A House Full of Surprises

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Abstract
For this project, I decided to undertake an environmental modelling concept. In this project, I am going to model a floating island with a house and few trees. Further to this, my concept of this design will create a story. I will show a 360 view of the island. Each time it rotates, the house will keep changing showing the life of events. For example, it will be colourful when the house is lit up for a festival and then dark if the house got burnt one day and etc. I learnt Maya in my past experiences but for this project, I am going to take a step to learn new softwares such as Blender and Unity. In this reflective document, I will explain how I got inspired to do this idea and how I did what I did, the struggles I faced and ideas developed in the consultations every week.

Authors Keywords
Environmental modelling, Blender, Unity, Maya, 360 view,story

MEETING 1: IDEAS

Since I had missed the first week of semester one class, my meeting one wasn't as productive because I didn't have a clear idea about what is going on and what the subject was all about. With a broad idea and understanding what works my classmates were doing, I chose to make an environmental model.
This was obviously too broad and I didn't have clear angle to what exactly my project will consist of.
Through feedback, I received these questions:

What type of environment model? Interior or exterior? Is it going to be detailed or cartoon like? Architectural model? Nature Model?

Medium? Just a model design? Game design? Short Animation with narrative?

Softwares? Maya?Blender? Unity?

I started this week by first answering these questions to get an idea. I decided on making a house model. The only reason because that's the first model that came up to my mind. Next I decided to make a short animation using my model. Finally, I decided on using blender and Unity as my two softwares. Blender because it's a new 3D software which I have never used before. I have learnt how to use Maya before and created models already using the software but this time I wanted to use a new software and develop new skills that I couldn't possibly achieve in Maya. I chose to use Unity, one reason because I haven't used it before and the other reason because I have seen many works done by Unity and I thought that Unity can be a nice software to showcase my model and add effects

that Unity can achieve.

Inspiration:

A few days later, as I scrolled Facebook, I found an image of a single house in an Island in the middle of an ocean. I was pretty fascinated with the image and thought to myself how the owners would be feeling living in such an isolated place.
I did a little research on the island. It's called Elidaey Island.

I got inspired by this image and decided to make a concept about a house in an island similar to this image. I changed the idea to instead of the island being in the middle of the ocean, it could be in the middle of the sky floating in air. While thinking about this idea, I got inspired by the successful animation film called Up. The house was floating on air as well. I decided on making a simple house with basic shape.
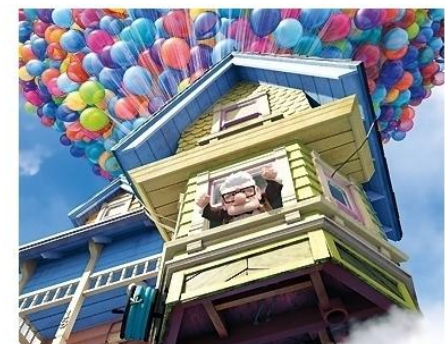
Related Work:

Hello Neighbour is a game that I personally have played. The game is about an angry man who lives inside a house

He locks someone in the house and a little boy sees it. The man hides the keys somewhere in the house and the boy tries to sneak in and find the keys. When I played the game, I found the game to be scary. Sneaking inside a house and getting the keys while trying not to be caught. In this game, the house looks like an ordinary normal house but it's not what it looks like from inside. There are many secrets hidden inside which we have to find out.

I want to create the same feeling. The house can change into many things each time it rotates. This will describe the life events.

The image on the right, is the man in the game that has all hidden secrets inside his house. By looking at this image, I got an idea to make a character inside the

house. I thought of creating a 2D character made in Photoshop in silhouette style because that way so that I could show what happens inside the house at night time.

Another game, like Survival Island is also similar to the concept that I would like to do. This game is about a character that is trapped inside an unknown island and he tries to survive with the limited equipment the player has.

The image below is an image of a Game- The gardens between. Get Indie Gaming. The video of the teaser of the game is a rotation of the island. Each time it rotates we could see the player and the new obstacles.

MEETING 2: ASPIRATIONS

After conveying my idea in the next meeting. It was still too broad. Those questions asked in meeting one shaped by project a little so that I know what I will be doing. I was told to make flowcharts and to keep drawing so that my idea was more clear.

Considerations & Activities

For this week, I will be doing a mind map/flowchart of all the different ideas so that I could see what my project will start to look like. After I have a clear idea, I will start drawing blueprints of my house. I decided to make it simple of basic shape. I will draw front view, side view and 3/4th view so that when I start modeling, the blueprint can be placed in the background as a reference. Finally, I will draw a rough digital sketch of the scene and the location.

