

# Passion Project

## Documentation



Subject	Passion Project
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Personal GIT Repository link for the	<a href="https://git.fhict.nl/i477572/christiyan-borisov-semester-3-git-repo">https://git.fhict.nl/i477572/christiyan-borisov-semester-3-git-repo</a>
GIT Repository link for the Passion Project	<a href="https://git.fhict.nl/i477572/christiyan-borisov-semester-3-git-repo/-/tree/main/Passion%20project">https://git.fhict.nl/i477572/christiyan-borisov-semester-3-git-repo/-/tree/main/Passion%20project</a>
Website Link for preview of the product	<a href="https://i477572.hera.fhict.nl/passionproject/index.html">https://i477572.hera.fhict.nl/passionproject/index.html</a>

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## Topic of choice for the project

For the passion project we were given a couple of choices from our tutors. One of them was to make a 3D model of a room. I have made 3D objects before however I wanted to give it a twist. I decided to make a 1:1 exact copy of my room in blender, using exact measurements and furniture models. After that using Unity make the room interactive and later host it.

## Set Goals

- Make the room as 3D model using Blender
- Make the room a 1:1 copy (exact dimensions)
- Color the room accordingly in Blender
- Import the model in Unity
- Make it interactive (add light switch and a spinning fan blade and door that opens and closes)
- Export it as a WebGL 5 file
- Host it with Hera
- Make a simple one pager website to showcase my passion project
- Make a document explaining the process

After consulting with my media tutor, I determined that the goals that I set for the project are enough as a deliverable to cover learning outcomes 7, 6, 4, 1 and 3.

## The process

The whole process involves the use of the following software:

