



GDD Of Project MCR



Oliver Hepworth

Table of Contents

Brief Interpretation.....	1
Research	2
Primary research	Error! Bookmark not defined.
Game theories.....	2
Colour theory	2
Games that already exist	10
Attack on Titan 2 (AOT).....	10
Star Wars battlefield.....	11
Batman Arkham Knight.....	13
What I want to include from these games.....	Error! Bookmark not defined.
Art style	14
Target audience.....	17
Ideas	24
Idea generation	24
Franchise Choices.....	Error! Bookmark not defined.
High Level Concept	46
Title	46
Genre.....	46
Main Mechanics.....	47
Summary.....	48
Demographic.....	Error! Bookmark not defined.
Narrative.....	Error! Bookmark not defined.
Character Narrative	Error! Bookmark not defined.
Backstory	Error! Bookmark not defined.
Traits.....	Error! Bookmark not defined.
World Narrative	Error! Bookmark not defined.
Design.....	51
Looks	Error! Bookmark not defined.
Items	76
Clothes.....	Error! Bookmark not defined.
Level Design.....	91
Development log	101
User Interface	Error! Bookmark not defined.
Bibliography.....	204

Brief Interpretation

The client is Gloucester Innovation. They want us to produce a 3D game inspired by a popular creative animation franchise. We want to target 10–15 year-olds. Show research and inspiration and show off our piratical and technical skills. We need to produce a PowerPoint for a client pitch (elevator pitch). Showing iterative design techniques as we produce this game. We must make at least a minimum two levels that need to increase in difficulty. Create a game with repeatable elements so that the user doesn't get bored and repeatability of the game. Since we are using a pre-existing franchise, we can form a deeper connection between character and player.

The client values creating a fun and engaging game based on existing franchises that feature fun and repeatable gameplay so the game can be played more than once. They believe that games offer players new and exciting opportunities to experience a vast array of worlds in which they can interact and observe the story from a more active style than passively observing the story (watching the show). They regularly ask for prototypes to pitch towards their investors and owners therefore if they like the game enough may invest and will want a full game from us. They want us to aim to encourage young people to learn new practical skills through a game so that they can enjoy and learn at the same time.

Deadline 31 January.

Research

Game theories

Shape theory

Shape theory is a theory that shapes can get the player to subconsciously think certain things about a character that isn't implicitly stated such as vibe and if the characters are good or bad.

Triangles are more dangerous and unsettling as they have sharp and pointy edges . can be seen with blades such as swords .

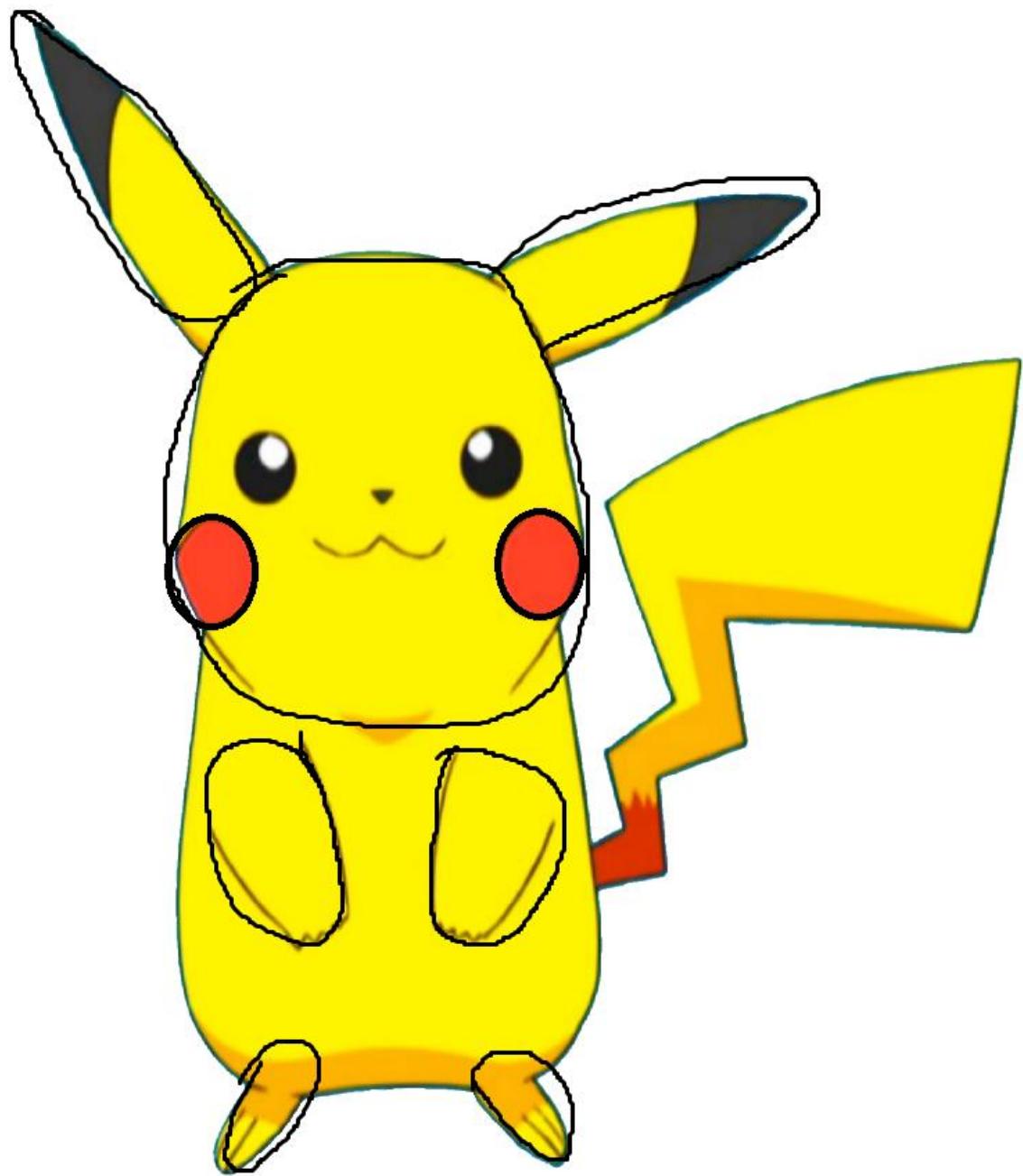


The triangular point makes us think it hurts and is like daggers can be seen in many villains to show that they are dangerous or have lots of power.



Darth maul from star wars has triangles all over his body such as a triangular body shape as his body comes in at the waist like a triangle. His has spiky horns like triangles making us think he is dangerous. His red face paint is in a triangle roughly as theirs less at the chin and more at the top making us scared evoking a sense of fear. His face shape is also a triangular shape as well even his black around his eyes are in triangles the tip of his lightsabre is also a triangle as most character have rounded of lightsabre. This shows us he is dangerous and isn't the good guy.

Circles are friendly as they are round with no points and have a smooth look to the player and evoking a sense of calming and comfort.



Pikachu is a friendly character he also has lots of circles to make us think he is squishy and comforting he has a circular face with circular checks, arms and legs. His overall vibe is to look cute and friendly his ears which are triangular are rounded off to make him seem less dangerous. His smile isn't sharp but circular also the black parts of his eye where they change from yellow to black is circular and friendly.

Squares have points but since they at 90 degrees angles they look solid , strong and dependable.



Castle walls are a good example of this the multiple squares next to each other to form a bigger square wall you would look at this castle wall and think its going to be hard to siege and take over as its one strong square. This would motivate those inside the castle as they are protected by these giant squares this also makes the castle strong and dependable.



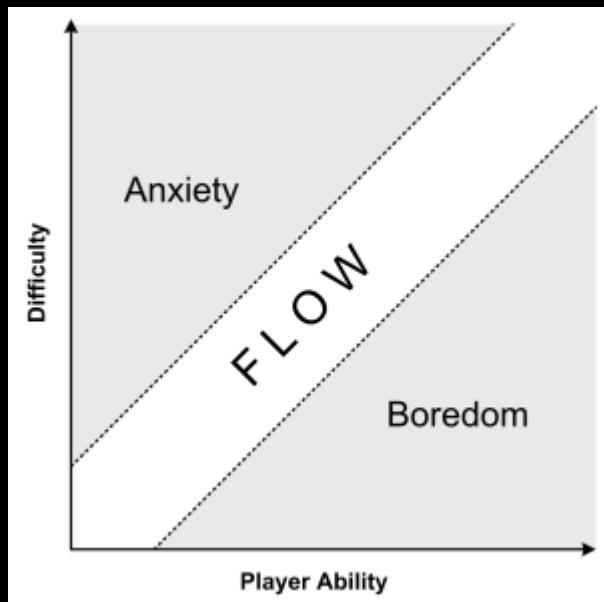
Master chief is a strong and dependable main character his armour are loads of squares and rectangles connected which makes us think we can rely on him and he's solid and tough. It connotes to us he's unstoppable like a wall and also friendly and strong. Shows us that he's strong and dangerous but not to us but the enemy whereas triangles make us think they are dangerous to us not other.

I want to use colour theory to make enemies or friends and the players character look a certain way such as enemies containing more triangles and having a triangular body shape. The player character being made of squares maybe in armour like master chief is too make the main character look strong. And

having friendly NPCs with circular and rounded of elements to make them look friendly or a sidekick like Pikachu.

Flow theory

Flow theory is keeping the player in a state of interest in the game and to keep the player hooked on the game and want to play it more as players and to keep the player completely focused on the game as if theirs nothing else important as we want players to play and spread our game throughout the community by word of mouth and encouraging more players to play leading to more sales of the game and hopefully developing a community and if we didn't keep the player in the flow of the game players may say its boring and spread it and we don't want that. Flow theory also depends on your target audience as keeping different ages and demographics interested will change depending on your targets.



Even though it may slightly change per audience this will still apply as games such as hearts of iron 4 which is a grand strategy with hundreds of different ways to play and has no tutorial for the player theirs still levels of difficulty for the player.

In the game Cooking Craze Restaurant, which is a mobile game about preparing food and drinks for customers. The customers come up to you and ask for food and drink and then you must prepare these foods and drinks for the customers theirs also a timer where after a certain time limit a customer leaves. When you prepare the order, the customers give you money in which you can spend to upgrade to the next level. In the starting stages of the game customers come up to you and ask you to prepare for one item. And the timer is long so you don't have a hard time preparing the items and have plenty of lee way for mistakes. Then throughout the game the customers asks for more and more items in smaller and smaller amounts of time maintaining the skill balance of the game and providing challenge for the

player.



Also the amount of customer changes the skills needed for the game as more customers means more items which also means you need to manage what you're cooking as there is also a limit on the amount you can cook and make as we see in the picture they can only make two pancakes but when you go through the harder levels and upgrade these will unlock allowing you to be able to cook more to keep supply and demand up of the customers. Also you have to pay attention to how long your items are cooking for as they have a timer for cooking and if you exceed the timer you burn the item you making so when you unlock the new places to cook it also makes it more skilful to maintain the items your cooking as before you would have 2 separate timers however now you have 4 timers maintain the skill balance of the game making it so that you aren't bored as the game becomes to easy as the upgrades which are supposed to help you also come with a drawback of its own . this also happens for unlocking new items as customers can require a range of products that you sell and as you only have four places to placed cooked food that you then drag to serve the customers. So, you need to think strategy between who you need to serve first what to cook and what to serve next this is the gameplay loop of the game and makes it so that all the mechanics connect together to make the game harder so when one mechanic becomes easier another one becomes harder then you try to make that mechanic easier and this maintains the gameplay loop of not being too difficult or hard and when more mechanics become harder the player is much more experienced. Keeping it in the area of flow.

The game gives you immediate feedback by having when a item has been given to the customer you get gold and gives the feedback in the top of the bar of gold which is the target you are meant to hit giving you clear goals at the top. When you overcook an item the game gives you immediate feedback of the item changing to being a burnt item now you cant use the item so you have to throw it in the bin to give space for other things telling you that you have failed. Once the customers have all visited you and have either been served or left due to you be unable to serve them you get the feedback from the level as a whole and if you are advancing or having to reattempt the level giving immediate feedback after the level is done.

How I want to implement this into my own game. I want to keep the player in the flow state by using the amount of people as the challenging factor and adding a timer per person ordering . I want to combine these elements to make a challenging game that keeps you in the flow . If I had more time I would add multiple items with varying recipes and a system where you lose money for ever ingredient you use . This would create a balance as the items which give more money cost more to make and are harder to make giving the player challenge and new items . Also to add an element of time management when the player makes an item it takes a certain amount of time and the longer it takes the more money they make however higher reward equals a higher risk so they will need to priorities the higher priced items as they take longer and manage making them quick enough so the customer doesn't leave.

Tools that could be used

Engines

Since I can use whatever engine I like will list 3 and compare them and make a final choice.

Unreal

Unreal uses a visual coding language using nodes as well as using C++.

This visual coding language adds a lot of accessibility as it makes it more understandable for many users. I would like to use unreal as it's the engine that we have been taught by our teachers and the one I have the most experience in using and since it's also free it's very accessible for many to use and it's easy to install improving the user experience of using it. It's supports making games on a variety of platforms including Xbox, pc, PlayStation, mobile and virtual reality offering a wide range of games being able to be made for many platforms. Giving accessibility for most gamers since it has access to most platforms including mobile which is roughly half of the industry. Unreal is an industry leading engine especially for triple AAA games its graphics are very good with photo realistic graphics. used by a lot more high-end studios as the source code is open source making it so that studios and companies can improve it to meet their requirements. So makes sense to learn it for my future in the industry.

Unity

Unity uses C# which is a language I am unfamiliar with and would be new to learn. Unity also has a paid version for it called unity pro as it has features that the free version doesn't have limiting access to some things. unity isn't open source which means that other cant improves and add onto the engine as easily making plugins and addons harder to use and having less of them. it also isn't industry leading like unreal and has less triple AAA capabilities however I'm not planning on making a triple AAA game so this doesn't matter as much.

Godot

The language used mainly by Godot is GDscript which has similar syntax to python and I have previous experience in python so it could be a useful engine. it also has some officially supported languages such visual scripting, C# and C++. This offers a wide range of languages however I only had previous experience in python and unreal node system so these other supported languages don't particularly entice me to get the engine.

Final choice

My final choice will be unreal as it's the engine I have the most experience in and is a very good engine for 3d games and I don't particularly want to learn a new engine for my project and has limited help that I can get from others in my class as most people are using unreal so I can get a wide range of help and support from others and getting helped in person is better than online as you don't always know how to find a fix to your problem and the answer isn't always obvious if you do find a fix in a different engine. I

believe it's the best choice to get the most work done in the amount of time I have and since I have already learned about many shortcuts and coding in unreal it just makes sense to use it.

Games that already exist

We need to research preexisting games as they show games that are similar and how we can implement our animation into our prototype game. It also gives us guidelines for our game and gives us ideas and inspiration for our own game.

Attack on Titan 2 (AOT)

Attack on Titan is a very popular anime series that has won multiple awards including the IGN people's choice award for best anime series. Showing that there's a lot of people who highly rate the anime with a large preexisting fanbase. The manga has sold many copies of AOT in November of 2024 it had sold over 140 million physical copies. They also have a wide range of games such as the AOT 2 and wings of freedom. Since the fanbase is so large a lot of indie Devs have decided to make fan games for Attack on Titan such as Swammy's Attack on Titan Fan game. He would show his progress on platforms such as TikTok, Instagram and twitter garnering a lot of attention to his game as the fanbase wanted to see if finished and developed so that they could play their favourite characters. Many games have been made from this franchise and they all show a different aspect of the universe in their own way and create their own smaller fanbases of the original.

Attack on Titan 2 follows the story of Eren Yeager and friends. As they enrol into the Army which has separate factions such as The Garrison Regiment, The Survey Corps and The Military Police Brigade. Eren and most of his friends join the Survey Corps they wish to kill all the Titans so that their homeland can see peace and prosperity but as they experience the harsh truth of reality a conspiracy hits them. As they are fighting a battle, they realise Eren the main character had been eaten or as they thought he had.

However, the very things that tried to kill Eren and friends he turned into with special abilities he uses this power to set his homeland free and protect as they embark on a dangerous journey to free themselves of the titans. The game has a very repeatable combat system where they way you kill everyone is the same however with the concept of different weapons and rarity it makes it so that this same mechanic of killing is different with each weapon and has ODM gear which allows for various ways to kill and manoeuvre around the target but aiming for the same objective (The Neck). The key mechanics of the game is to grapple around with ODM gear and kill titans at their neck and to repeat this action many times to save your country and advance the story.

The Art of these games makes is so that 2D characters and places become 3d due to this not every character looks exactly as they should however the character can still be recognised as they have a distinguished look even though they have been transformed from 2D to 3D.

This is the homepage of the game which is inspired by the popular anime franchise Attack on Titan.

This game is based off the anime it allows the players to connect with their characters on a deeper level by playing their story in a 3d environment and becoming their character it also allows a player to customize their character and insert themselves into the story and

become a part of it. The target audience for this game is for 12 and above and people who already like the franchise. The art style in this game is if an anime became 3d and reminds me of games like Genshin impact and wuthering waves. The aesthetics is a brighter upbeat world which is unexpected from the story of the game however I think they've done this because your character would be happy and excited to fight for his people and kill for the others how can't fight for themselves. And see the killing he does as a pride more than a crime. It has the brightness and colour as a utopia but in reality, is a dystopia. It may also be bright as most Animes have a brighter colour scheme than a normal show to emphasise colours better.



Star Wars battlefield

Star Wars is one of the most well-known franchises of all time and have animation series such as the clones. Star Wars has one of the biggest fanbase in the world and has been nominated for many awards spanning from baftas to Grammys. Stars Wars is a franchise which reaches all ages with having content for the very young and content for the older fans. Star Wars has many games such as big triple A games such as jedi survivor and smaller mobile games such as Star Wars galaxy of heroes. This means they already reach most of the game industry by having multiple games on multiple platforms spreading their already colossus influence. Star Wars is the fifth highest grossing franchise and is estimated to be worth 70 billion USD.

Star Wars battlefield 2 has both a story mode and a massive multiplayer experience. The story mode follows an original character Iden Versio as she learns the corruption in the Empire and realises that what she and the other stormtroopers are led to believe a superficial fantasy about the Empire. What sets her story apart from other Star Wars story modes and games is that she is a main character without a lightsabre the symbol of the Star Wars universe. This makes her unique in the Star Wars franchise and goes against the stereotype of every important character having a lightsabre. As she progresses through the story, she meets many of the beloved characters in the franchise such as Princess Leia. Her story communicates to us that to be in the wrong but to overcome that wrong with help from others turn that into a right as she was a high agent in the Empire and became a Rebel therefore showing that the so called "bad people" aren't as they seem and can always change to fight for the Rebel alliance. The multiplayer of Stars Wars battlefield 2. It has a variety of games modes such as Heroes vs Villains and supremacy. Some of these game modes span over whole planets and have a large battlefield recreating the wars that are in the films and are off screen so the player can play in

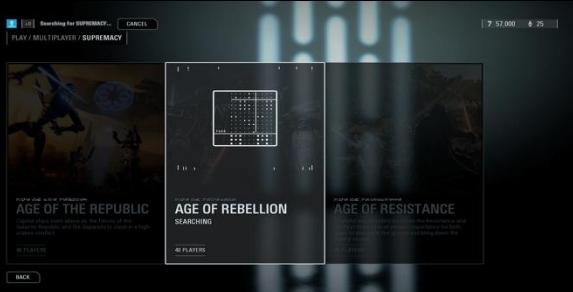


them and make their own story. In the battle of Hoth the Empire can take Hoth however in the game you can change this result if you win. You can be in the iconic Star Wars vehicles such as and AT-AT and X-wing. It has a mechanic called icons/heroes/villains this lets you play as the heroes you love like Kylo Ren, Darth Vader and Anakin Skywalker. There's a wide range of characters to show and talk about so I have found a video to watch <https://www.youtube.com/watch?v=ON5qqIVexpM>.

It has a points system whereby scoring a certain number of points you can then become a hero or a villain. Character icons are the main characters from each series. However, also have non living icons such as icon ships like Yoda ship and the Millennium Falcon. This system of many characters adds more depth to the game adding icons can turn the battle into win you the game. There based purely on these hero's vs villains this game pick the icon you wish to be and fight icons on the other side of the force.



Another key mechanic in the game is the choice between which time period you pick. The Separatists and the Republic, The empire and the Rebel Alliance, The Third Order and The Rebels. Each of these time periods offer their own distinct icons and classes such as having clone troops in The Republic and Stormtroopers in the Empire.



They are also map based as well, so you play maps for the right time period such as Hoth which is exclusive to the empire and the rebel alliance time period. It also has some meme/fun game modes that aren't that serious and are just purely for fun such as Ewok Hunt which is supposed to be a horror game where you can't see much and are hunted by the Ewoks for trespassing. Since Stars Wars is a live action as well as having animation, they are easily able to recreate their characters in a 3d space even making them look like the actors by rendering their faces into the environment this gives the players a comfort from the character as they don't stray away from the movie characters. Overall, with star wars huge fanbase most of their games will be hits as long as they execute them well as people love to play beloved characters and become them in game. The games art style is realistic however with it being a sci fi genre game some things like the weapons and environments aren't as realistic as they don't real life references to guide what they look like and are up to the imagination of the person. The game has a range of aesthetics as there are many maps such as Geonosis being a desert where you cant see much as theirs sand everywhere to Hoth a snow covered map/planet the aesthetics change depending on the map and the time period in which you are playing in offering a wide range of differing experiences.

Batman Arkham Knight

Batman is one of the most established and well-known heroes in the DC universe. Batman has many animation series he is apart of such as Batman the animated series, Batman Caped crusader and has his own Lego movie. Even though Batman not being your stereotypical hero he is loved and admired from all ages and has a large fanbase. This fanbase has many ways to experience The Batman as there are many games made, movies and series. Each exploring their own aspect of the Batman we love. The Batman film released most recently grossed 771 million USD at the box office. This amount of money they got from the movie shows how popular this movie and character is and no matter how you use the character he will always have an audience. Multiple actors and voice actors have played Batman and all of them will remember that time they played "THE HERO" as if theirs no one higher above him and he's the pinnacle of the hero world. Overall, Batman is one of the most well-established characters and it is regarded as an honour to play.



Batman Arkham Knight takes us to the city of Gotham the iconic city of the Batman. The player is introduced into the familiar environment off Gotham. Throughout the game you are introduced to the familiar villains and characters that make up Gotham city. The game has the same narrative as most batman shows and games by the main villain being the joker conforming to the normal of the Batman. You meet other notorious villains as you try to uncover the jokers plot and find out who this new villain is. You explore and fight your way through Gotham city and see many iconic locations and find some easter eggs from other games and shows that the fans will love and share with others and talk about it. The main mechanics of the game is the grapple, batman cape gliding and stealth. In most missions you can use stealth to achieve your objective however you can go in all guns blazing and fight head on offering alternative paths for different type of gamers. As you play the game you can unlock new skills that vary from improving stealth and weapons. So, you can fit around your playstyle. Batman iconography can be seen throughout the game as you have the bat suit, bat mobile and the bat-a-rang. These all show the fans of the game that it's clearly a batman game and has all the things fans would expect from the batman and allows them to interact with them and have their own experience driving the bat mobile or just being batman himself. There are also many references to what's going on in the game with the environment such as having no playable characters speak about what's happening. This gives the player the sense that the world is living as it evolves as the story advances as it would reference recent events in the environment. The Game has a hyper realistic style with a heavy dystopian effect on the game even though you are playing a hero emphasizing how hard it is for the hero and makes us respect them more and the game is set at night which gives the black batman suit more effect and more stealth capabilities which makes it the perfect time to set the game as it fits the whole black aesthetics that the character has.

Art styles

Realism

I could use a realism art style make it look like real life and make it fully immersive and hyper realistic to real life as if the player was their themselves.



However, realism games are usually in a more violent genre such as hyper realistic military games which don't quite fit the target audience. And a realistic game would be hard to achieve with my current skillset. So its highly unlikely I will use this.

Cell shading/toon outlines

I want to use an anime inspired art style inspired because it's inspired by an anime. This means I'm going to use cell shading which adds a blocky line to everything so that's it looks like an anime game that do this are hi-if rush which has an anime looking style even though it's not 2d which anime is traditionally.



Cell shading and toon lines create a mix between realistic and anime making it so that the environment stands out like pop art. It creates a stylised art style and prioritizes a artistic approach rather than a real approach to the environment.

Colour blocking

An art style using block colour uses bright colours in blocks to create an unrealistic and bright and friendly vibe .



This would be an easy art style to be consistent with due to being able to easily make bright and distinct colours unlike realism as its hard to consistently and would take a long time to make each assets with block colour I can easily pump out assets which aren't that detailed and with bright colours making it easy to distinct from each other.

Target audience

Our target audience for this is 10-15 year olds.

This means we need to make a game for this age range we can go for PEGI 12 or below but as we want to include the whole age range, so we want a game that fits into PEGI 7 or below. We can have very mild violence however it has to be implied and non-realistic to fit into the PEGI 7 category. Games genres that are usually for this rating are sports games such as FIFA, Rocket League and Mario. Most games that fall under the PEGI 7 category also have a very bright colour schemes to grip the attention of a younger audience.

7
TM

www.pegi.info

I did some primary research into what genre and games people in my class liked to play at 10-15 years old as it's the target audience.



Not many people would've played a strategy game as they have a high learning curve and not many people want to learn a lot about a game to play they would just want the basics and learn by themselves.

3. What was genres did you like to play at 10-15 year old. And why?

8 Responses

ID ↑	Name	Responses
1	[REDACTED]	fps
2	[REDACTED]	action because pew pew guns and killing
3	[REDACTED]	shooters because adrenaline and dopamine
4	[REDACTED]	shooter strategy adventure
5	[REDACTED]	FORTNITE AND MINECRAFT. Mainly shooters tho
6	[REDACTED]	Action, Adventure, Shooters, tycoon management and casual games
7	[REDACTED]	Everything
8	[REDACTED]	A mix, I played almost all genres except for horror, since then I've primarily played more horror than any others.

Lots of people would've wanted to play a first person shooter game or wouldn't really have a specific genre I believe at this age from personal experience you are still exploring most genres and will play many different games experimenting on genre and game playstyle.

4. What was genres did you dislike to play at 10-15 year old. And why?

7 Responses

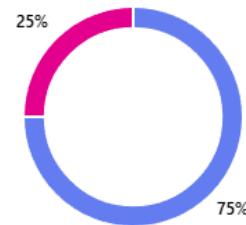
ID ↑	Name	Responses
1	[REDACTED]	moba
2	[REDACTED]	[REDACTED]
3	[REDACTED]	racing [REDACTED] and the bad mobile games
4	[REDACTED]	puzzle
5	[REDACTED]	Strategy lol. Too much brain
6	[REDACTED]	Anything complicated
7	[REDACTED]	Horror, I was scared lol.

There's a range of genres people dislike and no one said they disliked the cozy genre and shooter as these genres are both well established and the shooter genre is the most popular and most people don't dislike the cozy genre as it's distressing.

5. when you were 10-15 year old would you have liked to play a star wars fps?
(0 point)

[More details](#)

- Yes 6
- No 2

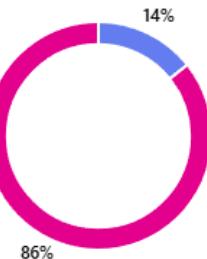


Lots of people would've liked to play a star wars fps I will explore this idea in ideas generation maybe not a first person shooter specially but a first person game. That can be a first person shooter but maybe with a lightsaber as well since it's a staple of star wars.

6. Do you like Code Geass?
(0 point)

[More details](#)

- Yes 1
- No 6



7. If yes why?

[4 Responses](#)

ID ↑	Name	Responses
1	[REDACTED]	no thats why
2	[REDACTED]	don't know it lol
3	[REDACTED]	no
4	[REDACTED]	I watched it years ago but I remeber it was good i guess

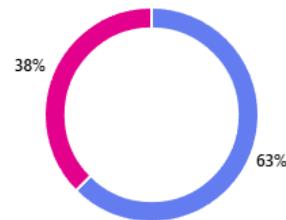
Not many people said they like Code Geass and some said they didn't know it as its not that popular unlike big anime such as Dragon Ball Z and Naruto. So, it could be a good way to introduce people into the franchise and get people watching however then it won't attract as much people initially as the anime isn't that well known compared to others.

8. Do you like Star Wars ?

(0 point)

[More details](#)

- Yes 5
- No 3



Over 50% of people said they like Star Wars so it may be a good idea to look into Star Wars as a franchise.

9. If yes why?

[6 Responses](#)

ID ↑	Name	Responses
1	[REDACTED]	nostalgia
2	[REDACTED]	future is cool
3	[REDACTED]	no
4	[REDACTED]	Lightsaber go shing shing
5	[REDACTED]	Cool
6	[REDACTED]	Just a general fan. I'm not huge on it.

Lots of people feel nostalgia and like the star wars franchise and since it's a very popular franchise

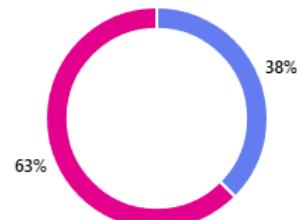
So I will invest time looking into ideas around the star wars franchise.

10. Do you like tokyo ghoul?

(0 point)

[More details](#)

- Yes 3
- No 5



11. If yes why?

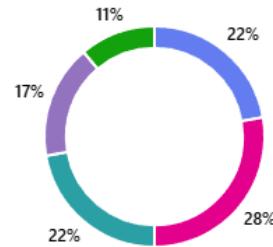
[4 Responses](#)

ID ↑	Name	Responses
1	[REDACTED]	i dont know what that shit is
2	[REDACTED]	sounds good
3	[REDACTED]	Its cool, i need to watch it properly though
4	[REDACTED]	Edgy

12. What consoles did you have at 10-15 years old. (0 point)

[More details](#)

- xbox 4
- ps4 5
- pc 4
- nintendo switch 3
- mobile 2



I want to add support for console as it made up 50% of this graph and ps4 was the answer with the highest percentage so for accessibility reasons I want to add support for console.

13. what was your favourite game at 10-15 years old?

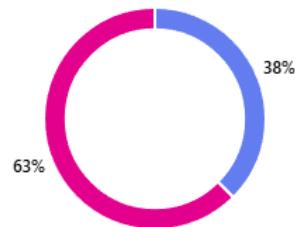
[7 Responses](#)

ID ↑	Name	Responses
1	[REDACTED]	fortnite, cs
2	[REDACTED]	star wars battlefront 2015
3	[REDACTED]	fortnite
4	[REDACTED]	Probably fortnite
5	[REDACTED]	Apex Legends (It was in its prime)
6	[REDACTED]	mario or stardew or something
7	[REDACTED]	Jurassic world evolution

14. Do you like cozy games such as stardew valley?
(0 point)

[More details](#)

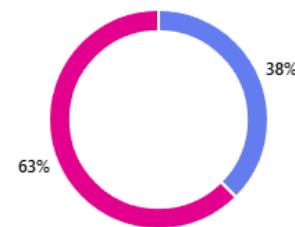
- Yes 3
- No 5



15. Do cozy games make you feel destressed? (0 point)

[More details](#)

- Yes 3
- No 5



16. What games do you play when you are stressed?

8 Responses

ID ↑	Name	Responses
1	[REDACTED]	nothing
2	[REDACTED]	[REDACTED]
3	[REDACTED]	games that inevitably stress me more, like titanfall 2
4	[REDACTED]	fortnite
5	[REDACTED]	Minecraft
6	[REDACTED]	LittleBigPlanet and simple games
7	[REDACTED]	mario, pokemon, pikmin (last one makes me more stressed)
8	[REDACTED]	Spider-Man, Jurassic world evolution, not really sure.

People prefer the simpler games or games that hold nostalgic value to their experience to de stress and since making a nostalgic game wouldn't make too much sense as the target audience is young and it would be very hard for me personally to make a game that evokes nostalgia.

Overview as I have only 8 people answer the questionnaire it isn't completely accurate to the overall view of people who would be playing my games and since everyone who answered the survey would consider themselves a gamer they will all have played games before and this not being their first game.

Ideas

Idea generation

Code Geass game ideas

My first idea is to make a strategy game based off the anime Code Geass. I would use the range of different powers and weapons to create a strategy game based on that. Main mechanics of the game would be collecting resources with units then using those resources to upgrade and build things for battle when another player or AI is doing the same. The objective of the game would be to defeat your opponent. And to meet the two levels requirement I would create a second map. To change difficulty the AI would become stronger and better by choice giving a normal or hard mode. I like this idea may be tough to complete in time but I'm sure if I worked hard enough and dedicated myself to it I could get a prototype.

A game with similar features is StarCraft 2 which also has the mechanics of collecting loot and making building from the things gathered. The skill that I am encouraging is management of troops and materials. However, there are many problems with this idea. Firstly, the timeframe to make the game since the game is a strategy game I couldn't make a fully complete strategy game as there are lots of elements to code into the project and it would take an excessive amount of time to make the project work in the first place. Another thing is that given our target audience they wouldn't find strategy games as fun as it's a niche genre and stereotypically played by adults as there is a high learning curve for these types of games and since how these types of games aren't played by the younger teens as there is so much stuff to do with ui that's too overwhelming or not knowing where to start. Also, this genre of game doesn't suit the younger audience we have been asked to target therefore I think this idea isn't as good compared to the others on this list. League of Legends another MOBA strategy game has level design of three lanes which I would like to include into my maps. This is a map from League using optimal path theory.



Also, with strategy games we will want to use symmetrical level design as to give neither side the advantage in a battle because strategy is won by the brain not the map. And if this isn't done, we can give one side an advantage and we don't want our target audience to feel at disadvantaged because

they will get discouraged and feel that the game is unfair. We need to have materials that are unique or make sense such as steel or money so that we can keep it as close to the anime as possible.

We would have many different mechs of different skills such as mechs for special characters and mechs for the common units of course you will need to gather materials such as gold for money oil to run the mechs and there will be a cap limit for armys . a value which cannot be exceeded such as special mechs having a 10 rating and common mechs having a rating of 1 and they are equivalent in value to the battlefield . you would also need to build facilities to get resources and mechs such as mines and oil drilling . to make things . also a building for construction.

An image of special mechs from the anime



These special mechs will have unique designs to distinguish themselves from the more bland and boring normal units. Such as bright colours unique weapons with unique abilities and the common mechs will be mass reproduced simple and bland mechs to show their unimportance by themselves as if a common and a special 1v1 the special should always come out on top .

Each special mech will have different abilities and fighting types such as long range mechs and short ranged mechs with a variety of different weapons. Such as long swords , katanas , guns , bows ,shields and missiles. Same with common units. But they won't have abilities just weapons so the main strategic value would be the weapons types for example 10 common mechs with guns vs a special mech with swords the common mechs would win. Long swords will prioritise close combat with higher damage but with slower pace compared to katanas with less damage but quicker speed. Guns and bows will outclass swords and katanas and shields however will have lower health and less agility to give swords help from getting outclassed to easily missiles will have next to no speed however high firepower to negate the speed and will take forever to go to the battlefield. Shields will have high hp used to protect other classes from certain enemy types however are very weak to swords and katanas as to the class they are protecting will usually be very strong against swords and katanas . this will hopefully create a balance between all units and classes making the game fair as there is a counter to everything.

Another key element will be timing and building up the game such as resource gathering and choosing when to build special mechs and common mechs. You will have many buildings which have different effects but the resource gathering buildings will be virtually the same as I don't want people to dominate the battlefield with economy but fighting strategy so every 15 mins oil and gold mines will increase by a certain amount for both sides making it so that the play ramps up fairly and the longer the more that's going on making the strategy harder to manage and will promote flaws and ending the game sooner. You also will have to protect your operations from enemies as they can be disturbed by enemy's. You can always win without using a special mech if you use the right combination of strategy and timing.

Common mech below.



The way to win and lose this game is for an enemy to not be able to mine resources as they are destroyed or destroy their main base if it hasn't been decided in 1 hour of playing all buildings will be destroyed and the players will fight sudden death style with their mechs until one side has no mechs standing. However with the game being a long time this game might not appeal to the target audience as I believe strategy games are more appealing for adults and teenagers might not find it high paced enough however there are exceptions to this rule. The skill the player gains would be management and timing to be able to manage yourself with activities and money and being on time are crucial skills you need to learn through your teenage years.

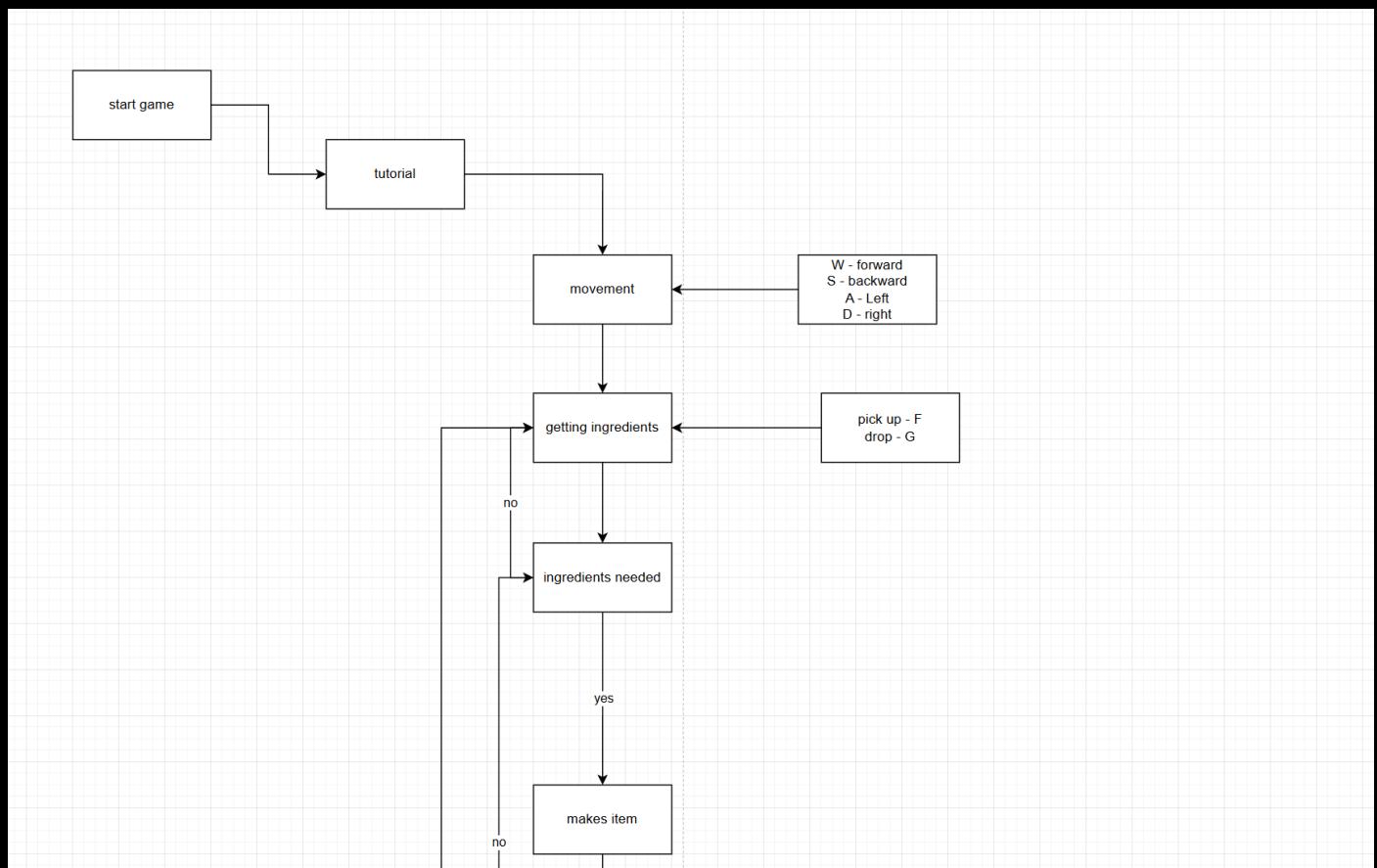
My second idea is a turn-based strategy game based on the special mechs. This game is similar to Honkai star rail with special characters being made but in this game, it will be mechs and/or characters. Some characters have their own mechs, but some don't and won't use them. It will have a system for what its weak and strong against such as ranged units giving buffed against agility and shield units getting a reduction. This game is a good idea however I don't think this game is engaging enough for the young audience.

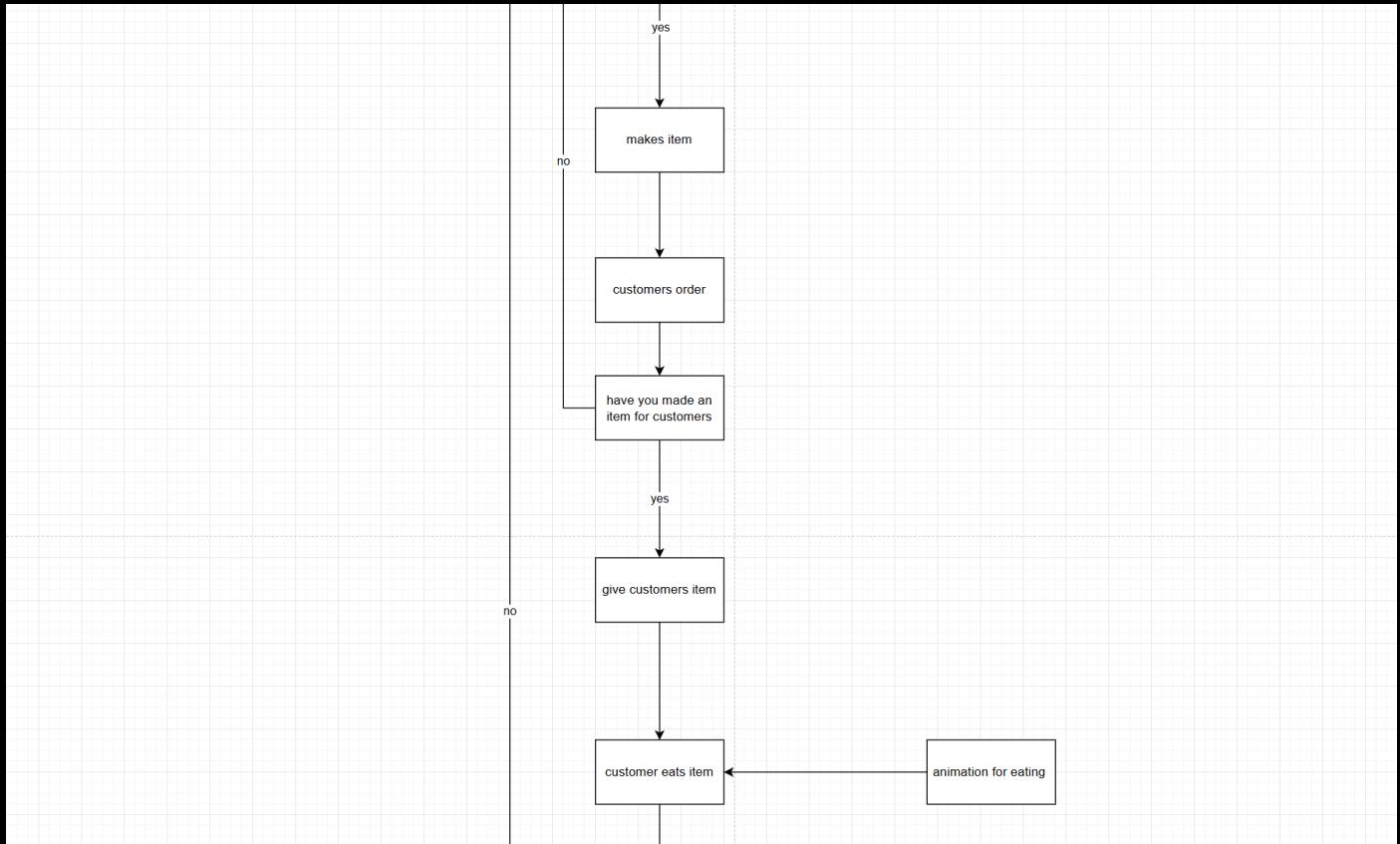
Tokyo ghoul game ideas

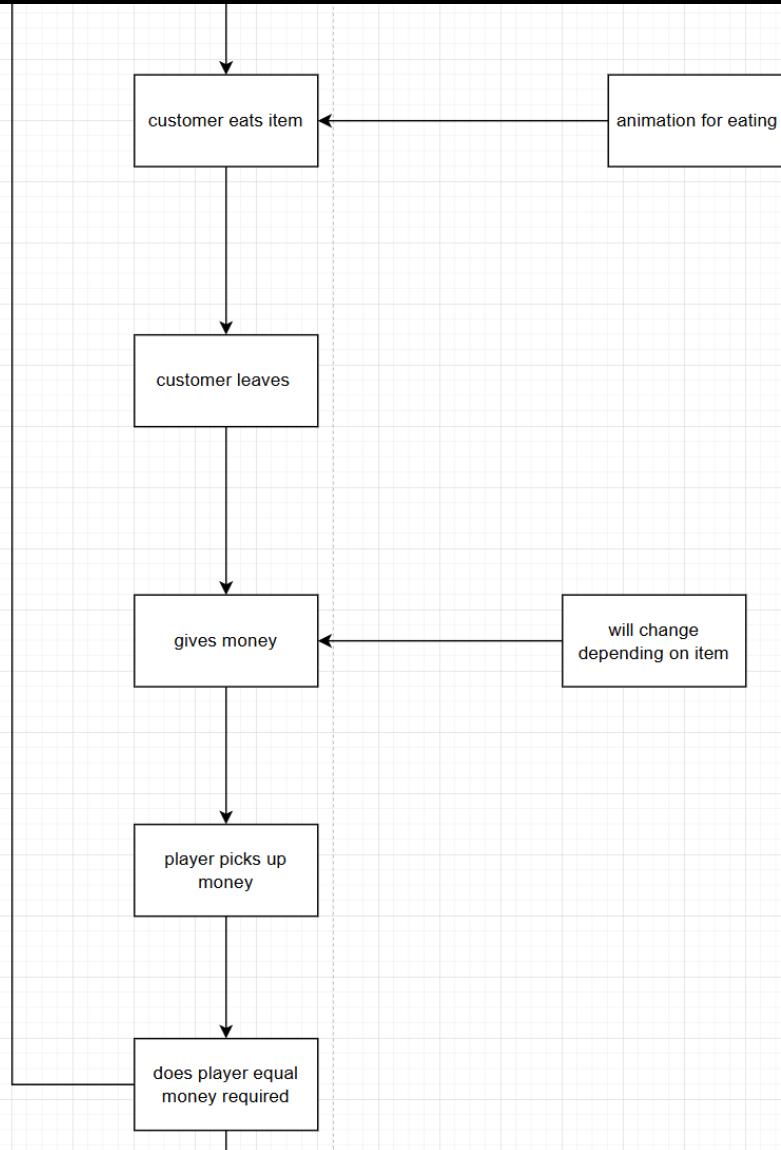
My first idea would be a hack and slash Tokyo ghoul game where you can pick multiple character with multiple different kagunes which are the powers in Tokyo ghoul. Offering the player a wide range of abilities to use for different playstyles such as range ones and melee a mix of both and some speedy one. This attracts many different types of gamers to play . this game would focus on character design more than mechanics and within this time frame I have I believe I wont be able to get what I wanted into the prototype in time so therefore I'm not going to look further into this idea.

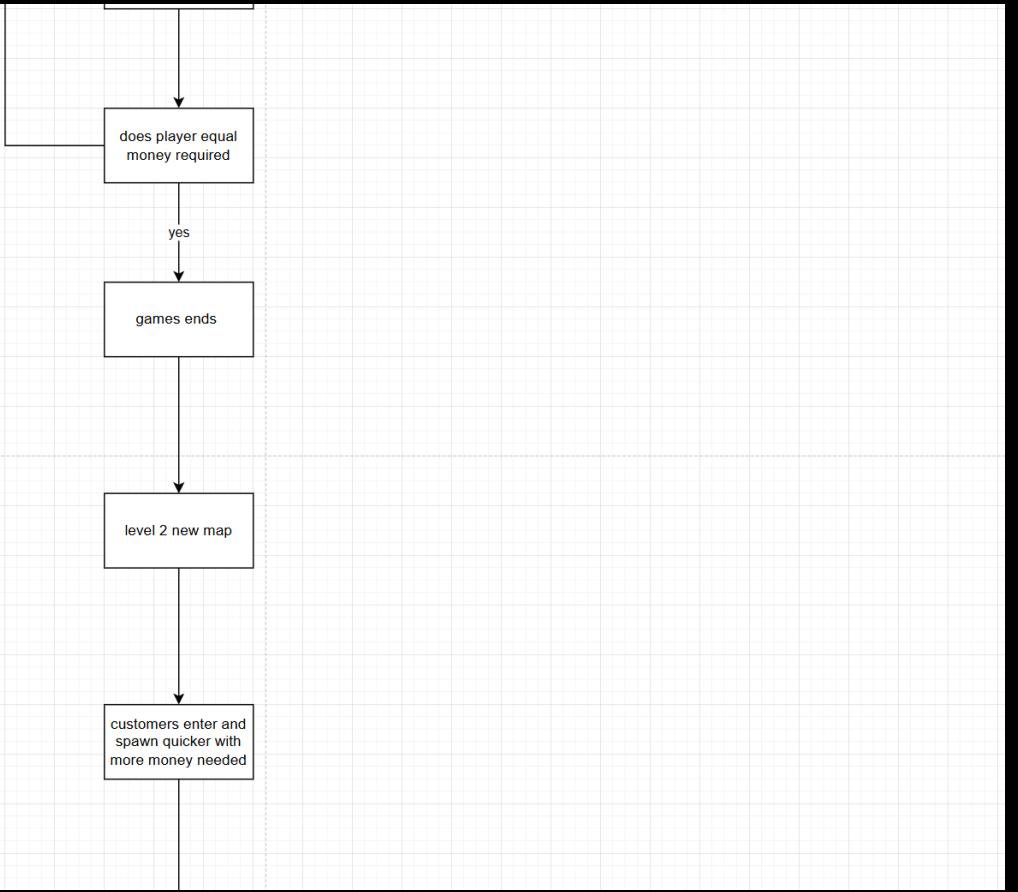
My second idea is a cozy genre game based of Tokyo ghoul about running a shop. I want to set the location of the shop in the famous shop from the show. Main mechanics for this would be pick up and drop and movement. It will be from a first-person perspective so that it can engage the user to think as if they are a character from the show in the coffee not a specific one just whoever they want to be so that fans of all characters can experience a café from their characters perspective. Since we need to make at least two levels I plan to use another iconic place in the show and convert it into a café.

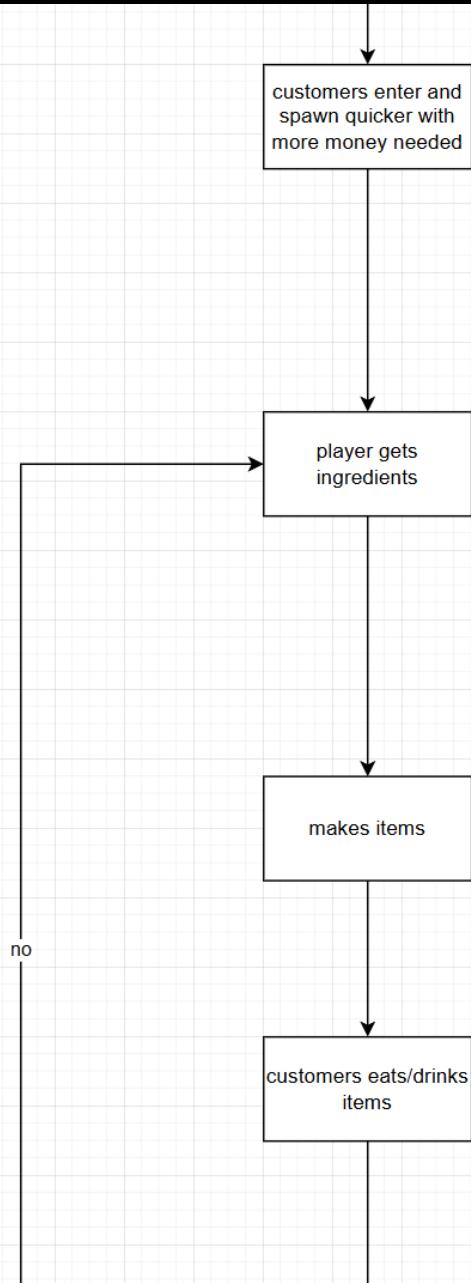
Gameplay loop for research café. In folder called gameplay loops research

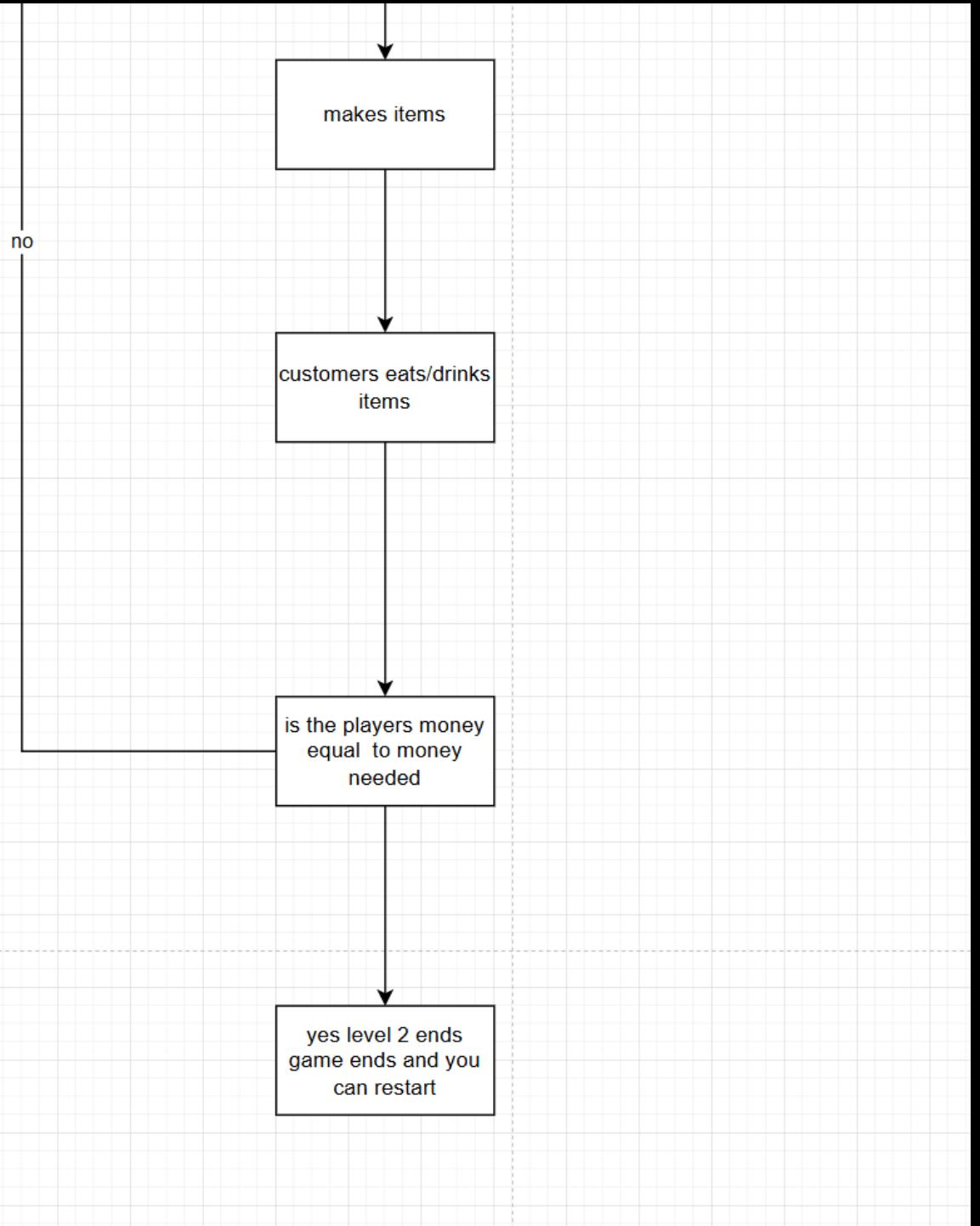












Places from the anime that could be used as maps for levels.

Anteiku which is a actual café from the anime



Jasons arena can be made into a café as its an open space with many possibilities kind of like an outside dinning area in pubs but with a café instead since its so open



Could use a café in the city Tokyo so could make a city environment that replicates Tokyo and add a café their.



Place a café in a small building with an illuminated board could have a day and night option for the player to play at day or night for their choosing having this feature to show off the illuminated features in the level and gives the player choice on what they'd rather have as cozy genre game allows the player more than most games as we want the player to feel comfortable.



Day vs night



Both have their own appeals but it's up to the player to decide what's needed.

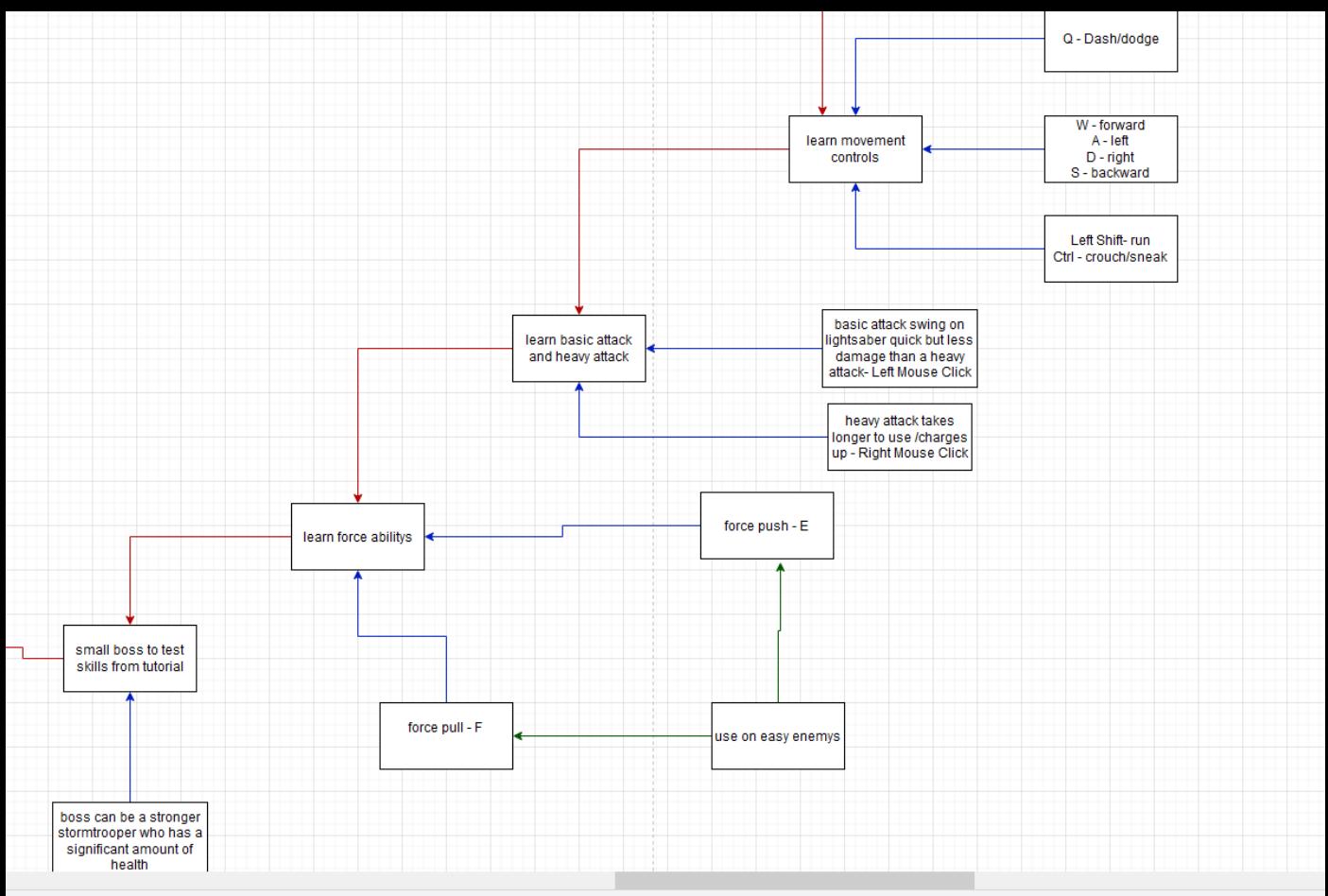
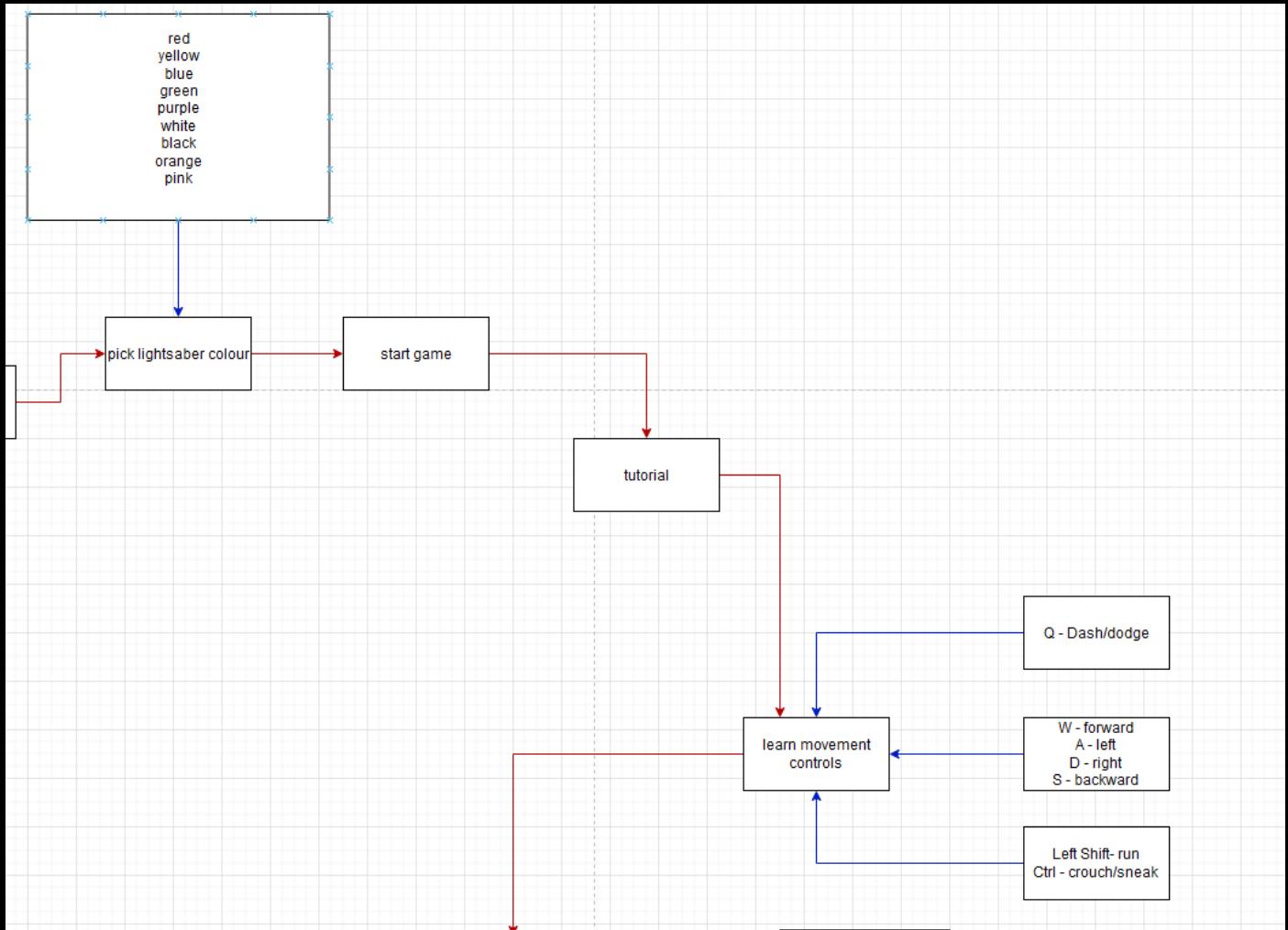
Star wars game ideas

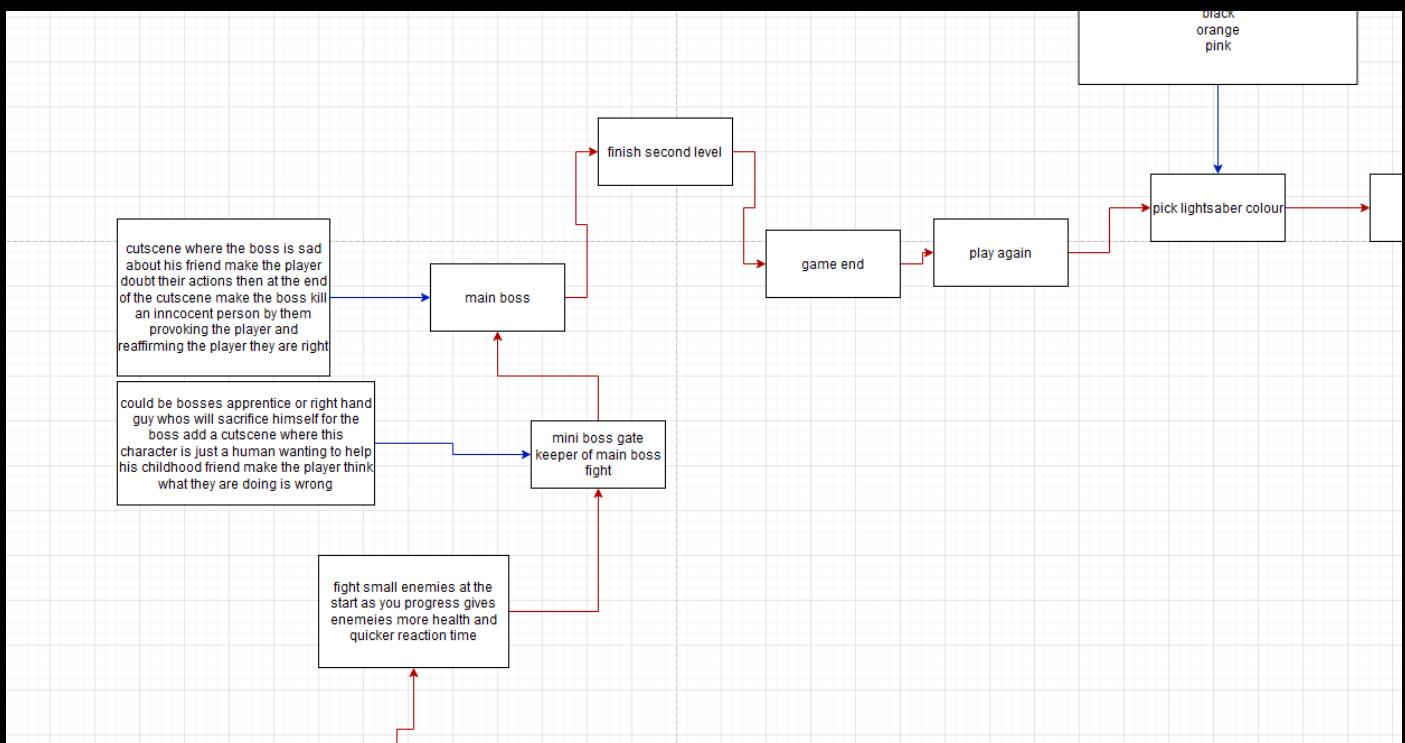
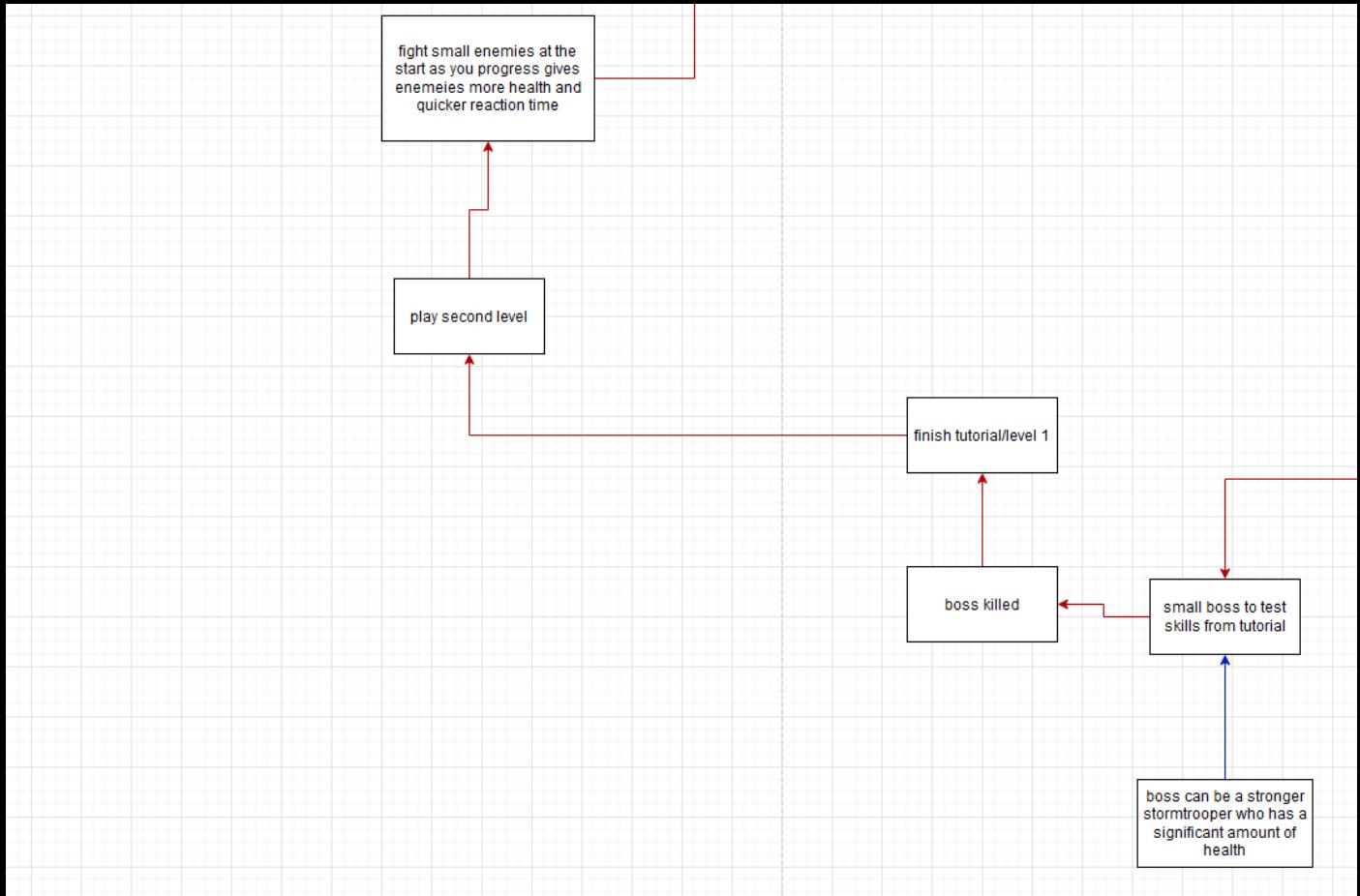
My first idea is a star wars game survival base building sandbox in the forest moon of endor which is where the Ewoks live . Have many different building pieces and connect them like a rust style of game in star wars with star wars buildings and enemys such as Ewoks or have them as friendly depending on your interaction with them. The game will feature high levels of progression such as having more advanced futuristic things such as ships being able to be made. And at the start having more primitive technology such as bows and arrows. However being able to do this is unreasonable in the time I have and don't think this idea should progress further.