I started making the flowchart and my ideas. The image below is my mind map of all the ideas I had.
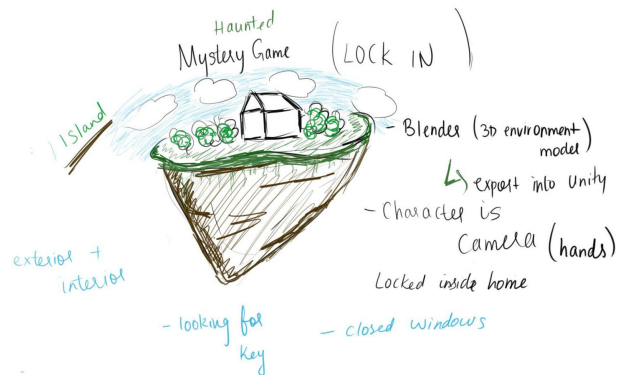
I decided that I will make a house and I will add a gaming aspect to it. I decided that a character will be inside and it doesn't know that he is in a floating island. Once he finds the key he comes outside he notices he is trapped and the game will be trying to escape from one island to the other.

When I communicated this idea, it was a good concept but it was too technical. I had got another idea that instead of making it a game, why not make a small short film showing the house in a middle of an island. So I started making my blueprint of the house so I could start modeling.
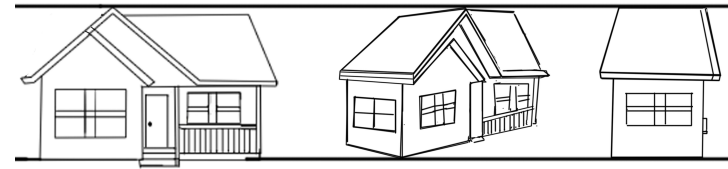
I have chosen to do a simple normal ordinary house to show that it looks normal but through my narrative it is not what it looks like. I will add a story or narrative to show that the house is just proper from its look on the outside.


I used Photoshop to create this sketch so that I can easily color and draw what I want the house to look like in terms of the shape and colour. I might change the color of the sky lighting maybe from cloudy to night scene to have the haunted/scary look.

MEETING 3: TESTING

This week was all about testing the new softwares, Blender and Unity and trying to achieve the model I had planned for.

Blender

I chose to use blender because I have already used Maya before and I wanted to learn a new software. There might be few features and tools that possible Maya couldn't achieve. I looked at few tutorials

(Figure) and experimented and did a few tests. The main problem that I faced was relocating the tools in the interface. Since I used Maya before, the shortcuts and controls were all different when I applied the same in blender. Thankfully, Vincent, my classmate helped me out with blender. There was an option to turn on the splash screen interface to Maya controls. The tools and shortcuts were almost the same just the naming of the tools were different. I did few tests on using default mesh such as cube, cylinder and torus and tried to use different tools and texture and light the basic objects.
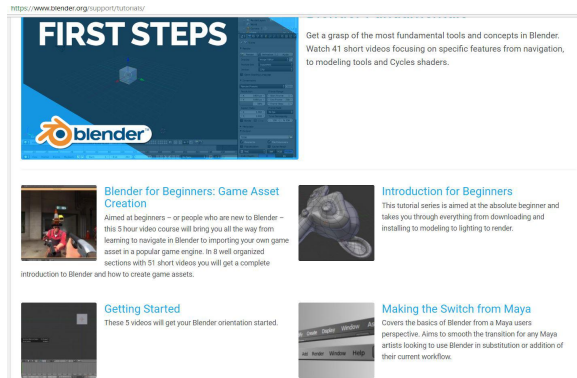
Unity

Since Unity is a game engine, it is not used to design visual graphics. I will use this software to showcase my models. I have never used Unity before, so I've done some basic tutorials that are provided by unity.

Modeling Test

In particular I learnt how to make simple models so that I can test out what tools are useful for my environment. I have never used Blender before, so I've done some basic tests that are provided by blender. (Figure)
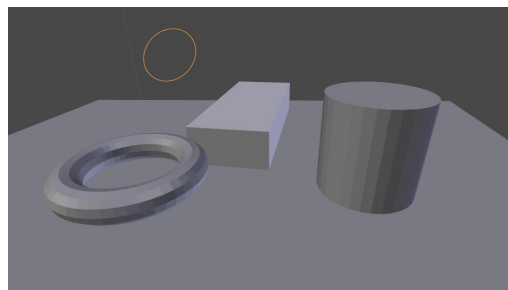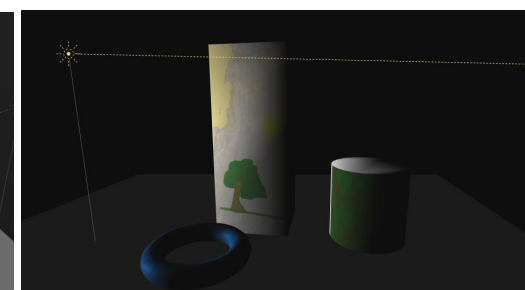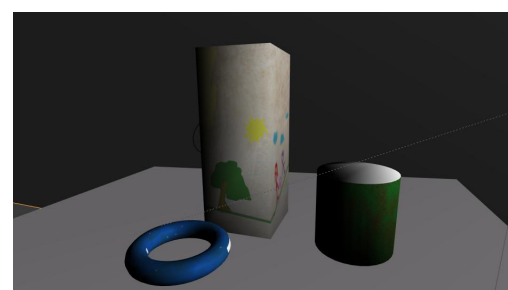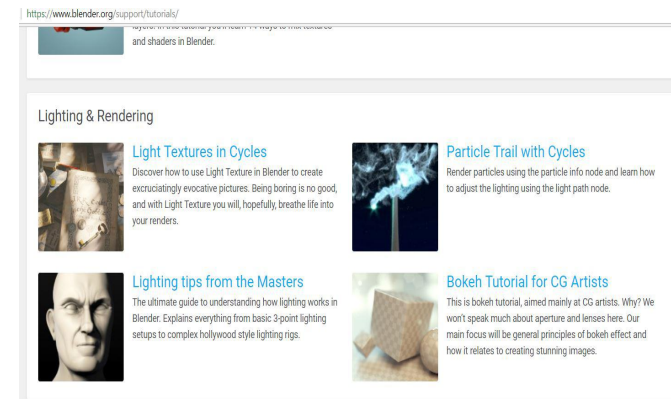
Texturing Test

