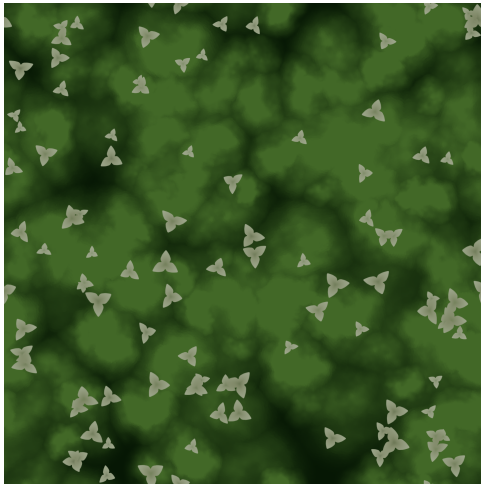
And avoid getting stuck on smaller problems.

## Less is more

When creating ground textures i find that its important not to overdo it and keep it subtle. The ground is supposed to be an element the viewer can rest their eyes upon. If there is too much contrast in the diffuse texture it will look too noisy and break the composition of the scene.



By using substance designer to create a texture it was easy to iterate and change the texture.



first version



final version

To compare you can look at the first version of the moss texture i made. The first version looks good on its own, but it will not work in a 3d scene and cause too much noise.

The final texture looks boring on its own, but will work perfectly with the rest of the elements in the scene.



first version



final version

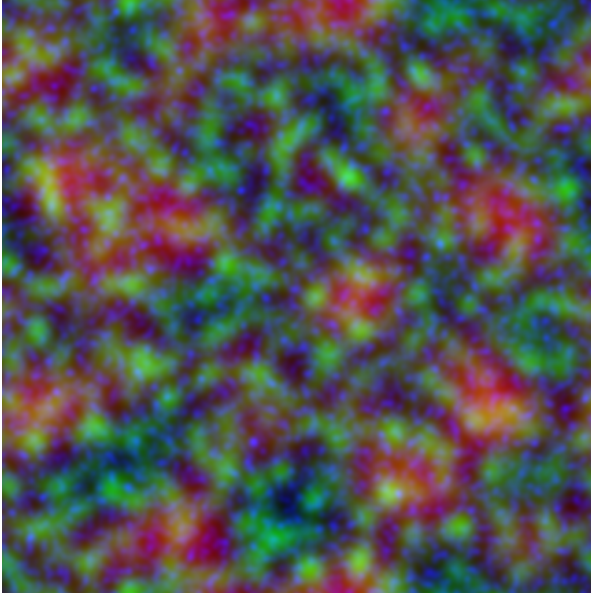
I am also experimenting with combining **multiple textures into one image file.**

To explain how this is done:

Image files contain R(red) G(green) B(blue) information. I can save a texture to each of these channels instead of saving the same texture to all the channels.



This way I can organize my files better aswell as saving save space and improving perfomance in the game engine.



an example of a packed image texture with different textures assigned to each channel.

## Going forward

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Next week I plan on making trees more trees for the scene, and then start to import everything to Unreal Engine 4.

# Process Diary: week 12

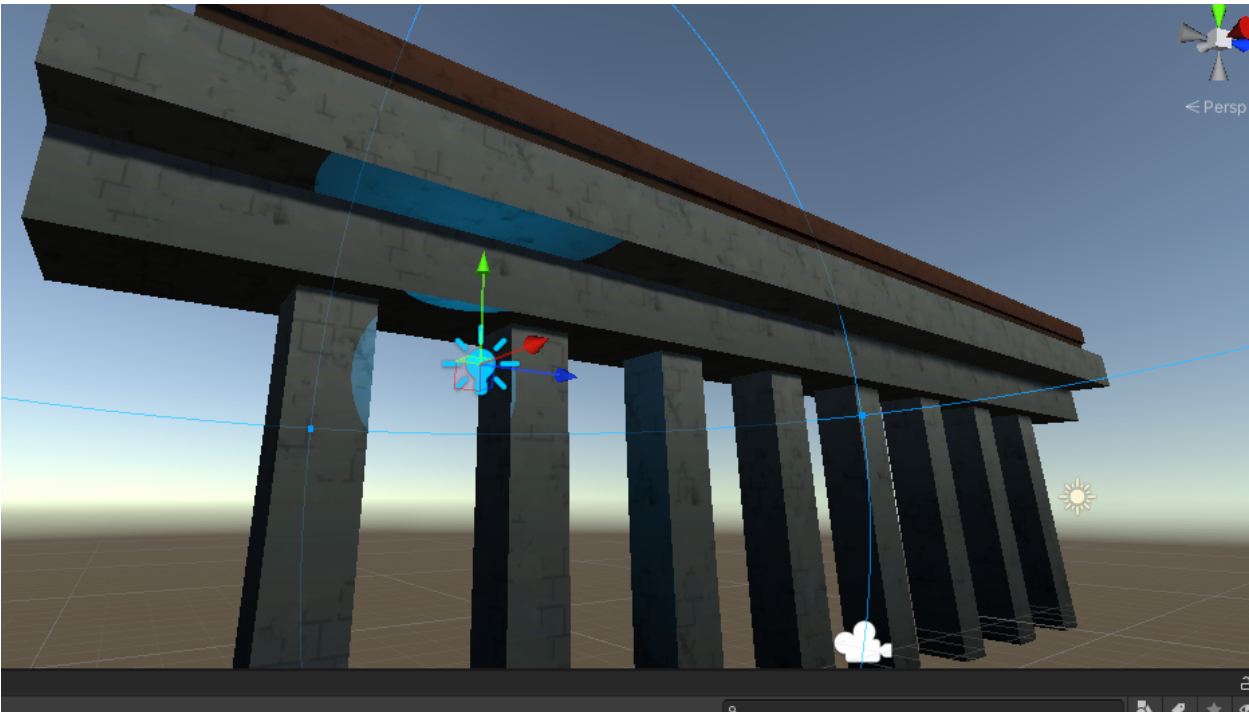
🕒 Created	@March 22, 2021 1:36 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Finding the right shader

I had to switch game engine from Unreal Engine 4 to Unity since i found no proper solution for cel shading in UE4. All the solutions in UE4 were merely faking the effect. It seems UE4 is best suited for realism.

Therefore I have switched to the Unity game engine. Here i experimented with downloading a free to use toon shader. But I found no proper way of adding alpha tranperancy to it. And I got a bunch of errors.

I then ended up buying a store asset from the Unity Asset Store. This asset is a complete toon shader with all the features I needed for my film. I might have to look into custimizing the shader a little so that i can make it work better with my pipeline.



this is the first screenshot of a 3d asset imported into unity with working shaders! hurray

## Emotions

Switching to a new game engine brought a lot of emotions. The first two days of using Unity i felt useless and clueless. It was difficult to work since i barley got anything done. The difficulty didnt come from my incompetence with the software, but i am fine with learning something new. And i accept that learning can take time.

But the difficulty comes more from going from one part of the process to another.

Earlier i was in a creation process (i was doing), but then now i moved into the slow process of learning (i was trying to do).

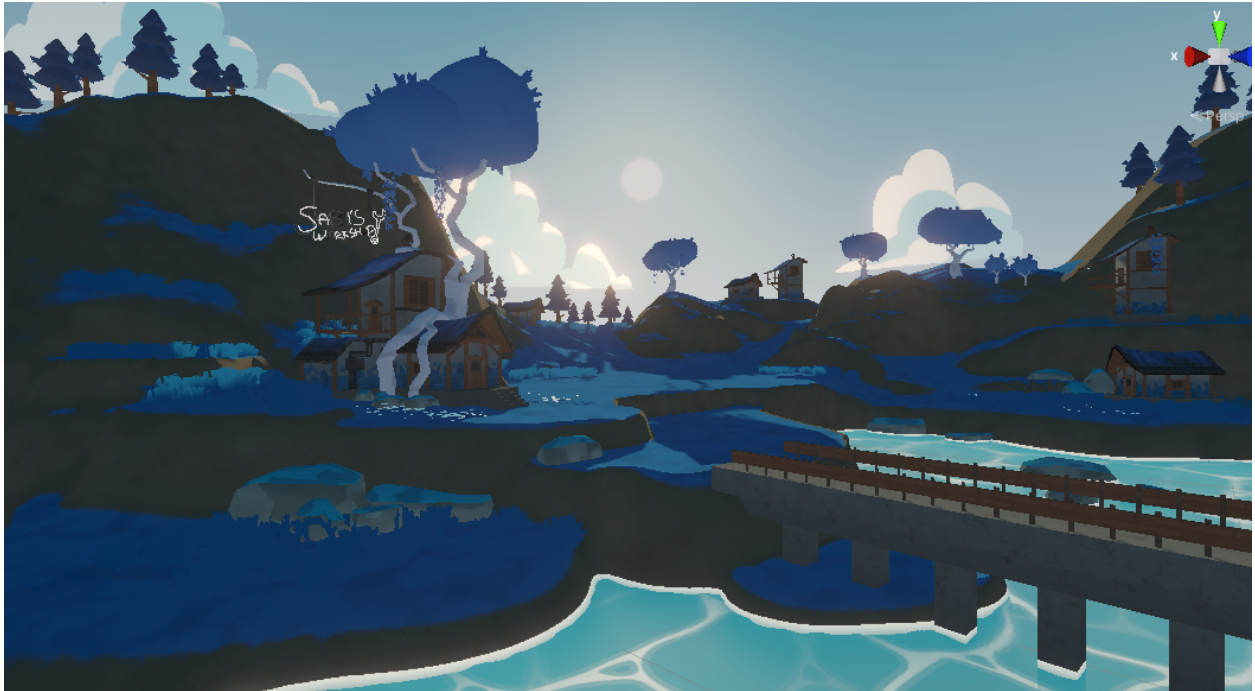
## Scene building



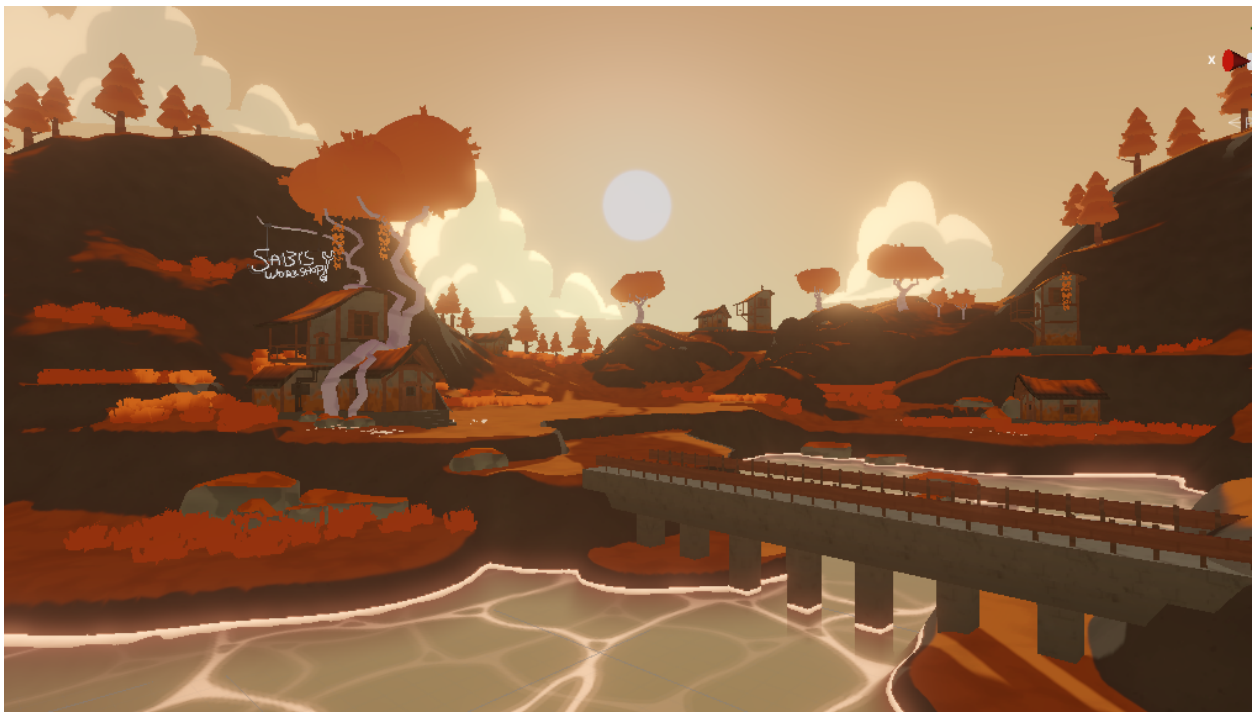
This is how the scene started out.



The first iteration of the scene was green.



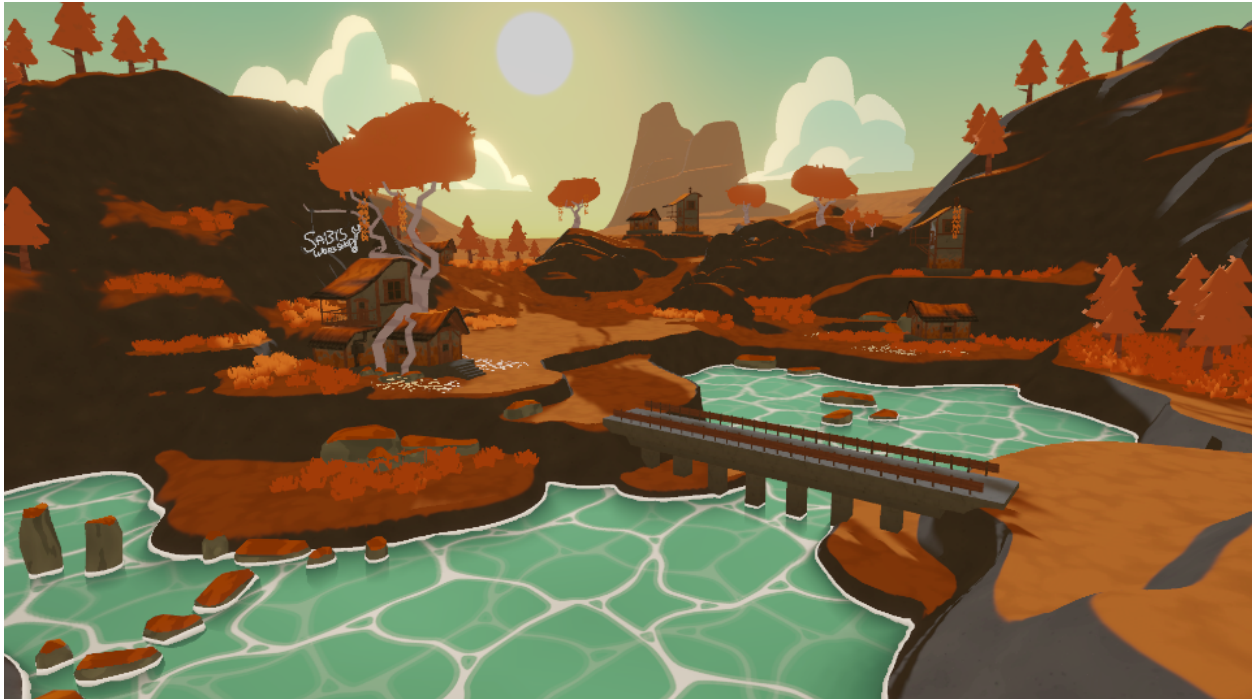
This was a test iteration, to see what colours could possibly work for the scene.



This is currently the final colour scheme for the scene.

Once i had the scene set up it was much easier to explore different colour schemes. Since now i could see how it worked in the context of the final environment and the composition etc..





An overpainting of the scene exploring some other ideas for the scene

## Going forward

I will try to focus on making a storyboard aswell as finding a proper way to animate cameras and export video from unity.

## Resources used 🤖

### Unity Quick Script - Flickering Light

Unity tutorial on how to make a flickering light. I will try to keep the video under 2 minutes short. Hit like if you find it helpful. Thank you for watching....

📺 <https://www.youtube.com/watch?v=WRVETgdB-qw>

**2 minute Tutorial**  
**Flickering Light**

**Fake Interior Effect in Unity using Shader Graph**


This Shader is available in Asset Store: <https://bit.ly/lwrp-materials-3A> a quick overview of how to achieve fake interior effect in Unity using Shader GraphFo...

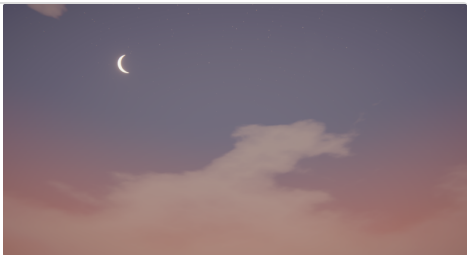
 <https://www.youtube.com/watch?v=rC4BHR-Cx0s>



**My take on shaders: Sky shader**

This tutorials is brought to you by these awesome Patrons: This tutorial is long overdue, as the subject of a skybox shader is pretty common and useful. It's also one of the shaders that can have so

 <https://halisavakis.com/my-take-on-shaders-sky-shader/>



# Process Diary: week 13

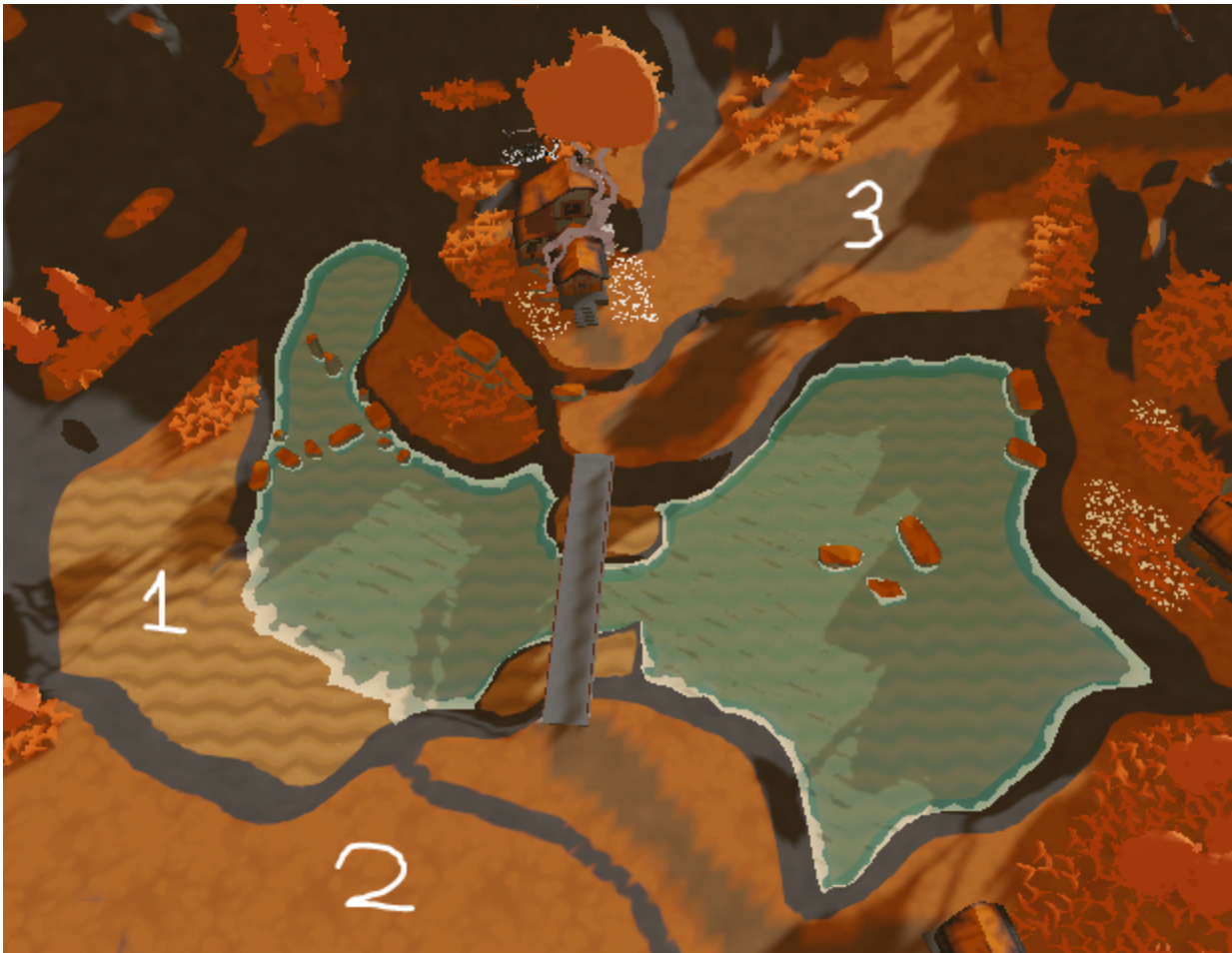
🕒 Created	@March 31, 2021 7:59 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Texture blending on the "terrain"

I found a plugin to turn the unity Terrain into an obj file, this way I can paint vertex colours onto the terrain obj mesh. (by default you are not able to paint vertex colors onto terrain objects in unity)

With this new discovery I am able to blend between up to 3 different ground textures.

As seen here in this picture:



1: sand texture, 2: grass texture, 3: dirt texture

This was important for me to solve as I know I will use this feature a lot when making scenes during production.

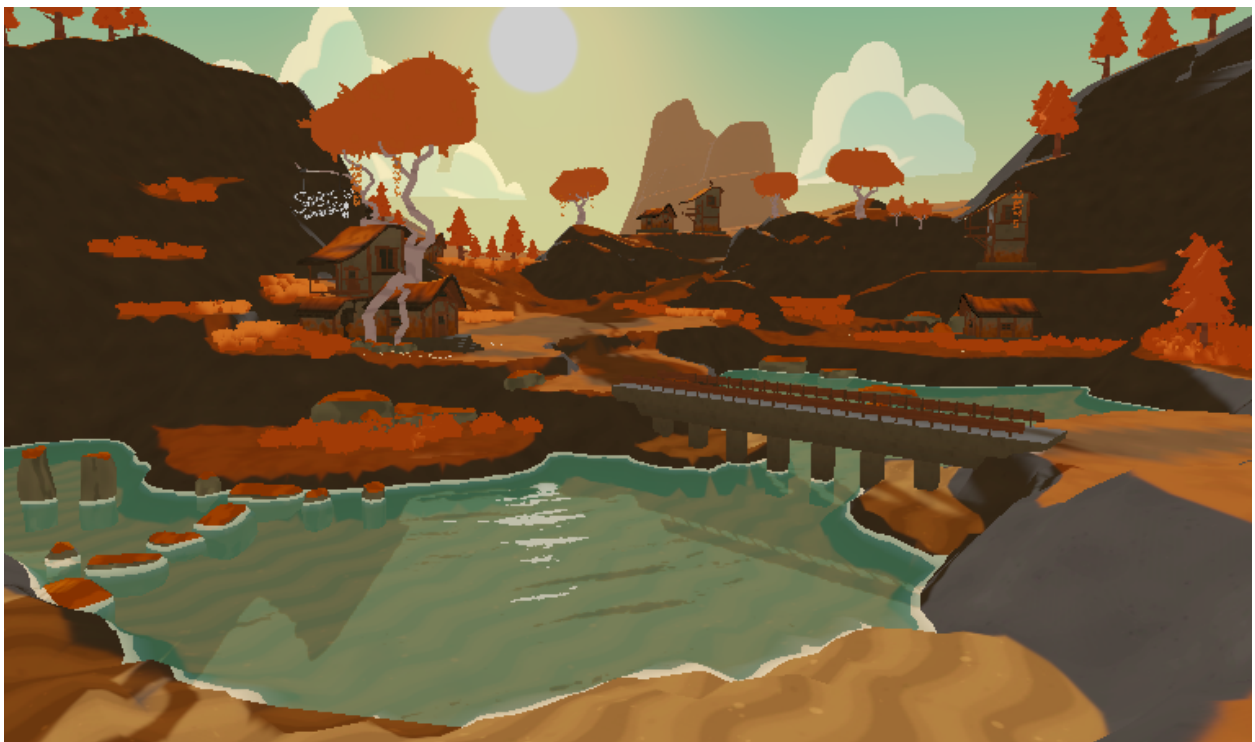
## Water

I found this website that has royalty free textures of water normal maps. I used it for testing out how my water material would look with other textures.

<http://www.cadhatch.com/seamless-water-textures/4588167784>



Water with my own normal maps. You can see how much more stylized the light reflection looks.



Water with using the royalty free textures from <http://www.cadhatch.com> , it gives the surface of the water a more gritty look.

As you might see I also made the water transparent. Here is how it looks if i still keep it opaque:





## Going forward

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I must look up more references when i work so I can achieve the exact look i am going for. So far my quality level is good. Shaders are good but im missing the DIGITAL STYLE. THIS MUST BE CONCEPTED ATLEAST, how would i do it different????

# Process Diary: week 14

🕒 Created	@April 7, 2021 1:54 PM
🏷 Tags	Main Entry
📅 Days	
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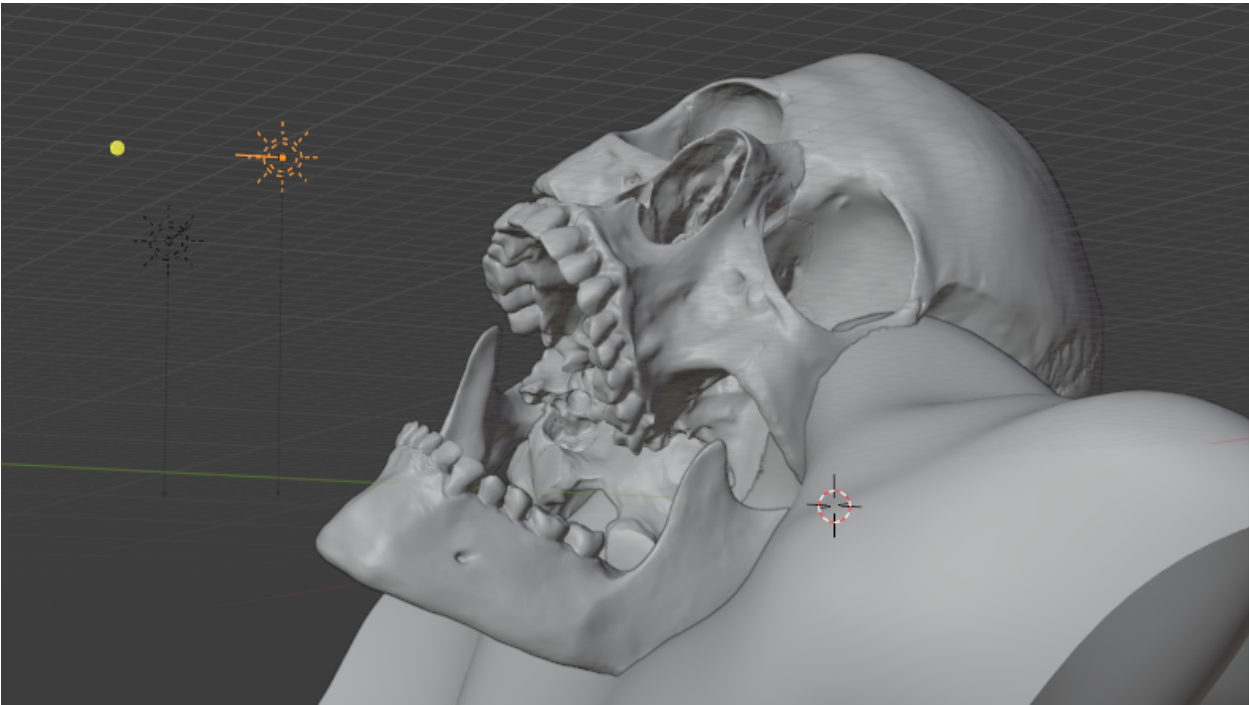
## Storyboarding

When working on the storyboards I aim towards keeping them as simple as possible so i can save time. Making a simple storyboard is already difficult as it is.

I was focusing on the layout. Which means the placement of the camera, perspetice, scene setup etc.

Hopefully when this storyboard is finished it will also serve as a guide for me to know exeactly what must be produced for the film and etc. Which assets, areas, animations and concept art i must make or plan for.

## Skull



"The Anatomy of the Human Skull" (<https://skfb.ly/6AvC6>) by HannahNewey is licensed under CC Attribution-NonCommercial-ShareAlike (<http://creativecommons.org/licenses/by-nc-sa/4.0/>)



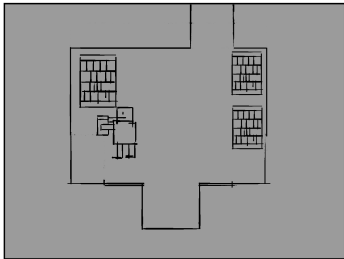
# Process Diary: week 15

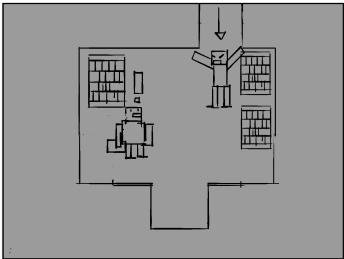
🕒 Created	@April 15, 2021 12:02 PM
🏷️ Tags	Main Entry
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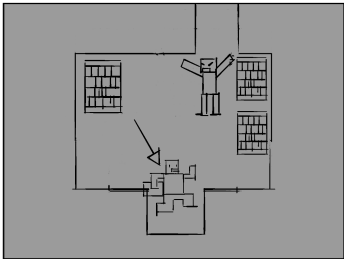
## Finalized the storyboard

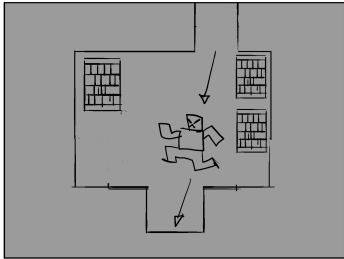
This week I finalized the storyboard.

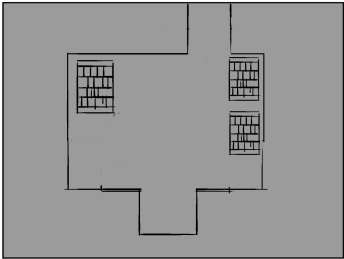
Page: 1      Title music video      By Aurora




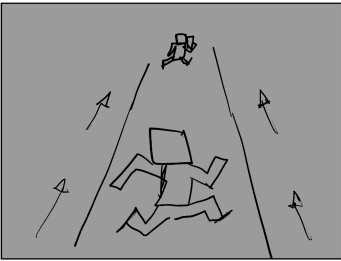
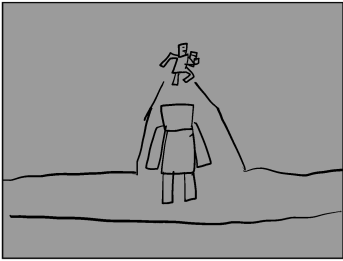
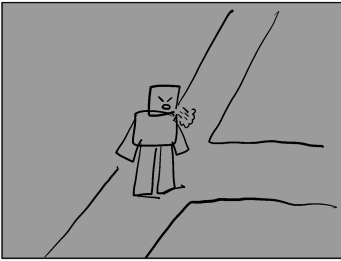
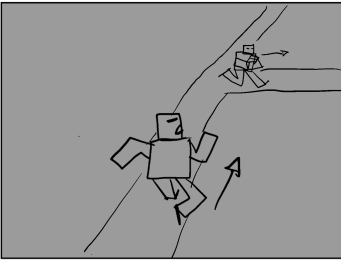






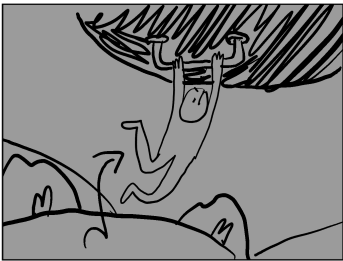
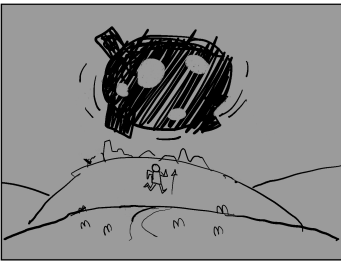
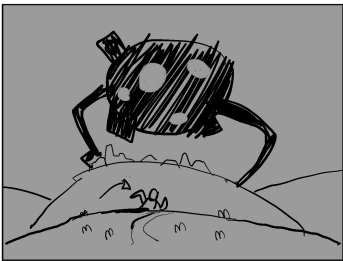
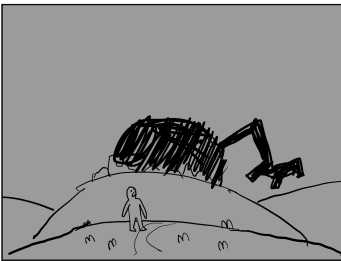
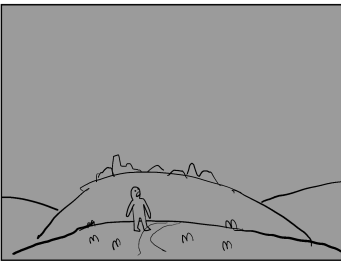
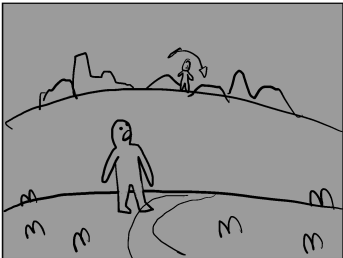
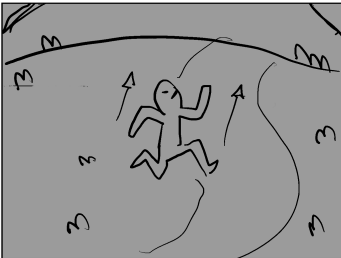