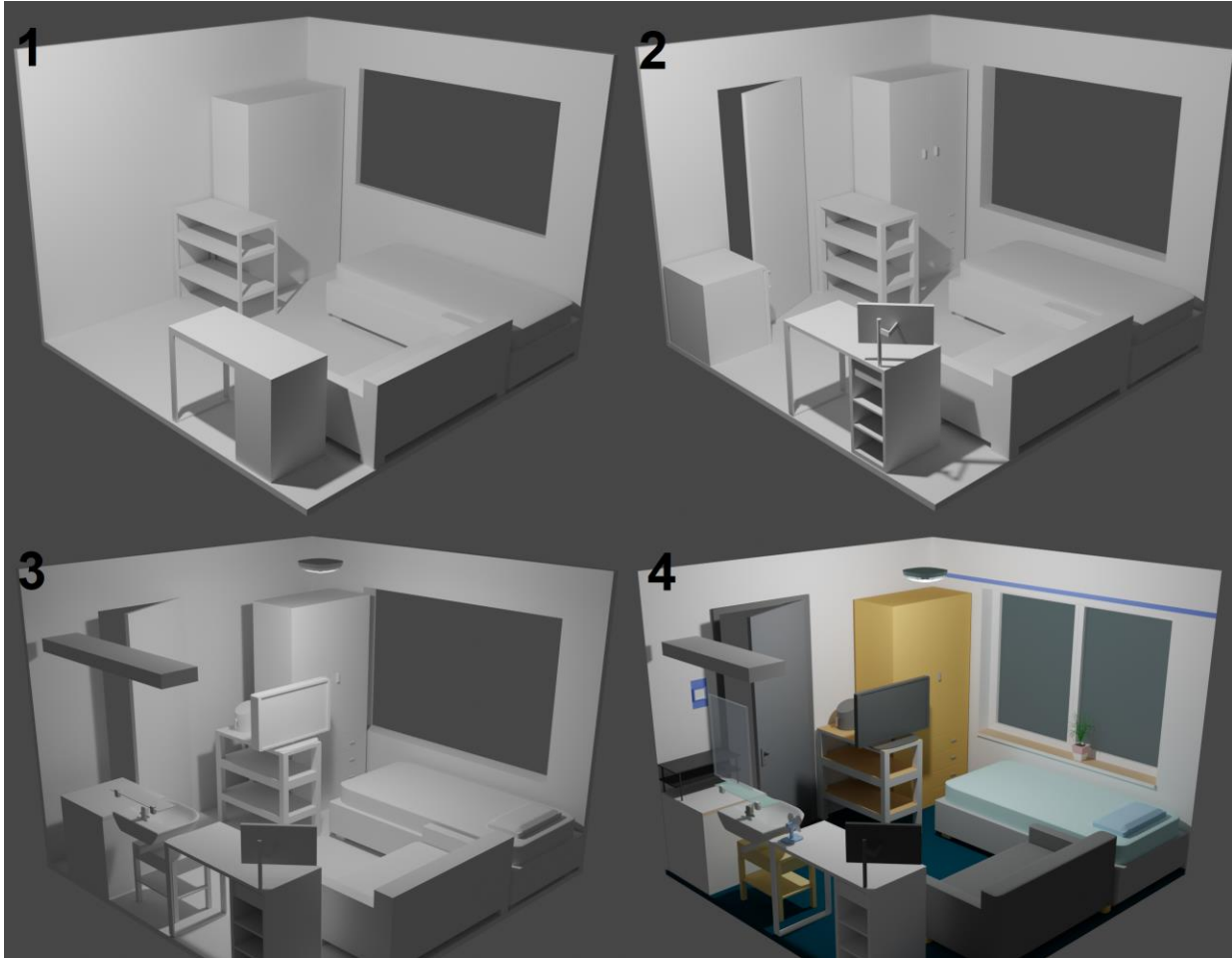
- Blender 3D
- Unity
- FileZilla

I had made previous things with the Blender and Unity software, however I haven't made a product that detailed. I had a visual of how the tasks will progress, however

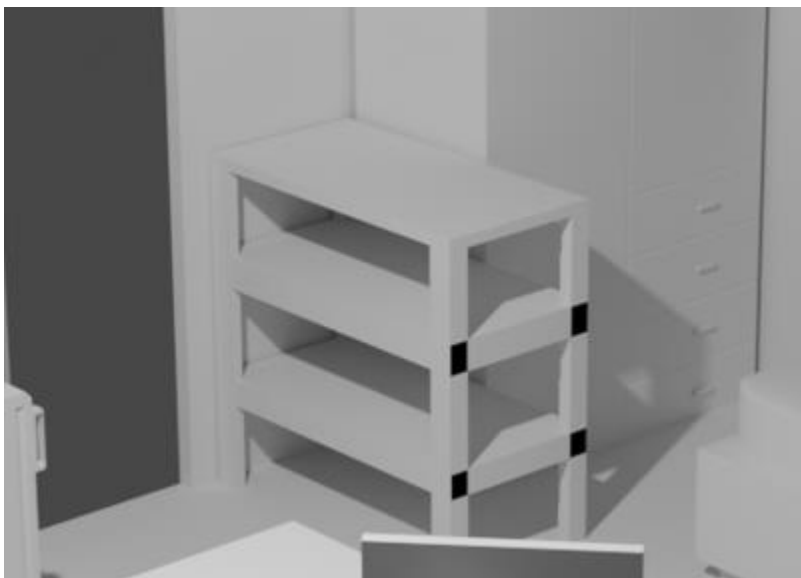
## Making the room

The making of the room took me around 3 days to fully complete. I had more than 10 tabs in chrome related to IKEA furniture blueprints.

I started off with making the walls. Then I made the main furniture and the last part was making the more detailed smaller piece of furniture.