My second idea is a first person story game I like this idea a lot and believe I can achieve it within the time span and create a completed prototype with many features included such as attacking ai and damaging them and having a story done by using twine and maybe be able to get some dialogue into the first few levels. I like this idea so I have gone into more depth of what I want to include into the game.

You play as a young jedi who is on hoth training and you are suddenly attacked by the empire and you seek to stop the invasion of hoth. You keep on fighting game ends with death of the main character.

I have a gamplayloop file in my project files called starwars concept.





As well as having different colours I could have a hilt collection .



Kylo Ren



luke skywalker

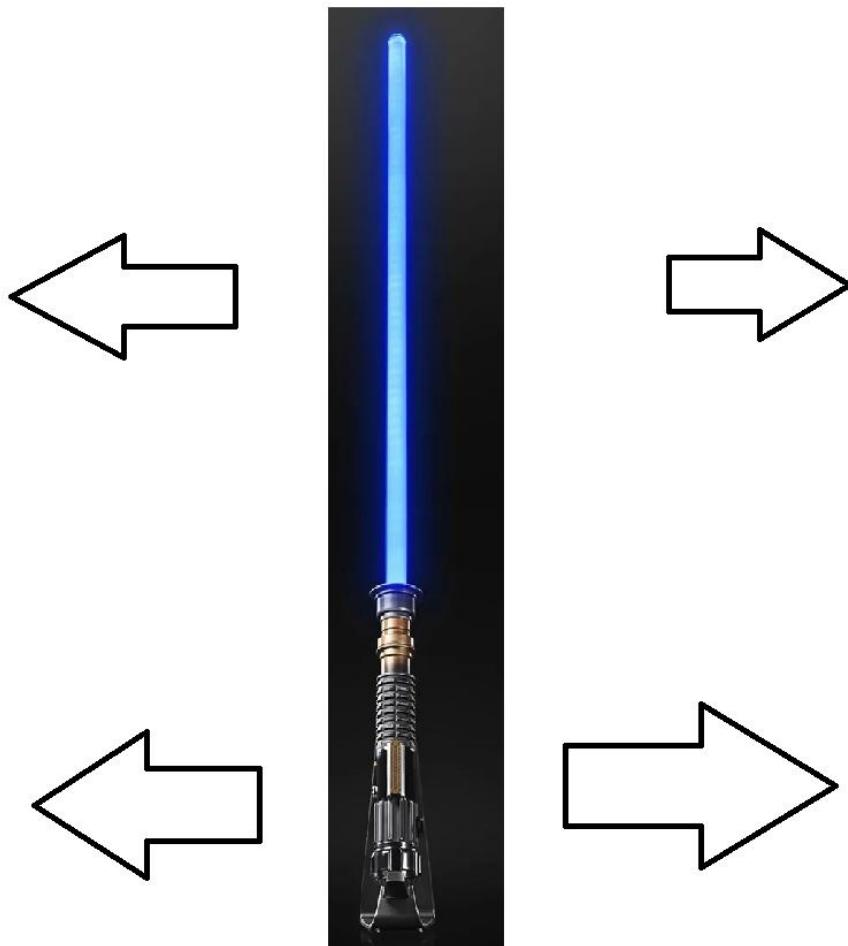


anakin skywalker



obi wan kenobi

Have different hilts from the iconic characters that the target audience would know as star wars is a show with millions maybe even billions of fan make a customization of hilt and colour this would mean I have to make the hilt variations with colours which will take time such as the kylo ren hilt being unique with just a long saber so that light part of the saber will have to be different than the other ones.



Revolving lightsaber with a hilt section and a colour section for customization.

Tutorial in the rebel base in Hoth in the empire stikes back series . the player is a jedi in training at hoth then at the end of the tutorial they fight the empire when they take over then the second level they fight and inquisitor for the mini boss and then go onto vaders ship and fight vader.

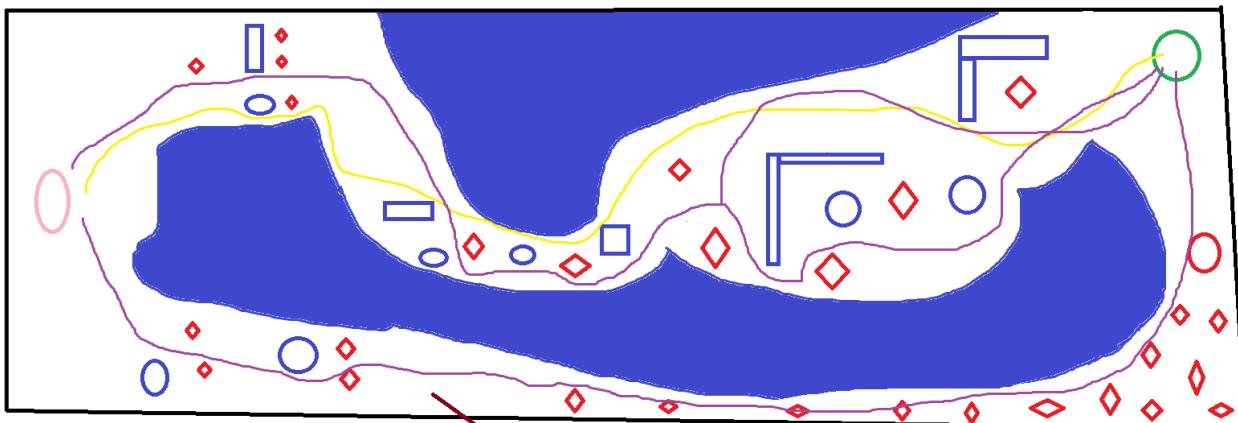


level 1

enemies
obstacles
outline/border

spawn
end

intended route
golden path



this side is intended to be harder and will be stated at the start gives the tutorial difficulty

Special enemies since in the films they have a special type of stormtroopers due to the snowy environment.



Mini boss inquisitor



Inquisitor from jedi fallen order and inquisitor troopers. At the end of the first level have a inquisitor stormtrooper as the boss. With their own arena . a circular arena of snow .

Inspiration photo here



Without the ruins and with a futuristic vibe from star wars with props and weapons.

Then in the second level we go to the outside of the hoth base on the snowy planet.



Map from battlefield two same sort of map with less bends and turns a more linear progression with less alternate routes to go down all leading to an ATAT with and inquisitor in you have to destroy the ATAT

to get the inquisitor boss fight by killing the pilot a good friend of the inquisitor that makes them angry and they drop down into an open snowy area with the snow gliding across each other like sand in a desert. Then a rebel fighter runs into them then the inquisitor stabs them with their lightsaber and penetrates the heart then the body drops lifelessly to the floor . then the player fights and kills them then the games prologue ends and if I had time would make them fight various more characters and save the world an alternate star wars history to the normal.

My third idea is a star wars horror game with a unknown planet that has mutated . You explore the planet and feel an eerie sense to it like seeing eyes appear in the dark and seeing ships submerged into the ground surrounded by a sort of red bloody tissue as if the planets alive however since it's a horror game I dot think it fits the brief for the game being targeted at teens.

High Level Concept/idea selected

Title

Tokyo Ghoul: Café

I have chosen to have the Tokyo ghoul at the start of the game as many other games with the franchise I am using has the franchises name at start then the game name/game idea. The name clearly conveys that it's a Tokyo ghoul established game that's based around the café aspect from the anime. This will attract the preexisting audience of the franchise and new people who want to play a cozy café game.



Genre

Cozy genre

The cozy genre specialises in giving the player a warm and inclusive environment to escape from reality with. It also helps with the mental health of gamers and people who play the game giving them a place to unwind and de stress from the activities of normal life or playing other more stressful games. The genre prioritises comfort of the player not the competitive aspect of video games. The lack of condition to beat the game also makes the game cozier. Of course, we want a goal, but we don't want many constraints to how they are doing it such as time without this the players can play at their own pace doing various things. This is why I don't want my game to have a time system to complete the game as I want the player to explore the world I have made and have time to take the game in. Cozy games offer inclusivity for all ages, skill levels and genders this is perfect for our target audience who is 10-15 with no specified gender to appeal to and they will have a range of skill levels as some many already have experience with video games and some without experience in video games.

Art style

Cozy genre games have a more charming aesthetic which is colourful, soft and visually appealing to the player. Also having a cute characters and environments. Usually accompanied with calming and soothing sound effects to create a calming atmosphere to the game.

I plan to use a more block colour art style as I want the game to look blockier and more basic so that it isn't cluttered and everything is clear. This also adds to the cozy genre as having a bright block colour will create a calm and soothing environment for the player to play.

Main Mechanics

Money system

I want a system using yen which changes on when the npcs are served and when the ingredients have costs. And the player gains money by serving the customers. If I have time I could add a shop where customers have to go to buy ingredients.

Npcs

I want the npcs to spawn in and move to the chairs and then be able to order items and the player has to be able to serve the items then the npcs leaves. And places money on where they have left for the person to pick up.

Spawning items

I want to have items spawn in from a machine and the player has to interact with the machine to be able to spawn items with delay and maybe an animation if I had enough time.

Pick up and drop

I want a pickup and drop system so that I can make it so that players can pick the items that spawn in up and then drop it to the customers then it makes it so that customers then register they have it then destroy the item so the player cant pick it up.

First person

I want the player to be in first person as if they are in the coffee shop and serving the customers themselves.

Pitch review

I had feedback to not use bad language so next time I will make sure not to swear however I believe I got most my main points across and overall, the pitch went well as it had a clear direction and my idea was conveyed as I wanted. Some feedback was the scope of the project and I will see how much I can do in the given time.

Summary

A café game where customers walk into the café sit down and ask for items then player serves them gains money then reaches a required amount of money then the level ends player can replay the level or go to the next level. Ingredients needed to make a item and spawn it with costs and player then gets item serves customer and makes profit.

Design

Keyboard/controller layout

Keyboard



Movement

W – forward/ forward arrow key

S – backward/ back arrow key

A – left/left arrow key

D – right/right arrow key

UI

1 – pause

Interactions

Q – spawns sandwiches

E – spawns teacups

F – pickup

G – drop

I have chosen these buttons as they are right next to WASD which means they are optimised and make its easier for the player to touch and complete. The action arrow keys for movement is only there as its for accessibility for the player as some people prefer it.

Controller xbox and playstation

Xbox



RT - pickup

LT - drop

LB - spawn sandwiches

RB – spawn teacup

A - jump

Left/right joystick – movement

Two boxes – pause menu

Playstation



R2 - pickup

L2 - drop

R1 - spawn sandwiches

L1 – spawn teacup

X - jump

Left/right joystick movement

Touchpad – pause menu

UI design

Main menu

Level select

Instead of having a start button like most games I'm going to have my level selection. At the start instead of a selection button to take you to a separate tab with levels due to this being a prototype and having only two levels would add a separate level selection if I had extra time.

Practice

Edd 0/10

Choose a category.

Recommended!

Identify



Memorize



Analyze



25/3

Compute



25/3

Visualize



25/3

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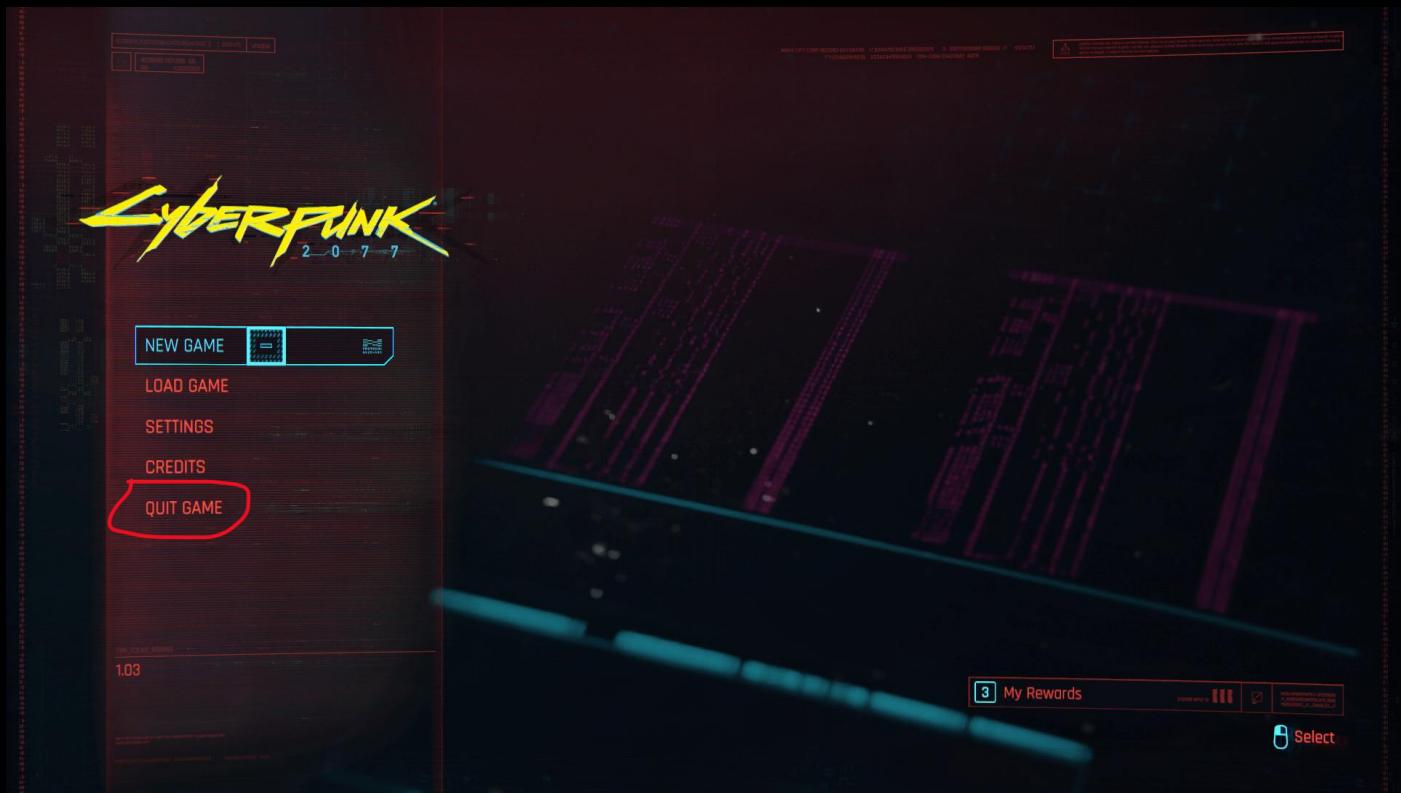
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Quit



VERSION 1.1



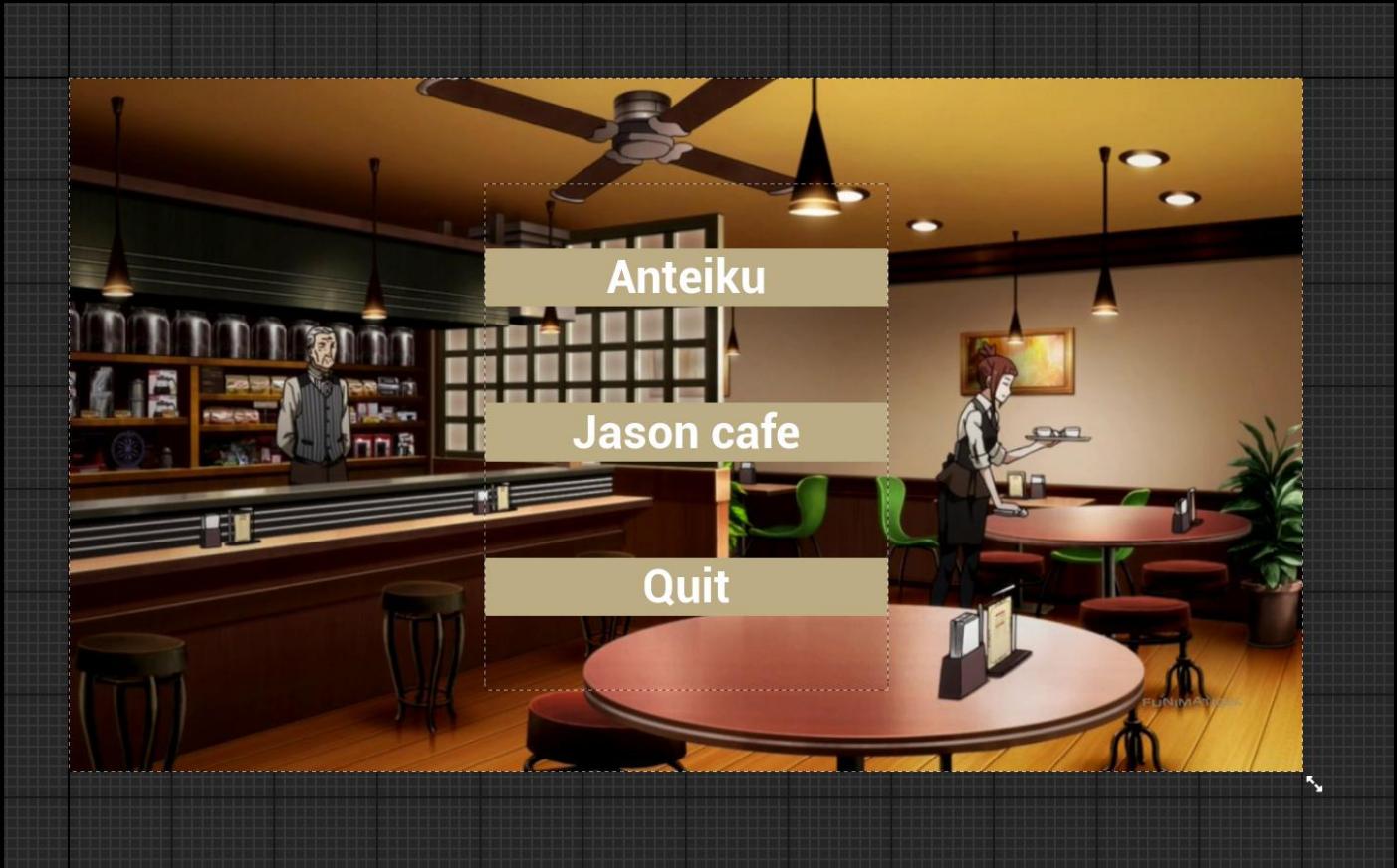
Pretty much all game shave a quit button at the bottom of the main menu for quality of life like if someone accidentally loaded the game up. The quit button is a standard . Cyberpunk 2077 and halo conquest both have a exit/quit button on their start menu.

start

level select

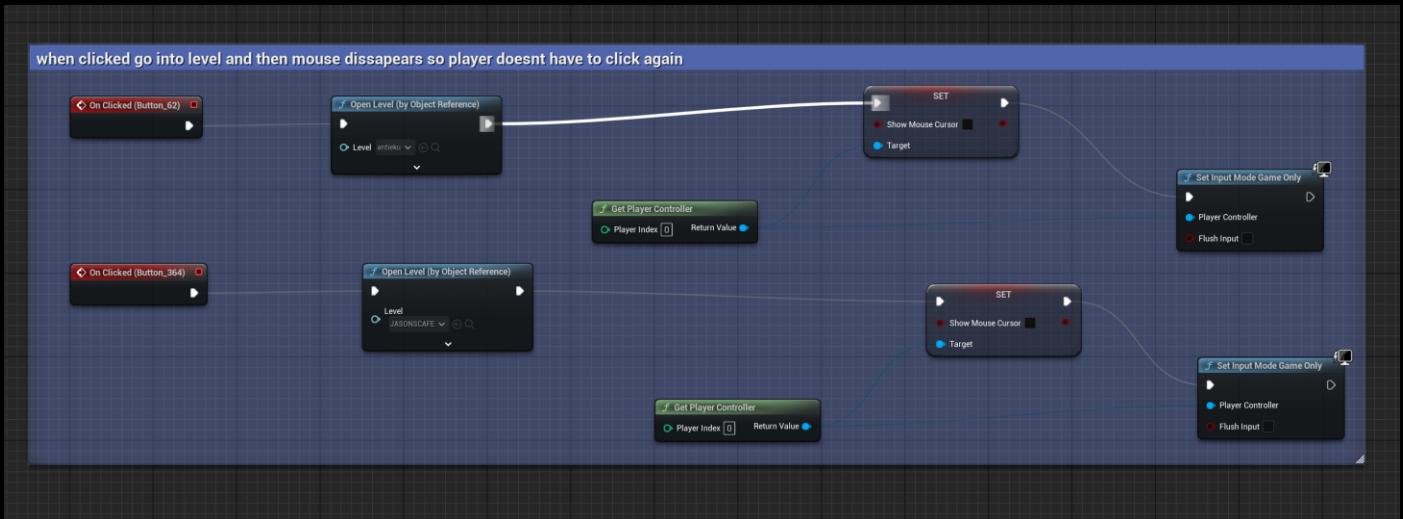
Quit

End Result

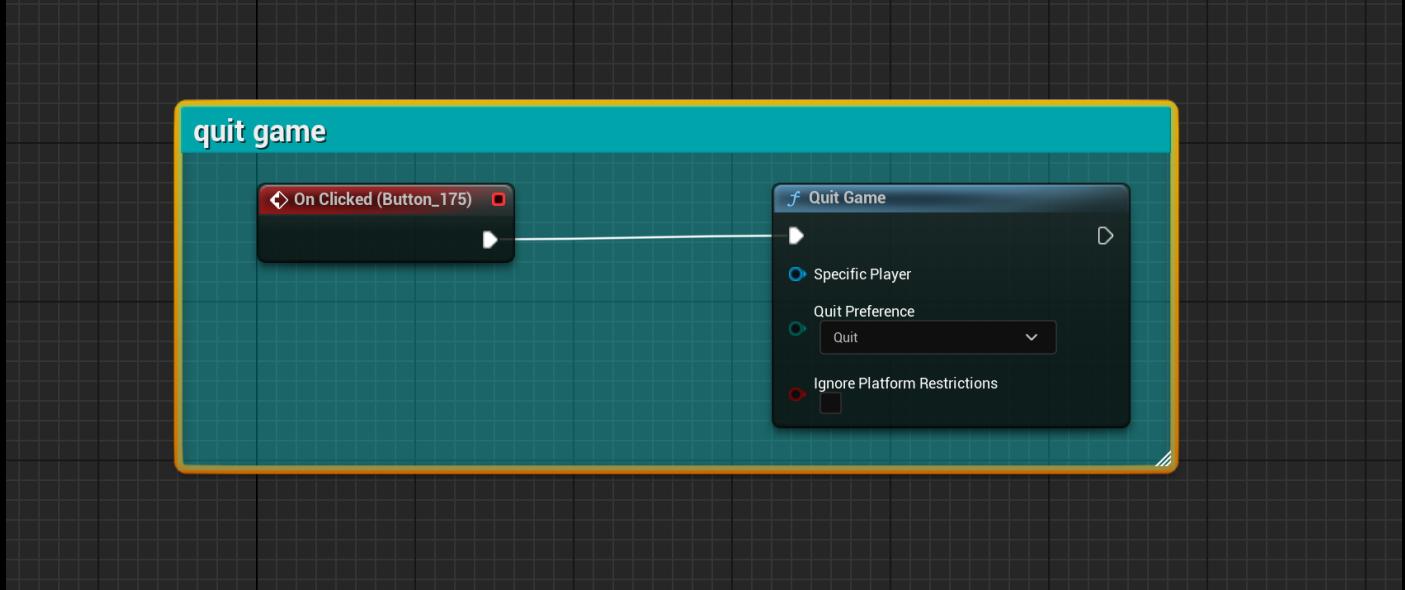


Code for UI

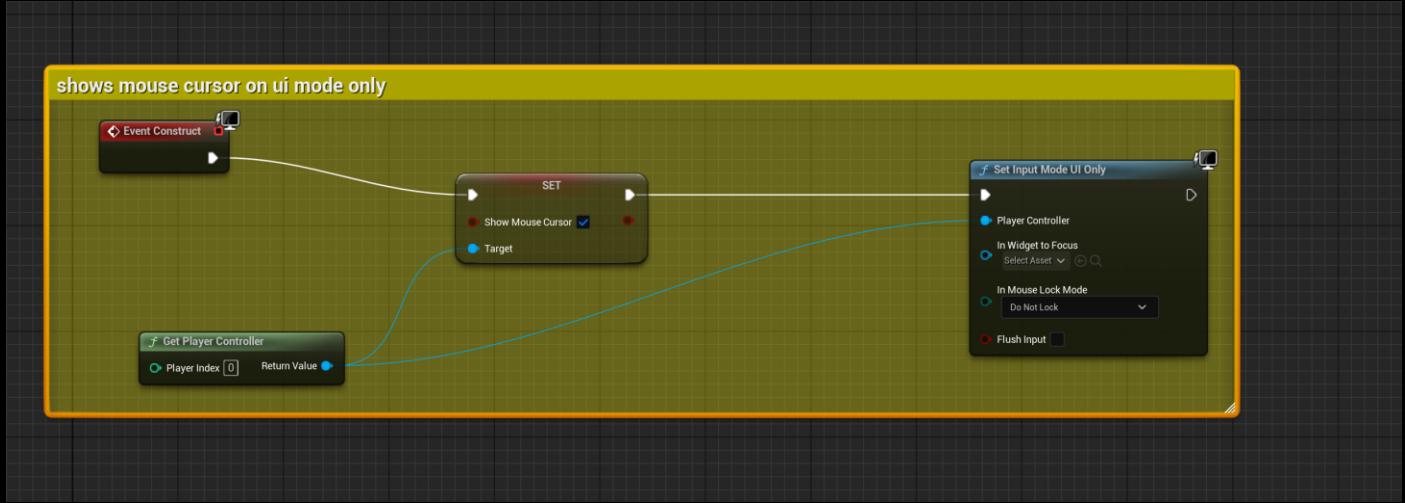
Code for anteiku and Jason café button



Code for quit

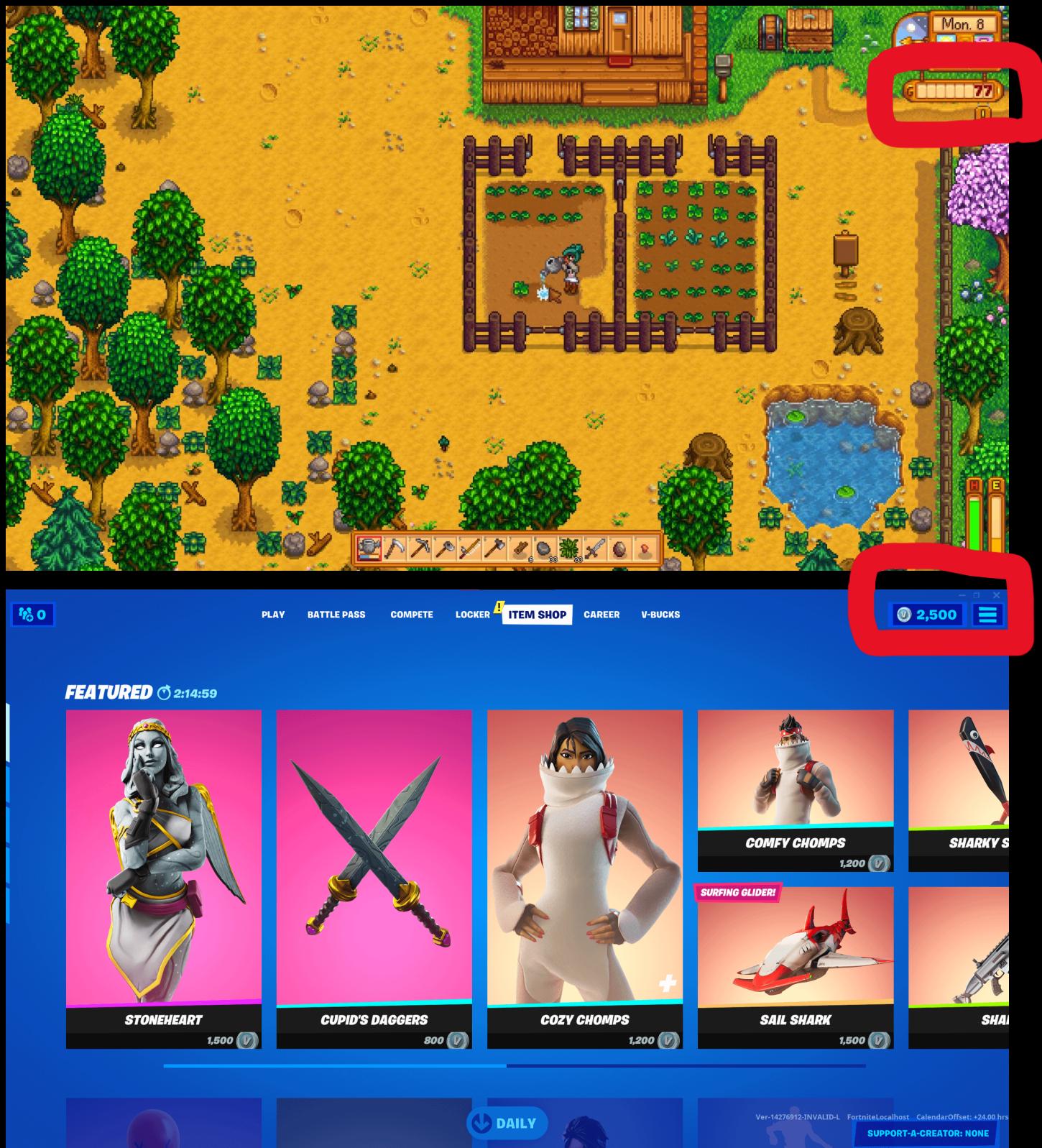


General code for other things



Playing game UI

Money/currency



I want to have my in game currency in the top right as this is a standard across the games industry I have examples here of stardew valleys gold a game within the genre of my game and fortnite vbucks both being in the top right with borders around them to highlight them to the user and show importance. The currency in both games is different to the standard colour to highlight the importance of the currency.

Quests/ objectives





A lot of video games have quest/objectives on the left half of the screen or have their own button to be clicked to open up a bigger menu or a mix of both. They may also have a specific input to open a quest menu such as Genshin have the letter J to open the quest menu. In fortnite the first image we have the quests on the left side. In Genshin we have the quest displayed on the left under the map with a quest icon and a shortcut of j to look at all the quests one has. In total war napoleon you have a specified button as you have multiple objectives to reach such as objectives which give you benefits then the specific campaign objectives and it opens up a menu. Since I plan to have one objective for the moment I will decide to have the quest/objective in the left of screen with a transparent background as I want them to be able to see through it and it will be bright enough to highlight the importance of the quest and to make it obvious to the player the main goal of the game.

Inventory

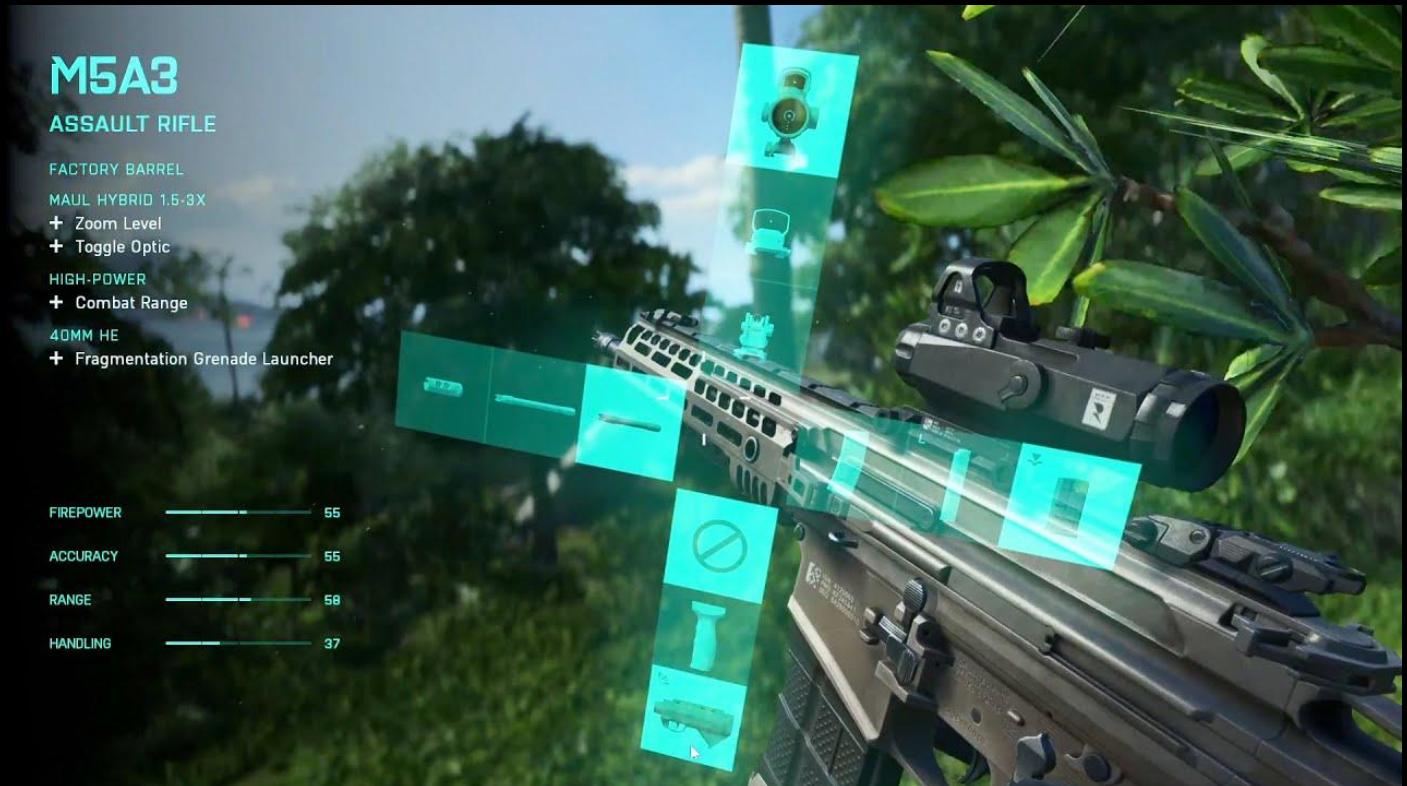
There are various types of inventory management but im going to look into a few in depth and see which one is the best for my game.



Minecraft's inventory system has two parts to it: the in-game inventory (8 slots) and a single off-hand slot. When you press the inventory button, it opens a larger inventory window (24 slots) with 4 slots for armor. This system is well-designed for a sandbox game like Minecraft, but my game will have a maximum of 16 items if fully implemented. There won't be a need for multiple inventory slots because the Minecraft inventory already handles that. There also won't be an armor system as my game doesn't require different clothes, and I don't plan to add cosmetics to my character. One thing about the Minecraft item system I could incorporate into my game is the transparent bar at the bottom which clearly shows the items you're holding. I could decrease the size to two slots for both hands. As you see, many waitstaff carry multiple items while serving customers.

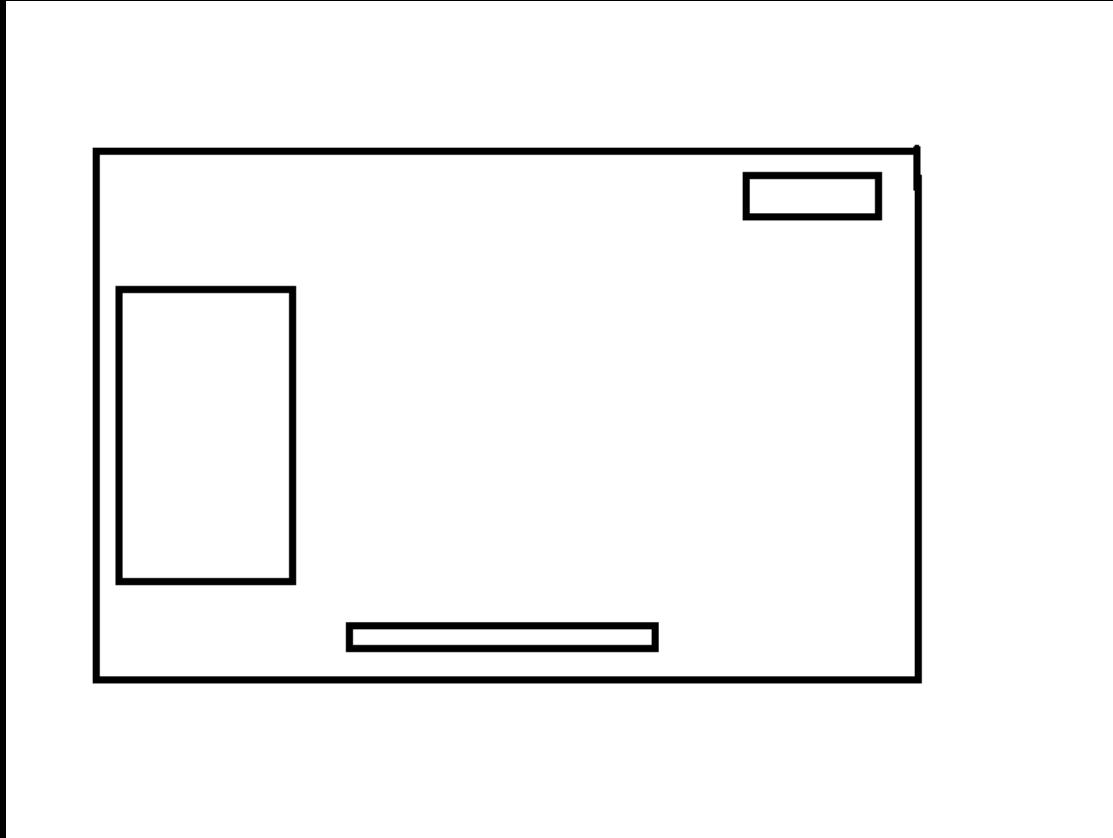


In one armed cook it doesn't have a inventory system but has a visual inventory where you can see what you are holding and only use the items in your hands. This system makes it so you can only carry one item because you have one arm but you have two arms in my game so the limit will be two items. One per hand. This also makes the items you pick up more important in the game as you have a limit which is very small unlike Minecraft where you can carry hundreds of items this also gets rid of time making an separate ui for inventory as its only in your hands. I think this type of inventory will suit my game more as a human whos serving customers wouldn't have a big inventory as they are using hands.



Battlefield 2042 attachments system could work for my inventory system if reworked for my game. If I had a certain number of slots for each arm and the player can check and select what they want from the arms and pick what to drop and pickup in the slots like a waiter with multiple things . could have a system where liquid items can only be placed at the front to keep them stable and food items can be placed along the arms and then it simulates the player immersion in the café and what its actually like.

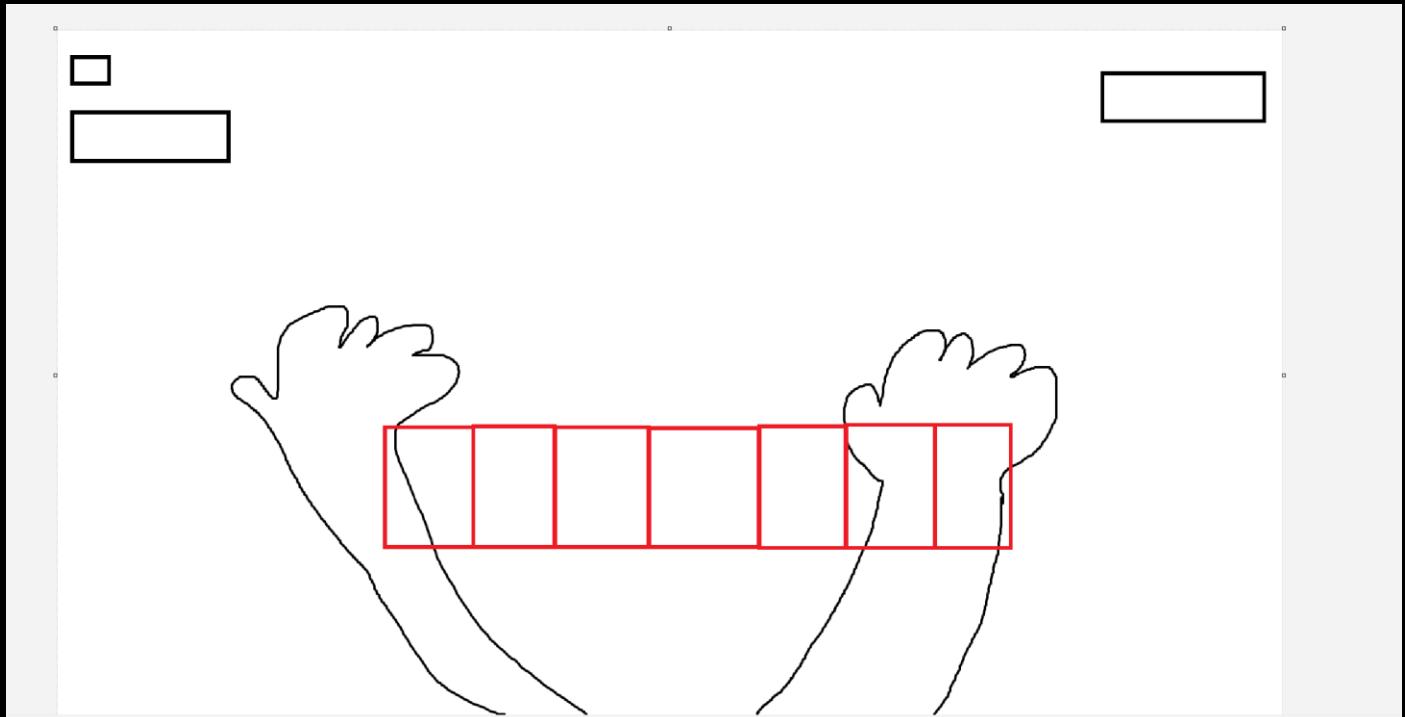
My designs



Quest menu on the right with the full quest a bar for how much of the quest you have done . and a explanation. With secondary quests. Like have the main quest being reach a certain amount of money and then secondary quests are sell a certain amount of sandwiches,sell a certain amount of teacups and complete within a certain timeframe.

Top right has the money the player currently has.

The bottom has the Minecraft esque inventory but just the part shown on screen . you can scroll through the items and you can have multiple items may not be as suitable for the game but does clearly show you what you have.

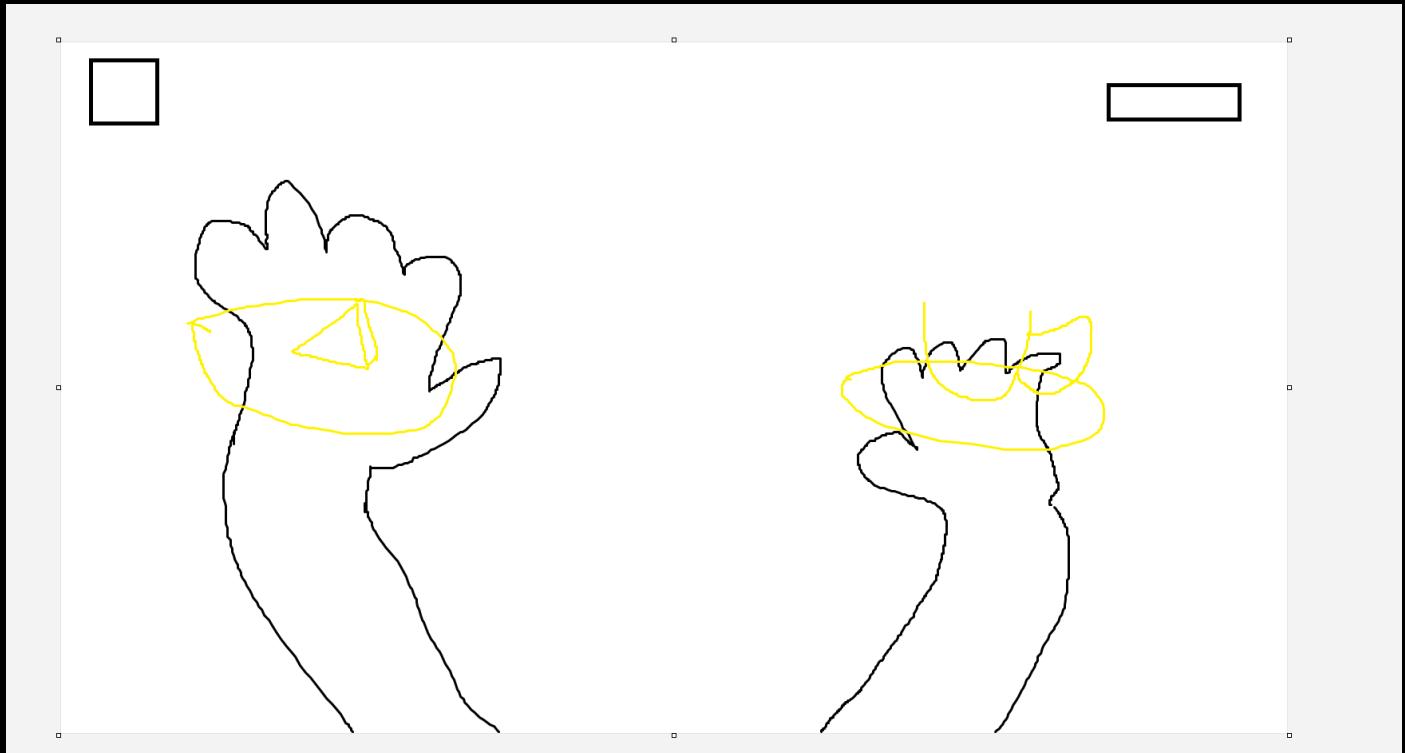


The small box in the top left has a icon for the quest maybe a question mark or an exclamation mark as these symbols are used in many games for showing quests such as the witcher 3 .



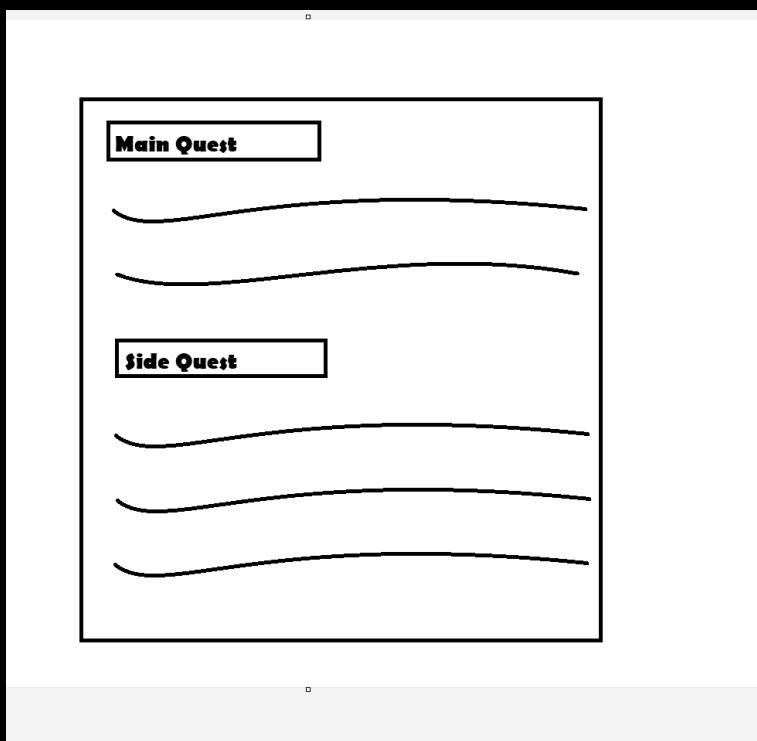
Below has a smaller description of the quest inspired by the Genshin quest ui. The top right is still the current money.

The inventory in this one is inspired by the battlefield 2042 attachment system. You press a button such as y and it pops up you select the item you want to place down and the items on pickup are put into the slots automatically and you can move them around for optimum purposes or for whatever purpose needed. When all slots are full then its opens and asks you what you want to remove and drop or if you don't want to pickup the item you are on about.



Money is the same in the top right as this is something I don't particularly want to change as I am quite happy with its placements on the ui.

In the top left all there is going to be is an icon with a quest symbol or with a outline that connotes that it's a quest button. It will also have in a small font the button needed to press to make it expand itself into a full blown quest menu.



Simple quest ui with a main quest and a side quest area showing what quests are to be complete.

Now in the hands we are going to use a visual inventory system from one armed cook where your inventory is what's in your hands and the only have two or one items in hands this makes my game seem

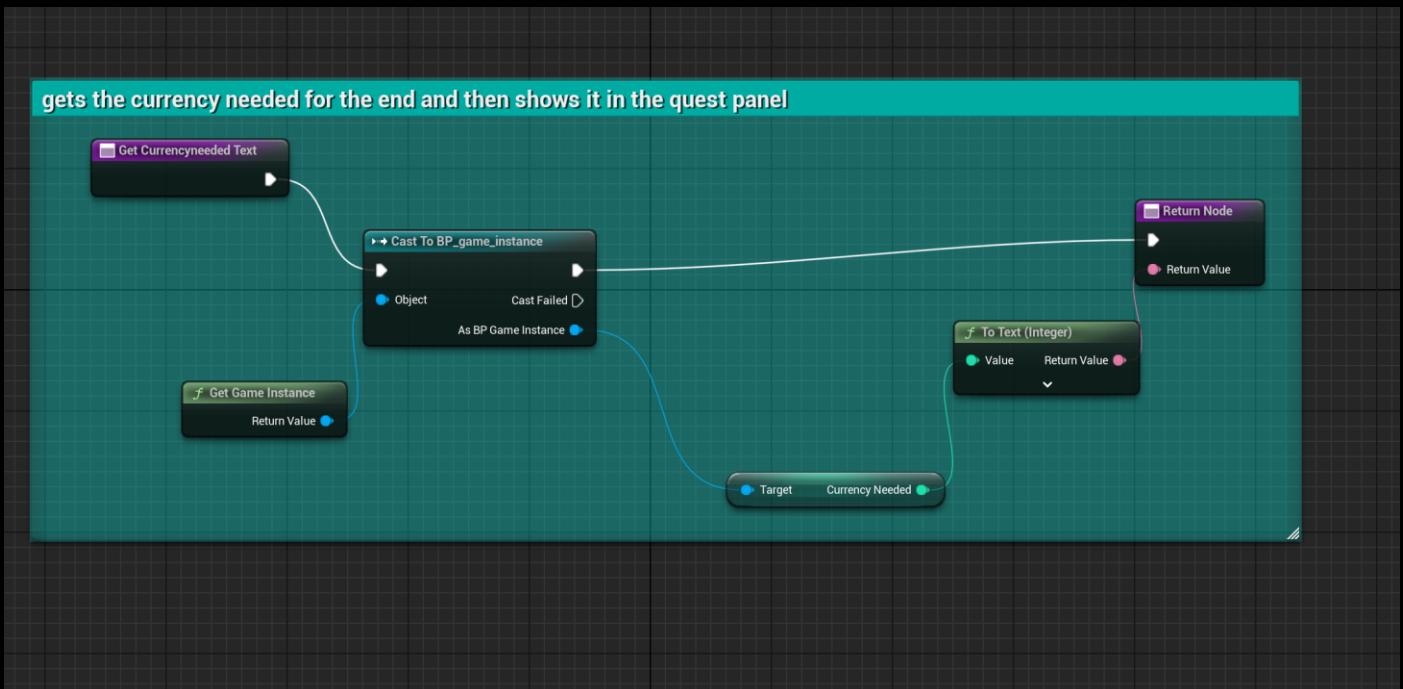
more realistic to a café as they wouldn't have a large inventory system and its makes the game easier because you just need to pickup and drop.

End Result

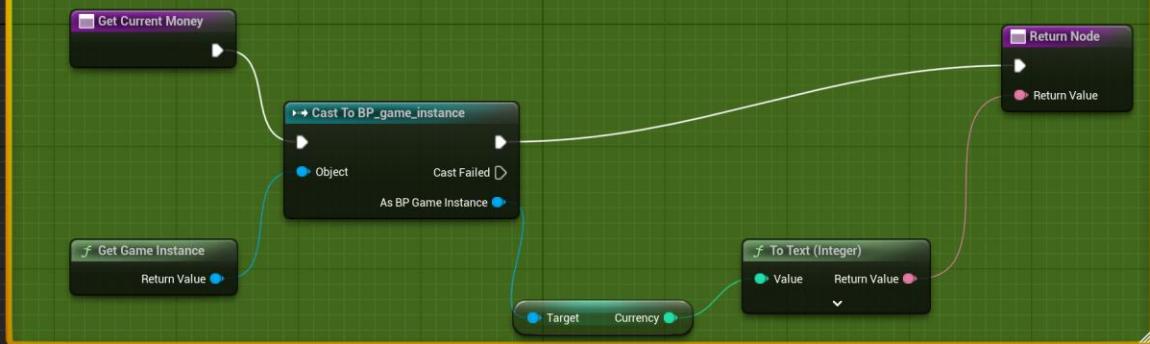


Have current money in the top right also I have money needed on the left with a background to highlight the importance of it . it's the quest . I have used the visual inventory system from one armed cooked as I liked it and if fits my game I have it so you can only hold one item however if I have more time I could add it so it can go in either hand . I don't have a button to open up a quest menu . I didn't think id need it as I only have one objective for the player to reach rn.

Code for the UI

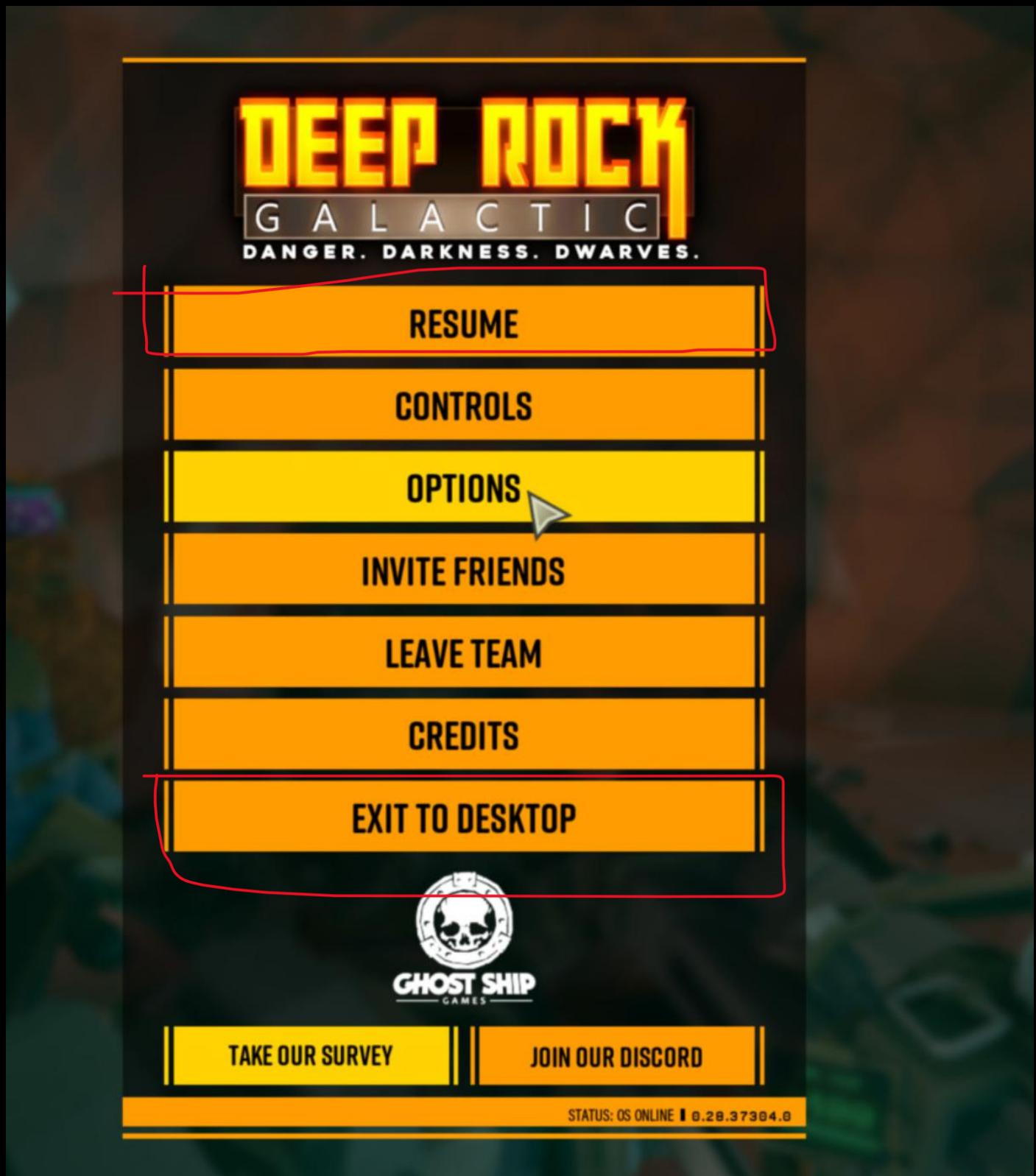


uses the game instance currency so we can use it across blueprints



Pause UI

What I want to add





Both these games have the quit button at the bottom and the resume button at the top of the pause ui this is a standard of the industry . I want to replicate this standard in my pause ui. I also want to add an option which takes you back to the main menu instead of having to quit and restart to go back to the main menu and select the levels .





I want to incorporate a resume button a exit game which is quit and exit to main menu and I've combined theses into my own smaller design with only 3 buttons for simplicity and my game doesn't have a settings button.

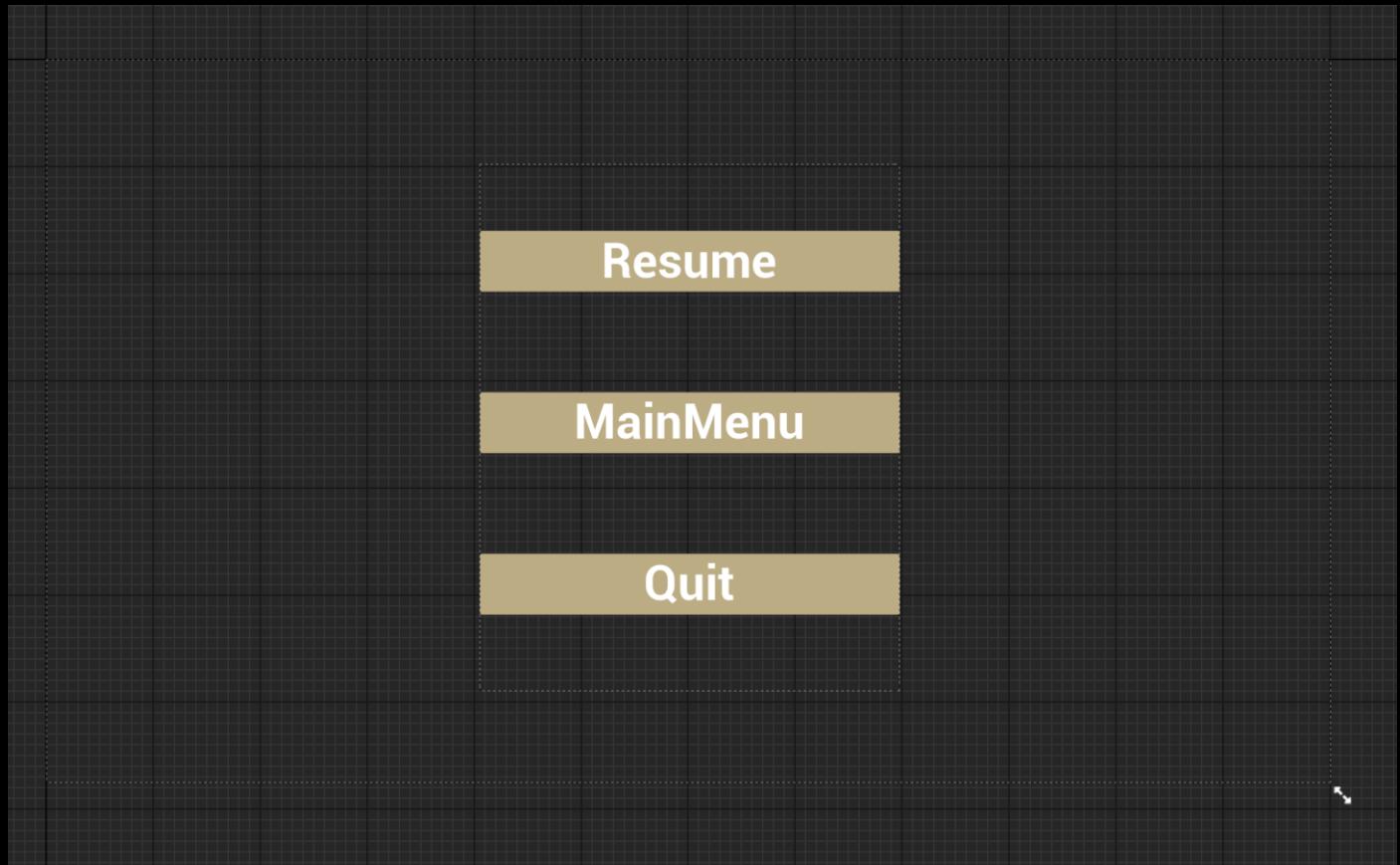
Resume

MainMenu

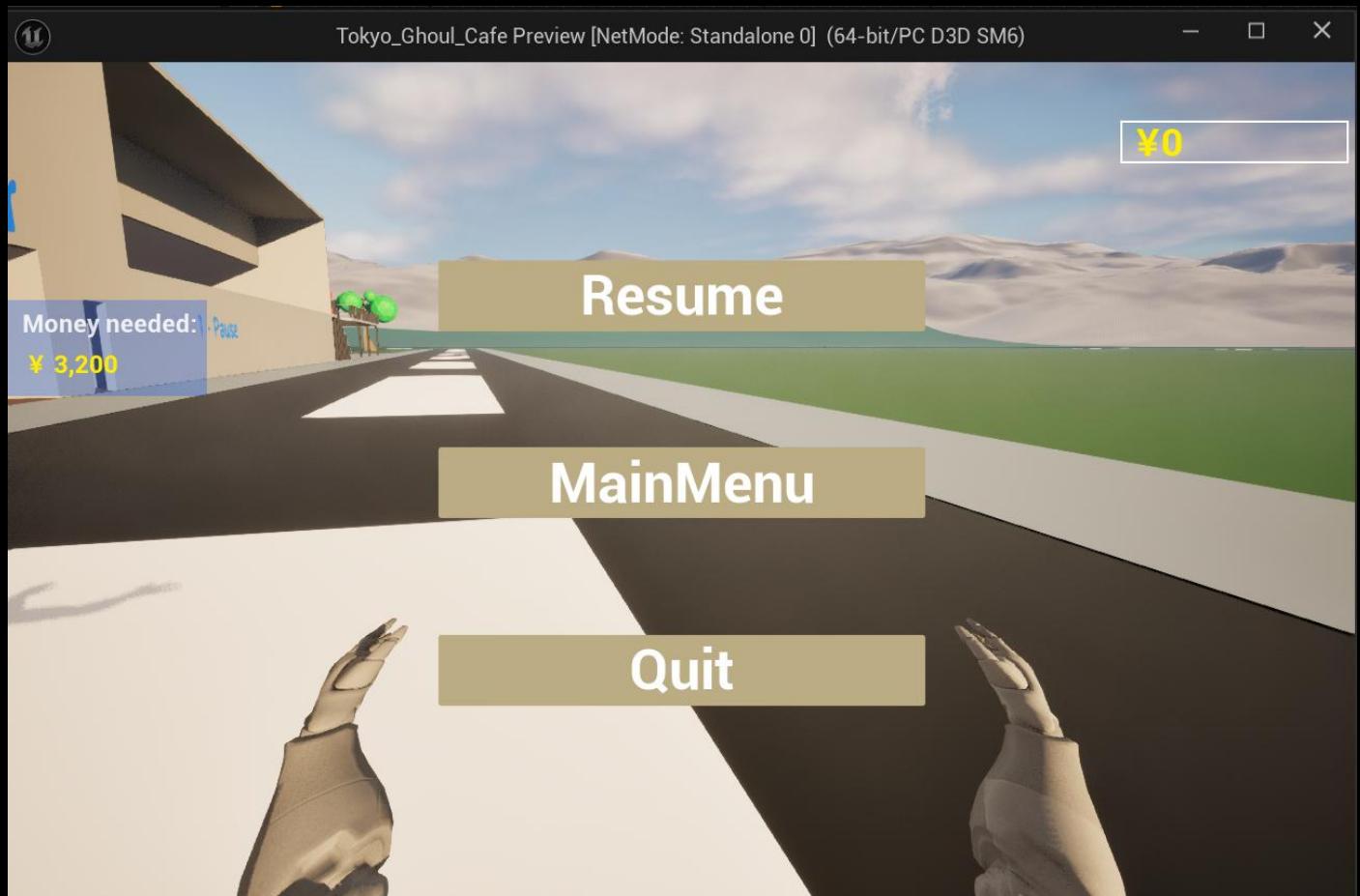
quit

This is a concept design made so that you can quit which takes you out of the game main menu takes you out of the level so you can pick another level and resume lets you carry on playing.

