Unit 9 - Artefact

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Project idea

The project in question will be based About a teleport and teleport-style methods of transport.

The player, at the very end for the completed product, Will have a obstacle course they can navigate, with the ability to use the teleports planned which includes:

- Portals
- Blinks
- Randomised
- screen glitching (or what I've dubbed the "pacman", for its similarity to the game's maze.)

My project will be programming based on teleportation. I will work on and produce a playable test on several different types of teleportation mechanics in unreal engine, utilising the blueprints in order to create them. This will allow me to program more mechanics, get a grip on Unreals more advanced code, and a teleport can be made into many different transitions. Currently, I haven't settled for a proper name for it, so it's currently just "teleport_project"

Research method

Most of the research will be using youtube and the internet, however some of it will be either books or other forms of games, such as tabletop RPG's. I'll look at what would fit the definition of a teleport, that being:

"[To] transport or be transported across space and distance instantly."

I will also be looking at Obstacle courses from game shows like wipeout or minecraft parkour maps

The main source of information will be from youtube, however I will also look at video games, such as MMOs like World of warcraft, Similar games of the fantasy/Sci-fi fantasy genre. The influences for making this project came from a recent dream I had where I went through this impossible obstacle course thanks to a fantasy-like teleportation ability, Dungeons and dragons is also a BIG part of my past time, which has many teleportation spells, such as misty step, dimension door and just simply Teleport.One idea I had was a "pac man" type teleport, where if you touched one edge of the boundaries, it would send you to the opposite side. Another idea was the player could innately teleport using T, and It would send them to a random location.

Evaluation method

The way I’m going to evaluate the Project is based on three criterias: What have I planned, What have I done, along with a comparison between the two, along with any bugs or fixes that were found. The evaluation will be done on a weekly basis, With evidence throughout.

Level 80

The level 80 article I have found is, which consists of fifthteen youtube videos, and several gifs and images, with more of a Q&A as it’s structure. In my opinion, I wouldn’t change the structure for this: it is clean, easy to read and rather informative, Maybe the format can be changed it is, with having a gallery for the screenshots/gifs and a small section for videos.

The Article is about developing Swift, a FPS similar to overwatch and/or valorant, including it’s mechanics being similar to them games.

Week plan

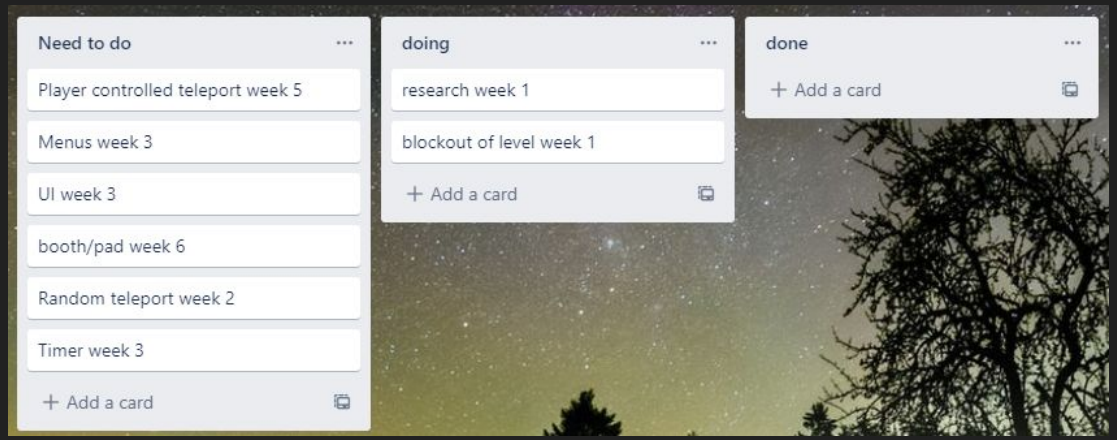
Week 1 (04-07.01.22) - Get the research and base level design blockout done.
Week 2 (10-14.01.22) - work on the random teleport and basic interactions
Week 3 (17-21.01.22) - finish the random if not already, refine it and begin work on “pacman” teleport
Week 4 (24-28.01.22) - finish and refine “Pacman” teleport, make new level and do the “manual select”
Week 5 (31.01-04.02.22) - Finish the manual select, get to doing the teleport pad
Week 6 (07-11.02.22) - finish the final teleport, add menu functionality
Week 7 (14-18.02.22) - polish up and finish project