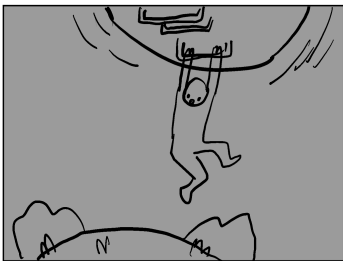






SABI enters the  
SHOT

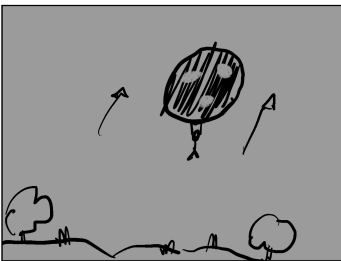




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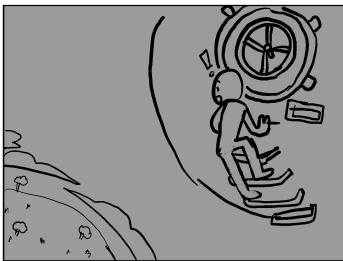
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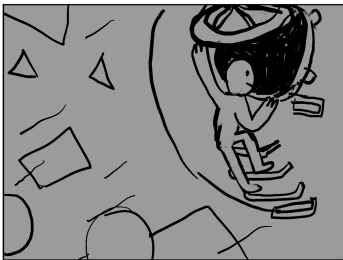
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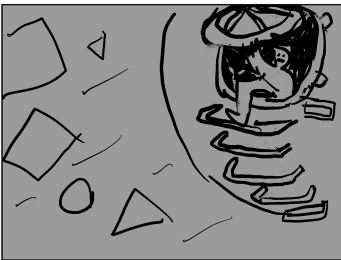
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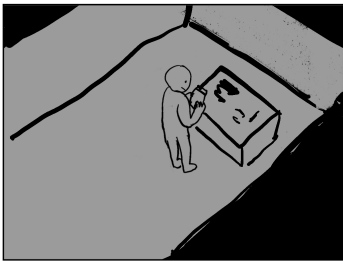
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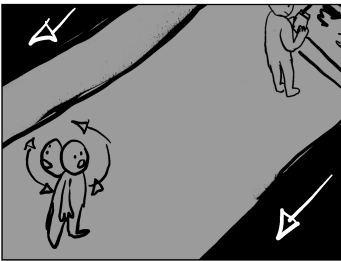
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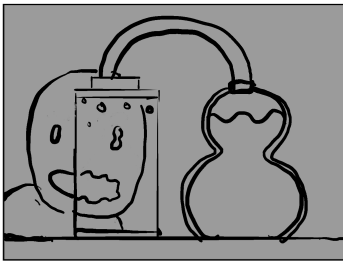
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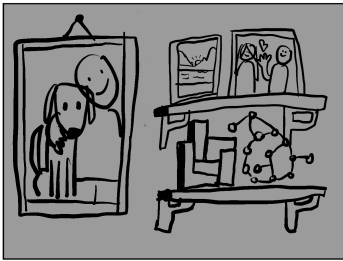
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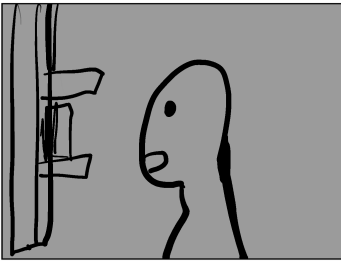
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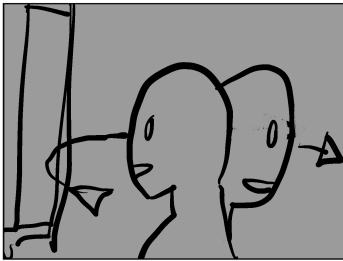
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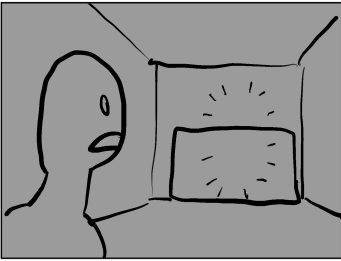
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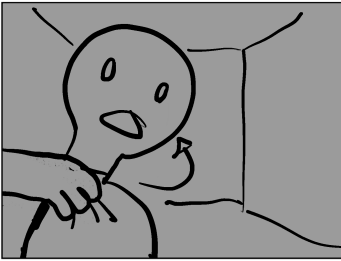
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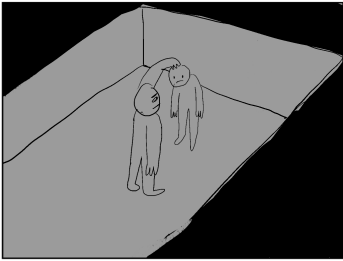
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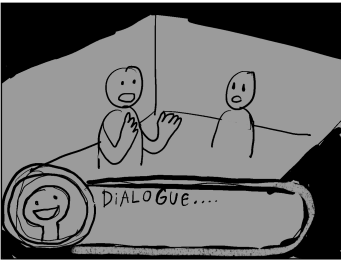
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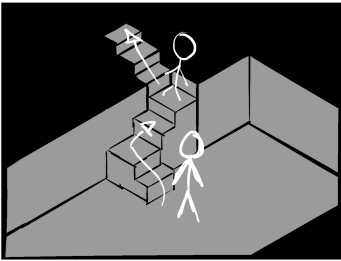
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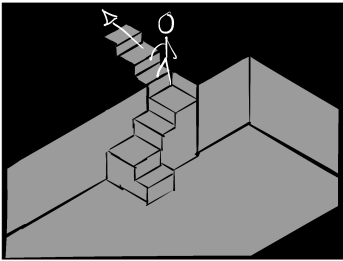
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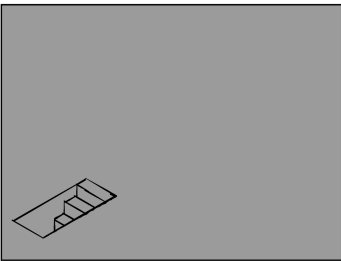
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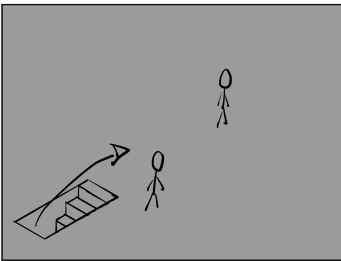
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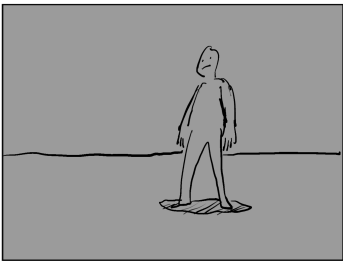
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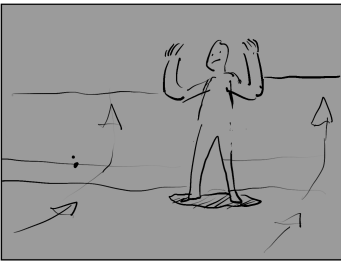
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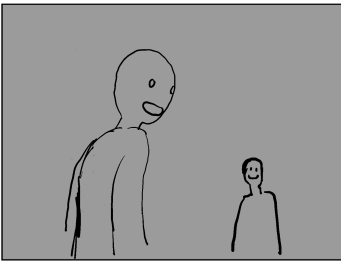
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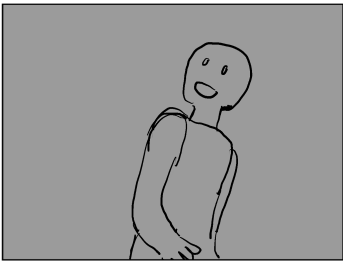
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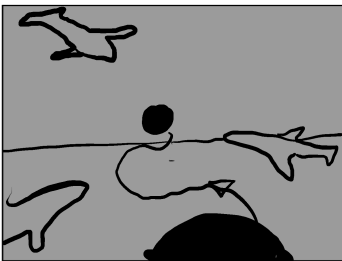
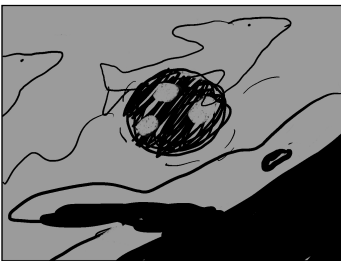
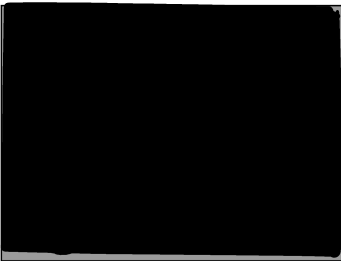


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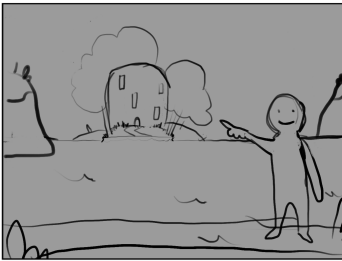
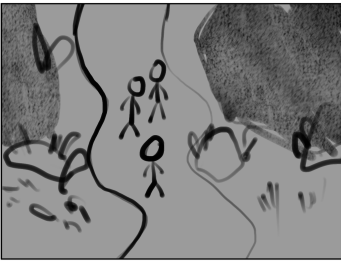
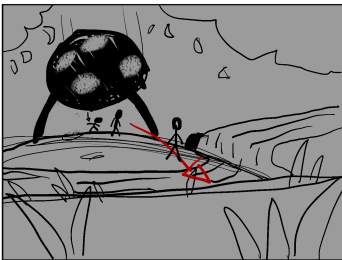
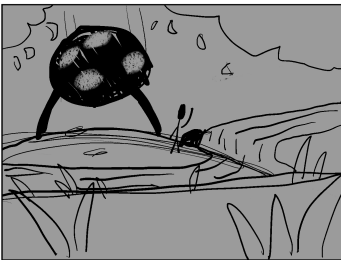
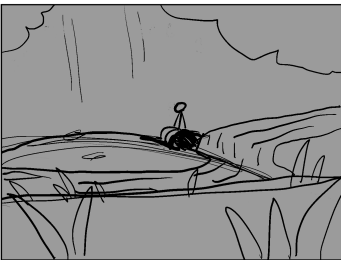
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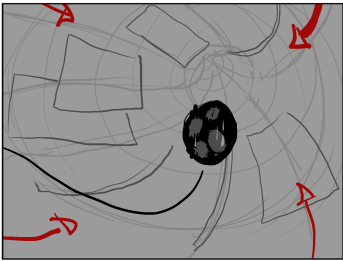
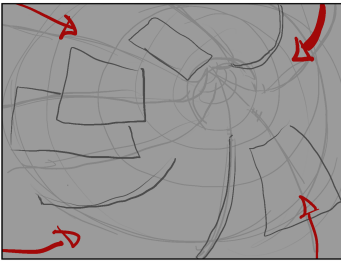
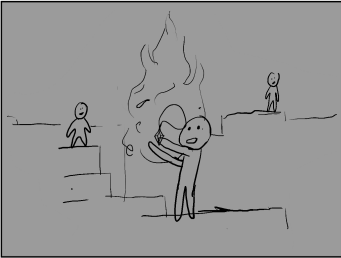
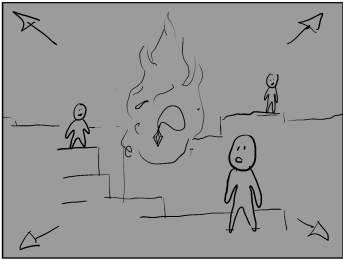
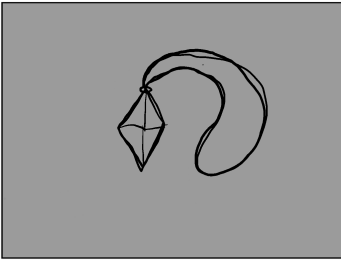
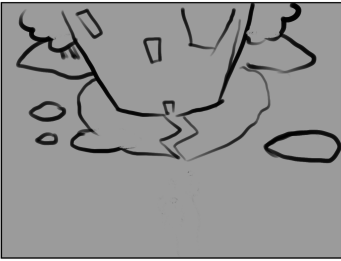
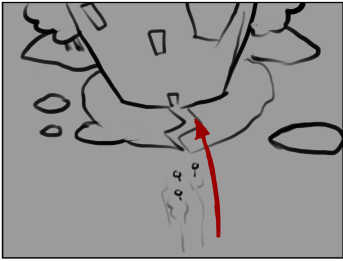
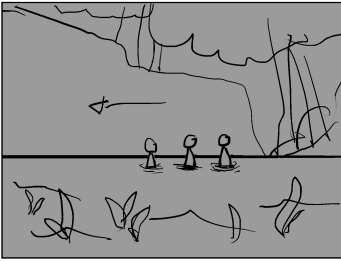
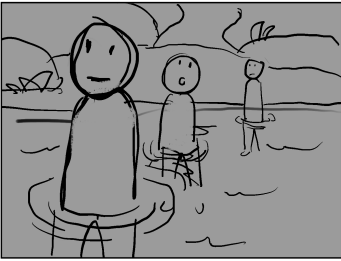
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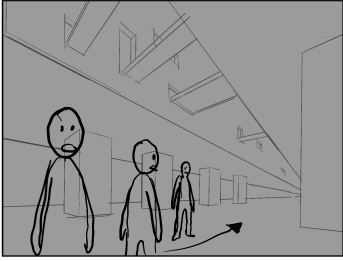
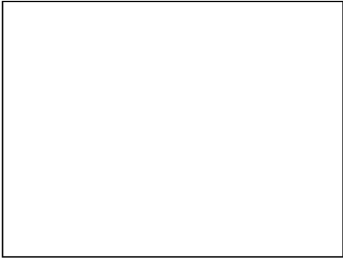
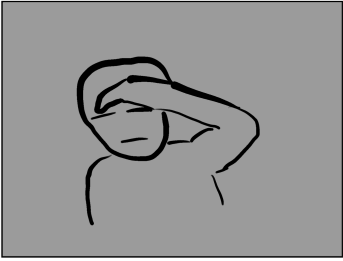
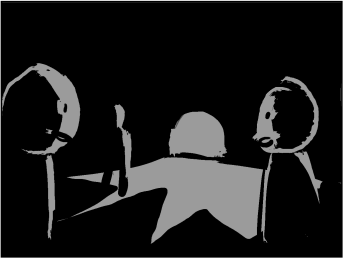
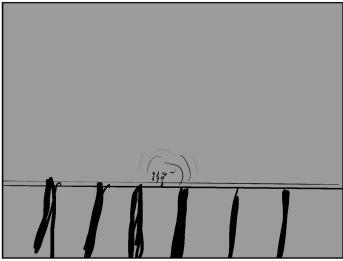
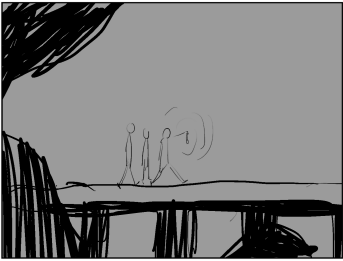
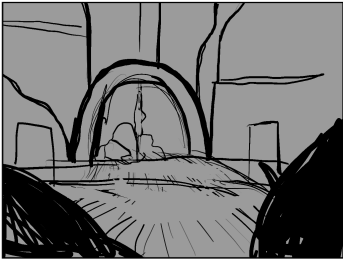


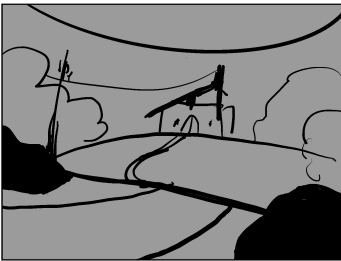
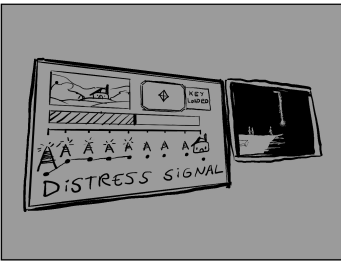
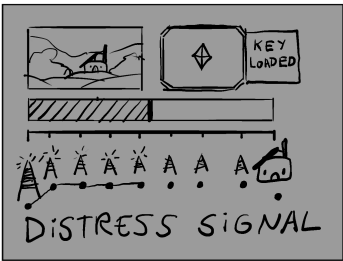
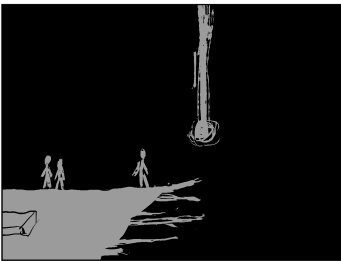
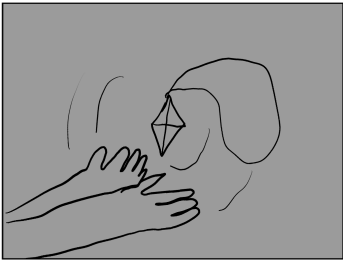
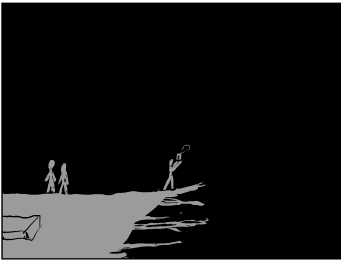
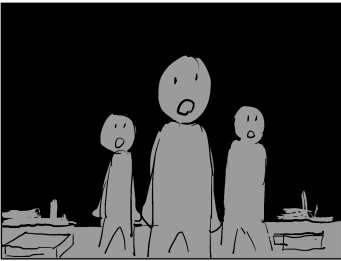
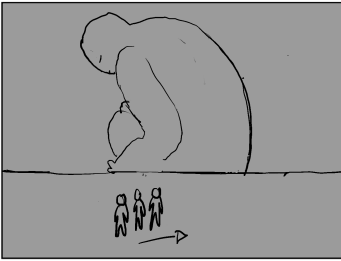
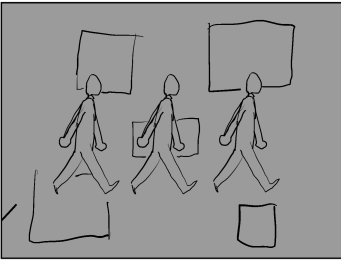


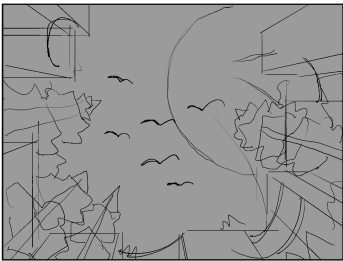
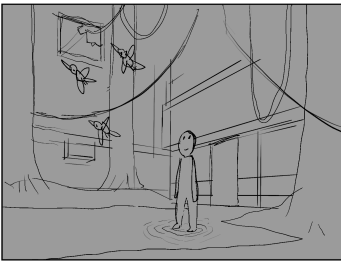
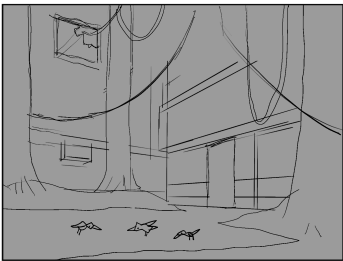
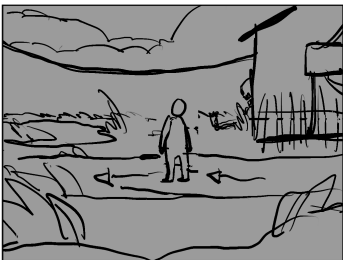
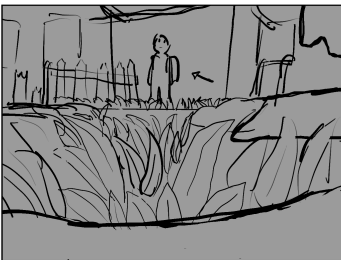
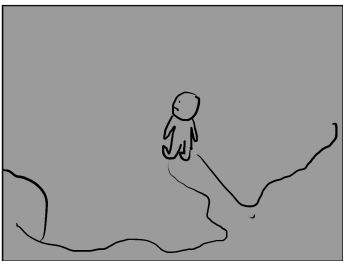
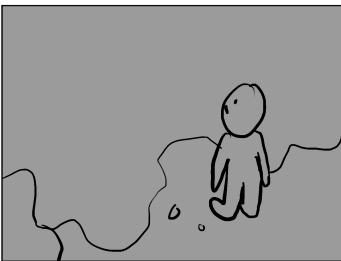
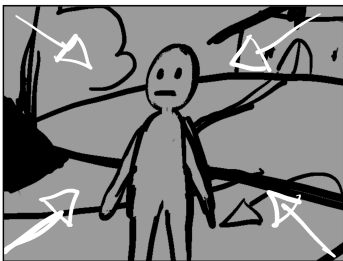
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HORIZON

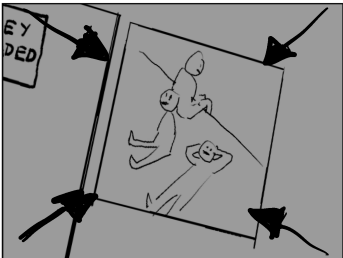
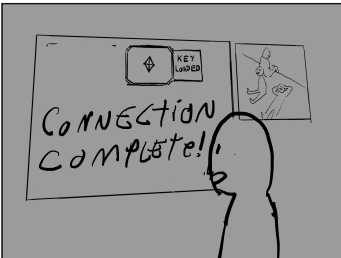
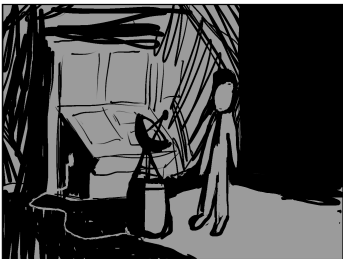
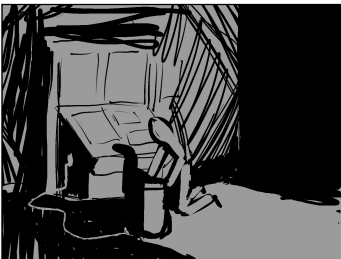
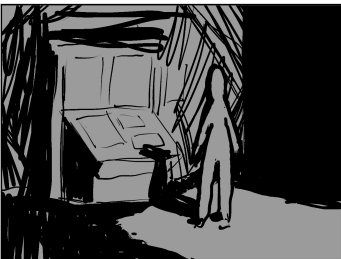
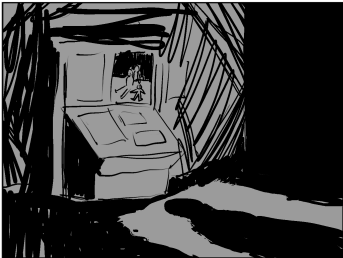
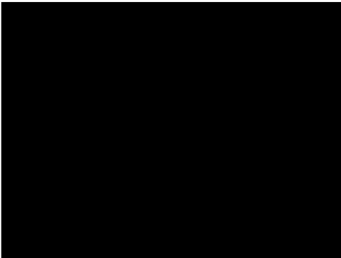
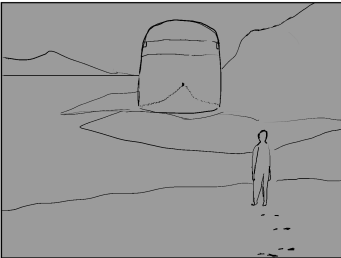
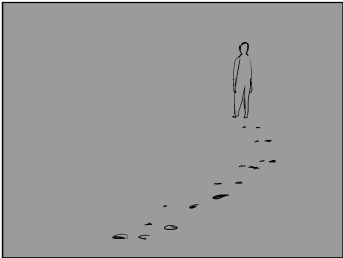
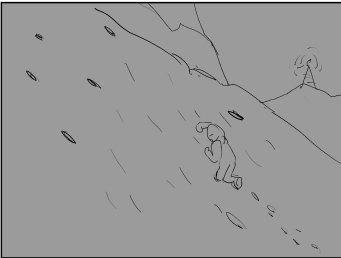


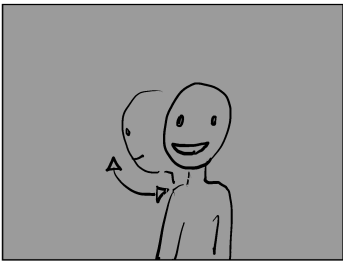
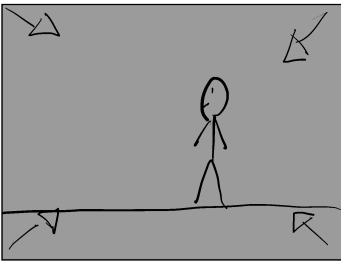
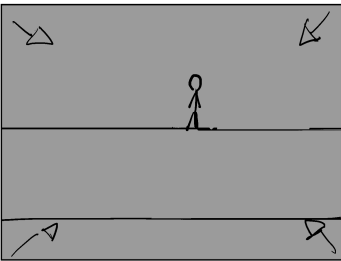
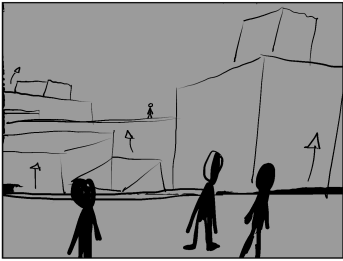
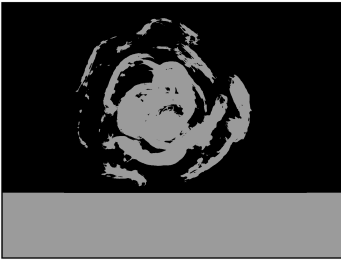
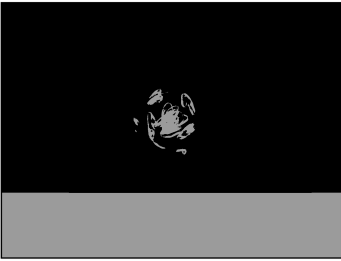
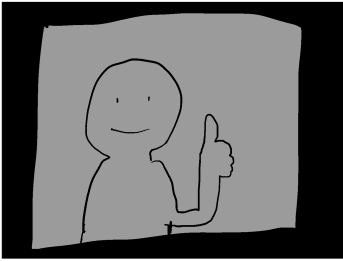
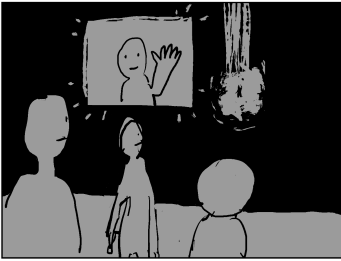












# Making the animatic

It was exciting to edit the film together and come to a conclusion on which song I should use for the music video.

# Going forward

---

Now that I have a finished animatic and storyboard i will focus on completing plan documents such as the breakdown sheet, budget and etc.



# Process Diary: week 16

🕒 Created	@April 22, 2021 4:57 PM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

## Breakdown sheet

I have been trying my best to chip away at the breakdown sheet. It is quiet a daunting task, especially when there are so many assets and elements I have to keep in mind an make sure I write into this list.

The breakdown sheet is basically an organized list for me to keep track of everything I plan to make for the film, of assets, concept art, levels etc.

Writing down everything gives me a much clearer understanding of all the work that lies ahead of me.

Since I have still not done any finalized concept art for any of the areas in my film. Most of the assets written into the breakdown sheet are a rough approximation of what the scenes might contain. Even if something might change in the end it wont be much work updating the list.

# Process Diary: week 17

🕒 Created	@April 28, 2021 5:23 PM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

## Breakdown sheet is for the moment complete

I have finalized most of the breakdown Sheet. Aside from that I have worked on setting up other relevant planning documents.

## Next up: Milestone plan and instructional documents

# Process Diary: week 18

🕒 Created	@May 3, 2021 2:53 PM
☰ Tags	Main Entry
☰ Days	
☰ Month	

## Game design document

UNITY / UE4 -

### CHARACTER CONTROLLER

**Animation layers:**

When holding an item the character will use the run/walk cycle animation on the legs. But hand animation will be from a seperate animation.

UNITY -

### CHARACTER CONTROLLER

**Directional pad:**

Each direction input corresponds to a face blendshape «emotion». You can switch between 2 blendshape sets by pressing «X».

If any direction input is pressed twice it will reset back to a default face blendshape.

The face blenshapes interpolate between eachoter when switching.

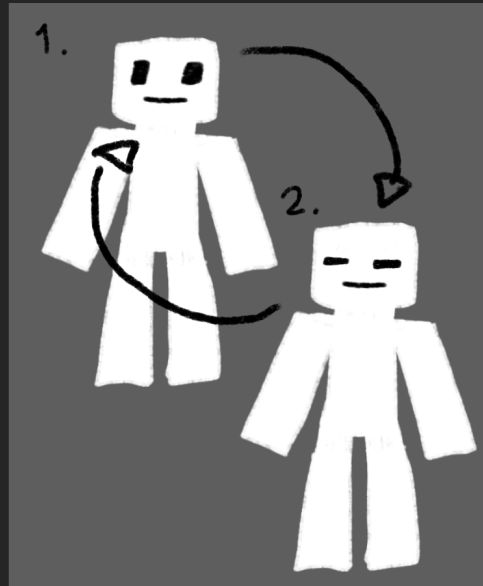
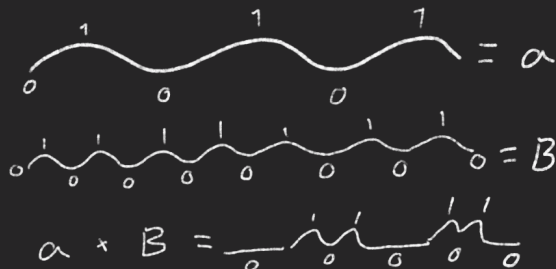
## UNITY / UE4 -

### Eye blinking animation:

Switches between blendshapes of the eyes to give the illusion of the character blinking.

Idea proposal:

Controlled by two sine waves for a semi random animation. Only problem to solve will be to not have characters blink in sync with eachother. Blinking should also work when played back in the timeline.

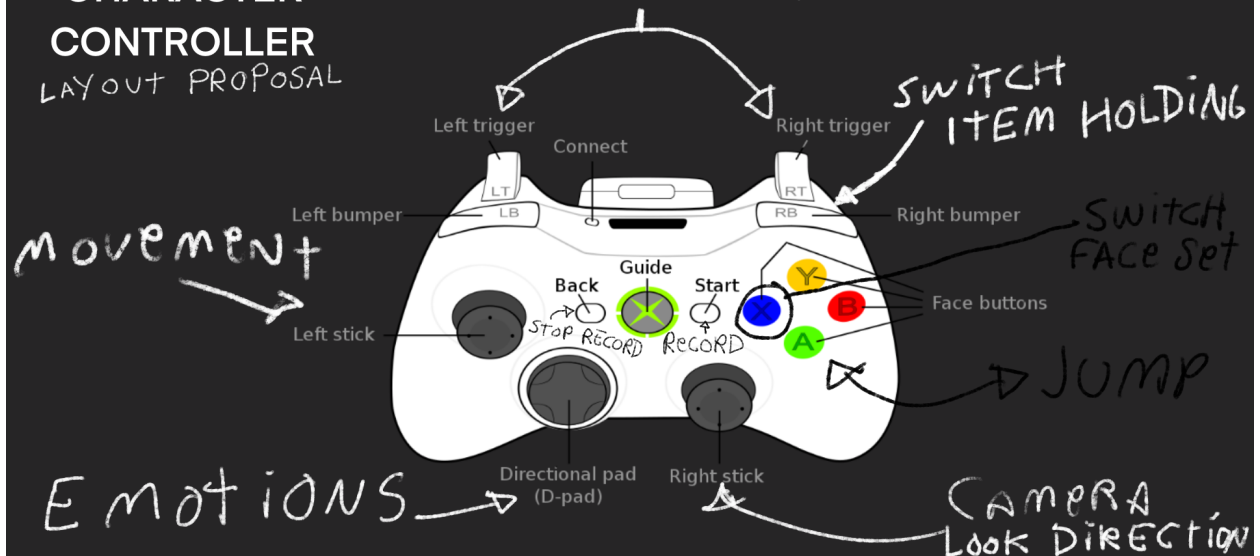


## UNITY / UE4 -

# CHARACTER CONTROLLER

## LAYOUT PROPOSAL

## SWITCH CHARACTER MODEL

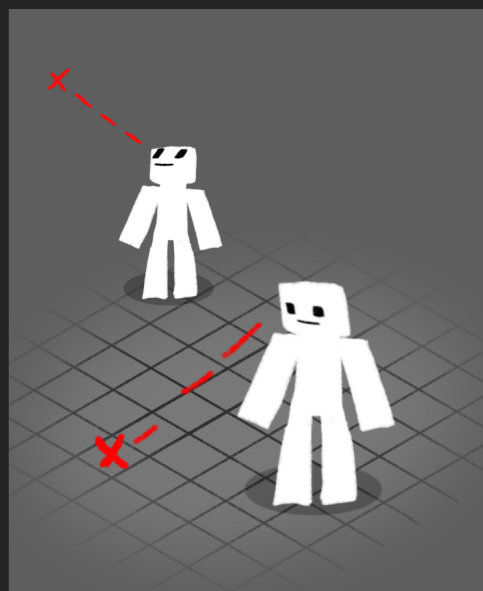
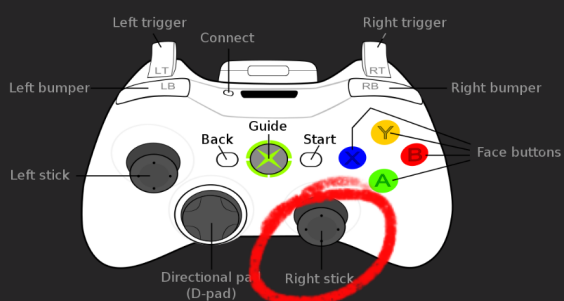


## UNITY / UE4 -

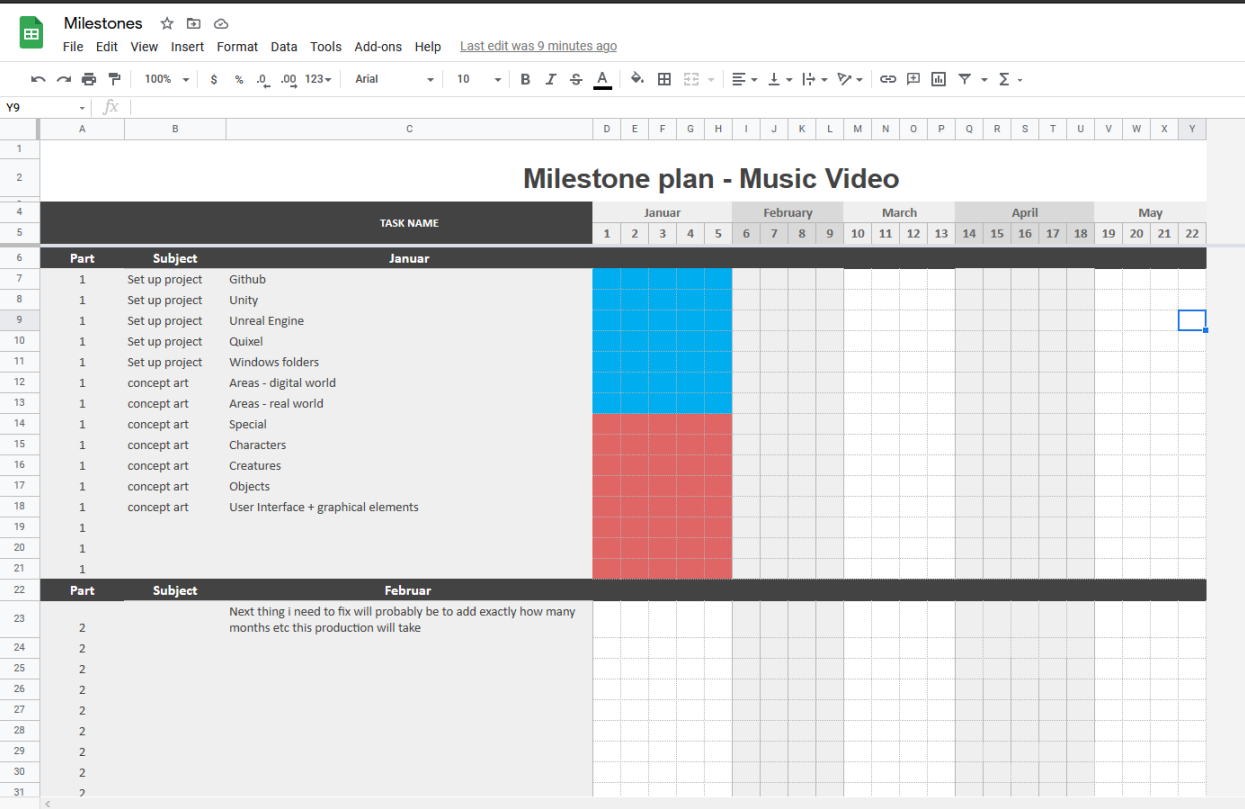
Right stick:

Controls character looking direction and third person camera rotation.

Character head snaps back to normal rotation when the right stick is let go.



# Milestone plan



I worked on setting up a milestone plan template today.

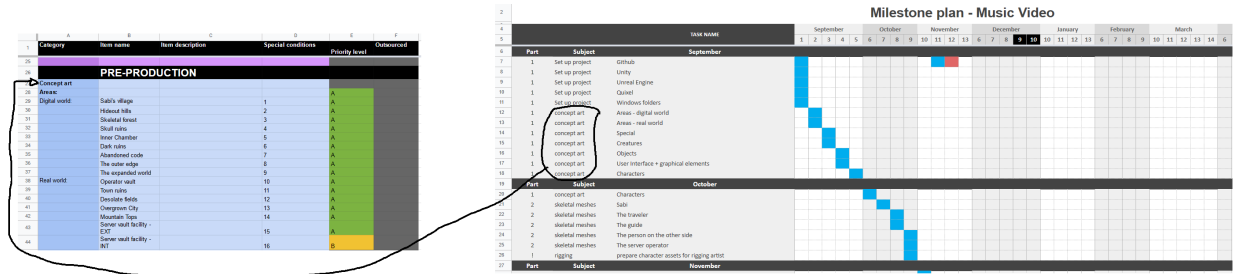
I also tried to find the dates for when our semester stars/ends. So that it would be easier to write the milestoneplan. I did not know where to look for it. So i spent a lot of time thinking of where i could find it and also just looking random places.

Terminstider läsåret 2021/2022

Höstterminen 2021: 30 augusti–16 januari 2022

Vårterminen 2022: 17 januari–5 juni

Sommartermin 2022: 6 juni–28 augusti



the breakdown sheet and the milestone plan is linked together.



# Process Diary: week 20

🕒 Created	@May 18, 2021 5:22 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Most planning documents are near completion

most importantly documents such as the breakdwon sheet and milestone plan are completed.

This week I have also reached out to potential supervisors for my project. I am hoping to hear back from them soon.



# Process Diary: week 22

⌚ Created	@May 31, 2021 6:34 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Last week of school before summer break

Today I made a presentation for the examination in LAB 2. I also cleaned the classroom from my stuff and took a backup of the minecraft worlds on the school pc. Since some concept art is there.

I also contacted an animator, I hope he wants to work on this project.



# Process Diary: week 35

🕒 Created	@September 1, 2021 1:42 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Im back again

As summer came, I also took a break from writing process diary entries. Since progress on the project was much slower during summer. And I also had the intention of taking my time off to relax during summer.

This week I have been focusing on completing certain tasks that should sort of be in place before the production starts for real. I have updated a few documents like the milestone plan, breakdown sheet, budget and setting up the game engines and project folders.

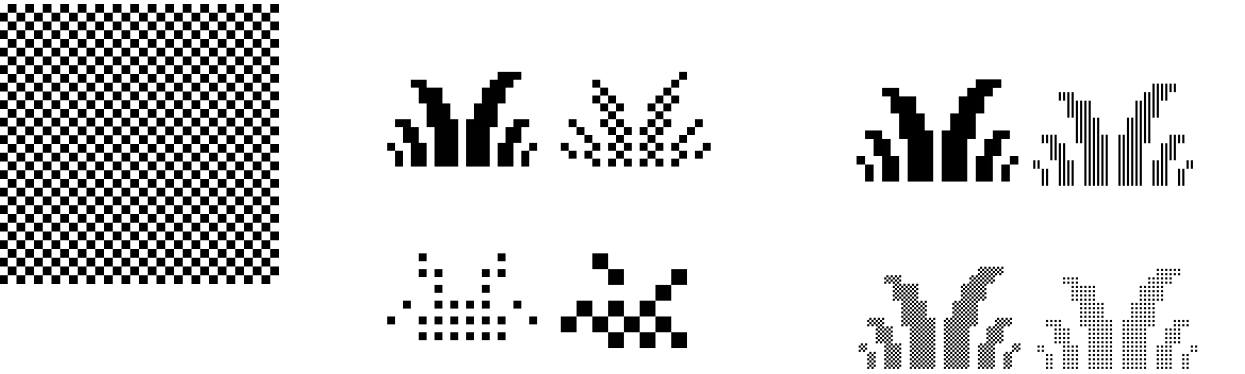
I am also quiet in a hurry to find some supervisors and an additional character animator to work on the project. I am trying to contact people that I think would compliment the project.