End result

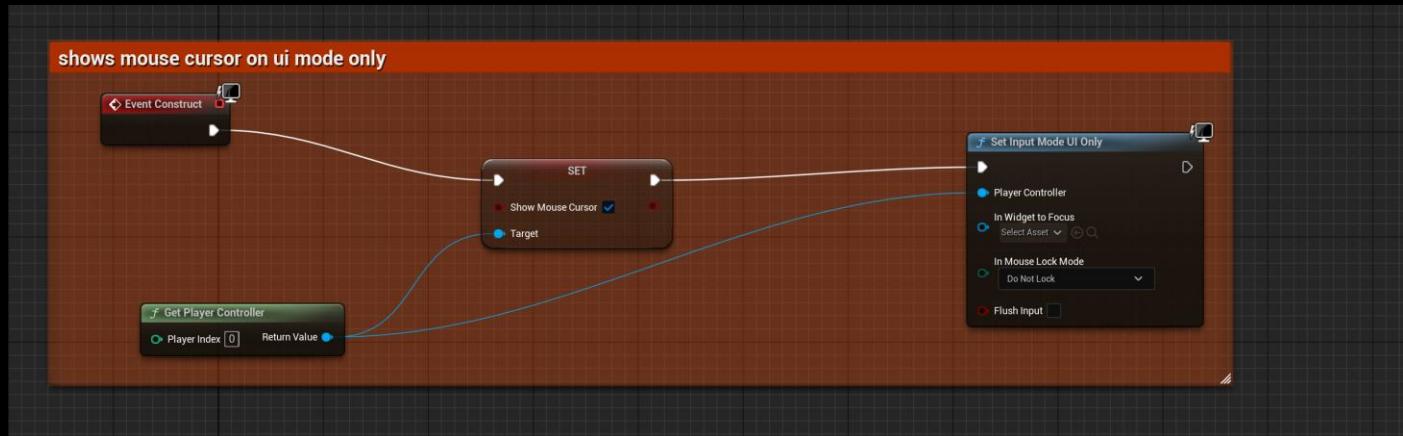


End result in game

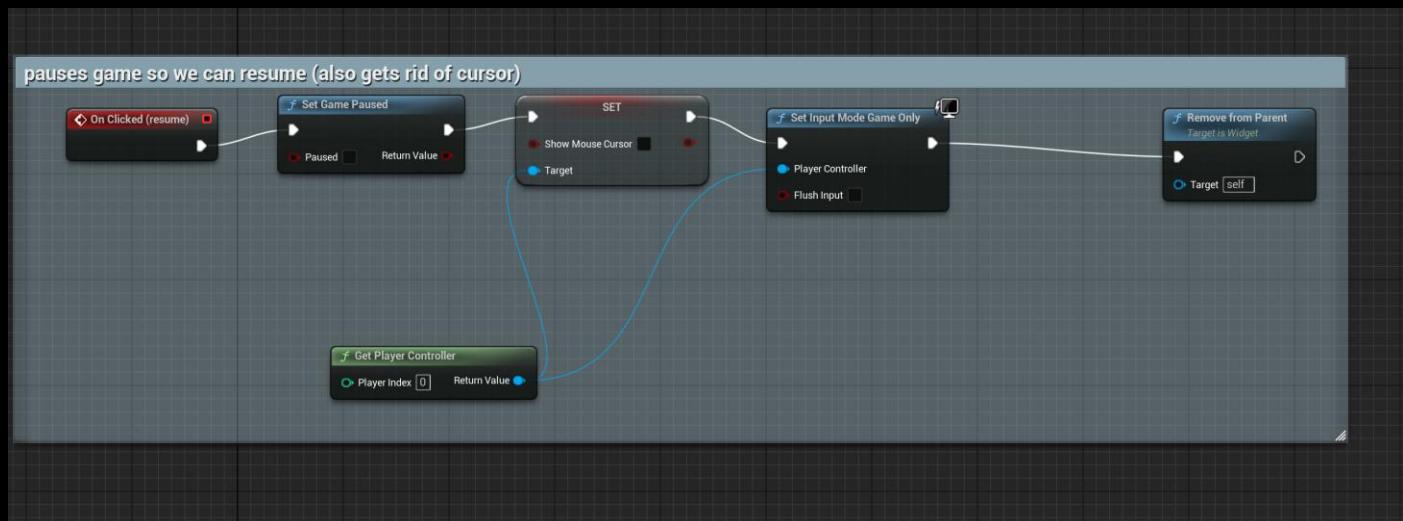


Code for UI

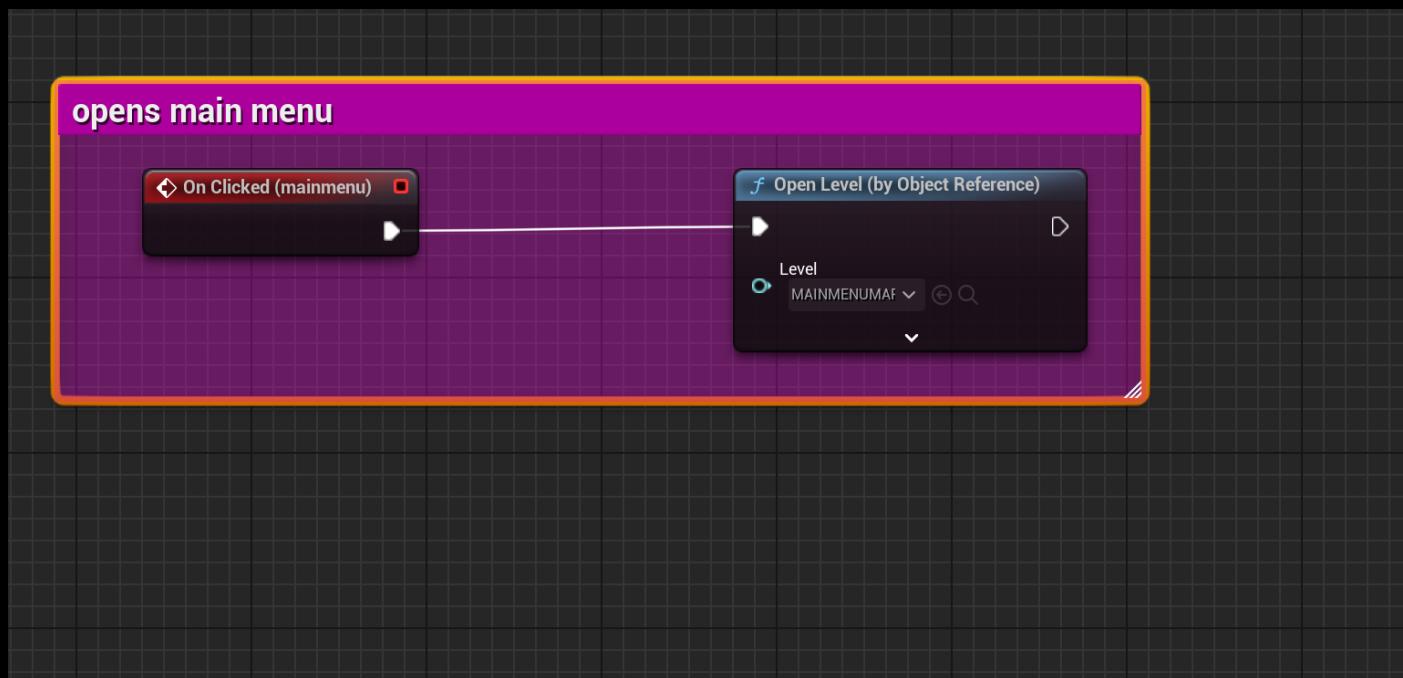
General code not for a specific button



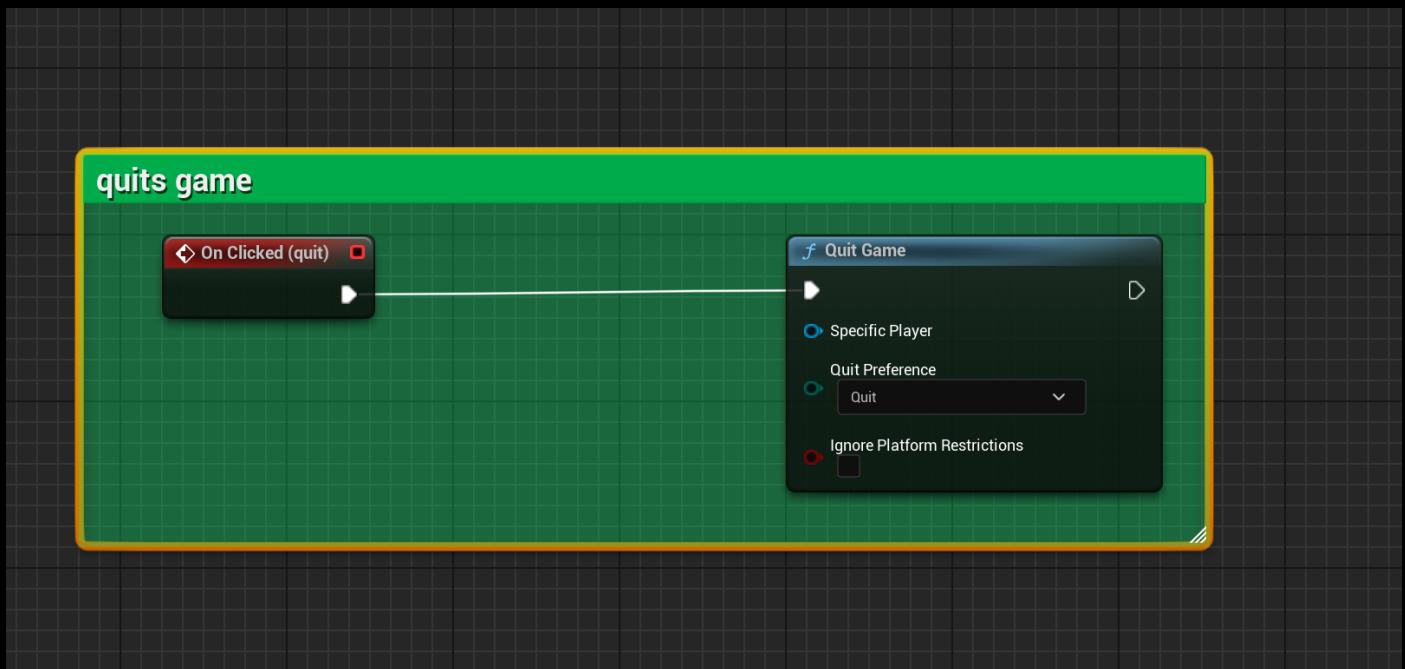
Resume button



Main menu button



Quit button

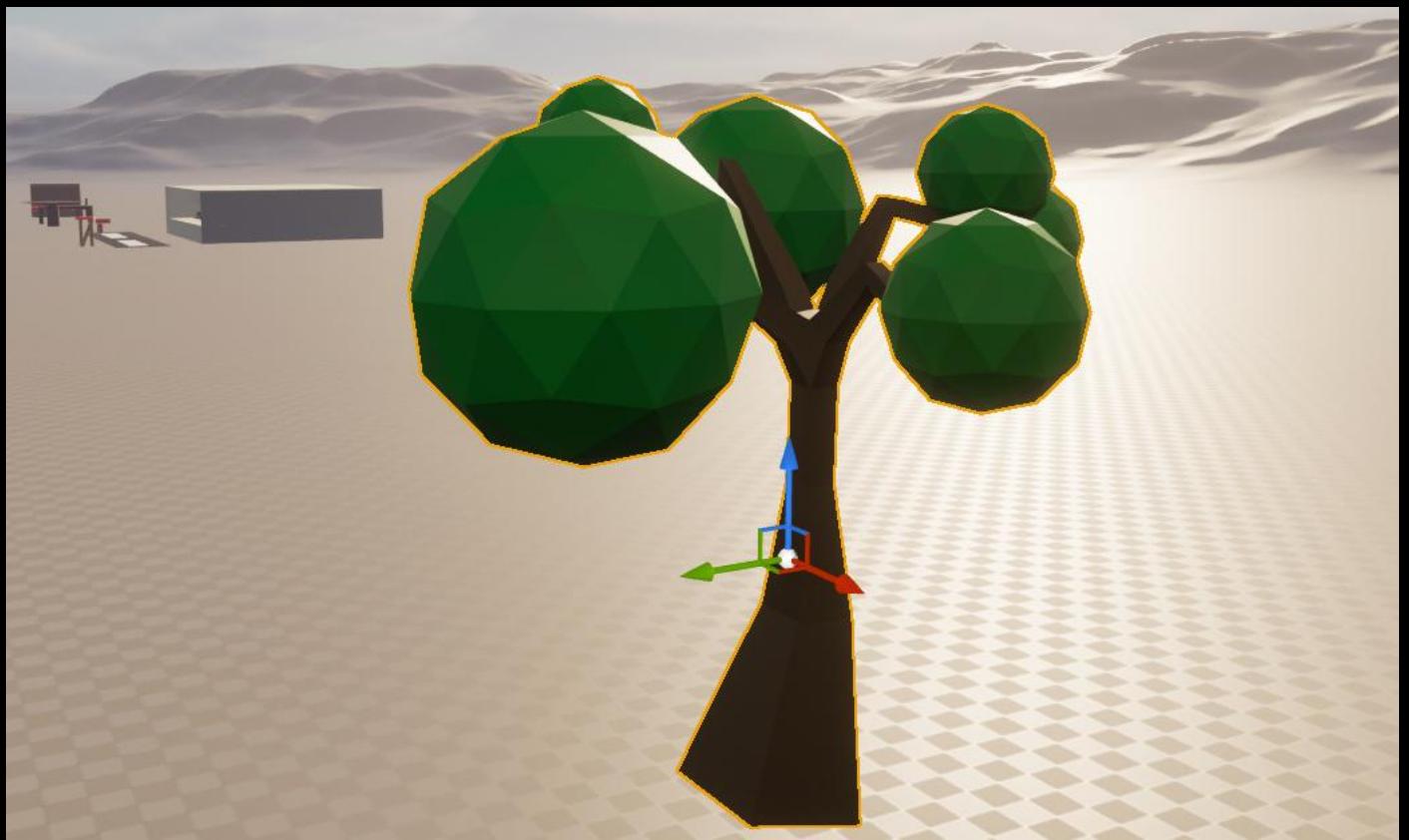


Environment

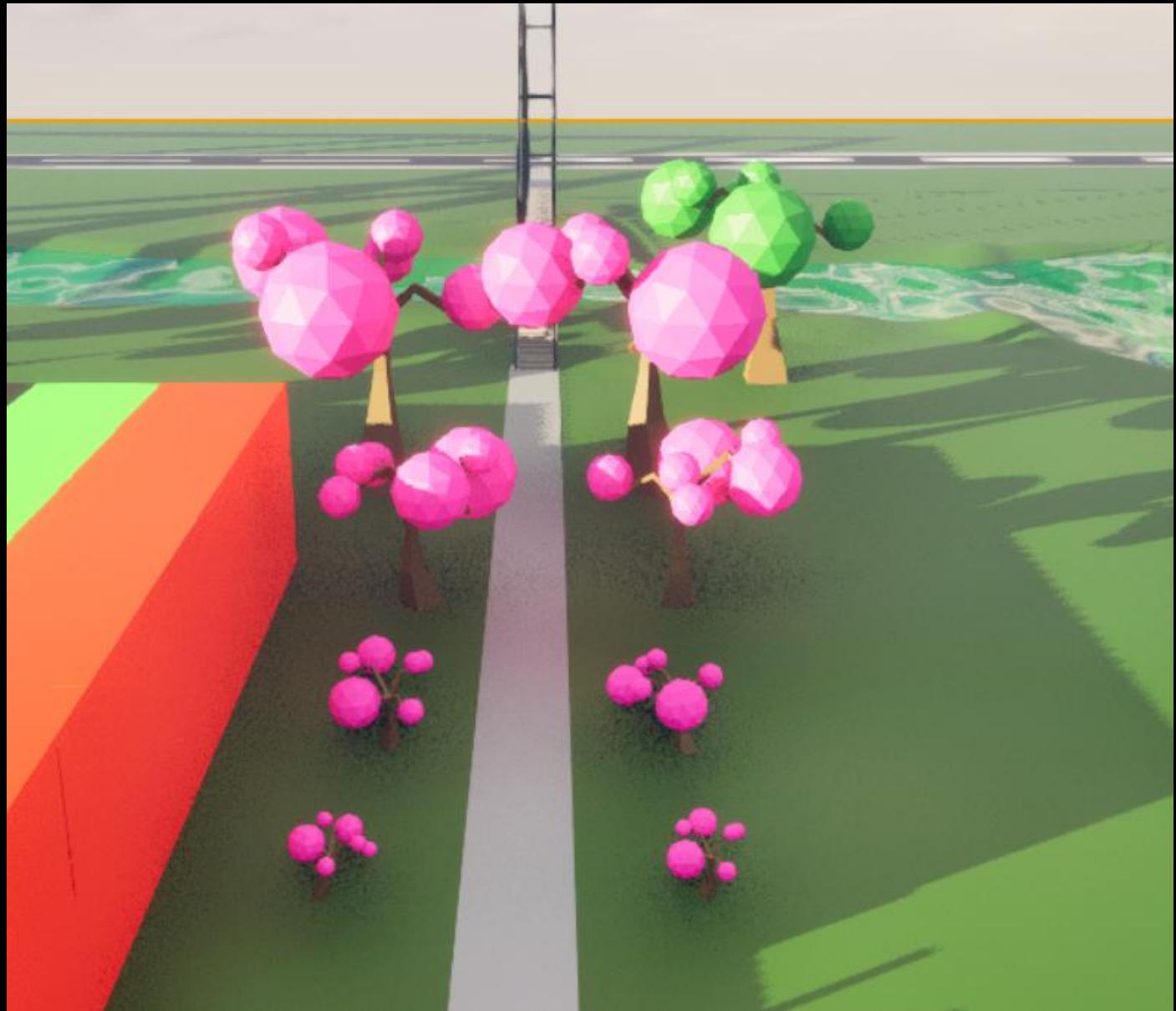
Trees

I wanted to make trees that aren't realistic as they would take up a lot fo storage space and time so I designed some lower quality more cartoony trees to put in my game.





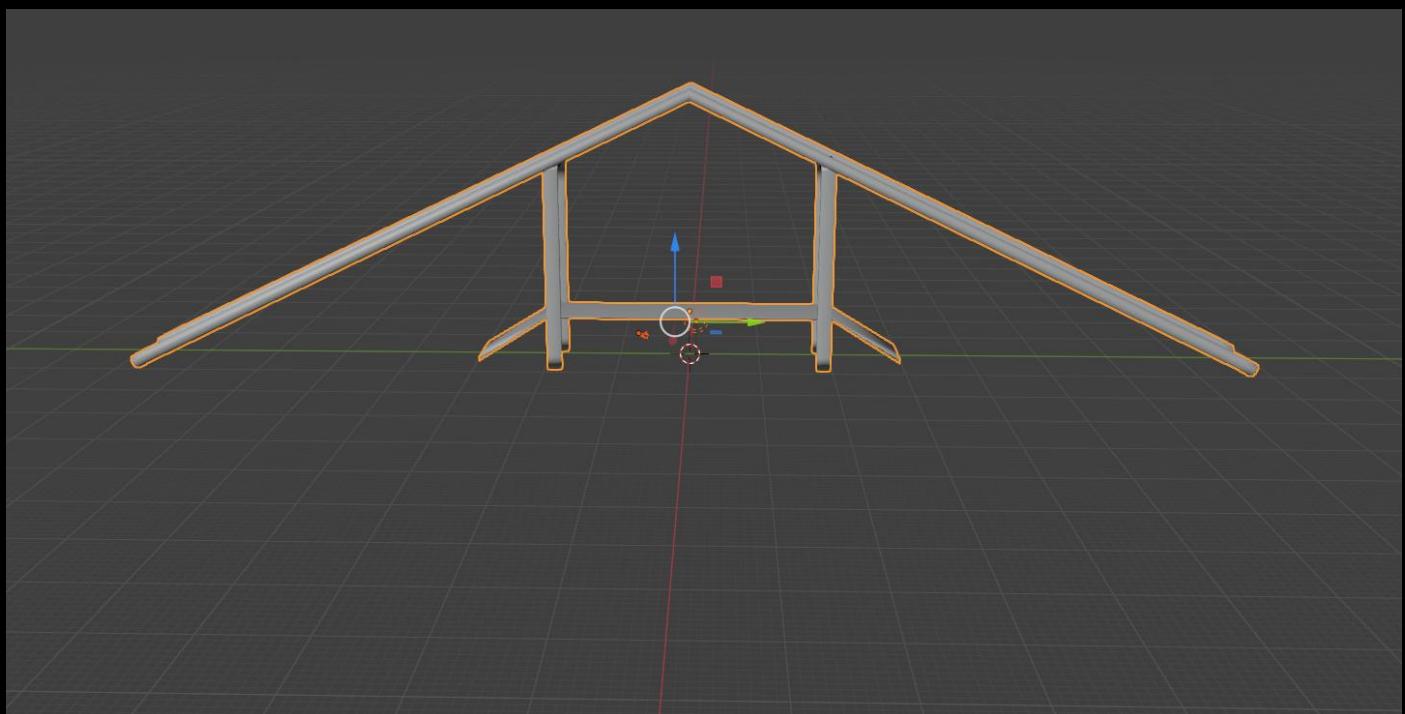
This is then end result with block colour giving a cartooney vibe I also have colour variation with pink trees.



Bridge



Inspiration for

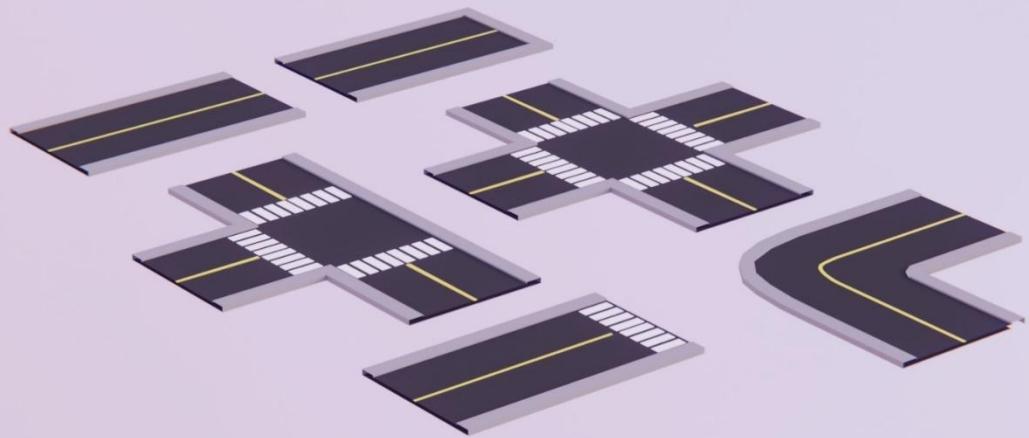


This bridge is a very simple version of the bridge I took for inspiration as the environment is secondary to the café itself.



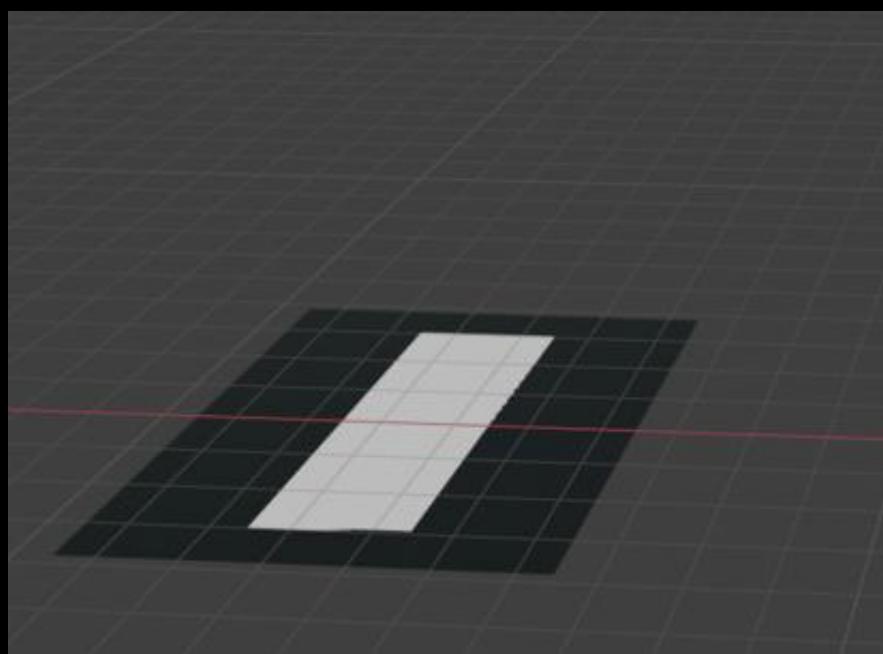
Road

I wanted to make a modular road as I want to be able to connect the pieces.



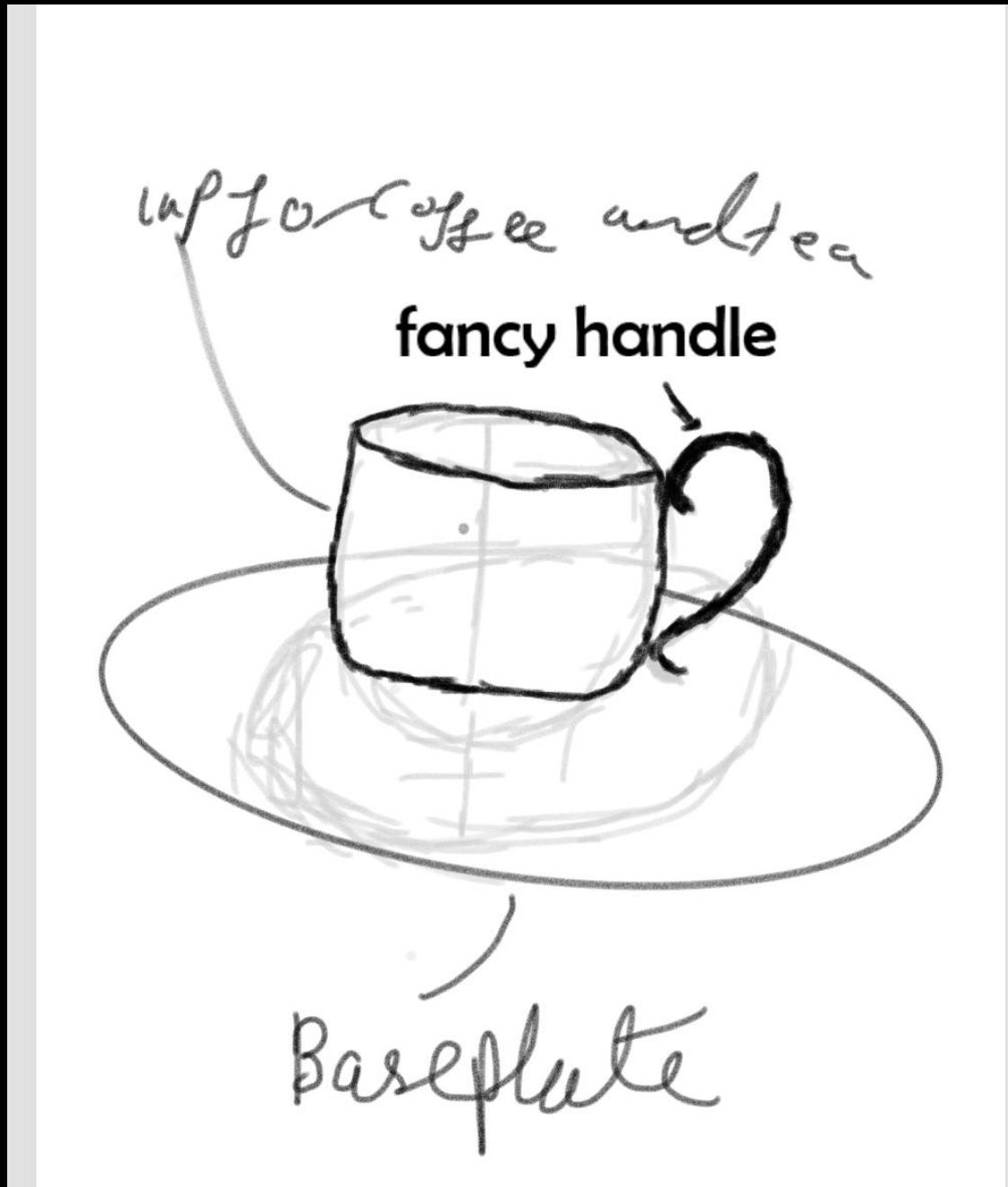
I have only made a straight road piece not a curves one or with any cross sections and if I had more time would make these extra road pieces.

End result



Items

Teacup





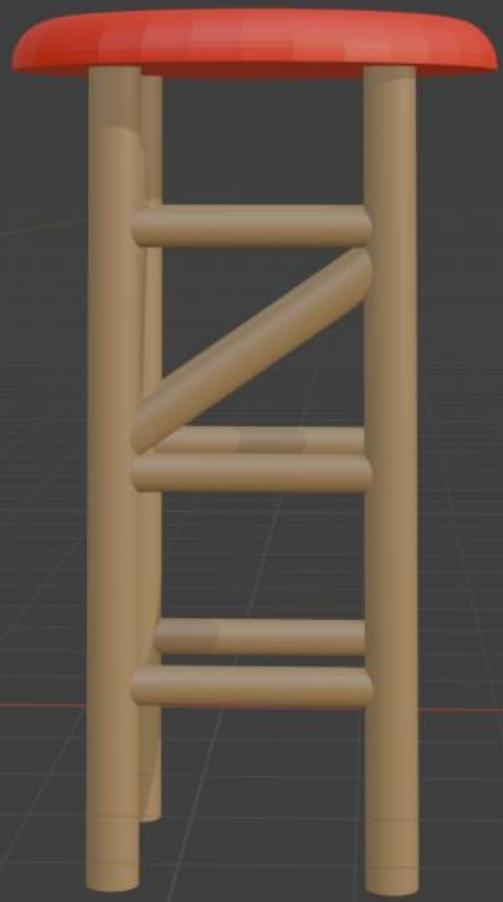
Stool

4 legs round
seat



Basic Design between legs





Coffee/tea machine



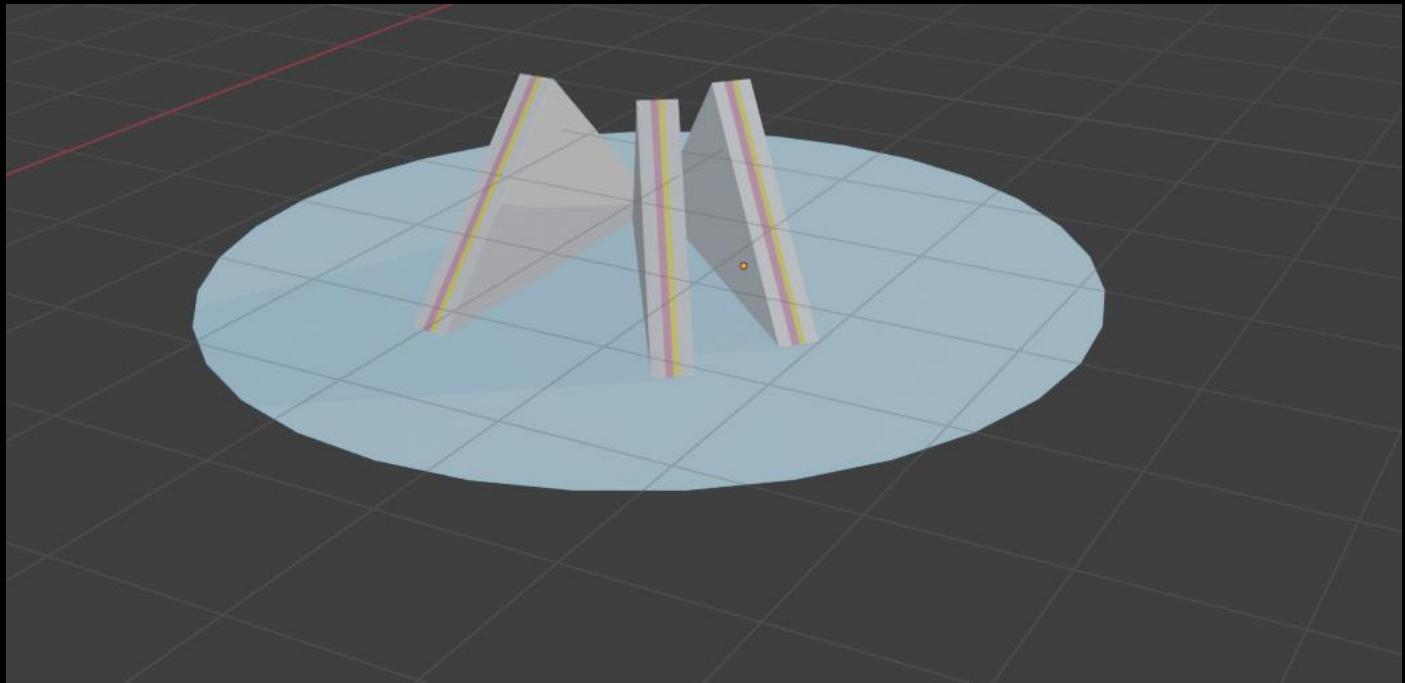
I want to make it so it has modes one for coffee one for tea and you can switch through it maybe have an animation of the tea and coffee filling up and give it a timer for each varying on the type of tea and coffee. Also with varying types of costs and profit.

Sandwiches

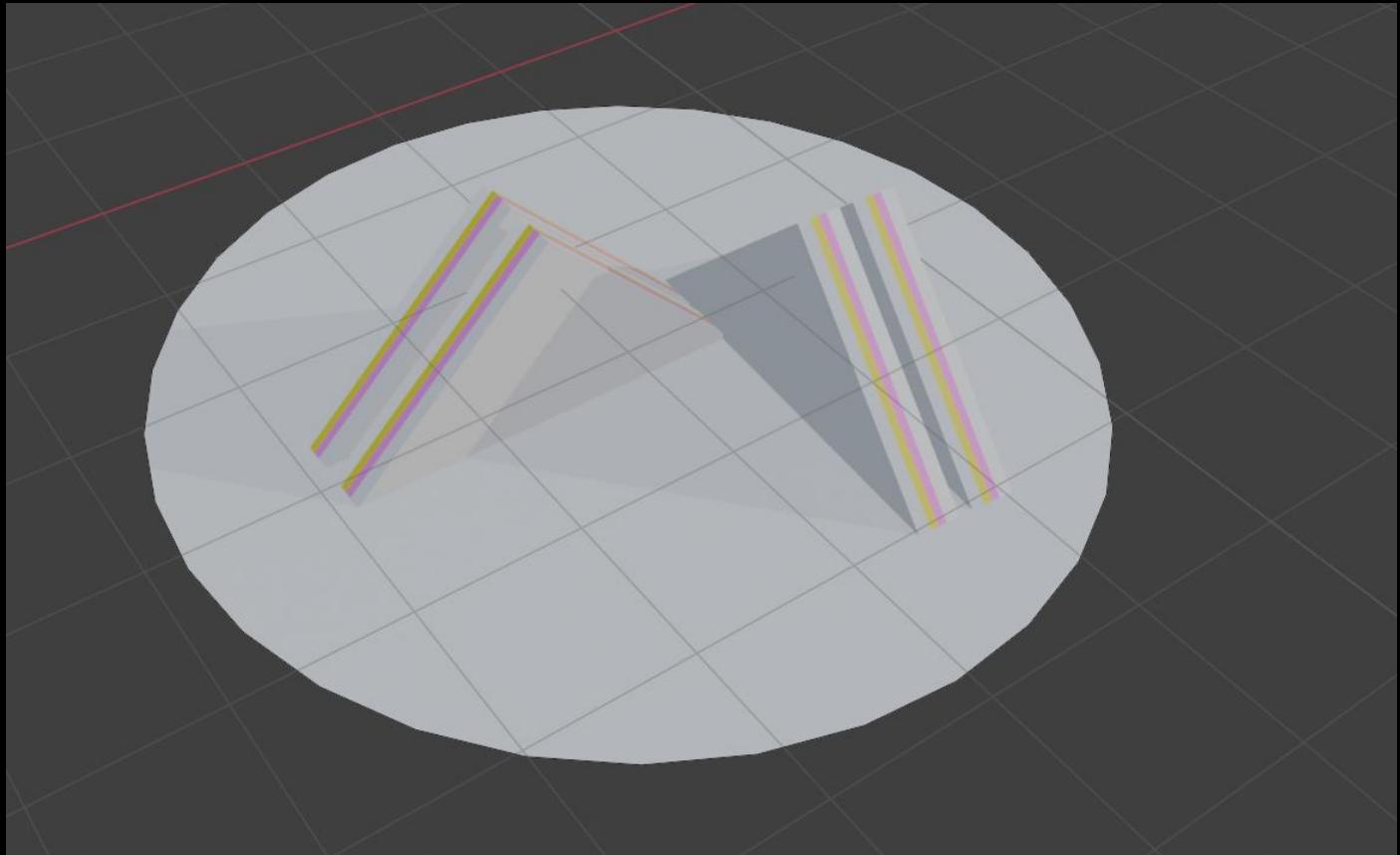
I wanted to have traditional triangle sandwiches in my game with ham and cheese as its the most common sandwiches I will have many variants of the sandwiches with varying prices and ingredients.

triangle sandwich with
filling on plate very





Updated version



Money pickup

Currency im using is yen

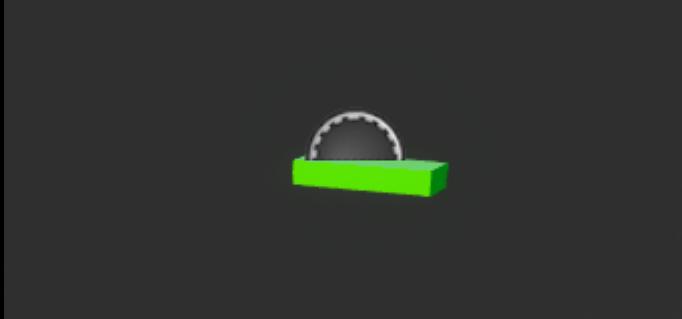


Roblox pickup from restaurant tycoon 2 for inspiration.



Different values can be made for different items.

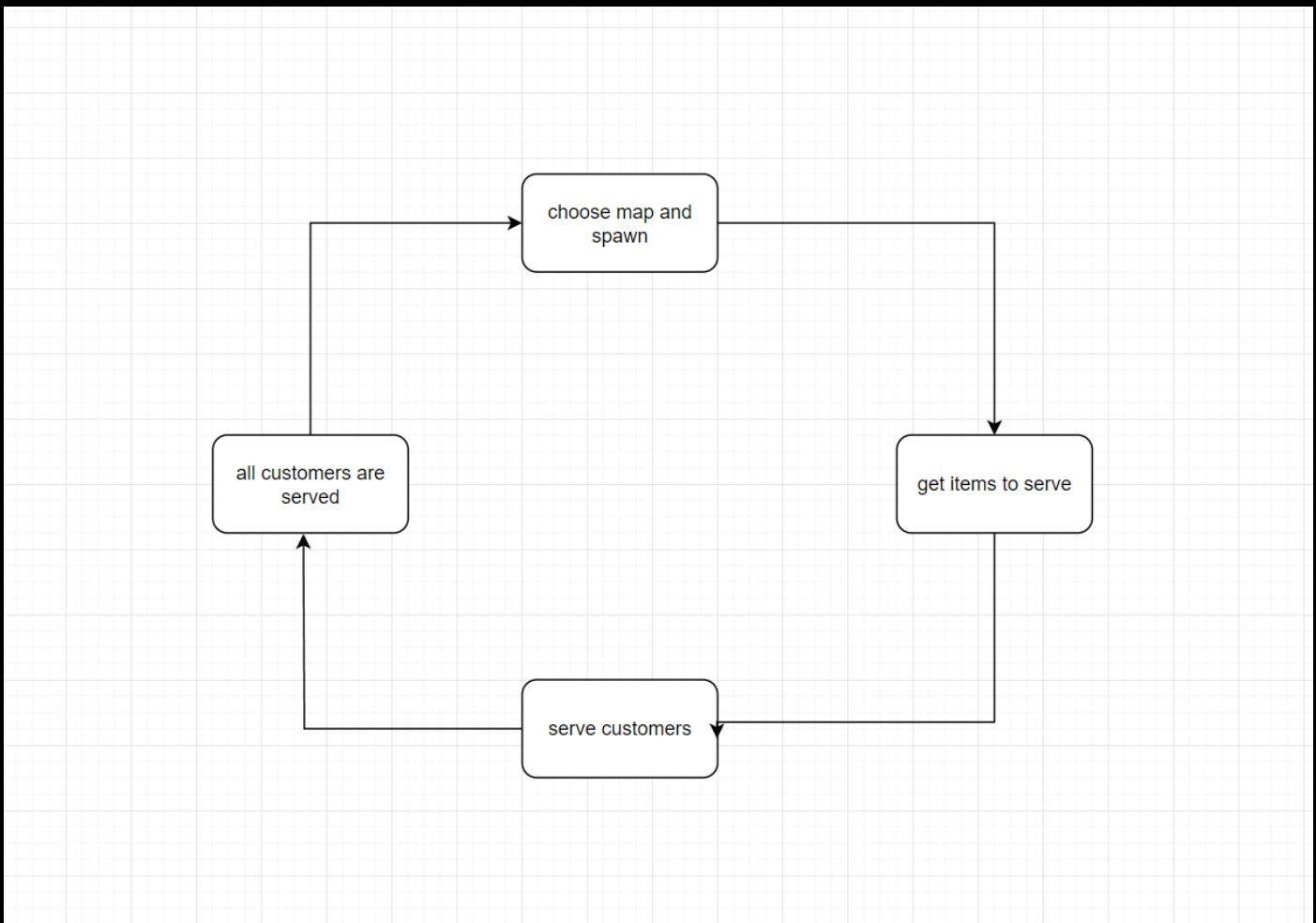
End result



Haven't had time to add numbers or a yen symbol as I was making sure my money system worked.
Before hand

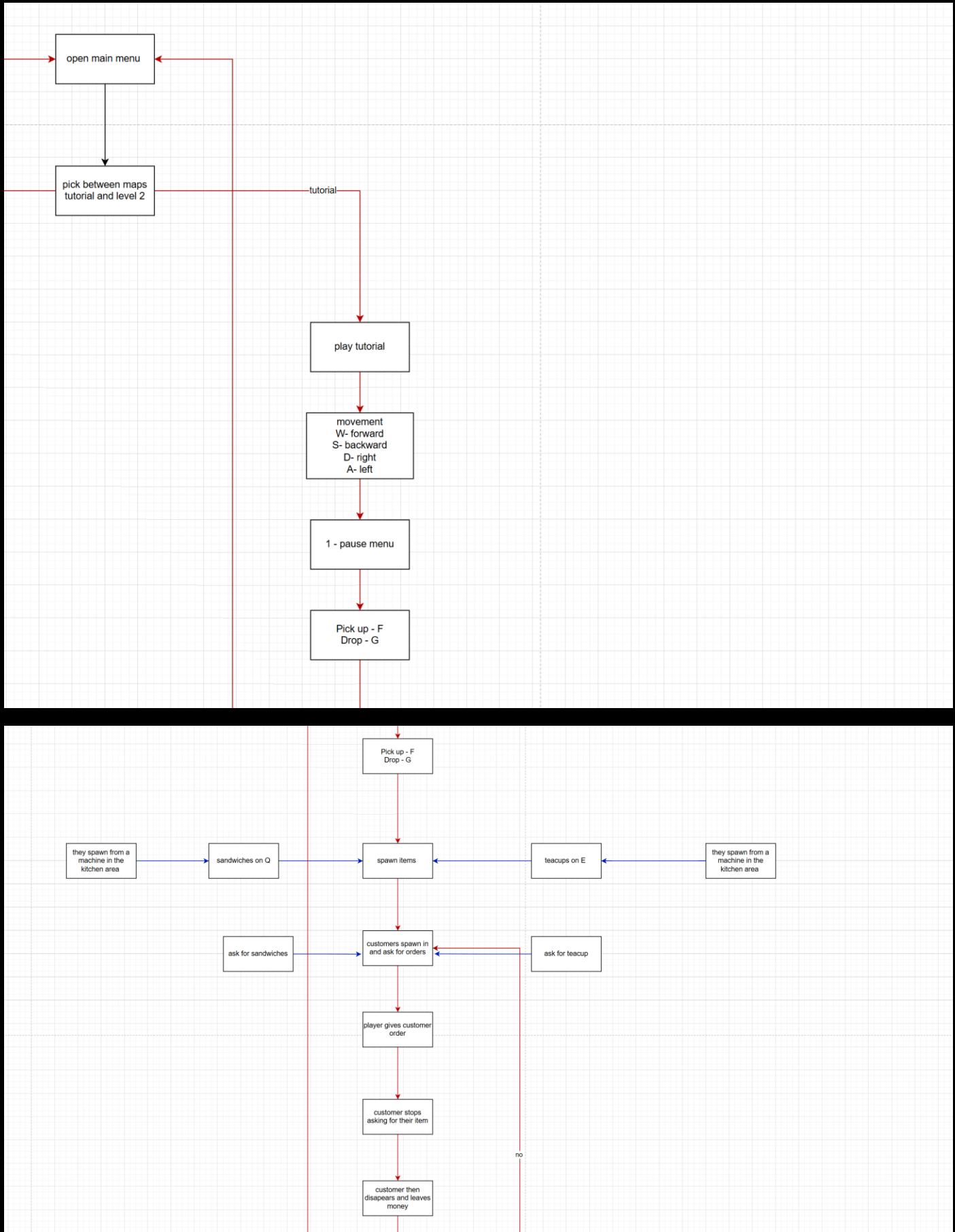
Gameplay loop

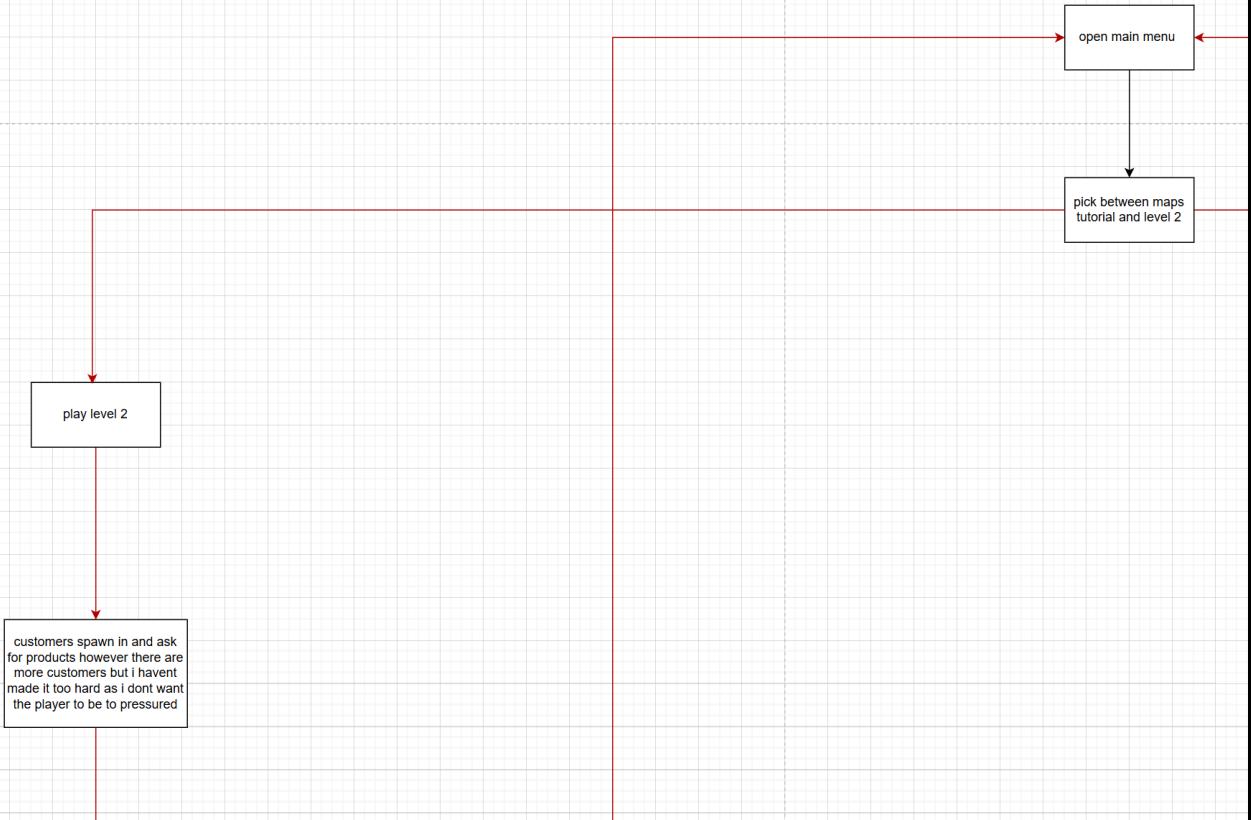
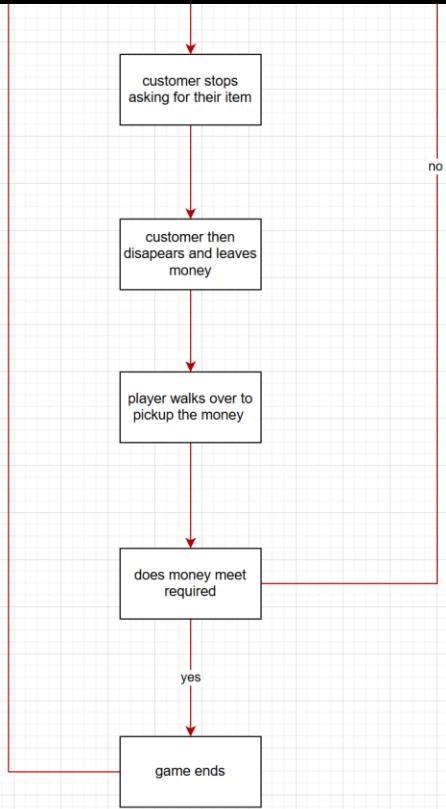
Simple gameplay loop



Advanced gameplay loop

A file in my project called café gameplay loop advanced.





customers spawn in and ask for products however there are more customers but i havent made it too hard as i dont want the player to be to pressured

player serves customers

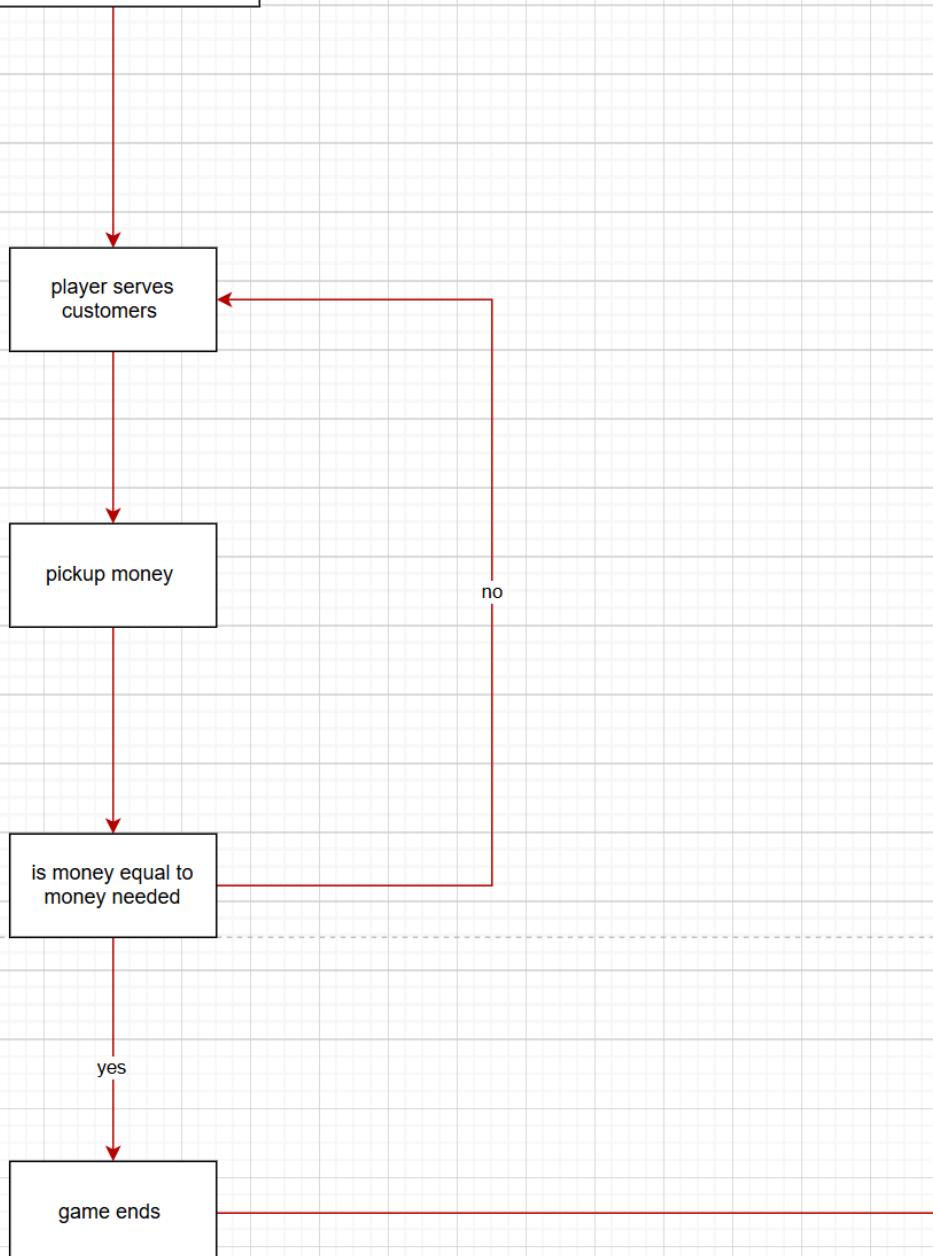
pickup money

is money equal to
money needed

yes

game ends

no



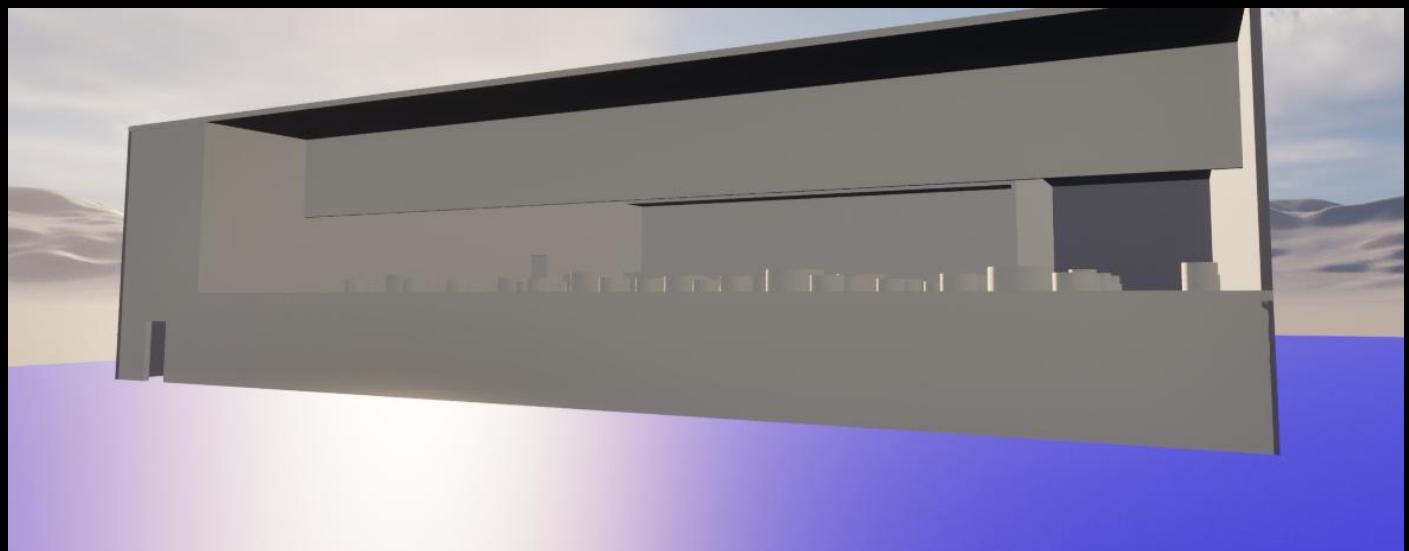
Level Design

Level 1

Since level one is a café from the anime it's going to look as similar as possible with a few differences .



I want to use this photo as inspiration



Greyboxed level however it has no assets or colour in. Also I have made the café bigger than it is to include more tables and chairs to it.



First iteration with the assets I have made. Placed in.



Now I have made the place complete with assets I had and placeholder materials .

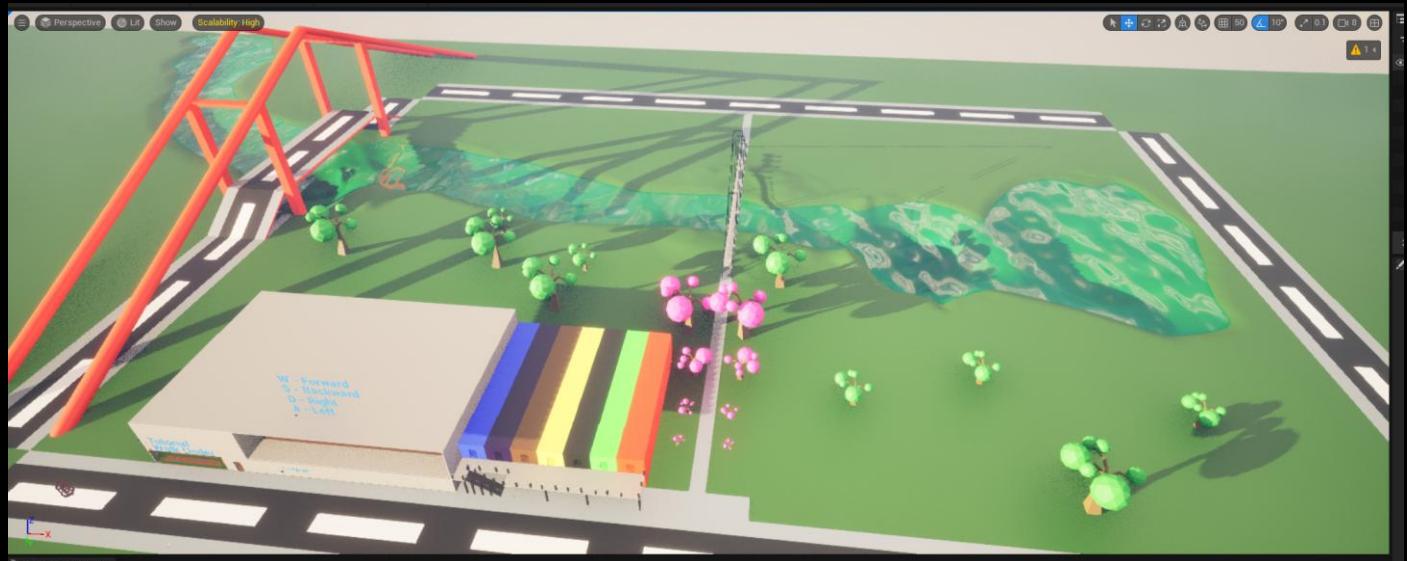
I had gotten rid of a few of my assets as I was having a few problems with coding if I had time I would be able to fix these coding problems and have more assets in the actual café with customers but priority was to get the round tables and original tables to work. And I have used them for the whole area and gotten rid of the stools and the booths.

Now I just need to add my block colour and it will work .



Now im going to add an environment to my level so it feels lived I may not be able to completely finish it but im going to attempt to make the level have thing other than just the café.

End result of the first level



Don't have much time to add more.

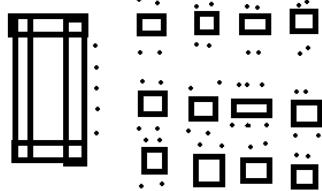
Level 2

checkerboard floor

top down view of
level 2

cafe kitchen

more seats than level 1 to
increase difficulty



basic layout however keep it
simple for right now and add
when the basic layout is done



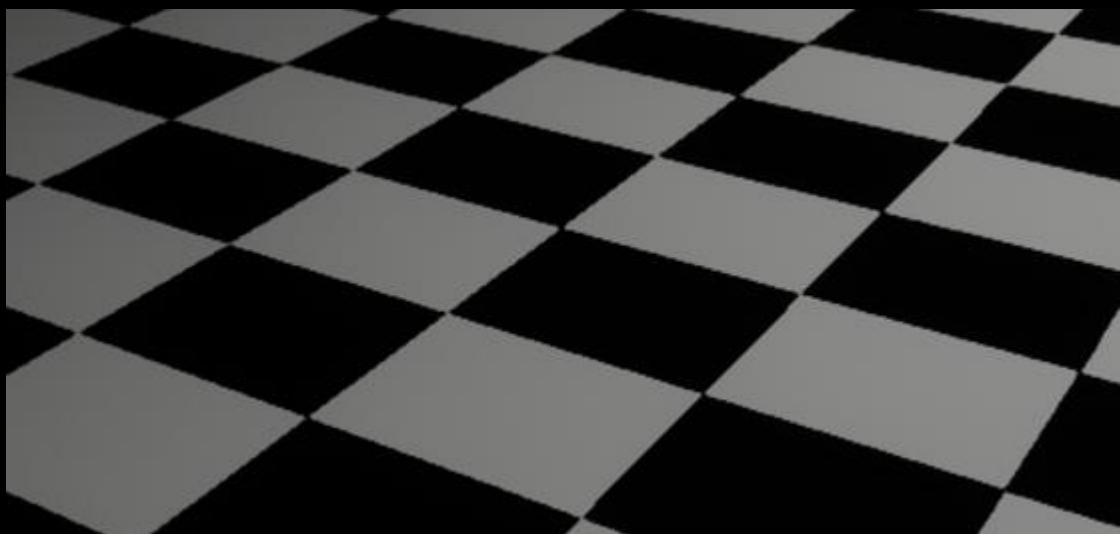
I've wanted to invite you over...

funimation

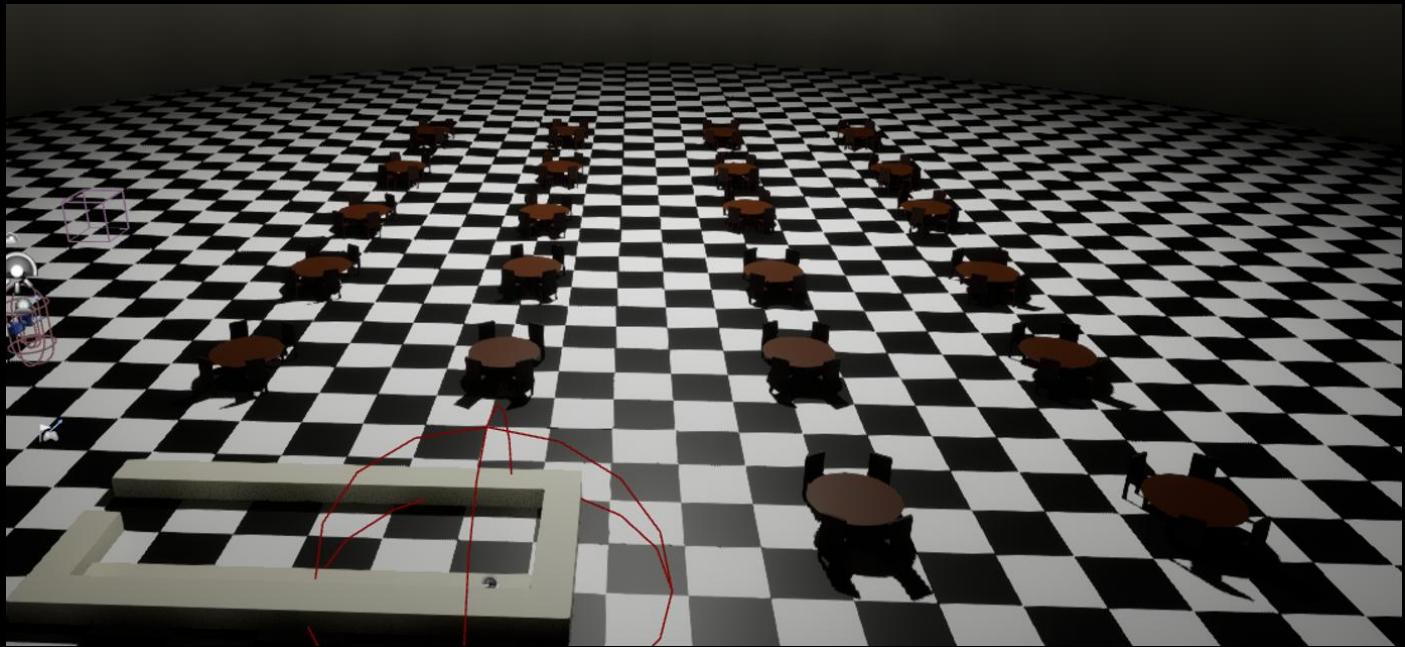
Area in the anime I want to replicate into a café.