Planning

Week 1

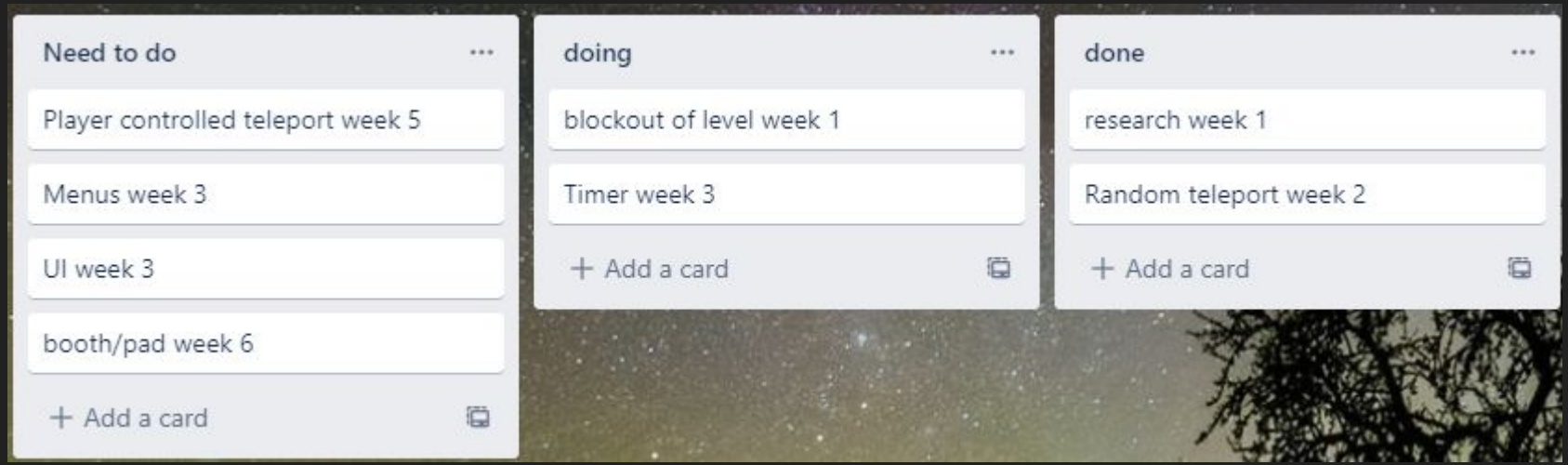
Week 1 will mainly consist of two main things, Research into everything, this includes all the teleports, inspirations and starting with the blockout of the map.

My idea for the map is to have Almost impossible Gaps, which can’t be jumped normally, you can use the various teleports to



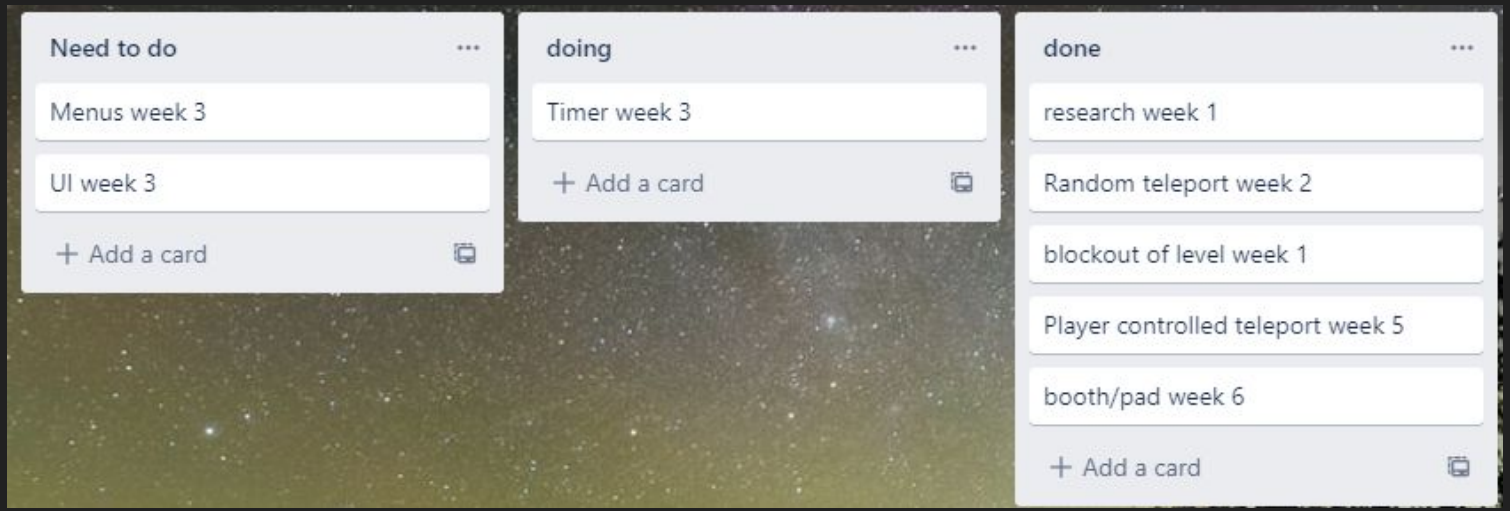
Week 2

Week 2 will be consisting of Doing the randomised teleport, alongside Some UI, such as a timer, as well as death zones and the goal,