Looking at blender texturing tutorials (Figure), I learnt how to texture solid basic colors. (Figure) and I learnt how to Unwrap and use JPEG files as a texture.
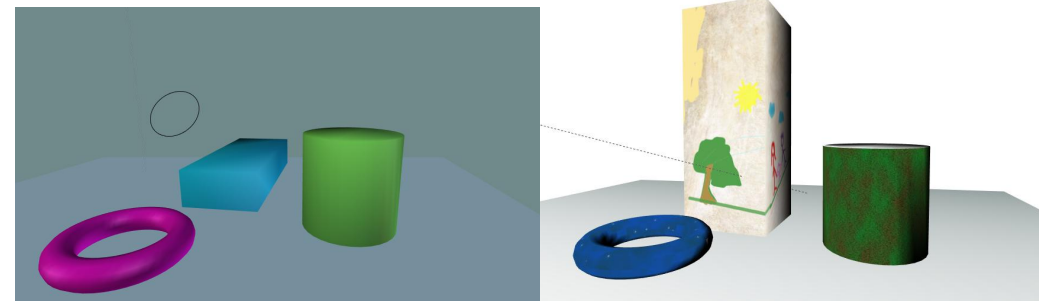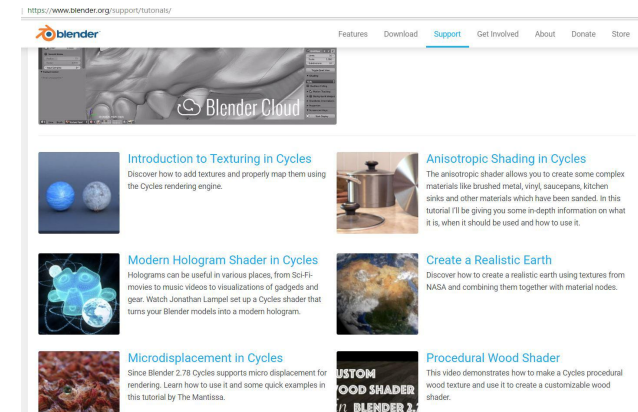

Lighting Test

Looking at blender lighting tutorials, (Figure), I learnt how to use different lights such as sun, spot, point, hemi and etc to create different light source.