Inspiration for floor and it has it in the anime .



Checkerboard floor that I wanted to add.

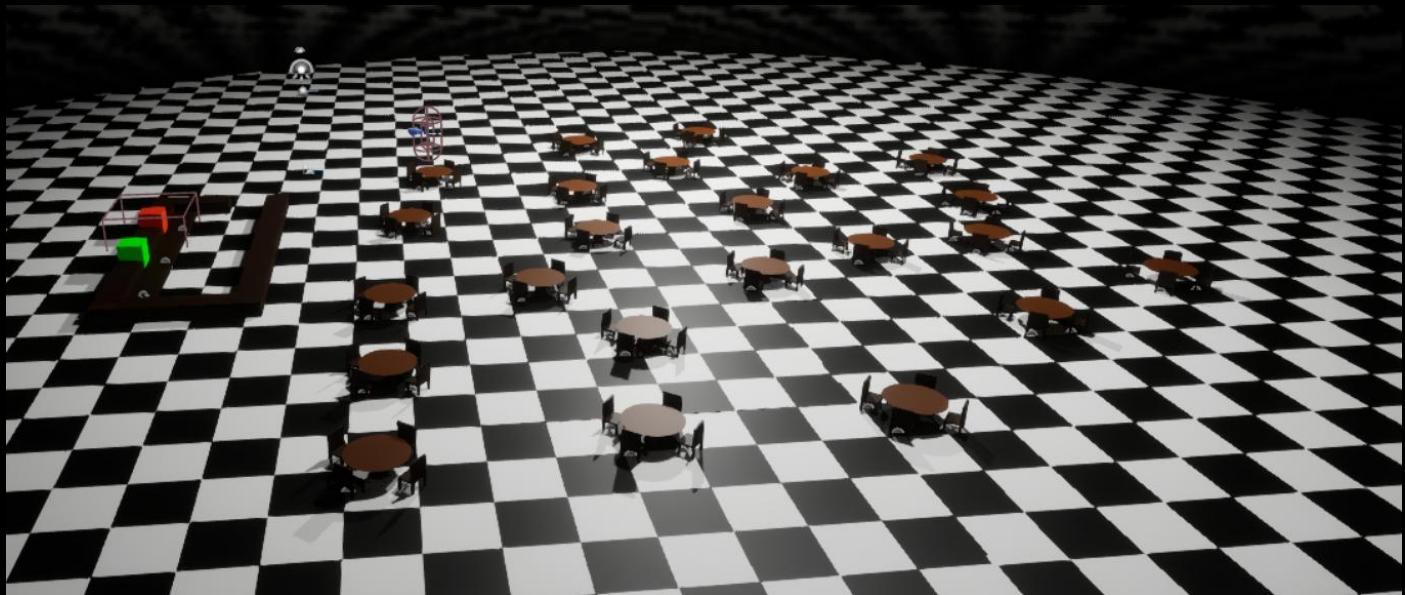


Add the giant sphere to give the dome effect I desired I haven't used the steel beams as I haven't had time and wasn't 100% sure it fitted what I wanted to achieve in the end .

I have reused the assets from the first level to fill up the area these round tables where mainly made for this level as the booths wouldn't have made sense to put in an open area .

I want the tables to feel more human and not organised so I have changed the way they are arranged I also added block colour to the chairs instead of using the starter content material for the chairs and added block colour and fully fleshed the level out with spawners and ai.

End result of level 2



Moved the able around made the light brighter coloured in the kitchen station area and moved the tables around in a move random placements.

Feedback play testing

Callum- tea cup needs to be unable to hit the wall. however, Callum said he liked the aesthetic of the game and the level of the game.

This means that we need to change our teacup so that it cant hit the wall. And the players reach was too far making it seem unreasonable and unhuman like.

This problem made it so that the teacup could hit a placac where the player couldn't reach it to pick it back up.

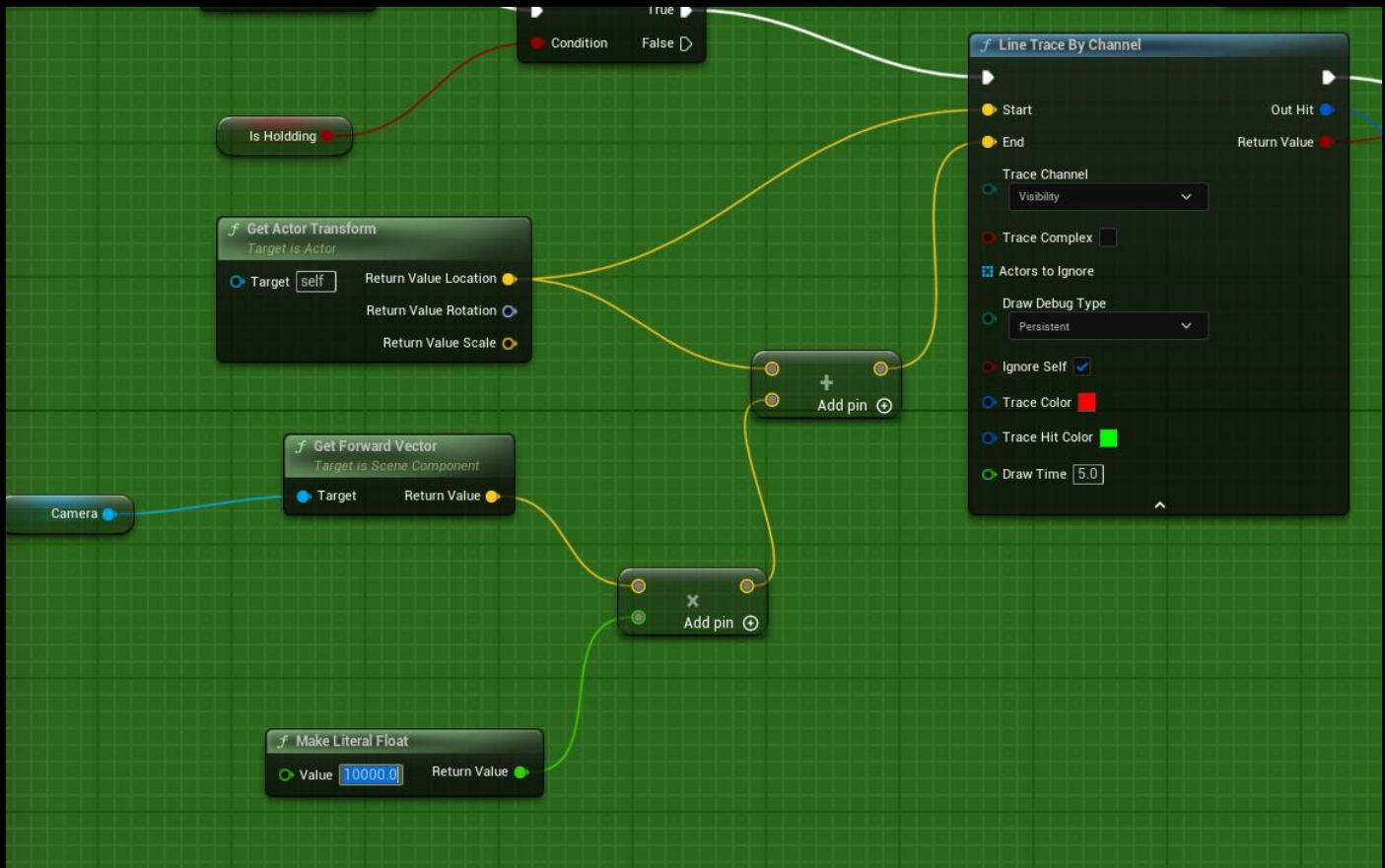
Change the range of the line trace and changed the wall collision.

Generate Overlap Events	<input type="checkbox"/>
Can Character Step Up On	Yes <input type="button" value="▼"/>
Collision Presets	Custom... <input type="button" value="▼"/>
Collision Enabled	Collision Enabled (Query and Physics) <input type="button" value="▼"/>
Object Type	WorldStatic <input type="button" value="▼"/>
	Ignore Overlap Block
Collision Responses <small>(?)</small>	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Trace Responses	
Visibility	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Camera	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Object Responses	
WorldStatic	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
WorldDynamic	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Pawn	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
PhysicsBody	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Vehicle	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Destructible	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Generate Overlap Events During...	<input type="checkbox"/>
Update Overlaps Method During...	Use Config Default <input type="button" value="▼"/>
Default Update Overlaps Method...	Only Update Movable <input type="button" value="▼"/>
Advanced	

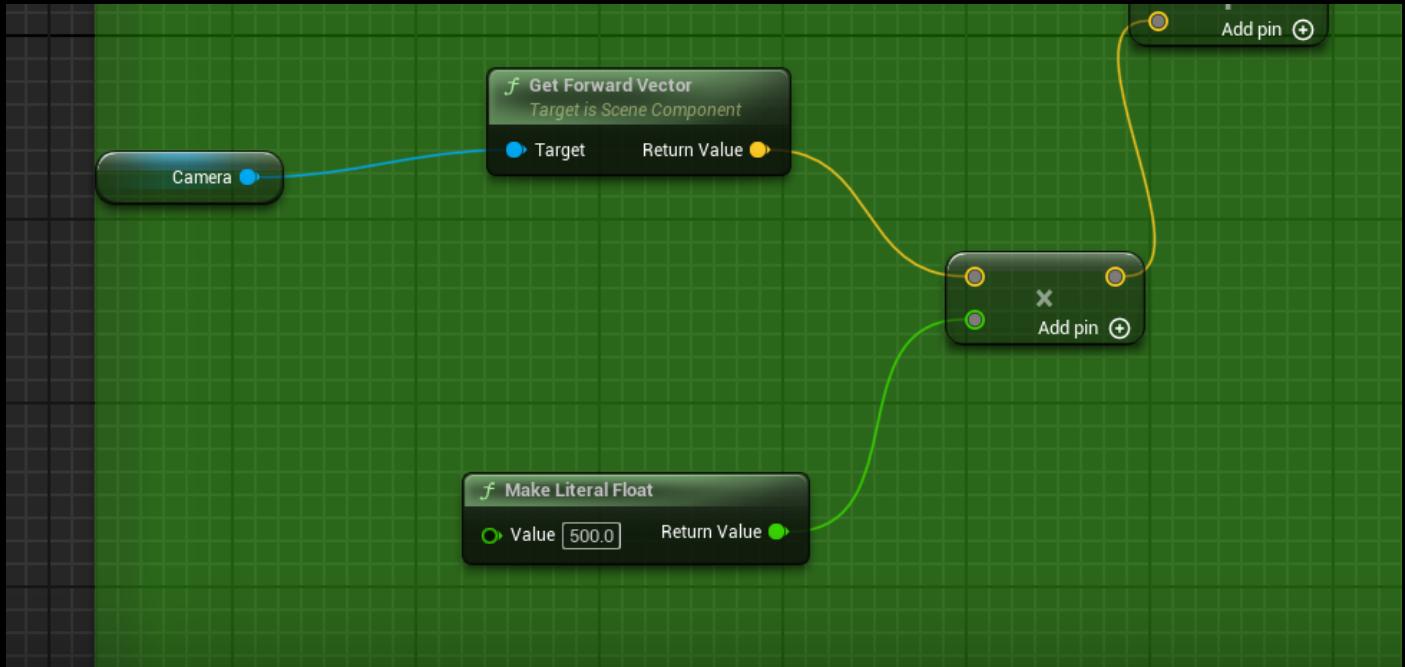
This is the problem making it so it can hit the wall and so I tweaked with collision and found that to stop the player from walking through and the items from hitting it I have to have block pawn and the all the others on ignore.

COLLISION PRESSETS		CUSTOM...
Collision Enabled	Collision Enabled (Query and Physics)	
Object Type	WorldStatic	
	Ignore	Overlap
Collision Responses	-	-
Trace Responses		
Visibility	✓	
Camera	✓	
Object Responses		
WorldStatic	✓	
WorldDynamic	✓	
Pawn		✓
PhysicsBody	✓	
Vehicle	✓	
Destructible	✓	

Now the teacup doesn't register hits on the wall so it can go out of reach for the player.



This is the part of the code which calculates the line trace for the drop system. I'm going to change the literal float so that it's smaller and the player can place the teacup very far away from themselves.



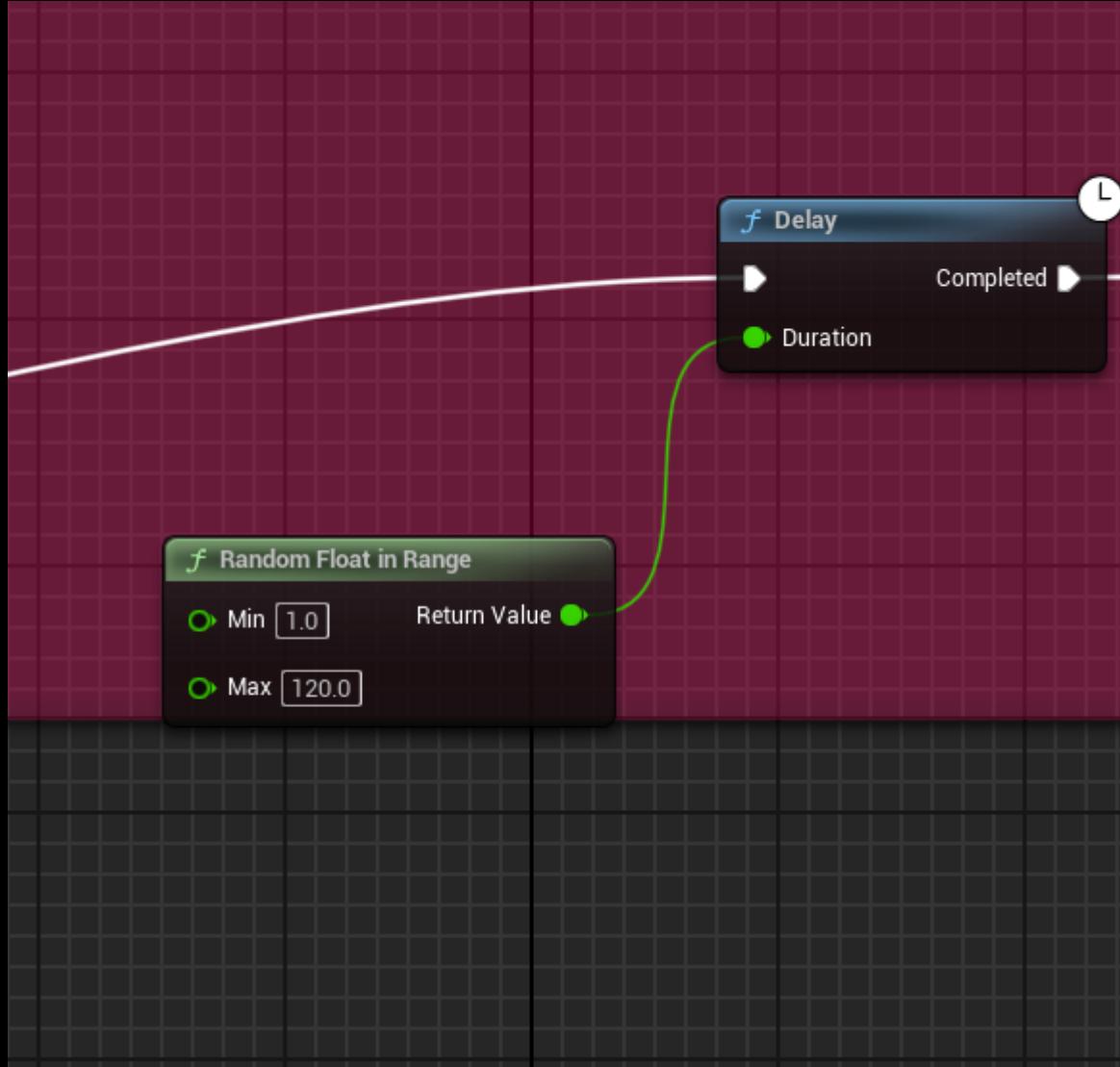
Changed the literal float to 500 so the player doesn't have a crazy reach and has a reasonable reach making it more realistic.

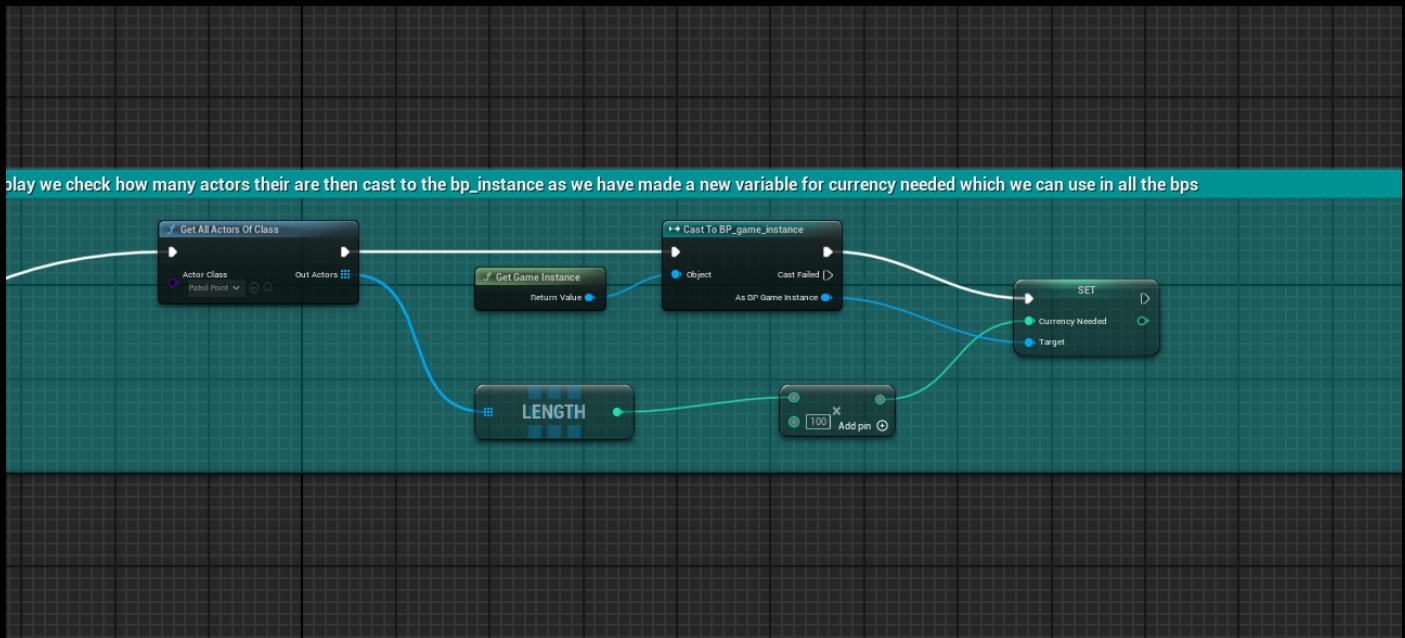
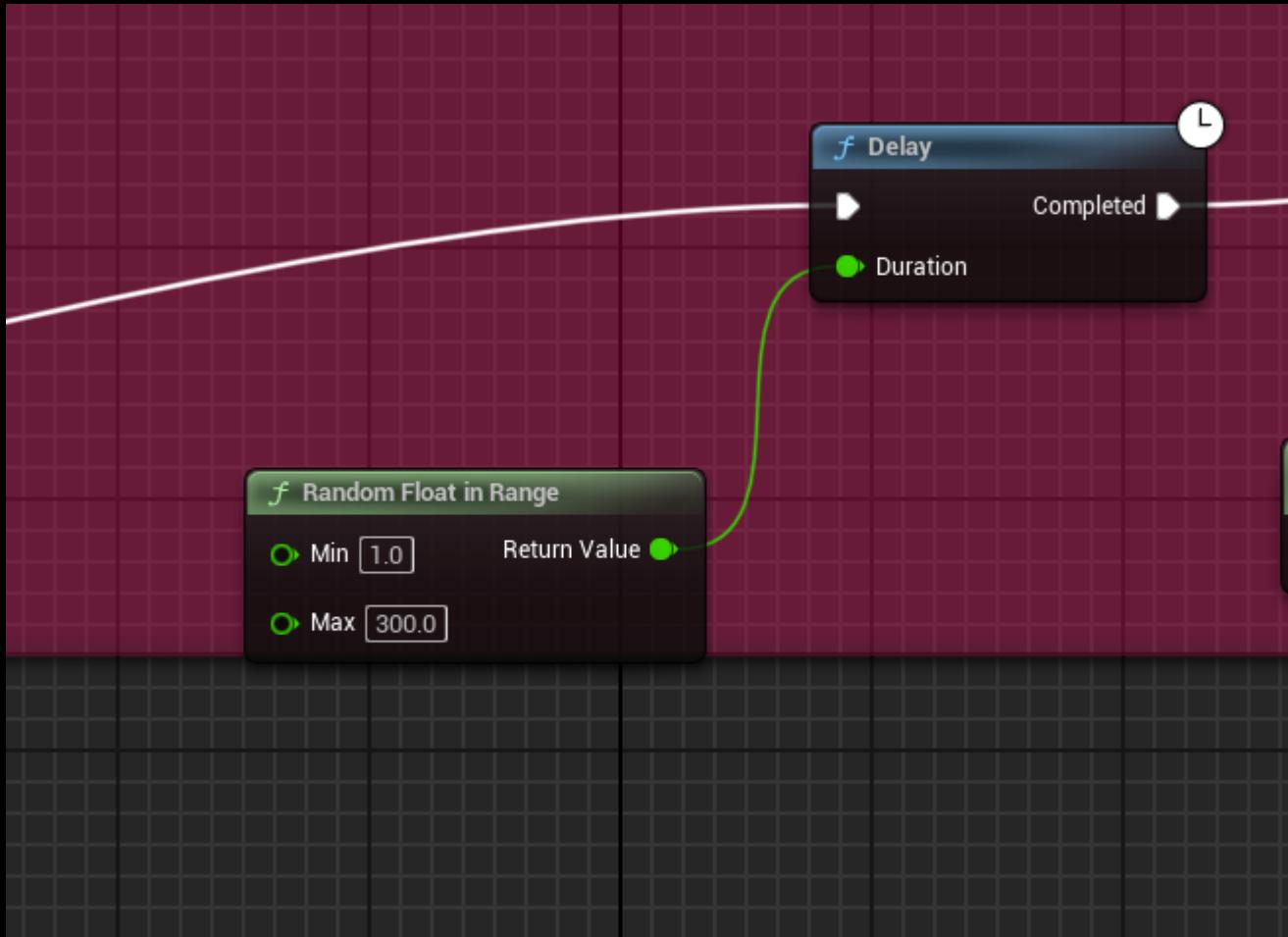
Callum again after game has been fully fleshed out.

Make player height taller as you have to jump to place items down.

Quite a few bugs .

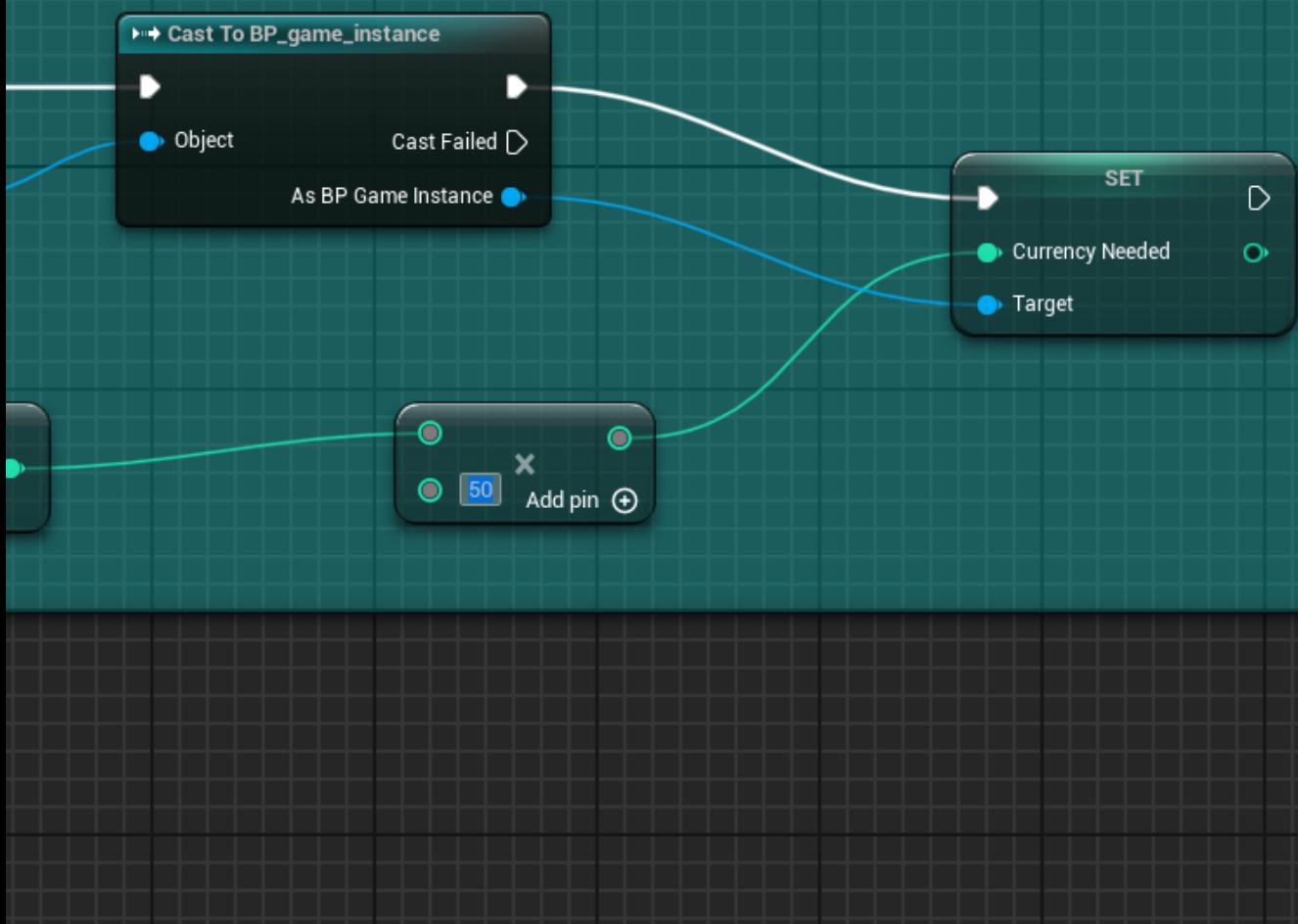
Player seemed overwhelmed with the amount of npcs spawned so im going to increase the spawn time and going to decrease the money needed to make the game play quicker. A teacup can be given to two people at once doubling cost and getting money for only one item.





Change the value to 50.

I have made a new variable for currency needed which we can use in all the



Decreases the total value needed.

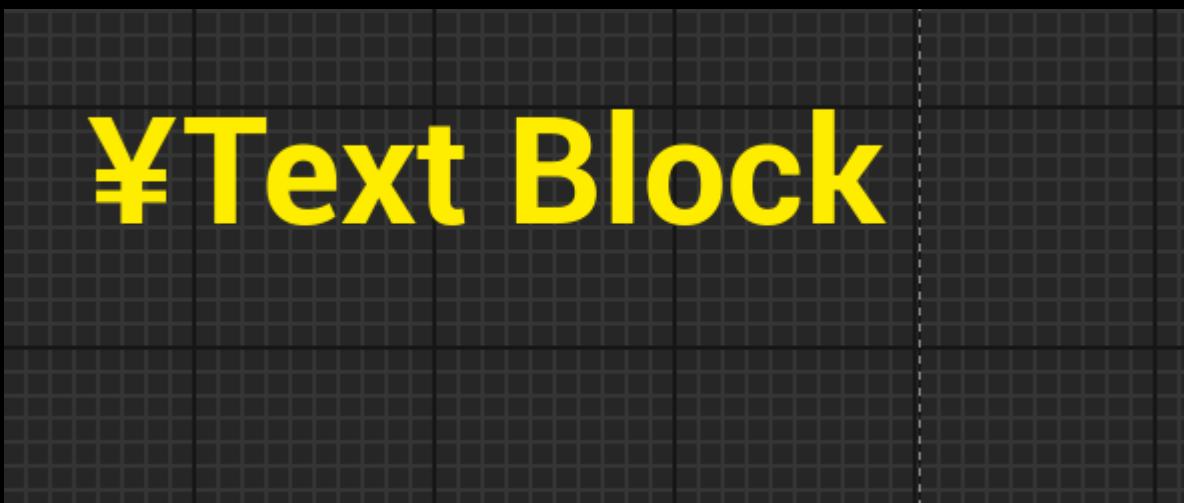
Callum also said to make the money in the top right bigger and make a box around it to make it stand out as he didn't realise it and to also make it clear how much money you need. Also the character was too small so he had to jump everywhere .

I have decreased the size of the tables and chair to make it so the character can easily go on it.

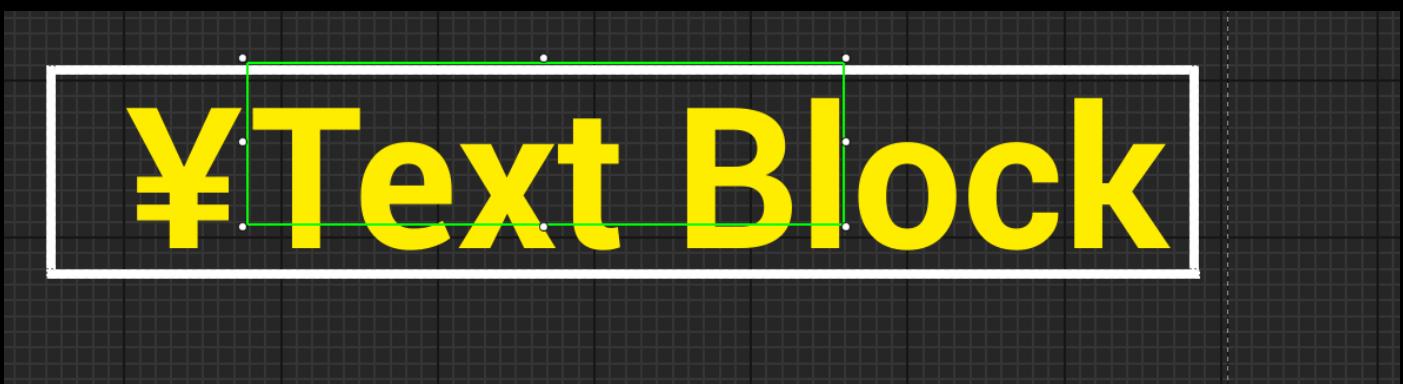


I have added the new size tables to both levels so the size stays constant . this fixes the height problems as the player is taller than the chairs and the table making placing items down easier.

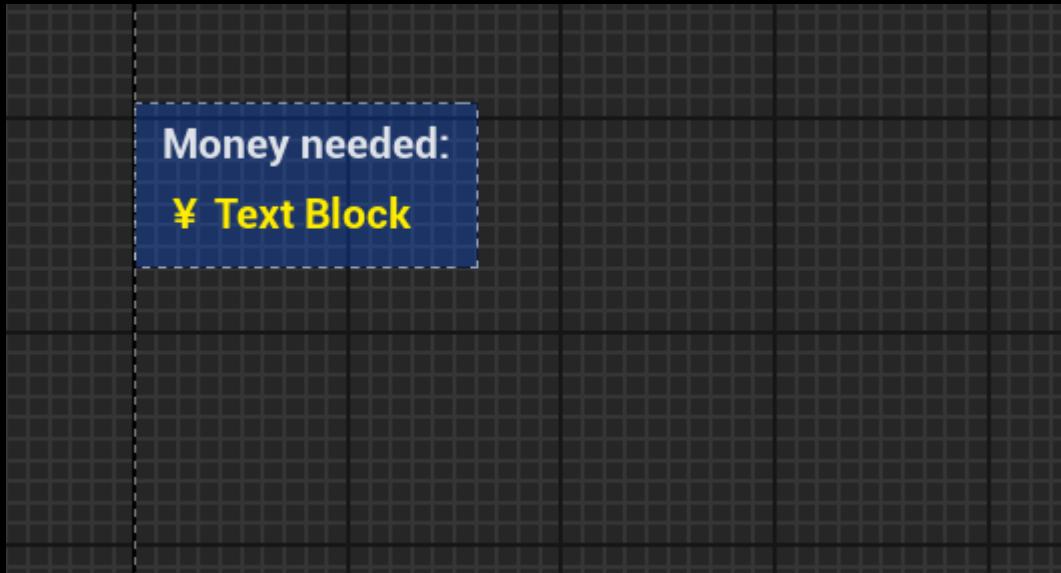
Now to fix the money ui. first, I have increased the size of the font from 32 to 50. Makes it easier for the player to see.



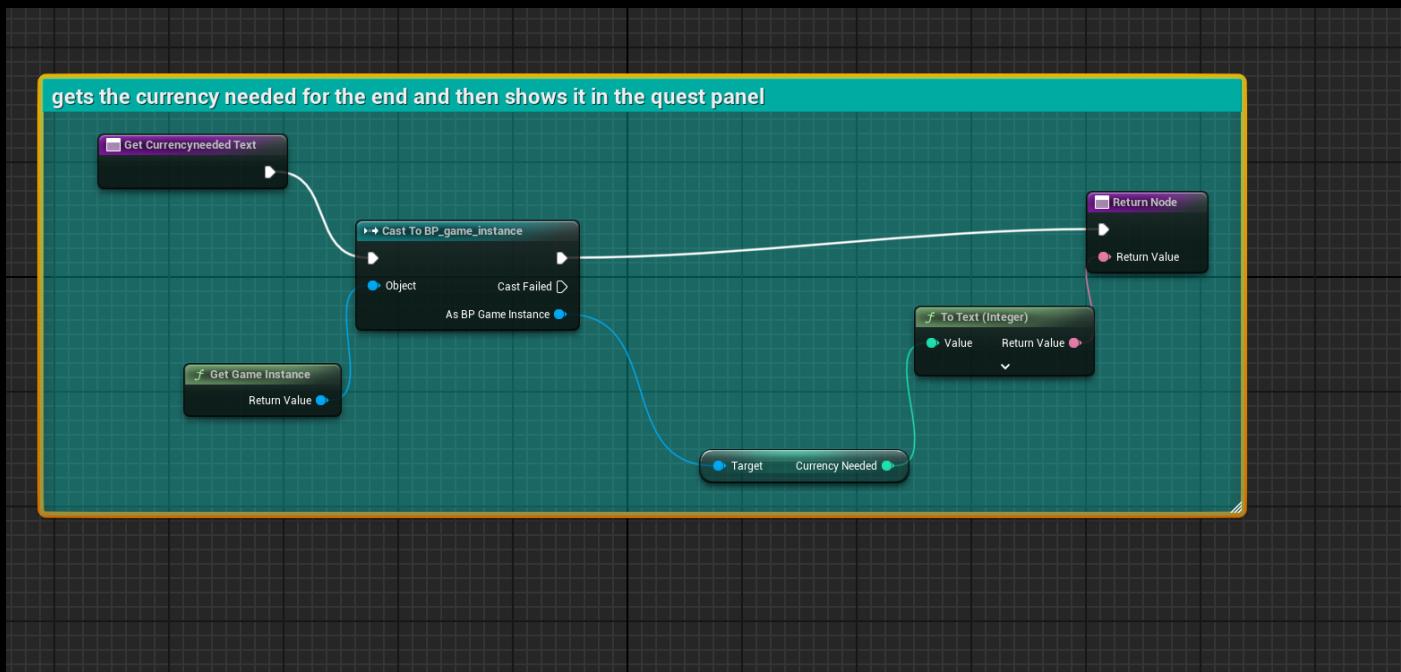
Now I want to add a box around the money to make it stand out more.



I have added a border for the outline.



I have added a background that has some level of transparency. Add 3 text boxes and anchored them to the side . the text block it currently binded to some code for currency need and when the currency is reached the game ends.



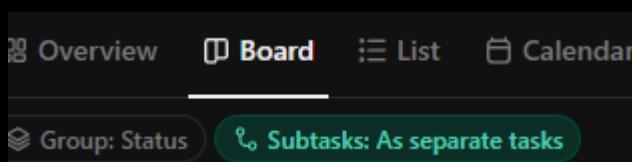
This gets the game instance and gets the currency needed which is calculated in the spawn point BP.

This shows the player what their goal is and the amount of money needed to reach clearly this impacts the game because the player clearly knows what their goal is.

Click up

<https://app.clickup.com/9012349264/v/s/90121566213>

make sure to go into board and click subtasks as separate tasks as I have many subtasks and you can see them all in the normal mode .



Development log

Start of project 15/10/24

My log of all things I have done in the process of the games design.

A screenshot of the Clickup application interface, specifically the List view for the 'GDD FIRST ASSIGNMENT' board. The left sidebar shows the user's spaces, including 'Great Britain' and 'GDD FIRST ASSIGN...'. The main area displays a list of tasks: 'TO DO' (1 item), 'IN PROGRESS' (0 items), and 'COMPLETE' (0 items). A task titled 'RESEARCH' is expanded, showing its subtitle 'target audience research' and five subtasks. The interface is dark-themed.

Click up made for the research set of the portion.

17/10/24

Attack on Titan 2 research complete.

Arkham knight and battlefield 2 research complete.

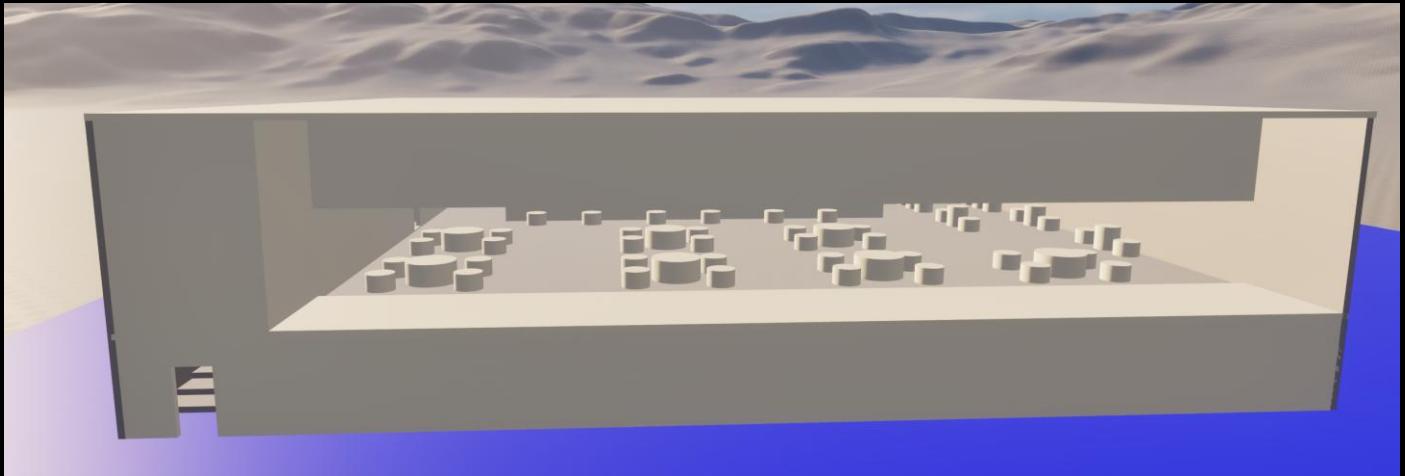
19/10/24

Doing idea generation.

Watched video of Anteiku café shop layout and started grey boxing. <https://youtu.be/O54KRAZCKIU>

Did first floor of the café as it's the café part of the building and the most important part if I have extra time I could add more of the original building level and maybe add easter eggs.

Finished the basic outline with grey boxing in unreal.



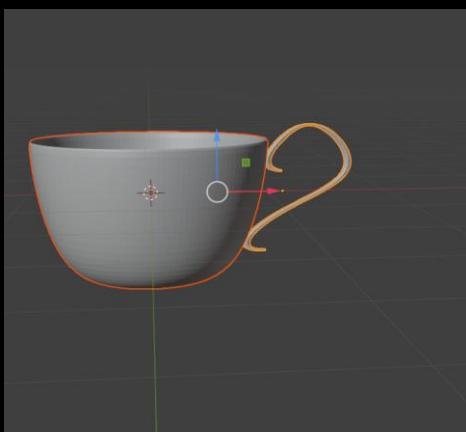
Done PowerPoint for pitch checkoff in Clickup.

Presentation was hard as it was had for me to stand and talk in front of other people however would say it went well.

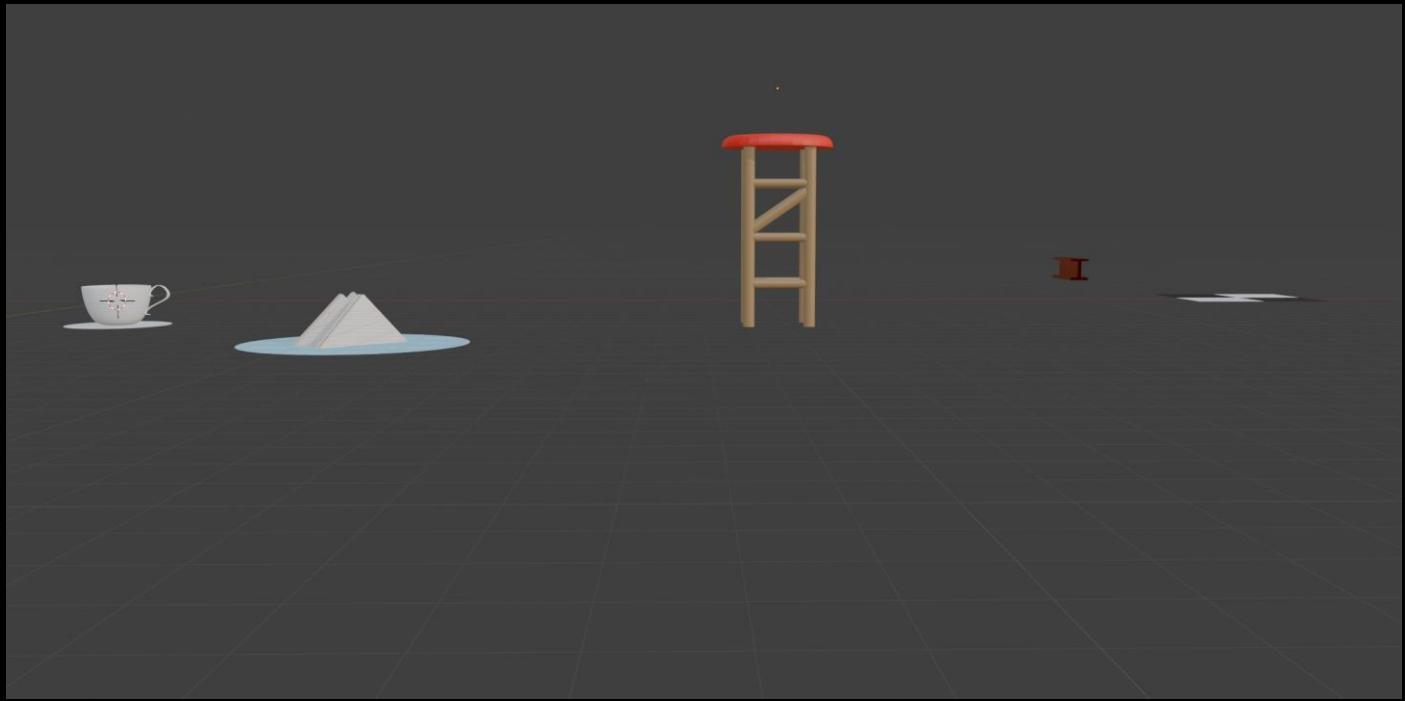
Done presentation.

Started making asset pack in blender.

Done teacup in assetpack. Teacup handle was pretty hard to do as it required to use curves so I could get a more natural curve.



Done stool, floor , steel beam , sandwiches. Put in assetpack and imported into unreal project.



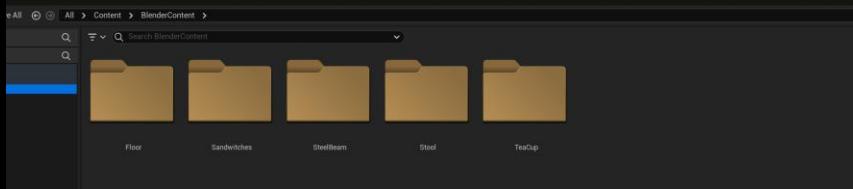
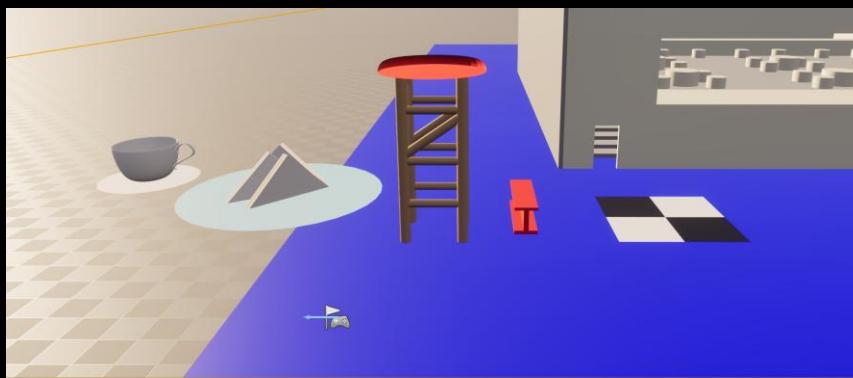
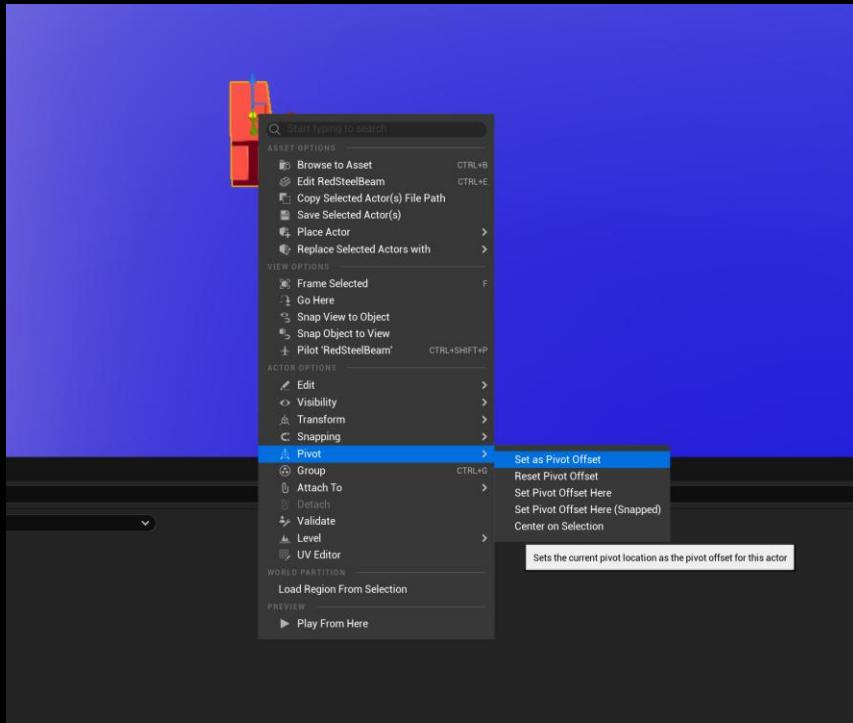
Put in unreal engine into my level. Watched a tutorial on it . Video : [Import Objects From Blender to Unreal 5 \(2 MINUTES!!\)](#)

MCRAsetpack	18/11/2024 14:08	Blender 4.2	2,502 KB
MCRAssetpack.blend1	18/11/2024 13:53	BLEND1 File	2,556 KB
MCRAssetpack.fbx	18/11/2024 14:11	FBX File	5 KB
SANDWITCHES.fbx	18/11/2024 14:17	FBX File	86 KB
Stool.fbx	18/11/2024 14:34	FBX File	102 KB
TEACUP.fbx	18/11/2024 14:13	FBX File	700 KB

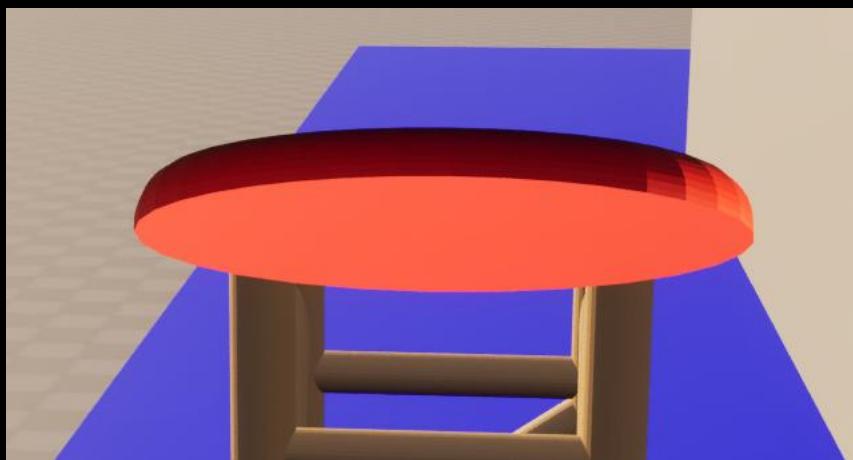
As instructed by the video I have exported each file in FBX format

I had a problem where the gizmo in unreal wasn't in the middle of the object and search it up and found a shortcut to fix where the gizmo is on the object Alt-Middle Mouse button then right click select pivot then set pivot offset.

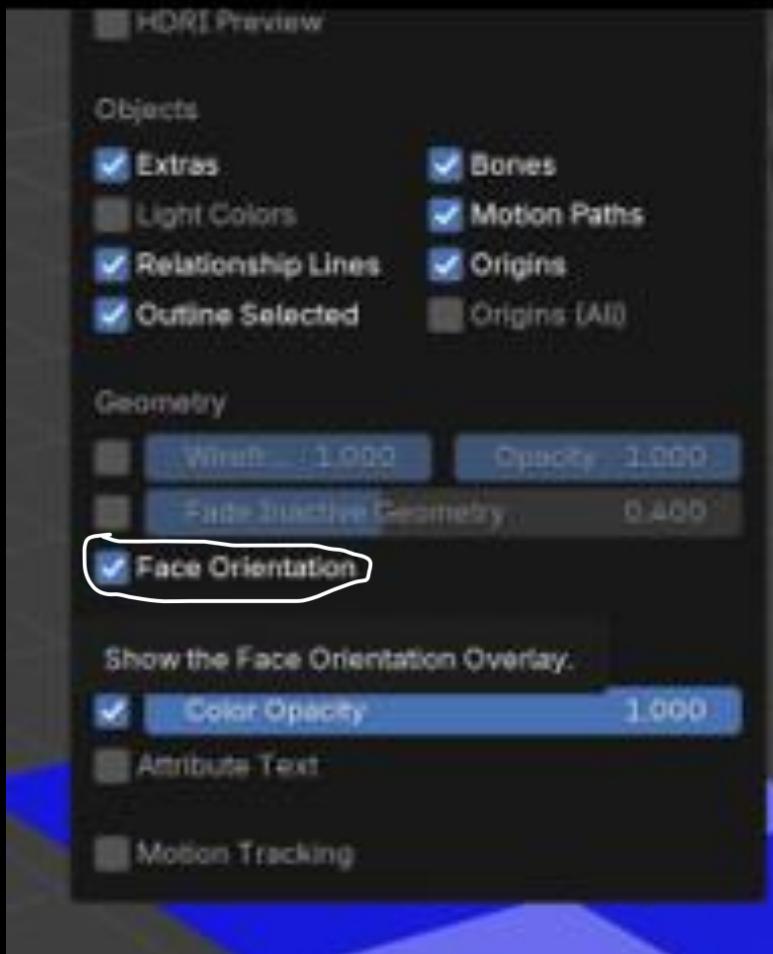
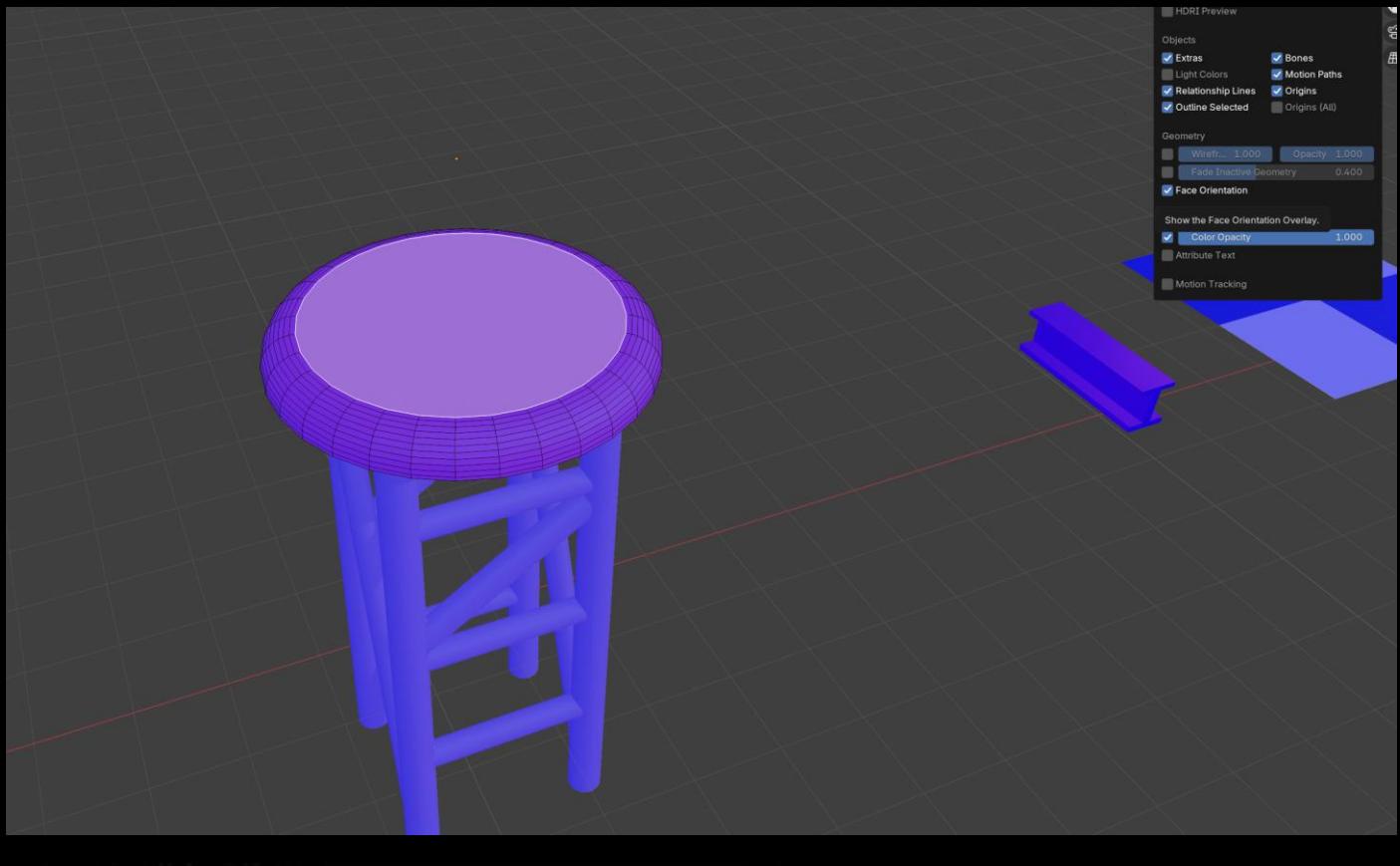




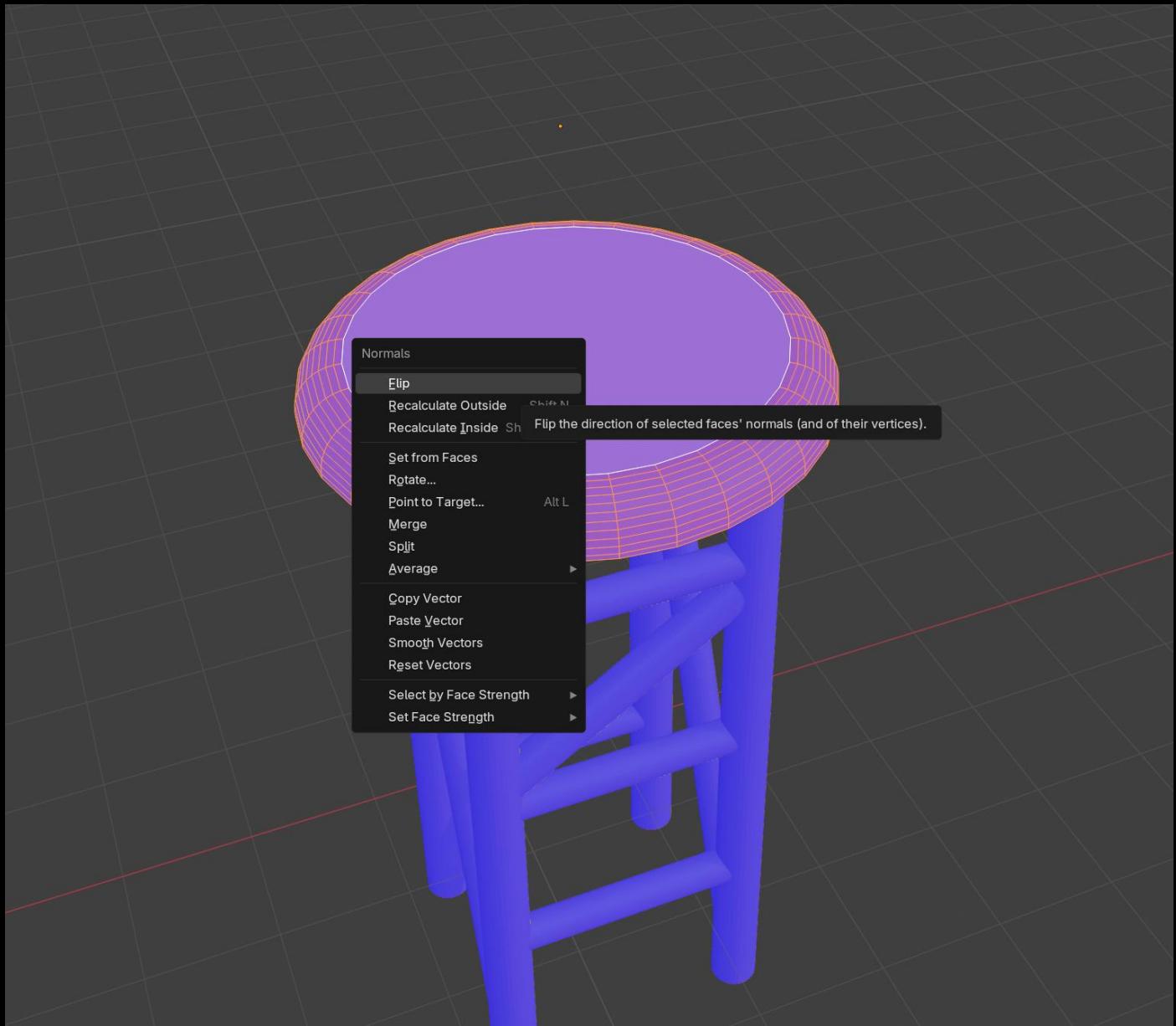
15/11/24



I had a problem and with unreal as it shows the inside of the seat. Tommi came in and helped and told me that in blender the outside was actually the inside and showed me how to fix it . First click the button face orientation show it shows the colours red is inside the shape and blue is outside red was shown around the seat.



After seeing it was red I selected the whole thing then Alt-N to flip and then had to re export the file into unreal and delete the old one.



16/11/24

I have made an booth and chairs in blender for my assetpack. And am currently going to make the tables.



Made a tree, road, round table and rectangle table the tree was hard to make so searched up a tutorial and watched this tutorial for blender.

[Create a Low Poly Tree in Blender in 1 Minute!](#)

Rectangle table was easy to make but had to experiment with different ways to make a circle top so I extruded a cylinder and scaled the length and width not height to get the circle effect.

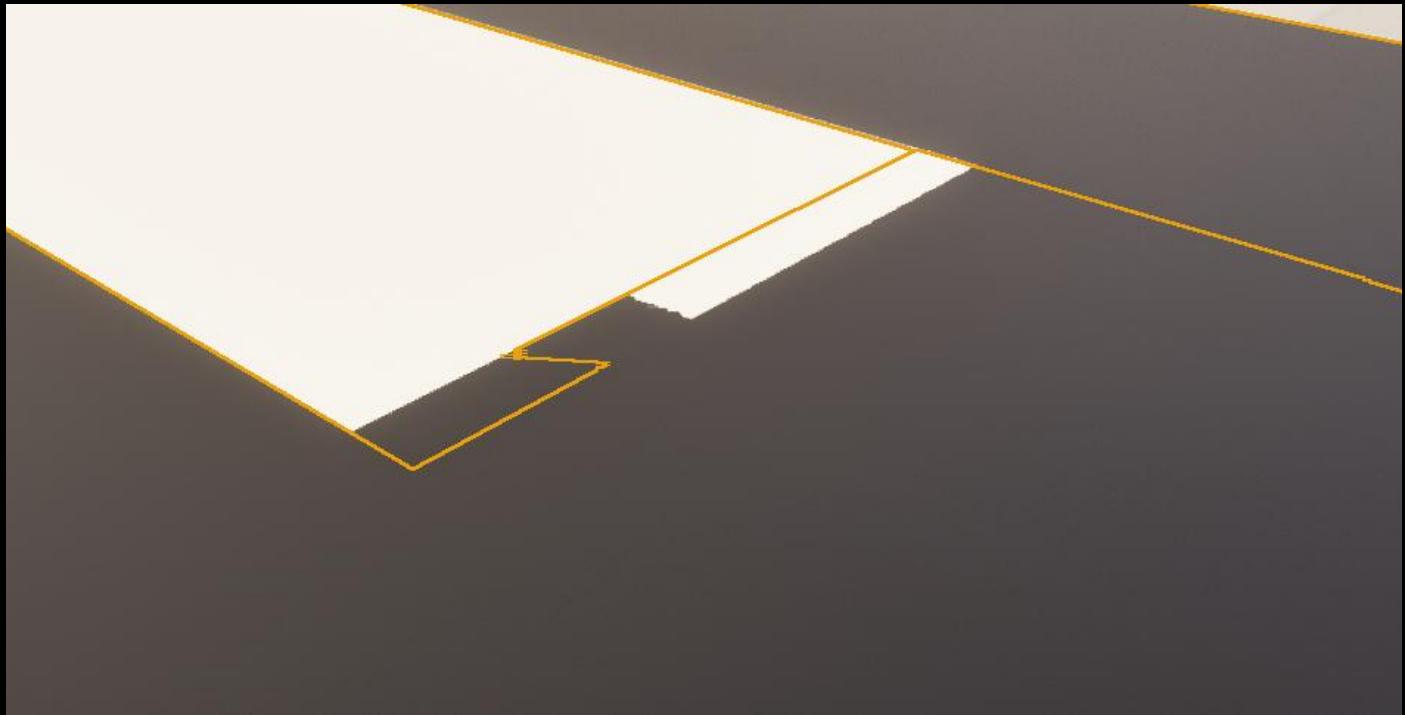


Road was easy to make as I used the planes and just colour certain ones to make a road. Tree was hard as its harder to make natural shapes in blender. So, I decided to make a low poly tree with a cartoonic style with bright colours.

The screenshot shows a project management interface with the following details:

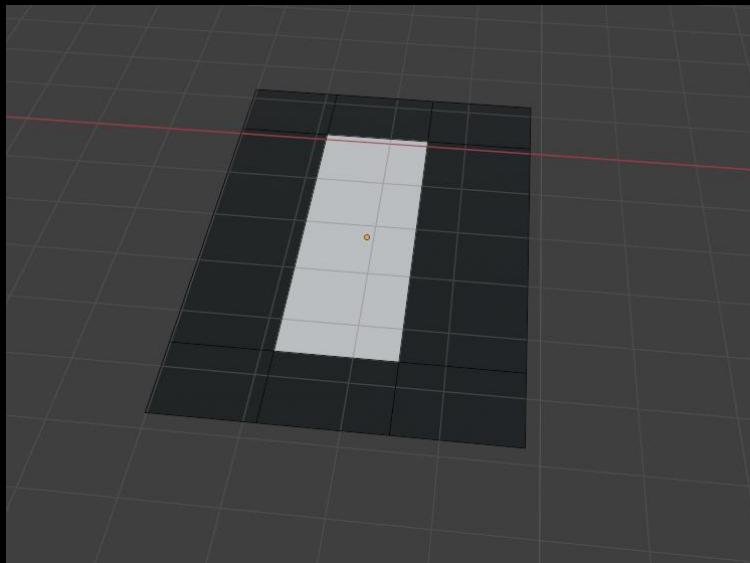
- Project Name:** GDD FIRST ASSIGNMENT
- Status Legend:** TO DO (28), IN PROGRESS (2), COMPLETE (17)
- Tasks:**
 - replace greyboxing with assets**: Subtasks: level 1 (In Unreal / Things to do with unreal), exterior (road, trees), interior (double table rectangle, single table round), exterior (trees, road).
 - target audience research**: Subtask: 1 subtask.
 - engines to use**: Subtask: In RESEARCH / List.
 - genre**: Subtask: In RESEARCH / List.
 - current games with similar ideas**: Subtask: In RESEARCH / List.
 - art styles**: Subtask: In RESEARCH / List.
 - environment**: Subtask: In RESEARCH / List.
- UI Elements:** Search bar, AI button, navigation tabs (Overview, Board, List, Calendar, Gantt, Table), and a '+' button for adding new groups.