Week 3

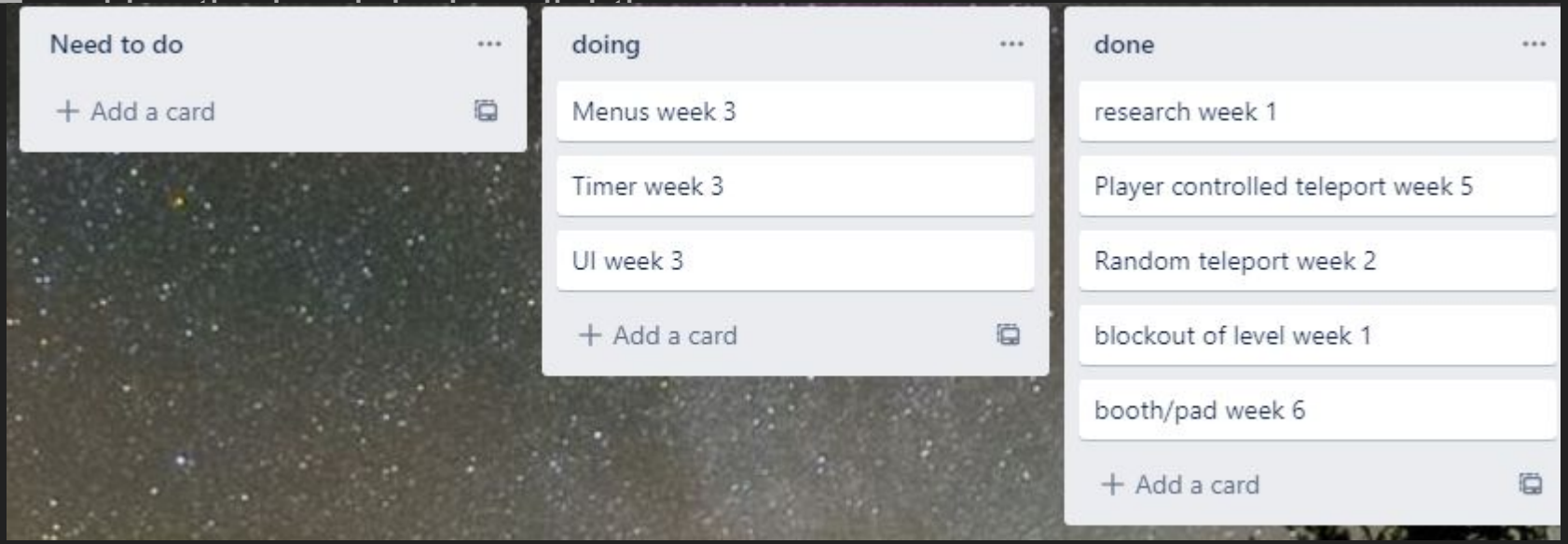
Week 3 is where I needed to Sort the Menus, that being a Pause menu, The start, two death screens, one for the Timer and the other is for falling into one of the many death boxes, alongside any troubleshooting that will need to take place.