# Process Diary: week 36

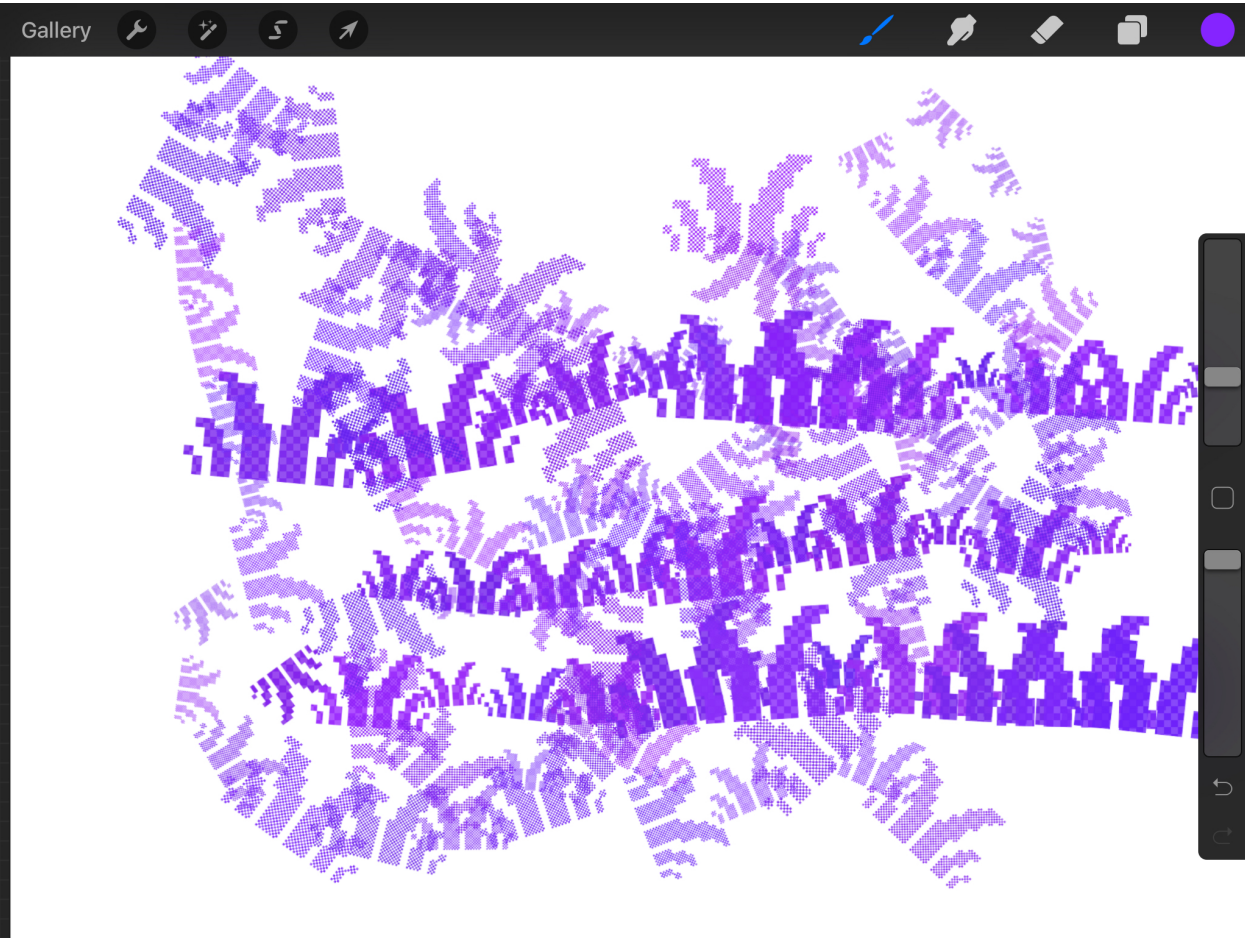
🕒 Created	@September 6, 2021 3:15 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Pixel art brushes

I wanted to make a pixel art foliage brush that i can use when painting concept art in procreate



These are the assets i made for it.

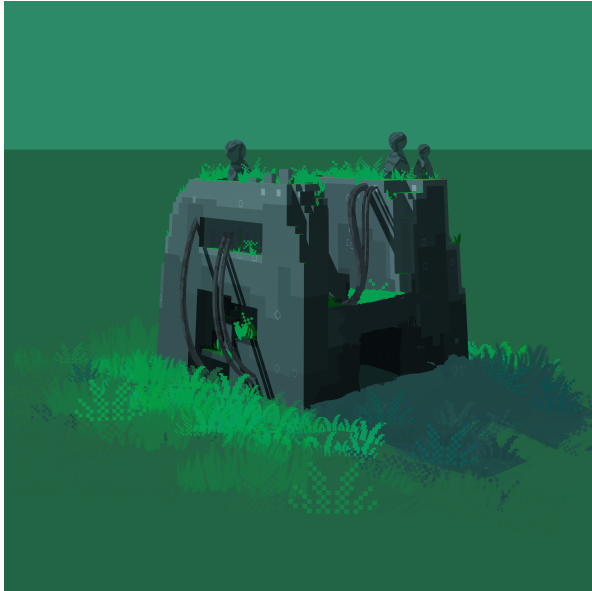


testing the brush while making it.

## Using the brush while painting

---

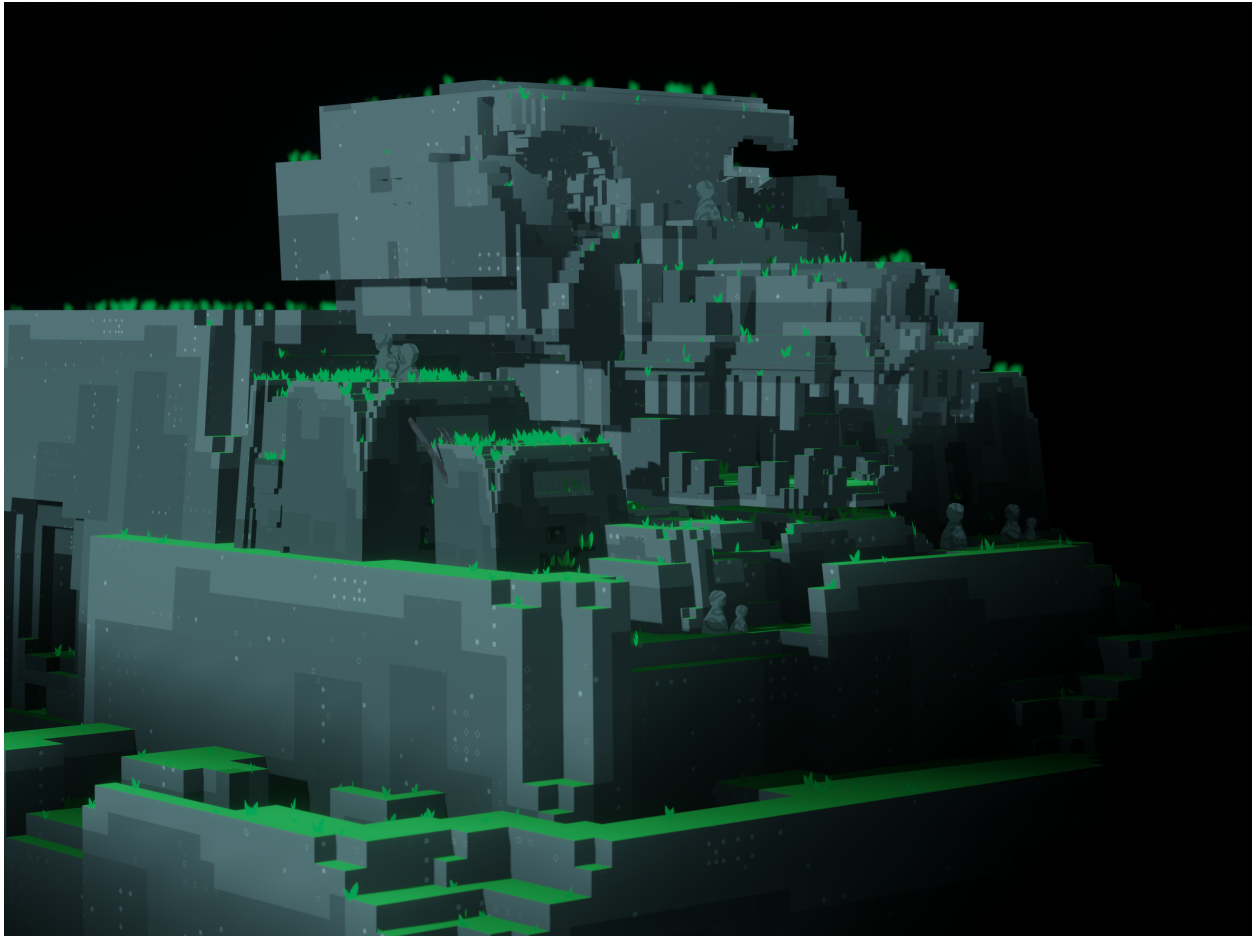
the main idea for this area of the film is that the people living here are using the ruins of an old civilization as their new homes. I want it to celebrate life, the idea that life always finds a way to emerge even in the most absurd places. It also tells the viewer that this place has a long complicated history. What this place used to be is up for you to imagine.





## Skull house concept

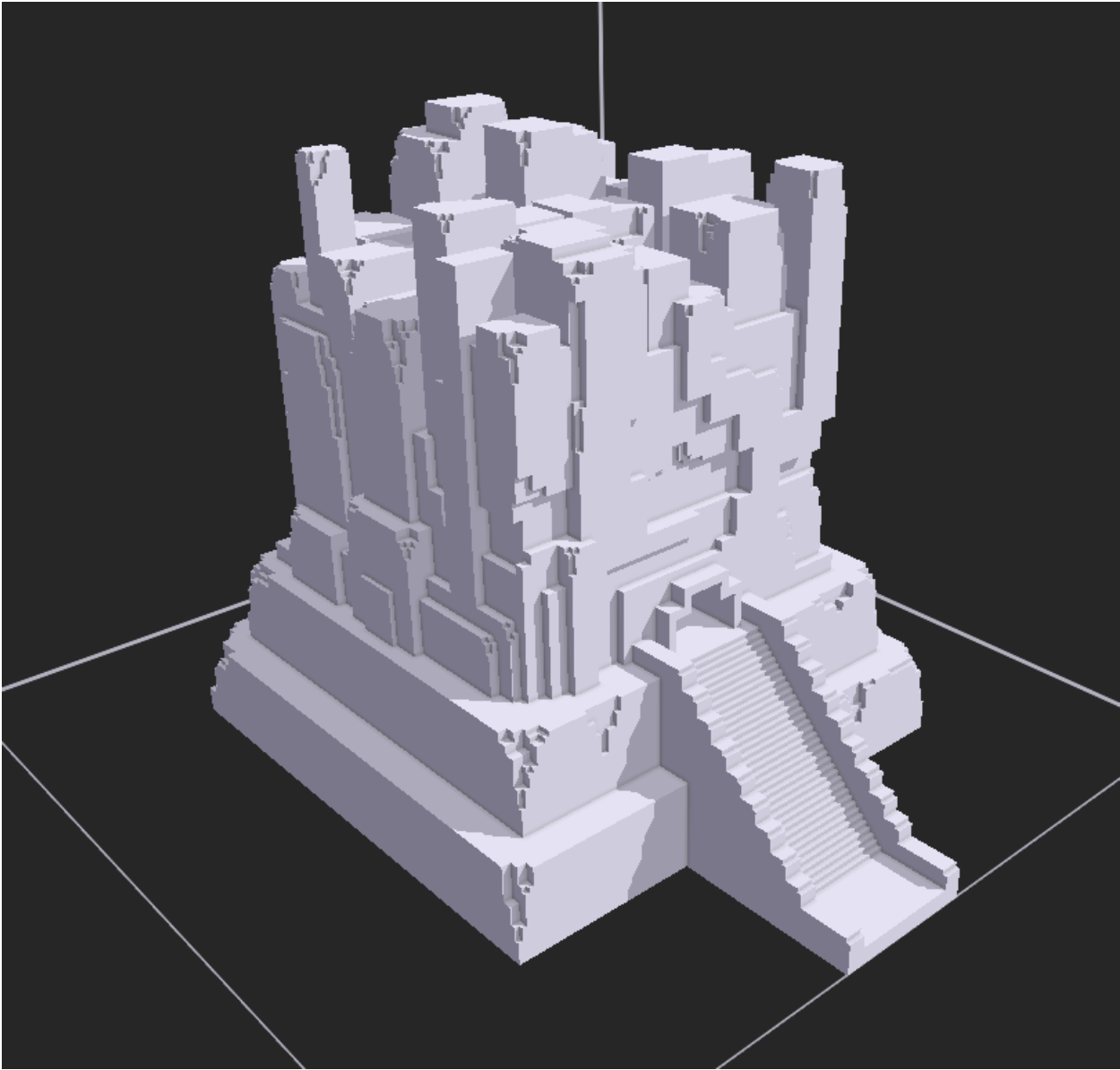
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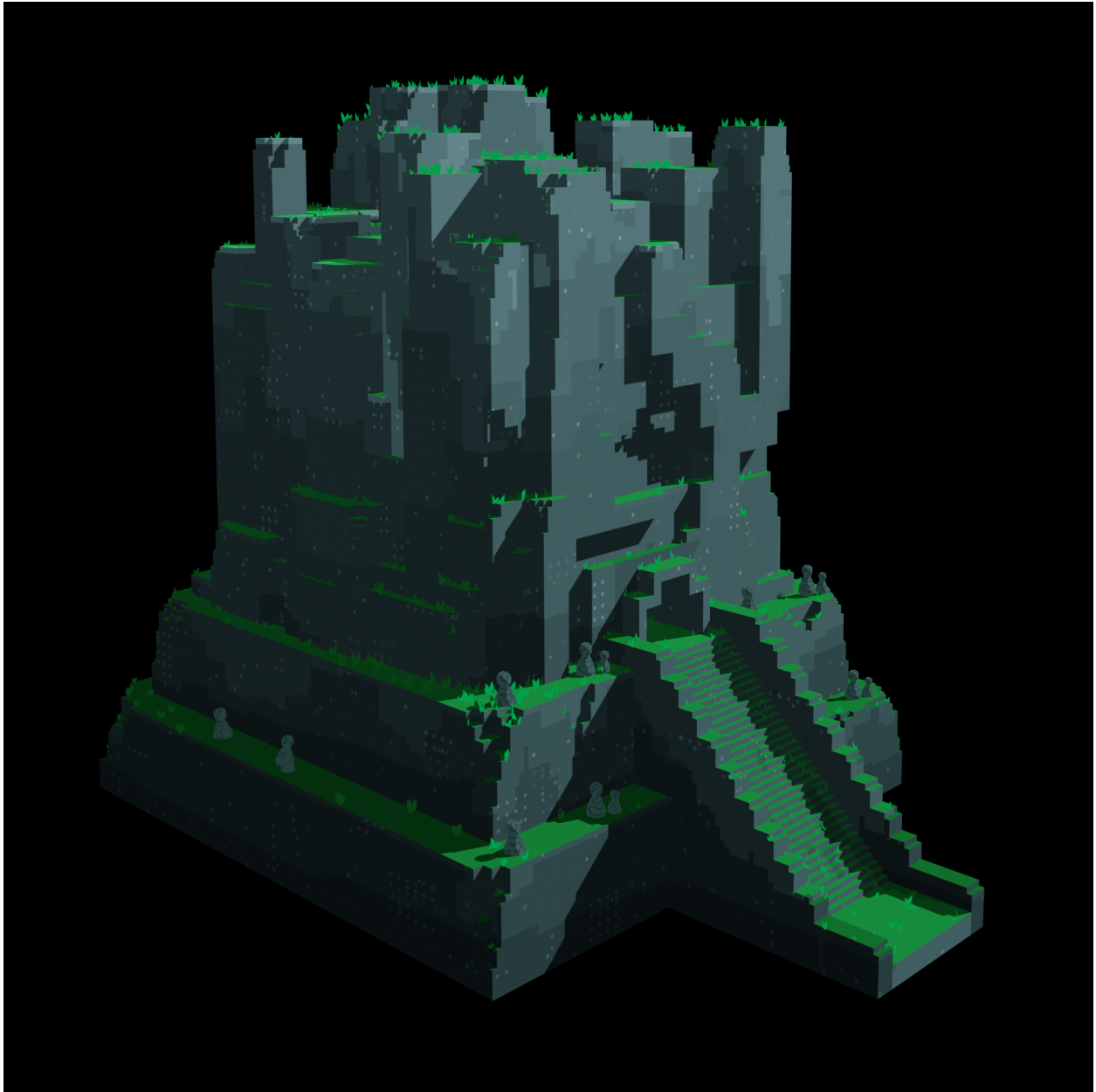
this is a concept for a skull. "although nothing fancy, a pack wild creatures reside in it."  
Originally meant to be a house the main character lives in. But it turned out too scary.

## Block house concept

---

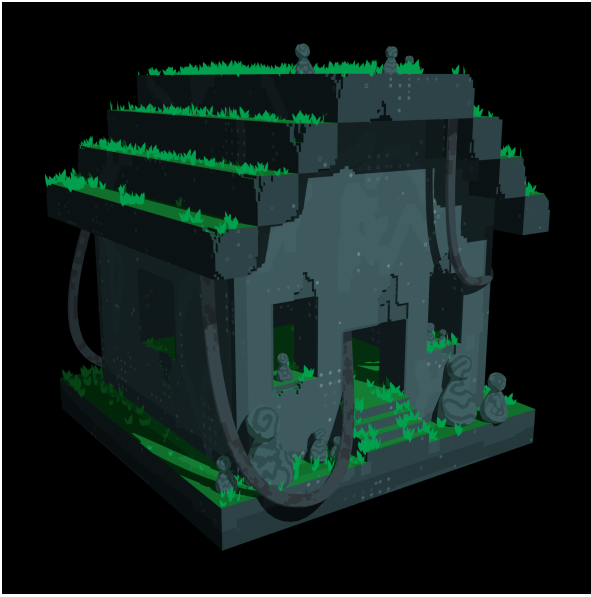






## House 03

I needed to find a simple way to add some more personality to the houses. By adding colourful tags on the house made it more cheerful. Maybe a little run down but most importantly it tells us that someone lives there.



## Mjøsa

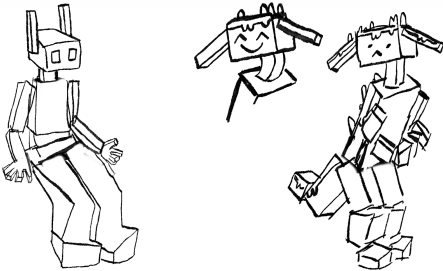
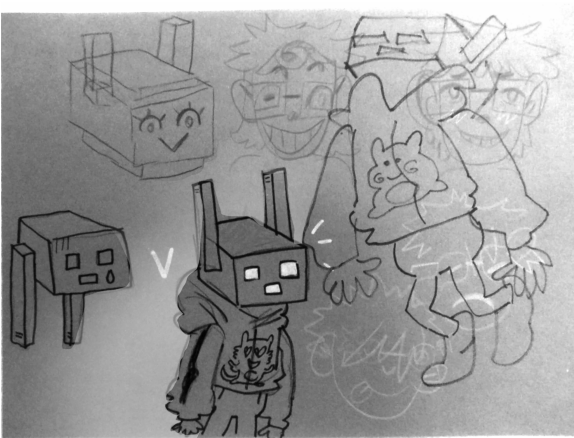


this concept art is for the scene that takes place alongside Mjøsa in Norway.

# Process Diary: week 37

🕒 Created	@September 20, 2021 12:56 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Sketching on the wall



Sometimes it can be difficult to get ideas in our head into drawings on paper. I wanted to make it easier for myself by taping up pieces of paper to a wall. This way I can draw on the characters at any point of the day and be more aware of my current task. Rather than if the drawings were done digitally it would require more steps to get into the flow of drawing.

I compiled all the sketches into Procreate(digital art program) to finalize this character concept.



I were only able to make 1 finished character concept this week. I planned on making 3 in total, so now im a bit behind schedule. But I hope i can catch up. (Some production time was lost cause i took a small job teaching a short course in Blender 3d on Monday and Tuesday.)



# Process Diary: week 38

🕒 Created	@May 3, 2022 5:42 PM
☰ Tags	Main Entry
☰ Days	
☰ Month	

## Metahuman concept



This is the base Metahuman I generated for the concept of the character that will appear in the real world segment of my film.





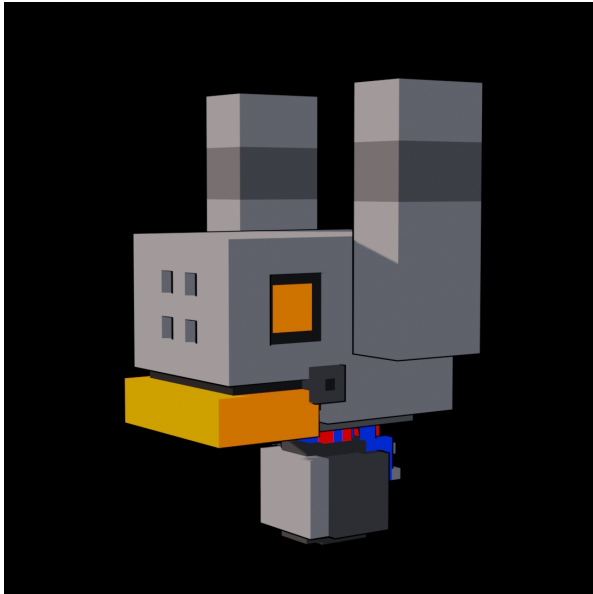
I did a paintover of the character with an idea for their uniform and mask.

## Secondary character in the cyberworld

---

This is the concept for the character that the protagonist will follow.

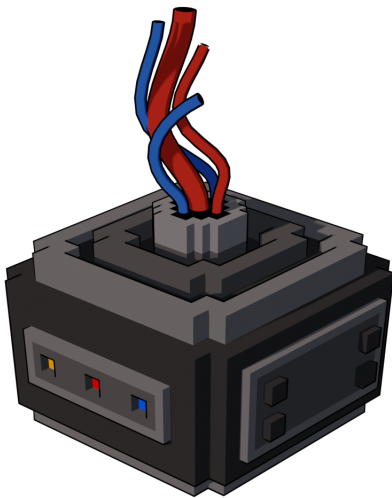




I started this concept by making a 3d voxel model for the head of the character.  
Then I used that 3d render as a base for the drawing.

## Creature concept

I wanted to design a creature by using the same method as above where I made a design in 3d but continued the process by drawing. I ended up removing the cables as they didnt add much to this creature design. The idea for this creature is that its some sort of feline using the shell of a computer part like a tortoise would. I wanted to have a contrast between organic and geometric elements.

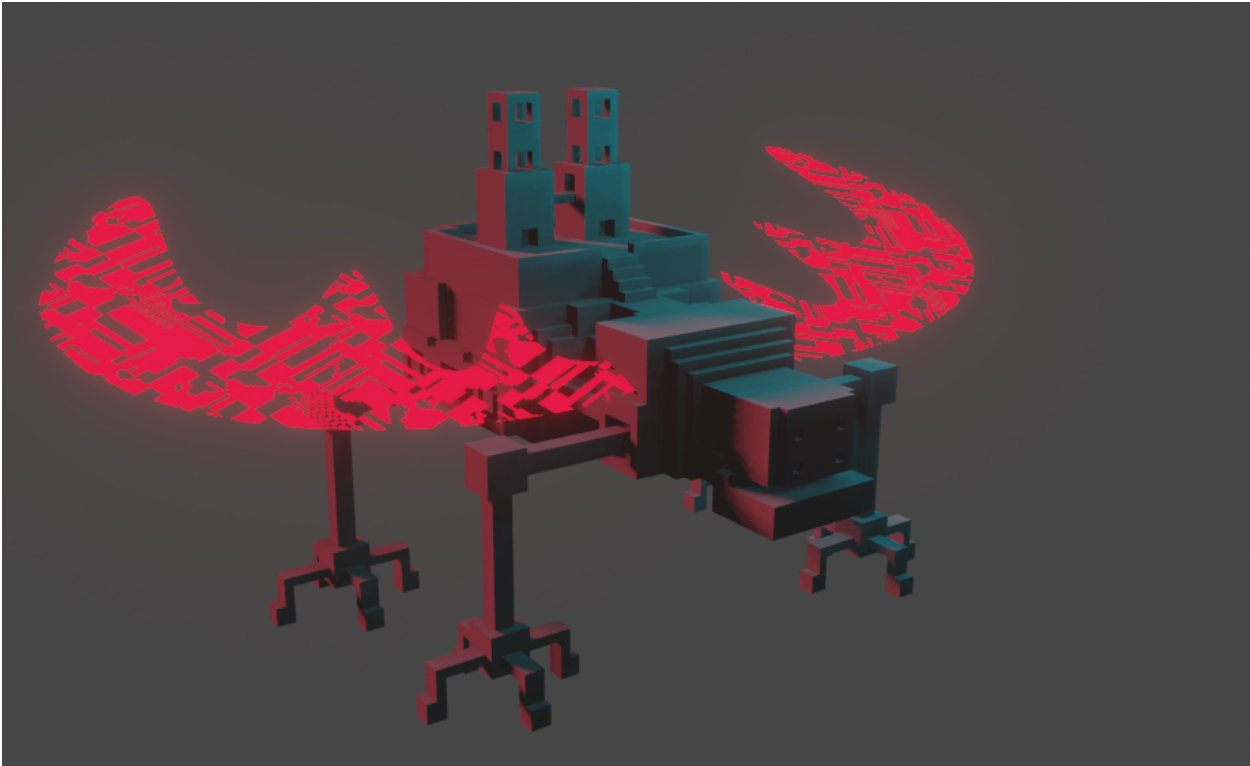
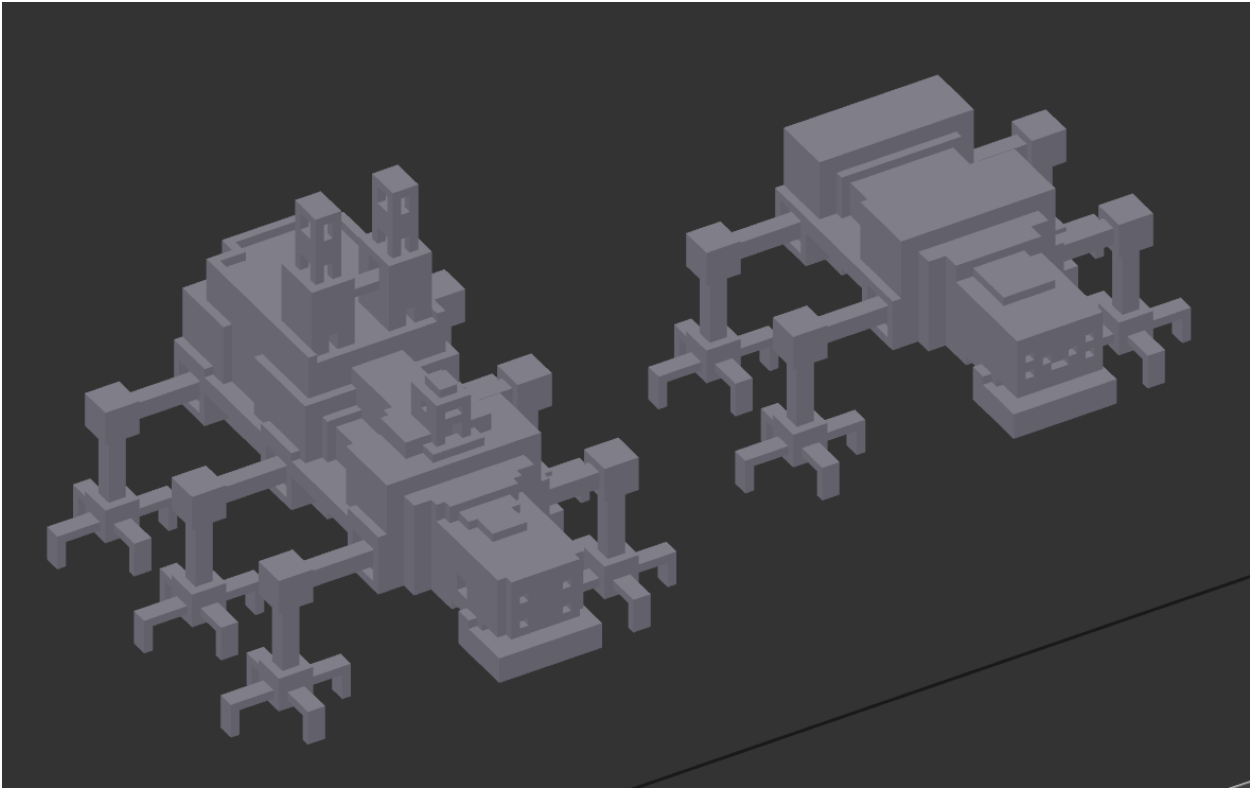




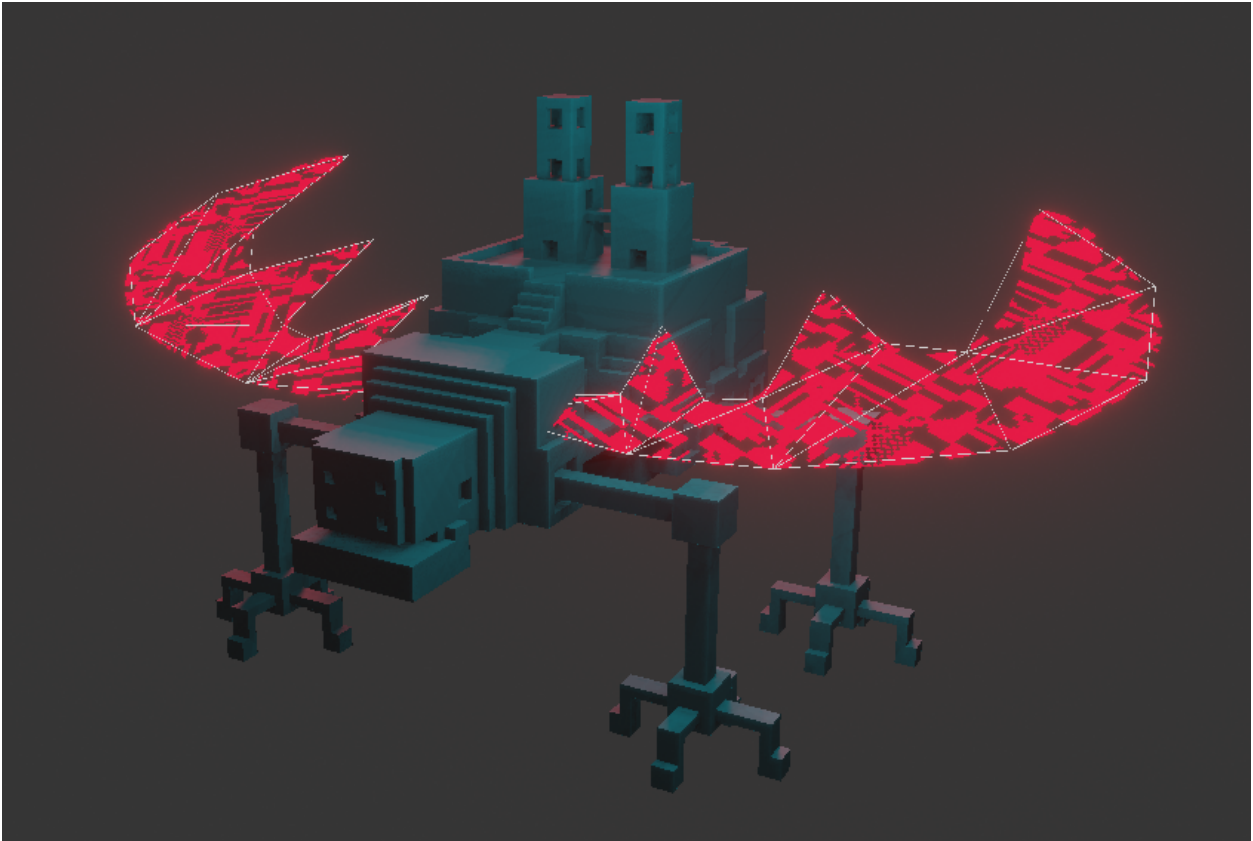
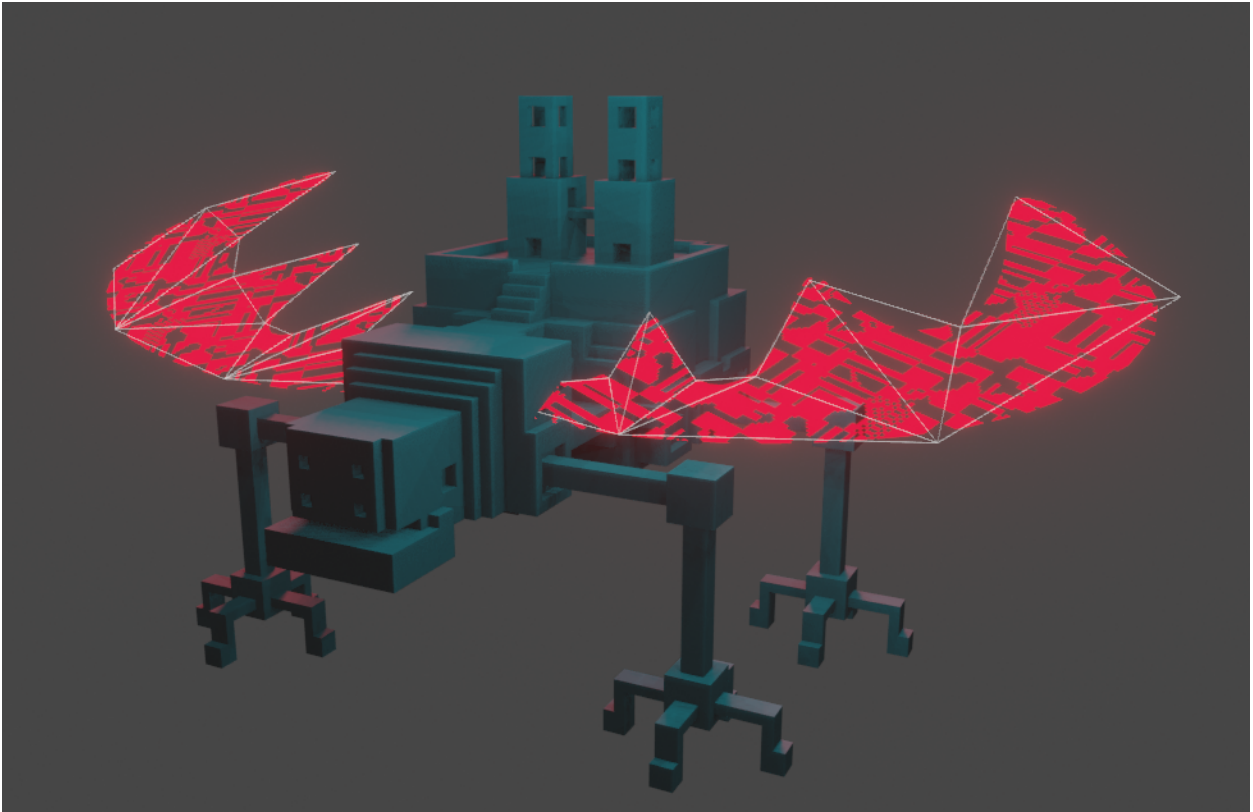
## Creature concept

Concept for the dimensional craft

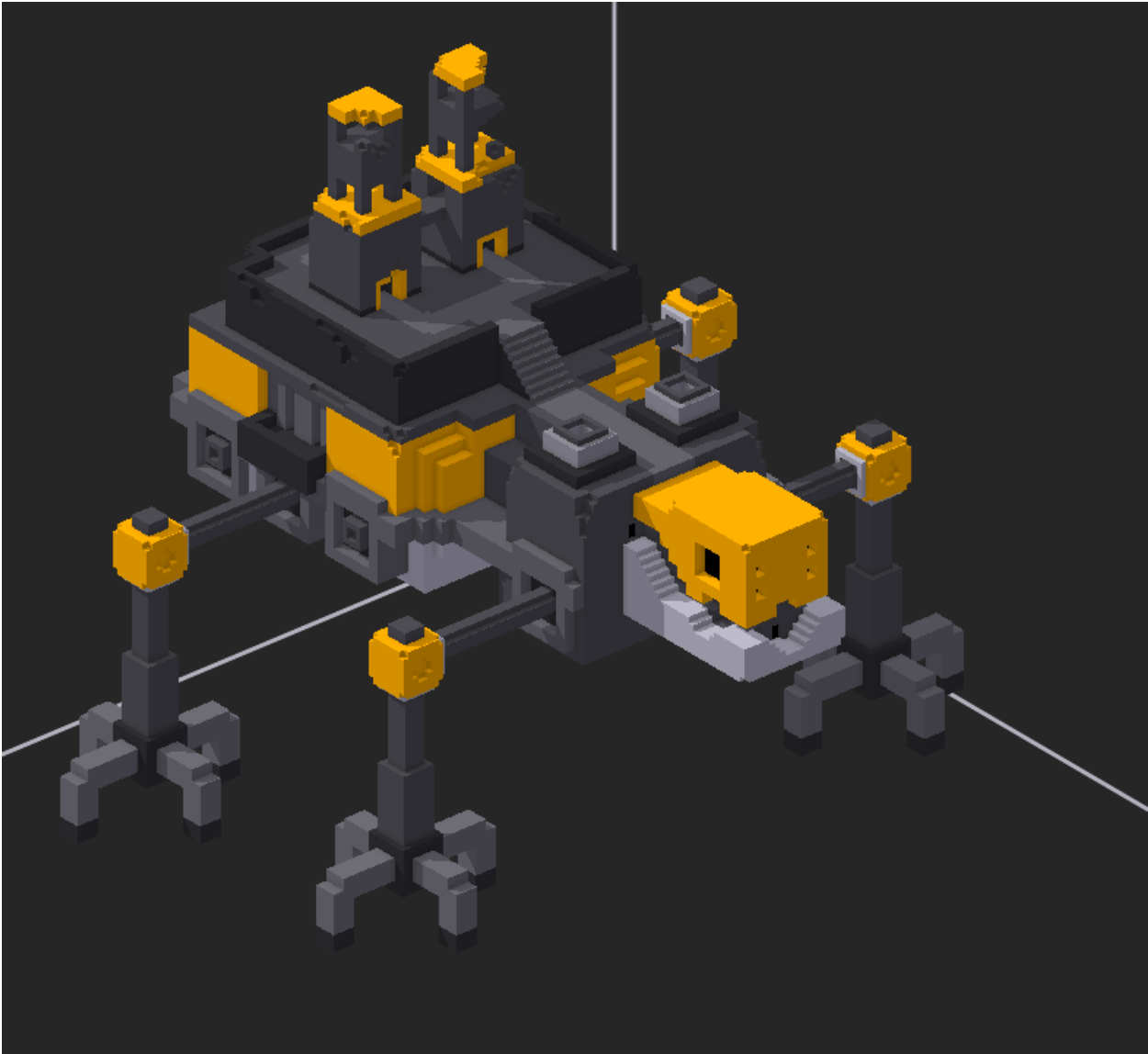
The main inspiration for the wings is from a scene from the Anime "Neon Genesis Evangelion" [https://en.wikipedia.org/wiki/Neon\\_Genesis\\_Evangelion](https://en.wikipedia.org/wiki/Neon_Genesis_Evangelion)







I further came up with this colour design and added details.