Ticked off more tasks that I have completed. 18/11/24

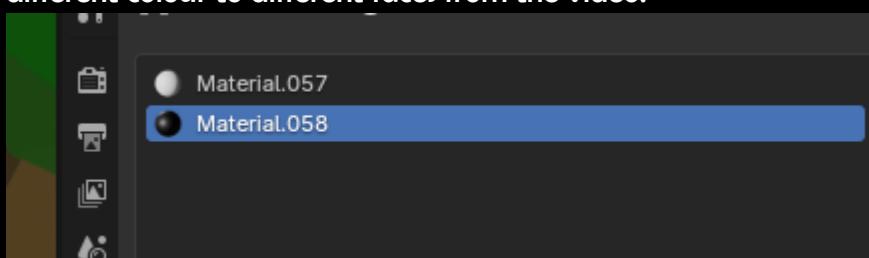


I had a problem with overlapping parts on the road so I need to go fix this in blender and line up the object more.

Watched a blender video on colour and faces [Blender Tutorial: Assign Material to faces and select material by similar](#)

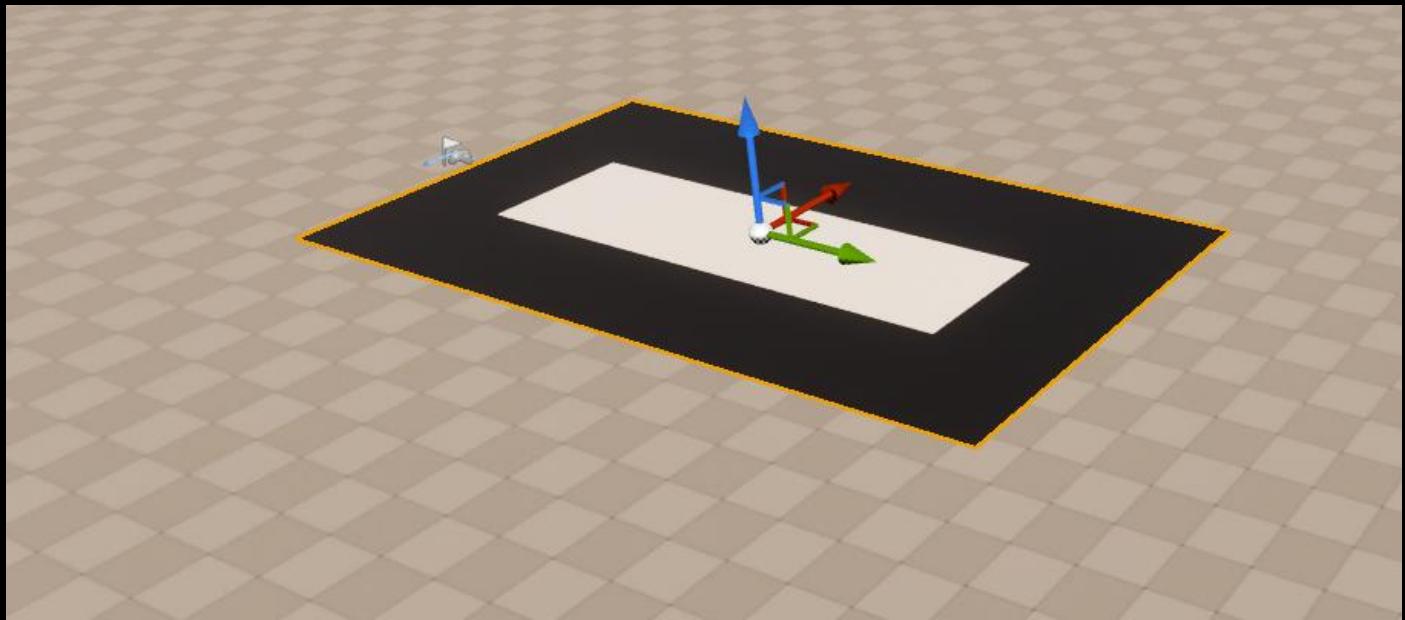


Made the road out of one shape and therefore it wont have clipping issues and found out how to assign different colour to different faces from the video.



Create new materials and assign them to each face.

Fixed the issue with clipping



More clipping issues



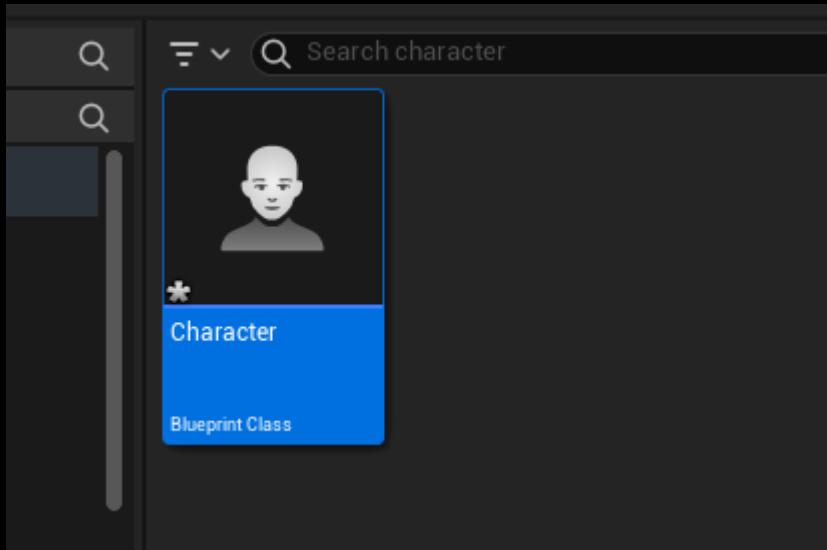
This is just a simple thing where I just need to scale down the blocks of the building and make them fit together perfectly. I have decided to use preloaded textures and simple colours in blender and unreal as I want to make the prototype of my game look alright but it wont be perfect as if I had more time would make my own custom textures with more detail.



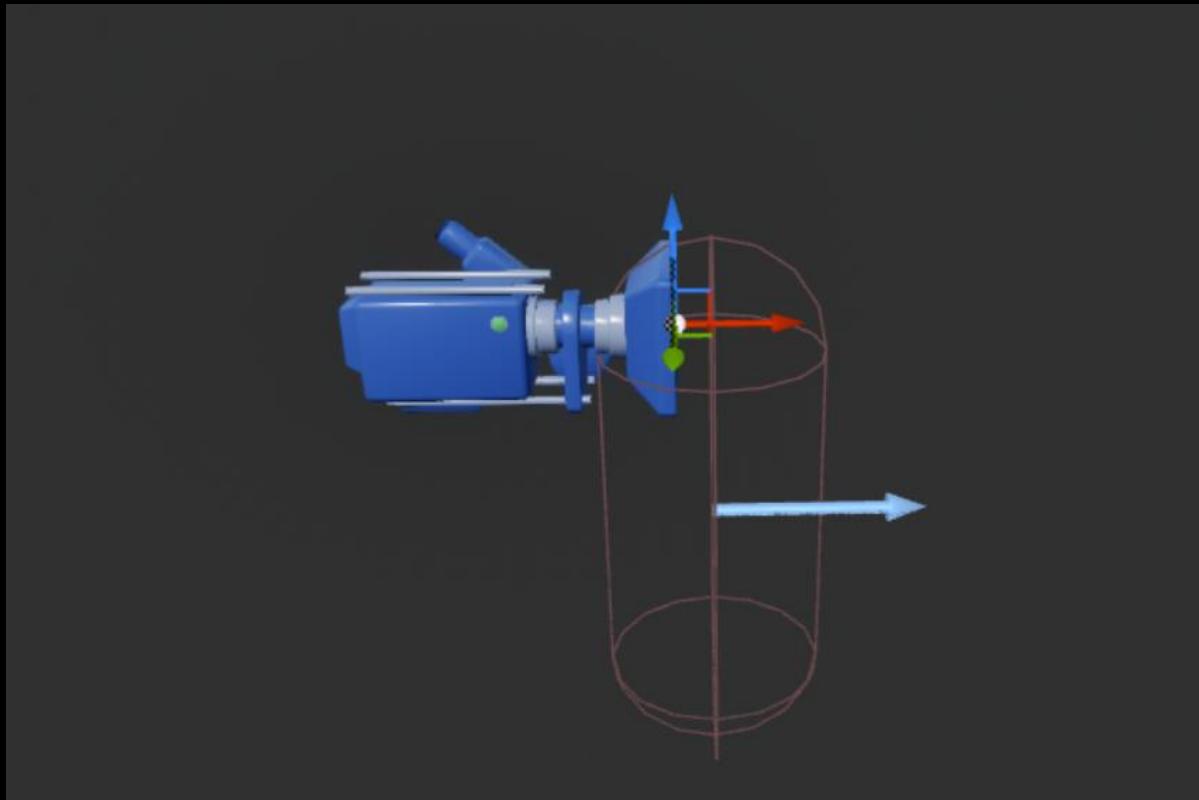
Completed the floor and fixed the clipping issues with the floor and their was many overlaps.

20/11/24

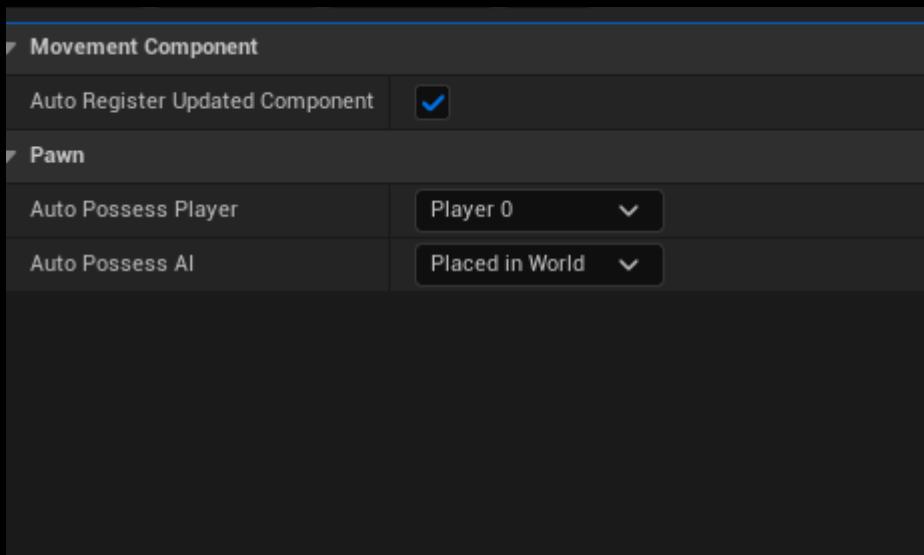
I'm going to start to make my character using Jacobs tutorial.



Created character blueprint.

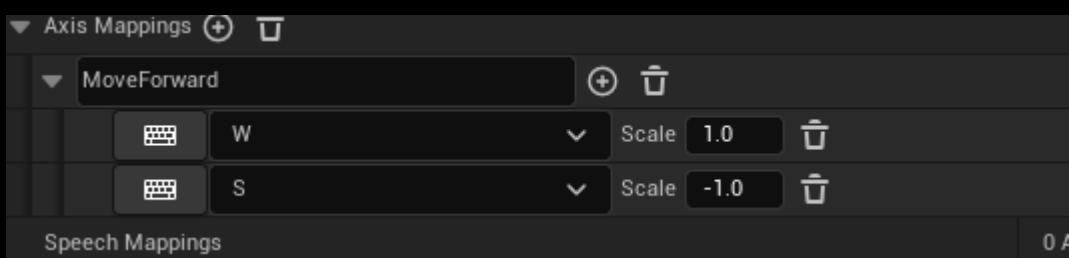


Added camera to character so that we can see through it.



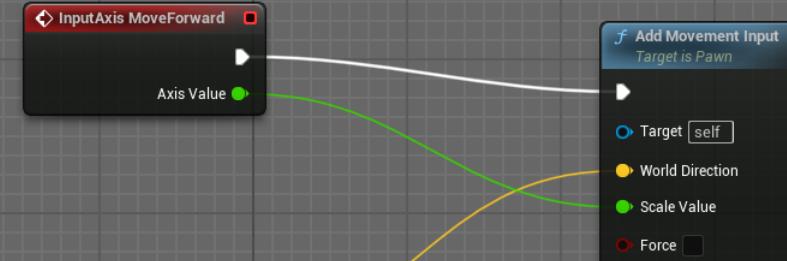
Possessing the character so that we automatically become that character.

26/11/24



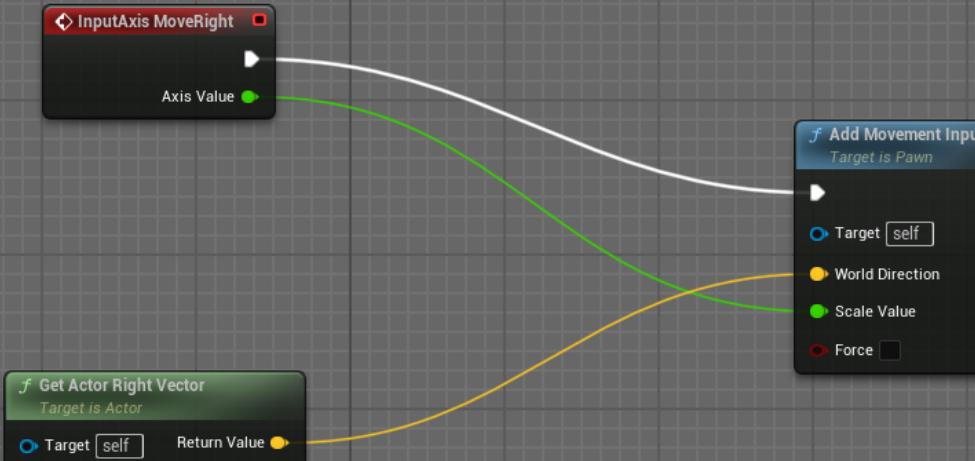
Forward and backward movement.

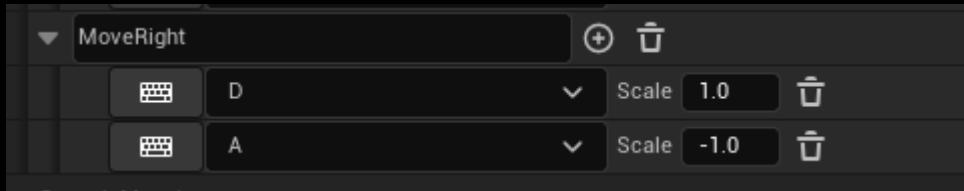
Move forward and Back



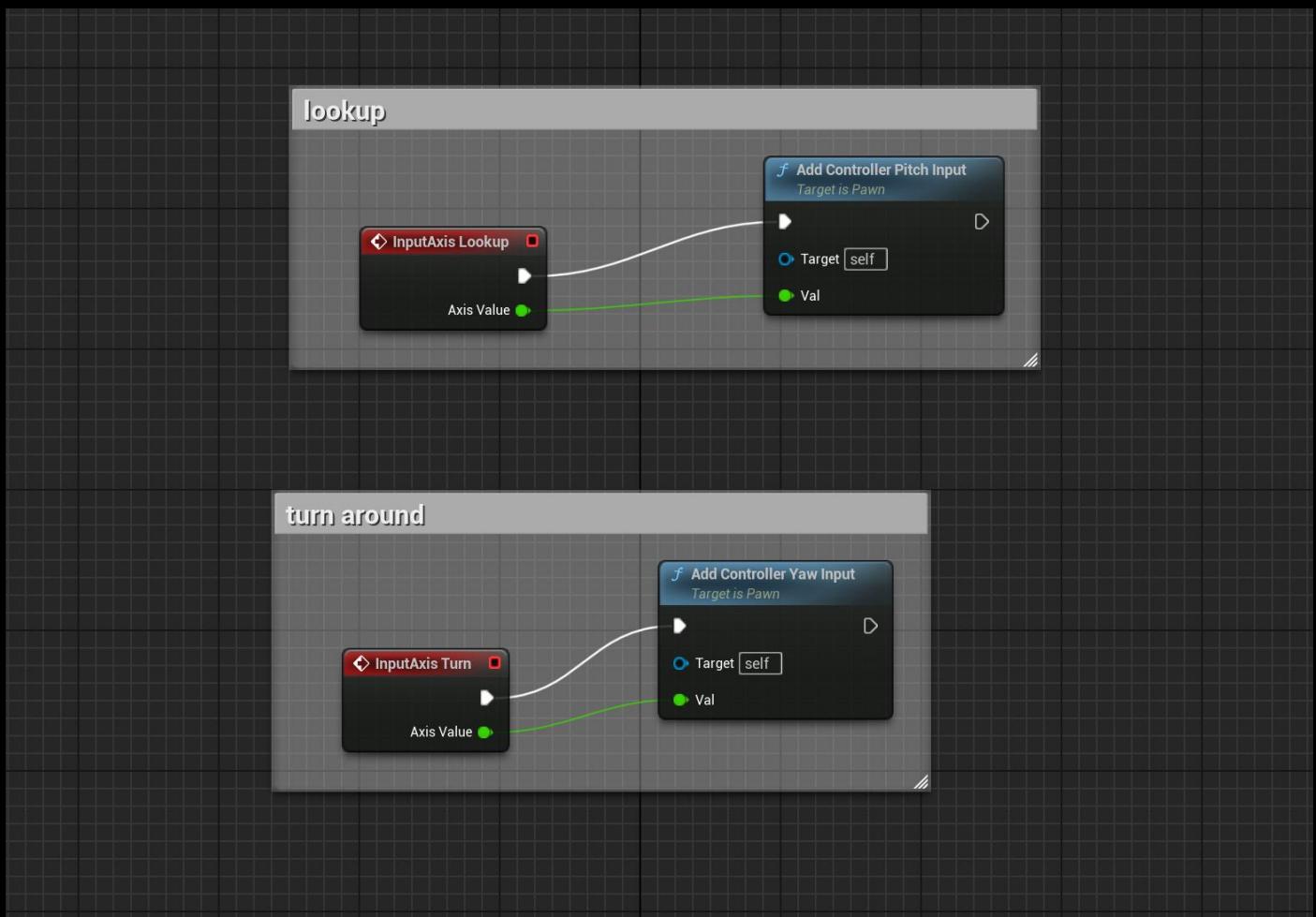
Forward and back now work when in game.

Move Left and Right



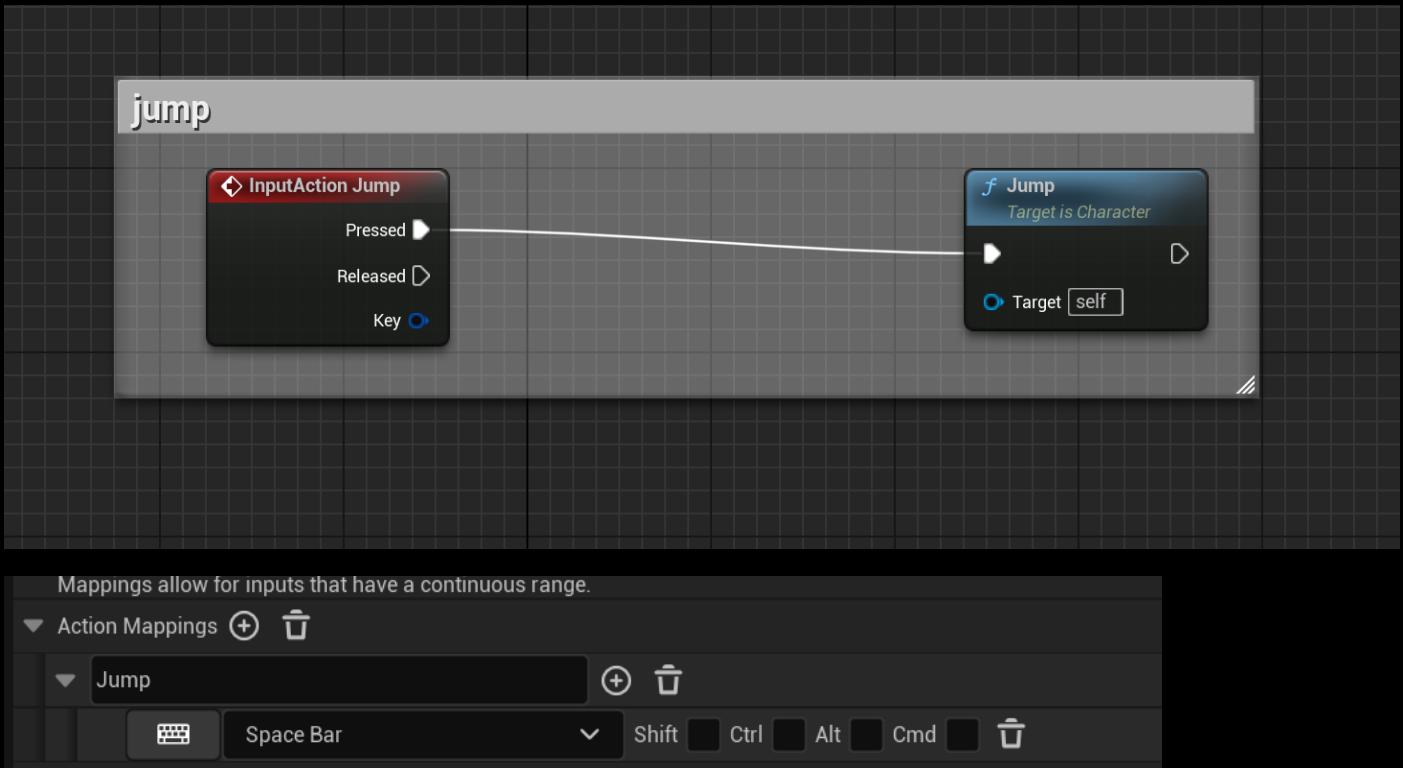


Now we are going to add yaw and pitch which is turning in simple terms.



Testing of movement done see video titled Testing character movement. Everything works as expected.

Working on jump .



Testing jump. Video called Jump testing.

Completed the basic movement as I don't want complicated movement

[How to Pick Up Items in First Person and Equip in Hands in Unreal Engine 5](#)

Watch this tutorial for pick up and drop items.

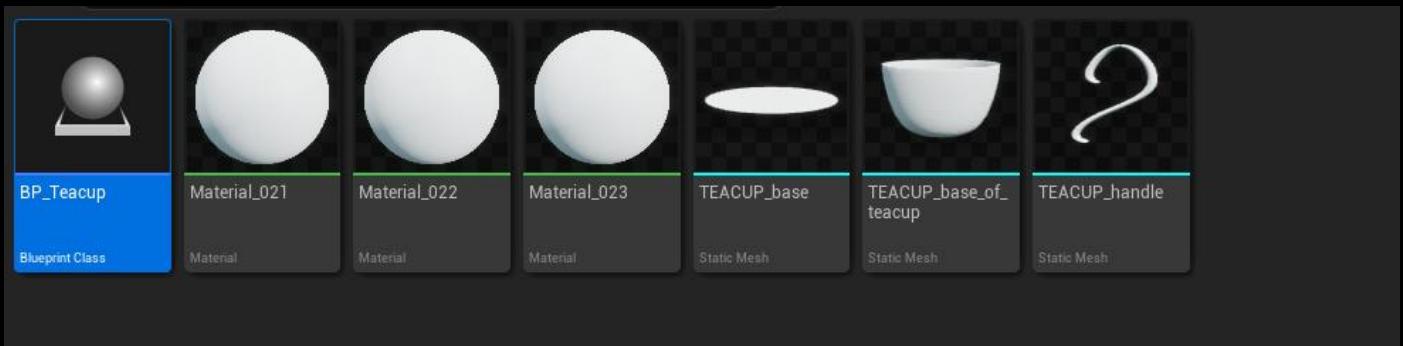
Watch this tutorial for spawning.

[Unreal Engine 5 Tutorial - How to spawn objects in different locations using Select Node](#)

29/11/24

Started watching the pick up and drop items tutorial and we have a problem.

Created actor blueprint

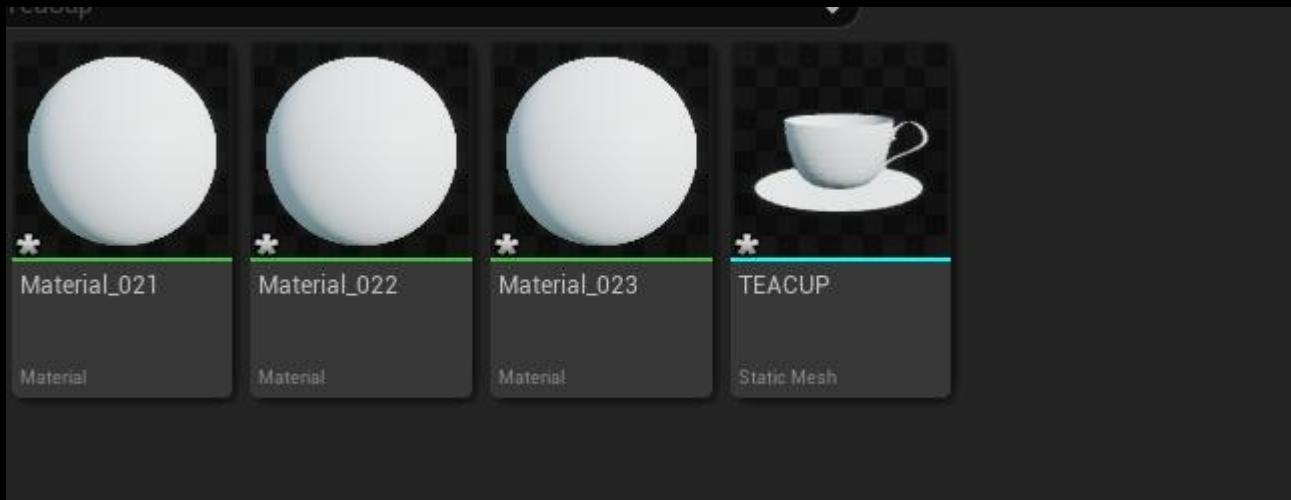


The problem we have is that the teacup is multiple meshes so therefore when I want to select a mesh it only selects one mesh and would have to put three meshes in so it would easier to connect my assets back together and make them one whole mesh instead of multiple and update all my assets in blender and

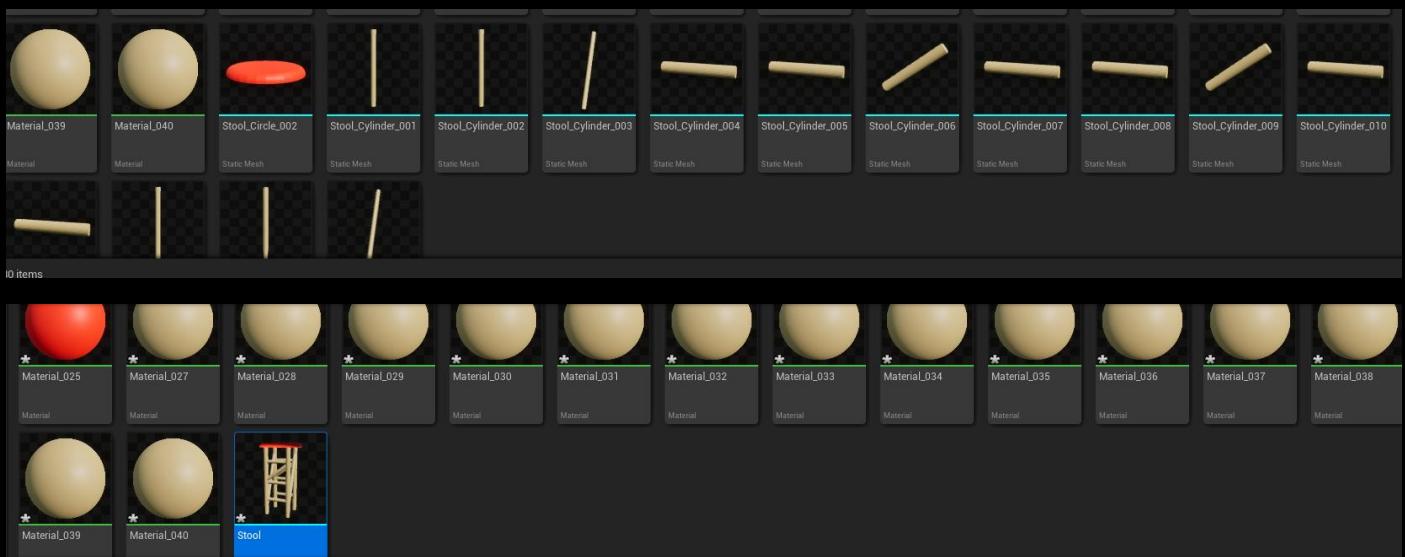
unreal as most of them are separate meshes put together.

Remove the objects you no longer want in your model, like the interior objects. Then select all of your objects that you want in a single model and hit **Ctrl + J** then click **Join selected meshes**. The multiple objects will now be one model you can export.

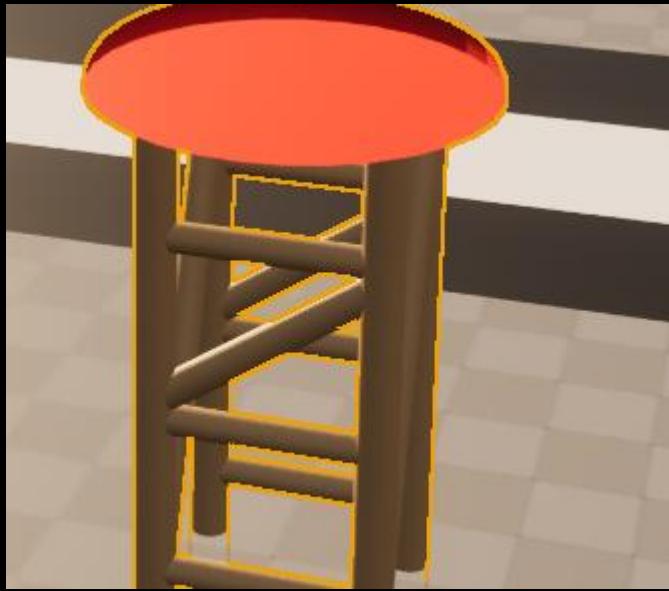
When we press it it becomes a single object fixing our problem of multiple meshes now Im going to do it for every object.



Teacup fixed



Fixed the stool however we have run into the same problem again and we know how to fix it

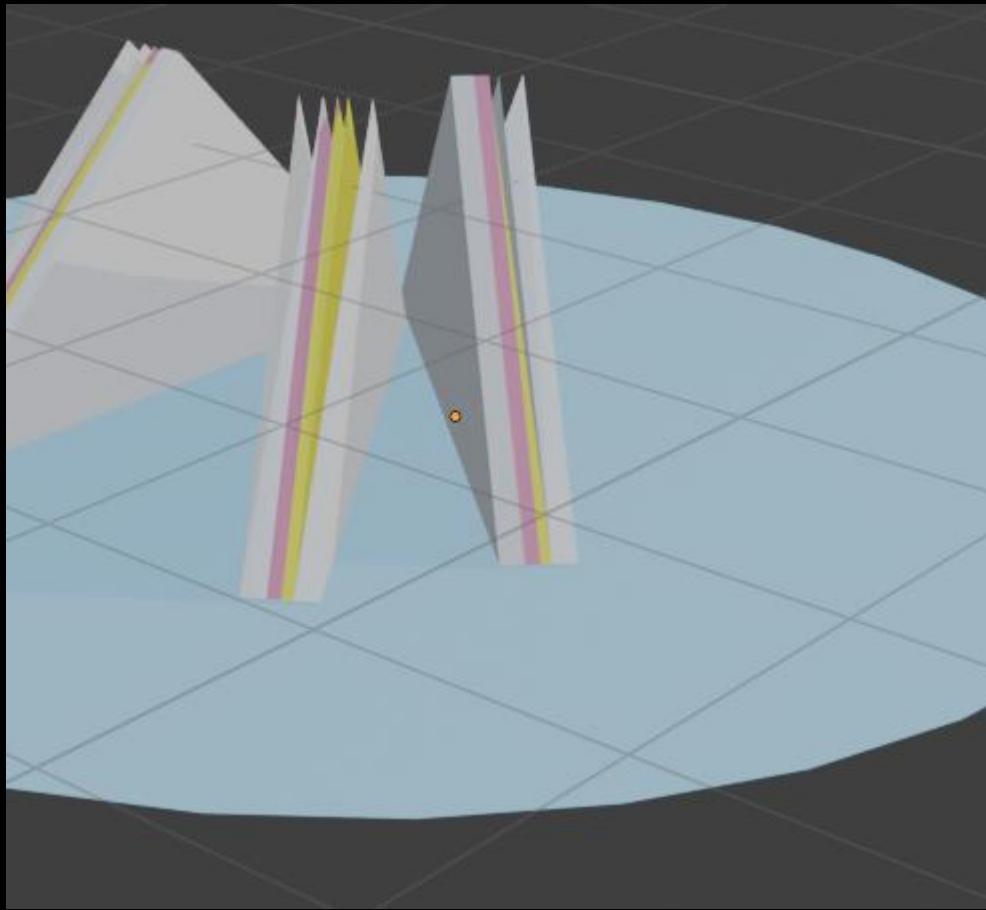


I refer back to 15/11/24 in the dev log and fixed the stool.



Fixed with one mesh.

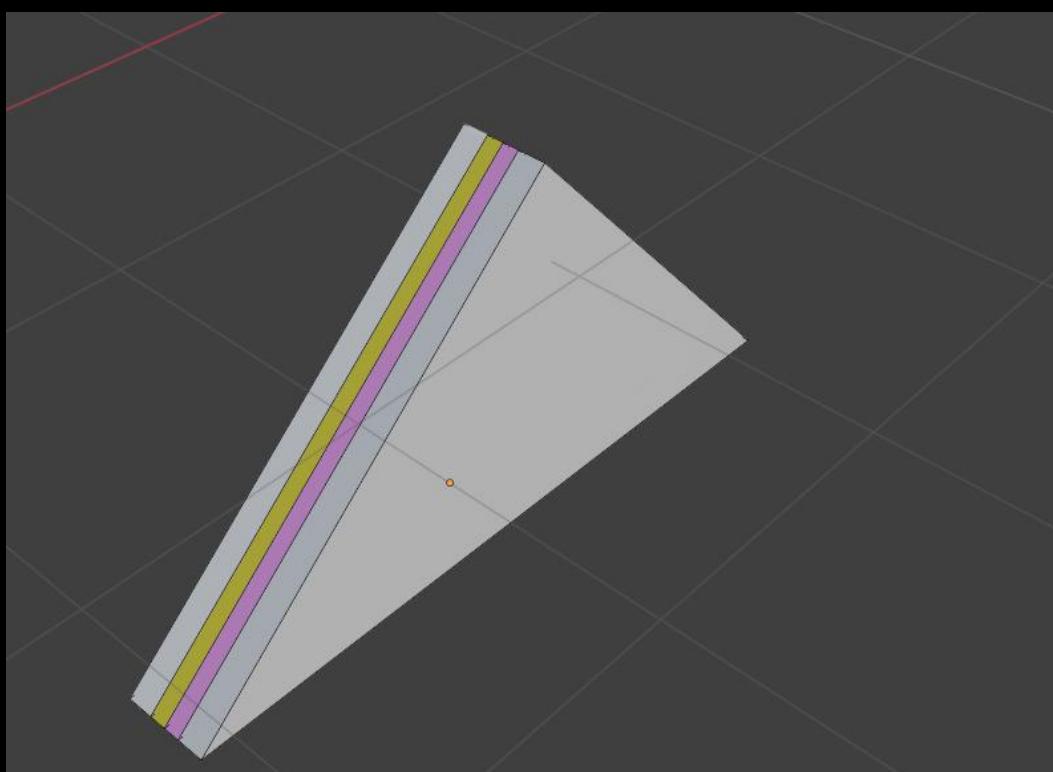
When I try ctrl j and join these meshes this happens



Therefore im going to restart my sandwiches as they where relatively easy to make.

1/12/24

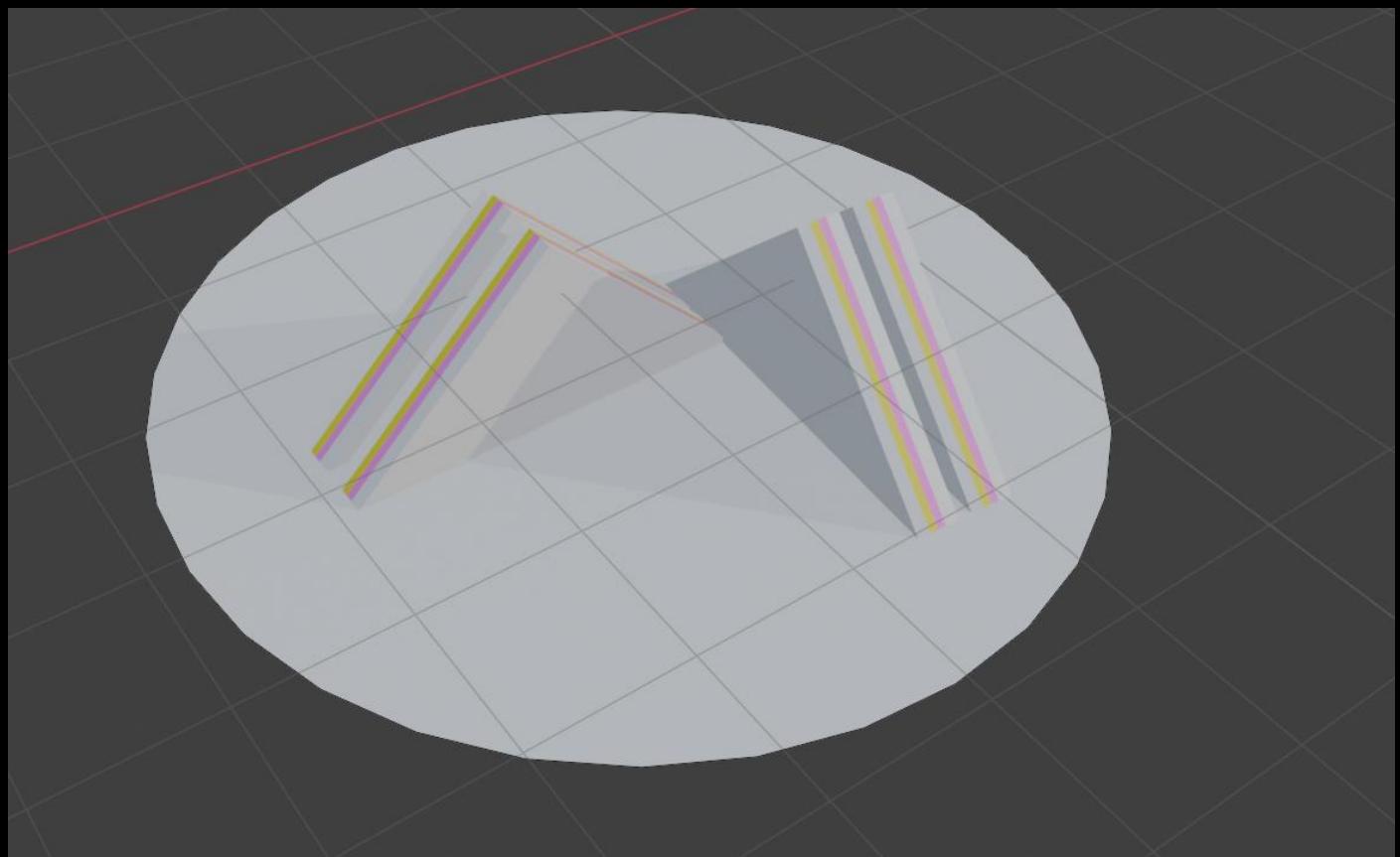
Im going to fix this by making the sandwitch a whole shape and not traingles put together as before the reason I didn't make them a single face was because I didn't know how to colour individual faces now I do .



Now im just gonna repeat it and make three and a plate and join them to make the final shape .

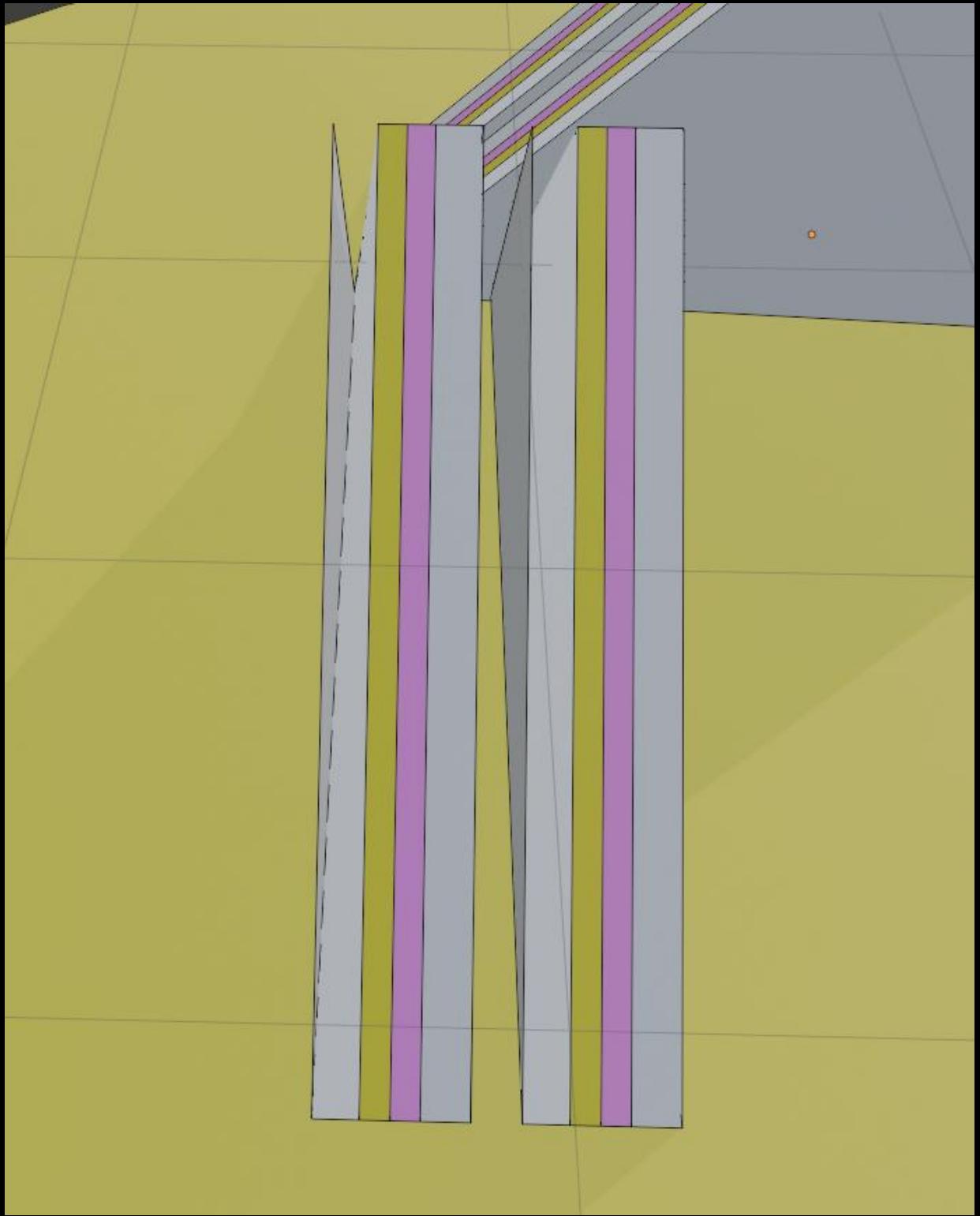
Then put it into unreal to fix the sandwitches .

Updated version



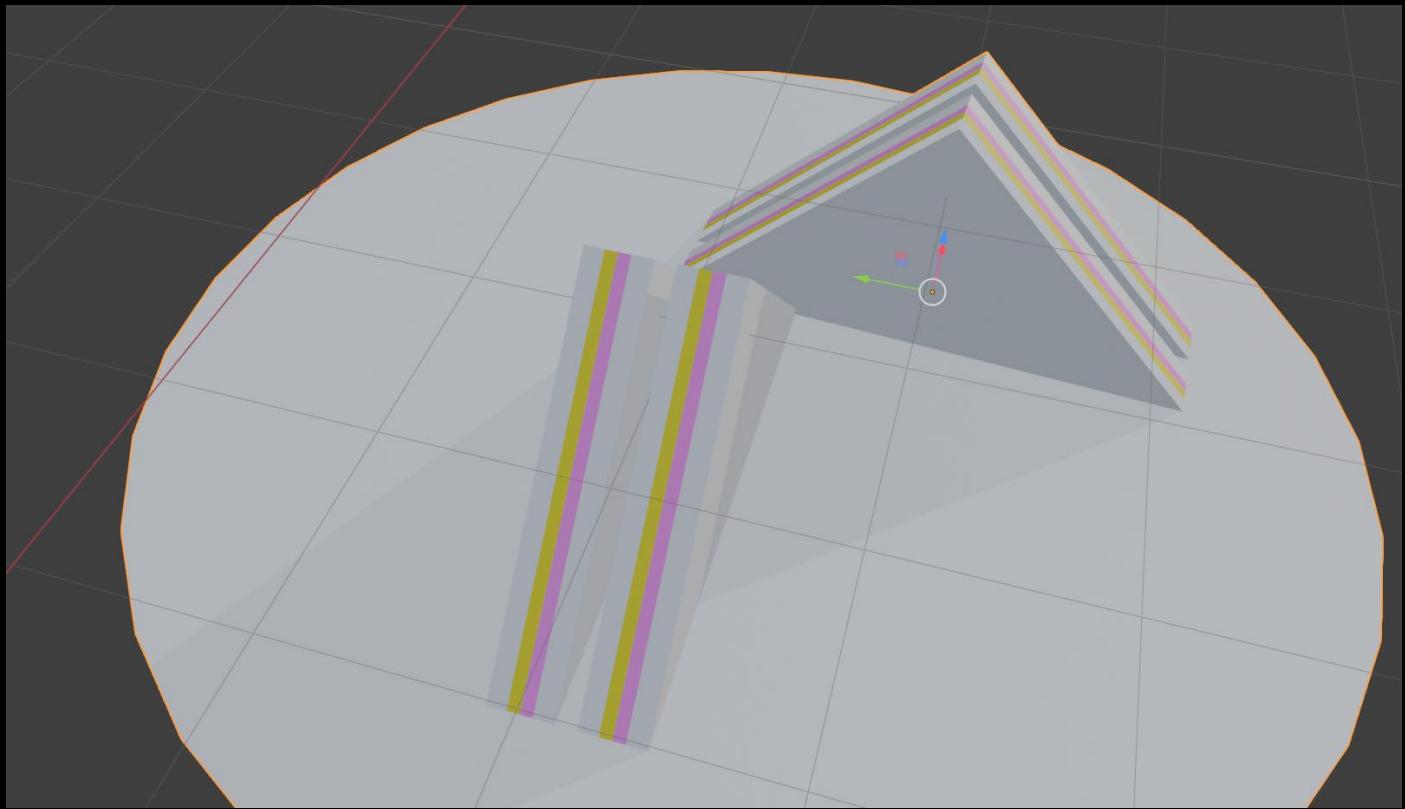
When joined together we encounter another problem

3/12/24

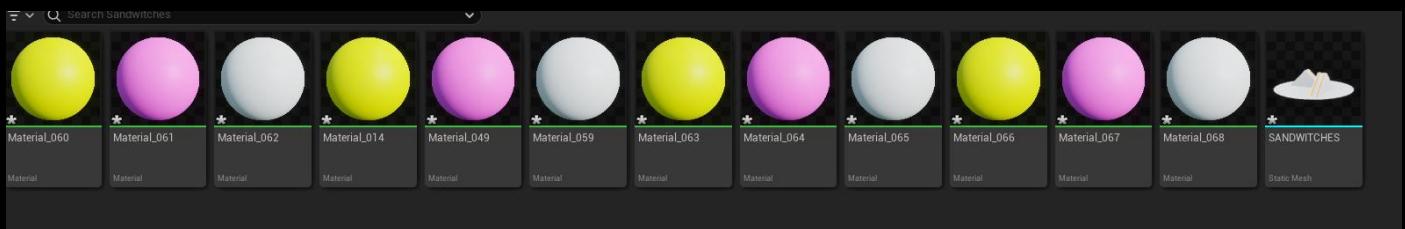


The inside of the shape is exposed and im gonna fix this by pressing f and join the faces up manually and it should work hopefully.

Its fixed the problem as I just joined the two edges then made a face then repeated and got the full thing fixed.



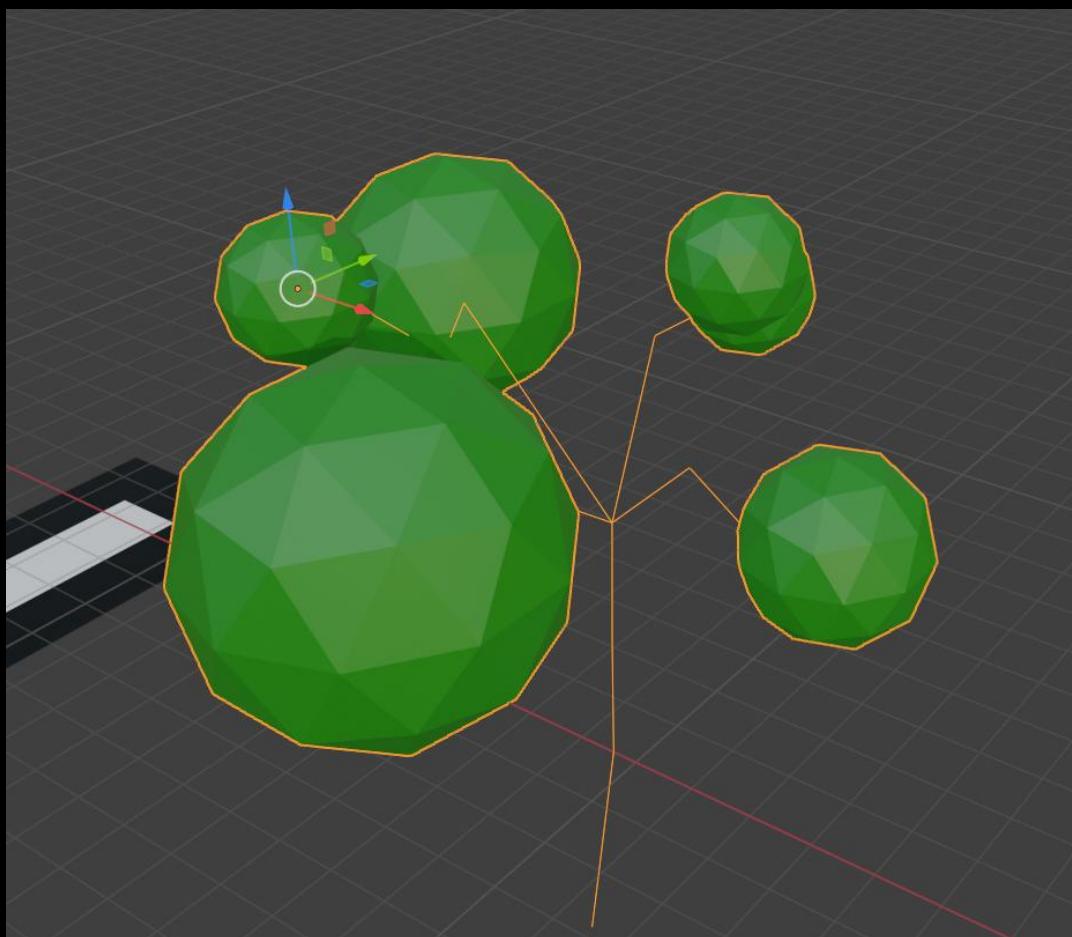
We now fixed our original issue for the sandwitch



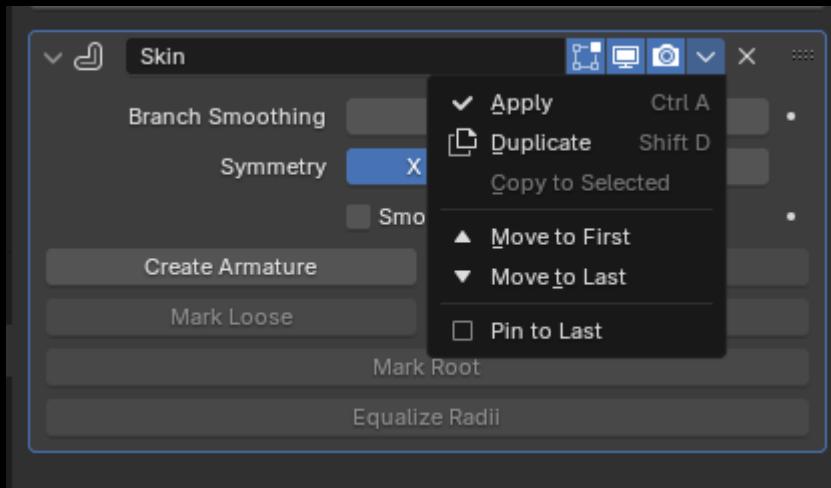
New problem.



This is the original tree and when we join it we get this(below)



We fix this problem by before connecting the line of the tree to make the solidify modify apply not having it just their

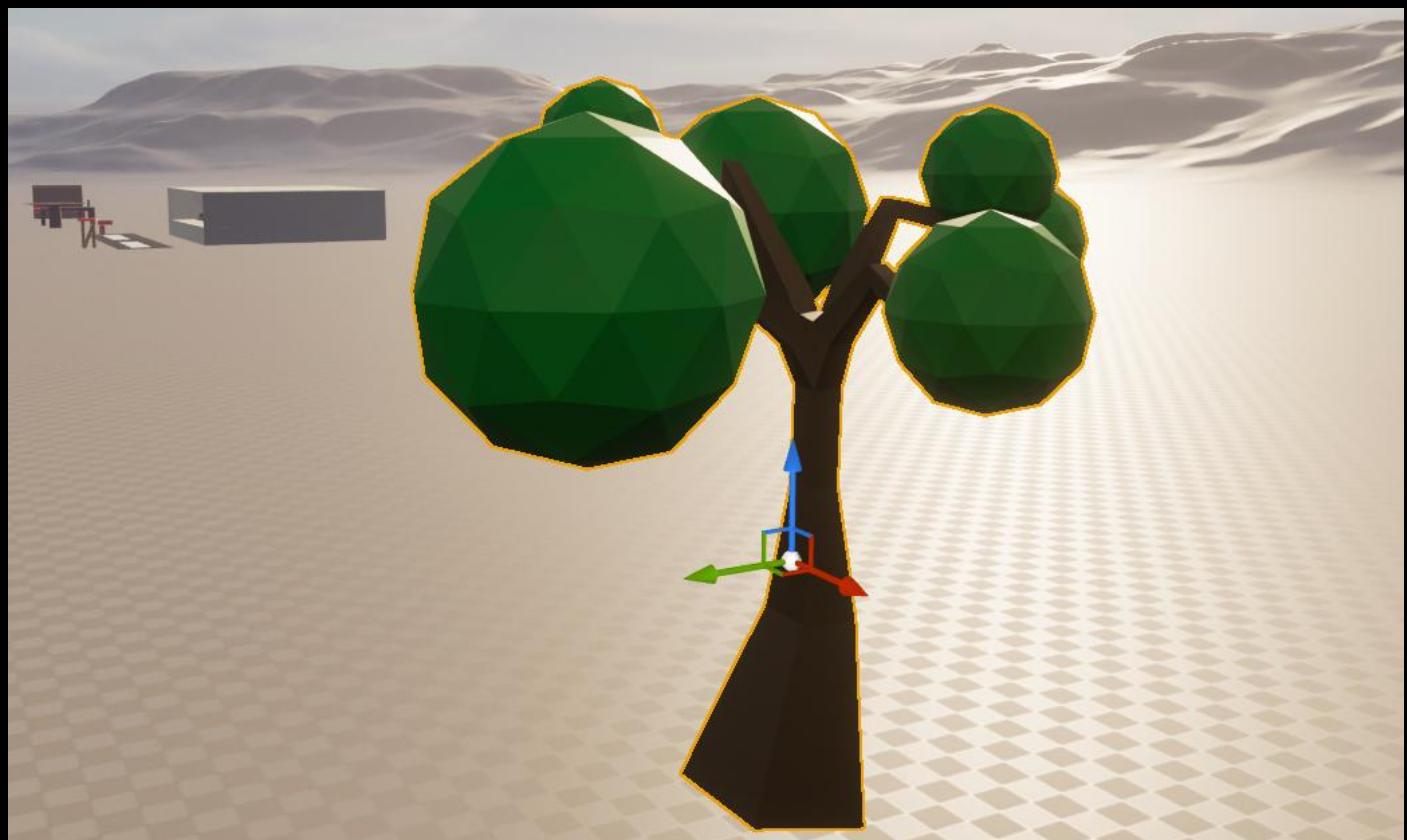
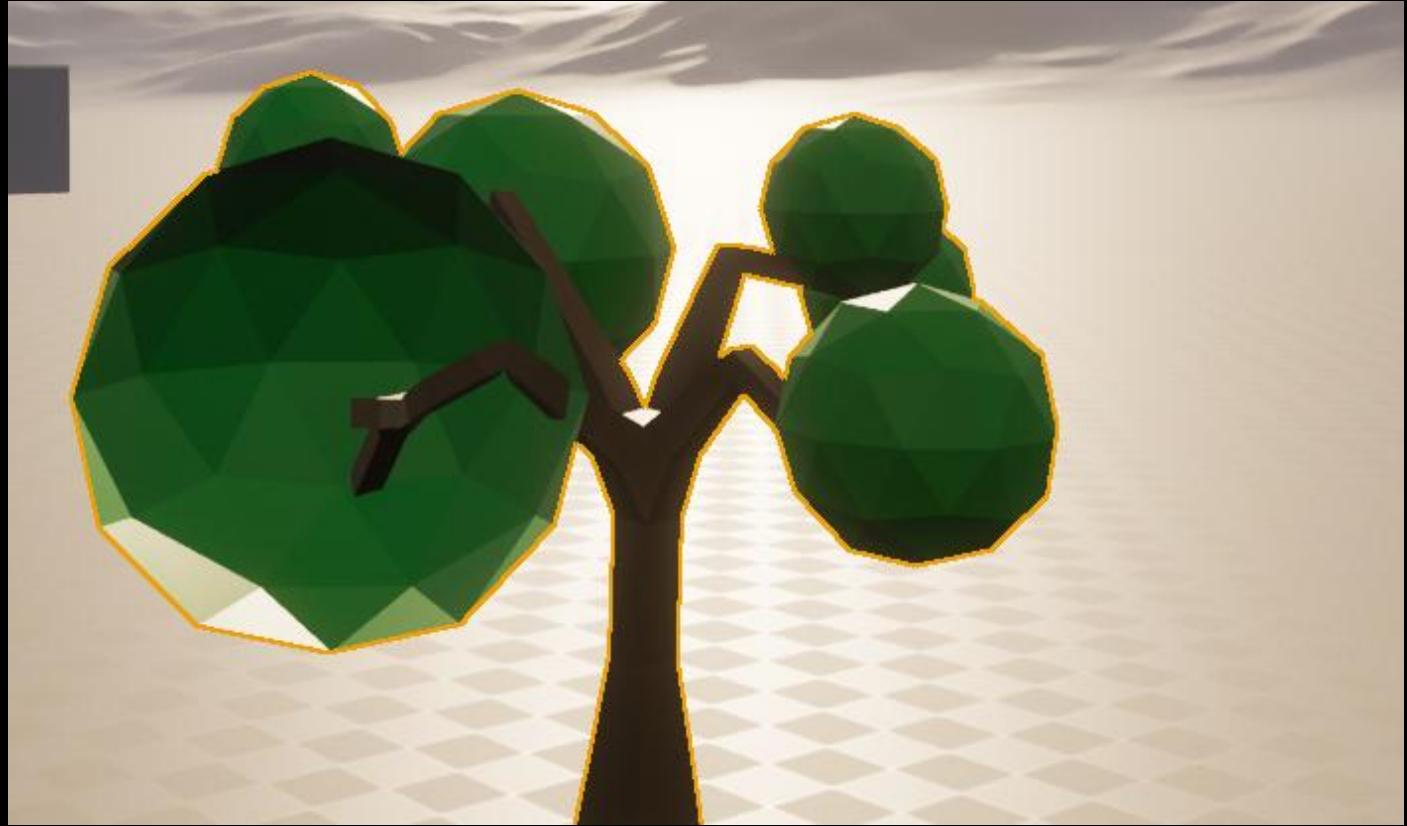


We apply so the modify is permantly on then we join and now we put it back into unreal.

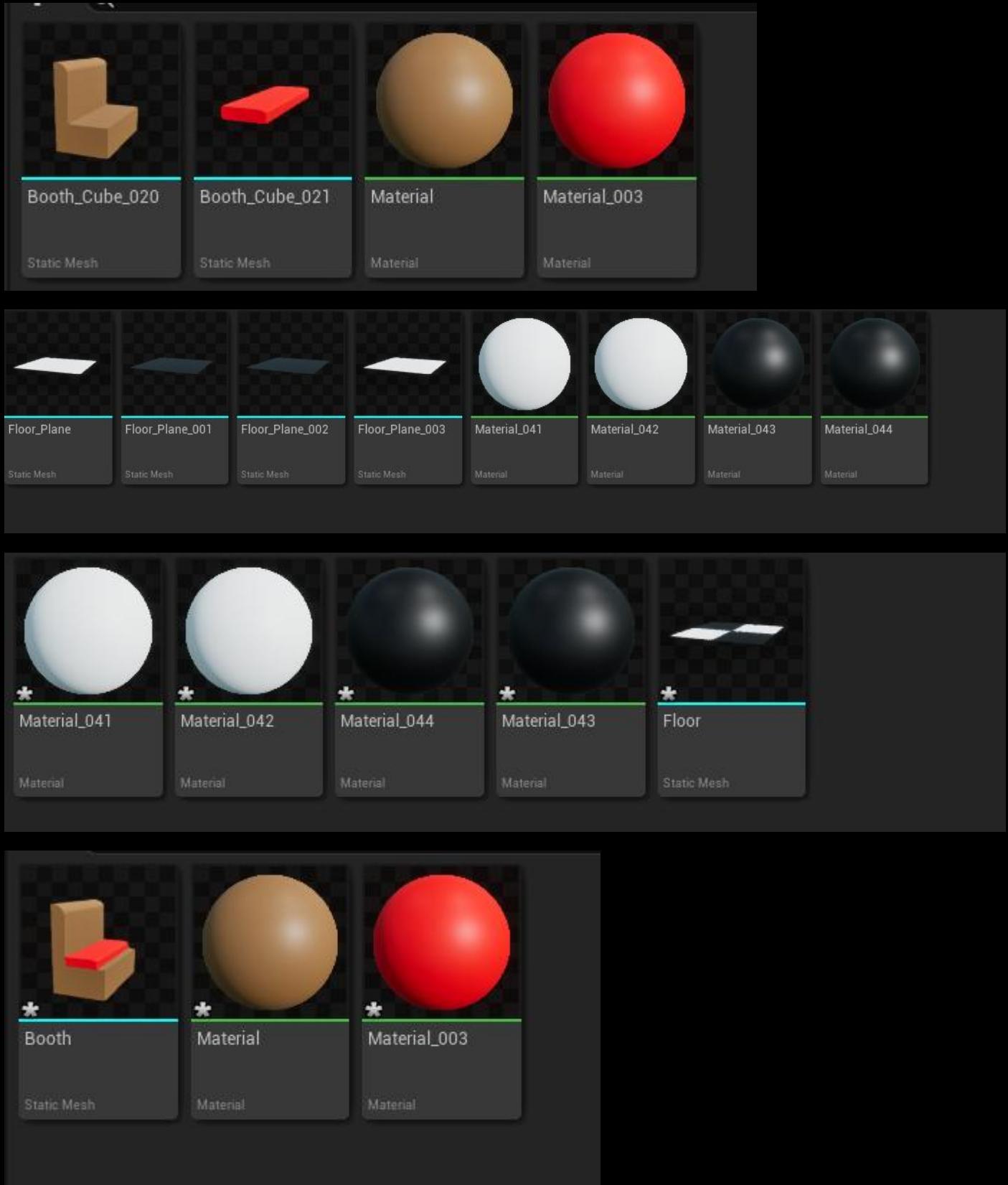


Fixed the original problem now we have another problem with the inside facing the outside and we are going to fixed it again as we have .

5/12/24



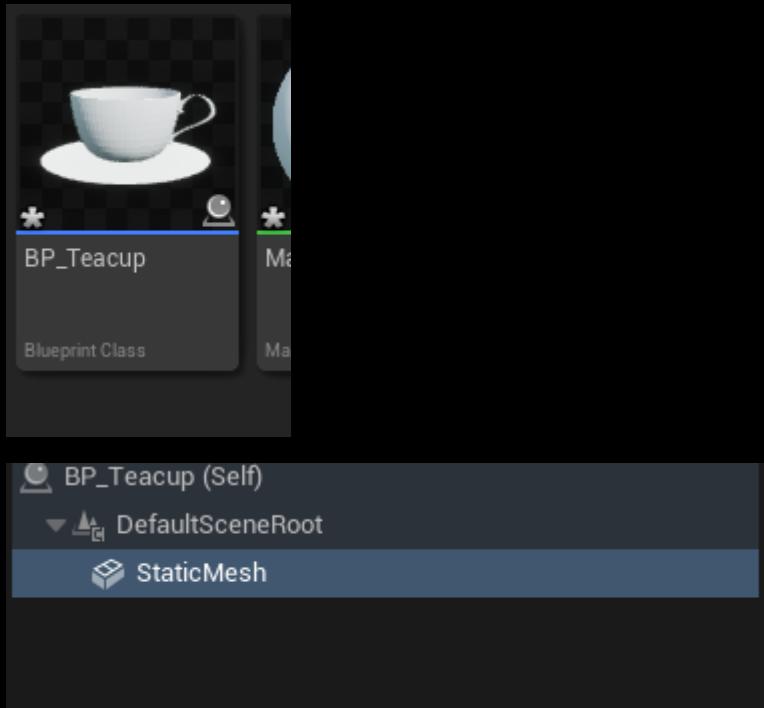
Fixed it. Refer to 15/11/24



Fixed both the booth and the floor from the multiple meshes problem.