Week 4

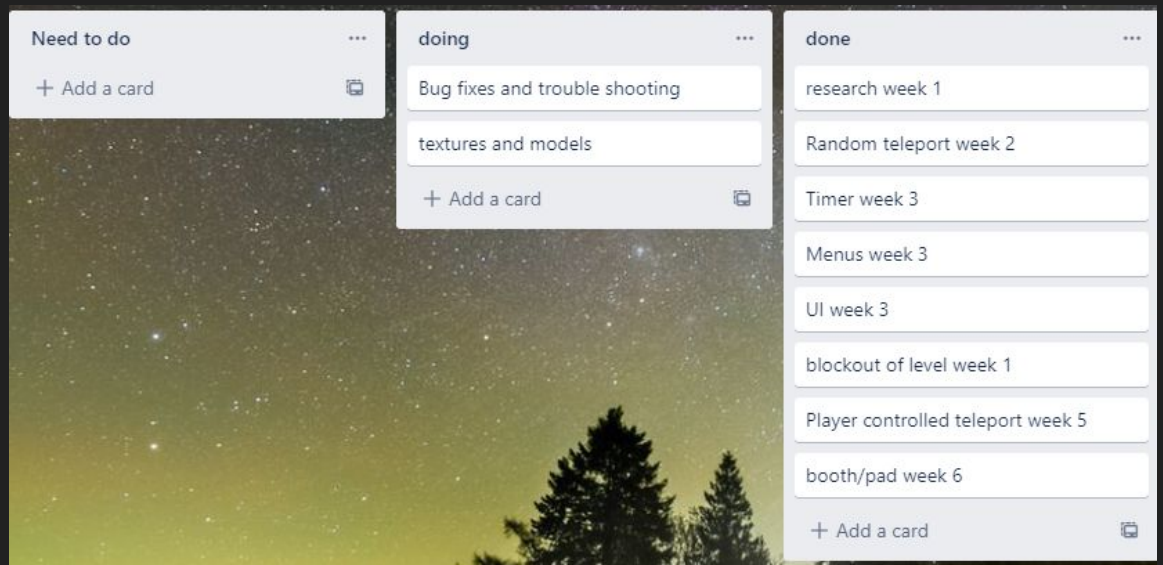
Week four will consist of:

More troubleshooting and bug fixing



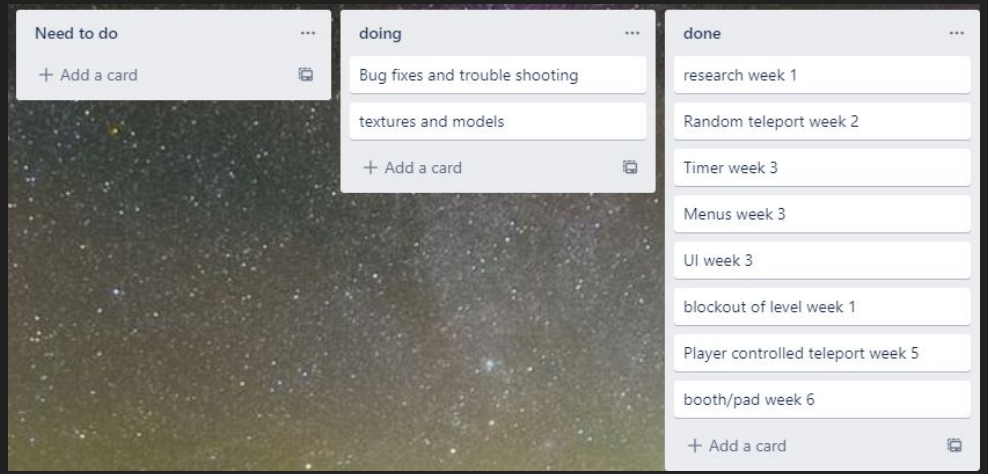
Week 5

Week 5 will consist of Getting custom models sorted, mainly for the portal, Getting the successful completion screen sorted, to complete the loop and so it’s a proper playable level, which will require it to be Refined. After all that, the last thing needed to do is to get player-selected teleport sorted.



Week 6

Week 6, now that the main bulk i out of the way, will mainly be two broad subjects, that being models/textures for any assets that I will need, alongside any Bug fixes that will need to be done.
They’re this broad because I do not know what to model or texture just yet, and it might not even happen as it’s all mechanic/programming based, and doesn’t require doing necessarily .



Week 7

Week 7, being the final week, will be the same as week 6, if there are still things left. However that will most likely not be the case if everything goes according to plan.

The project is finished.

Research (week 1)

Minecraft Parkour

Minecraft parkour is the main source of the obstacle course.

The basic premises being you jump for it is simply jumping from one block to another.

Minecraft also has ways of teleporting, which would've worked, however it would be too similar to one I already have planned, and thus incorporating a teleport similar to the ender pearl or chorus fruit would be semi-redundant, aside from maybe visual flare.

Dungeons and dragons

Dungeons and dragons Has many teleportation spells. Which can be used offensively or defensively, with much needed utility for spellcasters and the party.

The spell misty step is the first and simplest teleport, allowing you 30 feet (9 meters) of free movement at the cost of a second level spell slot.

Teleport itself is a 7th level spell, which teleports you to a place based on how familiar with it you are, the more familiar with the location in question, the higher chance of success.

A visual representation of misty step

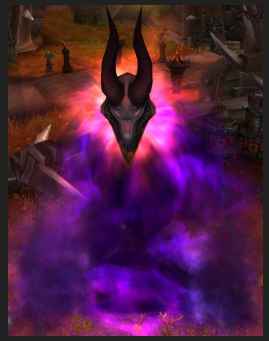
Harry potter

The harry potter equivalent of teleportation is Apparition and Disapparition, which is the wizard equivalent of driving a car, but more lethal. The wizard must be 18+ and pass a test.