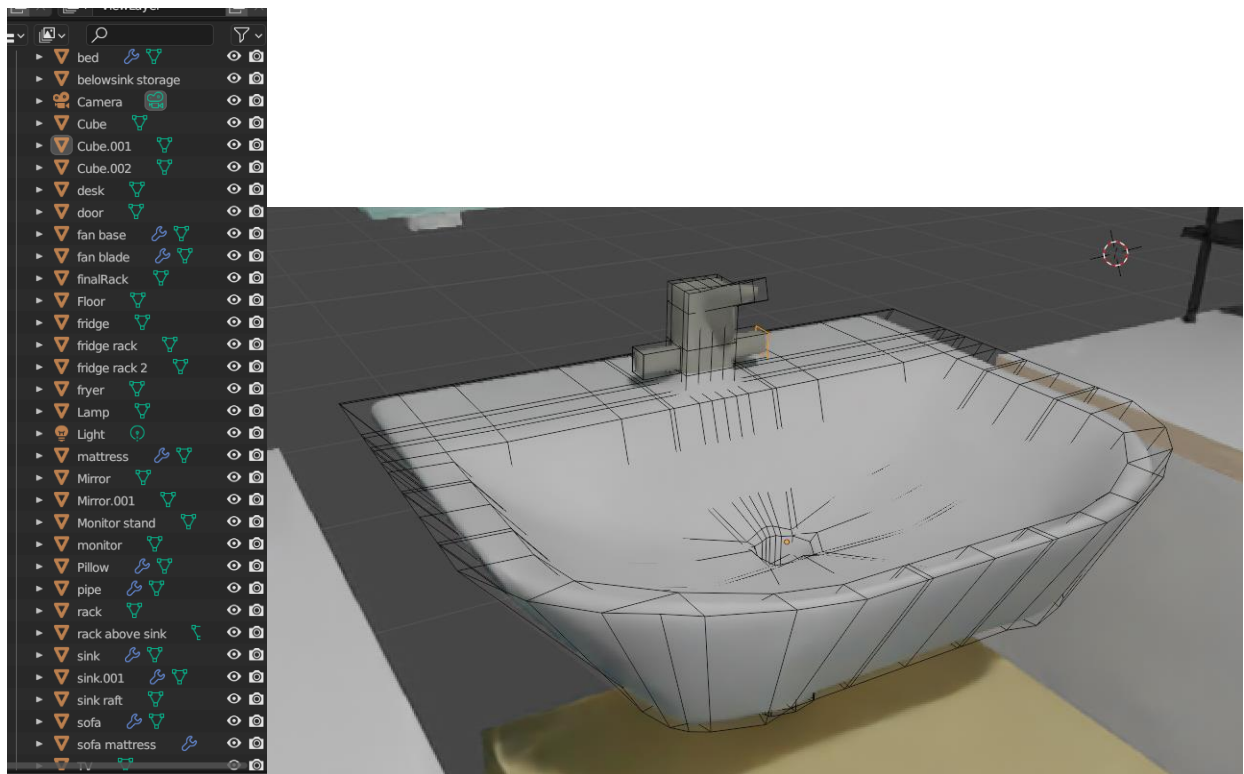
The hardest part of making the room was the sink and the rack below the TV. I made 5 different racks but always the rendering gave our errors (black spots). Another challenging part was making the glasses transparent. There are glasses above the sink and the windows.



The main options I used was Extrude region, Subdivision surface, Loop cuts, Round objects modifier. Also just for the training purpose I made the faces of the objects that are not depicted by the camera angle.

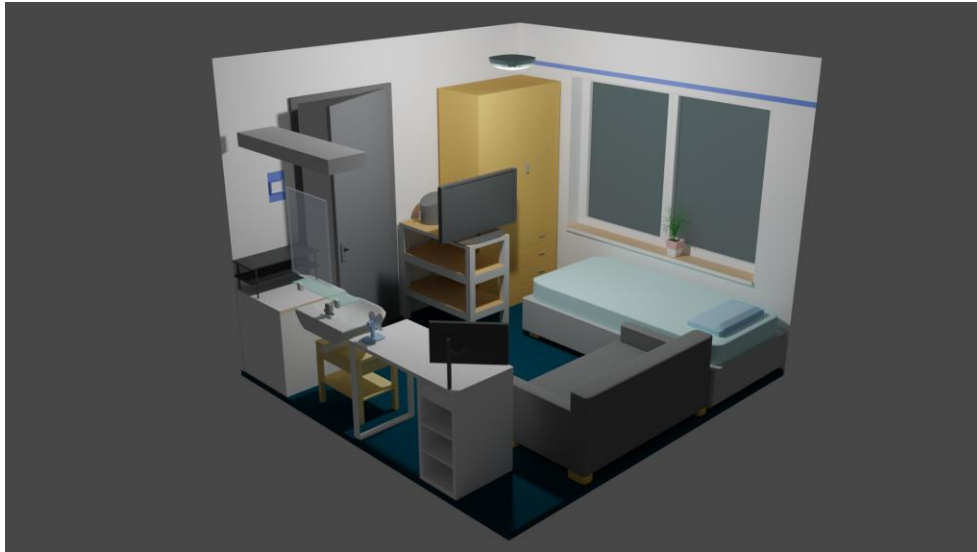


All of the object were named properly in the scene collection. Also I attached a close up photo of the sink to show its detail.