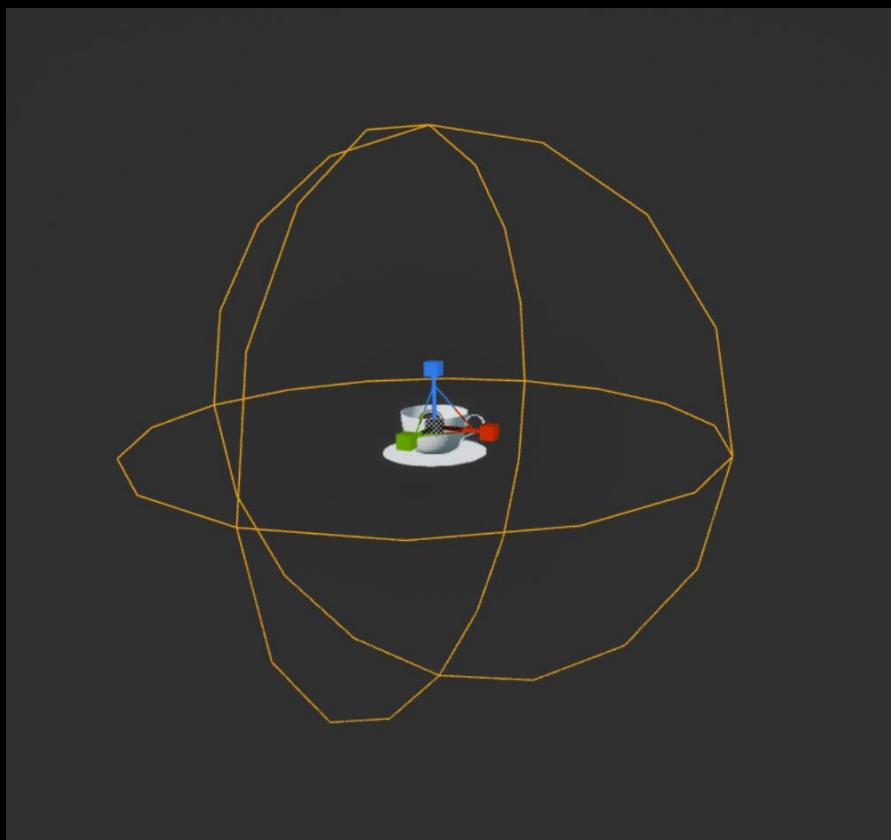
7/12/24

Now we are making a blueprint for a drop and pickup mechanic and watching the pickup and drop tutorial.



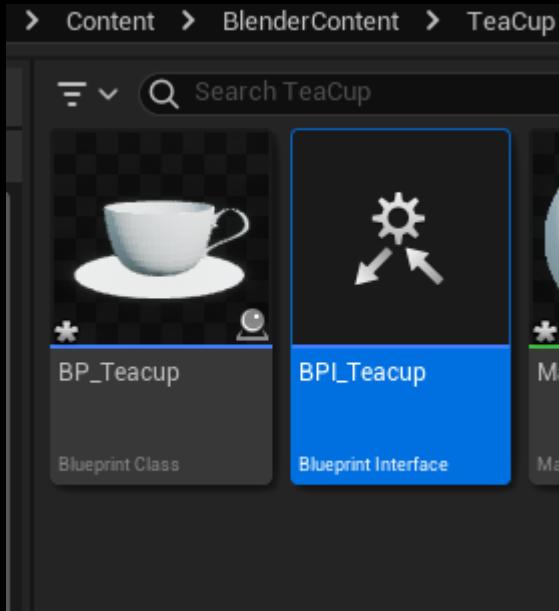
Added my teacup mesh.

We need to create a sphere collision so the player can interact in a certain radius.



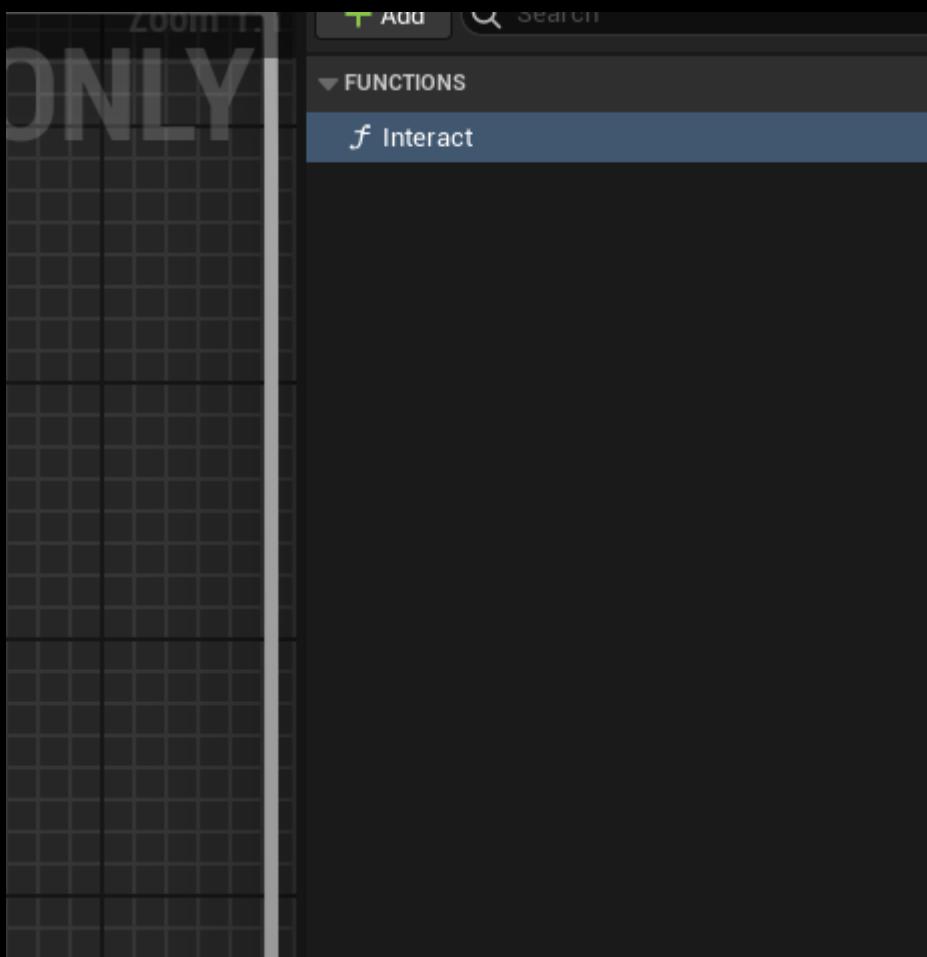
Then we compile it and we now need an interface to interact with the object

Now are going to create a blueprint interface.

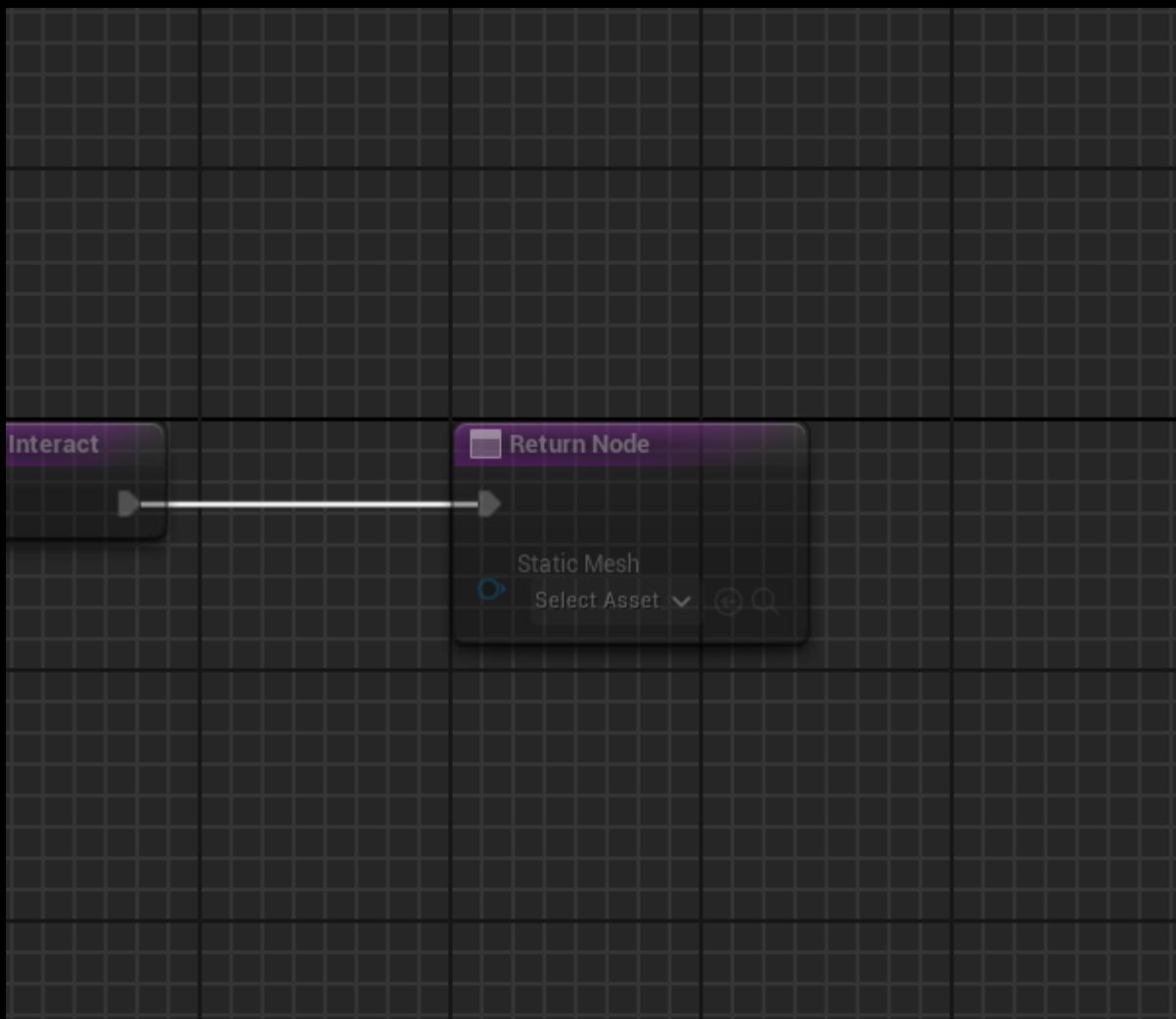


9/12/24

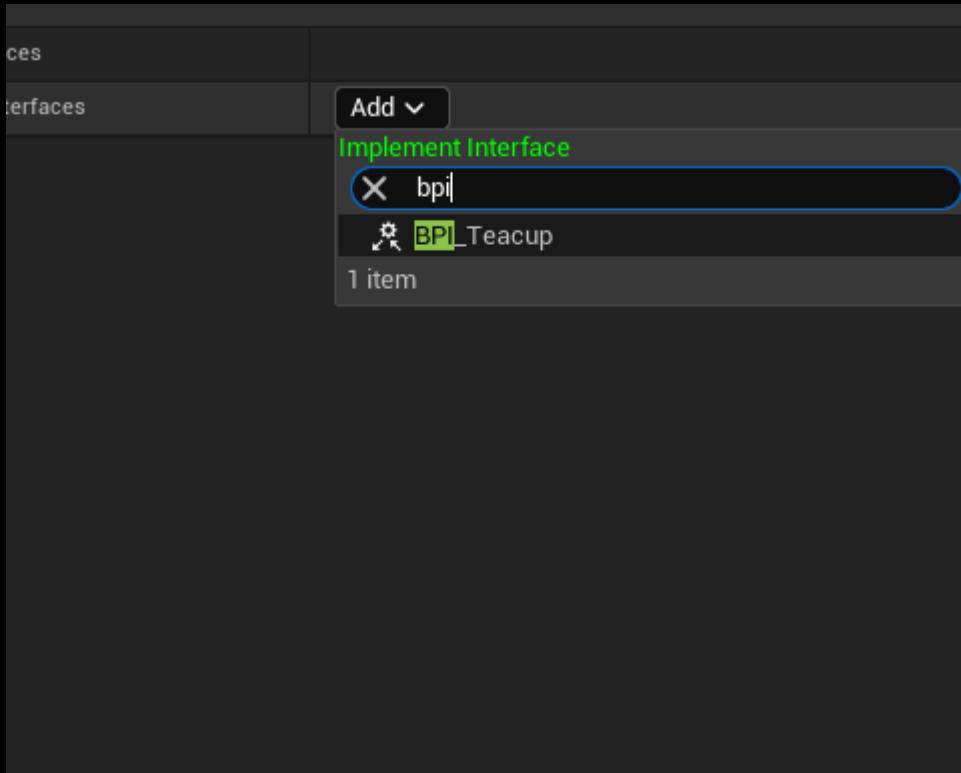
We open it up and call the function interact



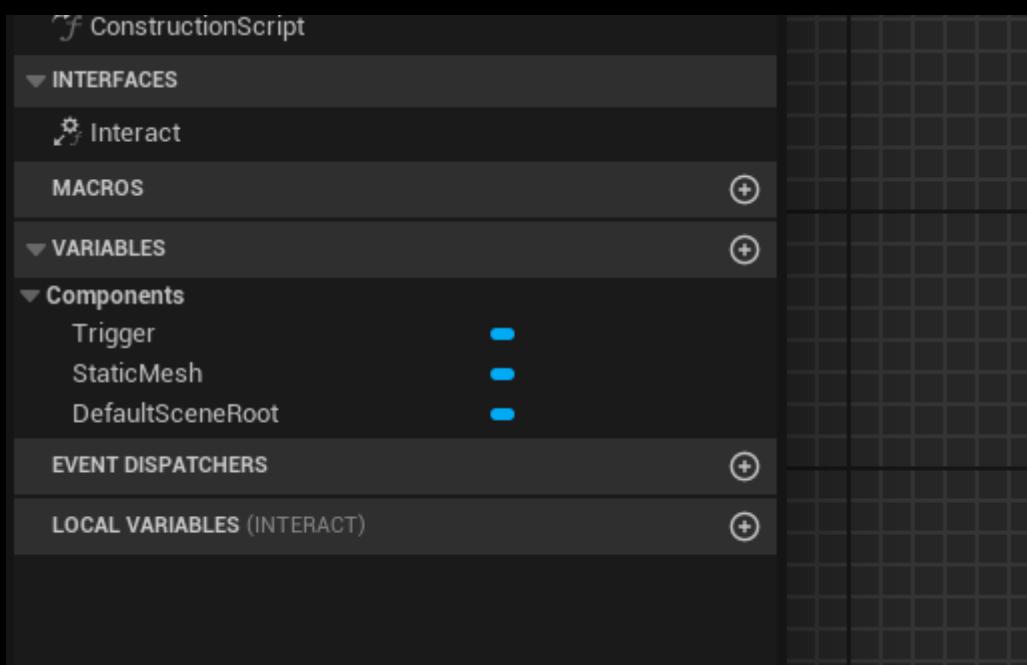
We create an output for our mesh.



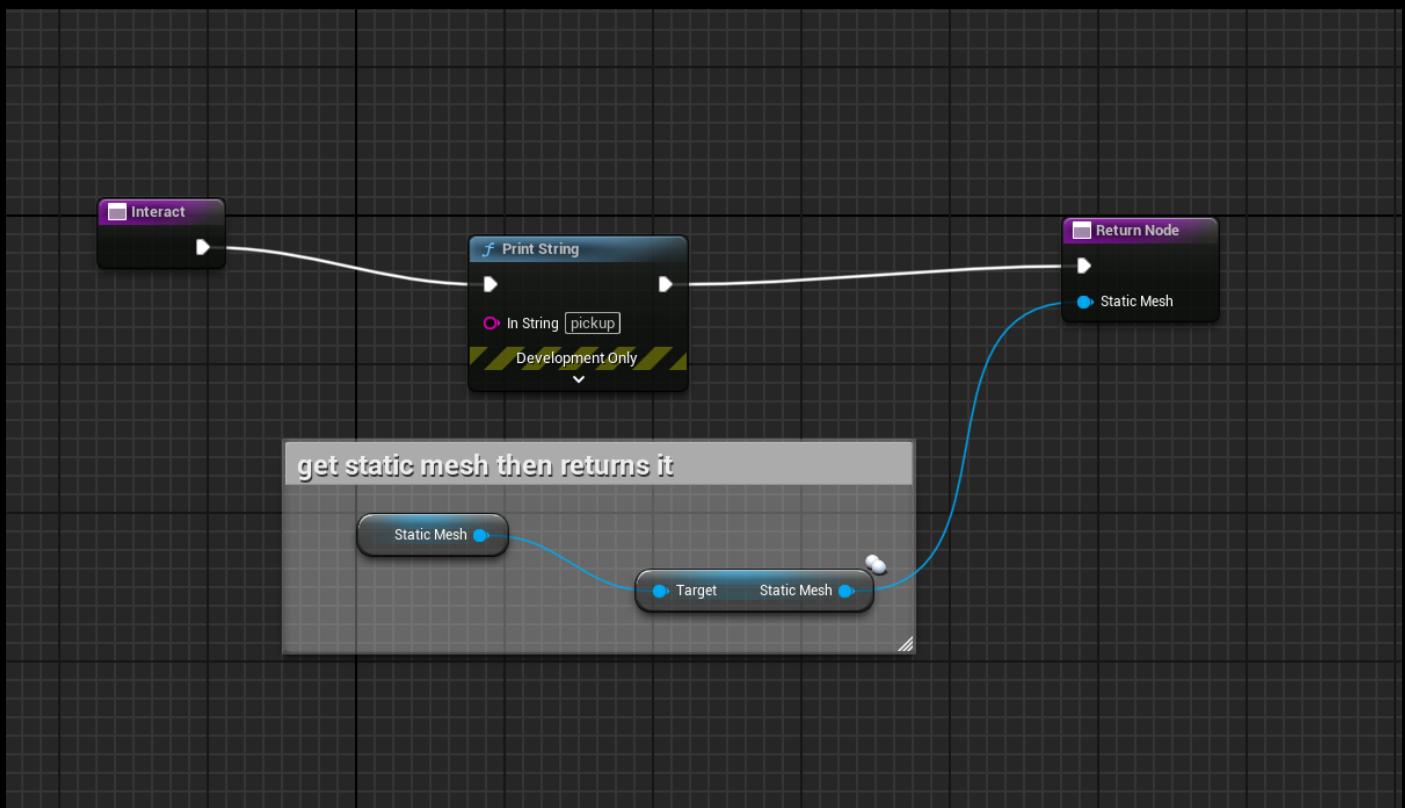
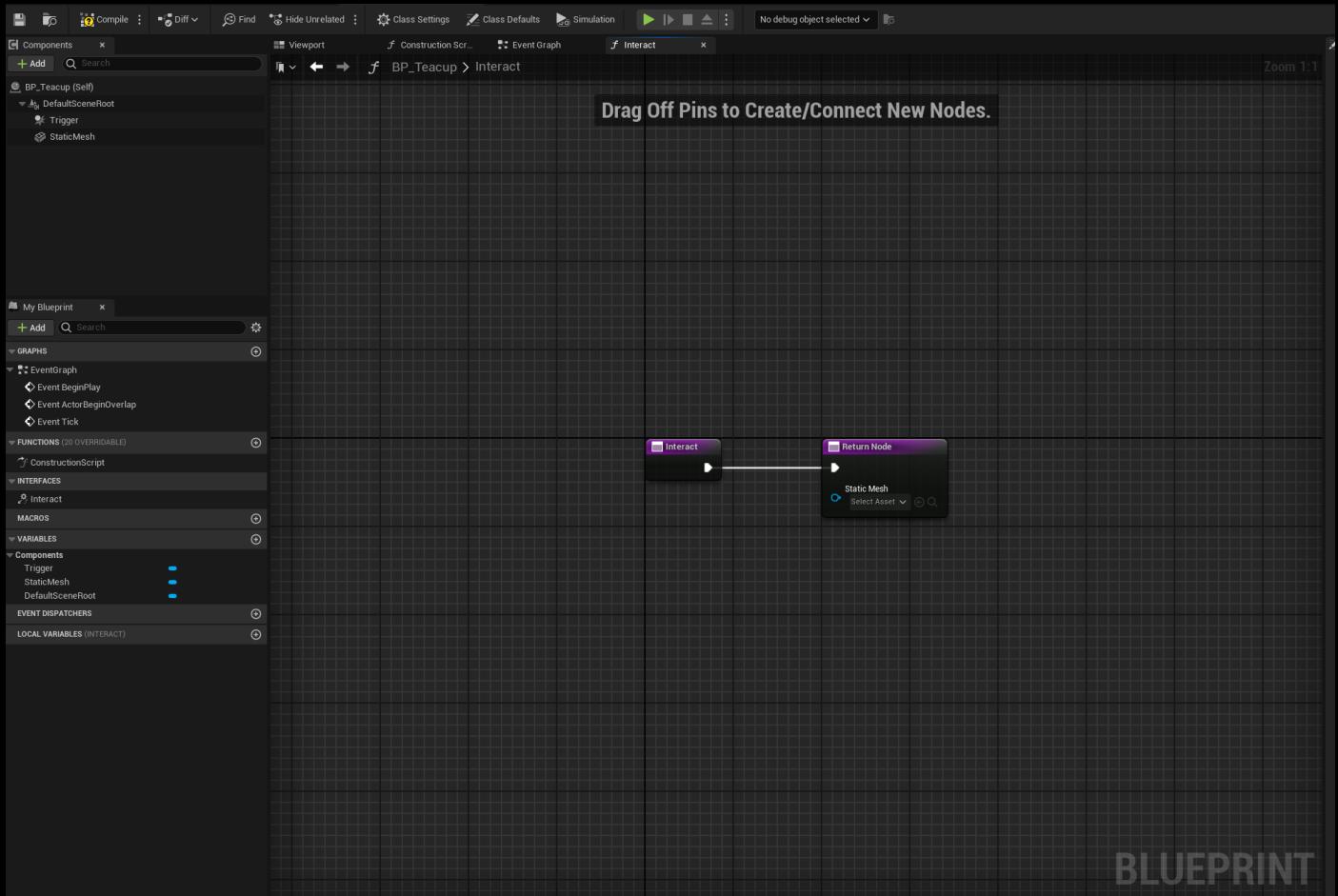
We change the type of output to a static mesh as we wan to interact with it.



We add the interface so we get it into our interfaces so we can open it.

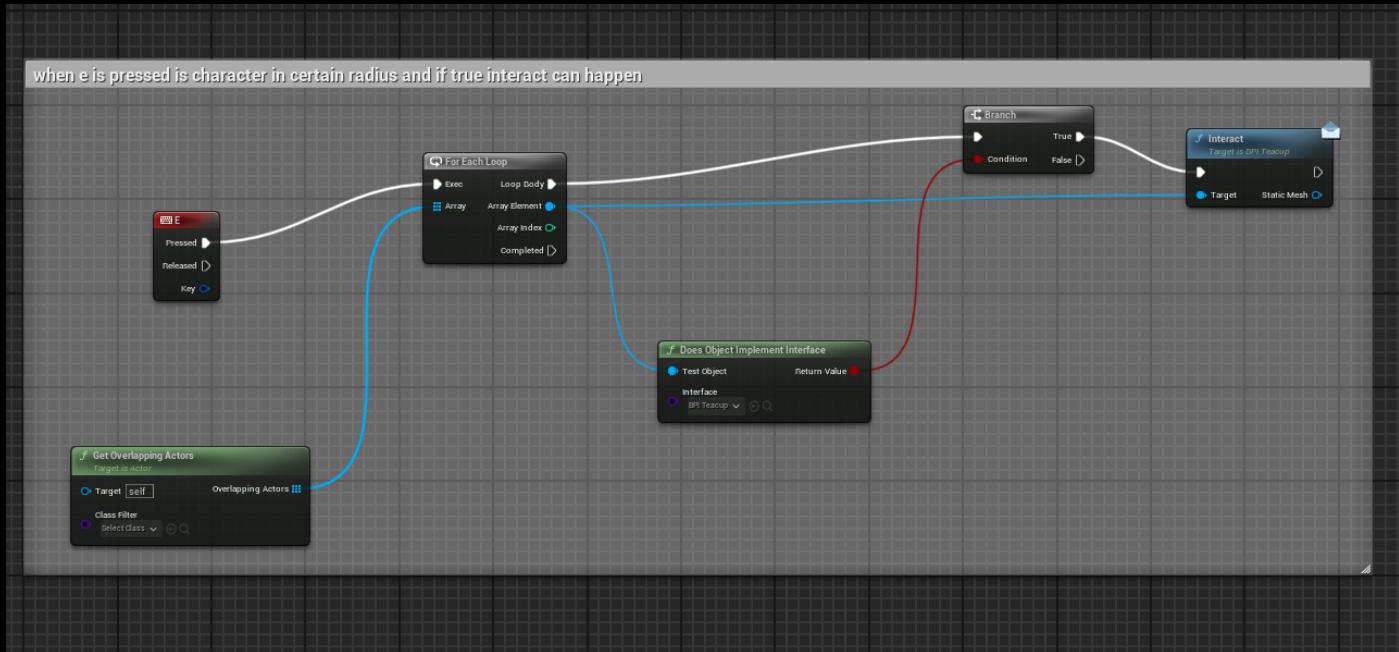


Now we have opened it into our blueprint



We added code for picking up the static mesh.

Now we need to go into the character blueprint



When e is pressed can you interact with the object.

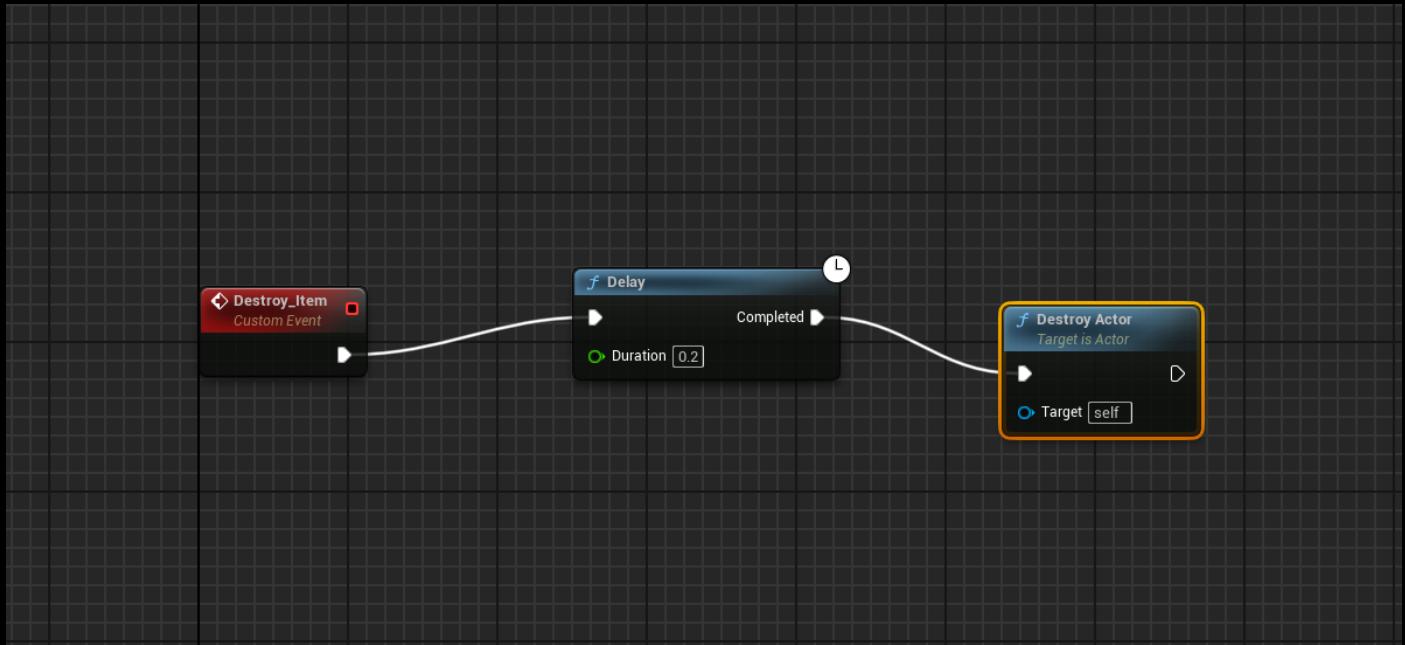
Now we need to test if the print string returns pickup when we press e in the radius of the box. Go to video pickup test print string.

We know our code is working as the print string is seen.

11/12/24

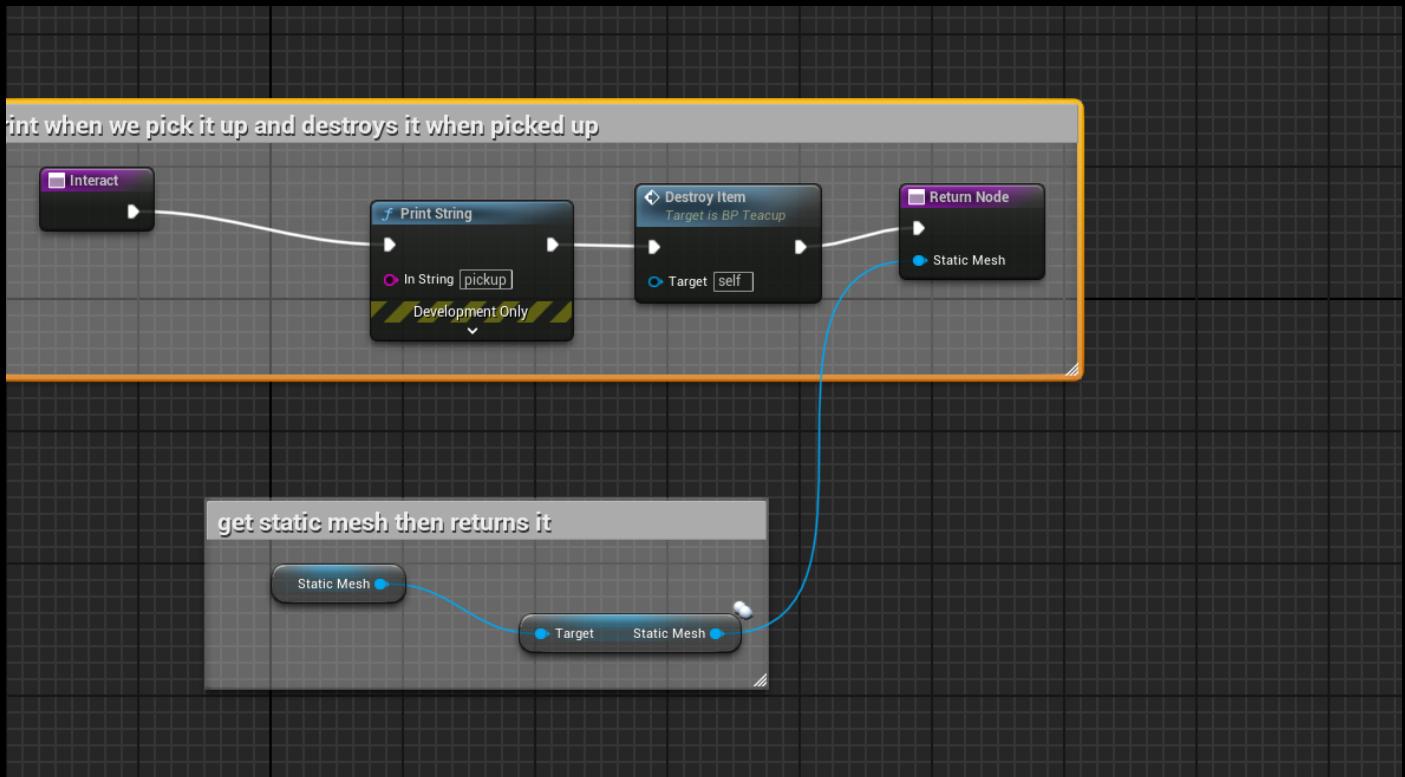
We now are creating a custom event to destroy the actor after pickup.





We need to add a delay as we simulate a person going for the pickup and this can't be done in the interact function so we have to do it in the event graph and we can't destroy in the function as it wouldn't work because it would destroy it before.

Updated the function

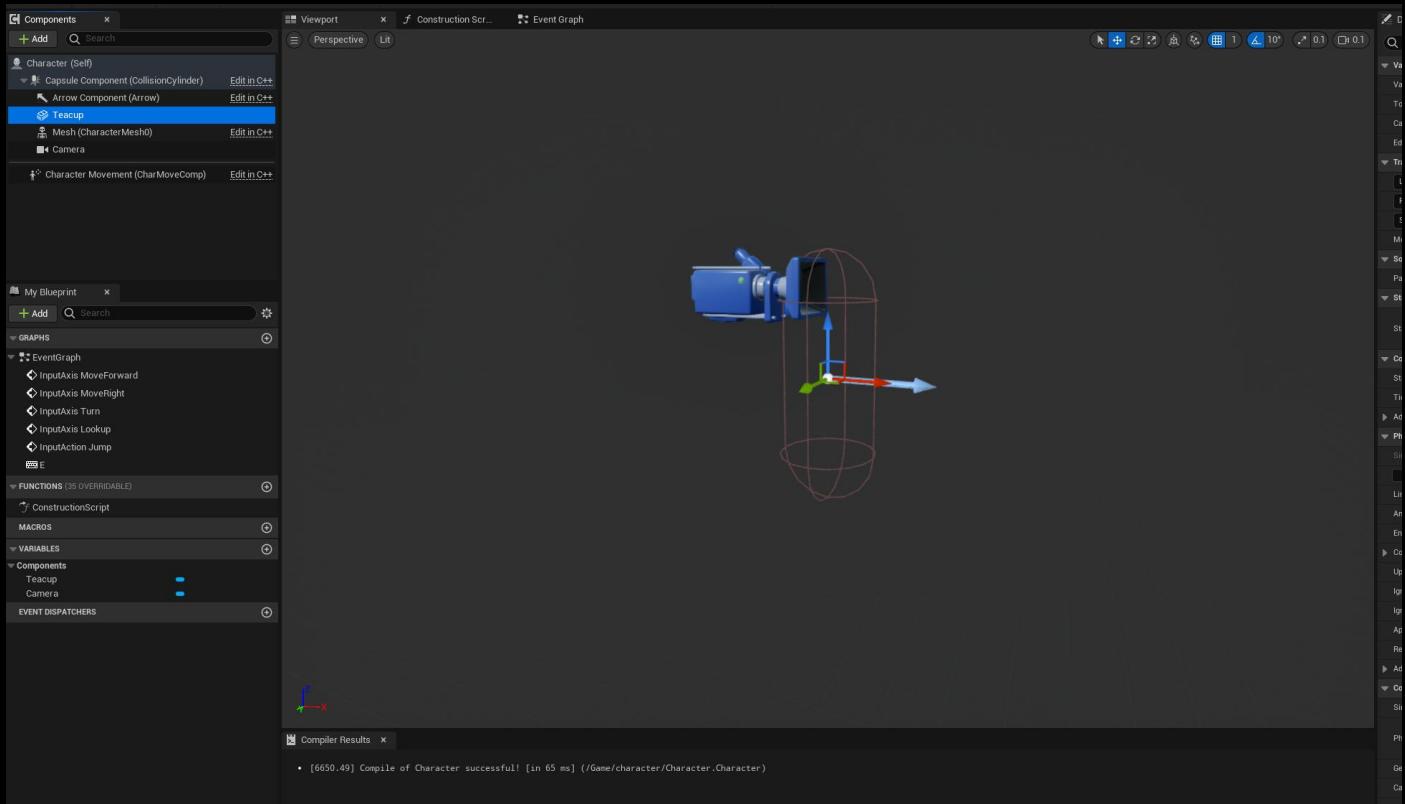


Now it destroys the item after pickup.

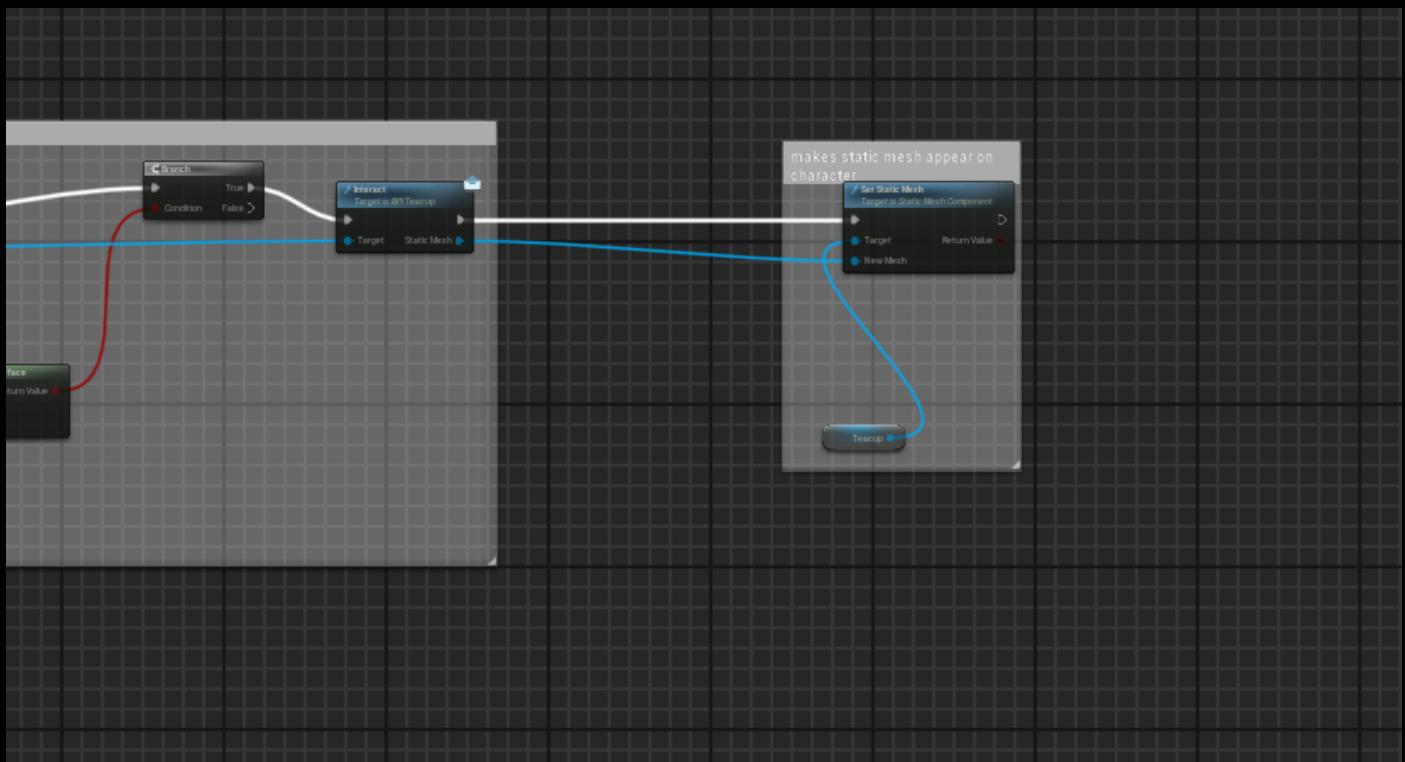
Now we need to test if the code works.

Go to video destroy item testing.

Now we add the static mesh into the character viewport.



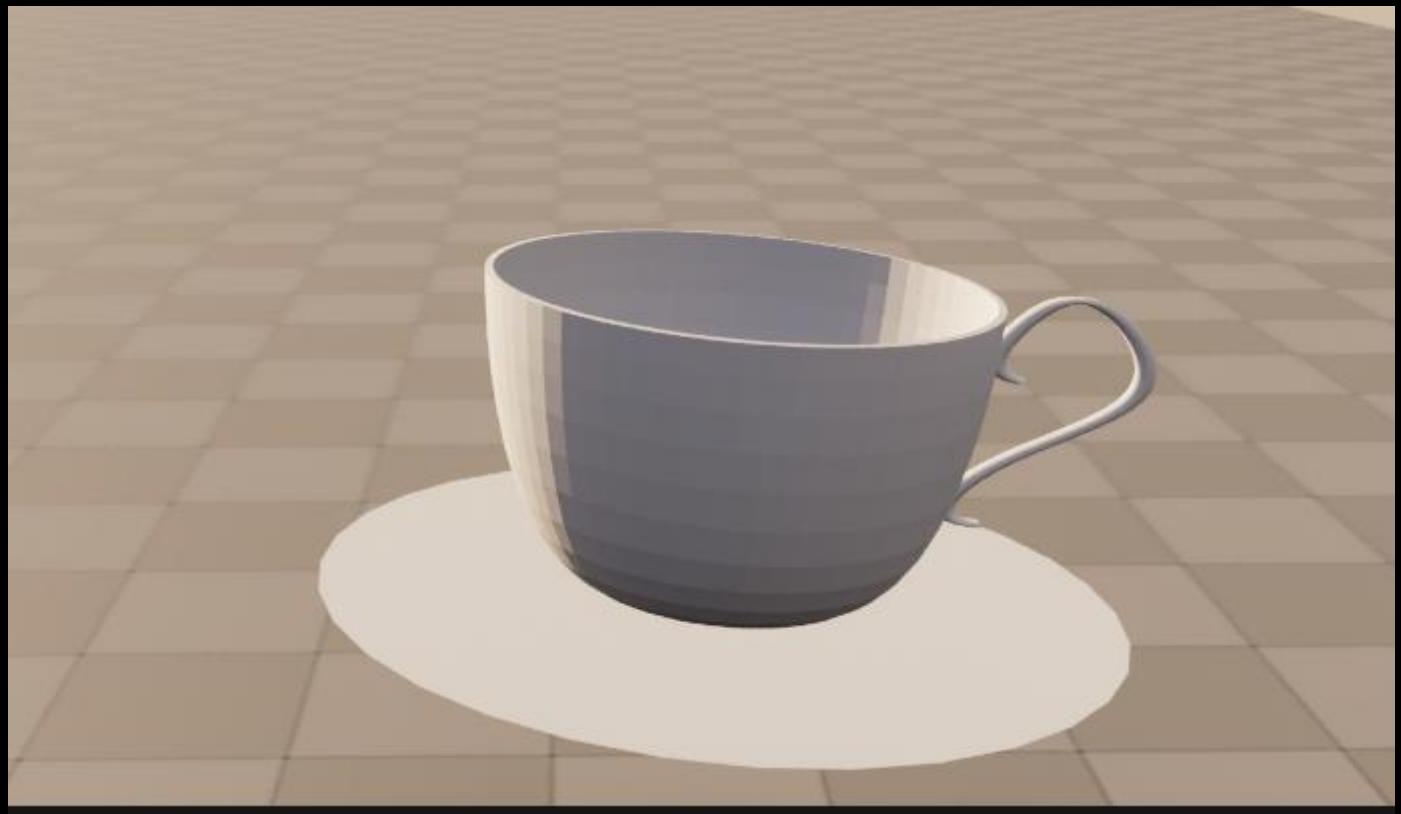
We added some code for the pickup



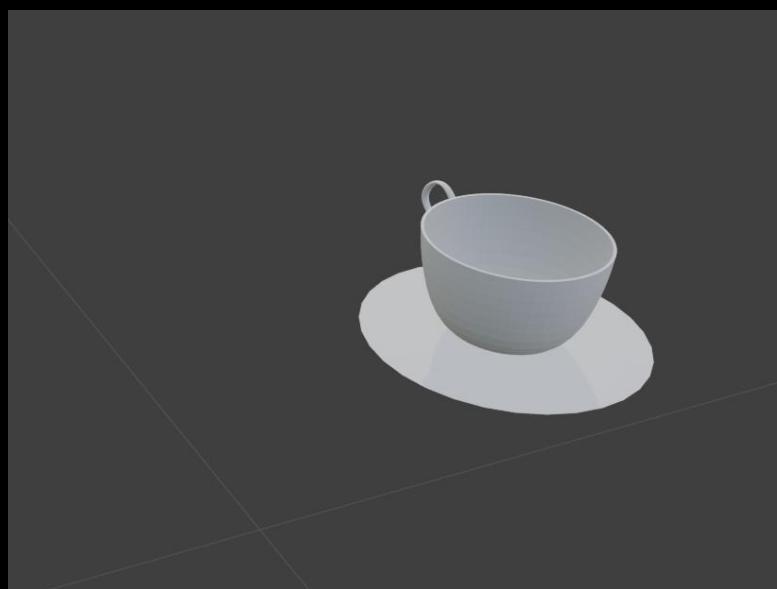
Makes the static mesh appear on the character

10/12/24

We have a problem when picked up the teacup is too big.



This is attached to the player and the fps camera is covered in the teapot we can change this by going into blender and changing the scale in blender then we therefore make it the right size and put it in.



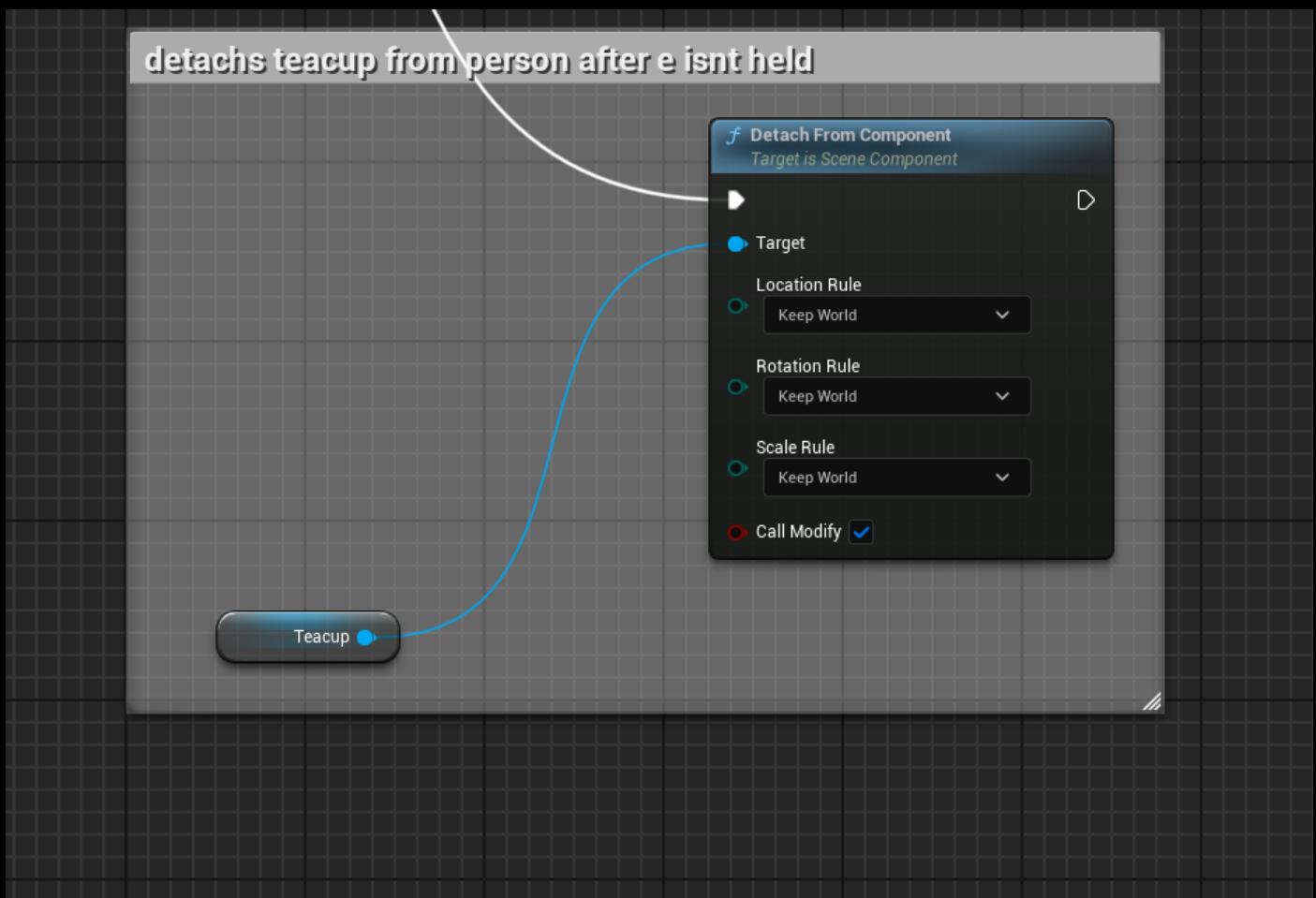
Now in blender its much smaller.



Now it is much smaller and now we test the whole tutorial .

Watch Pickup full test.

Since e is set as pickup and I can release the component by detaching off e when released so its hold e to keep the object in hand



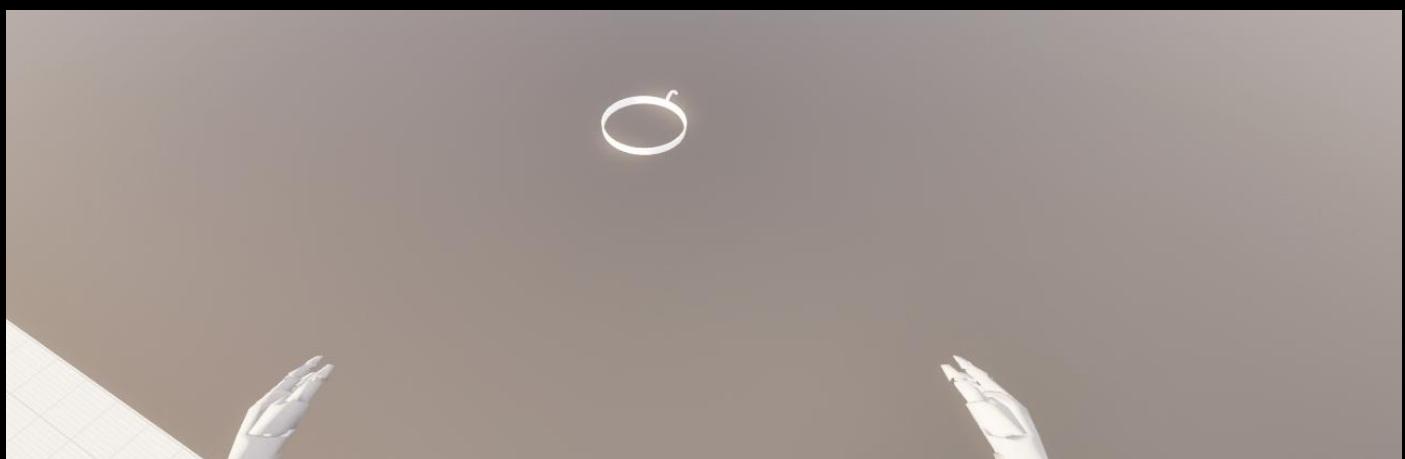
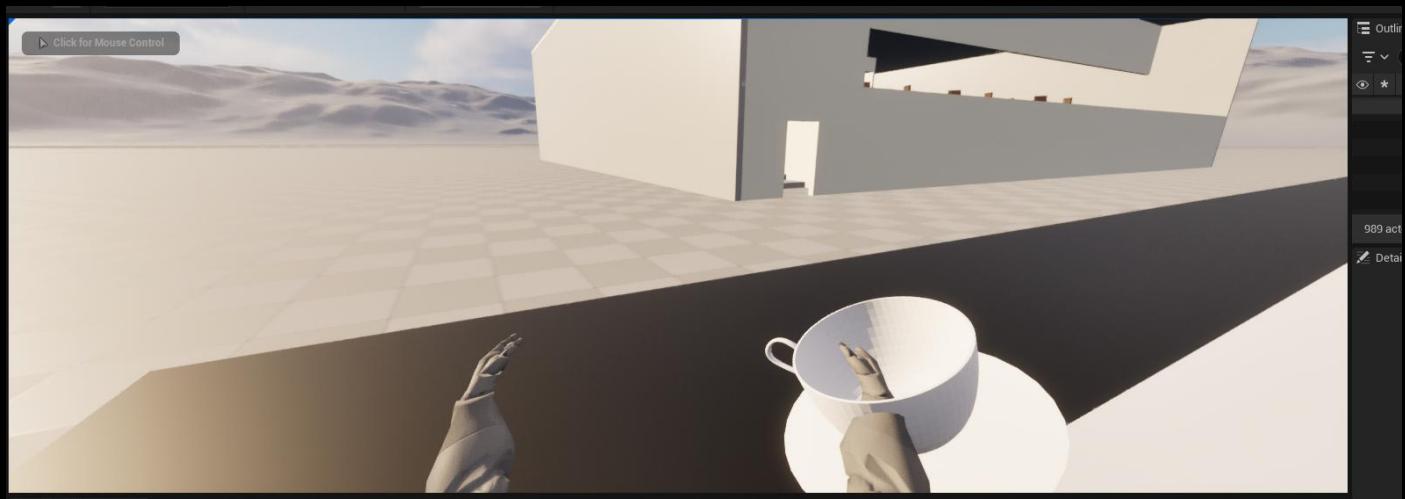
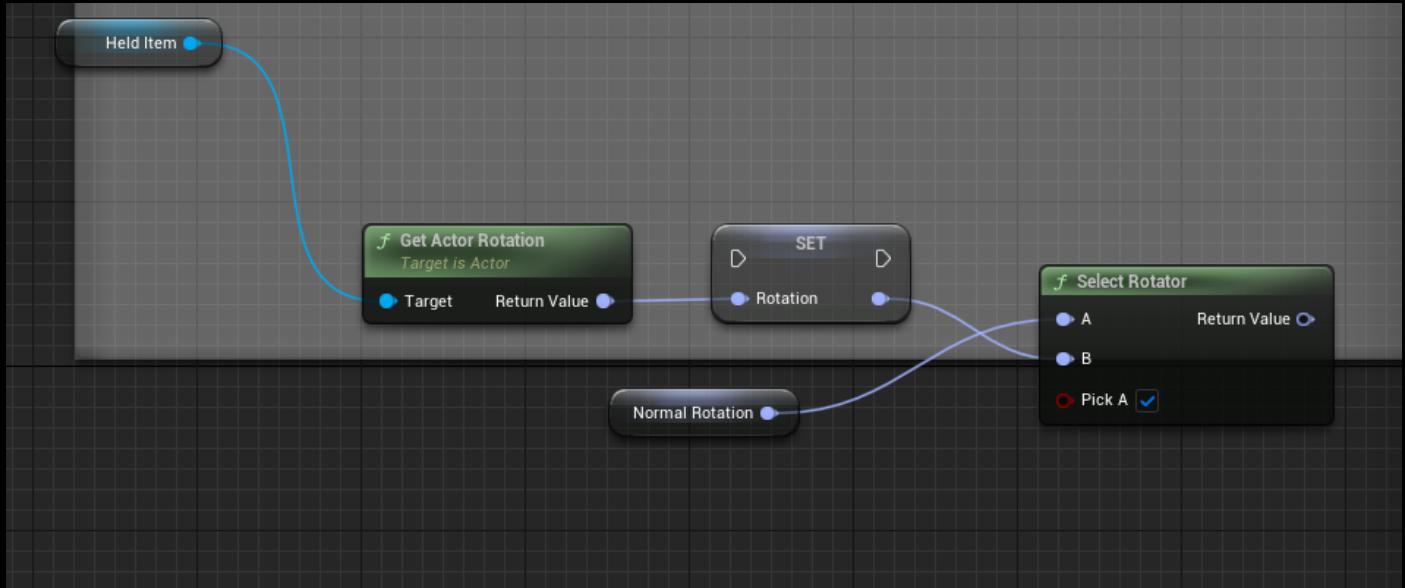
15/12/24

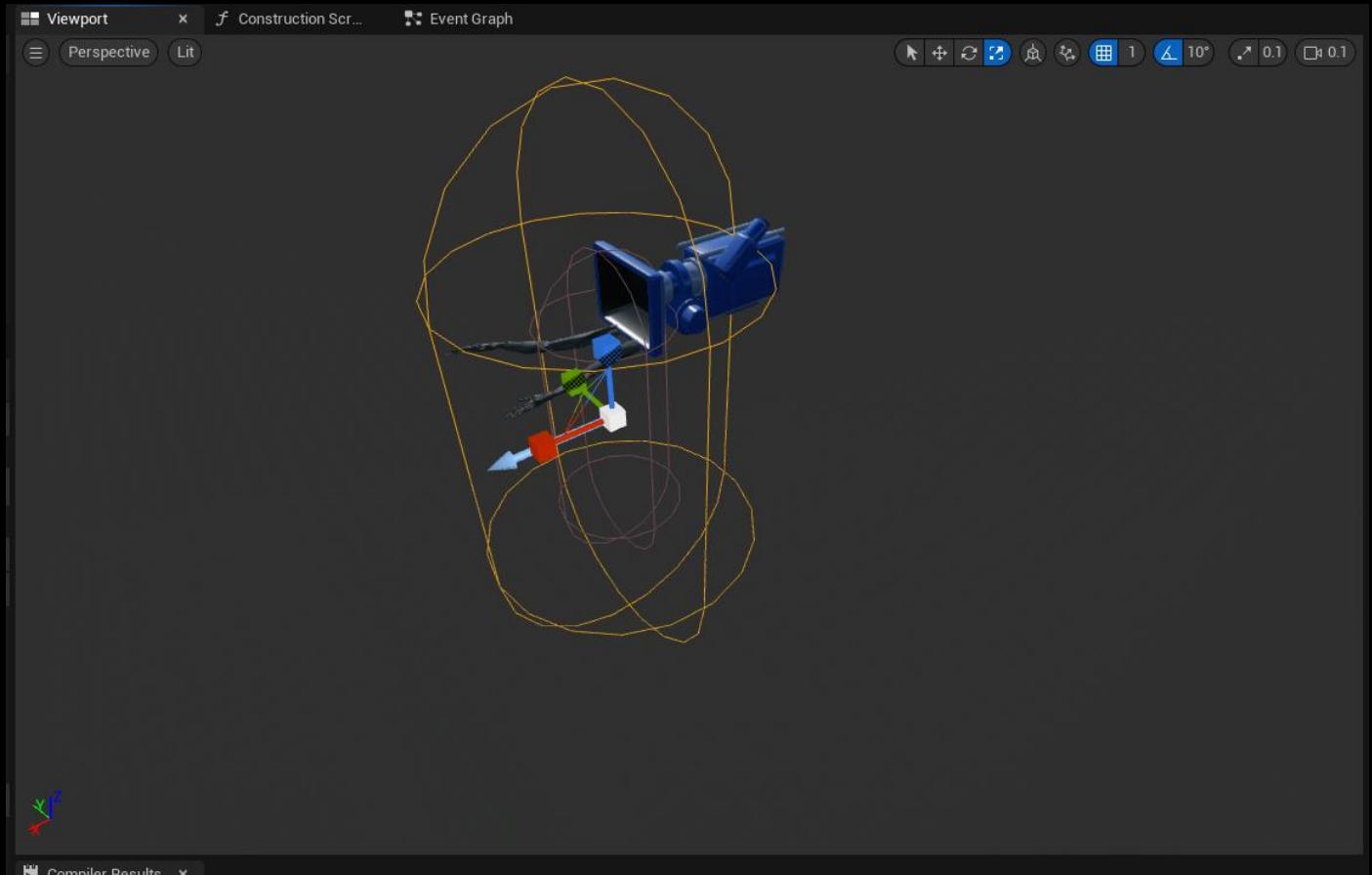
Made a gameplay loop.

Check gameplay loop in design.

[How To Pick Up And Drop Items | Hold Items In Hand - Unreal Engine Tutorial](#)

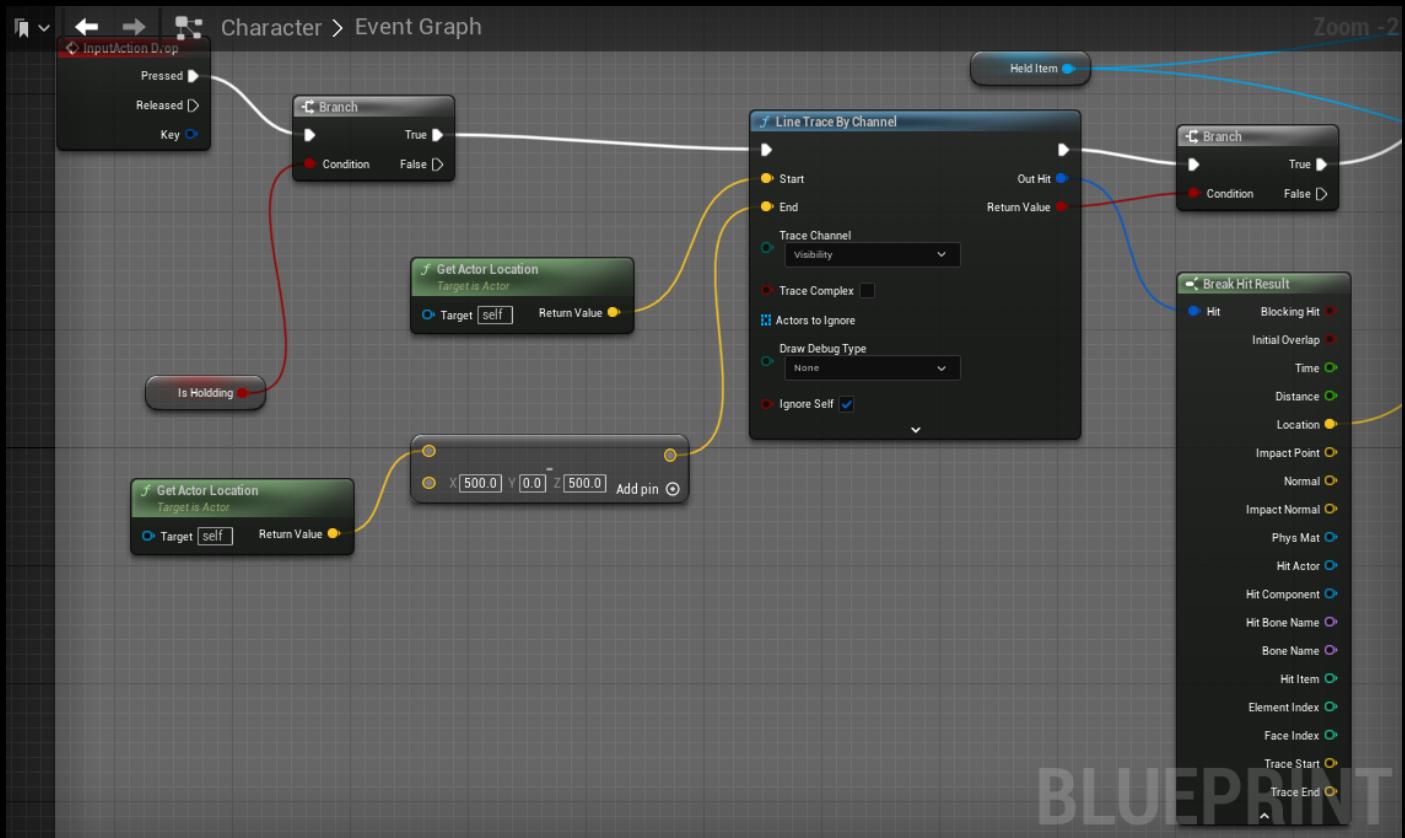
I'm going to restart my pick up and drop system to make it more effective as I feel like it isn't working as I want it to.



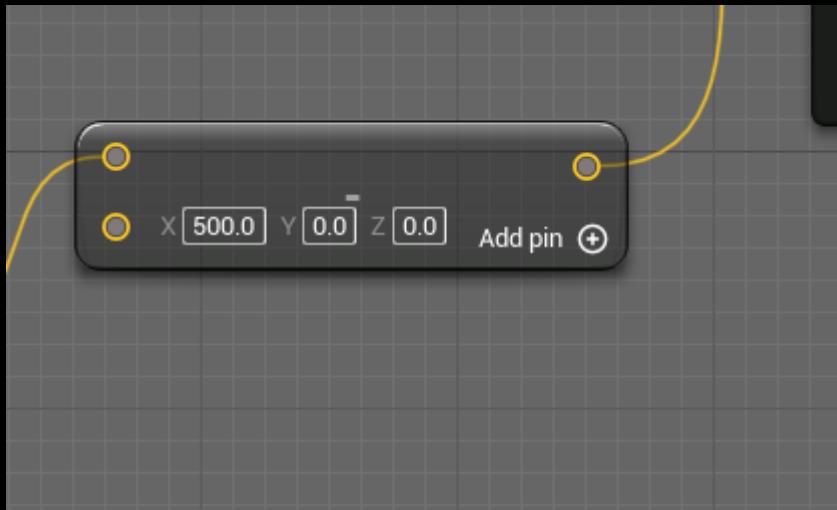


Made so we can reach the teacup collision easier

Found out how to migrate assets from unreal projects using simple mesh from Jacobs project for hands as the code needs a socket . so I need an asset to replace for now but if I have enough time will make assets for the arms.



For this code we are making a line trace so that when it hits something it goes a certain way. when we are holding is true, we create a line trace and get actor location for the start and the end. we subtract from the actor. However some of them bug out and it doesn't go where I want it to so I changed the tutorials code .