Apparition and Disapparition has a similar effect to, for example, A world of warcraft blink. If the wizard is a novice and tries to use it, they will most likely end up getting stuck in a object, structure or person, and thus suffocating, however unlike the example used, the wizard could be completely Bisected or Dismembered.

World of Warcraft

In world of warcraft, mages get a ability simply titled “blink”, which moves the caster 20 yards (18 meters or 60ft), then later on gain the ability to create portals, allow travel/teleport to anywhere in the world, making them great at exploration with little money cost. Druids can teleport to moonglade and the emerald dream (effectively the blizzard equivalent of the feywild),warlocks can create portals to summon demons and transport allies, death knights can use a “death gate” to teleport themselves to The ebon hold: the starting zone and current residence of all death knights.

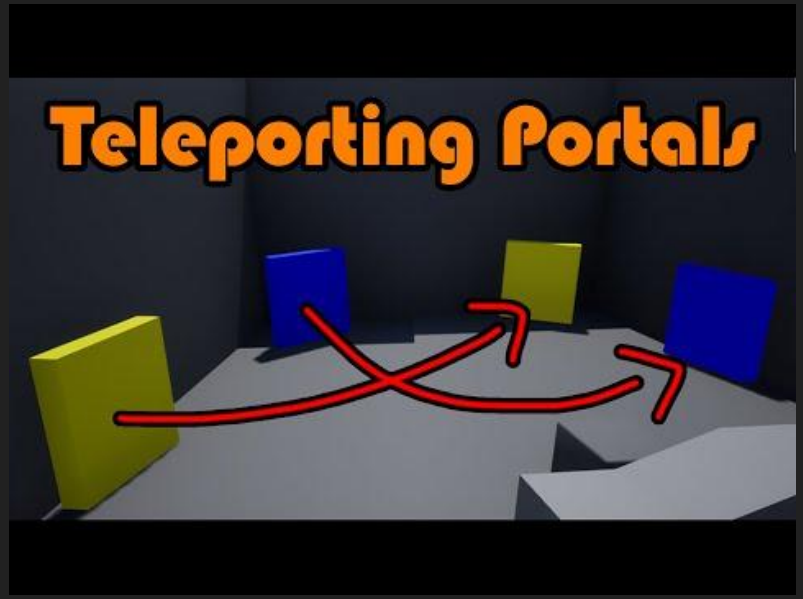


Door teleportation

Using youtube, I have found tutorials relating to the different types of teleport I will need to code. The language I'll use will be the Unreal blueprint, which is easier than the alternative, being C++, which I have no current experience in.

This first one is the door, which is somewhat simple, we have a construction script which sets the transform of it and the relative location of the exits to the door.

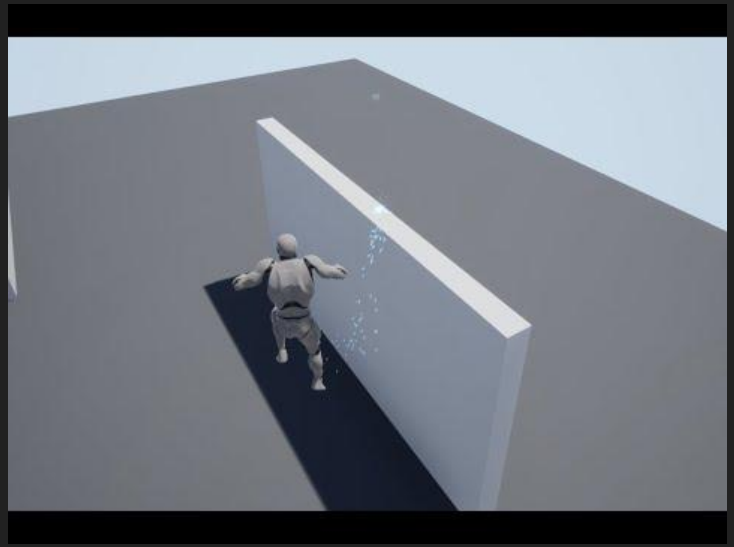
If the player hits the Invisible exit reference, it will get the index, matching it up to one with the same index number, then sending the player there.



Player Teleportation

Going back to youtube, Another tutorial is used for the Player teleportation.

A key is used, in my case and in the video, it's the Mouse button. It gets a reference to a Target which spawns when you hold the button down, it also zooms the camera out and slows down time to ¼ speed. When you release it gets where the target is, moves the character and camera there, and puts the camera back to normal. It utilises animation timelines, many branches and lerps, alongside many custom variables.