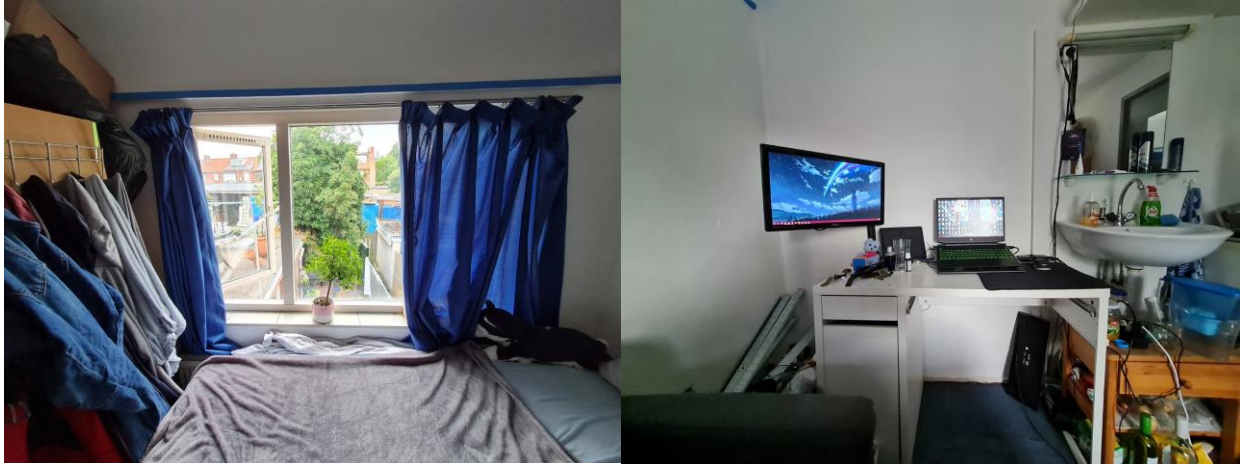
## Coloring the room

The room coloring was easy. I have prior knowledge to working with RGB values. The harder part of the coloring was making the objects look transparent for making the mirrors and windows. The proper way of doing this was to add physics to the object. However I found a work around by changing the Alpha value of the product.



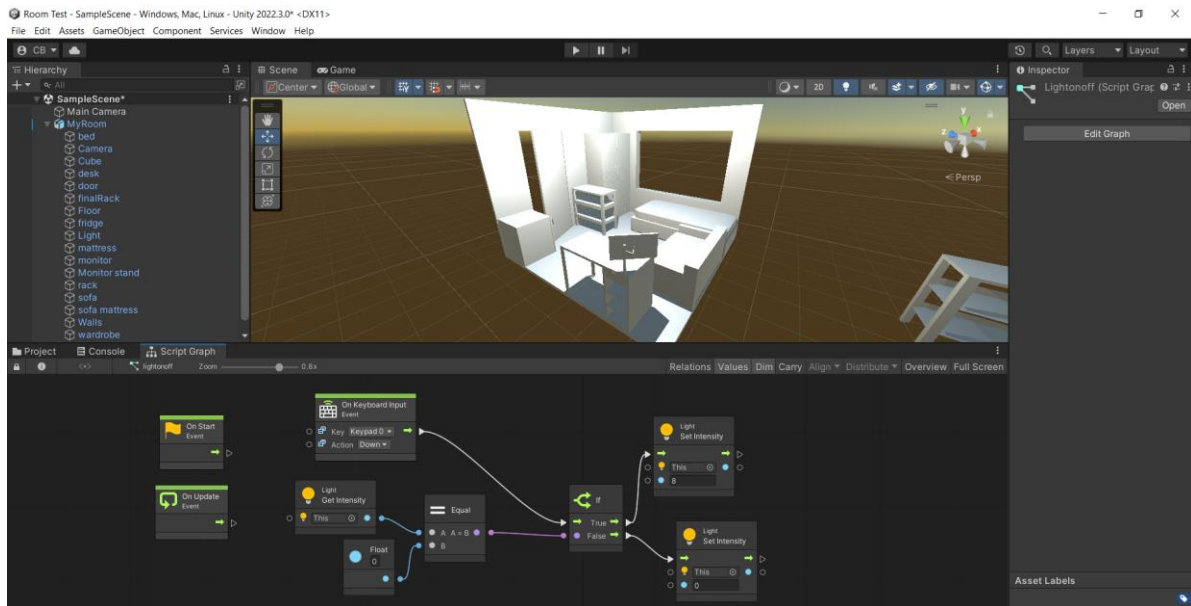
Here is the final render of the product. The room is colored and all the items are aligned properly. Here is an actual photo of my room below, so you can compare them