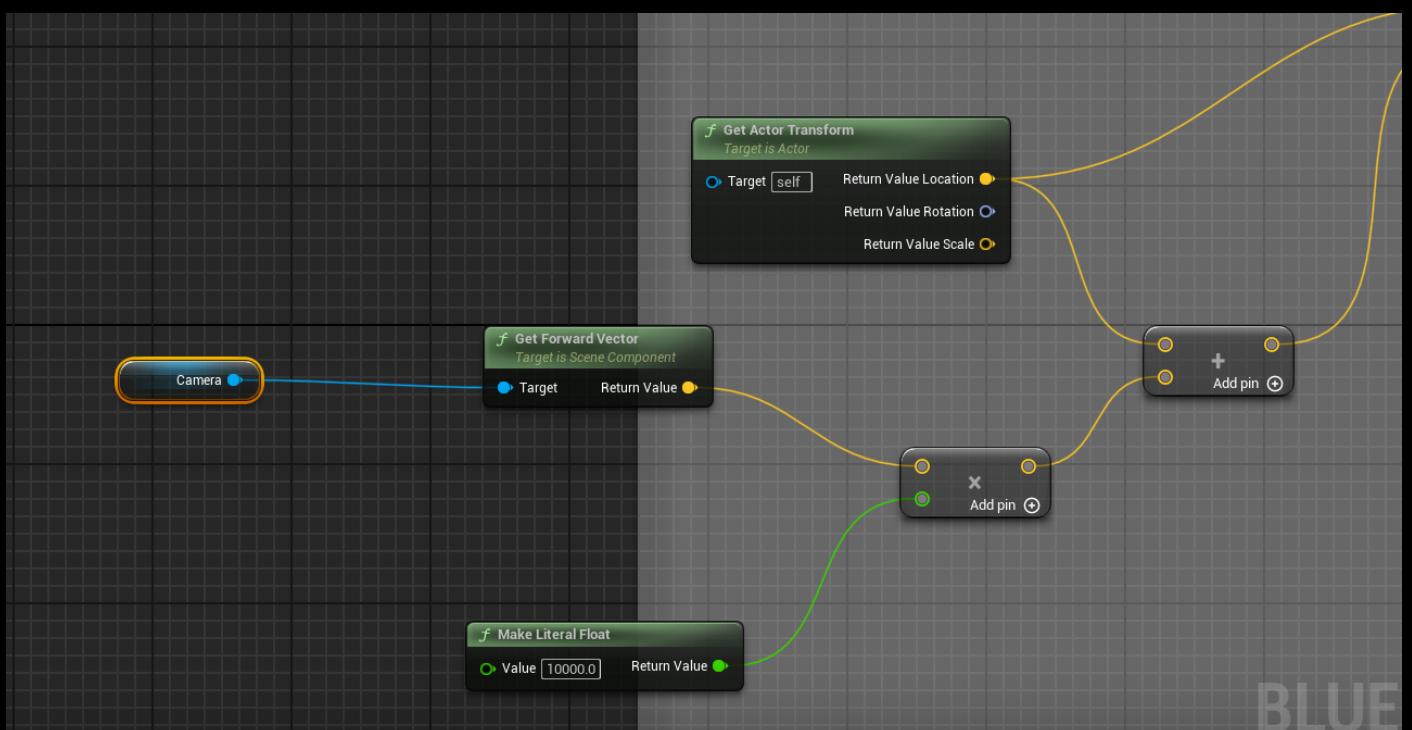


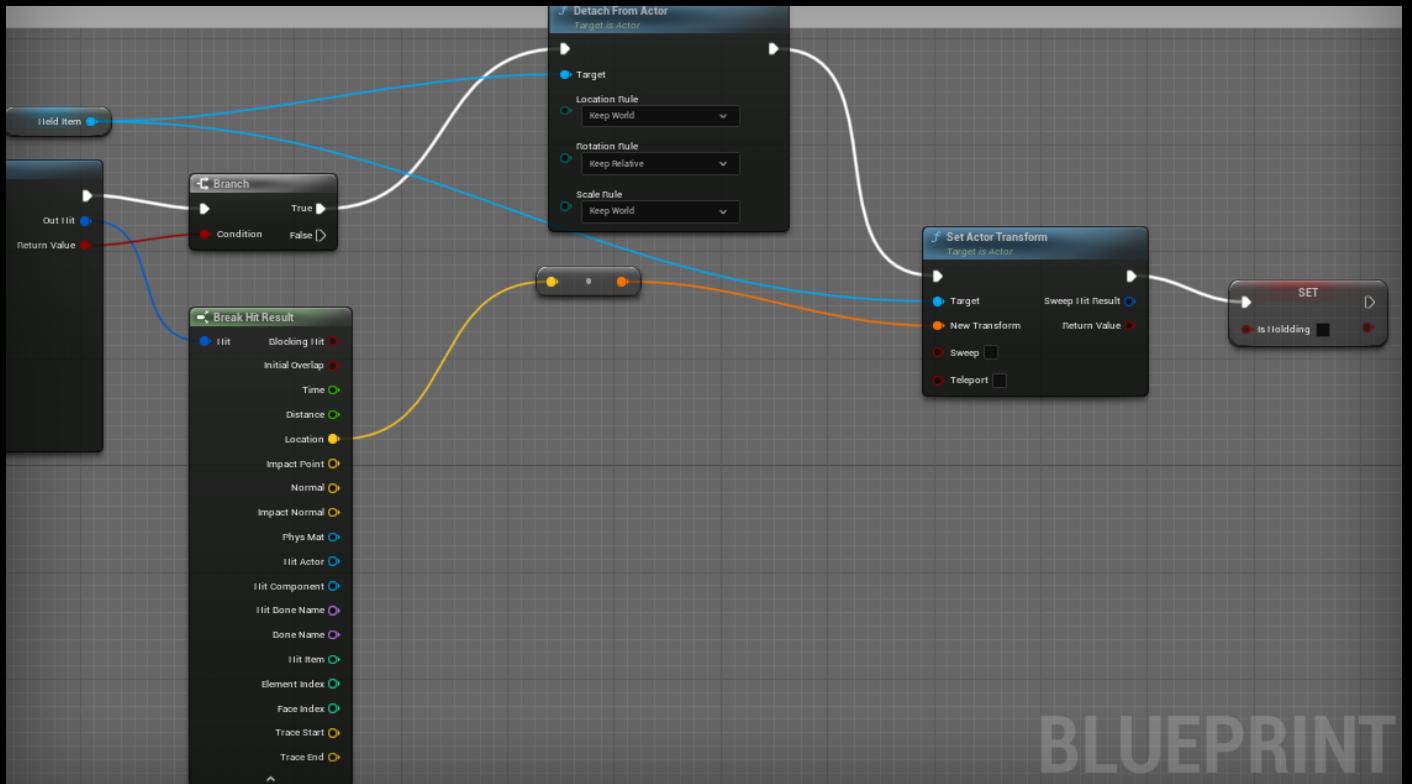
Z goes down and up positive number goes down and negative up

X goes right and left positive numbers go left and negative go right

Y goes forward and backwards

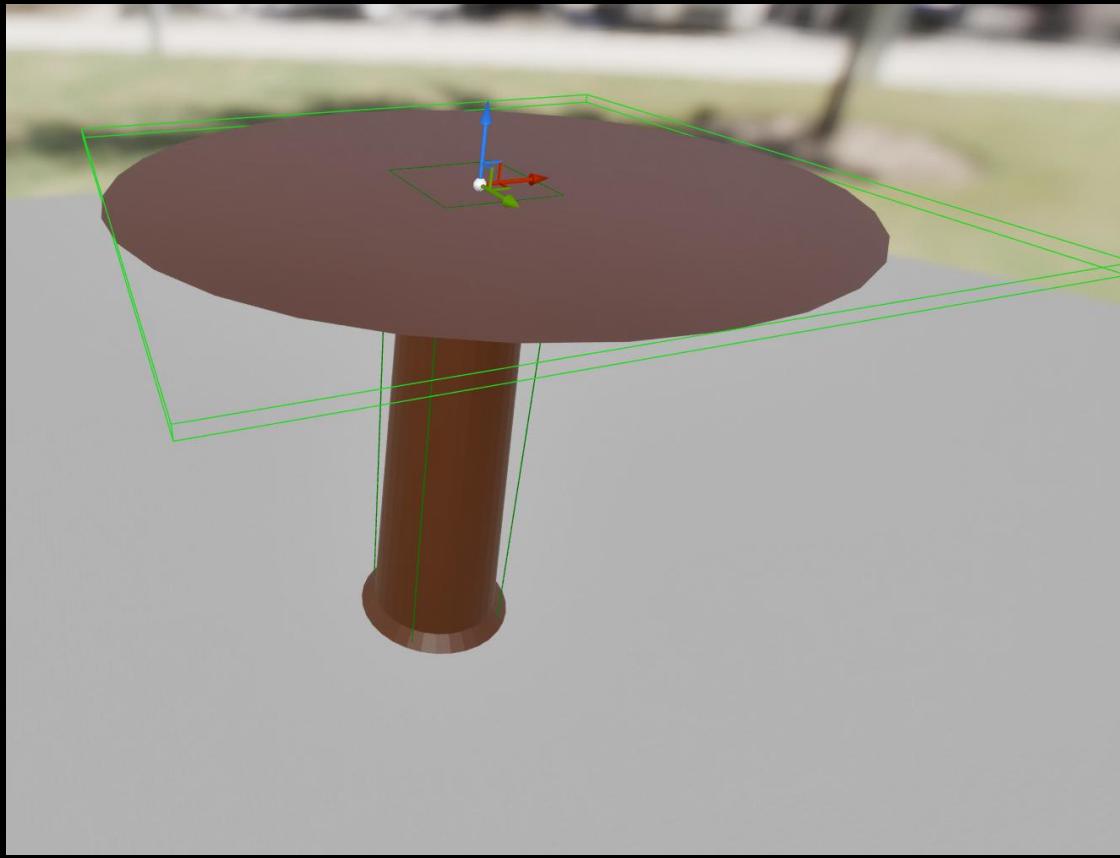
Since we want the player to be able to look where they are placing we changed the tutorials code to get the actors location and since we are trying to get from the player look we get the camera location we times the forward vector by a float so it creates a long line for the player to look to place so its guaranteed to hit and we add it the actors transform location to get and endpoint.



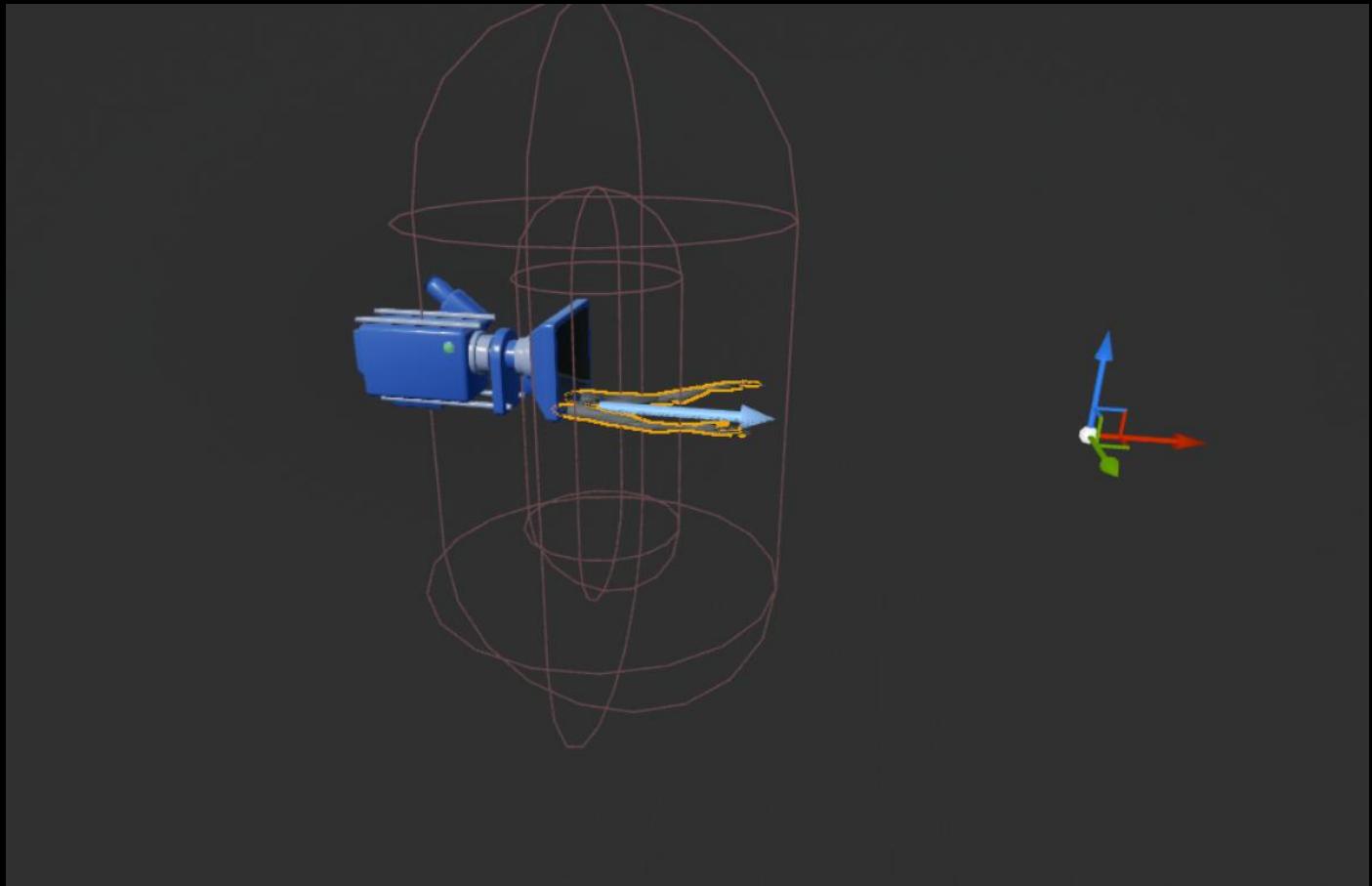


This part of the code detaches the actor from the player and changes the location of he transform and sets is holding back to false as we have dropped the item. This code is universal as the variable held item isn't specific to the teacup.

Since the collision box of the table is a bit wrong I've changed it myself in the editor

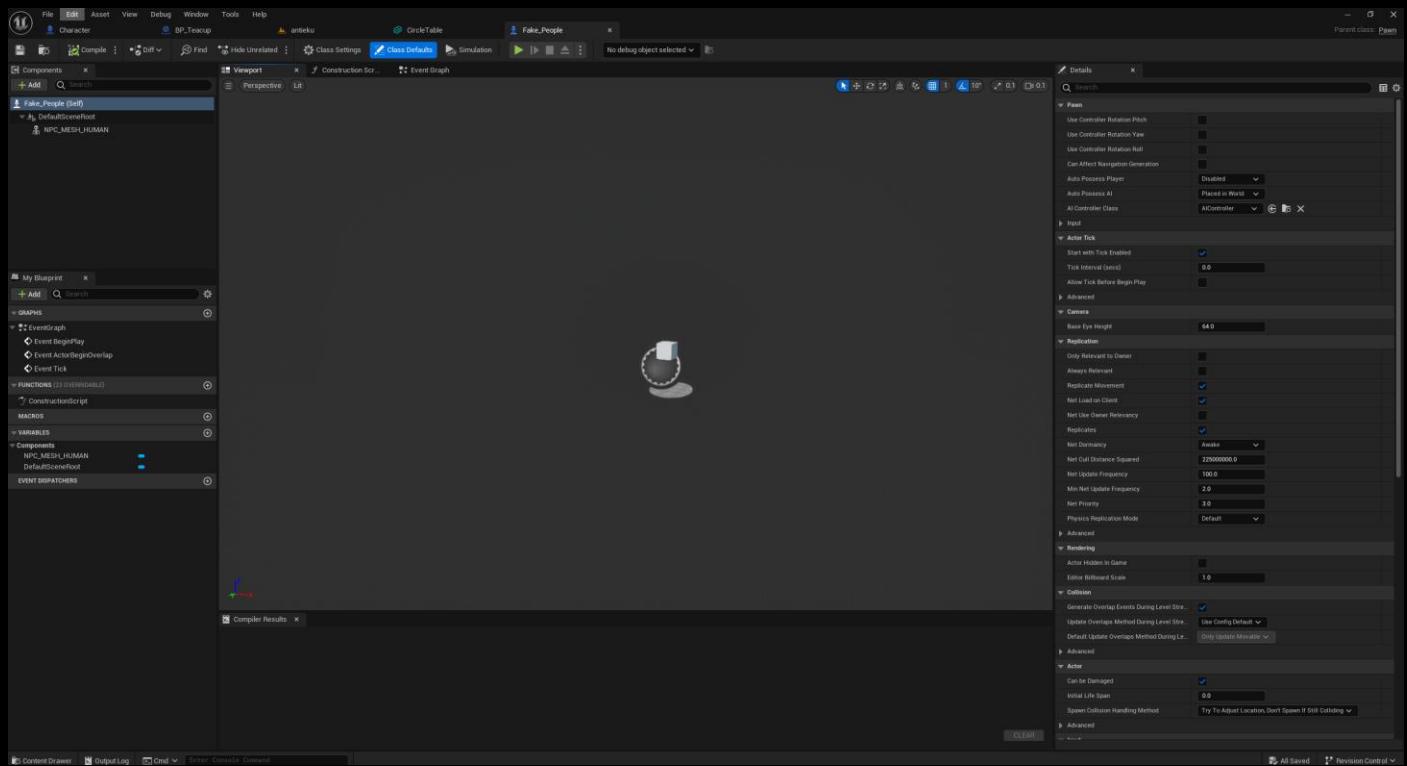


I've changed the height of the character with the arrow as its more accurate drop.



Also this could add a new feature of instead of playing as a normal sized person you play as a teen/child that is smaller and have to jump up to reach the table and place things in the right places adding skill to the game.

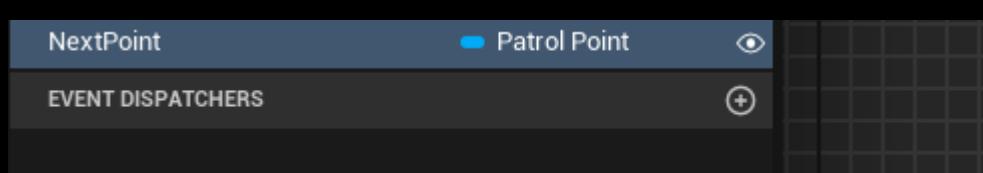
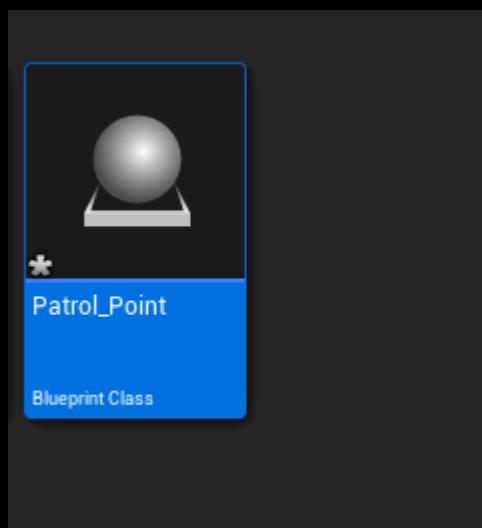
Starting adding ai to my game so that I can make the people walk towards the seats.

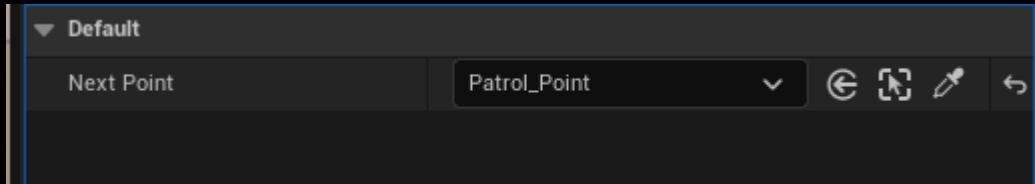


I added a blueprint and have put a cube as a placeholder for the moment as I want to get the mechanic down so that it works then I can add another mesh into what I want to ai to actually be.

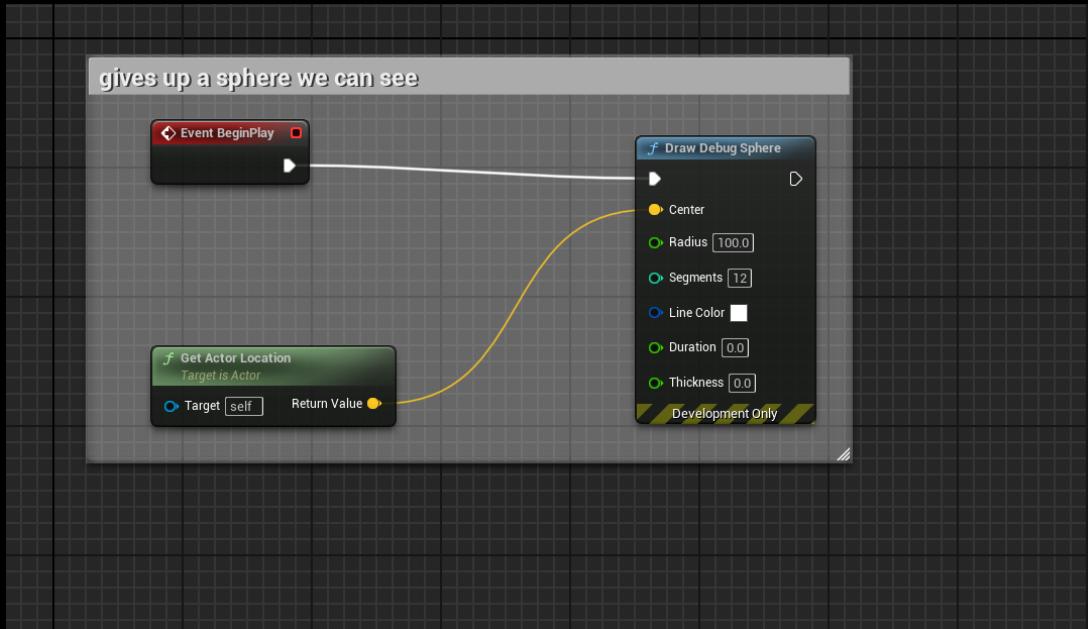
I'm following some of Jacobs tutorial to make the ai move where I want to.

We made patrol points and added a variable called next point we then insert two patrol points and in the details tab search next point and make it the patrol point that we place down.



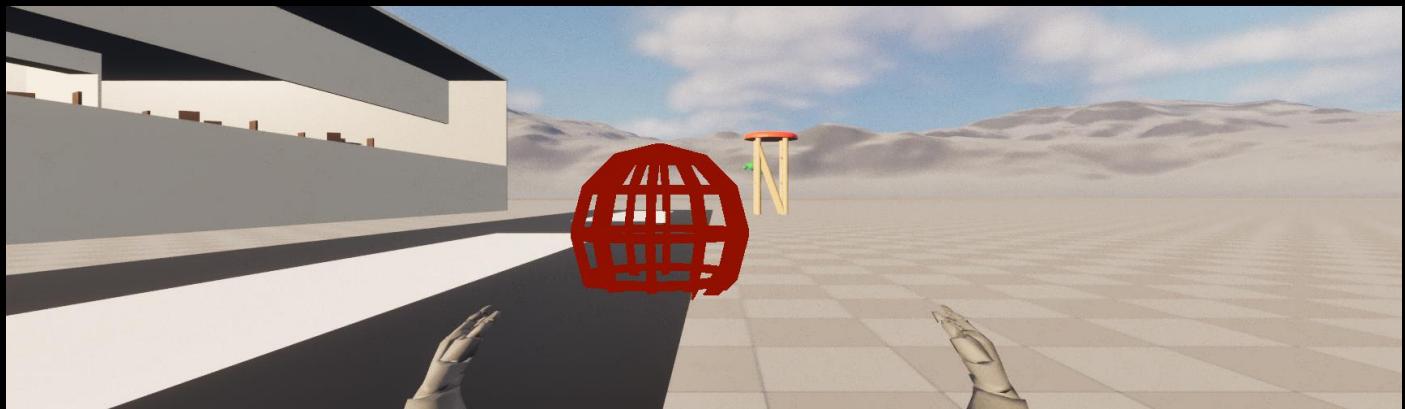


Now we add a debug sphere so we can see where the points are and test the points.



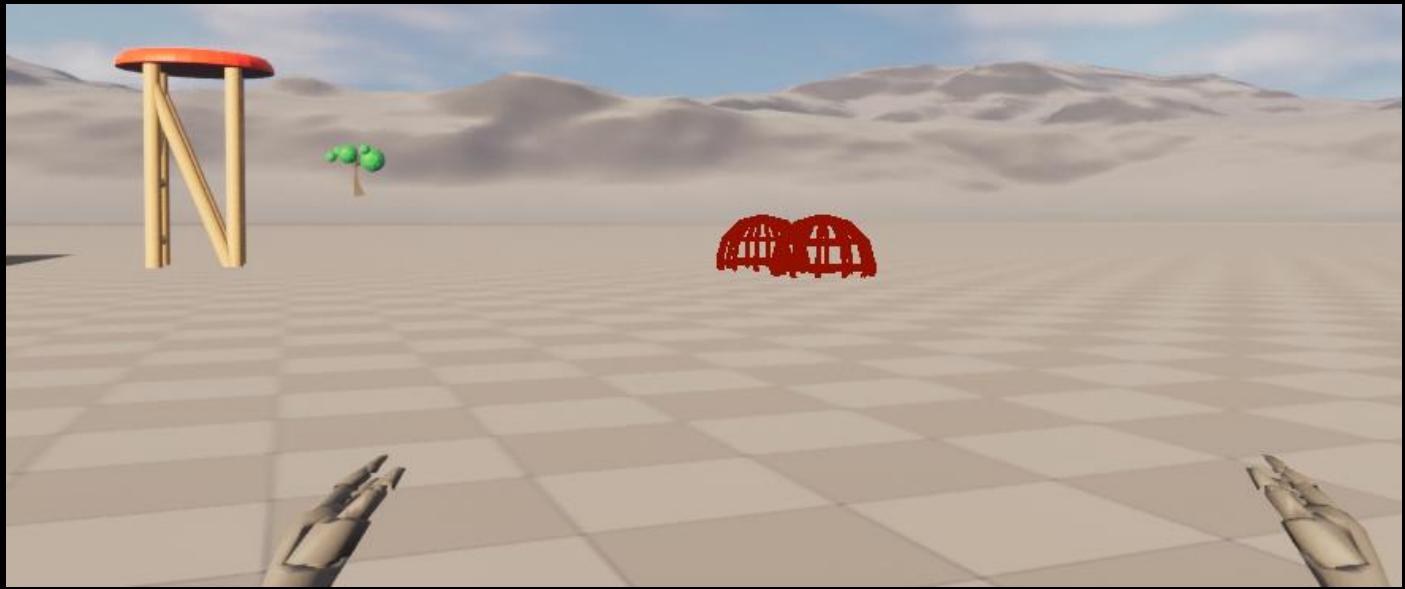
We have a problem with this problem being on the wrong blueprint so we just swap the blueprint.

To the right one.



This is on the wrong blueprint.

29/12/24



Now it's on the correct blueprint.

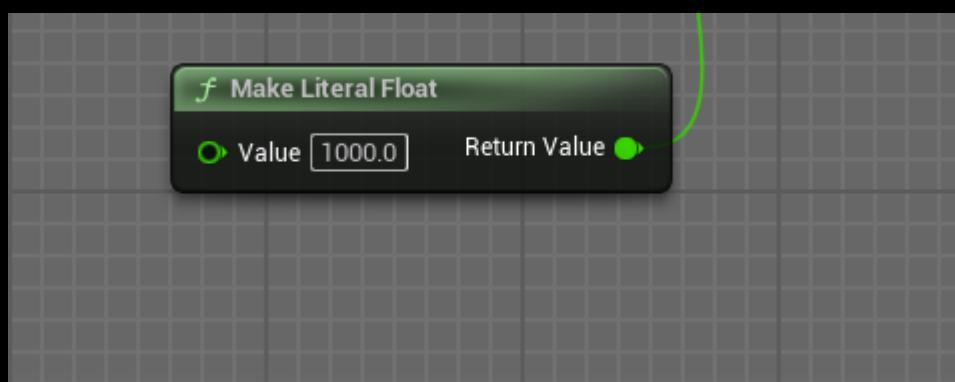
Now we move onto 3.8 to get the patrolling to work as I see it I want to have all customers start at the same patrol point then move them outside the door the up the stairs and into the café to a designated spot im going to see if theirs a way to spawn them in if not I could do the same thing but with character speed being varied however I would rather get the spawn feature in as it would make it less cluttered.

18/12/24

Project management I added an ai mechanics section which I want to complete over the holidays and also ticked off things such as character mechanics such as movement and pick up and drop. I need to meet some deadlines such as getting a character model for the player and the ai coming into the shop. I need to complete my research as I have some patches I haven't finished yet.

Got feedback for the game and am trying to improve the teacup collision.

First we decreased the literal float in our code however it can still hit the wall as we only changed the line of the code.

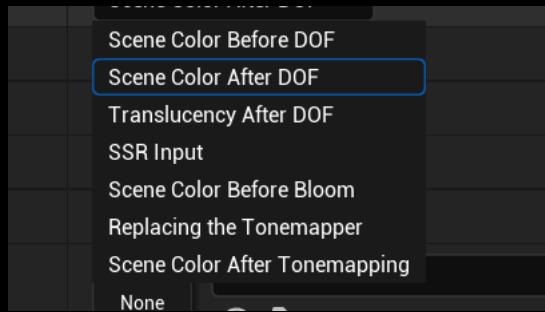


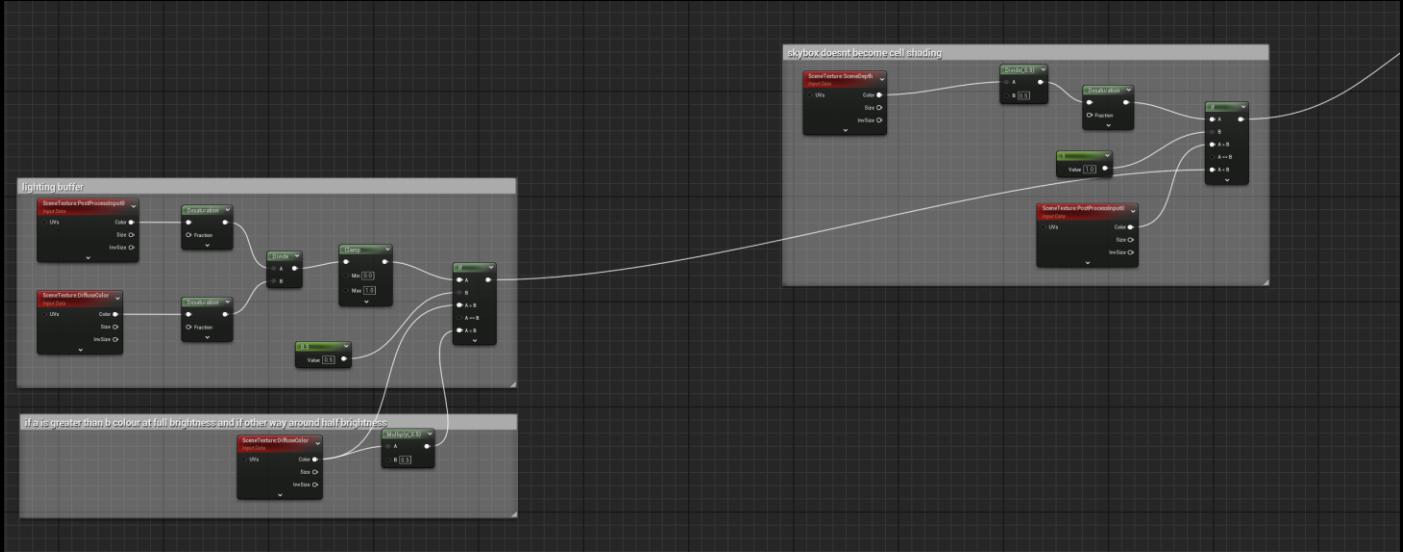
Now we are going to look into the collisions of the wall itself. We have fixed the problem by looking into the collisions of the wall.

Collision Enabled	Collision Enabled (Query and Physics) <input type="button" value="▼"/>
Object Type	WorldStatic <input type="button" value="▼"/>
	Ignore Overlap Block
Collision Responses <input type="button" value="?"/>	<input type="button"/> <input type="checkbox"/> <input type="button"/>
Trace Responses	
Visibility	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="button" value="↳"/>
Camera	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="button" value="↳"/>
Object Responses	
WorldStatic	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="button" value="↳"/>
WorldDynamic	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="button" value="↳"/>
Pawn	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="button" value="↳"/>
PhysicsBody	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="button" value="↳"/>
Vehicle	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="button" value="↳"/>
Destructible	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="button" value="↳"/>
Generate Overlap Events During...	<input type="checkbox"/>
Update Overlaps Method During...	Use Config Default <input type="button" value="▼"/>
Default Update Overlaps Method...	Only Update Movable <input type="button" value="▼"/>
Advanced	
Use CCD	<input type="checkbox"/>
Use MACD	<input type="checkbox"/>

We made it so the actor can hit the wall so they don't walk through it and the teacup doesn't interact it with the wall so it stops hitting the wall. We added this preset to all objects we don't want the teacup to hit.

Followed a cell shading tutorial because I want an anime art style and have finished it encounters a problem in the tutorial and its because of the game version because we need to change it to before tonemapping but they got rid of the feature in ue5.4. so I have looked online for solutions and found that scene colour after dof works similarly but doesn't provide the same strength as the effect but works.

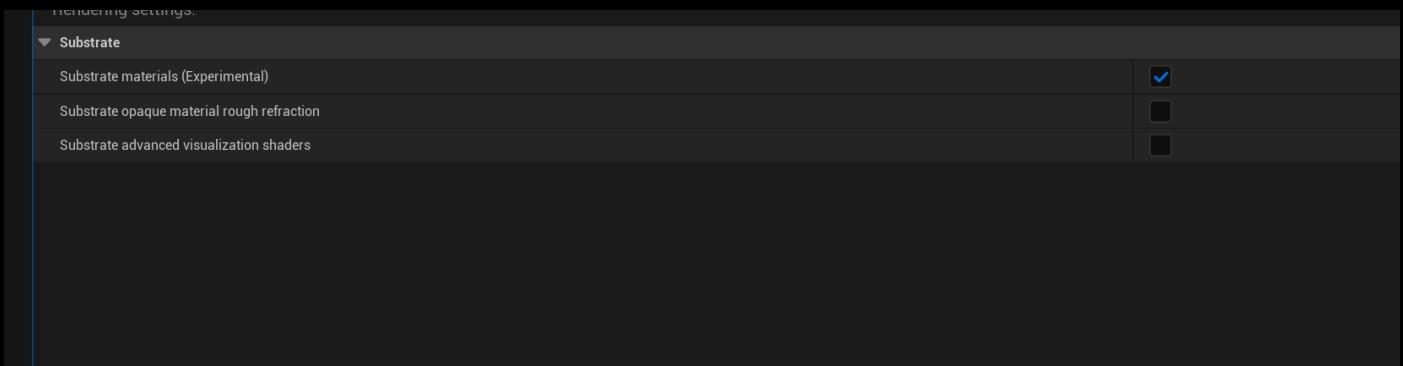




This code changes the brightness.

Had a problem that the material wasn't working as we hadn't had some settings enabled.

It was rendering settings



The top thing wasn't enabled so it didn't work now it does. Had to restart the project.

Wasn't able to get cell shading to work and as I search for multiple fixes I couldn't find a single instance where it was fixed and apparently the version of unreal I am using made it so it didn't work.

1/1/25

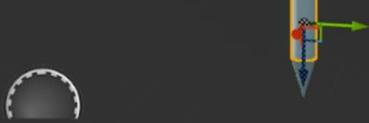
Making a cutscene for a tutorial and adding floating text

[Unreal Engine 5 Tutorial for Beginners: How to Add Floating Text \(UE5.3\)](#)

[How To Make & Trigger A Simple Cutscene | Unreal Engine 5 Tutorial - YouTube](#)

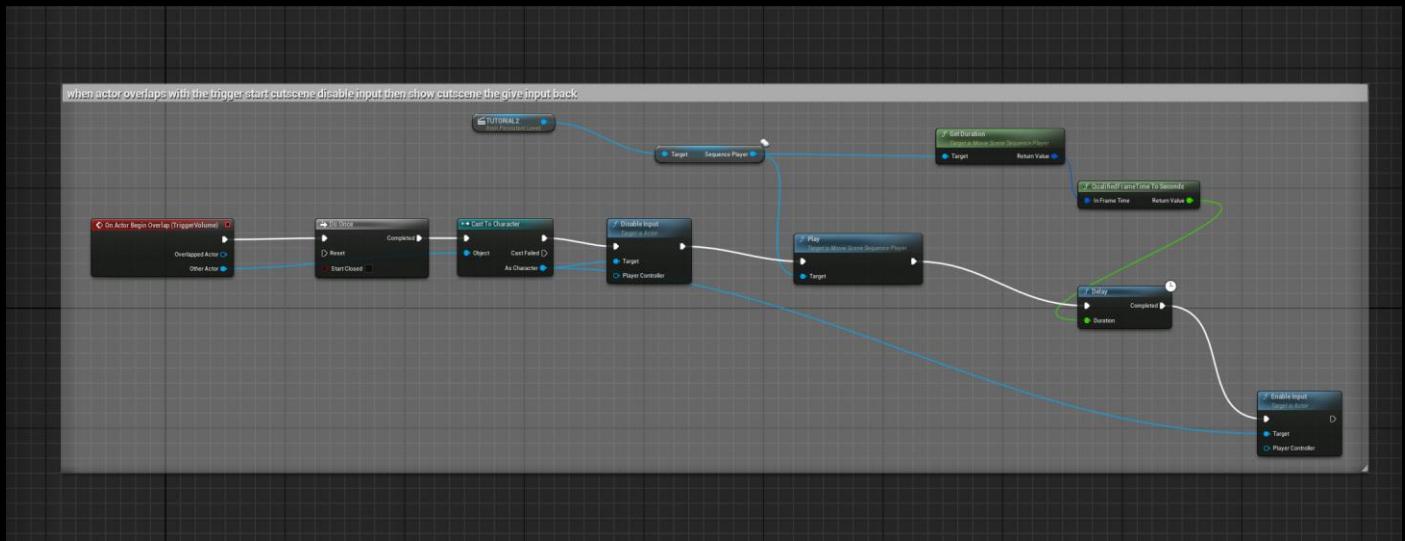
MADE TEXT AND ADDED AN ARROW FOR THE TUTORIAL . NOW GOING TO DO THE CUTSCENE DID IT BY MAKING AN ACTOR BLUEPRINT.

Tutorial

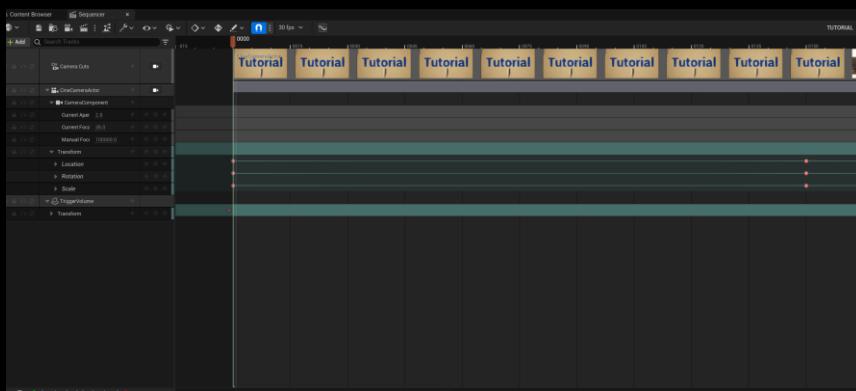


Now I am adding a cutscene for the tutorial.

Added a trigger volume and added a cinecamera actor. When player walks into trigger box then we need to make it so the cutscene activates use it in the level blueprint.



The code makes sure the player cant move during the tutorial.



Added keyframes for the camera movement around the map for the tutorial.



Pick up Items - G

Added it into the cutscene and made a cutscene at the end to pan on the map. So the player can enjoy the view.

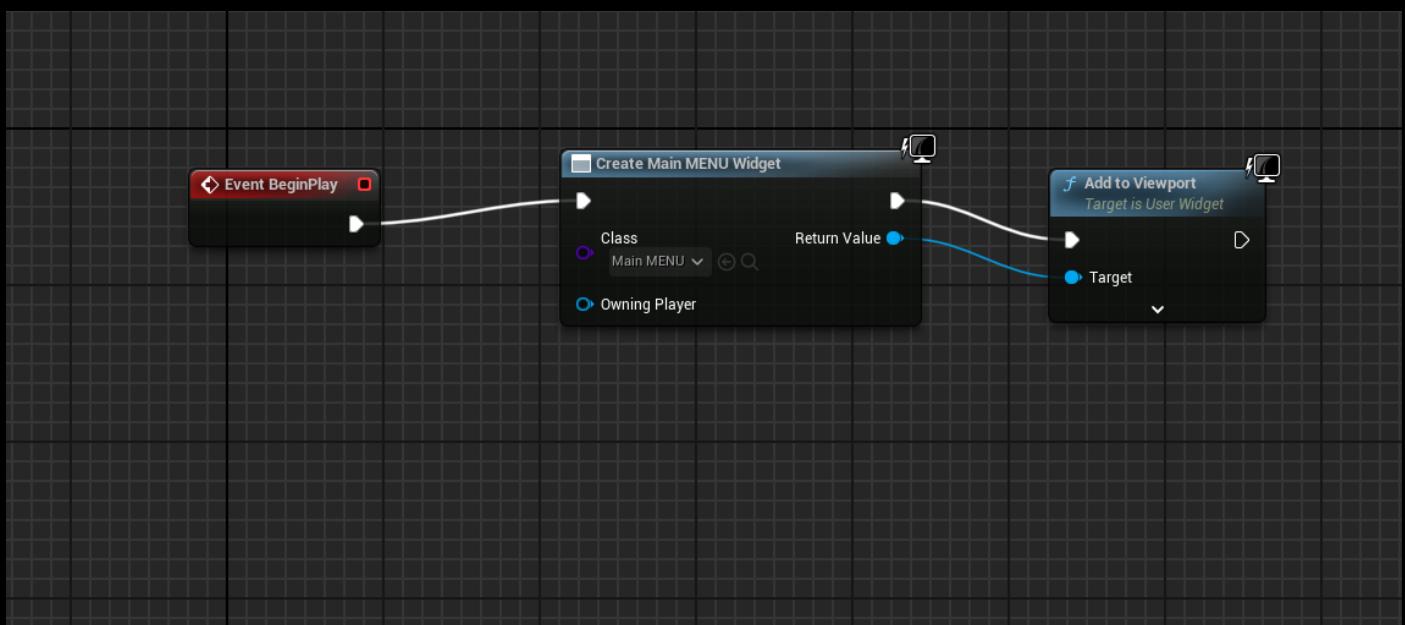
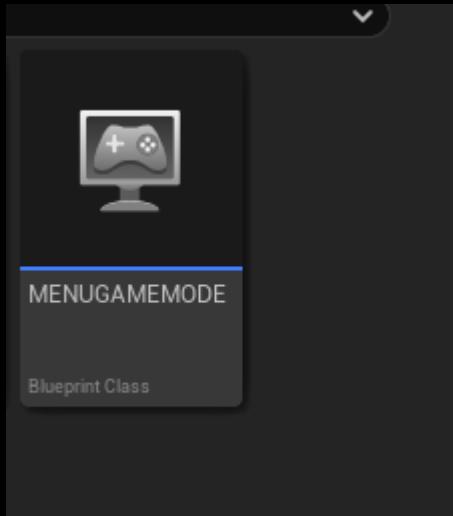
3/1/25

Work on this [How To Create A Main Menu - Unreal Engine 5 Tutorial](#).

Made a main menu widget blueprint.

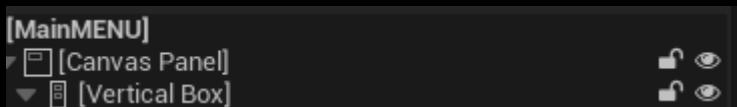


Had to make a mainmenu gamemode since you can go into the character otherwise .

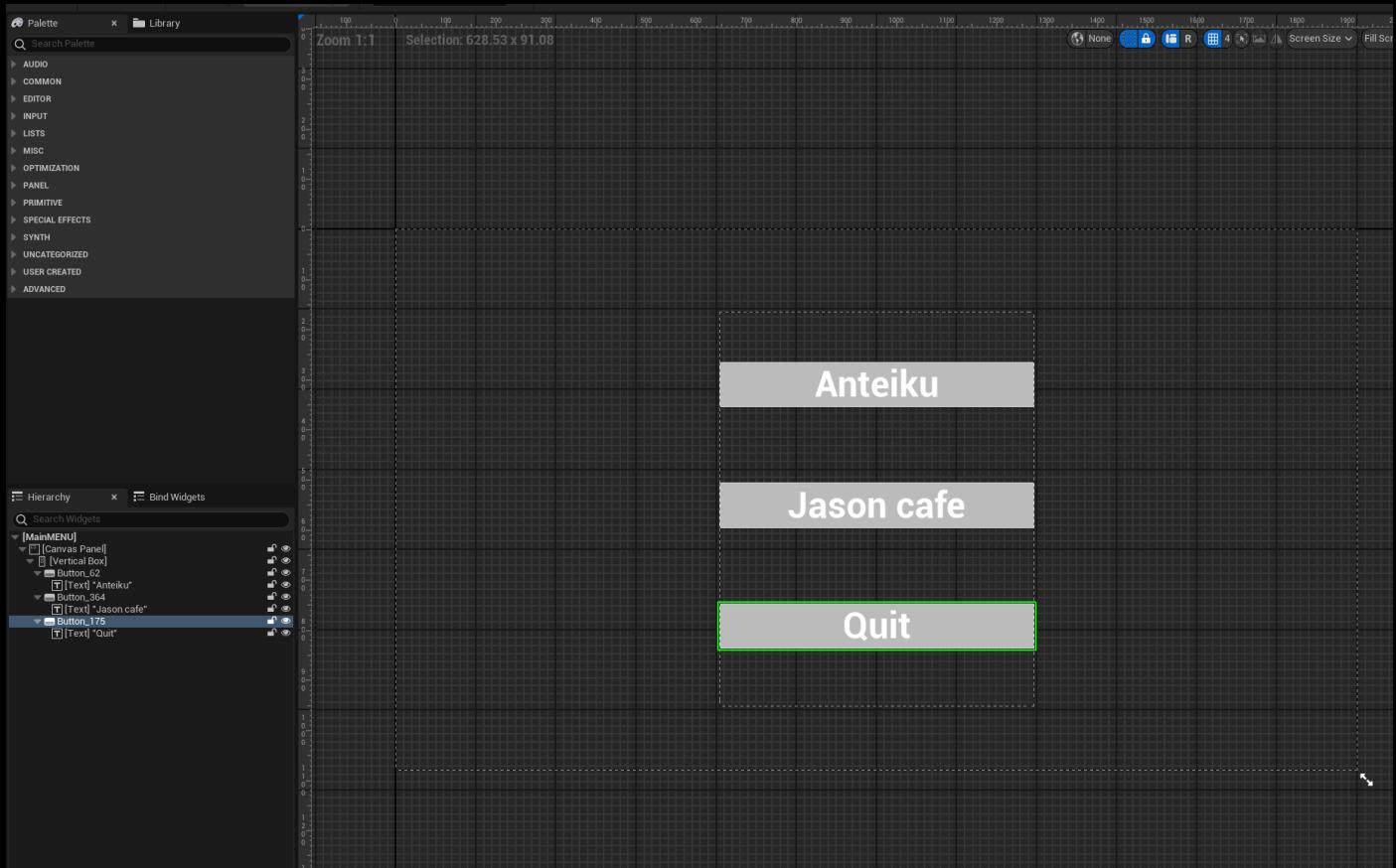


This adds our widget to the game so the player can see the menu

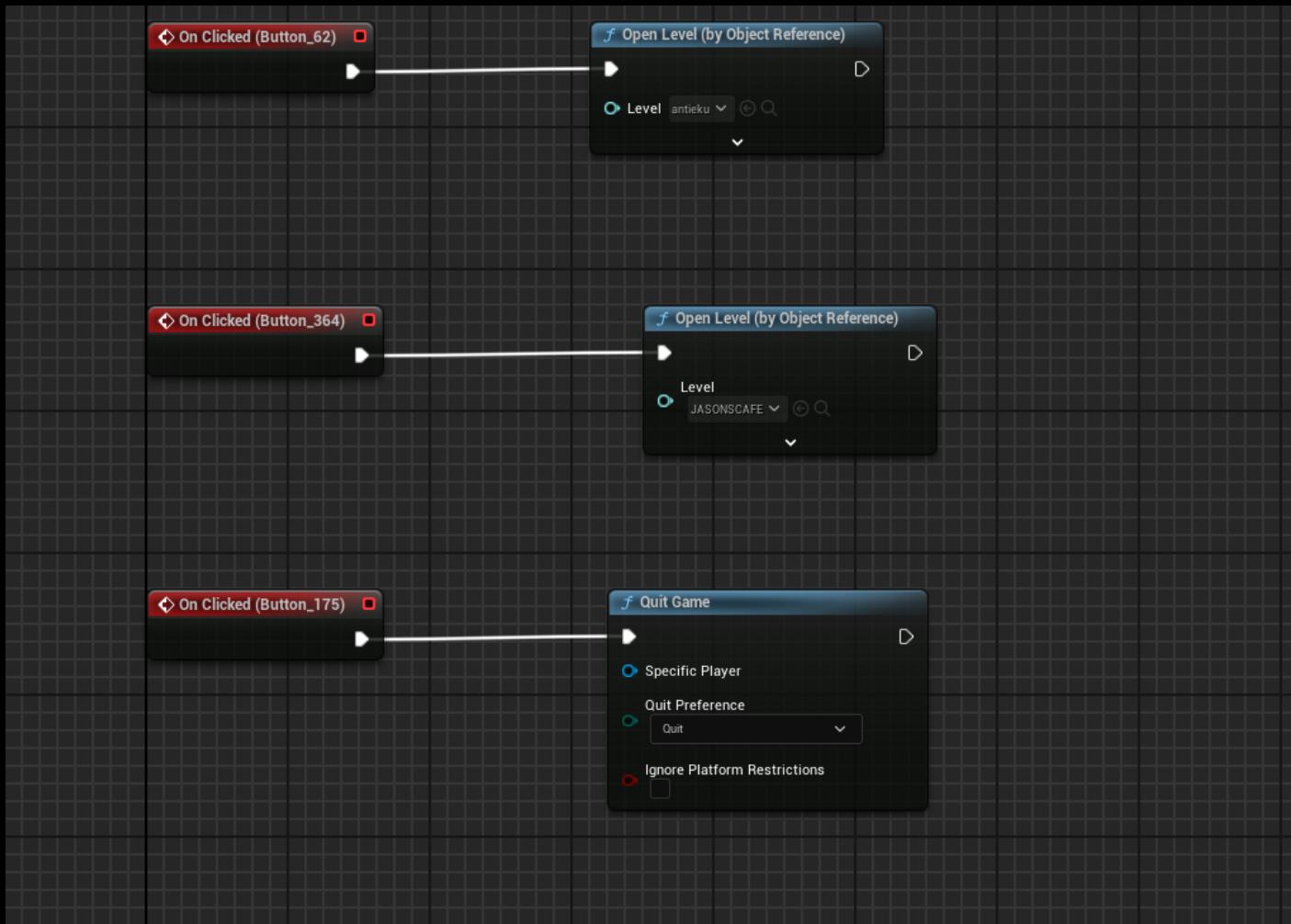
Then added a canvas panel and a vertical box.



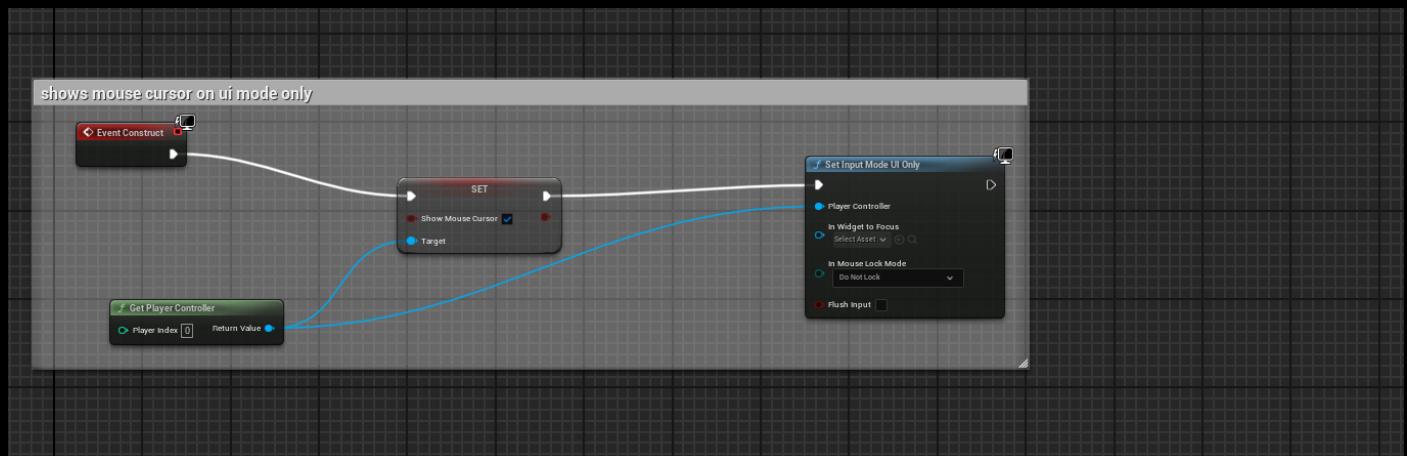
The added buttons to the vertical box and text on the buttons

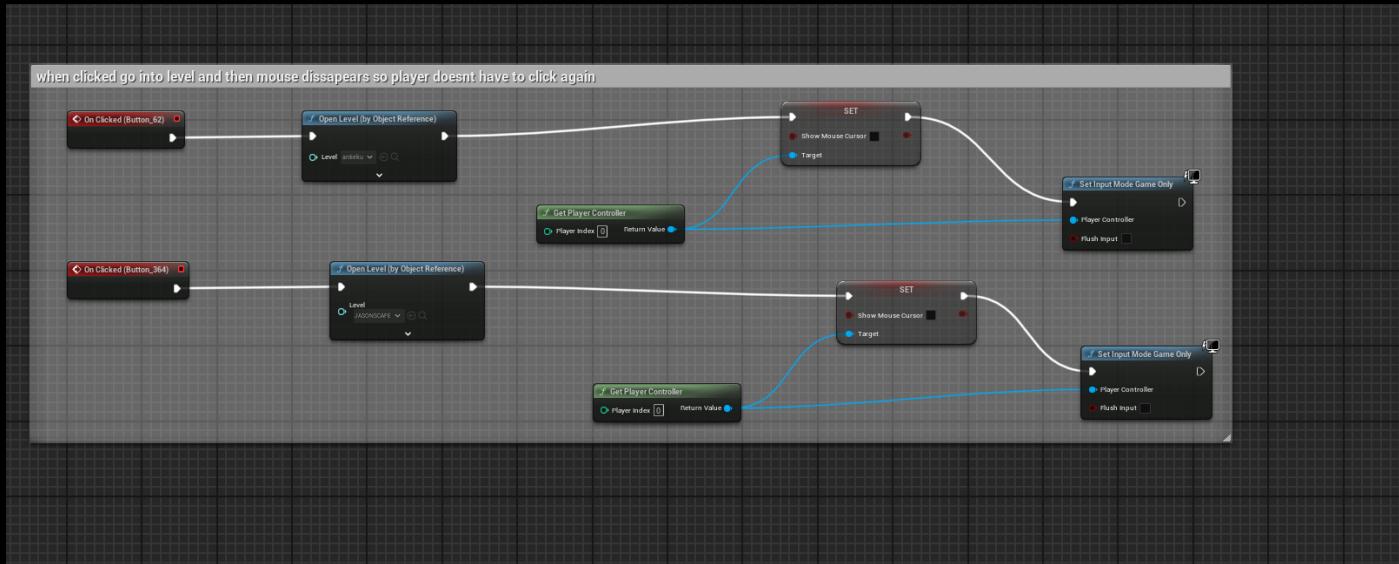


Added code for what happens when the button is clicked.



Added an image for the background of the menu so that its not empty.



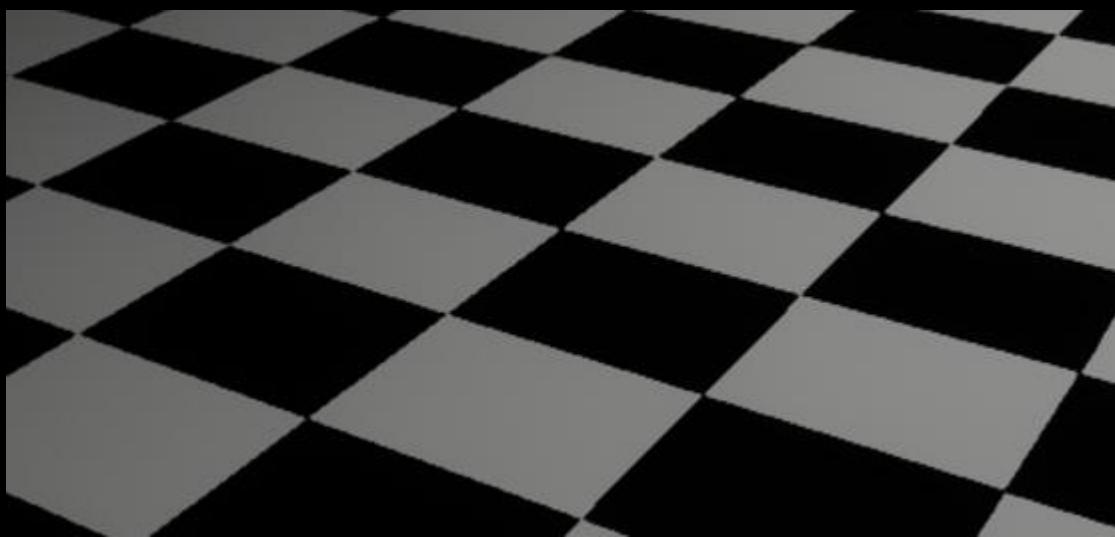


When button is clicked it makes it so that the mouse doesn't still appear but we just go straight into the game.

4/1/25

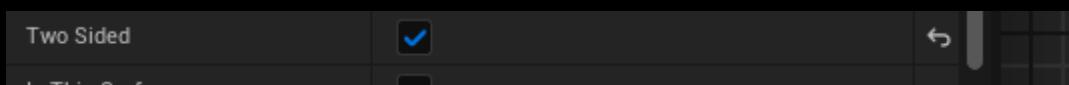
Made level 2.

Added the floor assets I made specifically for level 2

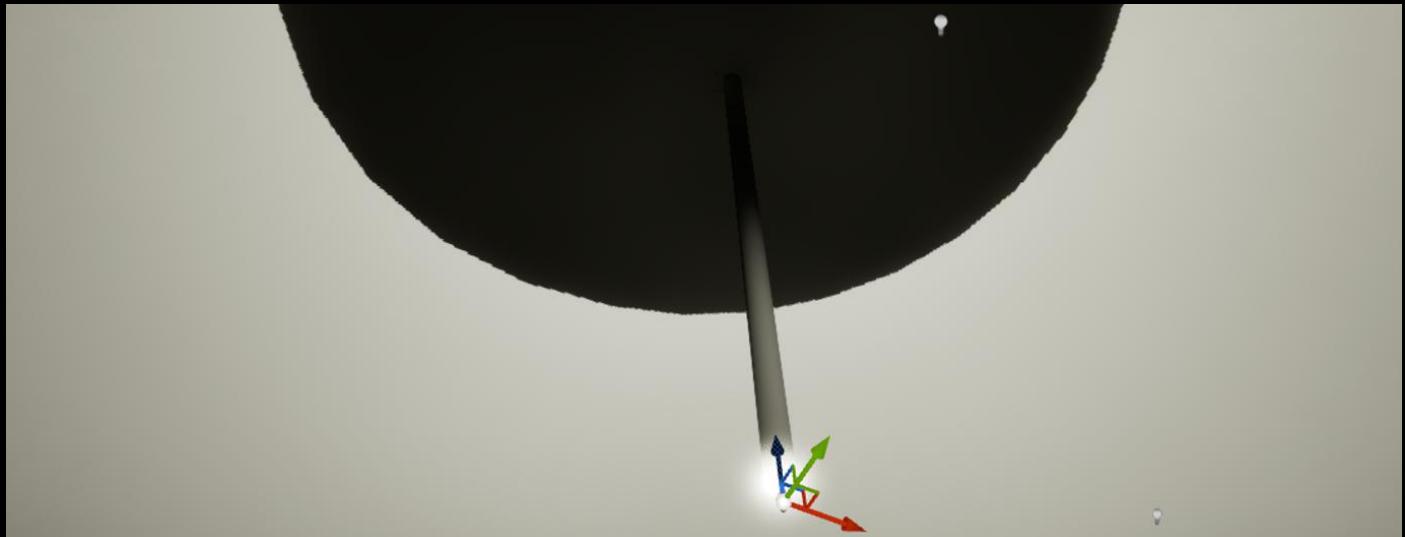


I used a sphere and enlarged it to make a dome effect above the player which is what I intend to do.

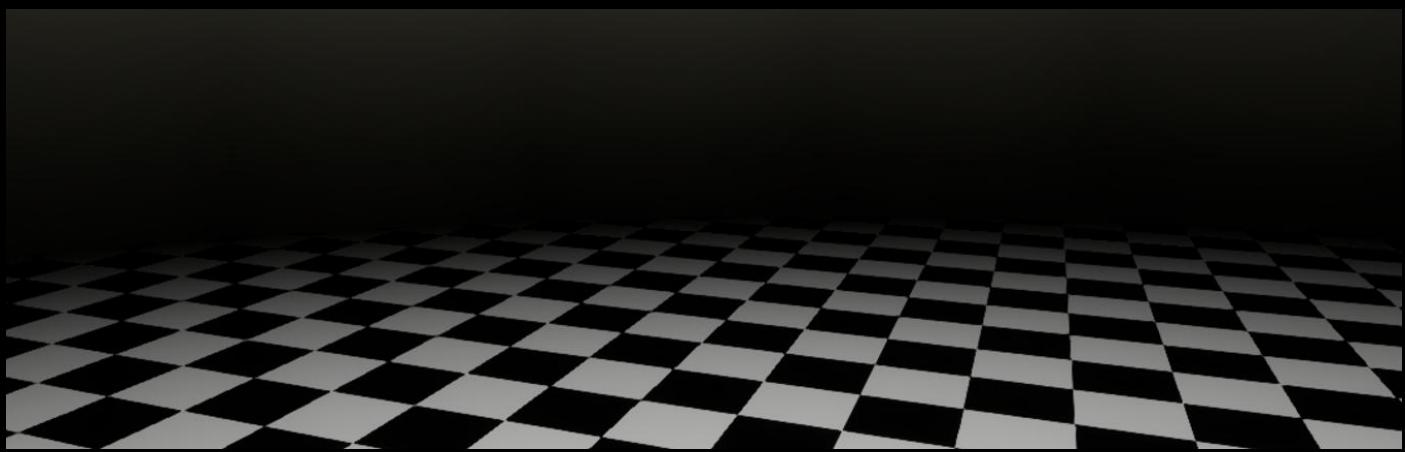
I also had to make the sphere two sided as we had a problem with being able to see through the sphere.



Since we are inside the sphere we could see the skybox hitting the material which I don't want and makes the inside too light so I deleted the sunbox and added my own lighting

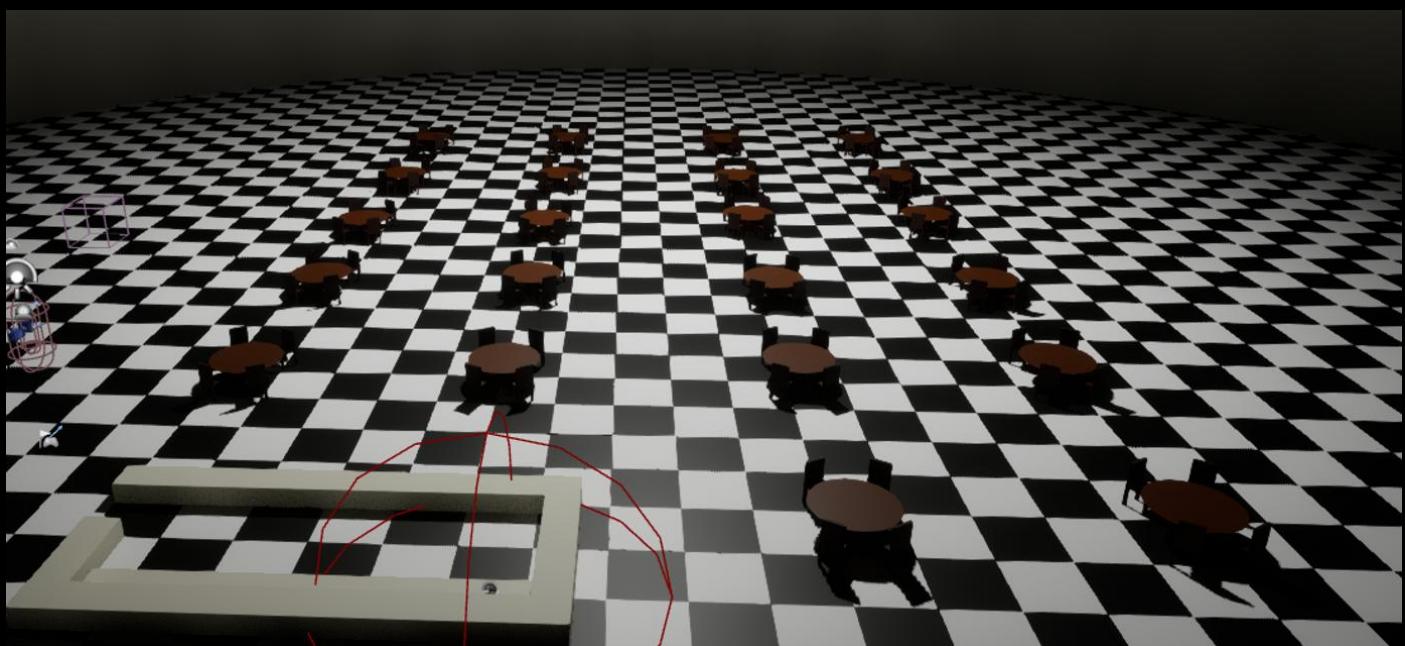


This illuminates the area well enough and produces and effect of it getting darker at the edge of the sphere.



I've taken and copy the chairs and tables from level one to make it so that the size is consistent in both levels.

This is the second level as of right now may be updated but I plan to make the giving the teacup element.



We are going to be adding a money system for when the player places the teacup.

8/1/25

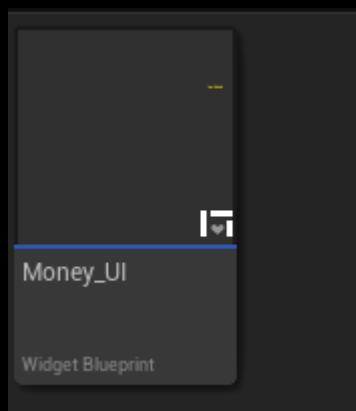
How To Make Currency System - Unreal Engine 5 Tutorial

We are going to make is so when a player places a teacup in the right place it adds money.

First we need to create a money variable.