Random teleportation

I learnt how to do Spawn boxes in a previous Game Jam, which I used as a Foundation for this type of teleport.

The modifications made to it include: It being in the third person character blueprint and that it’s a function.

Grabbing the Box, it gets a random point in it, to which it will simply teleport the player to, no fancy animations or anything. Just moves the player right to the destined location, which can be over/on anything the box is covering.

Bibliography youtube link

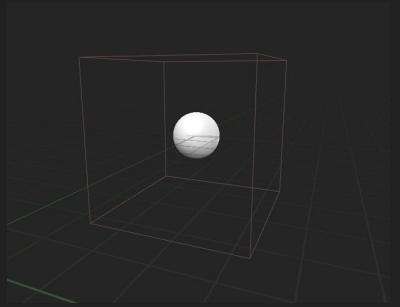
Bibliography harry potter link

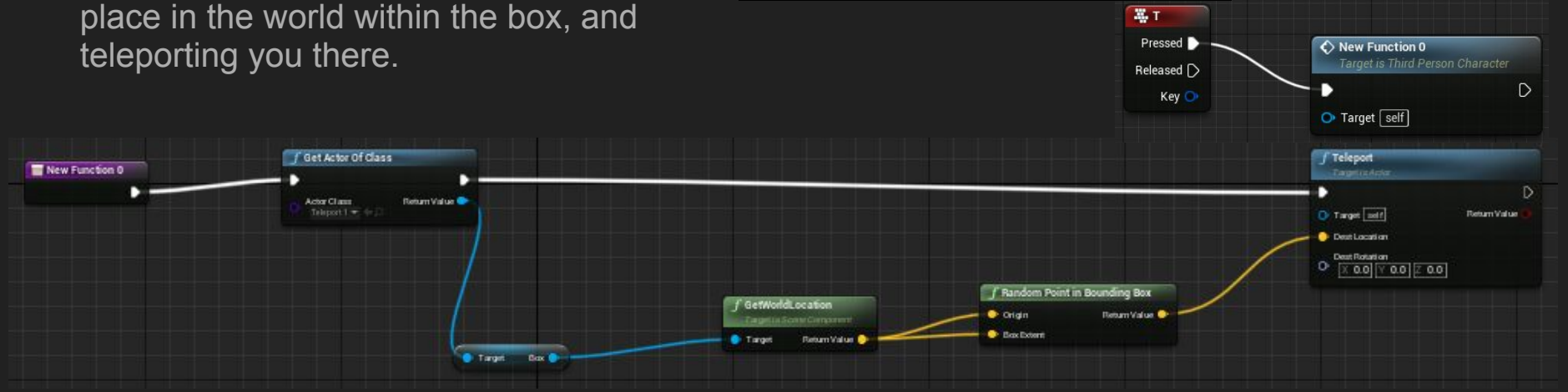
Bibliography D&D link

Programming

Week 1

Week One was fairly straight forward, mainly being about research (seen above),and the blockout, which I instead did in the second week after getting the Random teleport done this week, which was accomplished by creating a hitbox, then going into the third person character, making a function to get the Box, finding a place in the world within the box, and teleporting you there.





Week 2

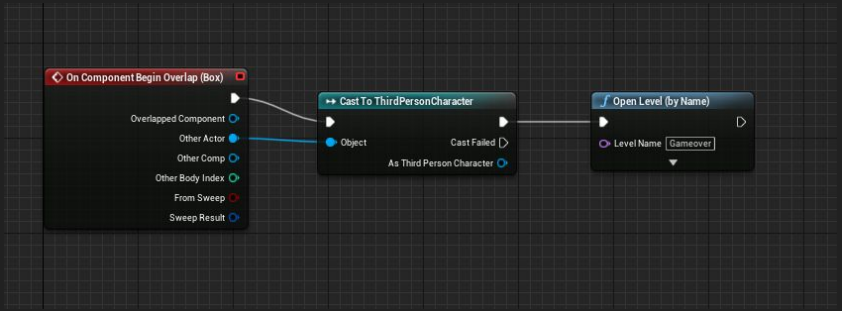
Week two consisted of getting the blackout sorted and at least attempting to sort the random teleport, which didn't go well. I wanted to use navmesh instead of a hitbox, but that failed.