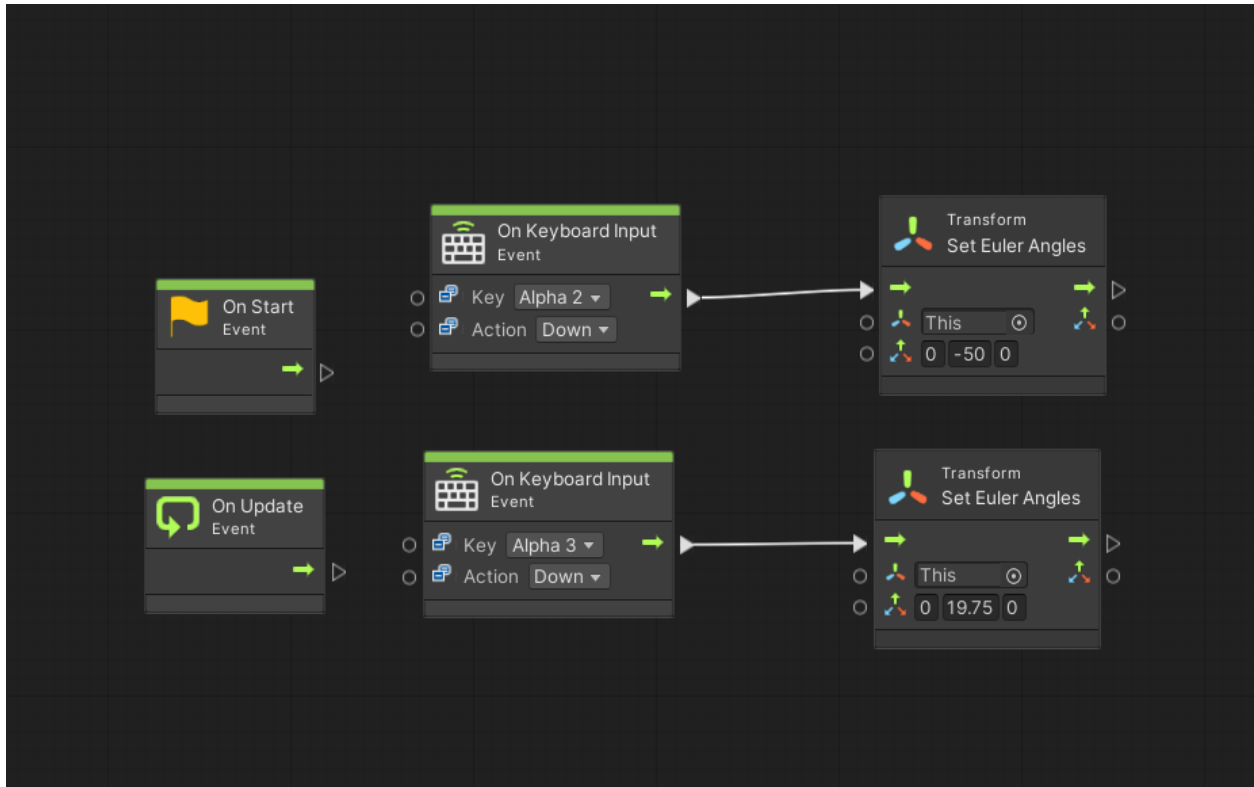
## Importing it in Unity

I imported the room multiple times in unity as a debug. After confirming everything works I finished the model and imported it again in the game engine application