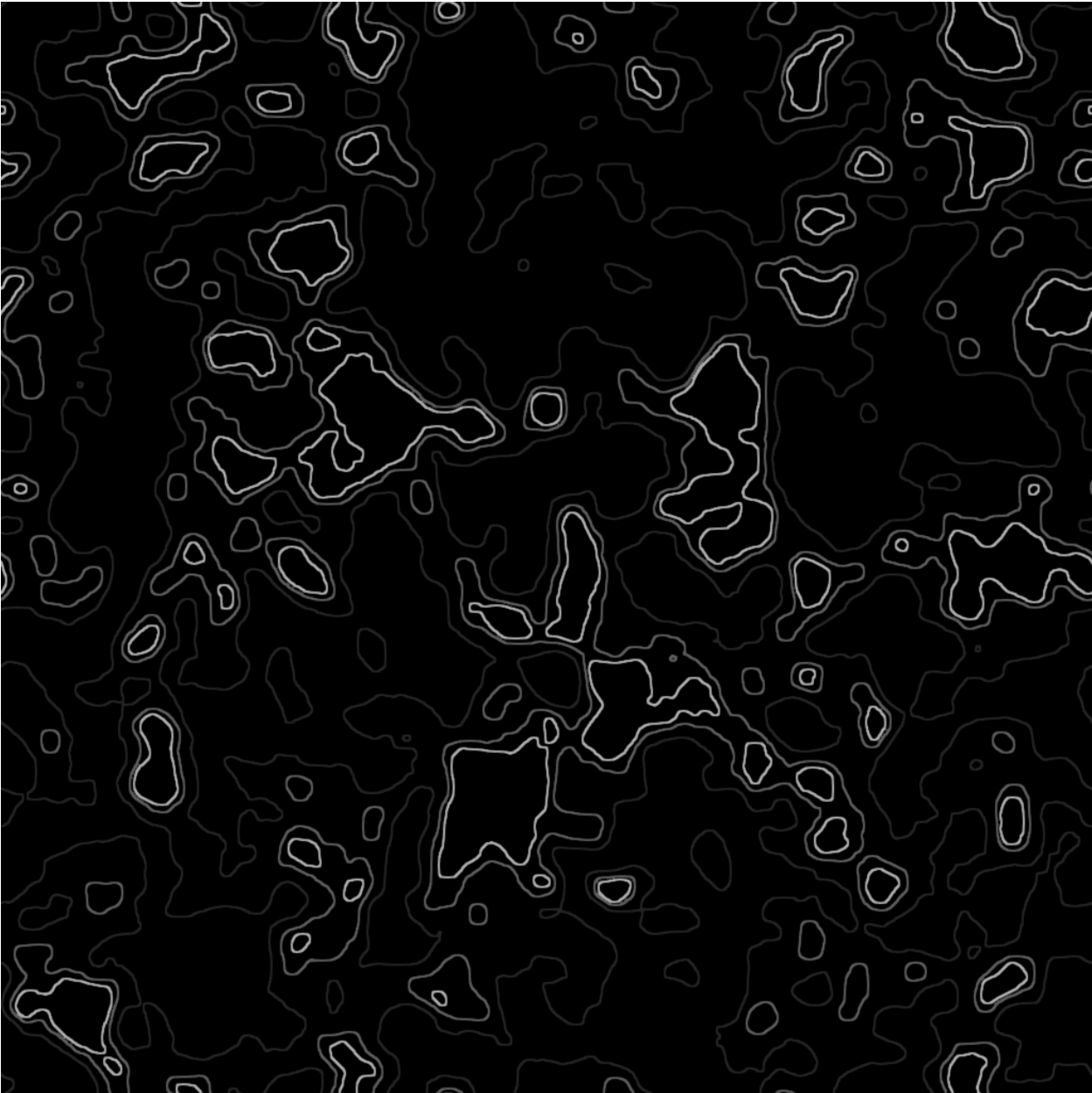
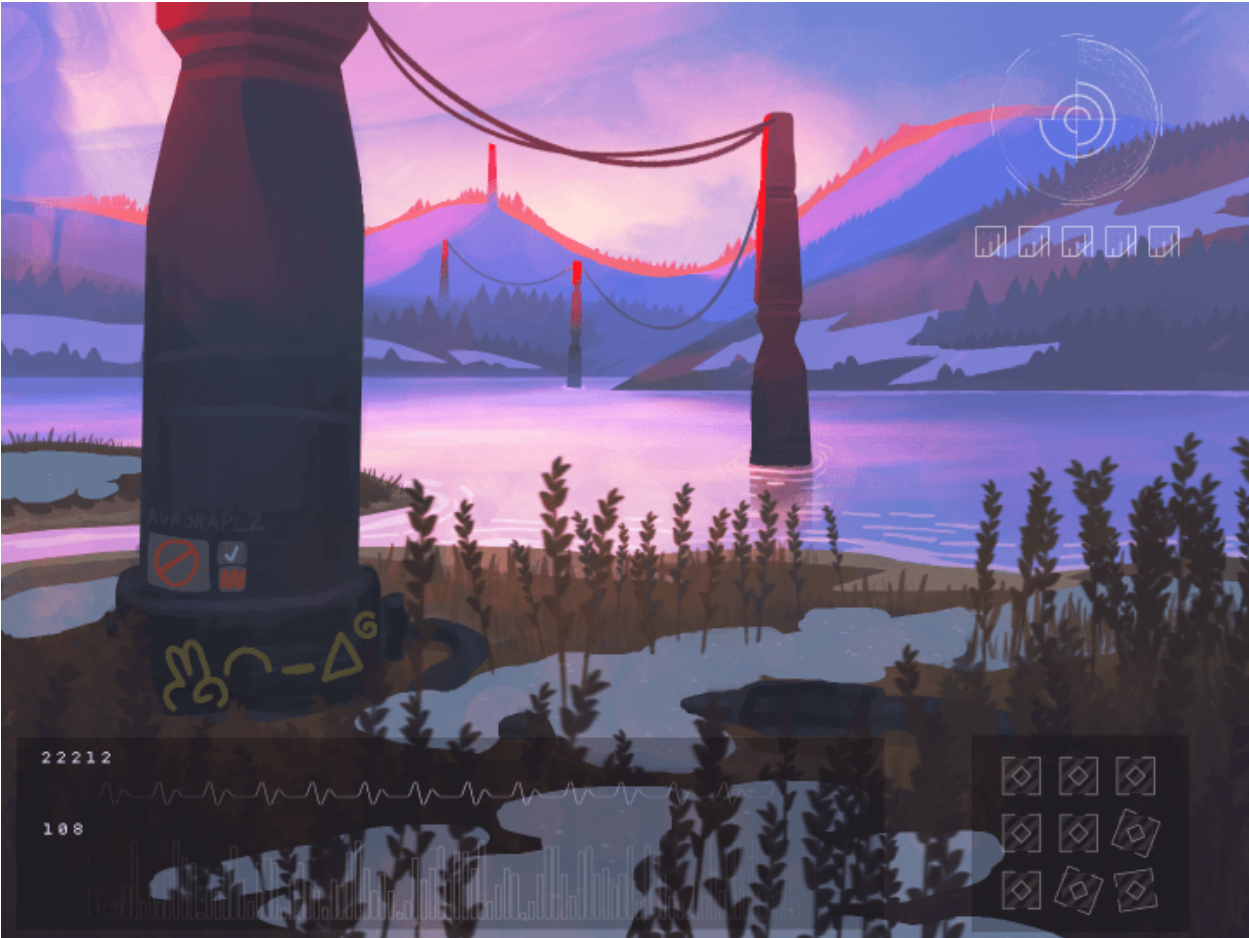
# Process Diary: week 39

🕒 Created	@September 29, 2021 2:29 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## UI design







# Colour grading

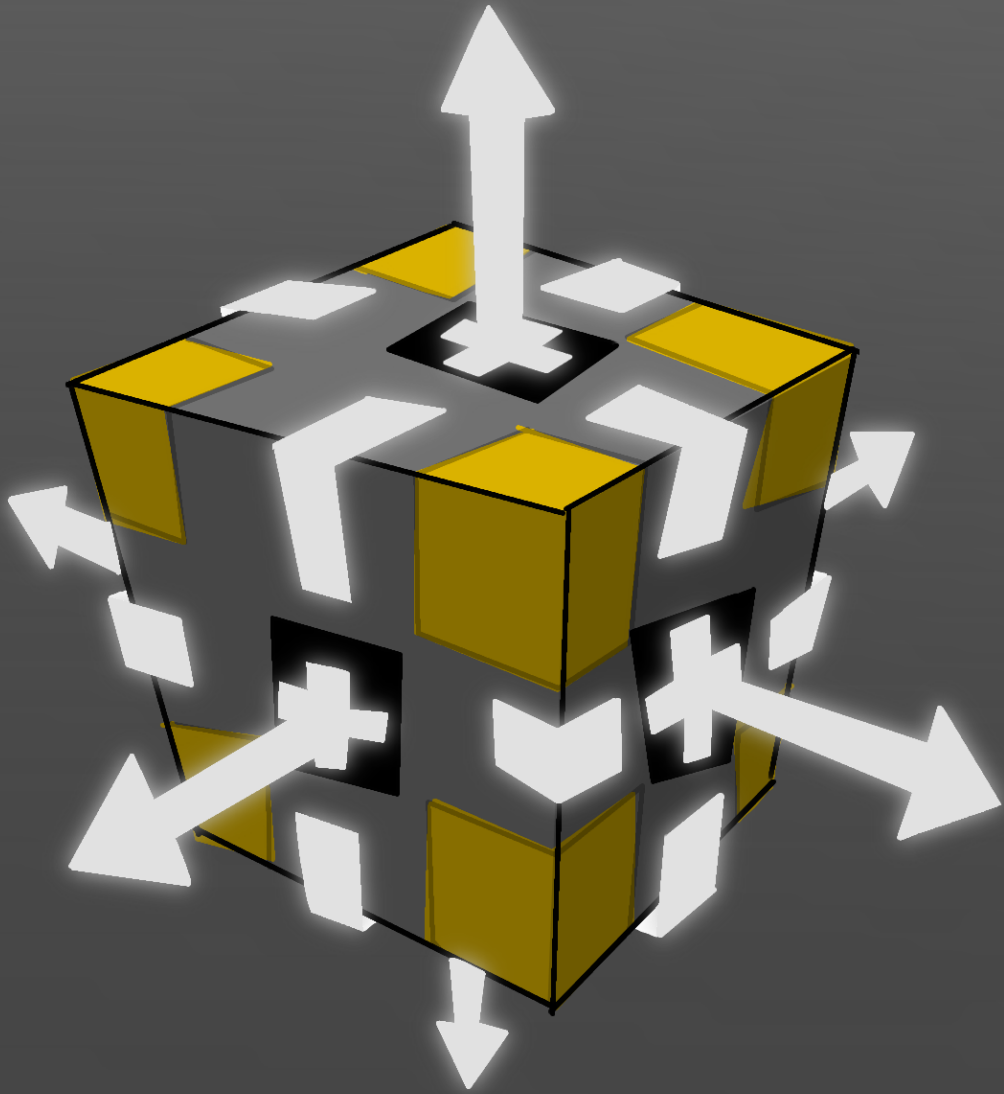
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I decreased the saturation and added warmer earthier colours.



I had a supervision meeting this week on the 1st of october!

# The navigator cube





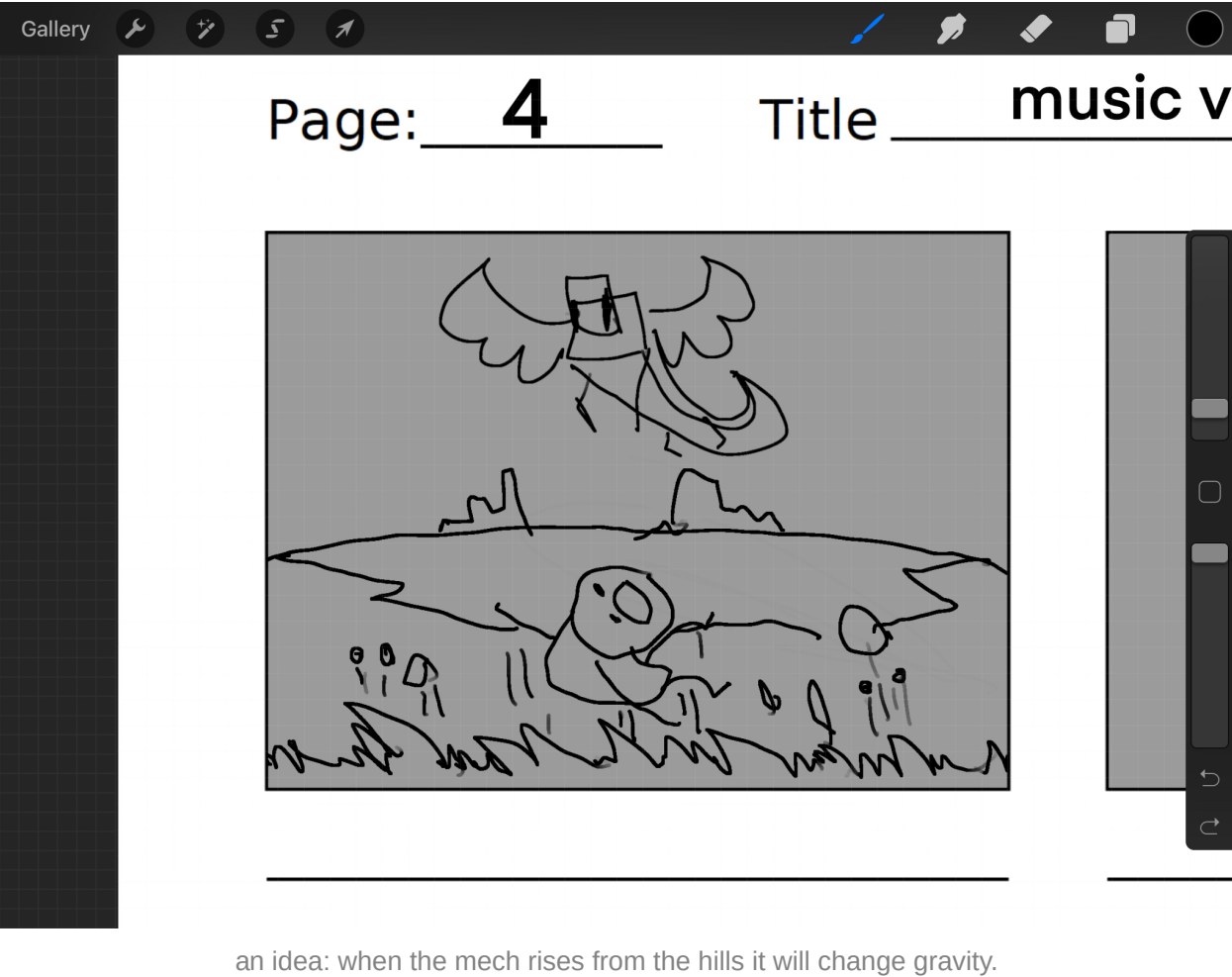
v:-1 z:45 i:0

# Process Diary: week 40

🕒 Created	@October 5, 2021 9:44 AM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

## Storyboard update

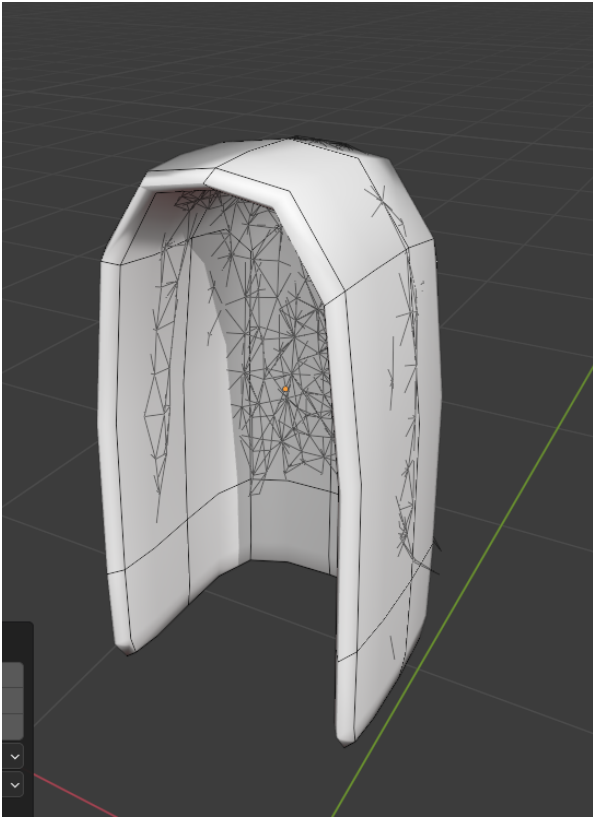
Click this link to view the animatic:  
[https://www.youtube.com/watch?v=GaVw\\_Stq7Nc](https://www.youtube.com/watch?v=GaVw_Stq7Nc)



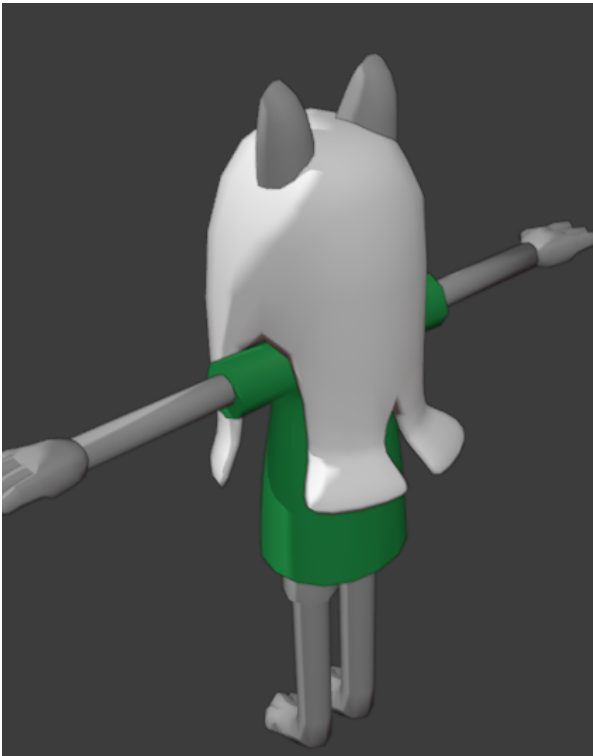
an idea: when the mech rises from the hills it will change gravity.

## Modelling - blocking

This shows the modelling process of the character, going from a simple shape of the hair, to detailing it. And in the end adding textures.



hair blocking pass 02







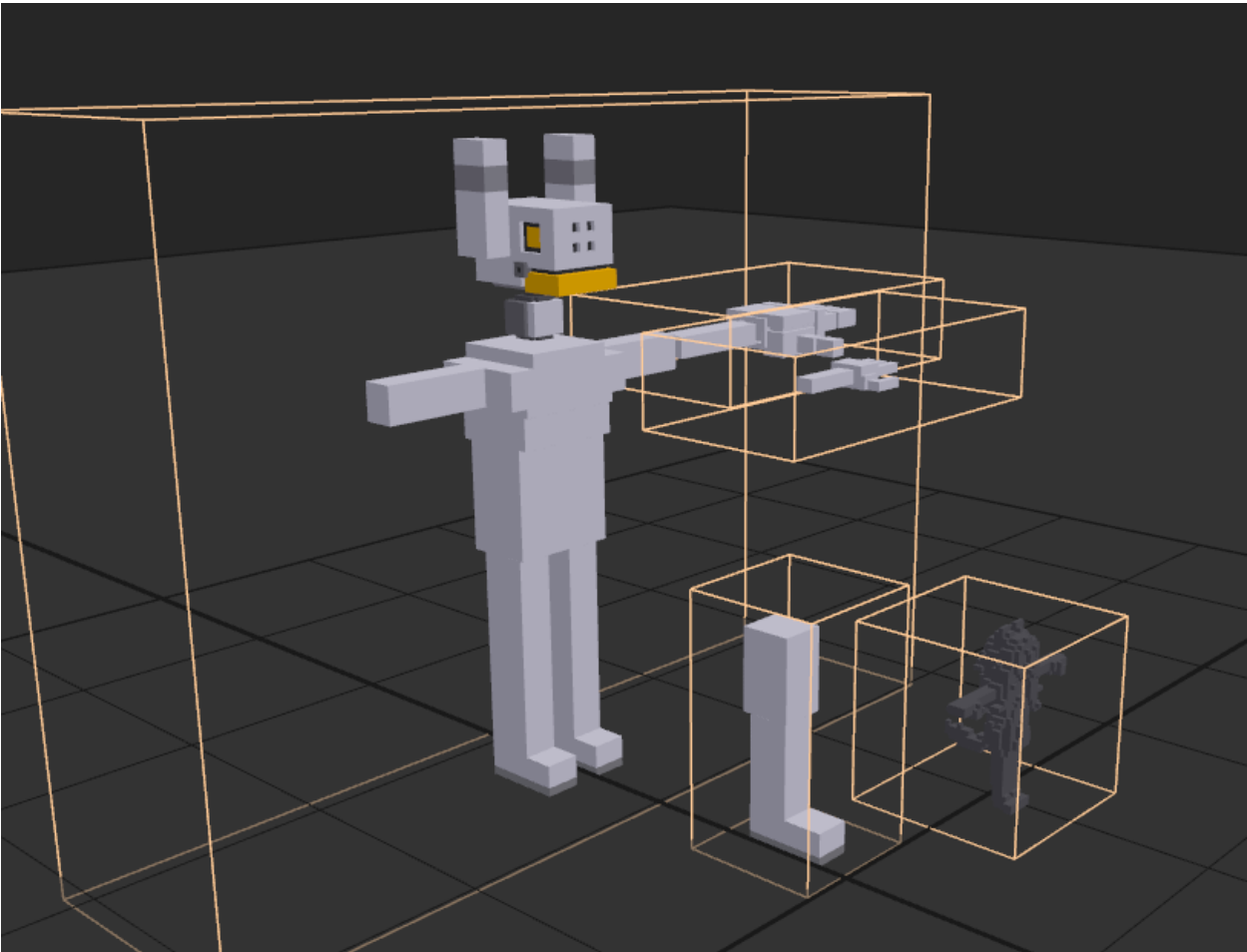


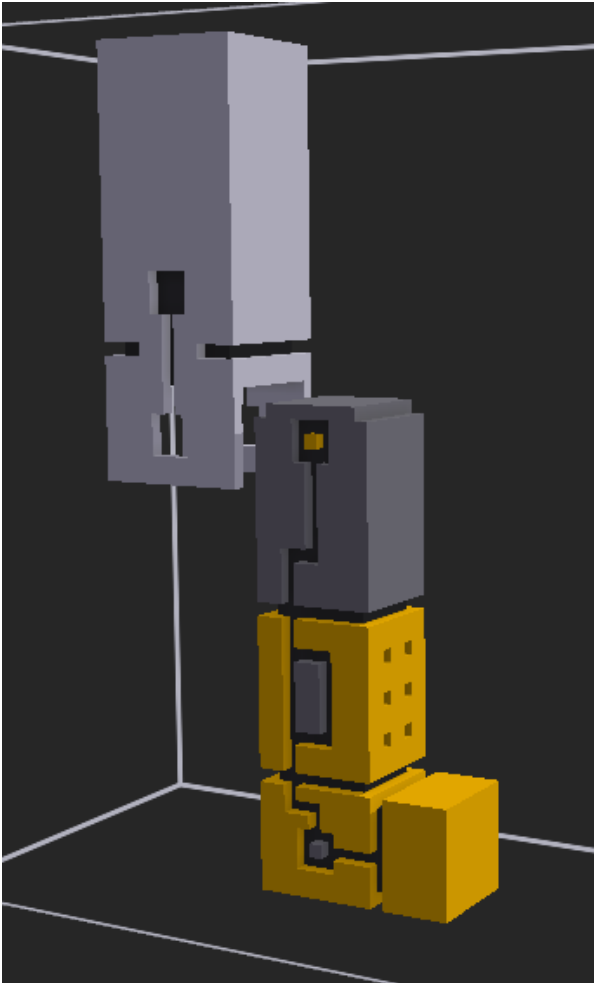
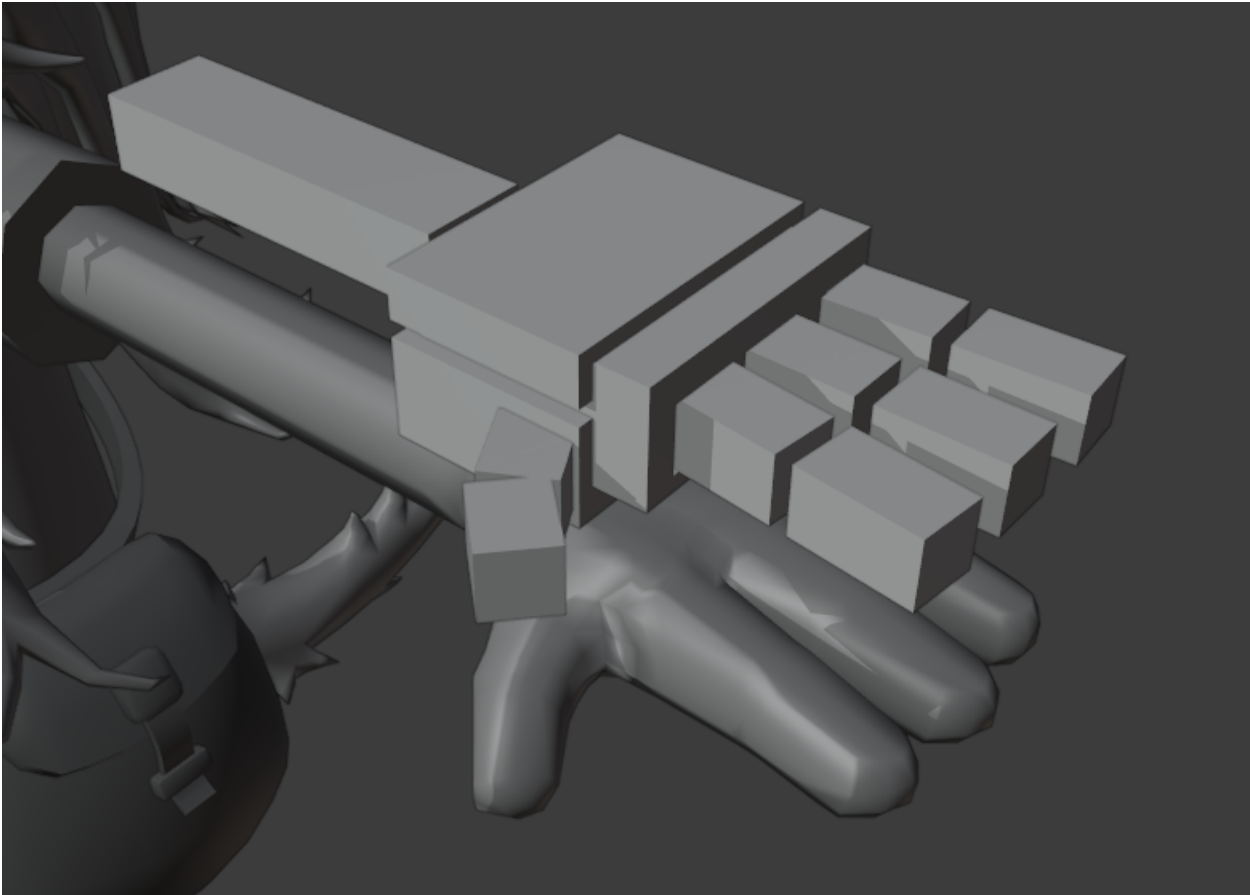