After looking at tutorials and doing few tests of basic shapes, I started modeling the house. Since I have already used Maya, I was aware of the edge loops and how the topology should go. On the right side are images of the work in progress while modeling the house.
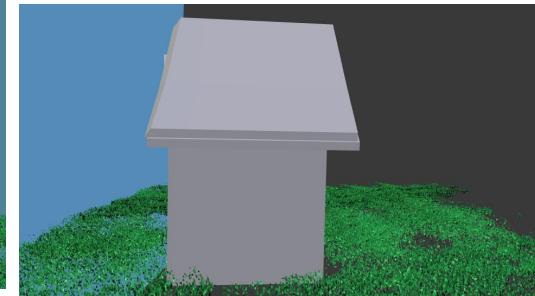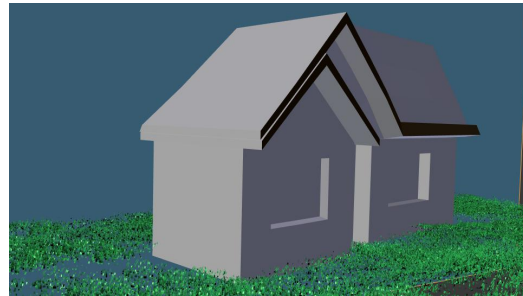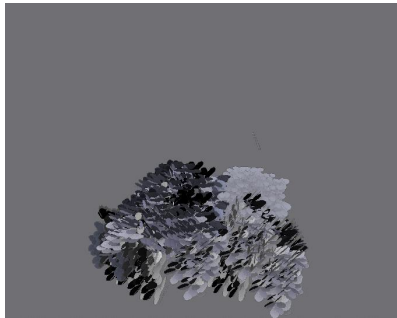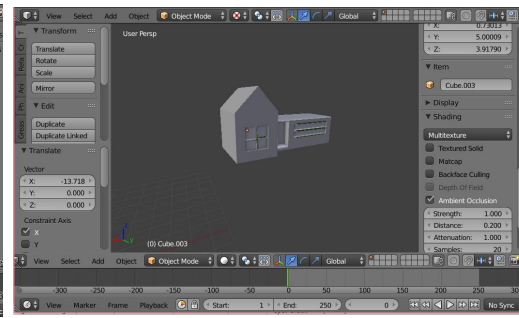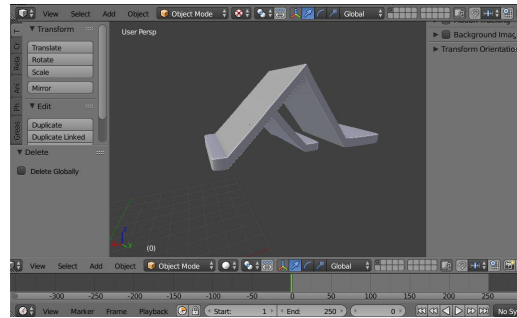
I exported these objects into FBX format and imported them into Unity. I was happy that in Unity, the lighting was complete by itself. It was the environmental lighting.
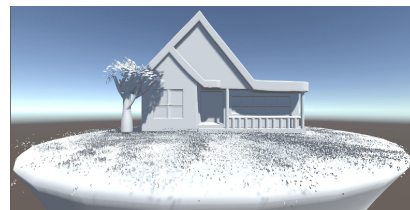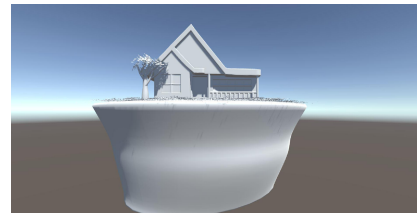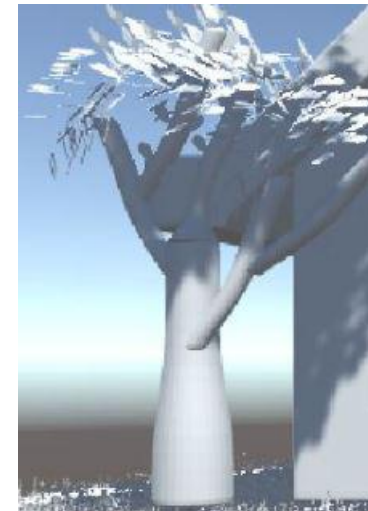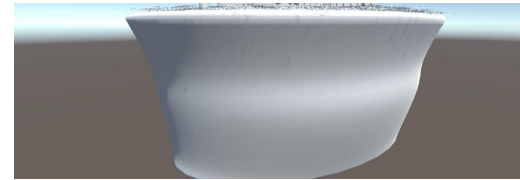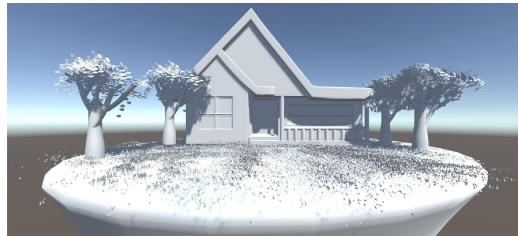
I started texturing it. I tried to look for textures online but it wasn't exactly what I wanted it to be. So, I decided to make my own textures for the house by using Adobe Photoshop. I used cloud and different filter tools to achieve the look of the textures in the images on the right.

Problem: When I imported the objects into Unity, the software wasn't even working. It was because the mesh was too heavy. My scene was lagging so much and it took about two-three minutes to move one object to a small distance. For two days, I continued working like that thinking that there was some issue with my computer. Afterwards when I came to class I explained my problem to Kate and Max. I found out that it wasn't my computers problem, it was the issue with the mesh. The grass and the trees mesh were too large making the software too slow.