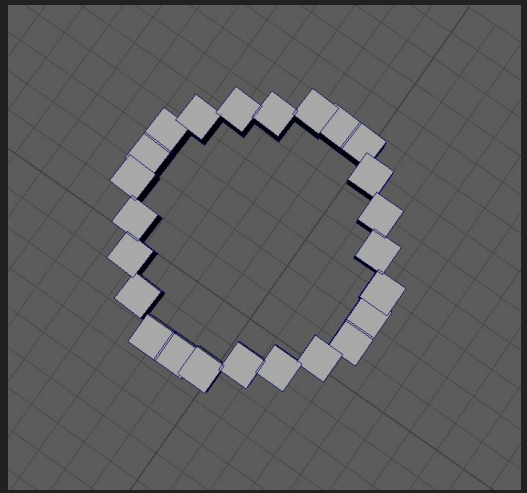
I also decided to tackle the player teleport and the teleporting door, both of which are complete, with some bugs:

The player teleport, when spammed, will cause the location marker to always be out and the time to slow down to 0.25 speed.

Week 3

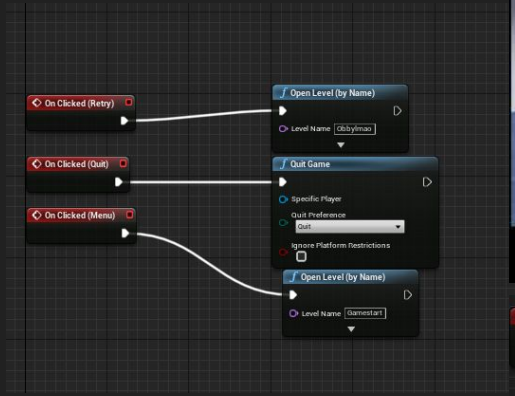
Week 3 was mainly experimenting with models and getting the basic UI sorted. The UI and HUD have been started, and the basic code was there to transition between 2 - 3 maps: the death map, the starting menu and the actual course. At this point the functionality doesn’t work and it doesn’t transition between HUD’s. Disappointingly there were no problems during this week.

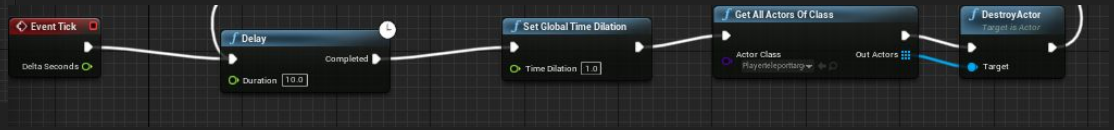




Week 4

I have been slacking this week, I will admit, however menu functionality has been added and the model has been imported. The issue with the teleport has been resolved, however it now puts you in this weird zoomed out camera angle.





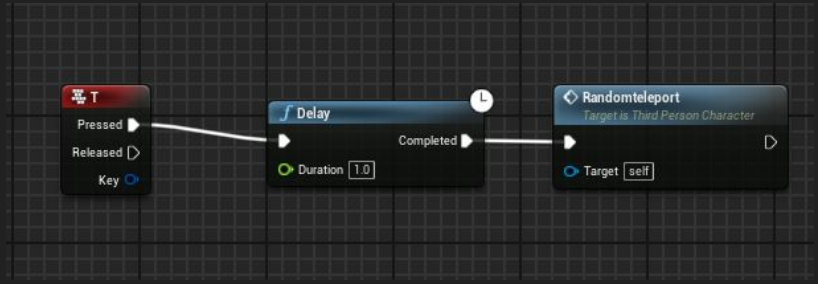
Week 5

Week 5 was uneventful, however the Gameplay loop is fully inplace. The timer shrunk from 5 mins to 2 mins, as the course isn’t that bad, to navigate and is pretty easy, however there will need to be better mapping as to show the player where to go.

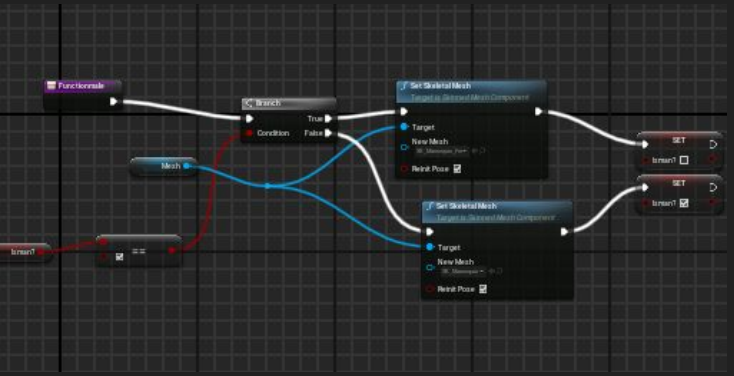
Apart from that, everything that was planned for this week has already been completed with surprising efficiency.