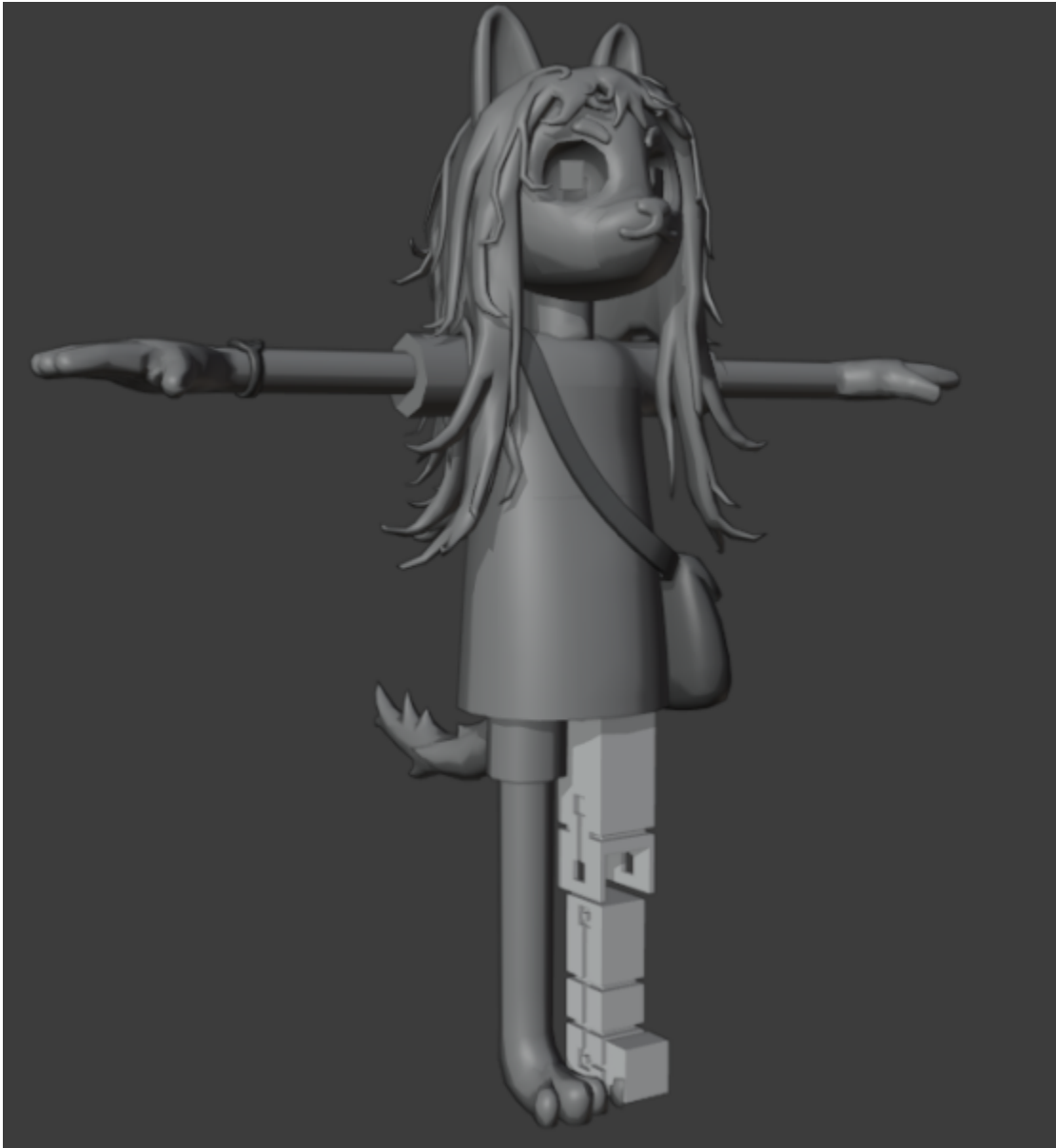
# Process Diary: week 41

🕒 Created	@May 3, 2022 5:44 PM
⋮ Tags	Main Entry
☰ Days	
☰ Month	

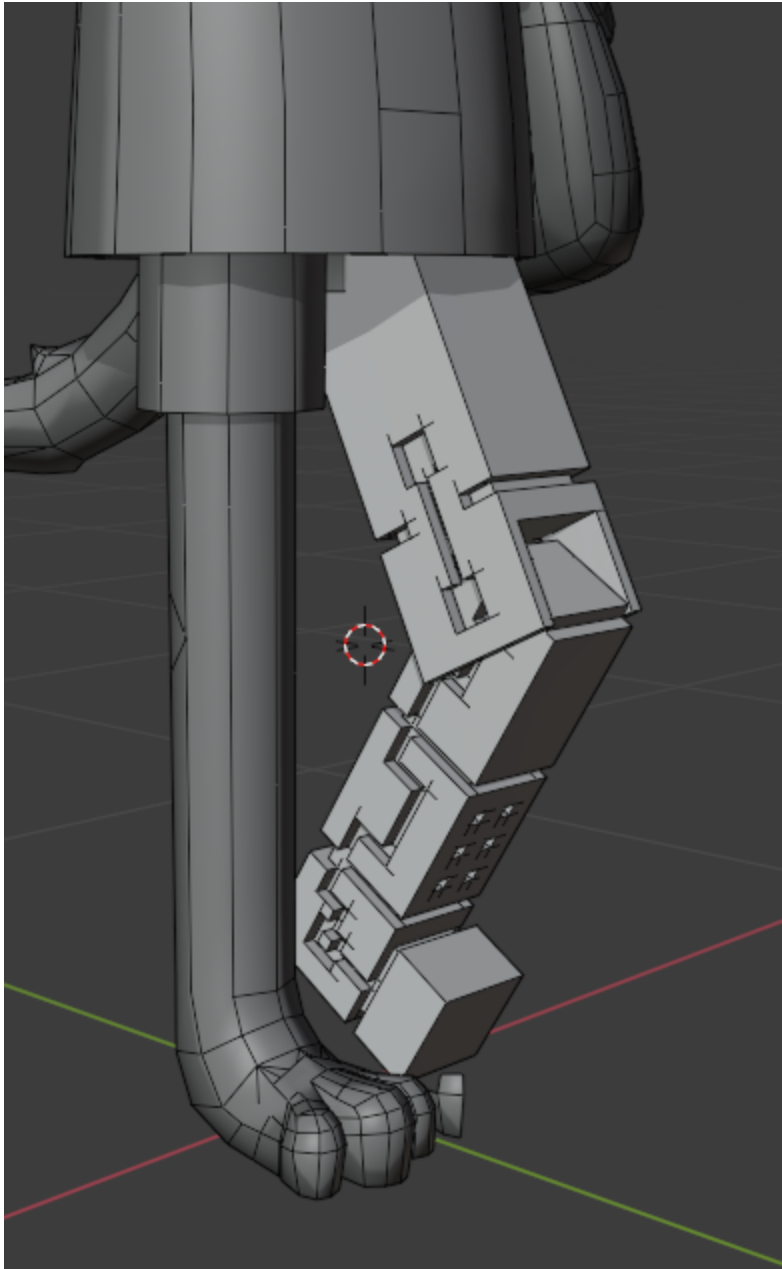
## Blocking The Traveller Robot



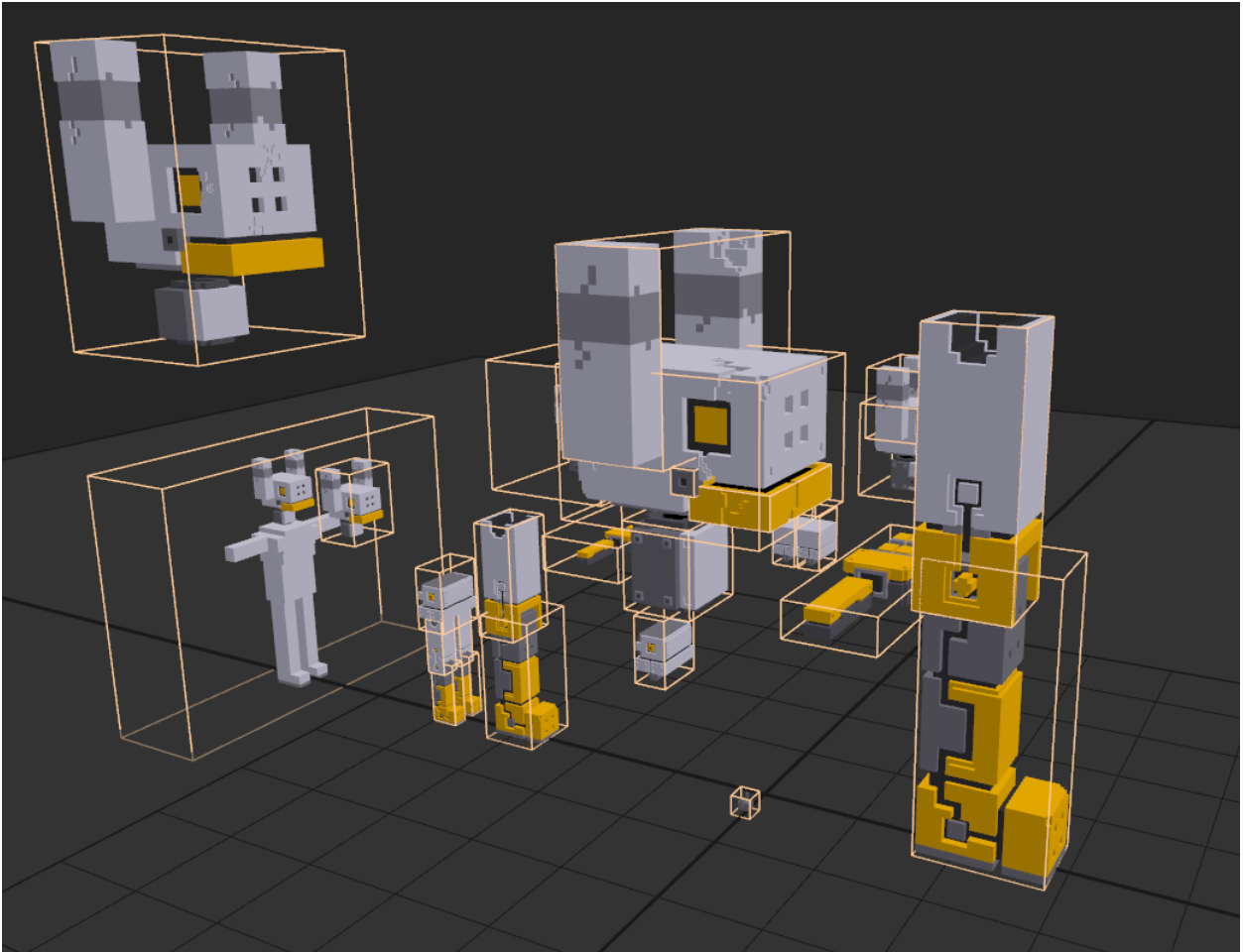




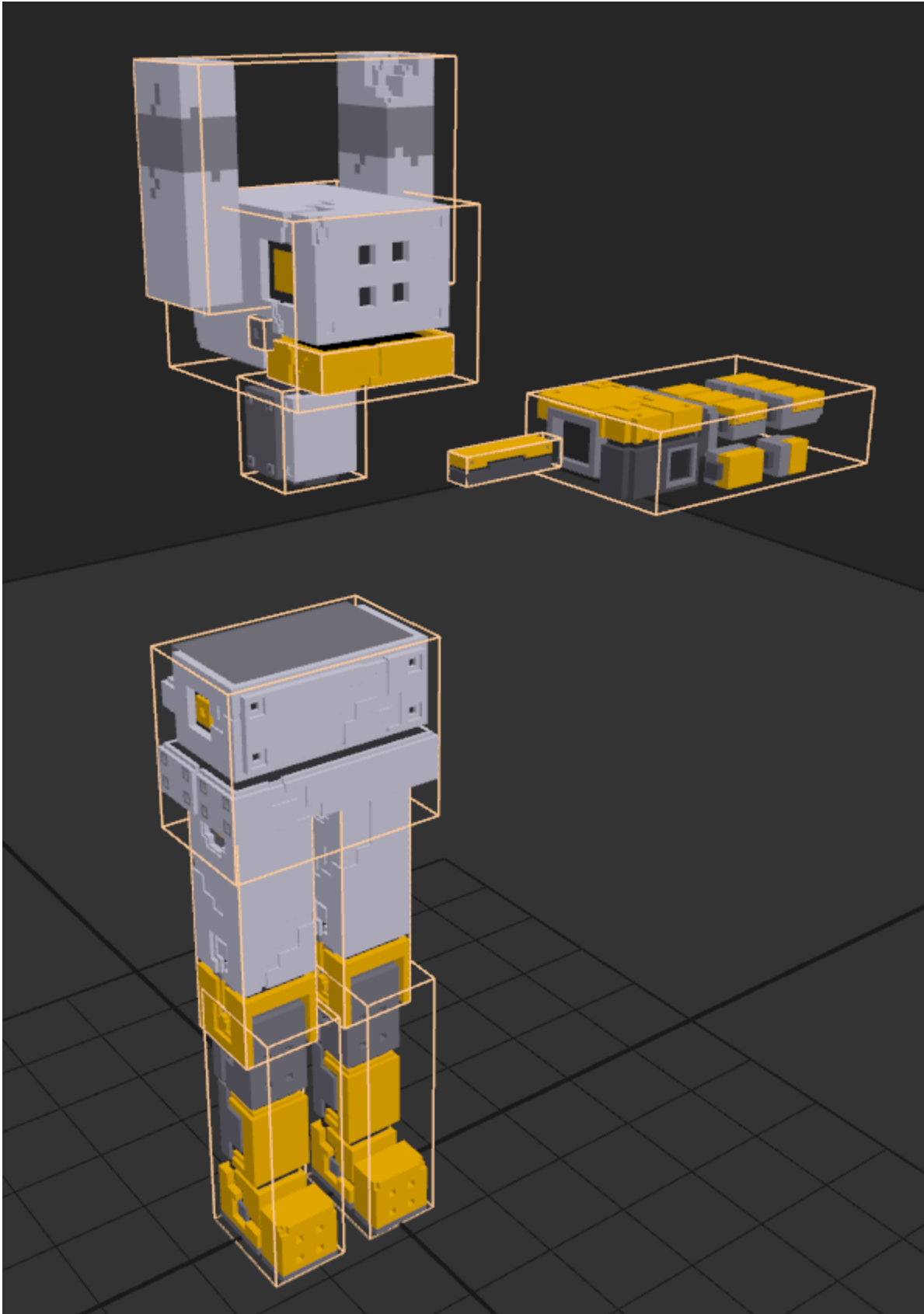
i got this funny idea to give sabi a robot leg too. It could be cool....



testing how the knee area will bend when animated



Work has been going a little slower this week as I got sick. From 6th october to 17th october.



**Idea for building: qr code pattern building**

---



just like this building you can view through this link: <https://awayandfar.com/wp-content/uploads/2020/06/Thay-Temple.jpg>

Idea to make a building like that but the pattern on the pillars is a qr code instead



# Process Diary: week 42

🕒 Created	@October 21, 2021 4:27 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## I finished the robot this week



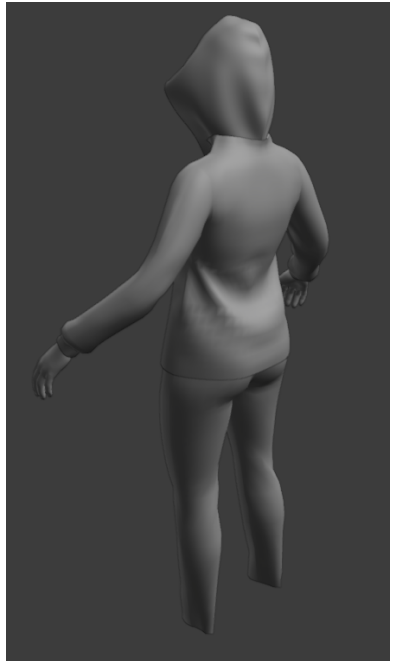
## I started work on the Server operator

The first prototype for the clothing made with sewing technique in Blender.





im having a problem where the arms of the garment shrink too much when fitting the the form of the body...

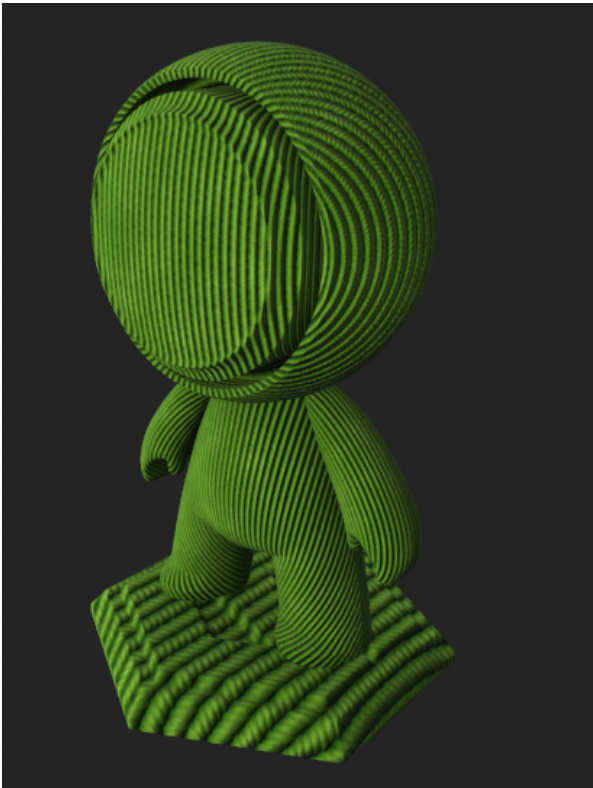




# Process Diary: week 43

🕒 Created	@October 31, 2021 4:10 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Texturing









## The completed model

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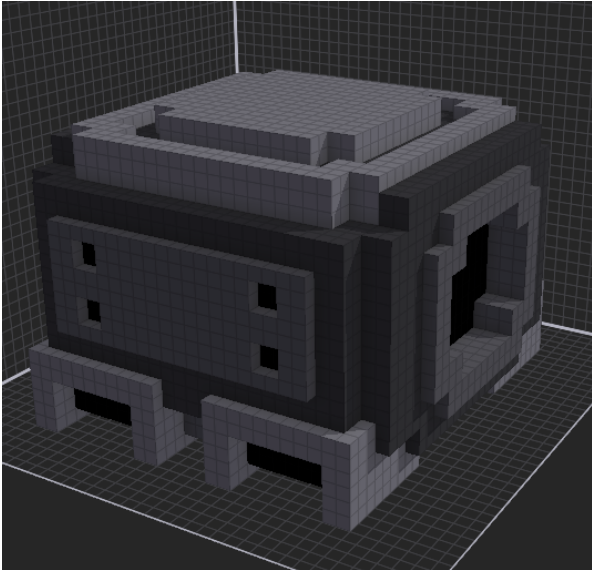
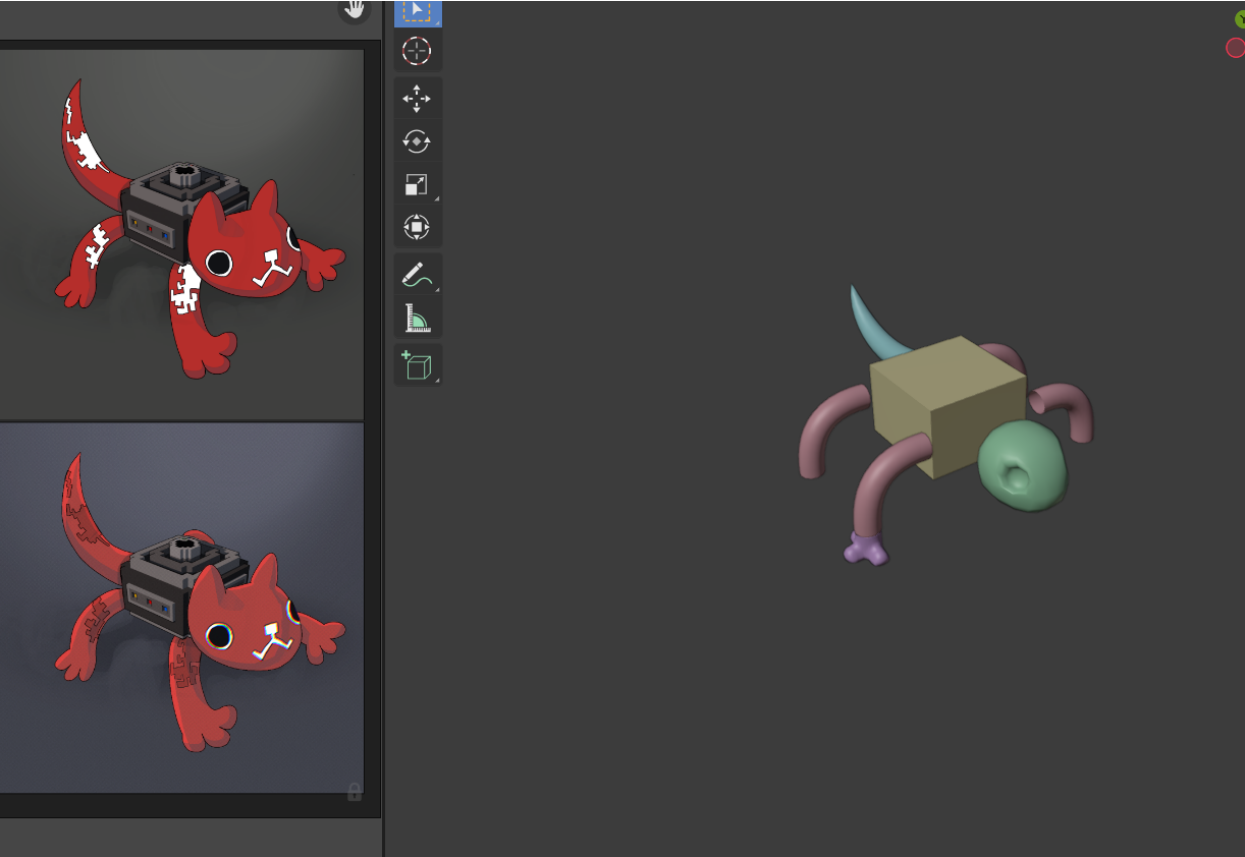


# Process Diary: week 44

🕒 Created	@November 2, 2021 3:32 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## Making the creatures

Started with blocking out the shapes of the creature. And getting the proportions right before adding any details.



The shell of the creature was made as a voxel model in the program MagicaVoxel



## Final Model of the cat

---

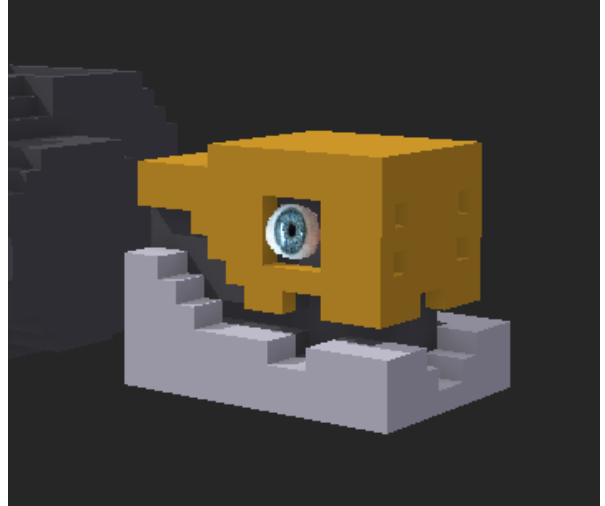
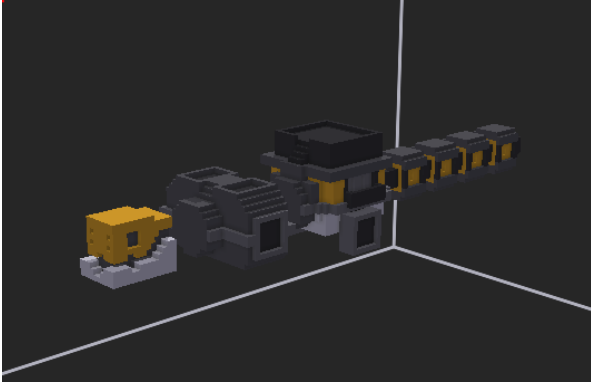
This is how the cat turned out.

It tooks approximatley 2 working days to model this creature and texture it.

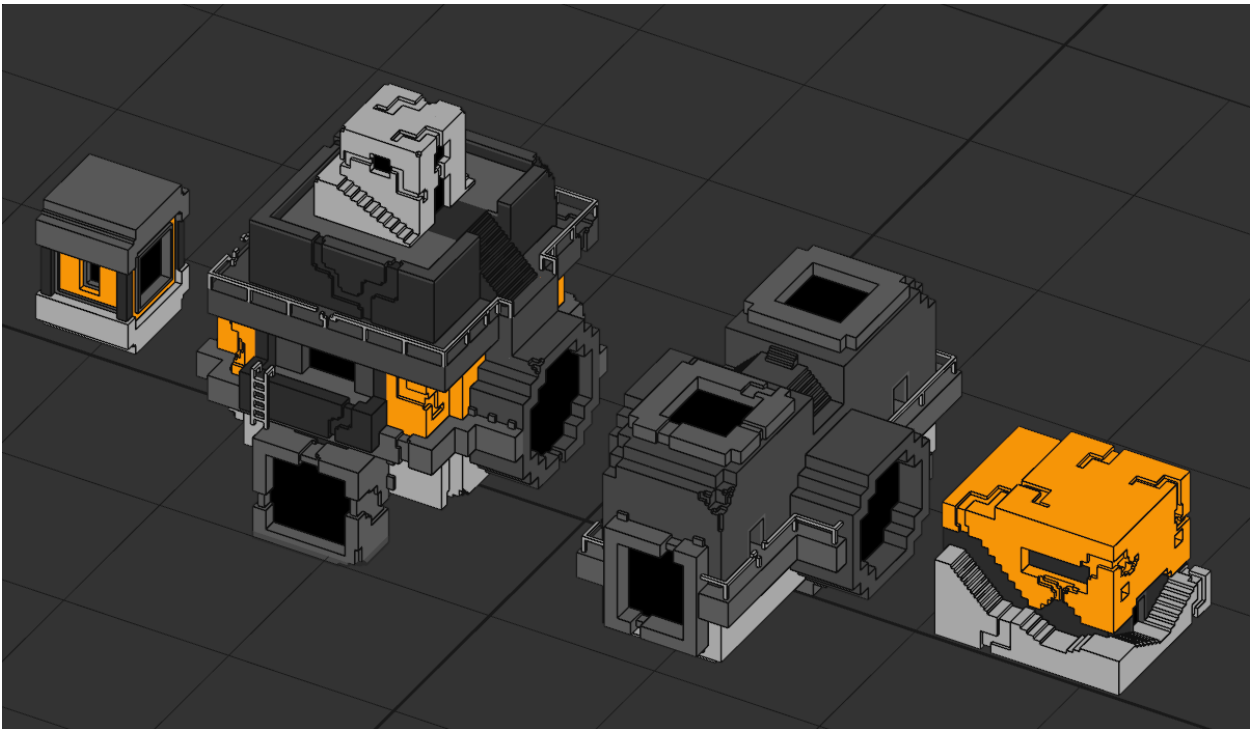


# Redesigning and making the Dimensional craft

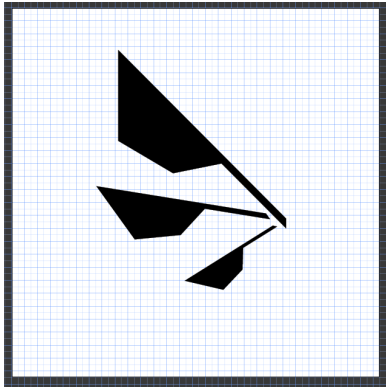
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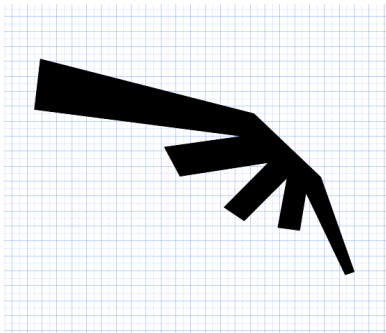
I had a crazy idea to put a realistic human eye on the model







wings sketch, inspired by the Imagery from the Anime, Evangelion (1995)



FINAL wing design







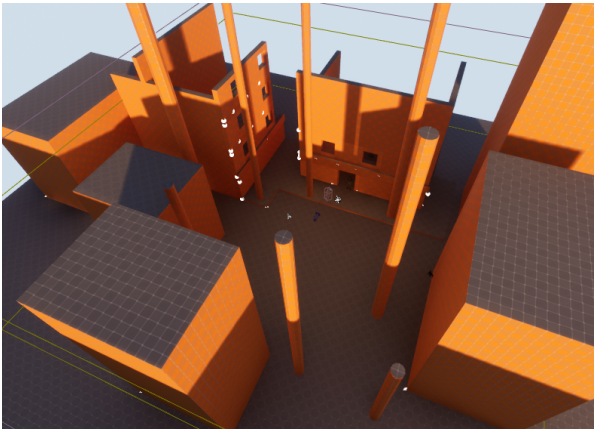
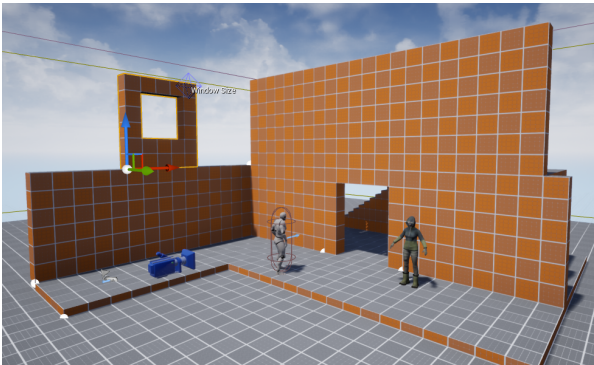
# Process Diary: week 45

🕒 Created	@November 7, 2021 3:23 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

Today has been a long week, and I was left with little time to work on the project as planned.

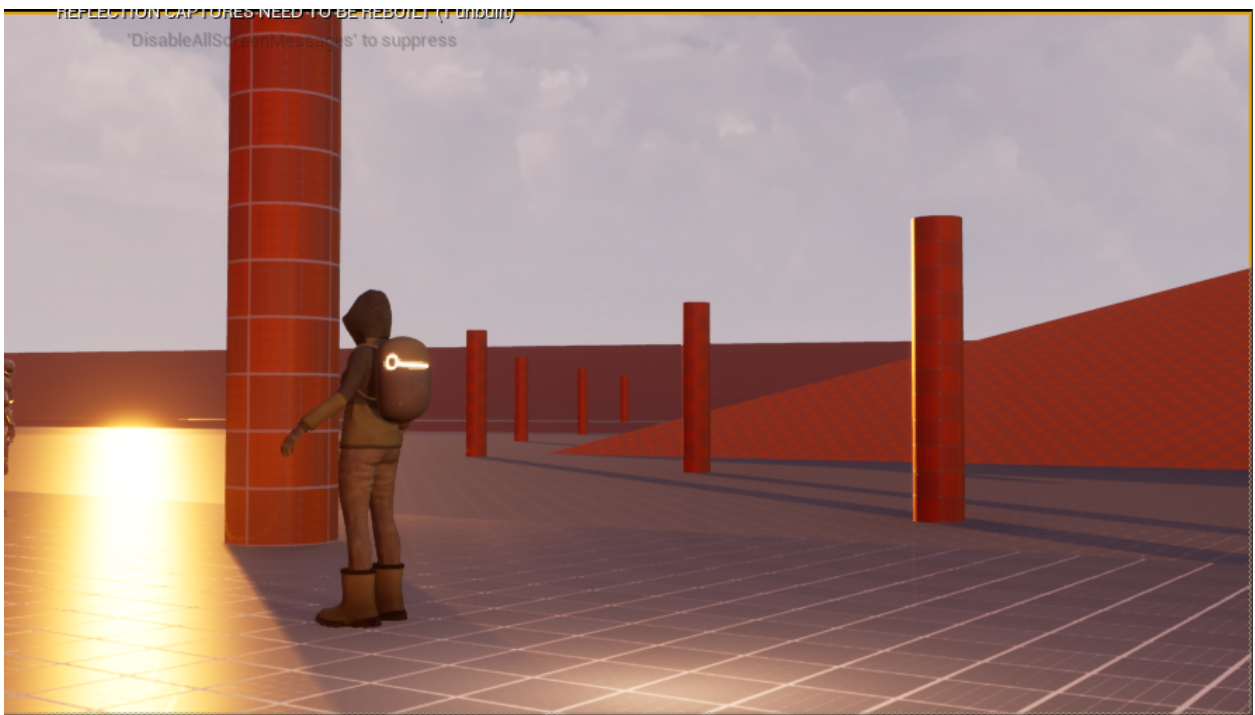
But today I have started blocking out the forest area scene in Unreal Engine 4.

I am using google maps as a reference to compare the proportions of real buildings.





forest scene



lake scene

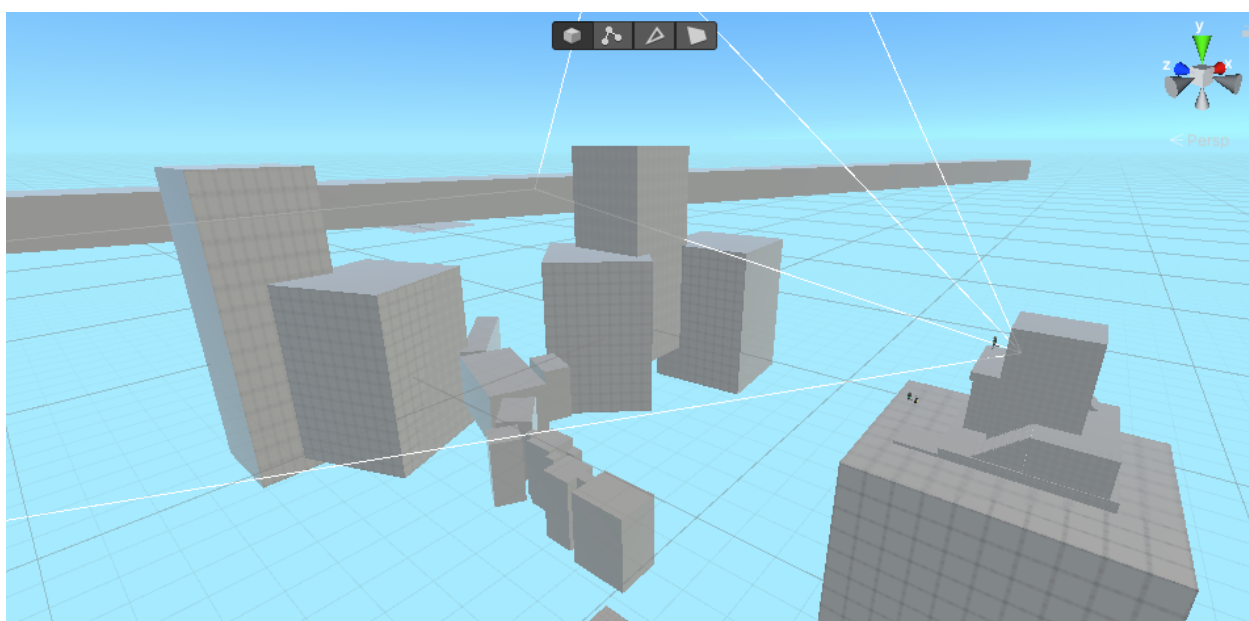
After a long day of work i went outside in the forest to recolect my thoughts. Going for walks in the forest also serve as a way for me to find inspiration, especially since this film has a lot of scenes with nature.

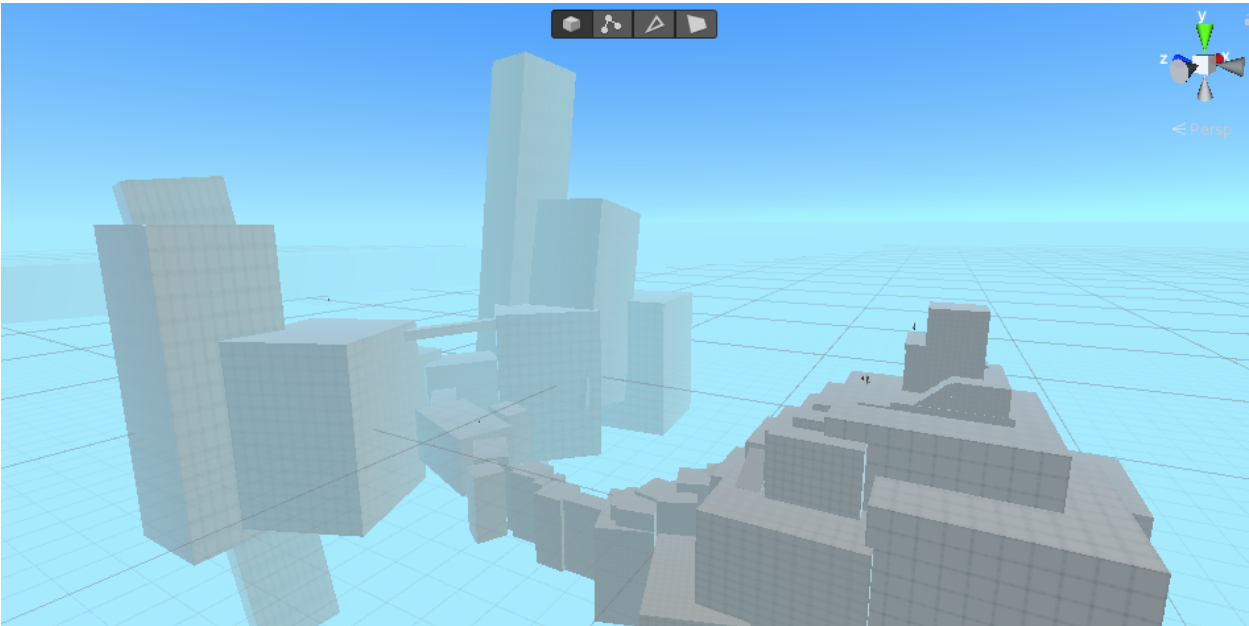
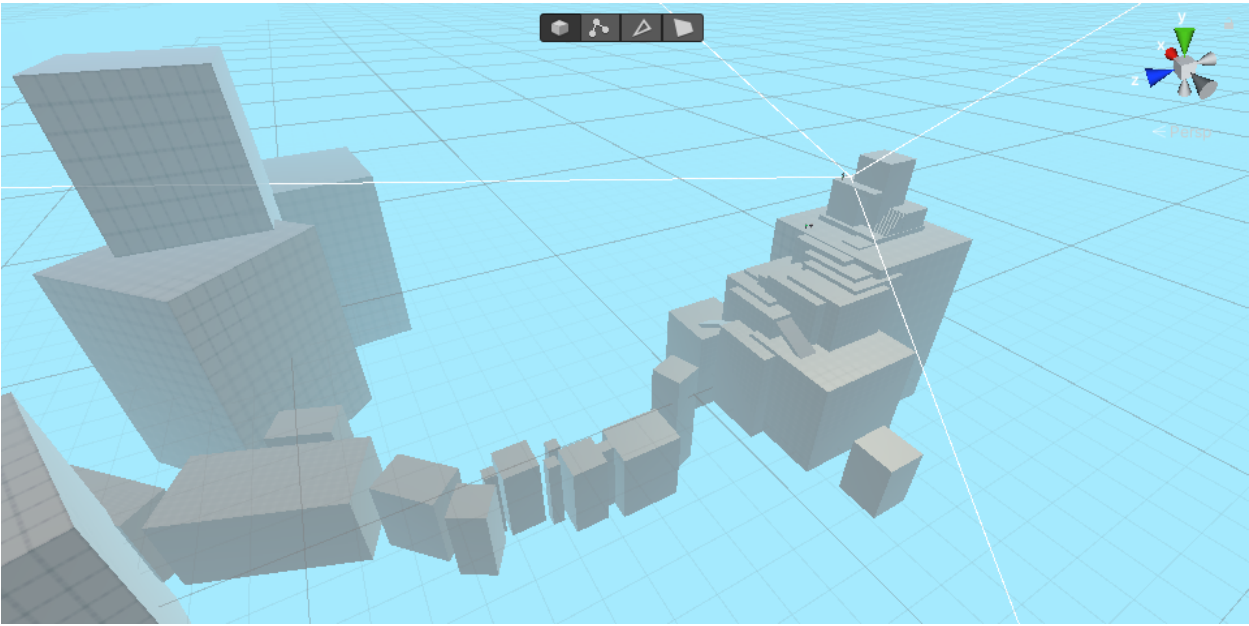




This is the drawing I made on my trip to the forest.