Solution: I made my trees even more simpler and removed my heavy grass mesh and added a terrain from Unity itself.
When I showed this the next week, the feedback was pretty good because simple trees made out of spheres was a good idea. This was made my work easier as well because the software wasn't slow at all.
The main feedback I received was making a story or concept behind it. Right now it's too technical work. Next week I will work on getting a concept.
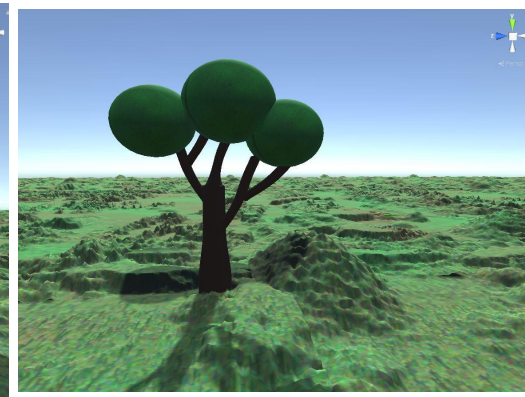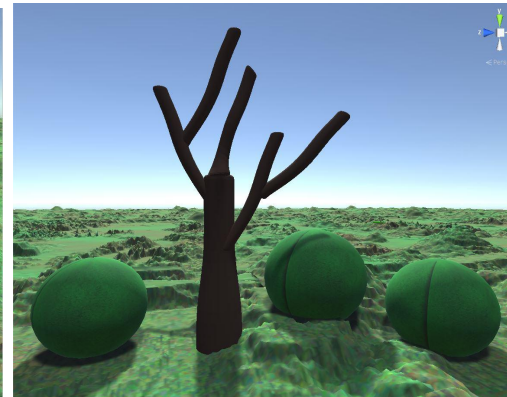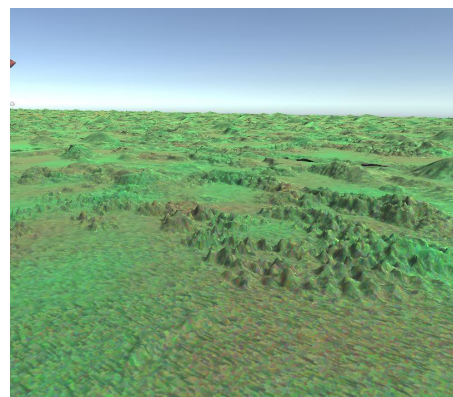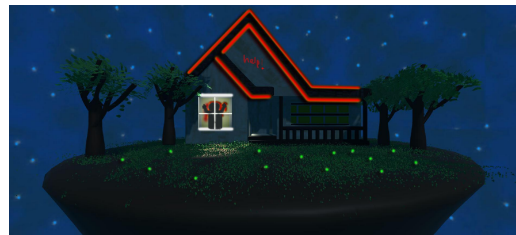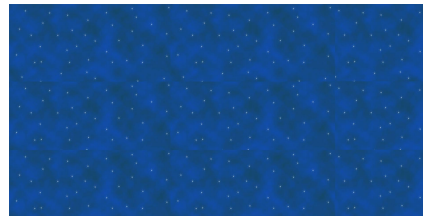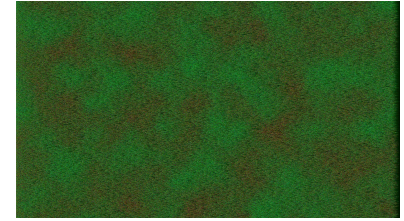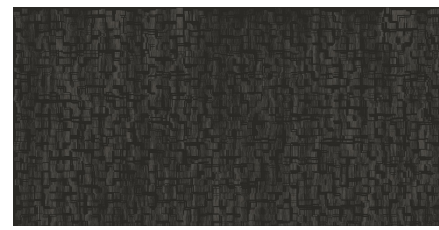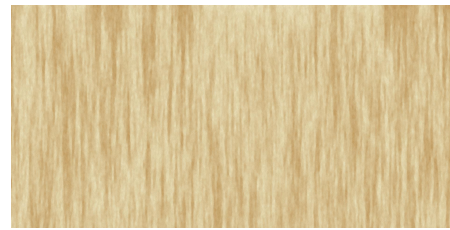
MEETING 4: REFLECTIVE
ITERATION 1

This week I am going to focus on getting a concept instead of doing a technical task. I will make a storyboard. A storyboard will give me a good idea about what my story is about. It will answer the question, "What is the point of rotating the house? What will happen each round?" I will need to think of an idea of what will happen to the house outside or inside to get a good concept.