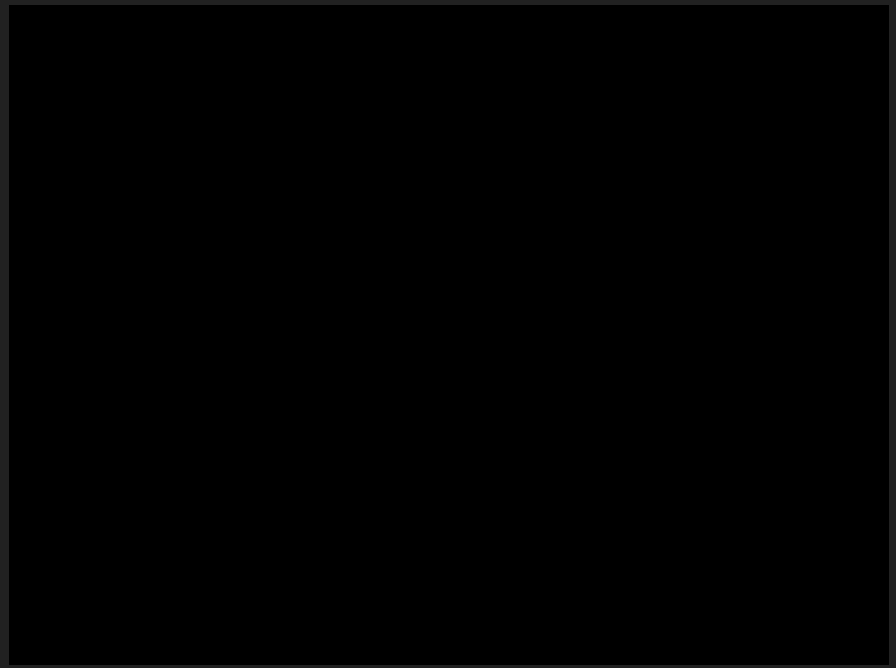
Week 6

Week 6, another Uneventful week, however I did manage to get the player model to change to a different, more feminie model that was already in Engine.



Basic premise is that it gets a Boolean, which is in a function. If the Boolean is true, it will change model and turn it to false, If it's false, it will revert the change and make the Boolean true again. This function is then bound to the F key, with a 1 Second delay in between, to allow for a smoother transition between the two.

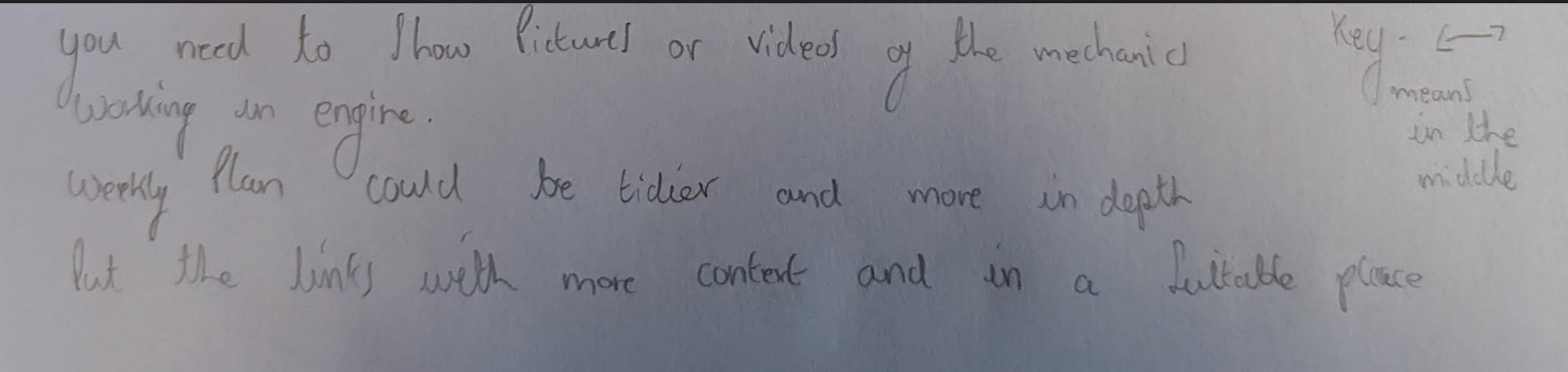




Week 6 - feedback from group activity

End of this week, I got feedback from my peer on the documentation, in which I will have to focus on for the last week. As of current I have added videos of the mechanics and Fleshed out the plan a bit more.

Overall, this Feedback was neither positive nor negative, however it did give me the opportunity to go back through and add more detail/Make necessary edits.



Week 7

This week was supposed to be the final week, and that shows in aesthetics. There’s almost no textures on anything, they’re no custom models outside of the portal, no icons on the UI.

The project however, is finished.