Blocking in unity:





# Process Diary: week 46

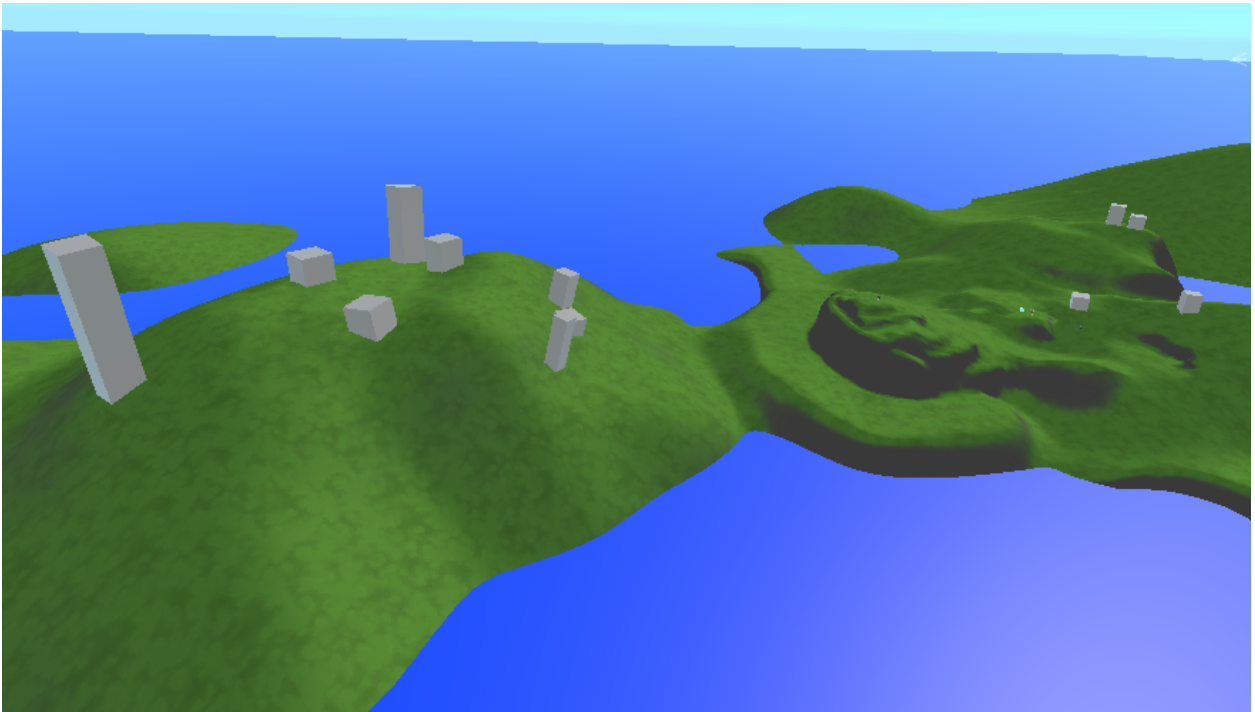
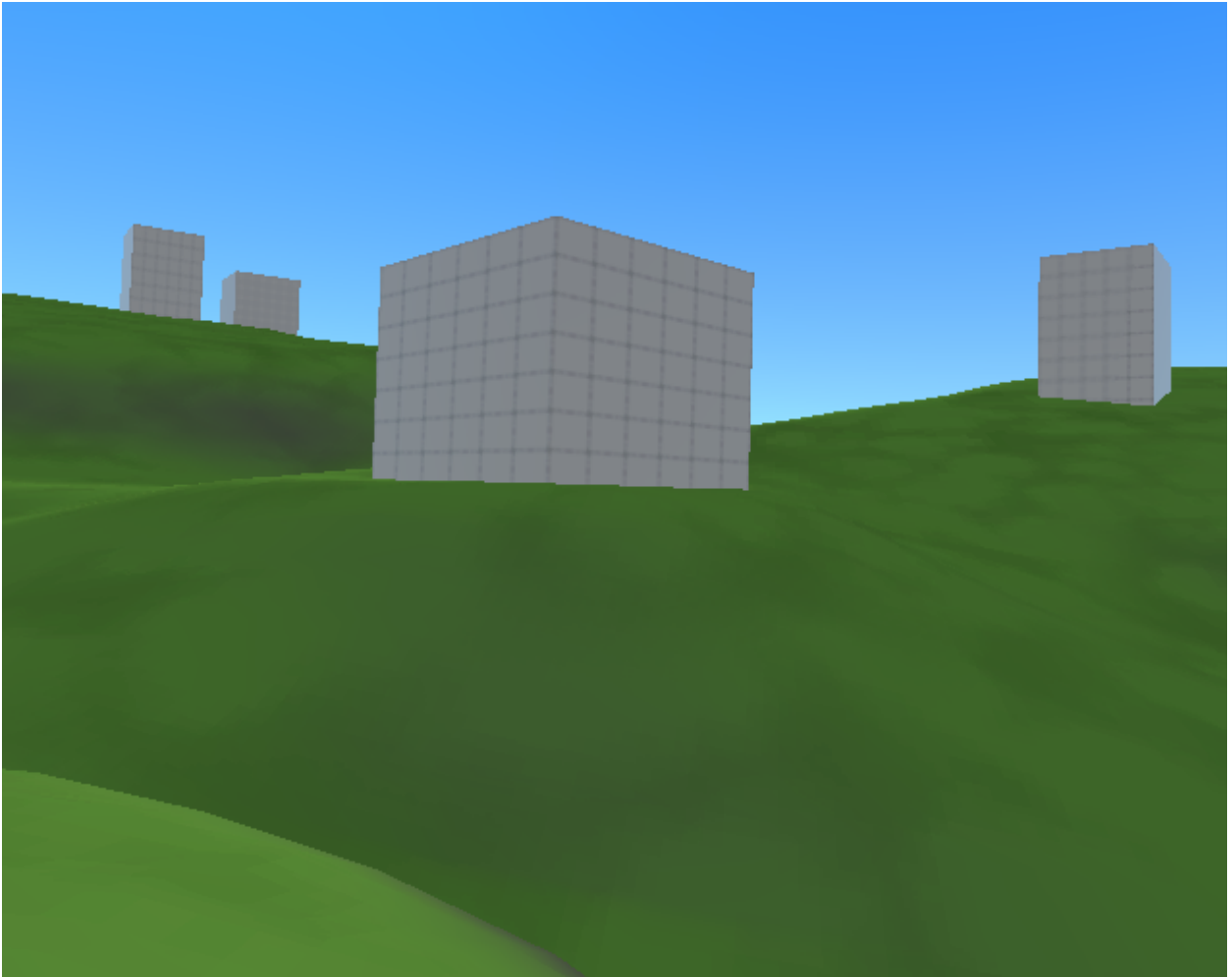
🕒 Created	@November 17, 2021 2:42 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

Scene blocking in Unity: Hidden ruins layout



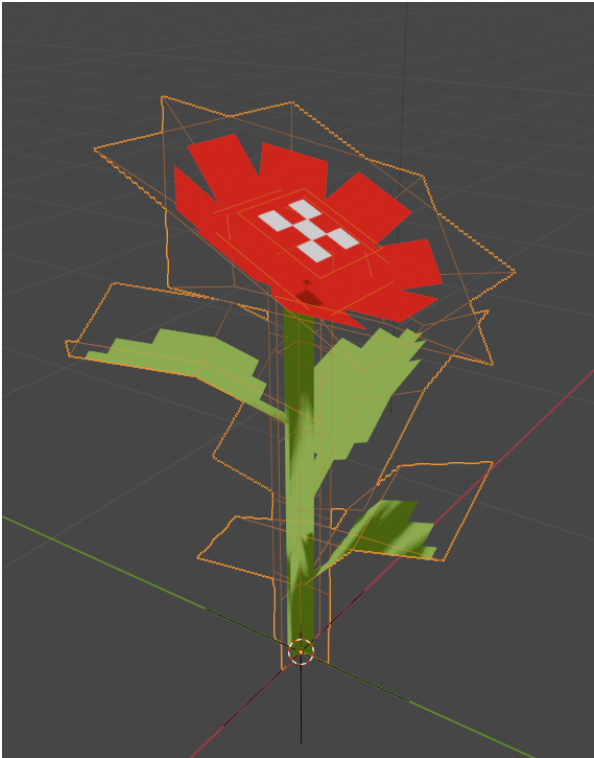
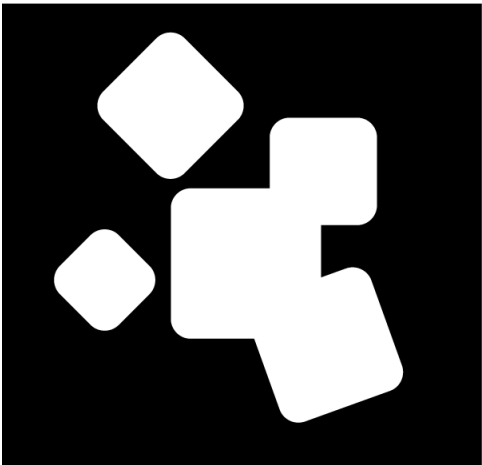
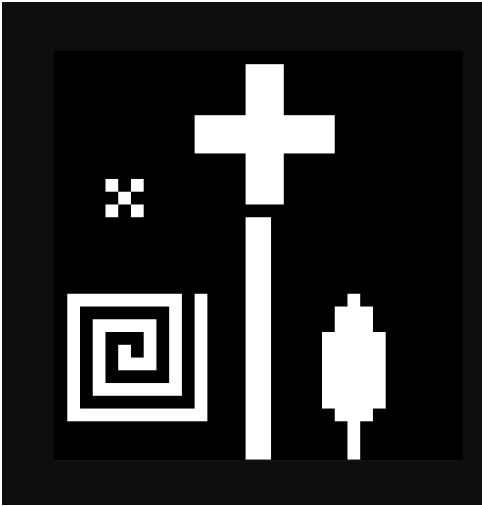
the dimensional craft will rise from the ruins that Sabi is facing

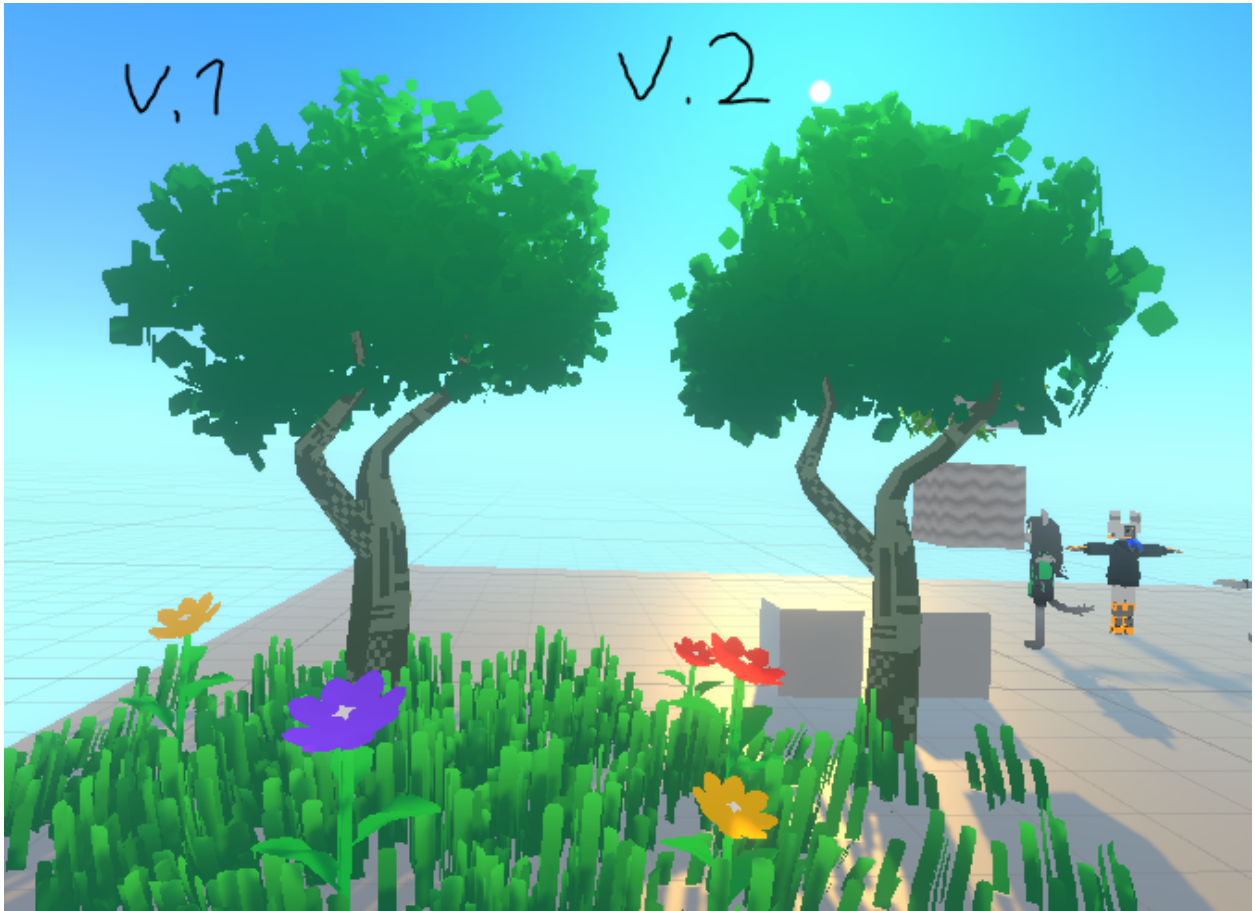




Environment art:  
foliage production





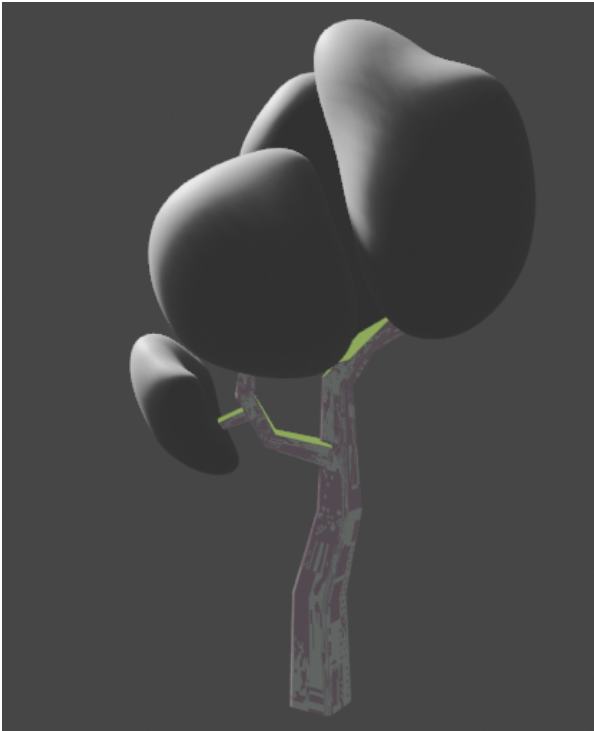
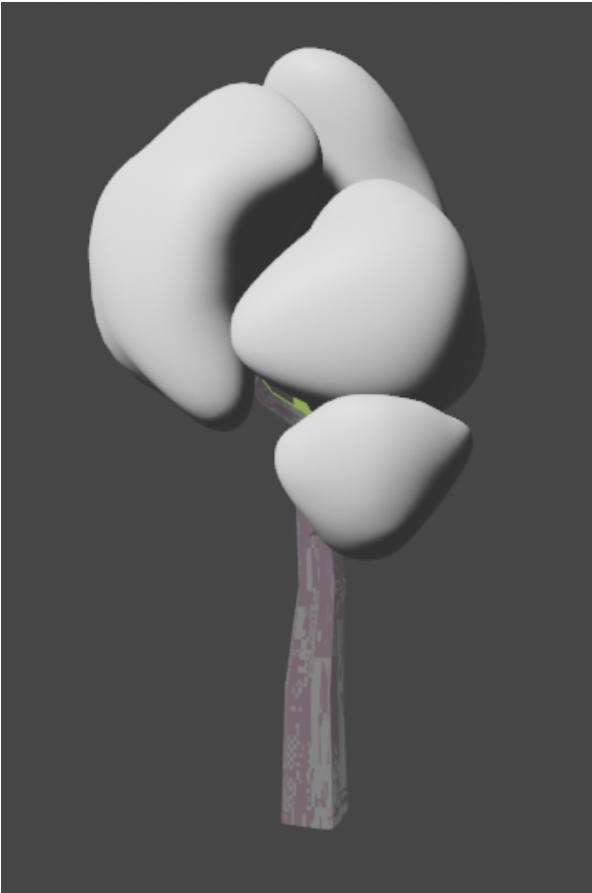




# Process Diary: week 47

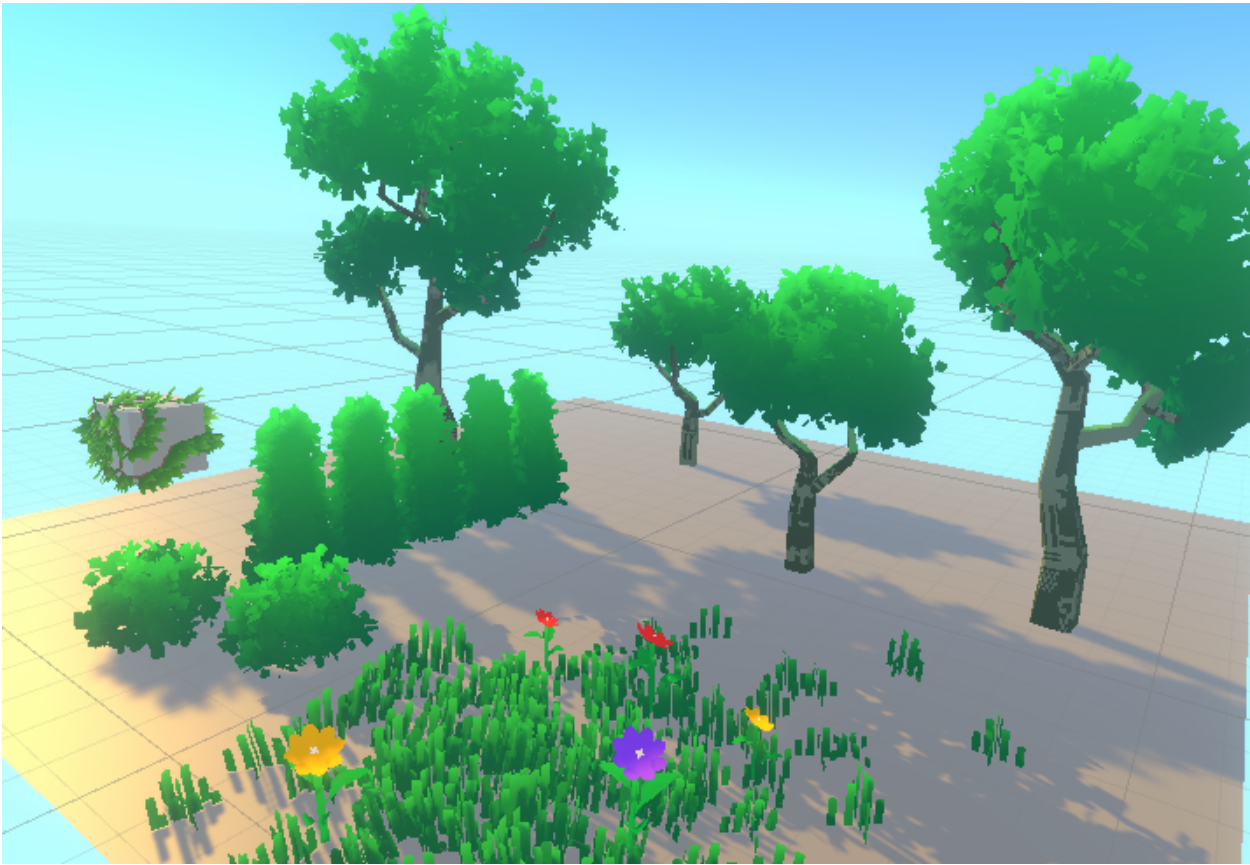
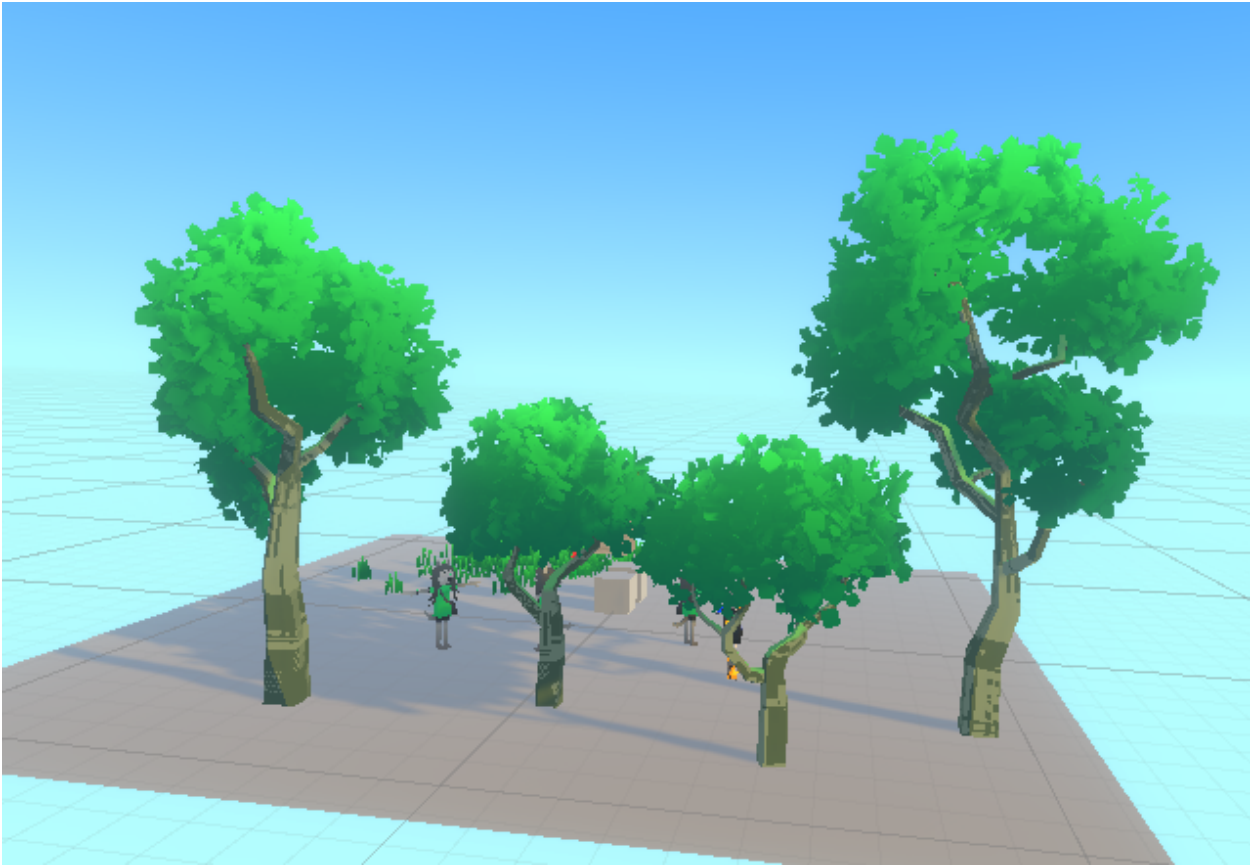
🕒 Created	@May 3, 2022 5:51 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

## The process of making the trees







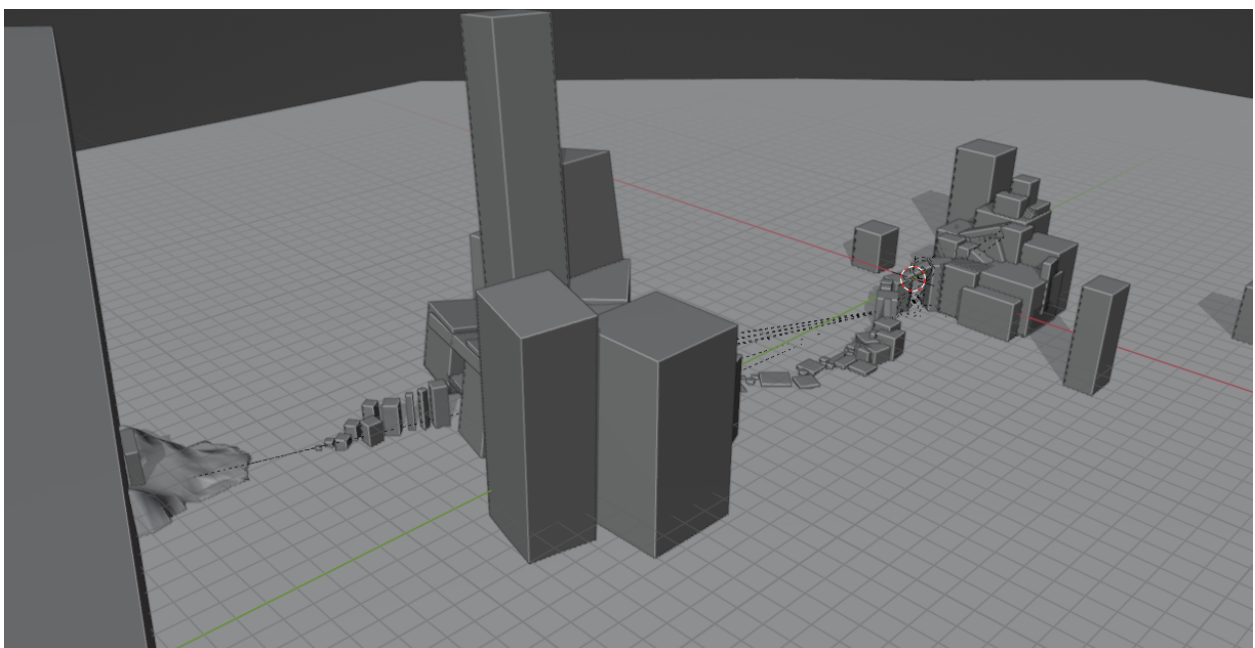




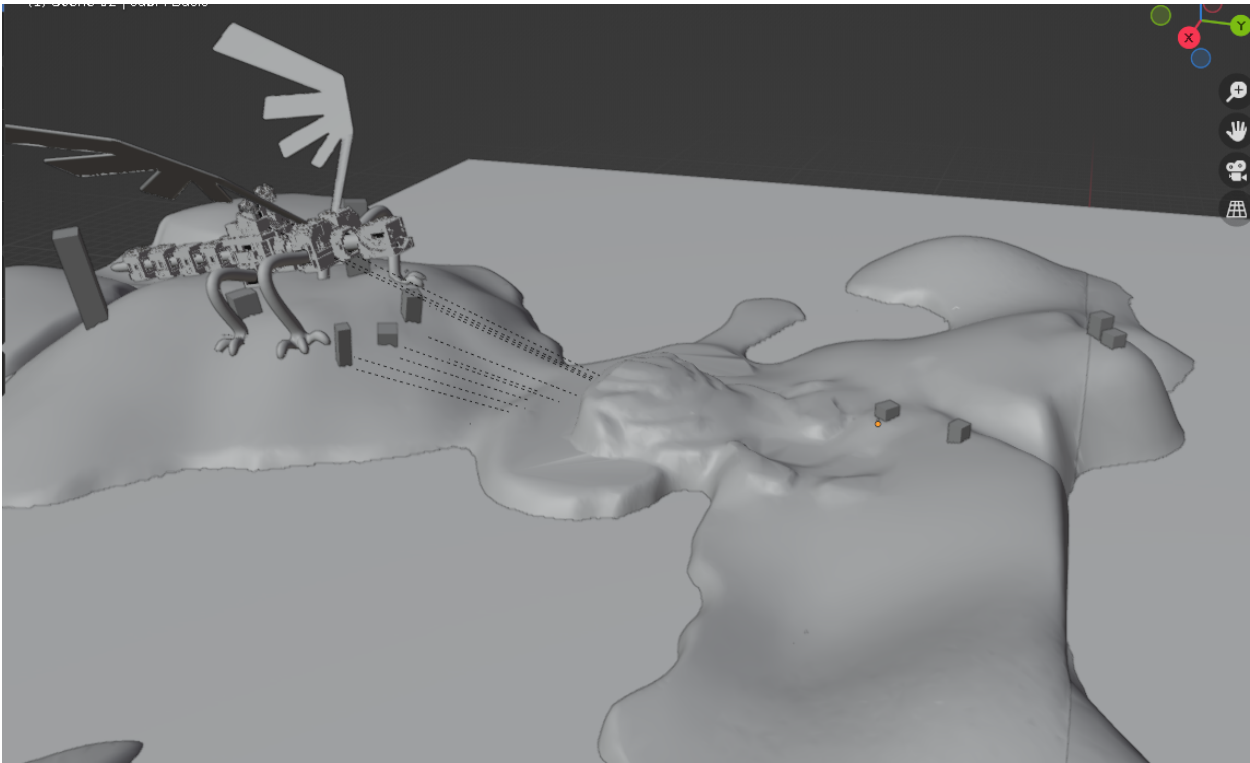
Today I also went back and made some new blendshapes for the character Sabi. So that her eyes can look in different directions. I needed to do this since eyes are such an integral part of reading expressions.

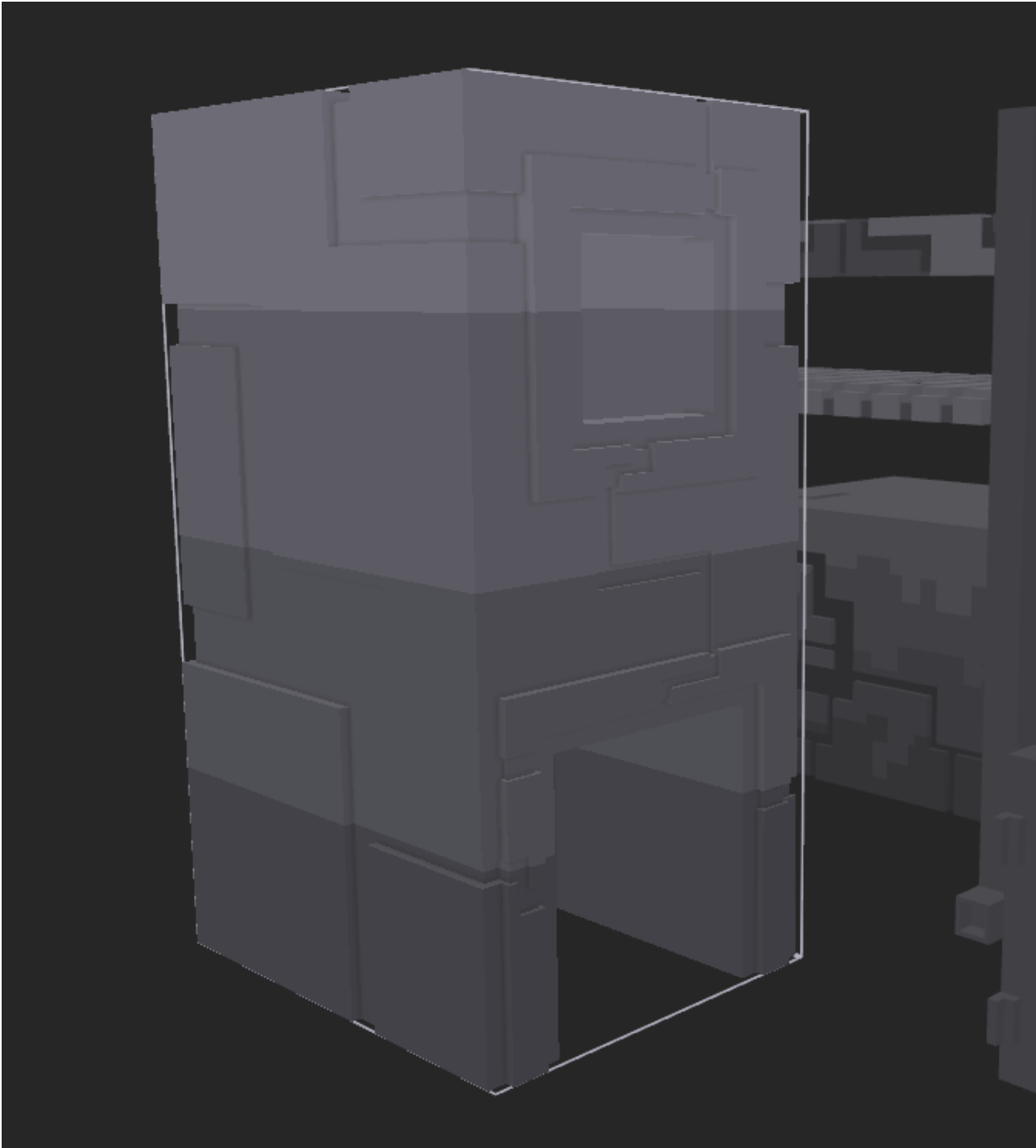
I have also imported the scenes i Made in Unity into Blender scenes.

So that I can more easly check the proportions and etc of certain assets like buildings while making them.





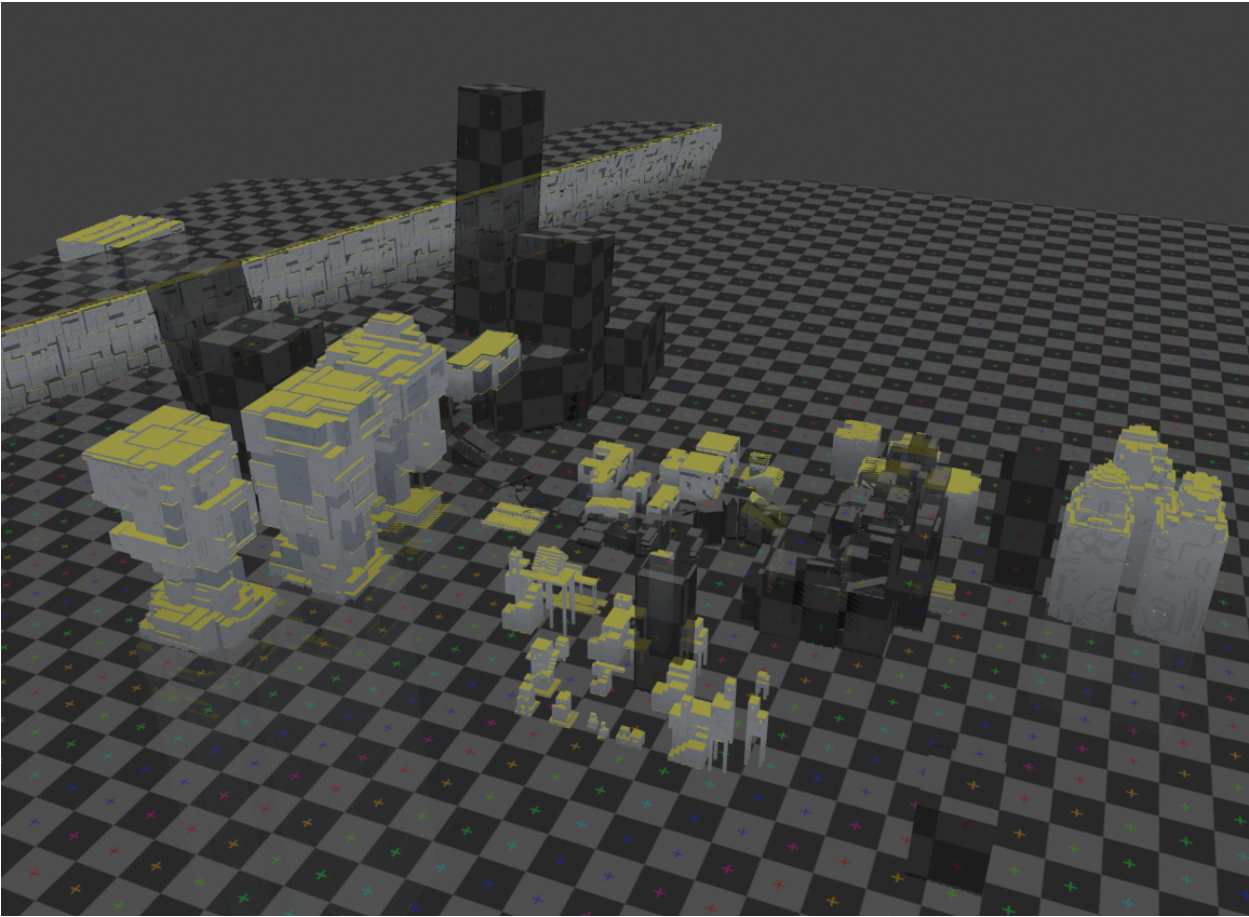




# Process Diary: week 49

🕒 Created	@December 12, 2021 7:48 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

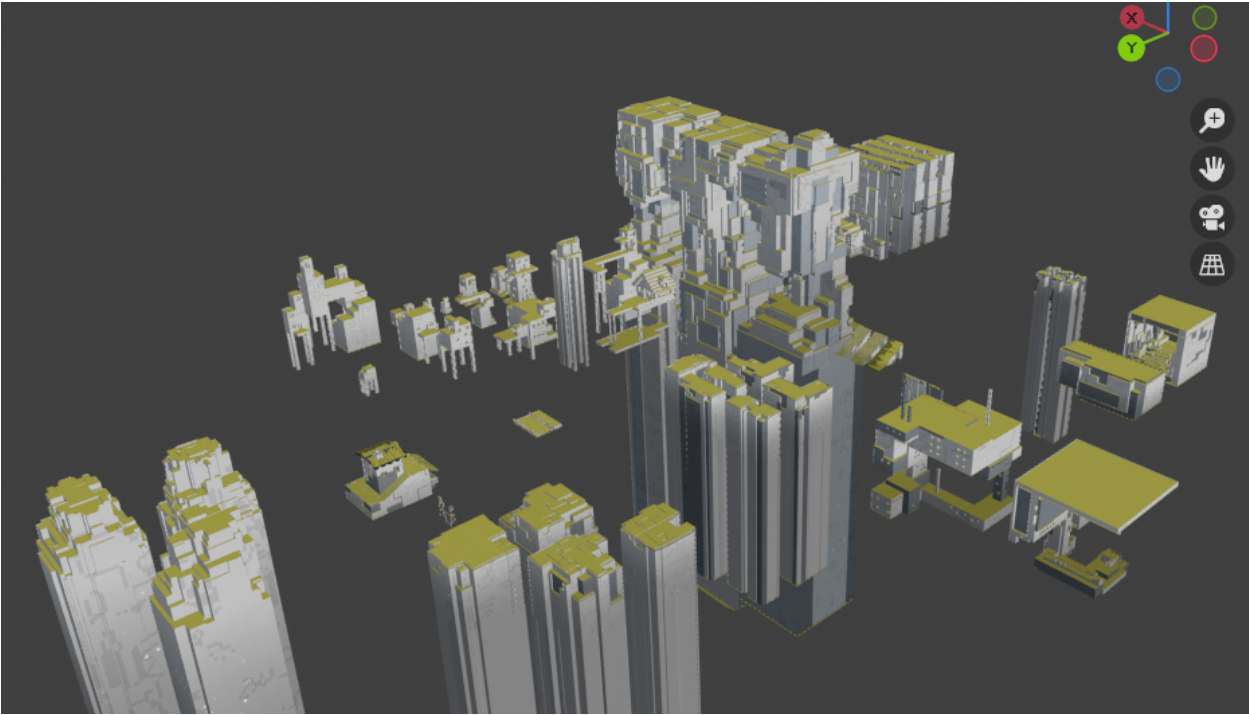
The completed environment assets are scaled correctly to the blocking scene I first made in Unity



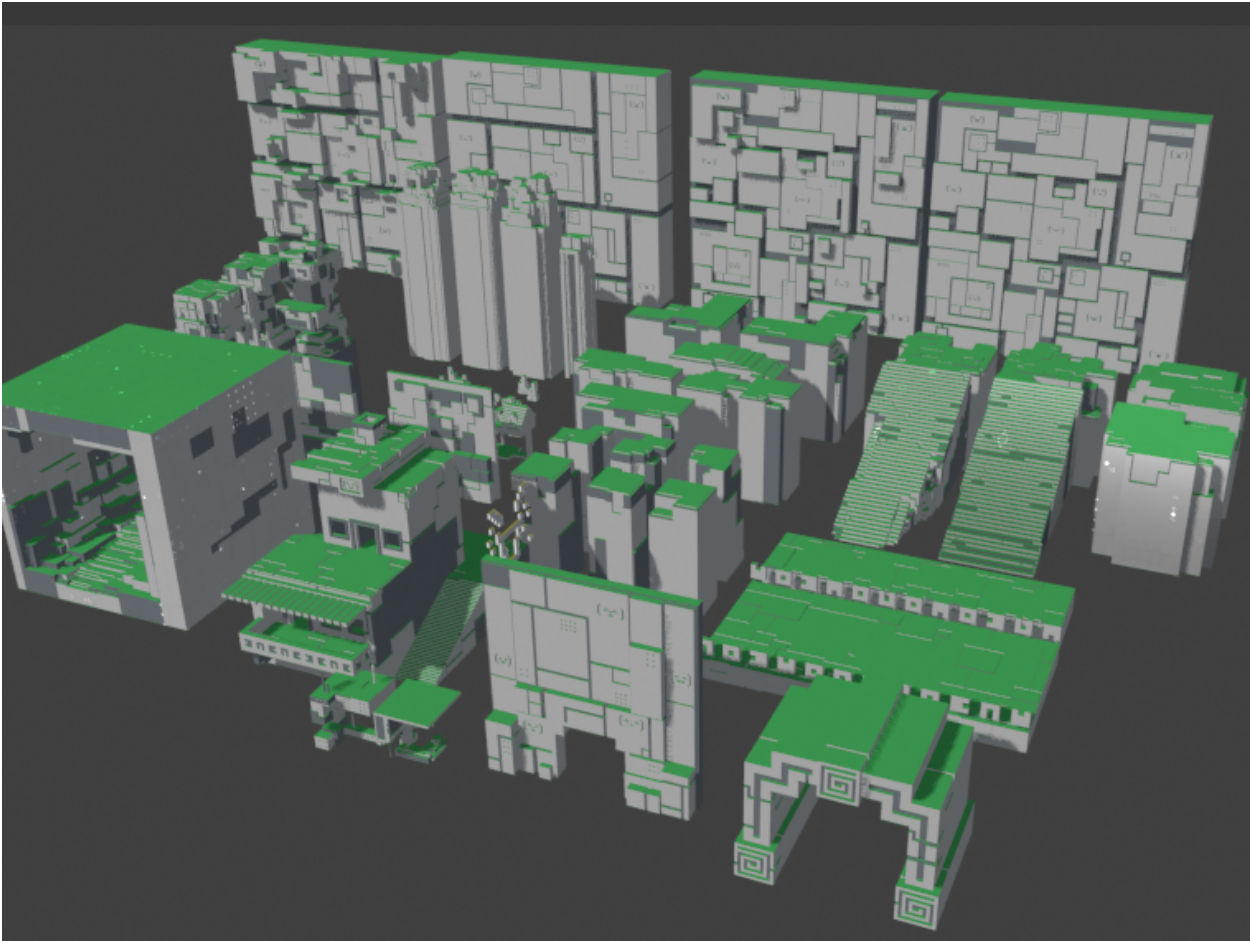
i display the blackout scene in blender so that i can get the correct scale on all the assets.