My idea is to play with the environmental lighting as the main concept. When it's morning, you can't see anything inside the house. Morning is a happy bright scene.In the evening it will happy. As soon as it will turn night, it will turn into a dark scene. The lights will be open at night time and I will animate characters inside the house as 2D silhouettes. I plan on doing the house rotation on Unity and at the end I draw characters in every frame using Toon Boom Storyboard.
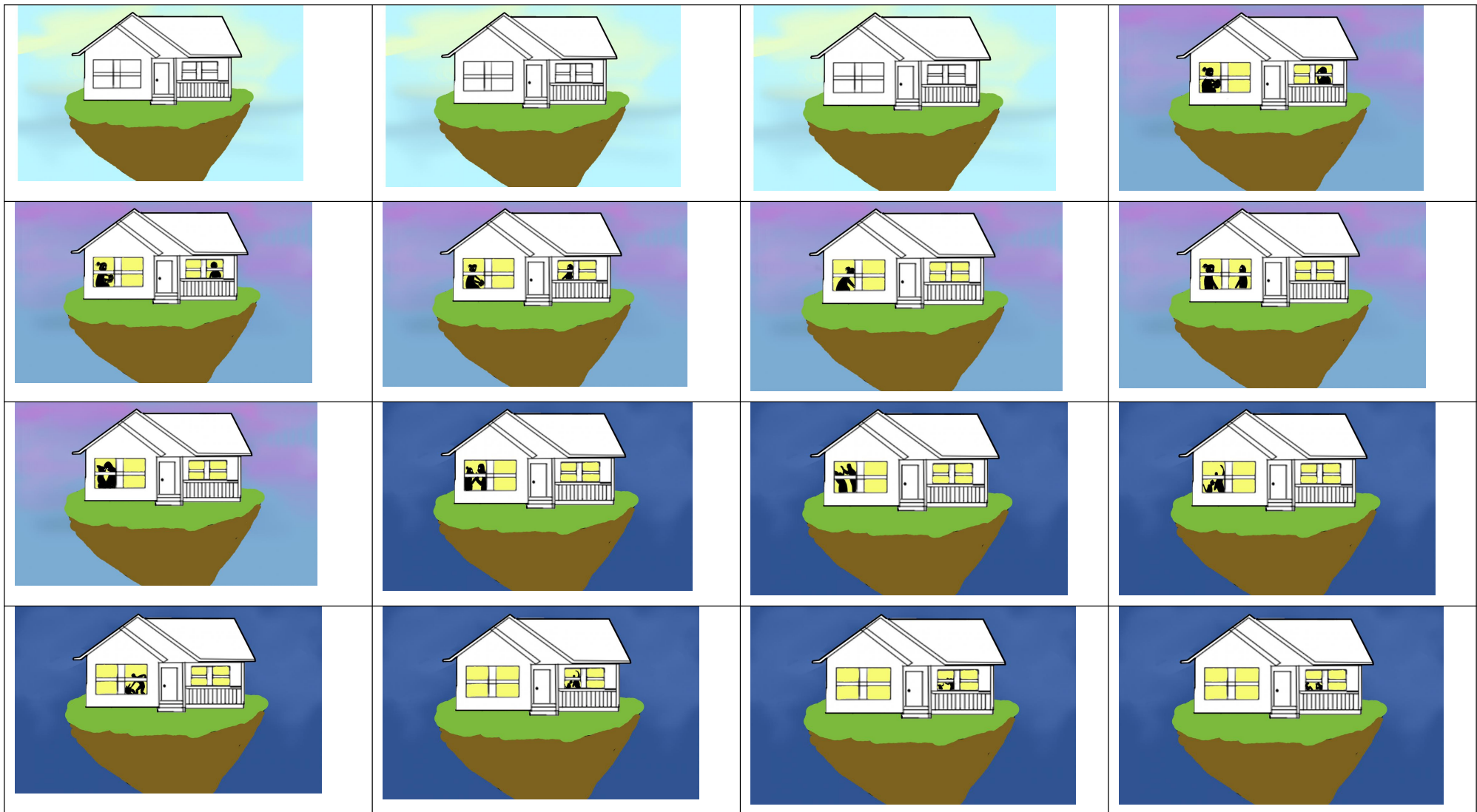
This week I am going to focus on how to change the sky from morning to evening to night. I will do few camera tests and test out animation in Unity.

Later looking at tutorials, I found out that you cannot animate skybox textures. It involves coding. I didn't want to get into coding so I searched for other ways. The other possible way was by animating the light. If I change the intensity or direction of the light, the skybox will change according to its environment lighting. I decided to use a directional light since it was the default light and as I connected the light to my skybox. As I rotated the light in different directions, my skybox changed its lighting environment from morning to evening and to night.

So finally, instead of animating the skybox, I animated the directional light. I did a few tests and here are the screenshots below.
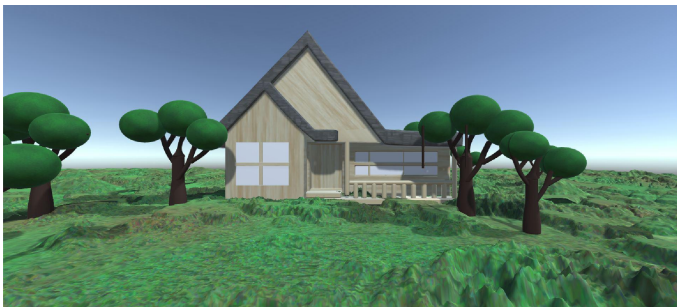
To test the camera, I did a little bit of calculations so that when I need to animate it, the camera moves in a flow.

The first test I did, the camera wasn't moving in a flow. The speed increased and decreased as it was rotating. It zoomed in and out while rotating. The camera didn't look uniform. Thankfully Nick gave me a script for the camera. The script involved camera revolving through a sphere. Since I haven't used scripts and coding, I removed it. But his idea gave me another idea. A way without scripting. I simply parented the camera and sphere together and animated the sphere.

I needed to make the camera perfect because once it turns to the opposite side, the scene was supposed to change. I needed to do this without lag so proper camera helped me change the scenes. I had to stop the camera animation, put the props for the next scene and resume the animation again.
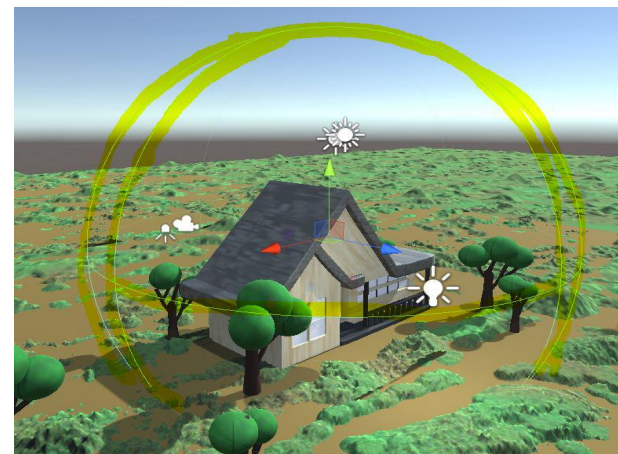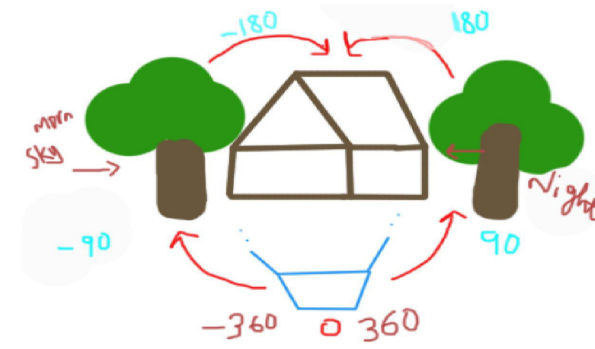
**MEETING 5: REFLECTIVE
ITERATION 2**