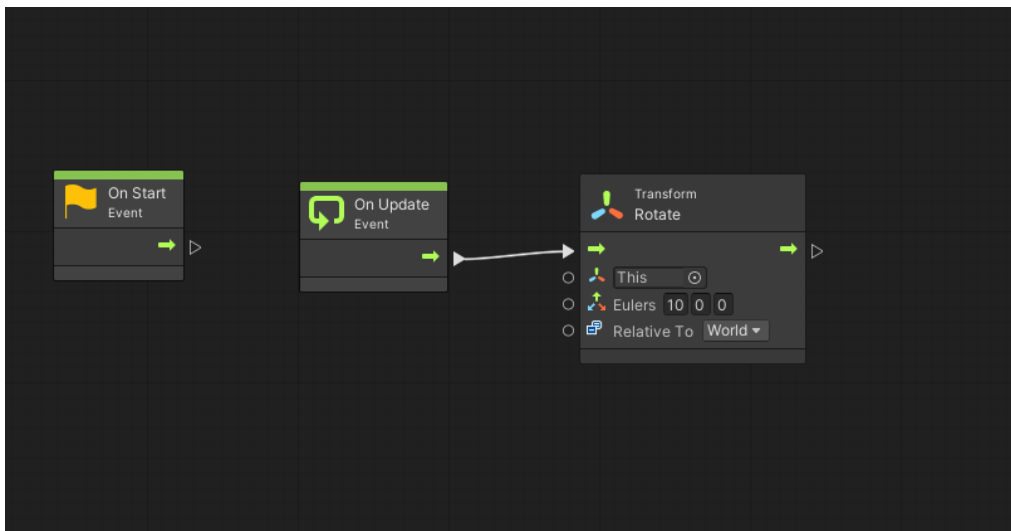
The harder task was to make the light turn on and off by using only one button and also to make the door open and close. Below are the script graphs for the interaction part of the model.

Here is the script for the door opening and closing.



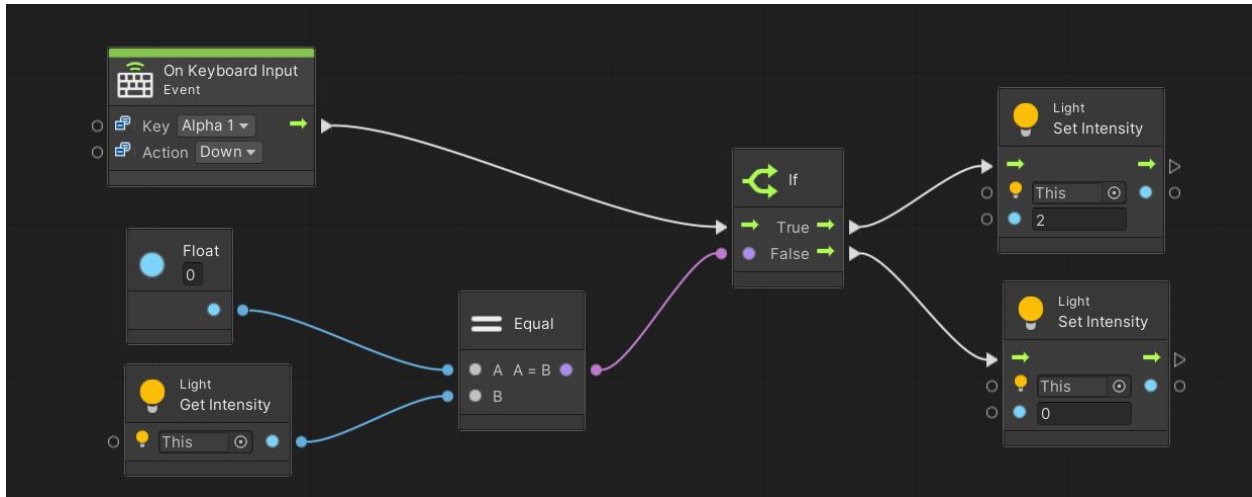
I had to ungroup the door object, create a parent object and assign the door as its child. Then made the anchor point to be at the bottom left corner of the door in order for it to rotate properly and not break.