# Process Diary: week 50

🕒 Created	@December 18, 2021 5:00 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	



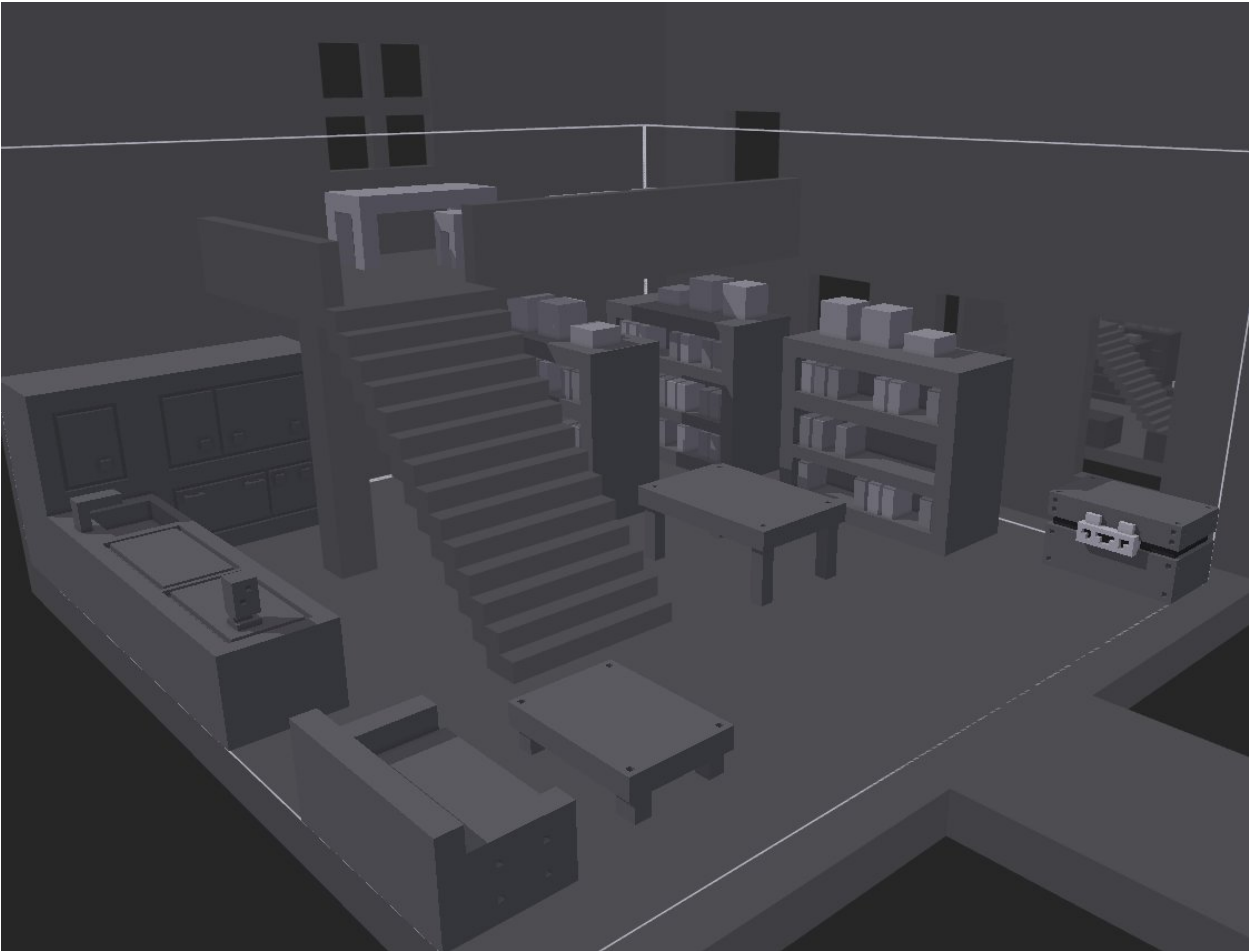
All environment assets have been correctly scaled to the size of the characters and level layout.



# Process Diary: week 2 (2022)

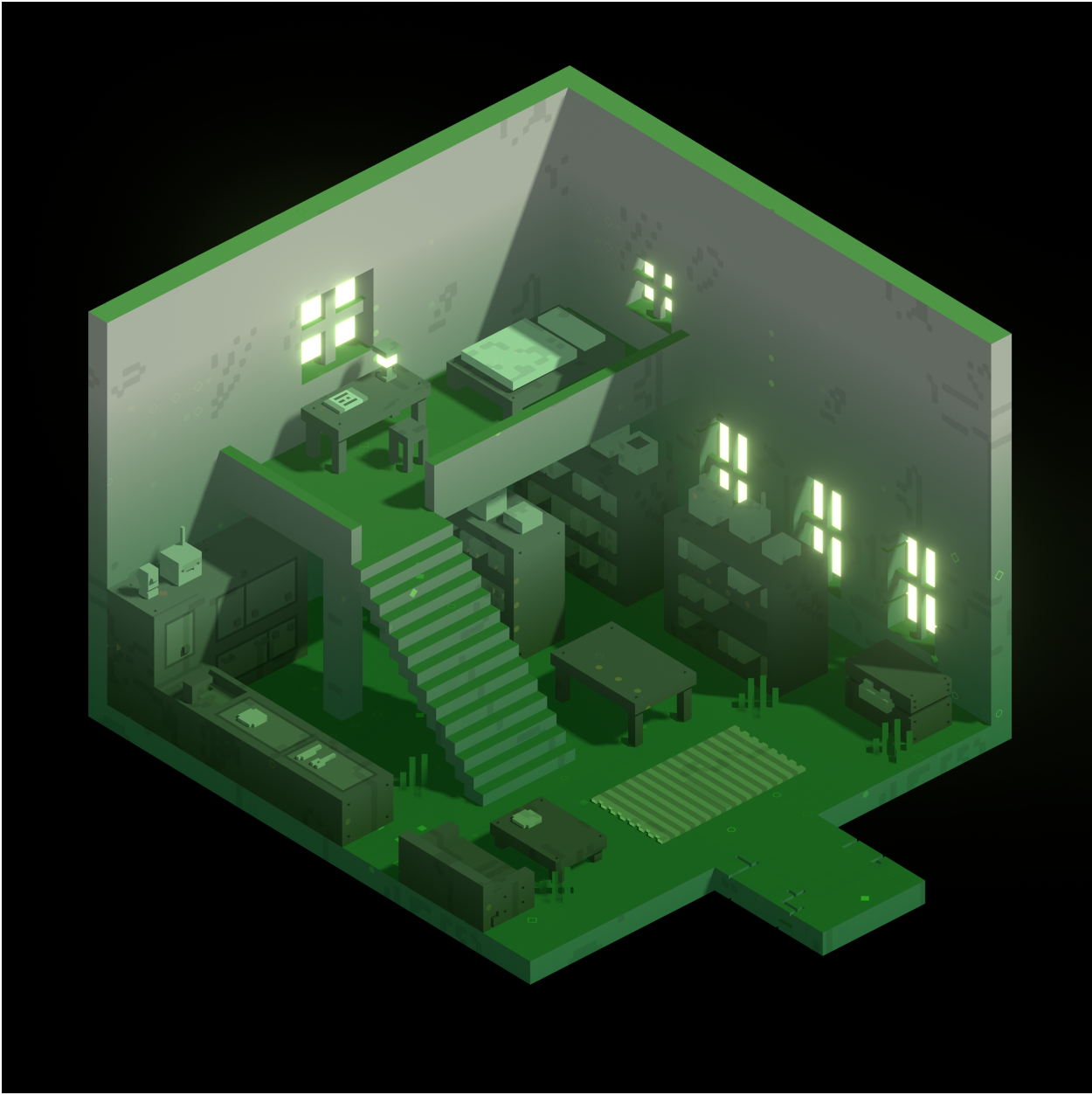
🕒 Created	@January 10, 2022 12:22 AM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

## The interior design for the main characters house







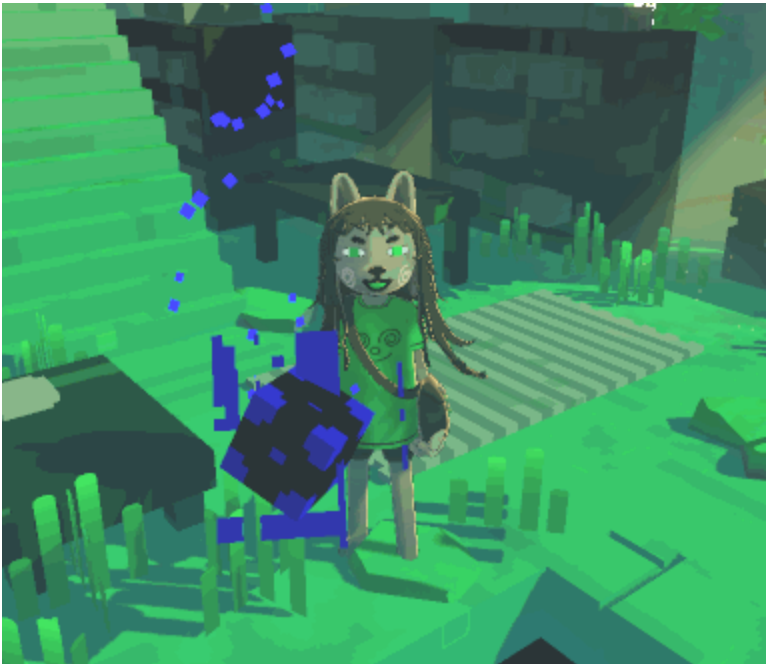
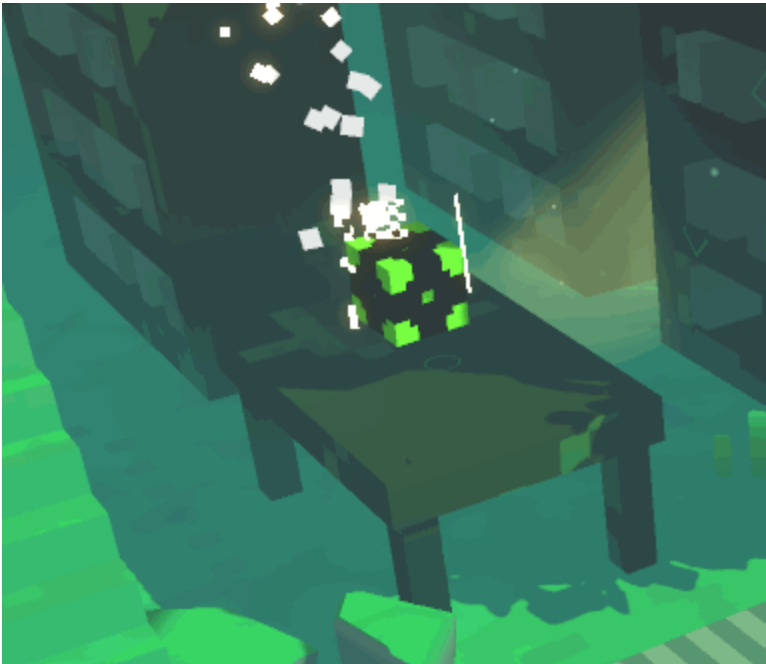


# Process Diary: week 3 (2022)

🕒 Created	@January 19, 2022 4:55 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

I have imported all the remaining environment assets for Unity into the engine.

As well as working on particles and made the Artifact prop that will be an important item in the film.



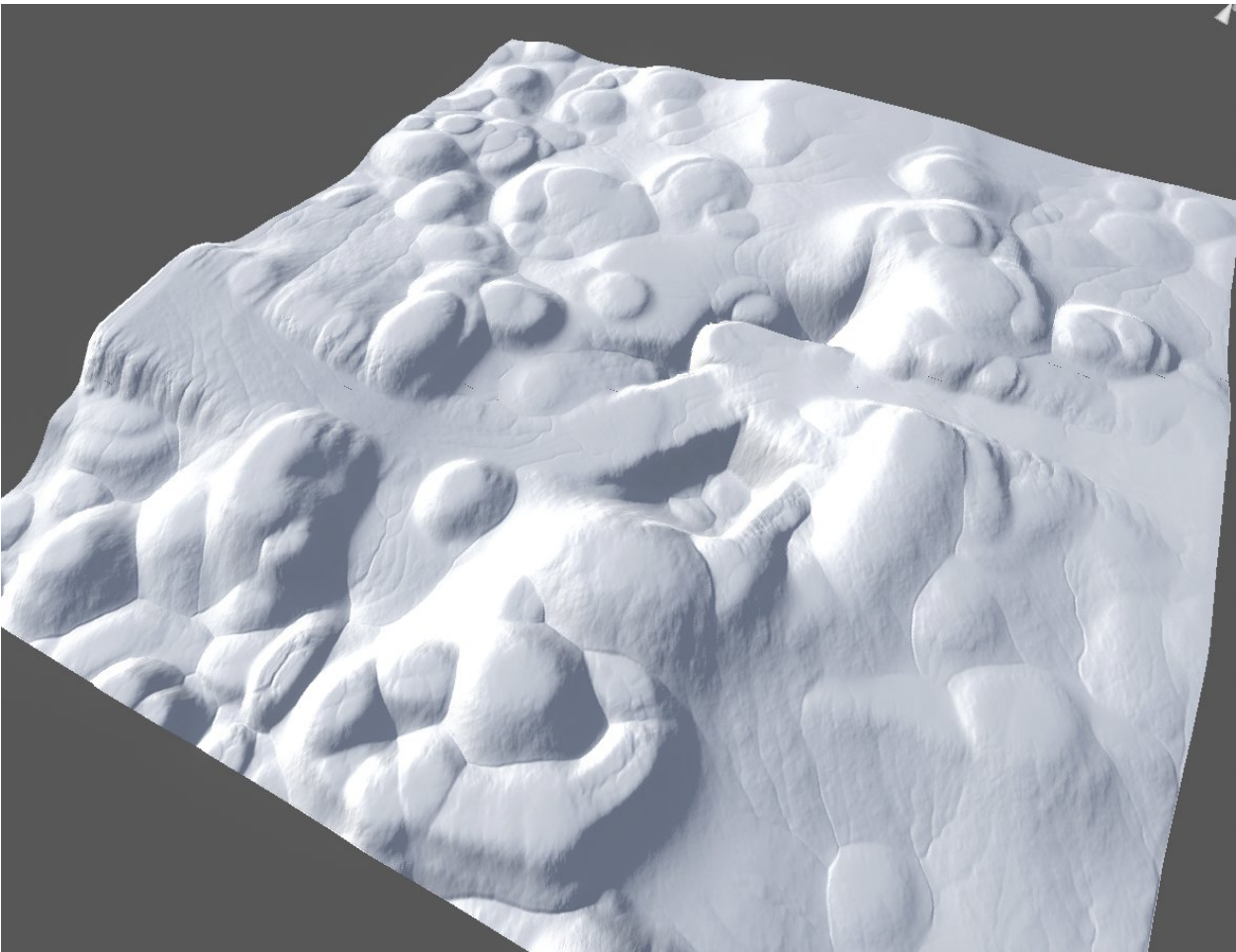


I have been developing the look of the clouds today. (20.01.2022)

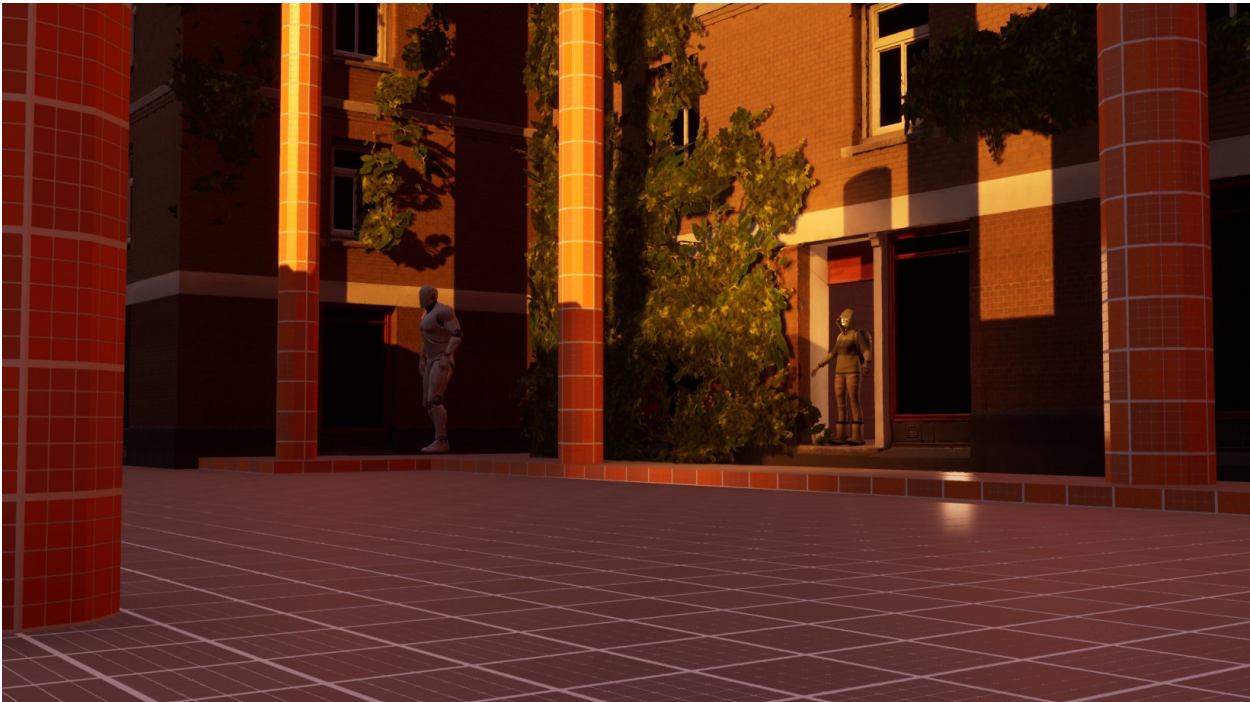
# Process Diary: week 4 (2022)

🕒 Created	@February 2, 2022 5:57 PM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

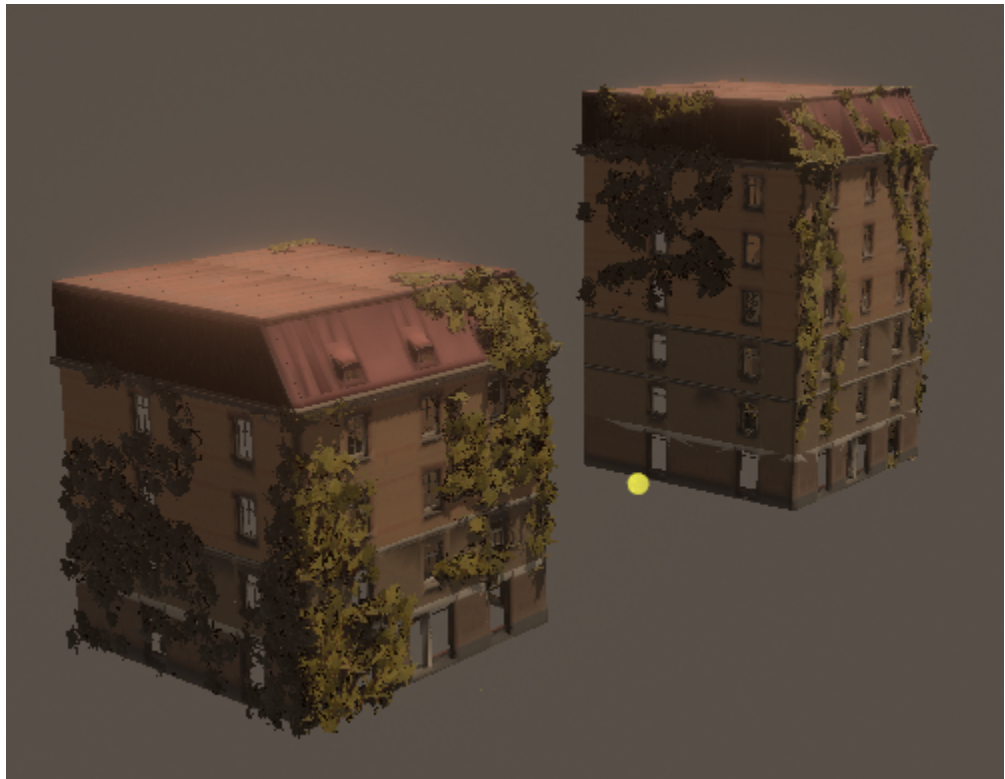
## The process of making environment assets for the realistik world



a test landscape made World Creator 2







Houses that i assembled from the quixel 3d scanned assets, to be used in Unreal Engine 4



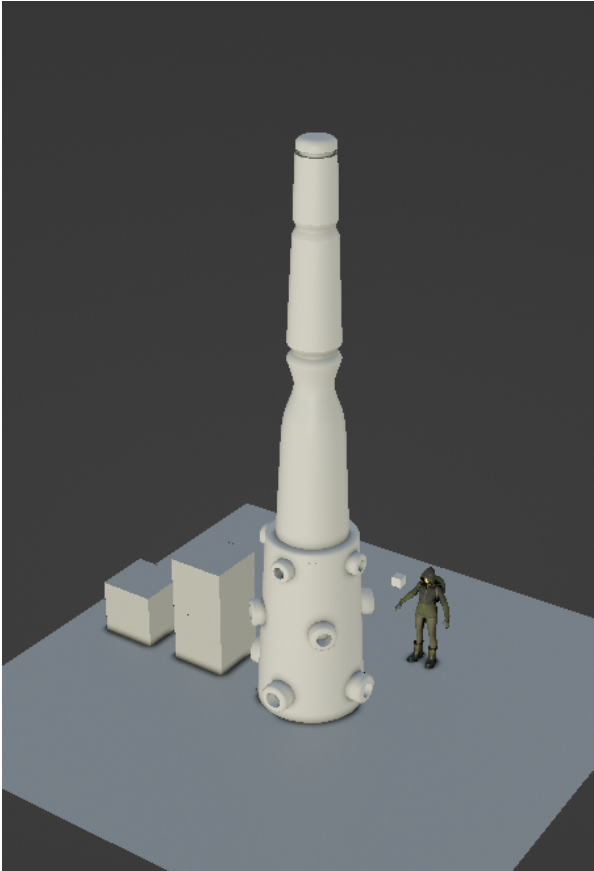
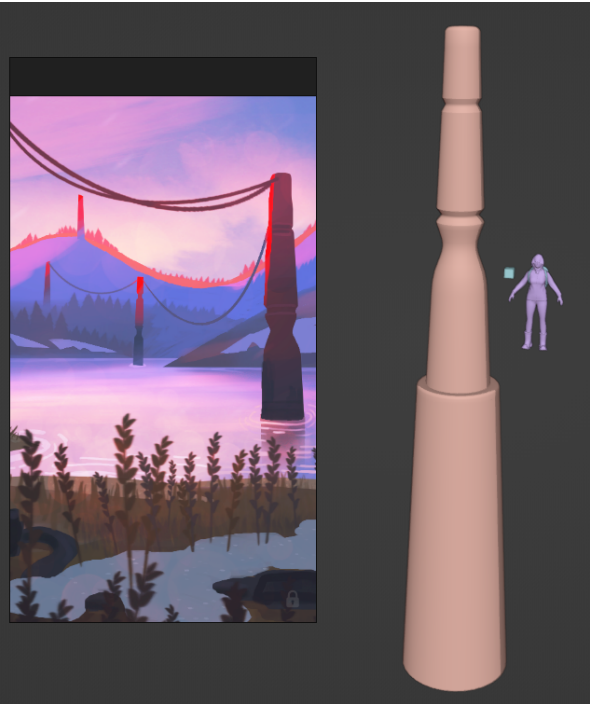




# Process Diary: week 5 (2022)

🕒 Created	@February 2, 2022 5:57 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

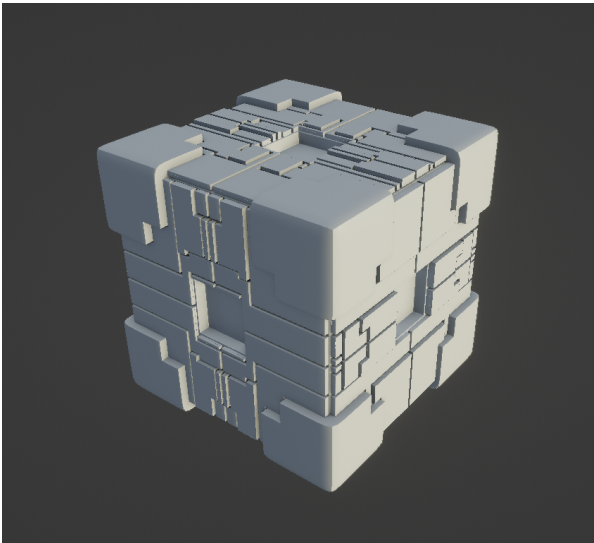
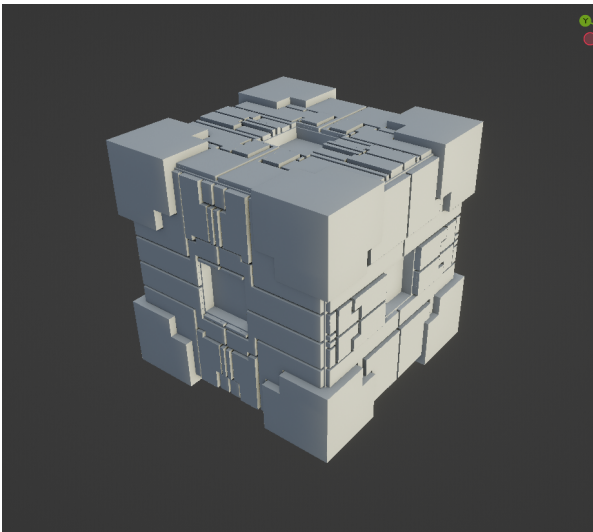
Modelling process of environment pieces for the realistic world.

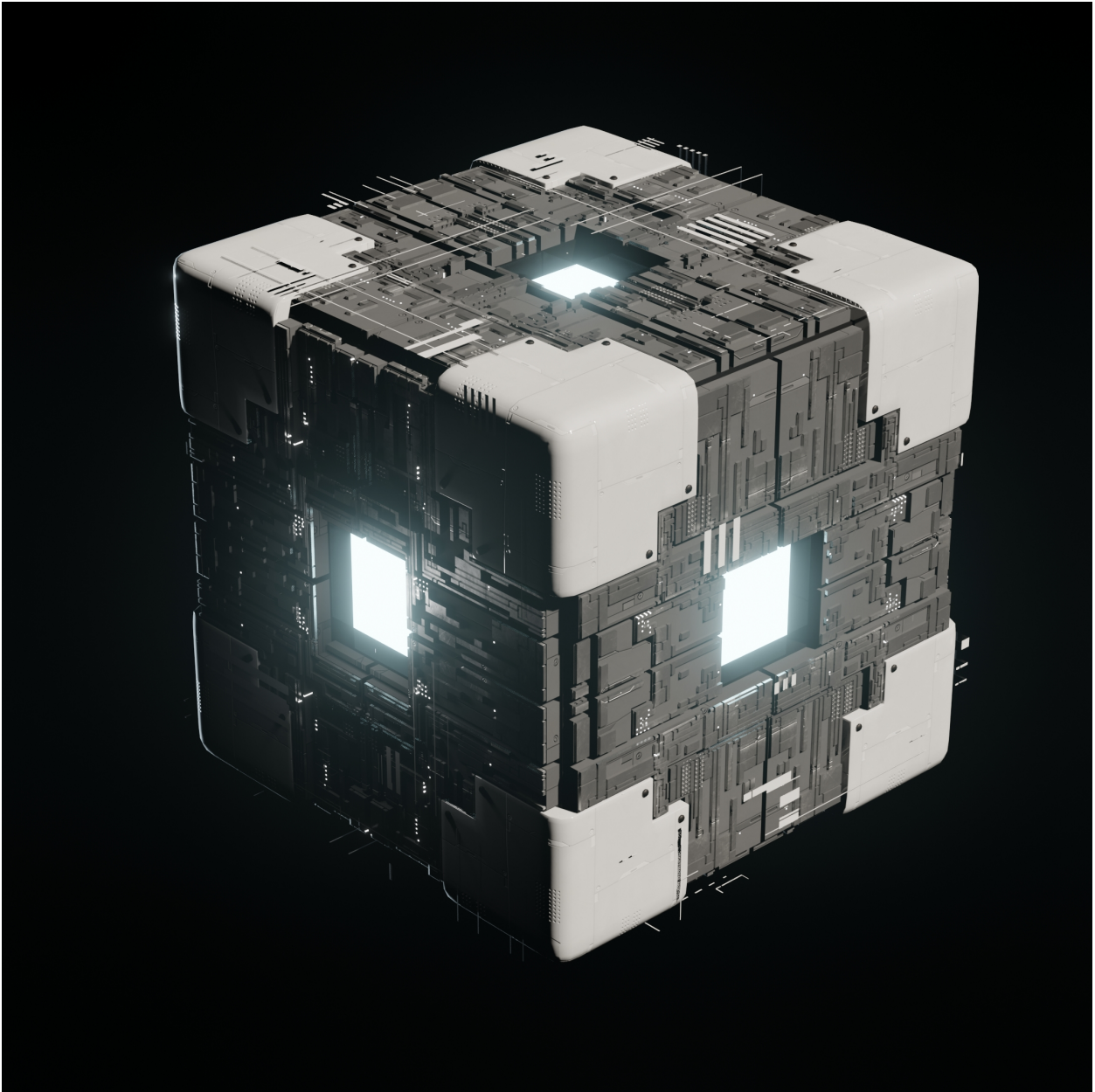






The final tower model with textures.



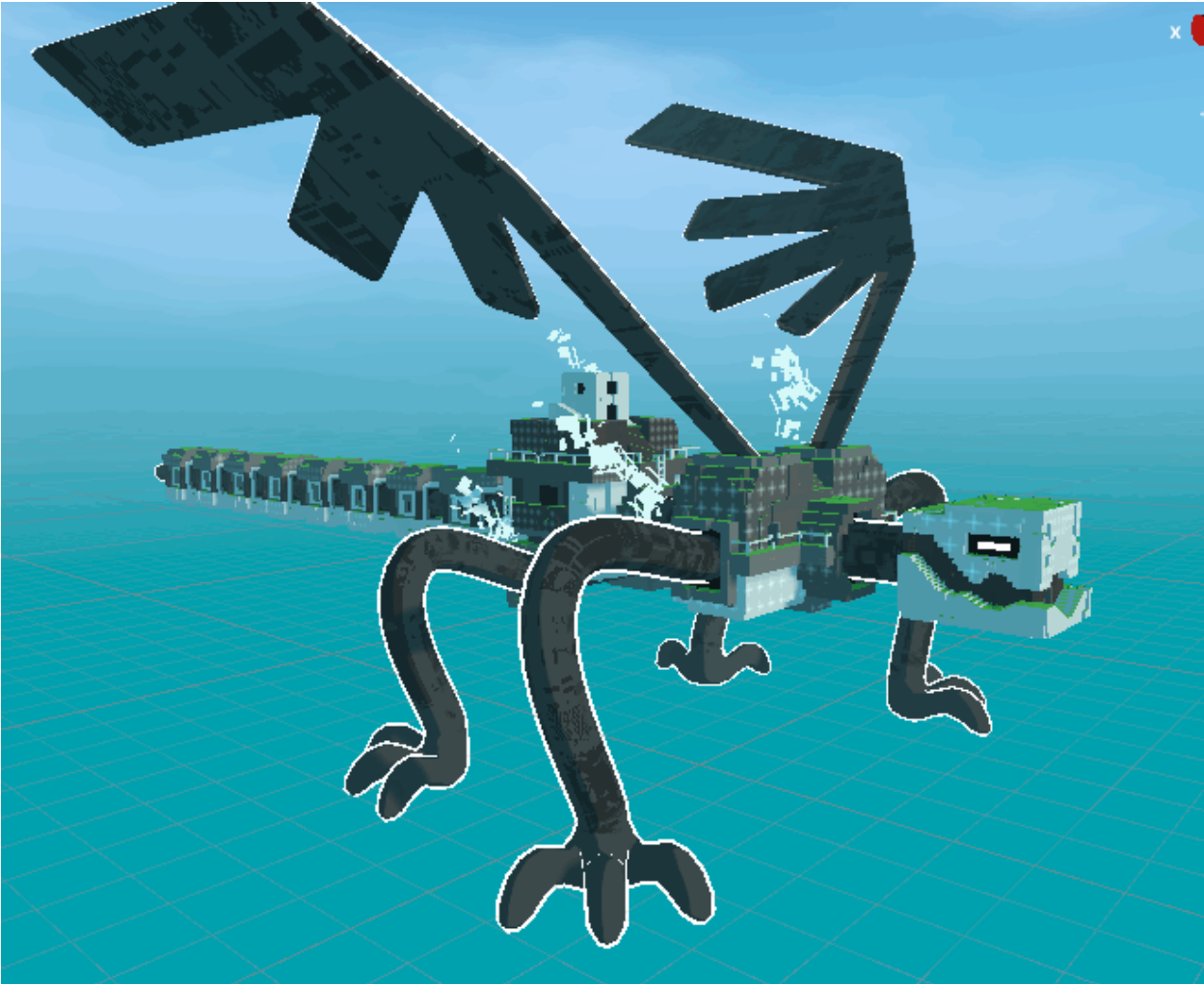


The details of the surface is known as “greeble” or with the technique “geebling” which is about adding many small shapes in a random manner to create the illusion of “real” detail. As you see those details are not present in the first blocking of the model.



# Process Diary: week 6 (2022)

🕒 Created	@February 7, 2022 6:56 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	



I experimented with particles coming out of the socket holes on the dragon.

I had to re import the main character model this week as well to fix some problems as the eyes had assigned the wrong shader.

On friday and saturday (11-12) , i was working with christian trying to set up GIT lfs so that we could both work in the same project files at the same time.

From monday to wednesday I finalized this model, made the textures, and imported it into the game engine (unreal engine 4).