Next week, I had to change my entire idea. Kate and Max had asked an important question. "What is the need of putting a character to tell a story? A story can be told from the house itself." This question made me think a lot and I thought it made sense and would make my work easier. I was told to make a moodboard of different scenes of different life events.

I thought of making different life events such as a normal scene in the morning, a party scene, a messy scene after party, a fire scene and then a house distortion scene , finally ending up as a normal house and it loops again. I thought of these life events because it would create happiness and fear at the same time. I chose such life events that would be devastating.

Below is the mood board of the scenes. I did it in photoshop to get an idea of how it will look like. Later I will try to replicate this and make it Unity with proper lights and props.

In the next consultation week, the different scenes were a good idea. But I got an interesting idea from Kate. She suggested me to start off from the distortion scene. This would create mystery and make audience wonder how it happened.

I replicated the 2D moodboard into 3D by adding all the props for all the different scenes. The fire and the distortion scene was difficult to do. I looked at tutorials and in blender there was one click to make the house distort. There is a tool called "cell fracture" Once I clicked on that, my house broke into small square pieces. The animation was done by itself. I started the scene from broken pieces and did reverse animation to all the pieces coming back to its place.

I did a small test of cell fracture on a cube first and tried to reverse the animation. Afterwards, I tried it on my house model.
Later I looked at tutorials for fire
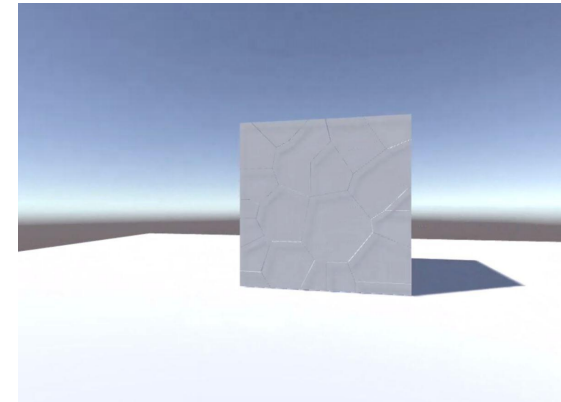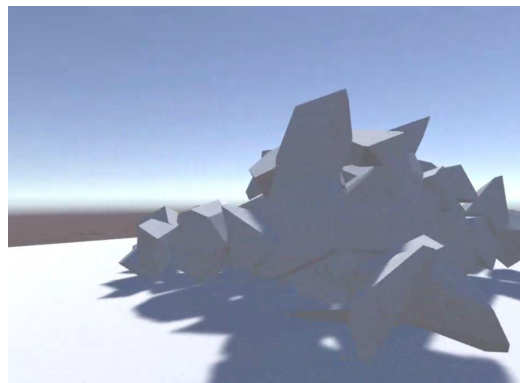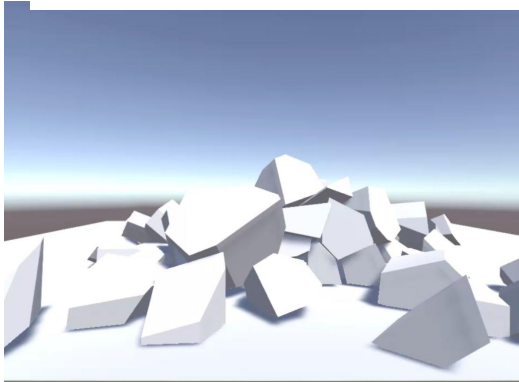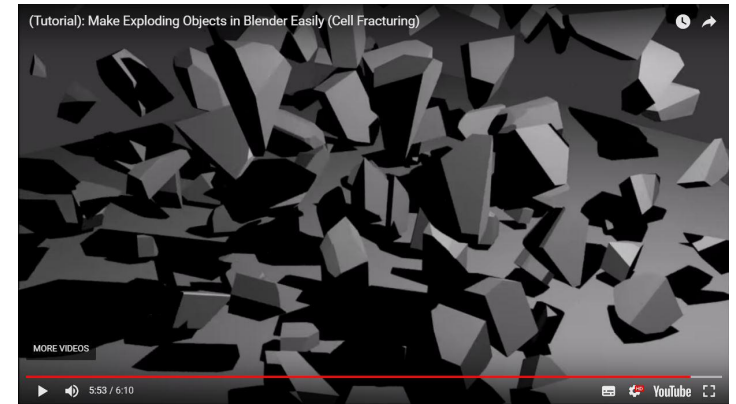
After a week of consultation, the feedback I received was that the fire was too realistic and it didn't match the scene. Since my whole scene was made out of cubes and spheres, my fire had too be a little simpler of a basic shape. My tree was sphere shape while my house was made out of cubes. I first tried to remove the texture and then tried to add a mesh. I added a cylindrical mesh for the fire and added material Since my party scene was made out of the same particle, I changed the mesh for that too. I made pile of coloured paper falling down.