Here is the fan spin back end graph.



And lastly here is the back end script graph for the lamp On/Off state.

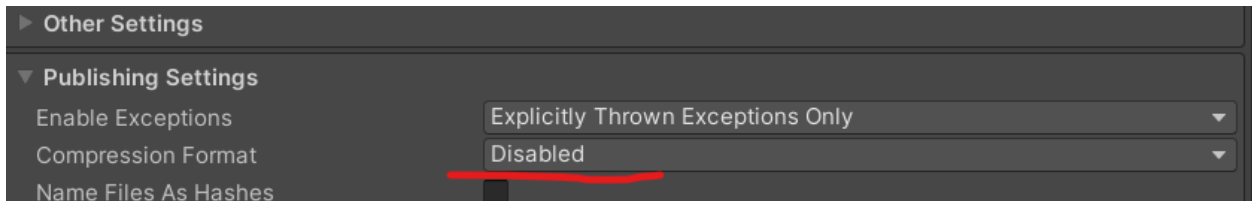




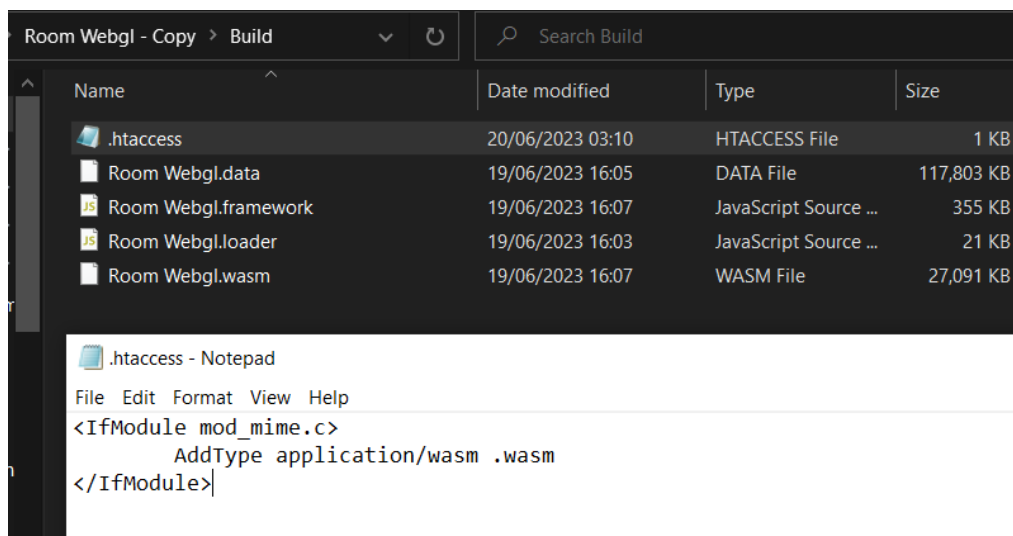
## Export and host

I had multiple problems when exporting the file. Firstly When I ran the html file with LiveServer Vscode extension, the browser showed an error and did not want to run the render.

After some troubleshooting I learned that I have to disable compression in the player settings.



After that the render successfully opened in browser using the local host option (LiveServer). However, when I uploaded it to Hera I got another error. After further troubleshooting I discovered that I need to add a file in the Build subfolder of the WebGL 5 export tool folder. The file was named .htaccess and was saved with the same extension. Here are the contents of the file below.



This addition finally fixed the error and now the whole room can be previewed in a web browser by clicking [HERE](#).

## Reflection and conclusion

The making of the room took me about 5 days from start to finish. I paid a lot attention to detail for each element. I wanted my product to look professional so I can also present it in my future portfolios. I was really satisfied how it turned out. I further presented it to my classmates and they also approved of the visuals. In the beginning of the semester I really disliked 3D modelling, but later I got progressively more used to it. At the end I really started enjoying it. This project of mine was where I spend my all energy and enthusiasm when it came to 3D modelling. I will continue doing such modelling in the future as a hobby for sure.

I hope you enjoyed this small journey of mine – creating a model out of scratch using Blender and Unity.