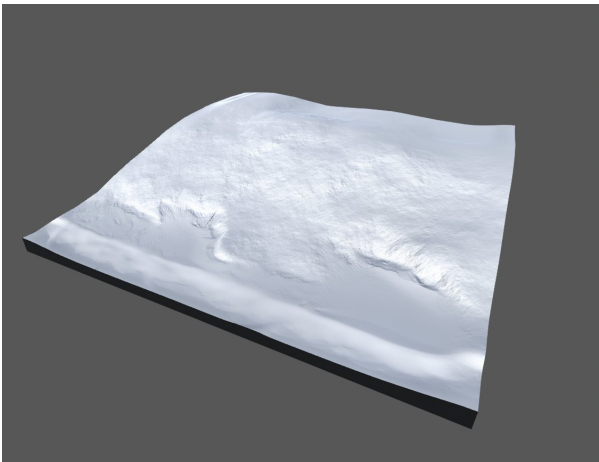
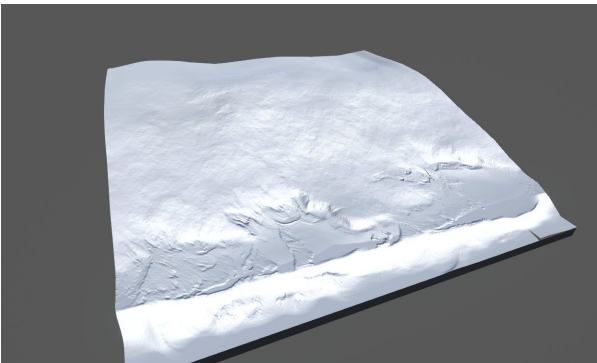


# Process Diary: week 7 (2022)

🕒 Created	@February 15, 2022 2:46 PM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

I took my third vaccine shot on sunday(13.02.2022) last week and im still not feeling too great now that im writing this two days later.

**I started placing final assets in the blocked scenes I had made earlier. As well as making the interior scene for the real world.**



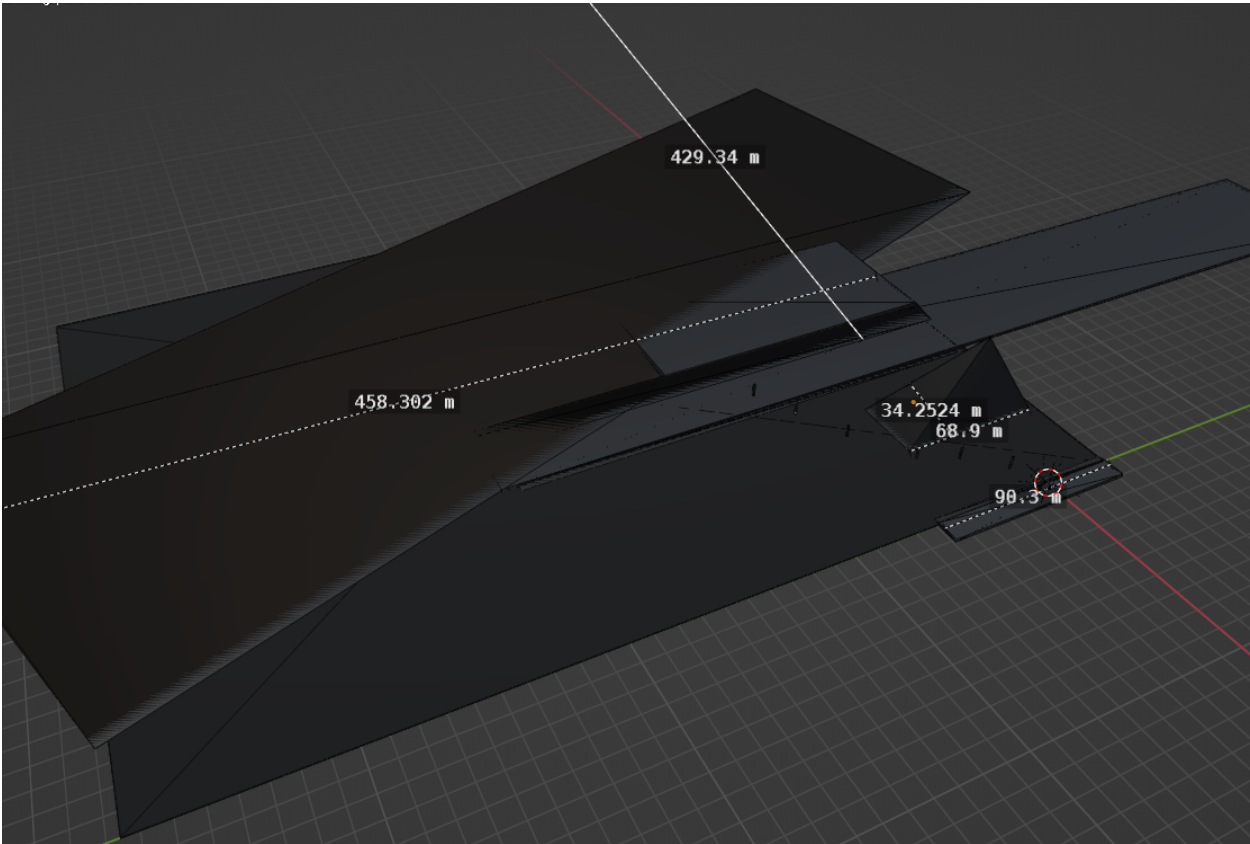












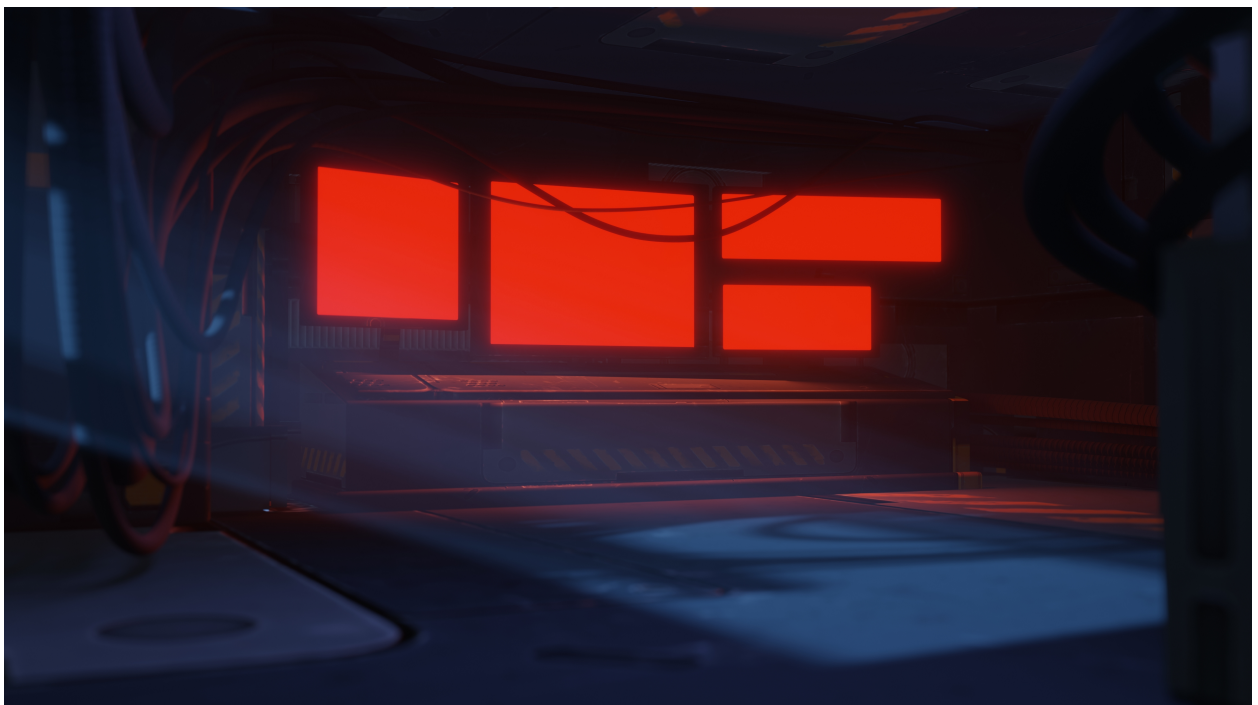
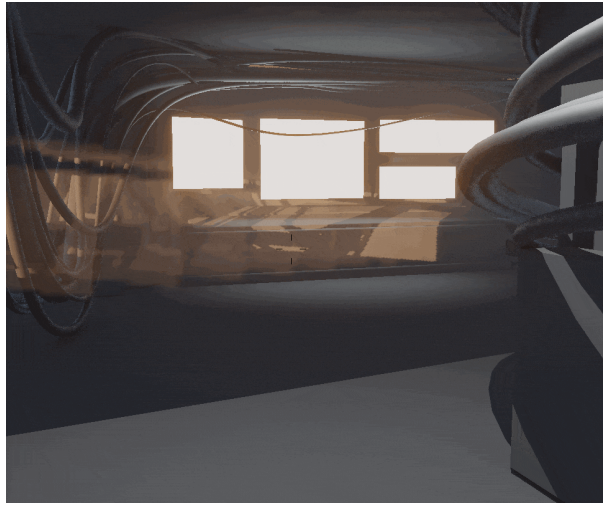
<https://docs.unrealengine.com/4.27/en-US/BuildingWorlds/Landscape/TechnicalGuide/>

Choose your operating system: To get the best performance possible from the Landscape system, there are certain technical restrictions that have to be applied. The following document aims to bring these restrictions to your attention as well as provide you with valuable information

© <https://docs.unrealengine.com/4.27/en-US/BuildingWorlds/Landscape/TechnicalGuide/>







# Process Diary: week 8 (2022)

🕒 Created	@February 22, 2022 3:27 PM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

I have imported the sci fi room into Unreal Engine.

I made particles for the flying cube in Ue4.

I tested Oscars animations of Sabi in Unity and setting up the final sabi controller

i found out that because we need animation retargeting for the characeters in unity. so that they can share the same animations. we need to remove squash and stretch from the character animation because the humanoid system that supports retargeting in unity does not support scaling of the character bones.

# Process Diary: week 9 (2022)

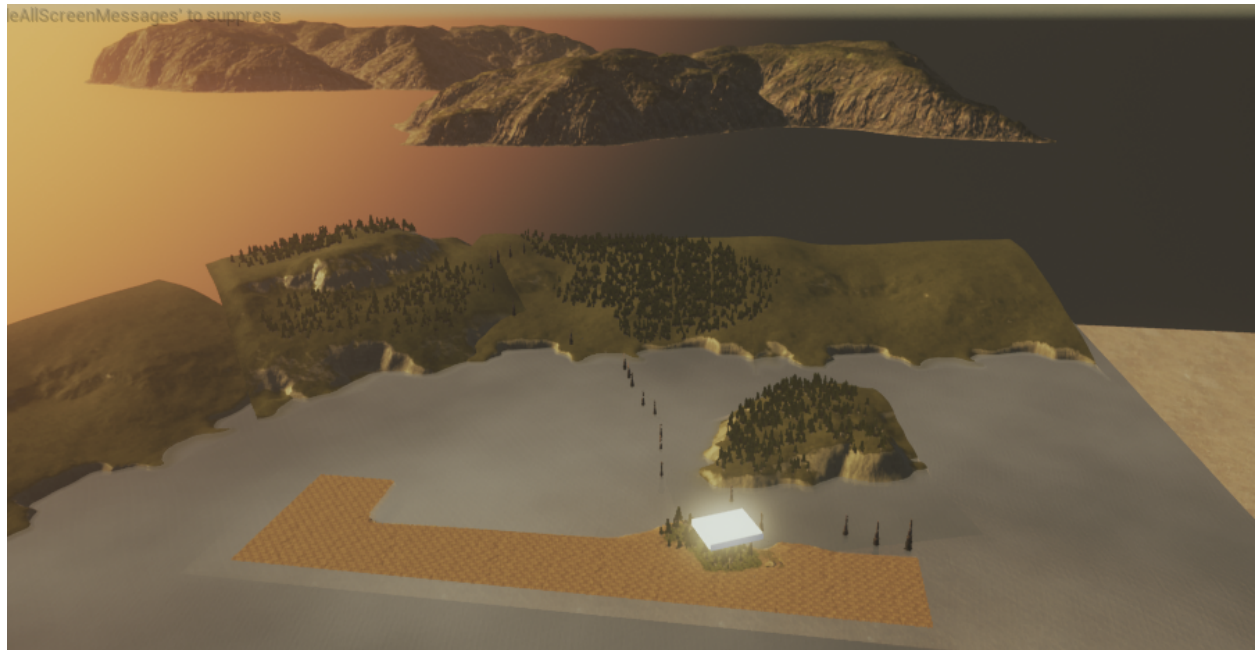
🕒 Created	@March 3, 2022 9:44 PM
🏷 Tags	Main Entry
📅 Days	
📅 Month	

I have been working on completing the scene builds of the UE4 world this week.









An overview of the scene, it gives a weird perspective on how it can look so good from one angle, but some weird from another.

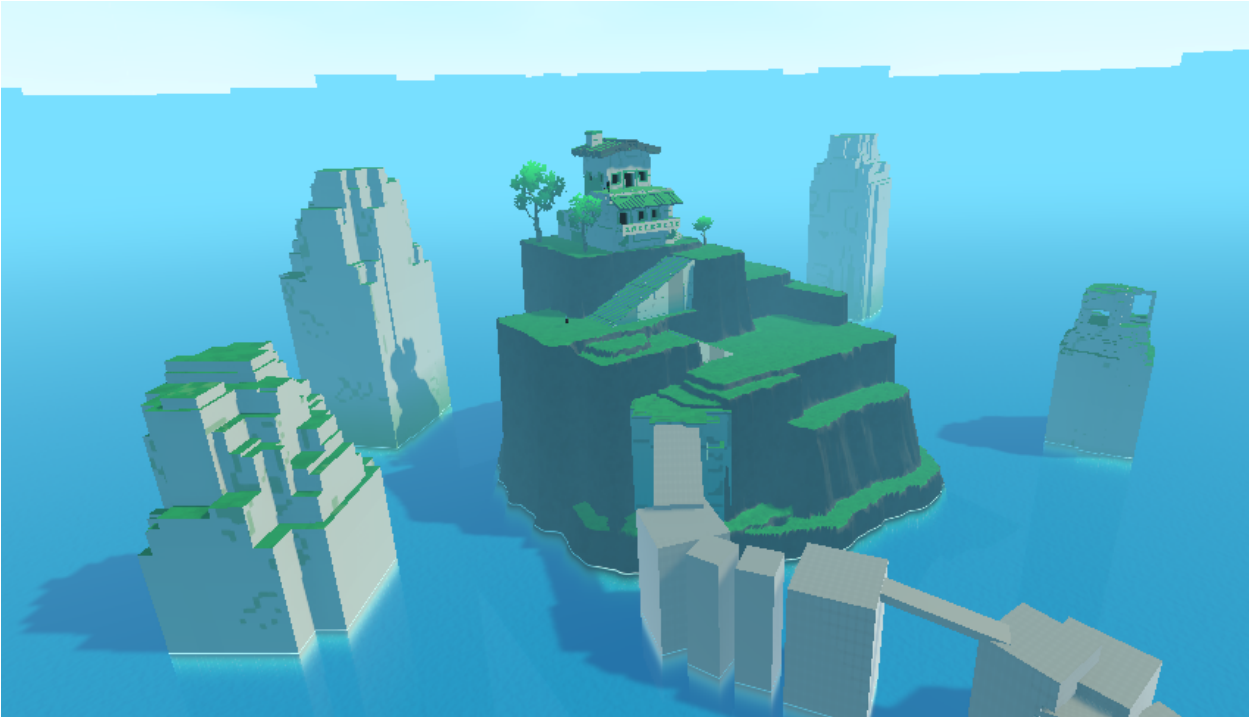
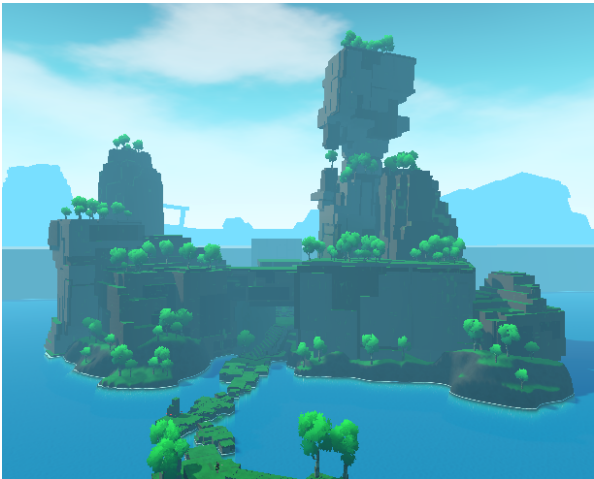
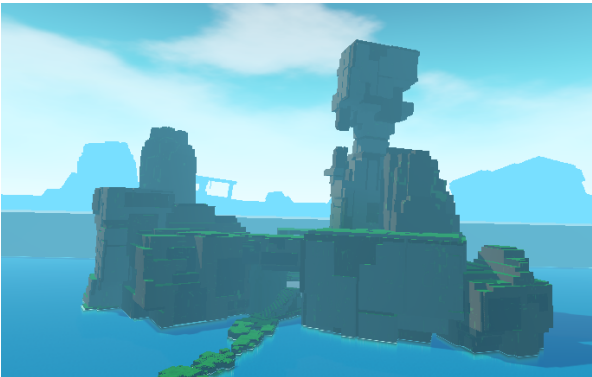


I placed a giant cube in the sky so that it would cast a shadow on the foreground that I wanted to be darker.

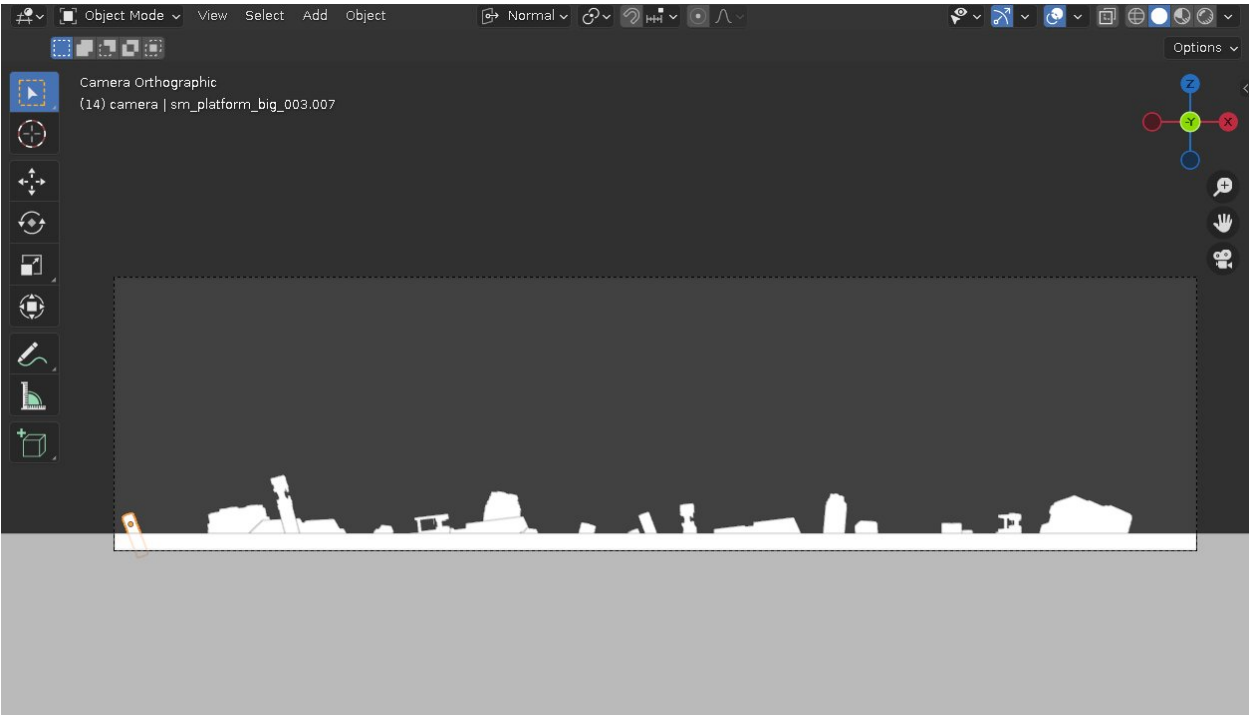
# Process Diary: week 10 (2022)

🕒 Created	@March 14, 2022 2:18 PM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

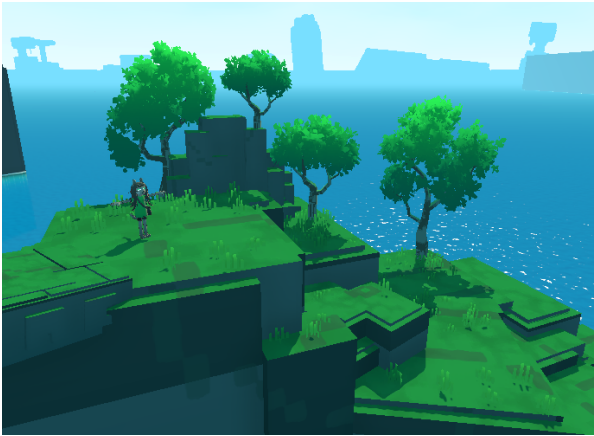
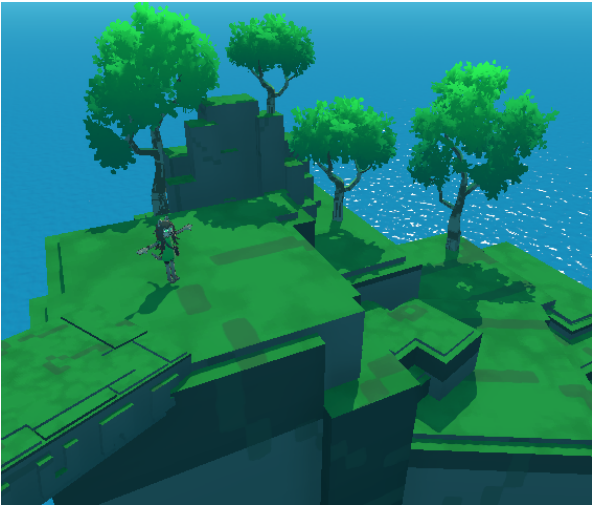
## Finalizing the digital world



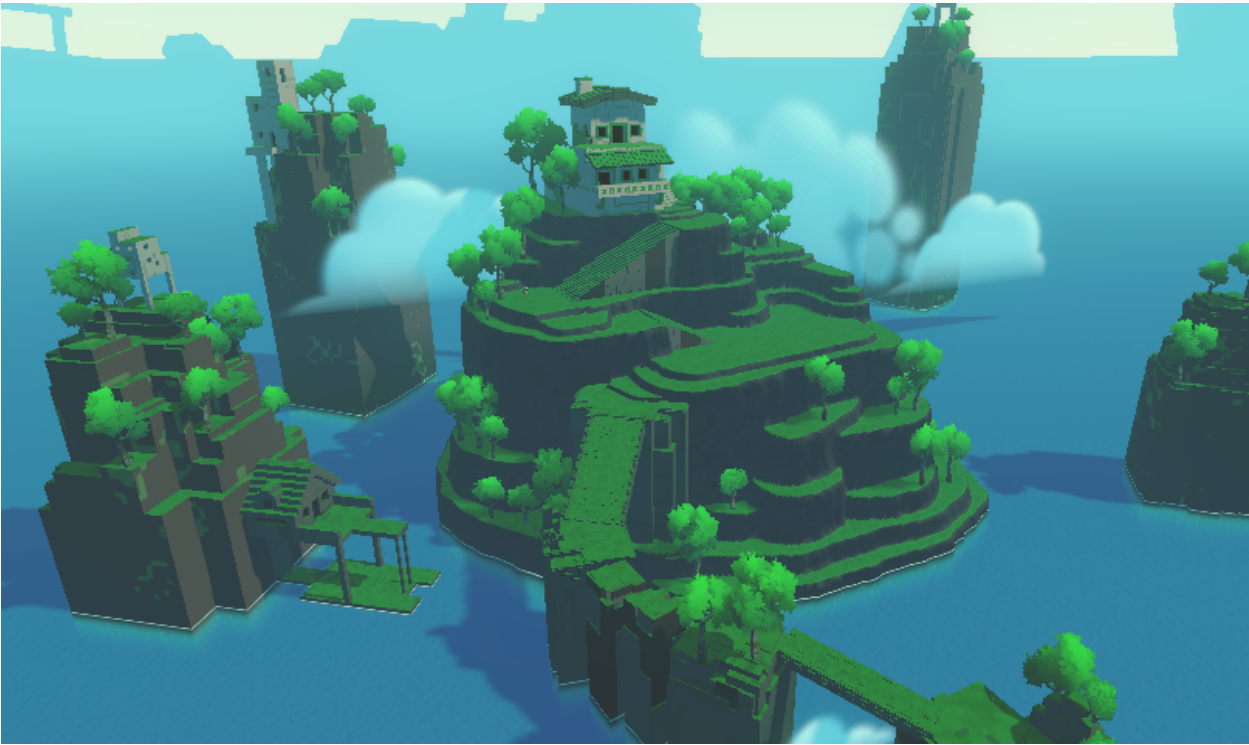


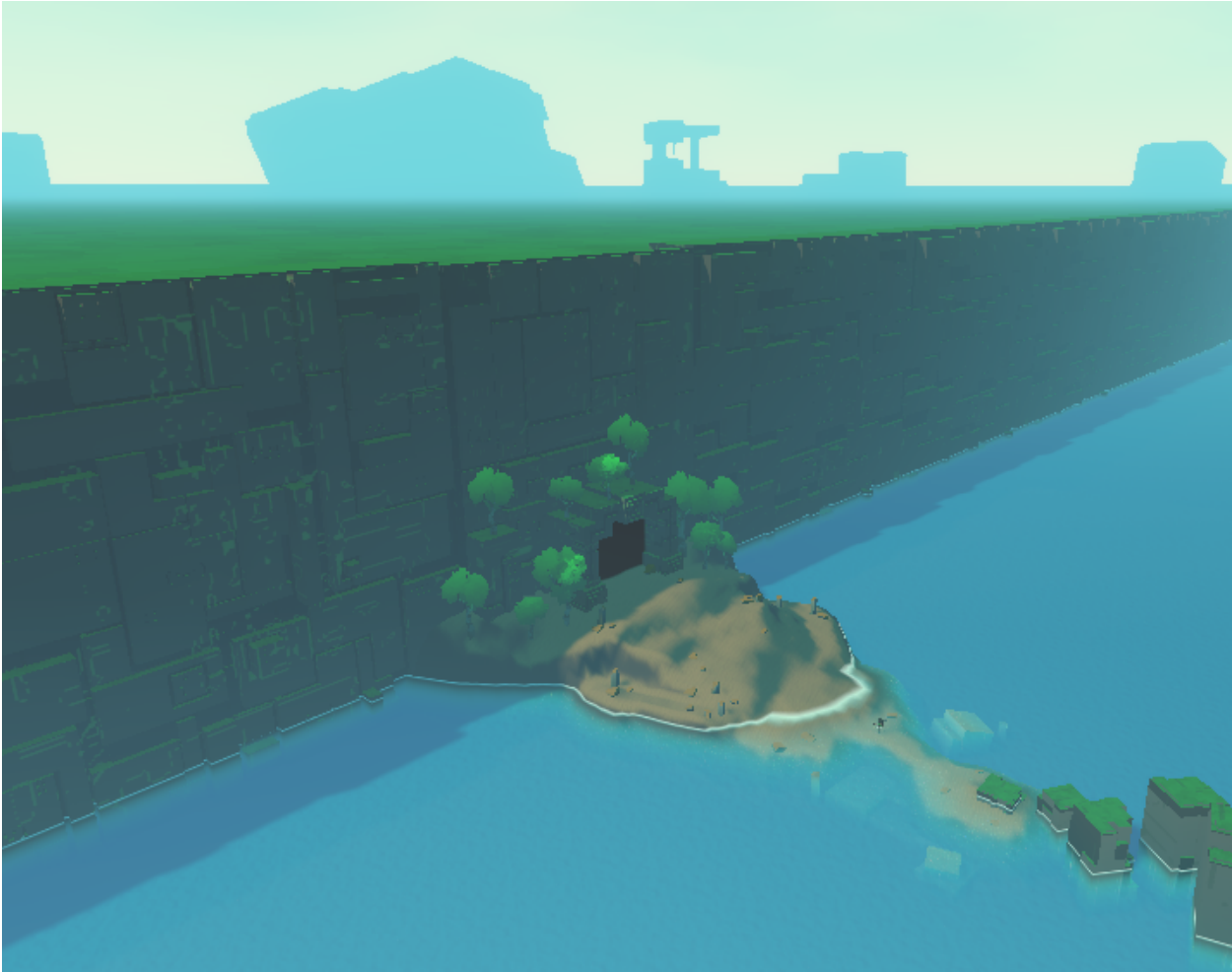
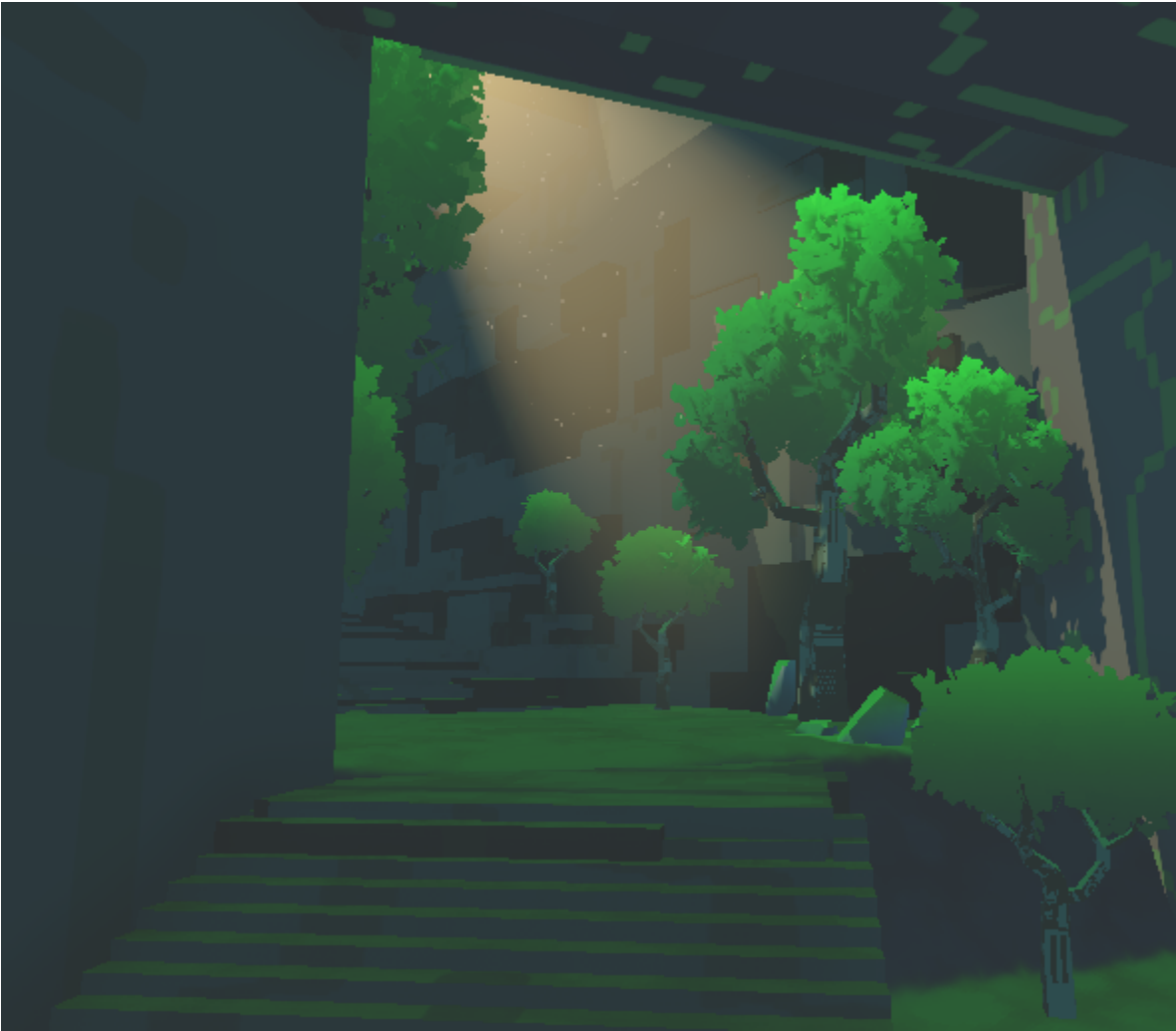


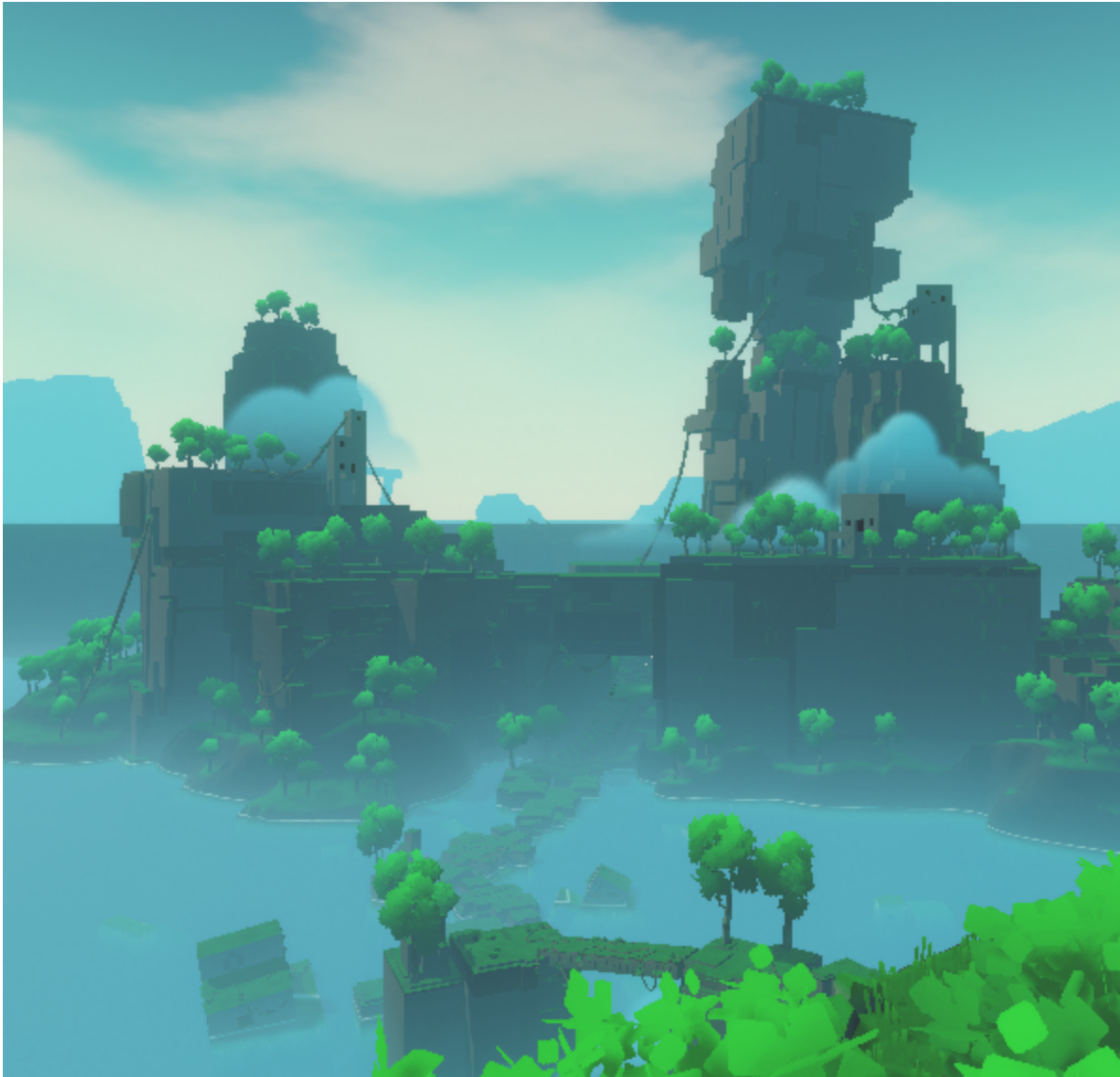
This is the texture which I made from the environment pieces, it is used as the background in the world. It gives the illusion that there are ruins of buildings along the horizon.



Here you can see the background texture along the horizon.







# Process Diary: week 11/12 (2022)

🕒 Created	@March 25, 2022 2:08 PM
🏷️ Tags	Main Entry
📅 Days	
📅 Month	

For most of the time this week i animated the giant mechanical dragon creature in Maya.

I also did some troubleshooting for importing character animations into Maya.

Some characters would sink into the ground slowly which was super annoying...

(this ended up being my last process diary entry, as i got closer to finishing the film I found myself to be less organized and spending as much time as possible on ensuring that the film would be completed)