low poly fire animation | Blender tutorial | quick and easy way | beginner tutorial
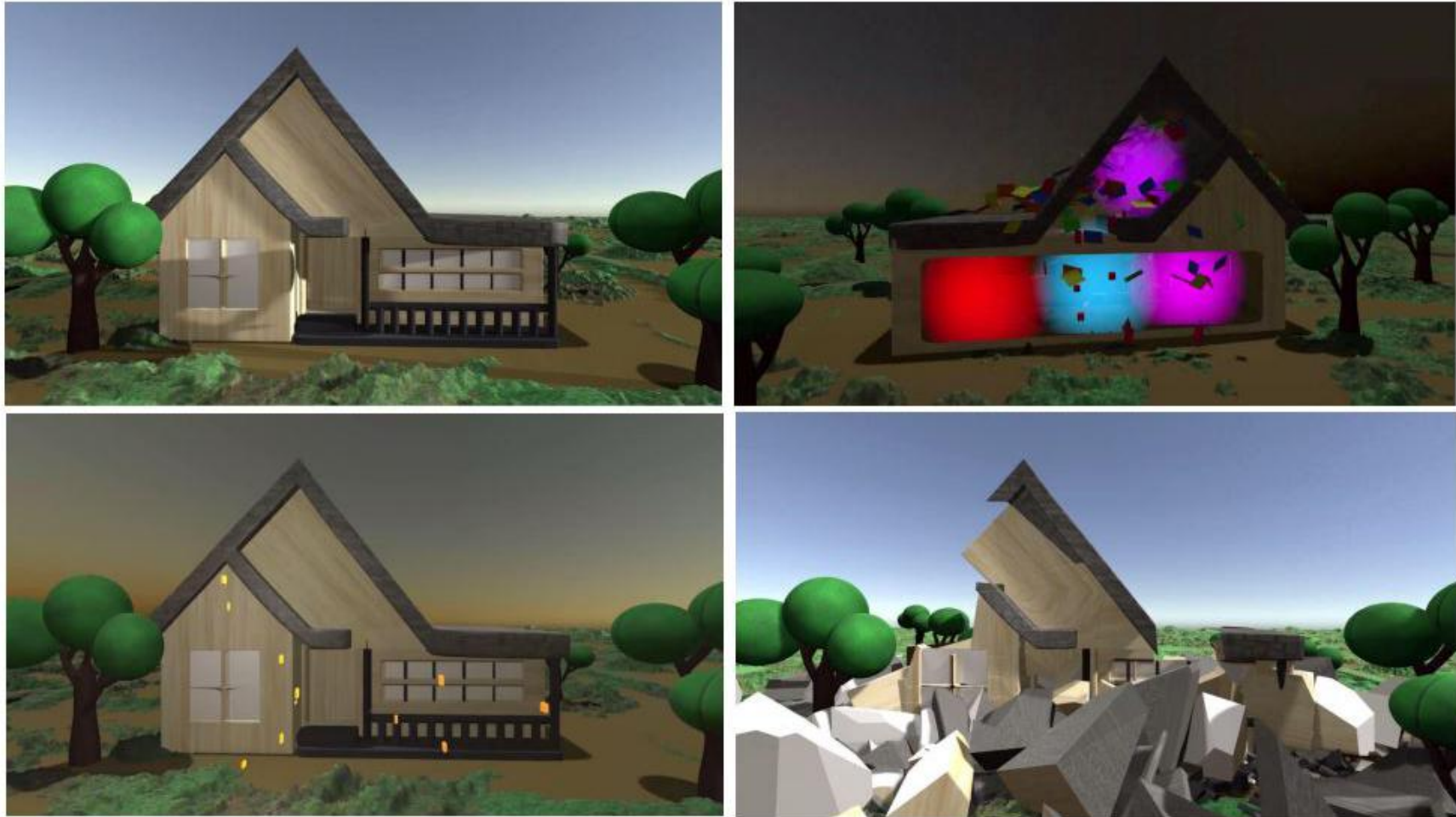
Finally, this is the final work of a 12- week project. Thanks to Kate and Max and few classmates I was able to do this. Starting from worrying about not knowing how to use the softwares to now learn different techniques that will help me in the future. I will try do something different for next studio. For example, change the house into different objects. For example, house turns into shoe and then to another object and etc.

The next page is the bibliography for all the images I took from the internet.

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Music

"Killers"
"Electro Cabello"
"Fresh Air"
Incompetech.com
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"Rewind Sound Effect" from Youtube