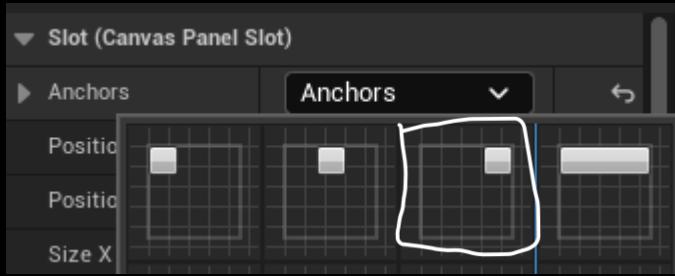
Create a ui for own money so that we can have it display in the players viewport.



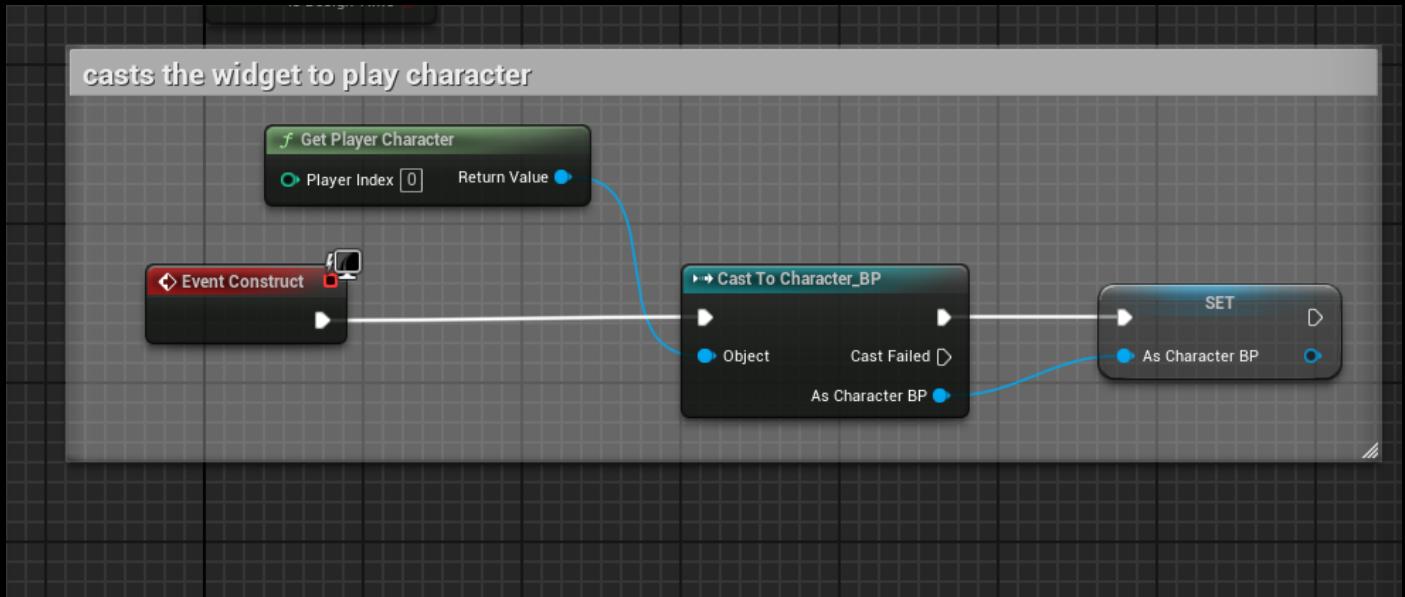
Then we add a canvas panel and text.



Now we bind/anchor the text to the top right and i've changed the text colour to gold which makes us think its money subconsciously as they associate with each other.

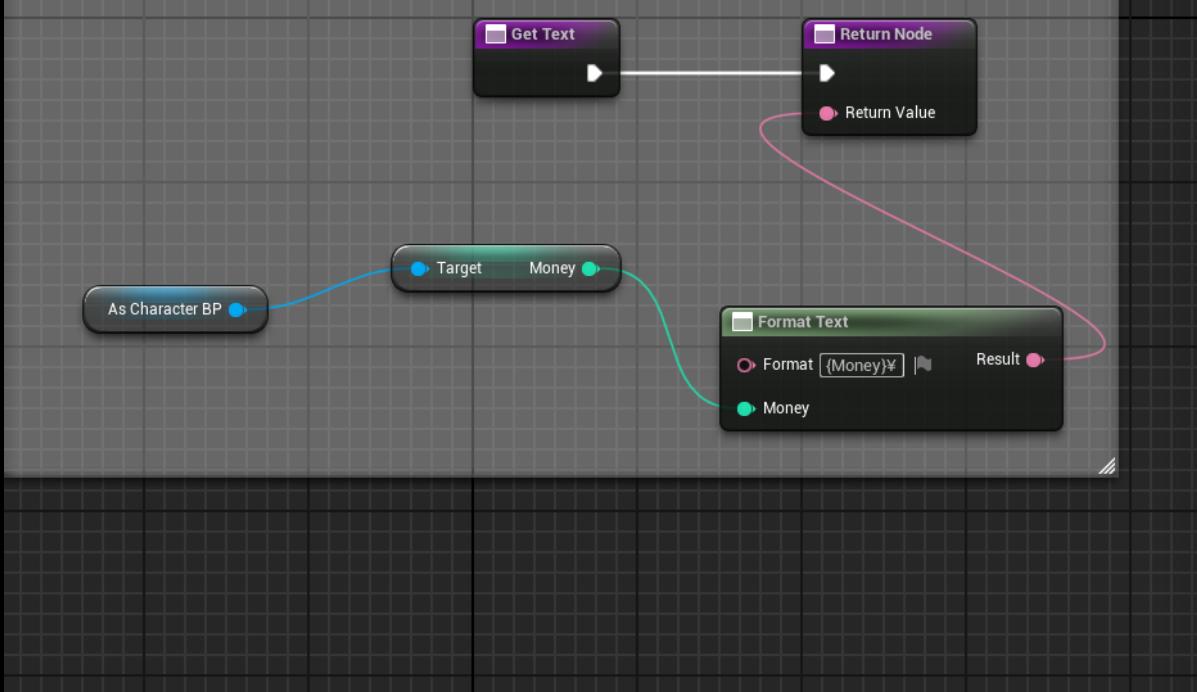


I have decided that putting the money in top right is the best place as it's a convention of the industry .

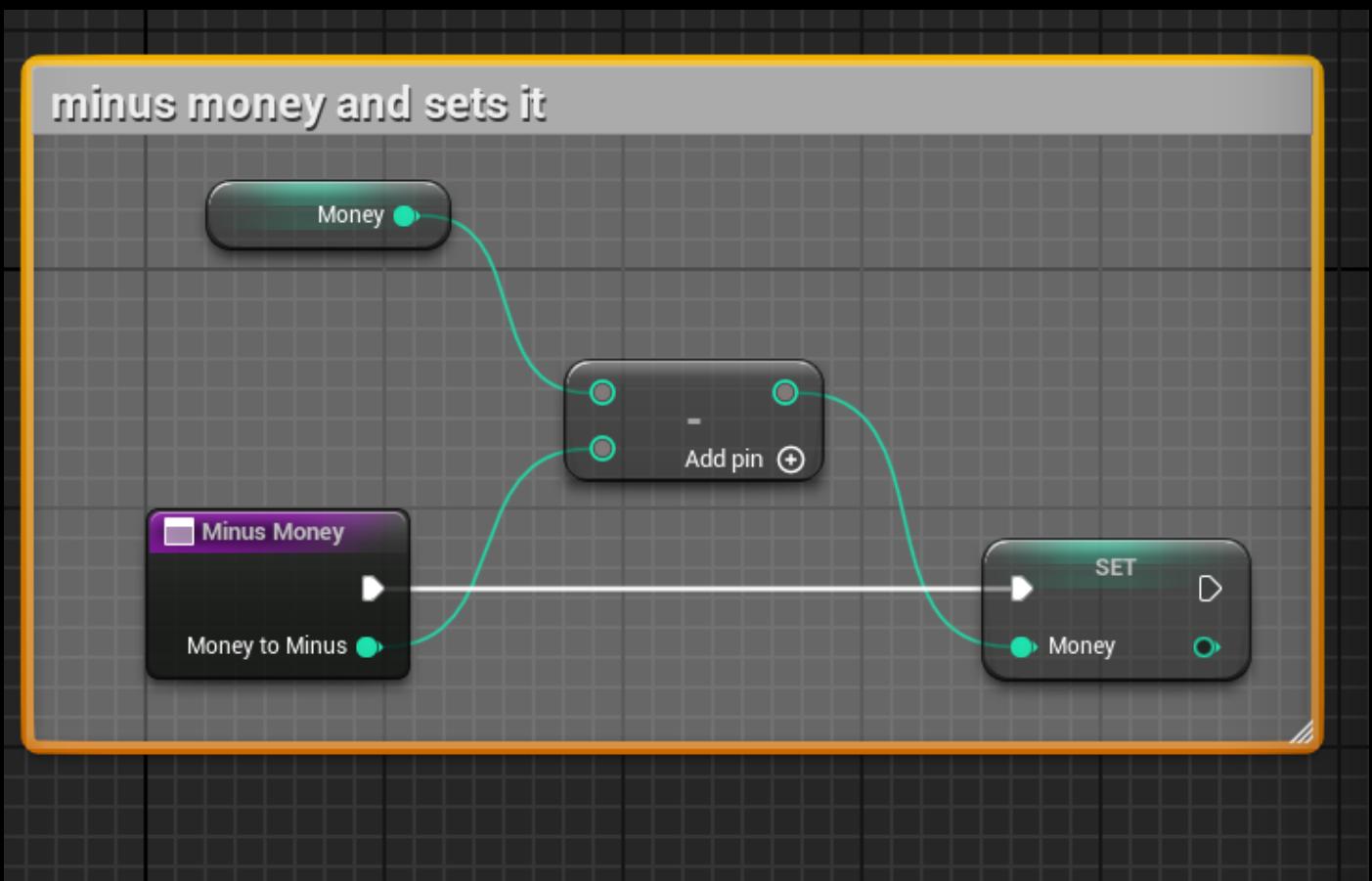


Casts the widget to the play character blueprint.

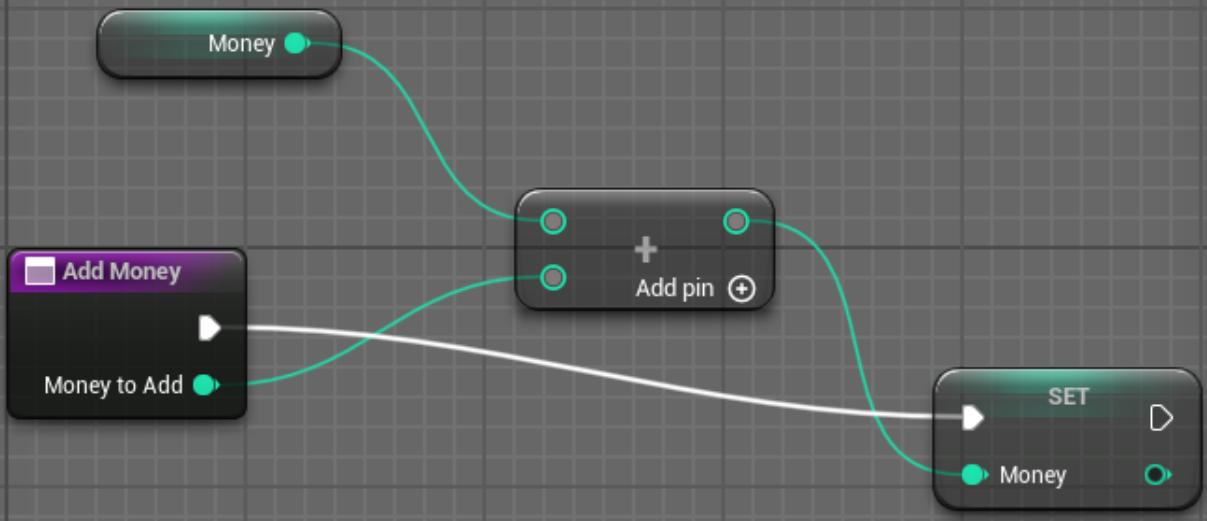
function to get character and formats the money



This makes it so that the money is formatted with the yen symbol as my game is inspired by and Japanese anime. This makes it so that the yen symbol is there and the money variable is before it which is an integer.



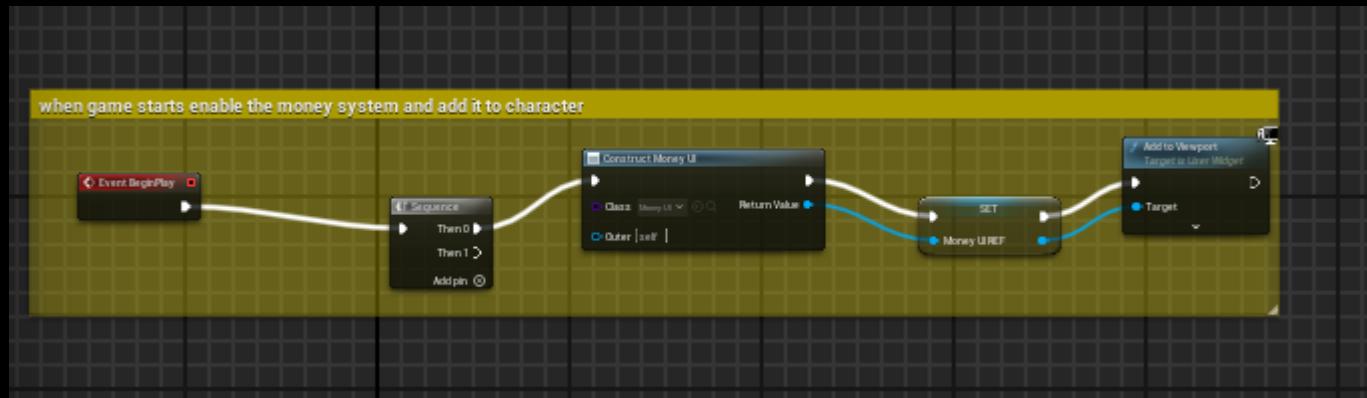
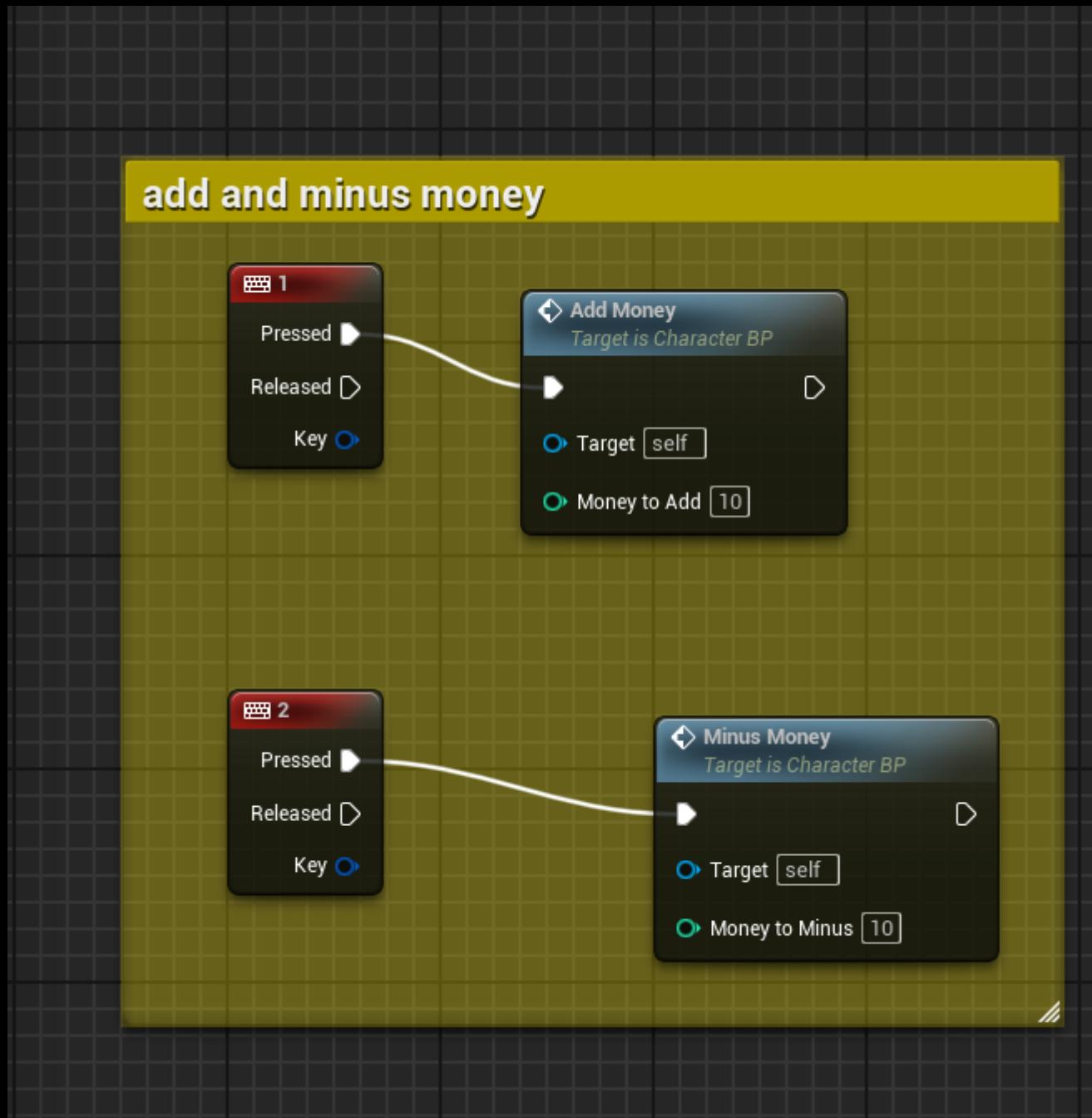
adds money and sets it



Adds a function which gets the money then performs a calculation and changes the value for minus we have added another variable which is an integer which is minus and add money. We need to test if these work.

10/1/25

When 1 is pressed the money adds then when 2 is pressed the money is minuses



When the game begins the money construct and ui is added to the players viewport.

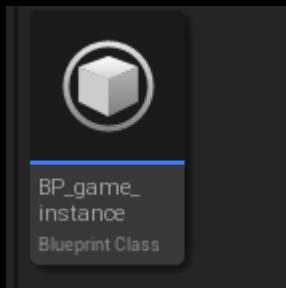
Test the money system video.

The money system doesn't work as intended so im going to follow another tutorial to see if it can achieve the intended result.

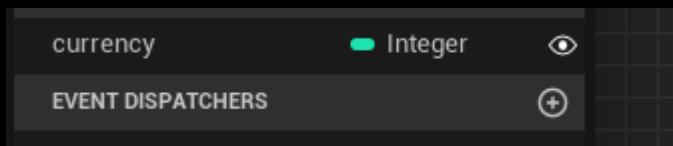
13/1/25

Currency System | Unreal Engine Tutorial

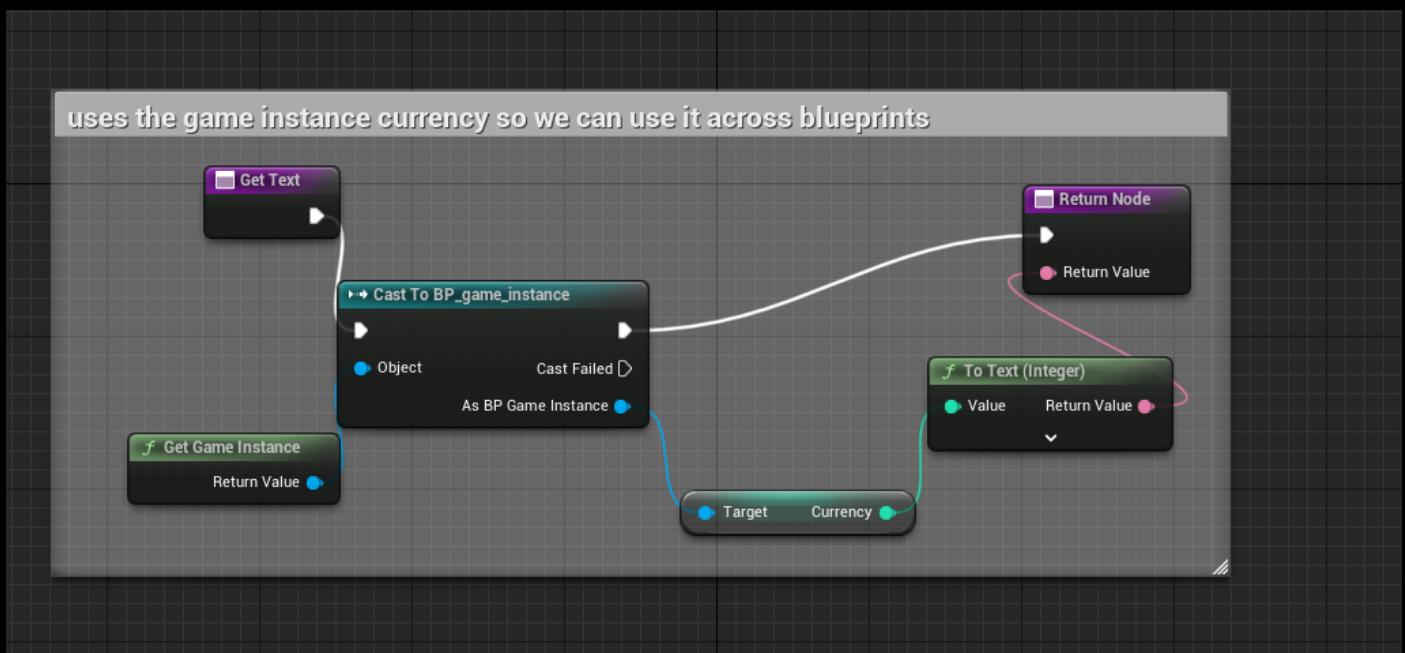
We got told to make a widget however from the old tutorial I have a widget still we are using game instances I this tutorial so I have made a game instance .



Now we need to open it and create a currency variable.



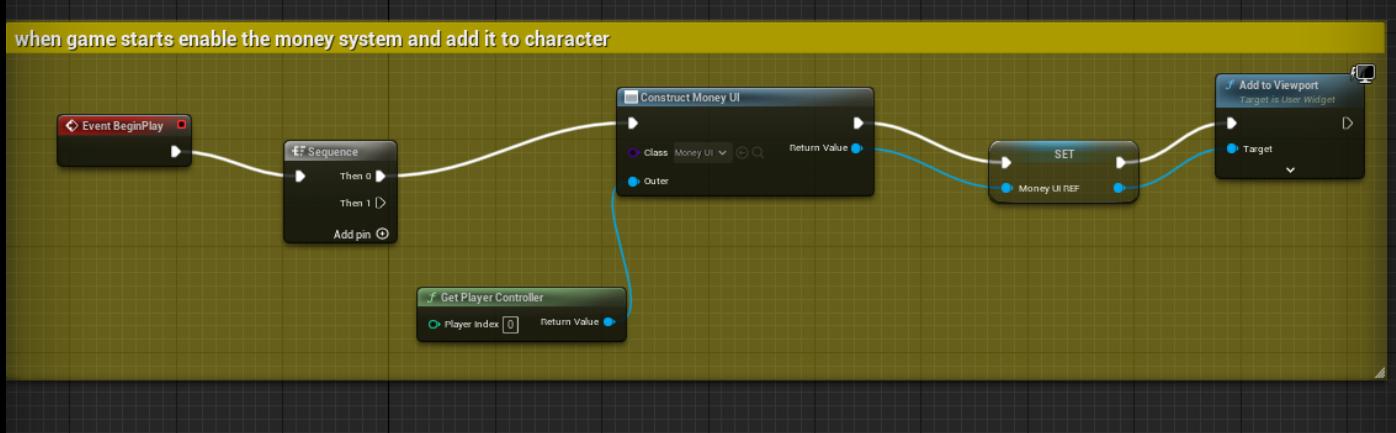
I have it as an integer instead of a float as the yen the currency im going to use is larger than British currency. Now we need to make a the code to bind to the text .



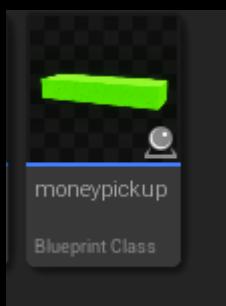
this changes the currency.

14/1/25

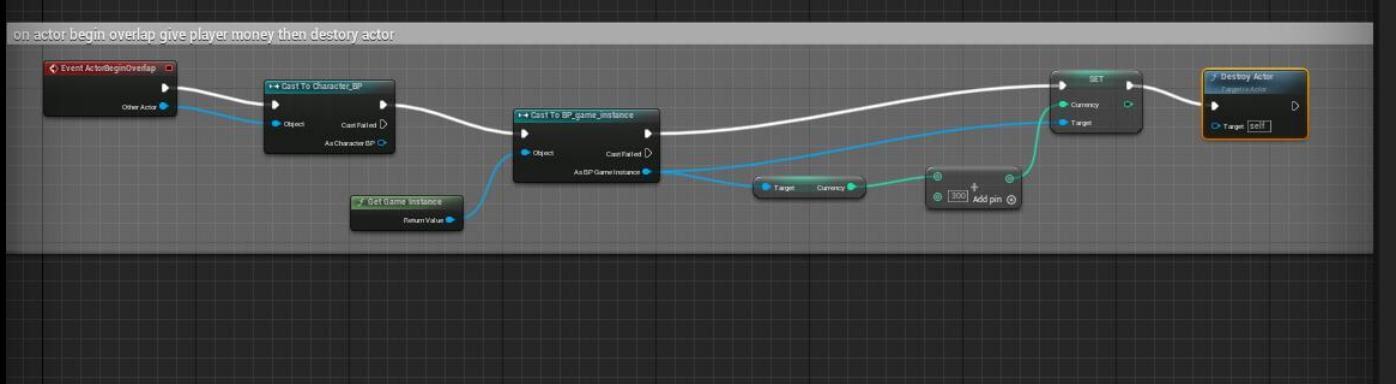
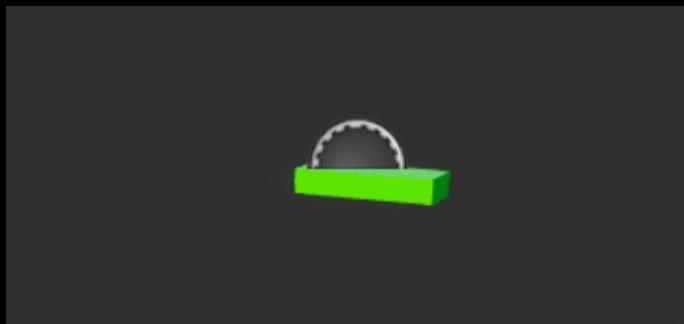
Now we need to add this to the character viewport and since I reused the old widget the code will stay the same except get player controller.



Now im going to make a money item and assign it a value so ive made a new blueprint

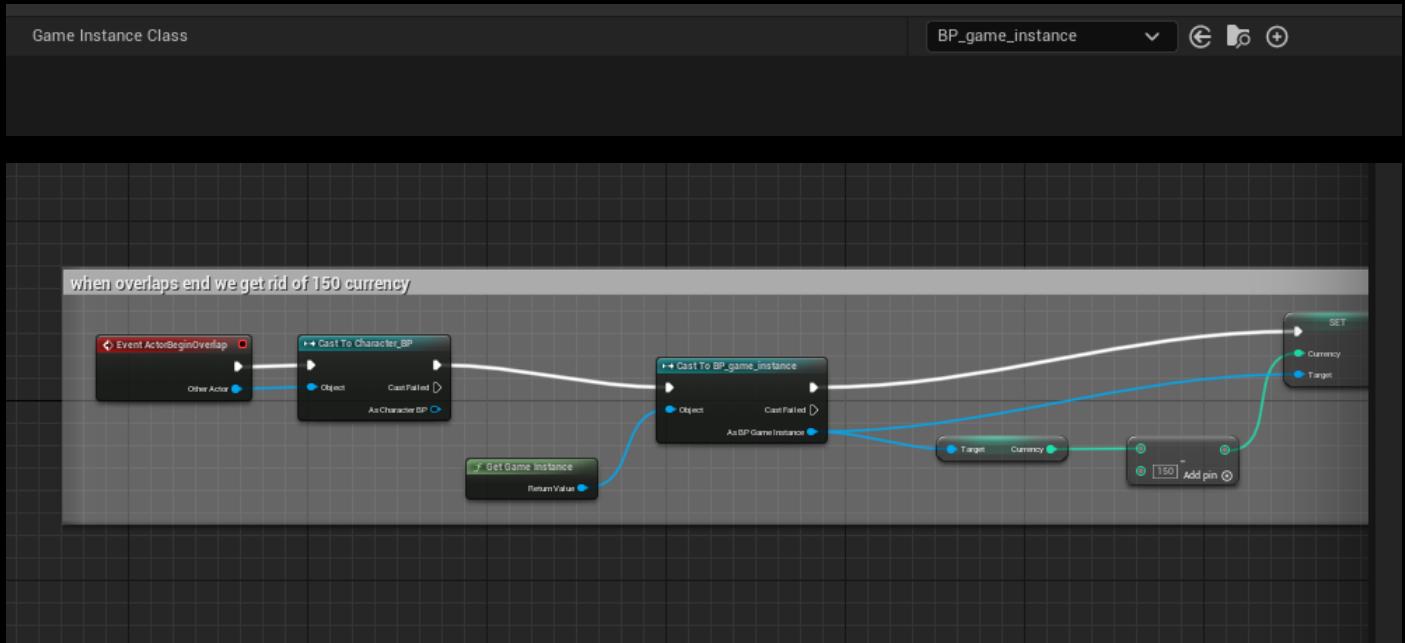


Added a cube and made it green for the moment a placeholder

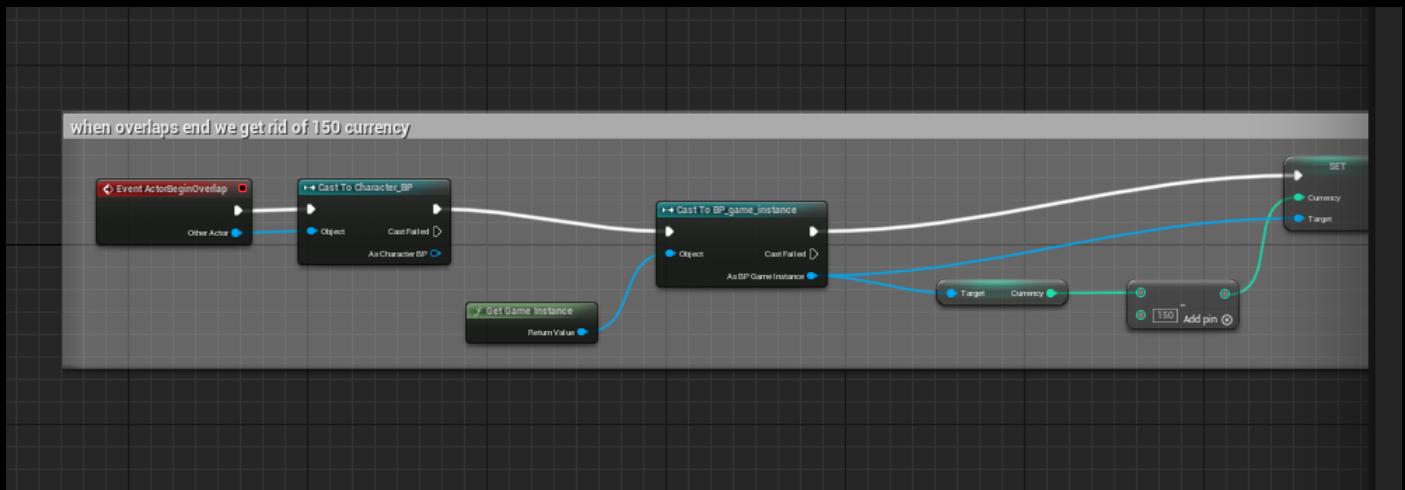


In the event graph of the money pickup we have event begin overlap you get 300 currency then we destroy the currency as you would be able to make it so that you couldn't keep running over it . now we only want that to spawn when the teacup has been consumed.

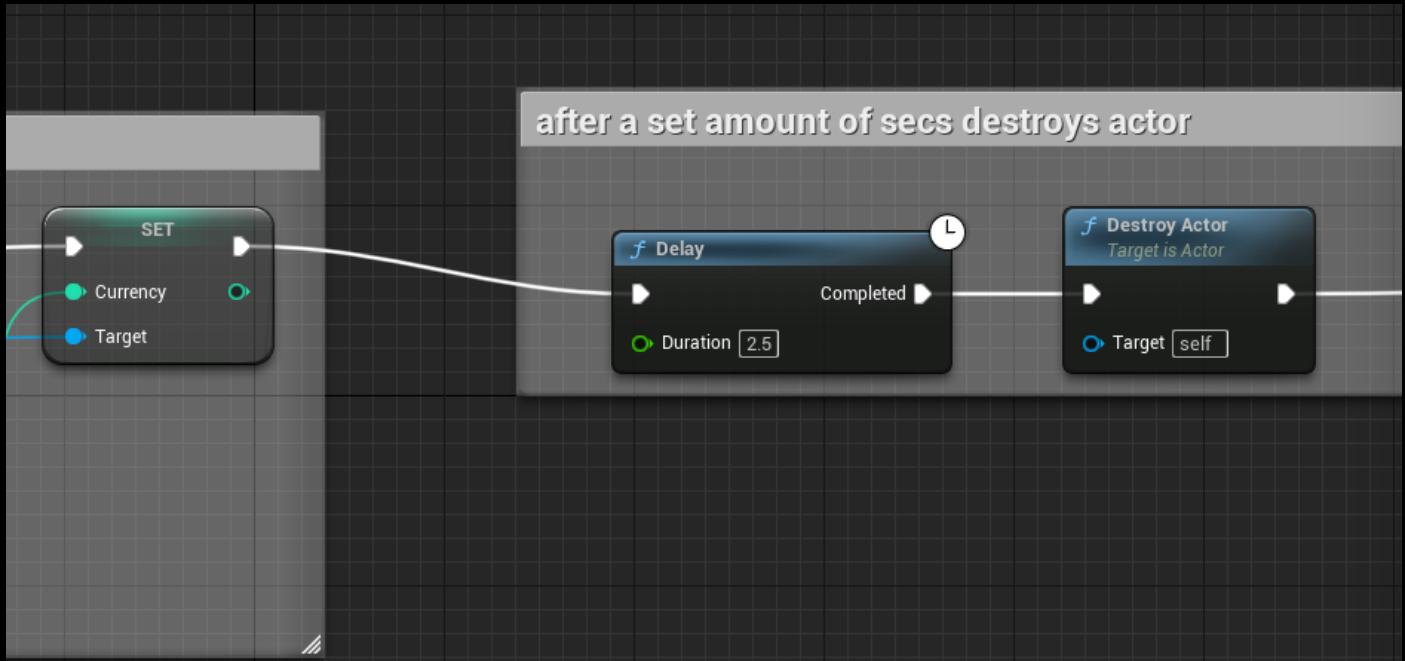
As we need to change the game instance to our new one .



This is in the teacup event graph so when the character overlaps with the teacup the money value decreases by 150 and its set however this is when the character goes near the teacup no the customer so we change the code slightly .

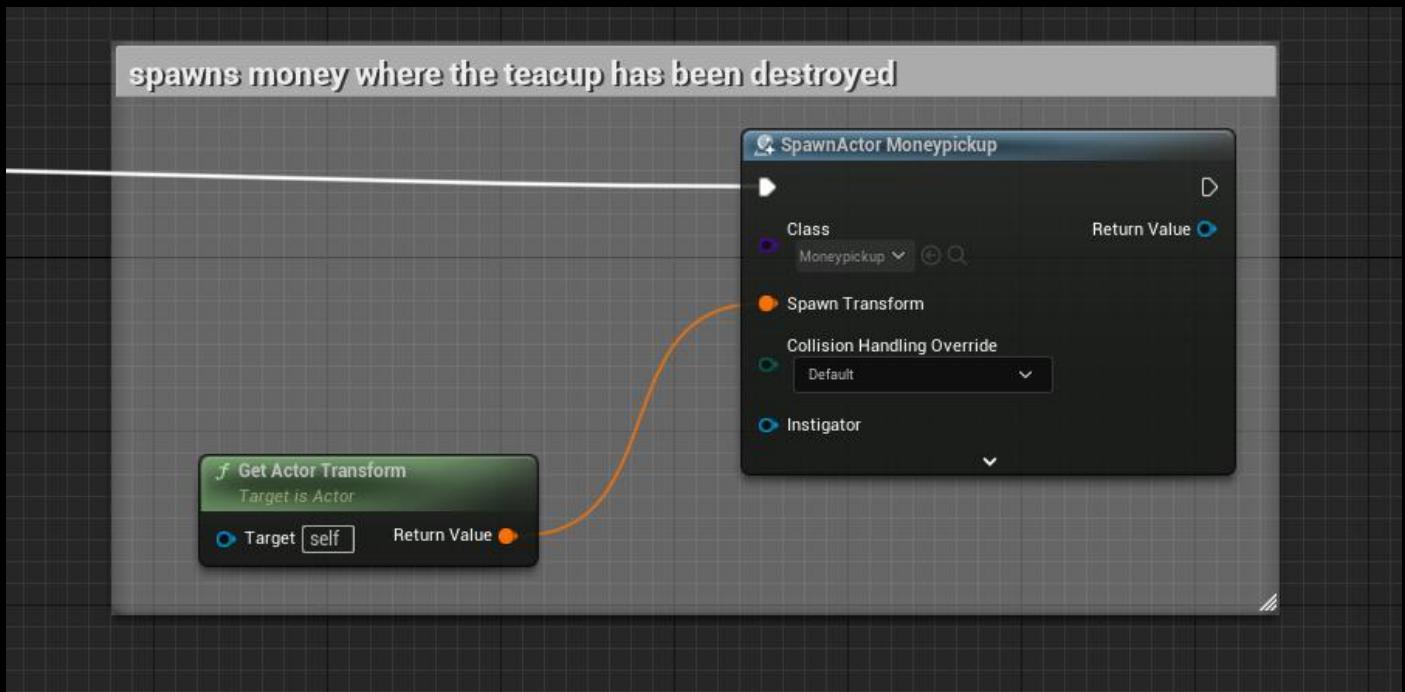


Now this means when the fake people overlap it'll get rid of the money now we want to destroy the teacup after a set amount of time and spawn the money .

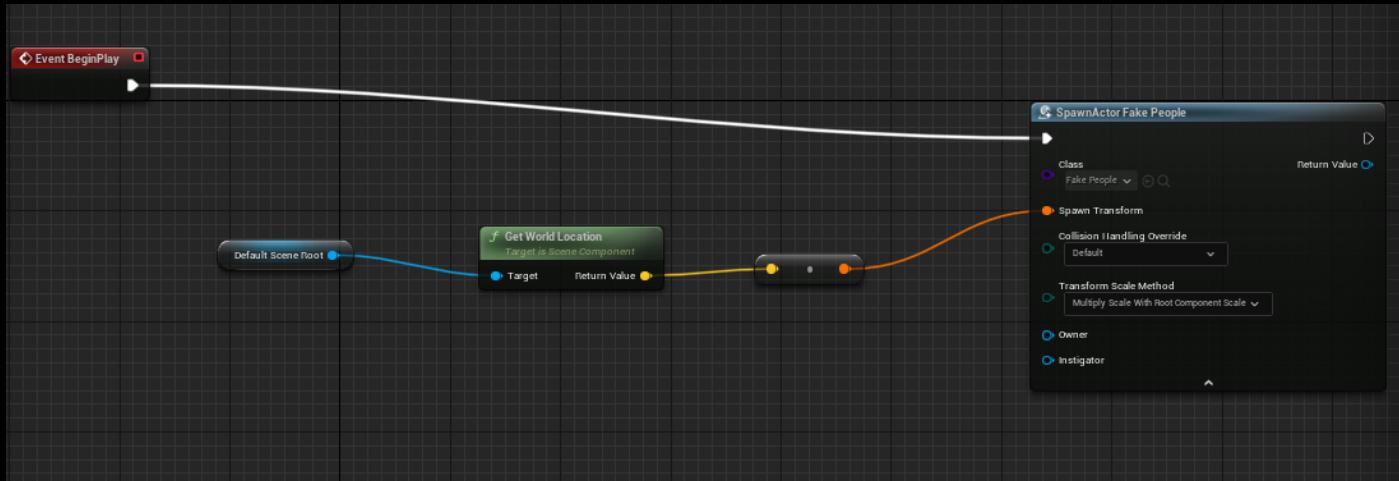


We have a delay to destroy the actor to simulate someone drinking the tea.

Now after we want to make is so the player can pickup the money after the tea has been drunk we get the actor transform as it places it where the teacup was.



Now we want to spawn the fake people when the game starts at random on the patrol point that we have so they can spawn in set places.



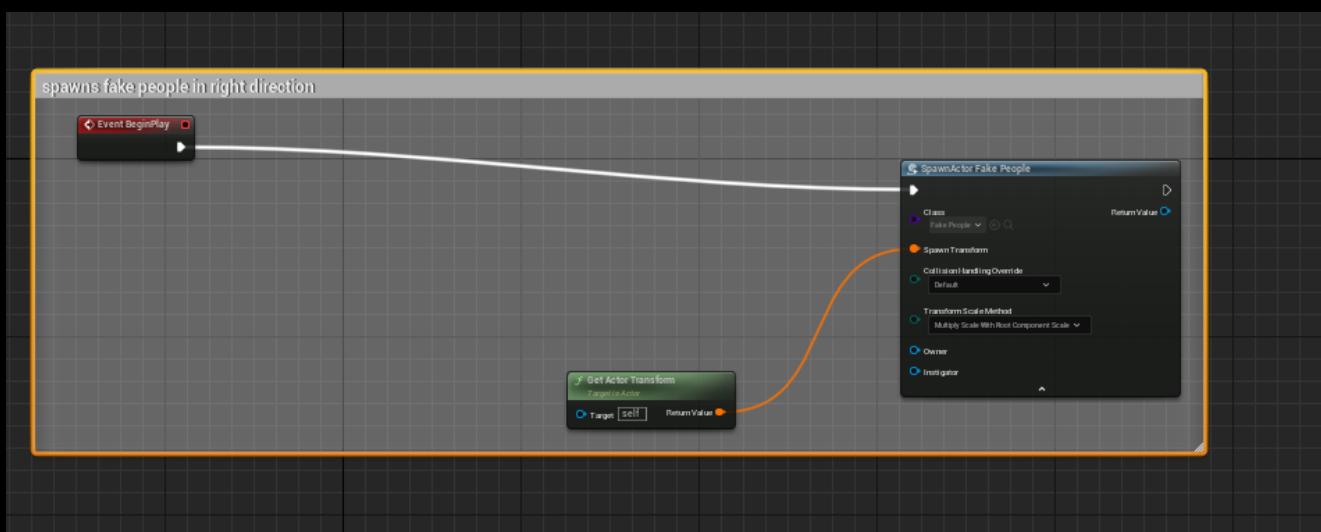
This spawns the actor in the location however not the right direction and it isn't randomised.



Now we need to make it so that the fake people are facing a certain way

And I used the unreal tutorial skeleton mesh.

Hopefully this fixes what I want



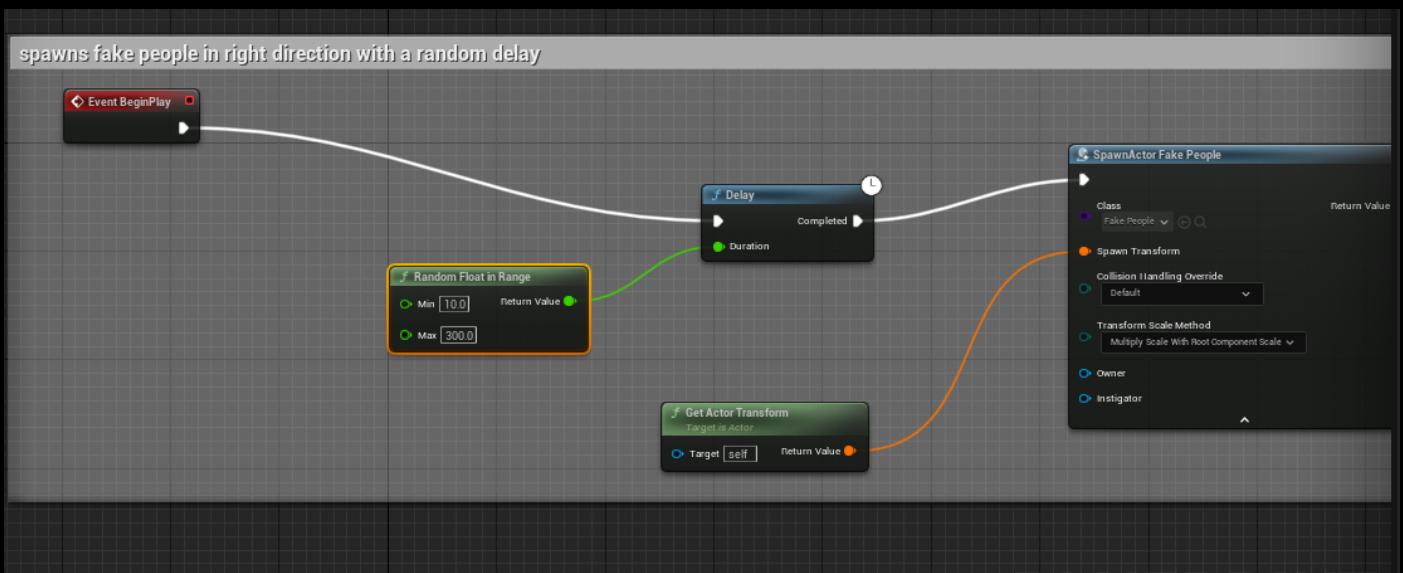
Now we test if this works.



It works as they are all facing into the table not just anywhere.

15/1/25

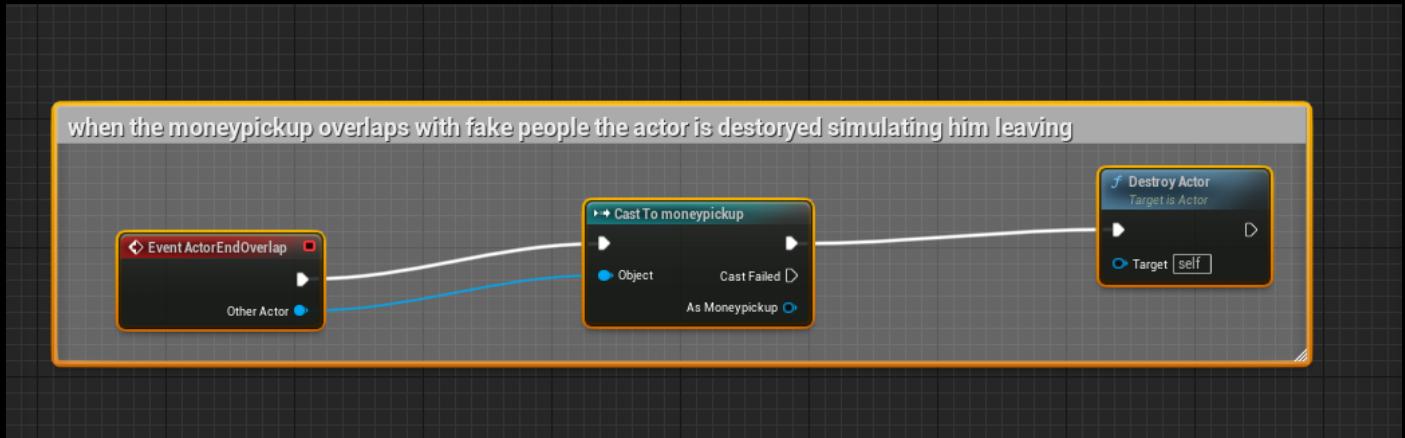
Now we need to randomise them spawning in.



This works as they spawn in randomly if I had more time I would make it so that they player can decide the length of the round and then change the random float in range to fit it and ive made 5 minutes is the longest it could take for it to spawn in . this gives the player time to watch the tutorial.

Now we want to simulate the ai leaving after being served.

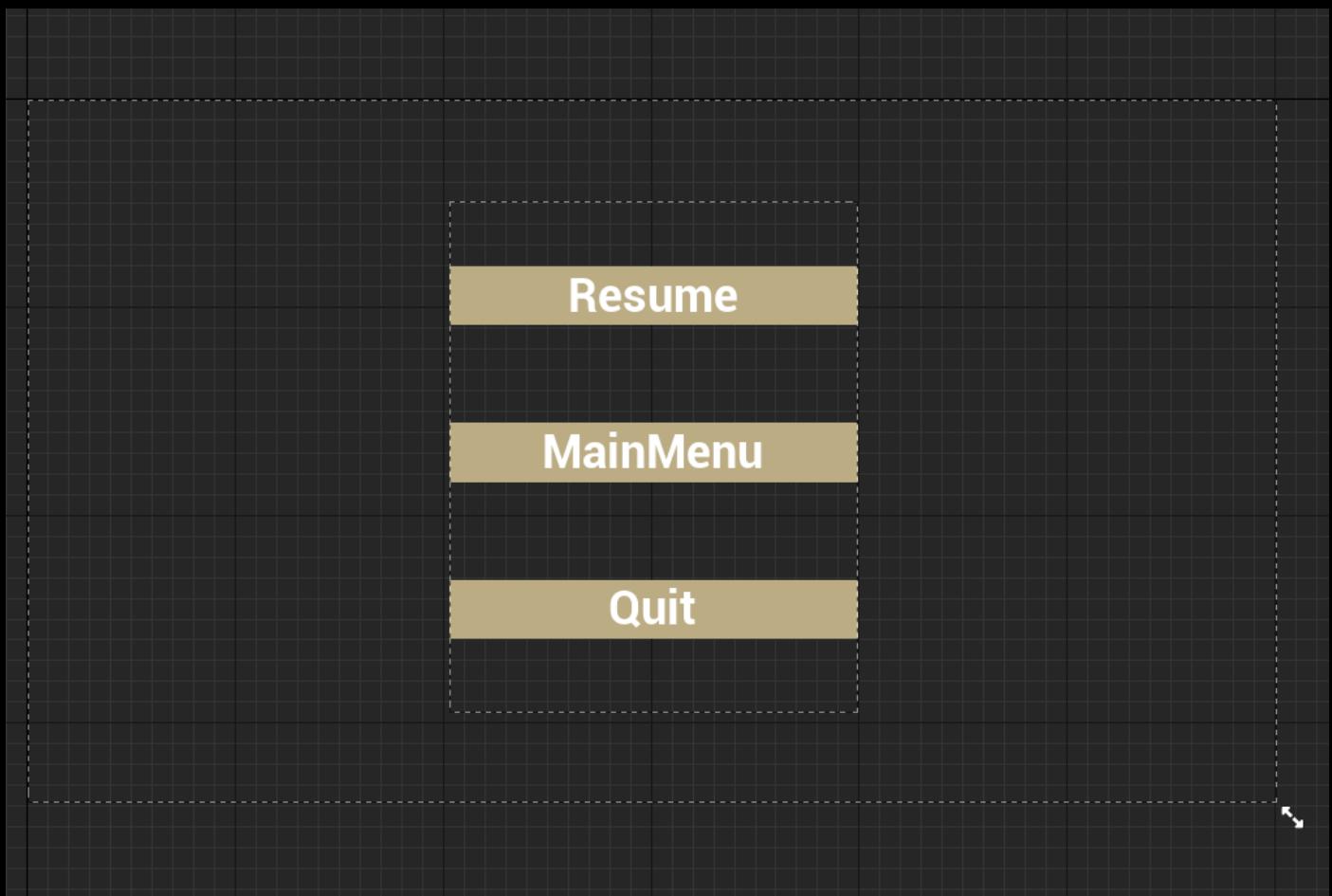
So when we place the tea and they have drunk it its like they have left so when the teacup has turned into the money and is picked up the player leaves so when actor end overlap.



When the money pickup ends it overlaps which means the player has picked the money up the person will be destroyed slash left.

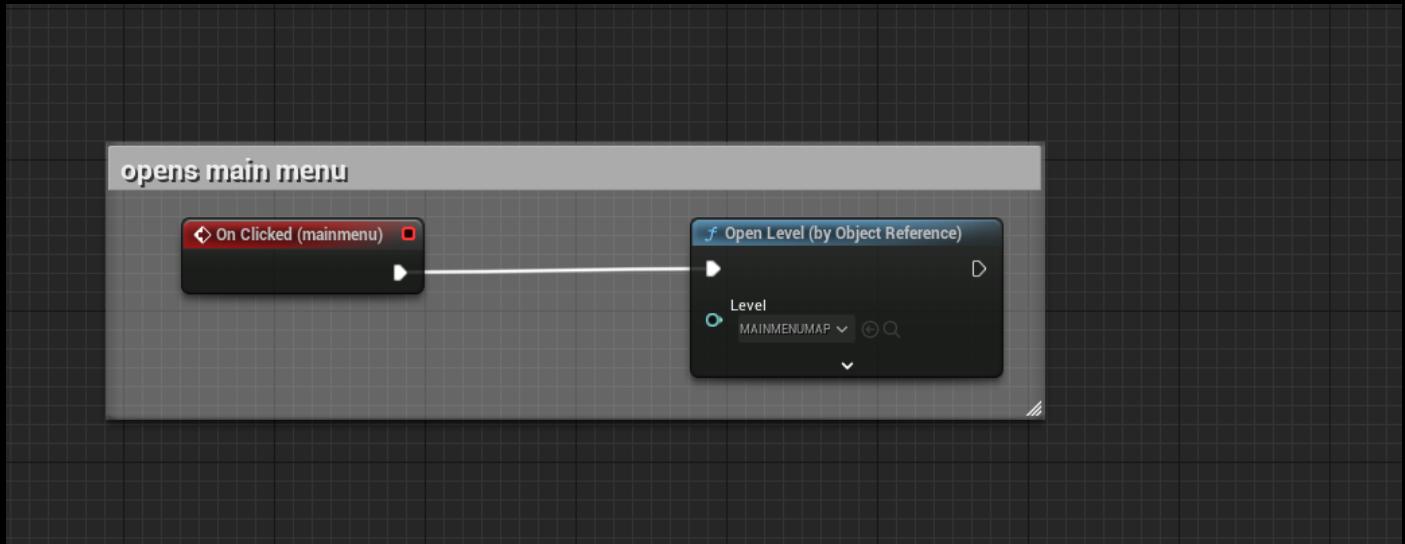
I have made a pause menu this means I need to assign it a button I have assigned the 1 button and I have also needed to code it. And need to make text for the tutorial.

I have used my skills from a previous tutorial to make a pause menu

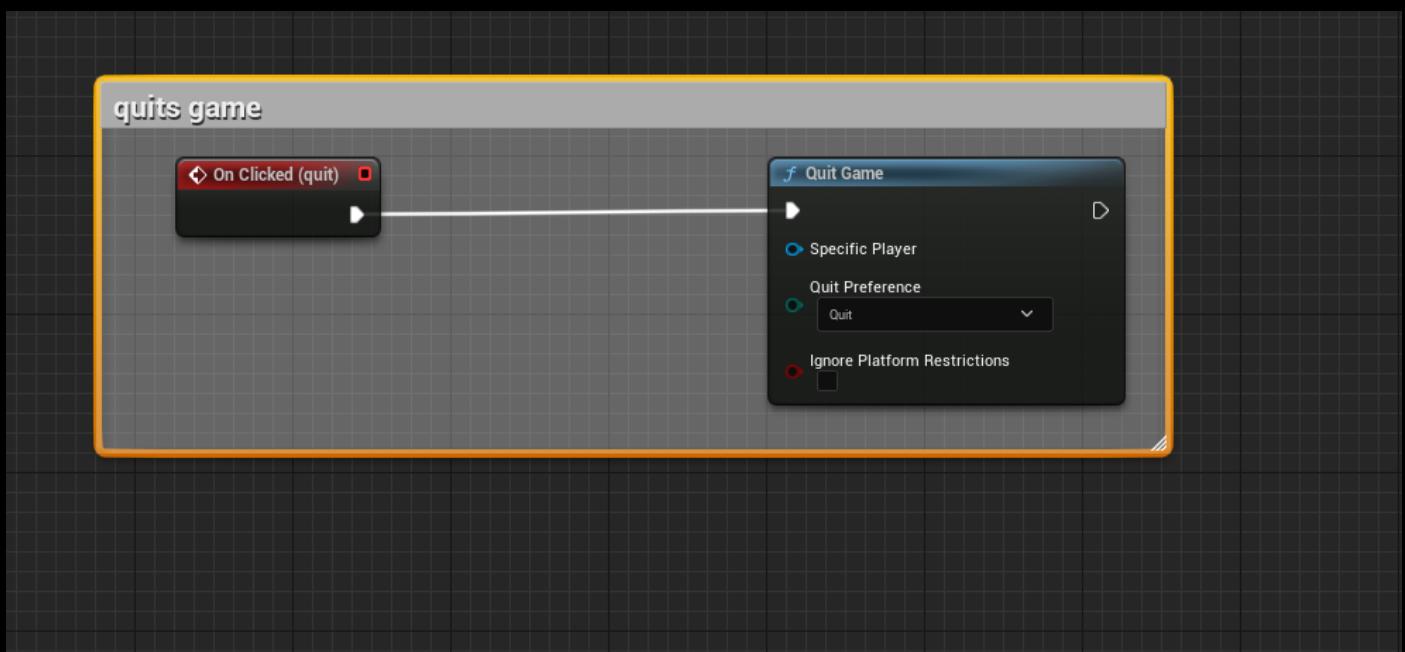


#i have stuck with the same colour scheme and writing size as I want it to look the same.

Now we go into the graph

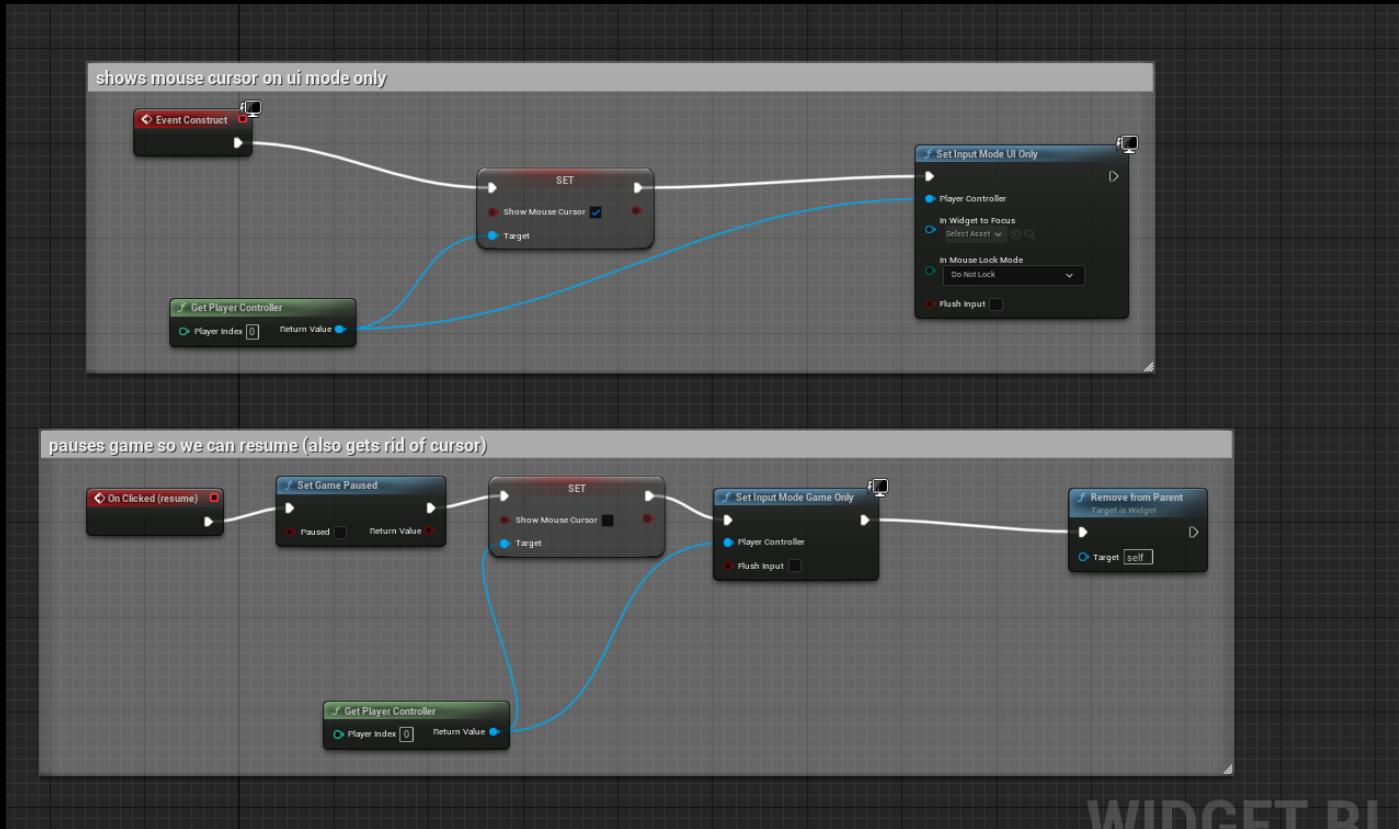


Mainmenu is clicked we open the mainmenu button.

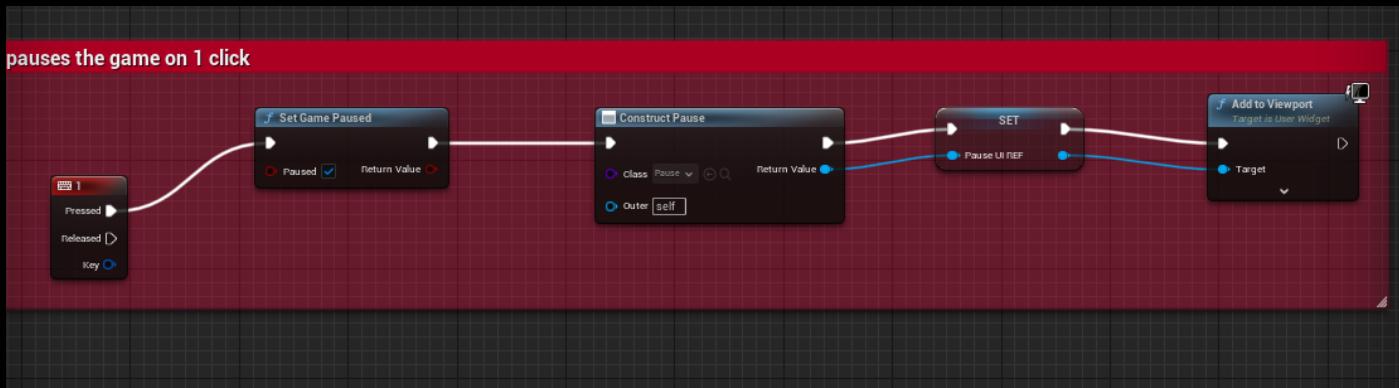


Quit buttons is pretty simple. We just get the quit game node and attach it

16/1/25



This pauses the game one shows the mouse as we get rid of the mouse when we go into the level so we want to show the cursor again so that we can click the buttons. Then when the resume button is clicked it unpauses the game and gets rid of the mouse on the player controller adnd sets the input mode to game only then we remove the widget so it doesn't stay on the screen.



This is when 1 is pressed we pause the game and gets the ui for the pause and adds it to the viewport.

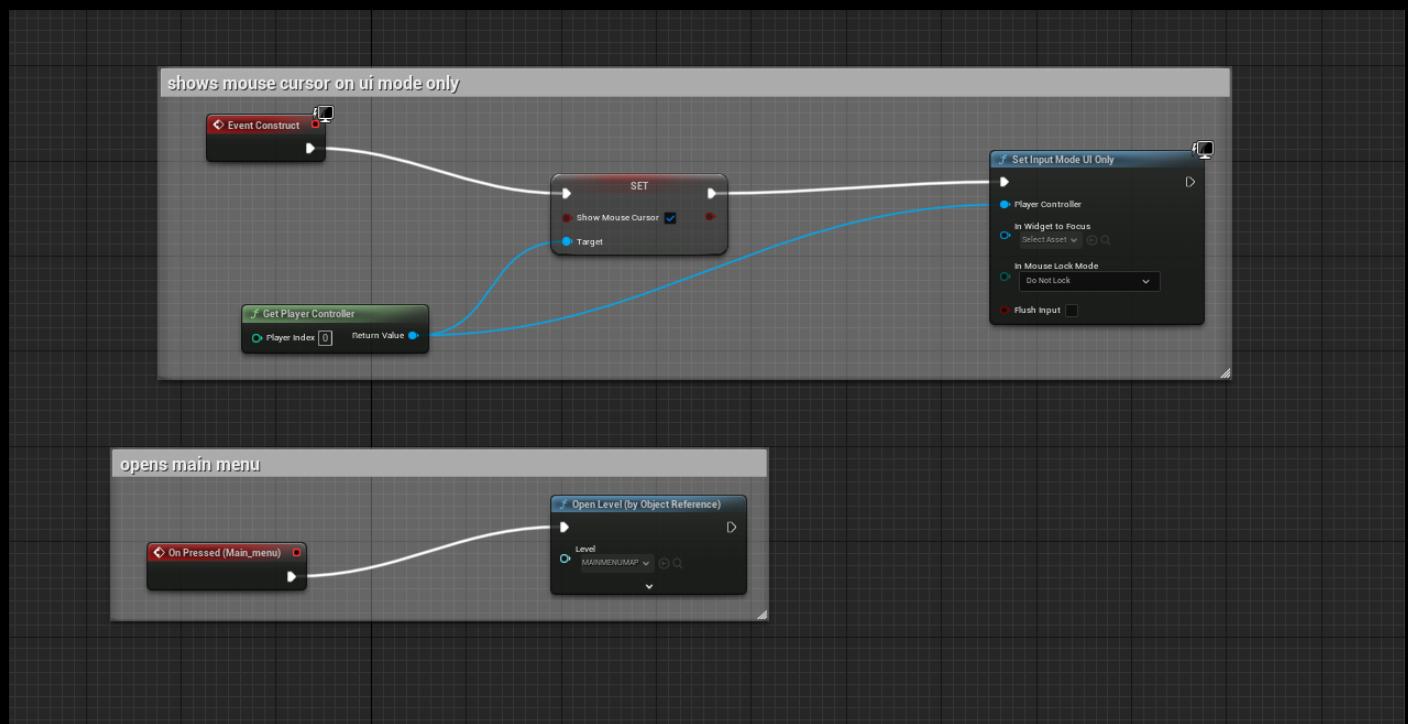
Now we want to make the game end with certain parameters we want to make it the amount of money you need or a certain amount of money is needed for the amount of actors.

First im going to make a game cover ui.

Game Over

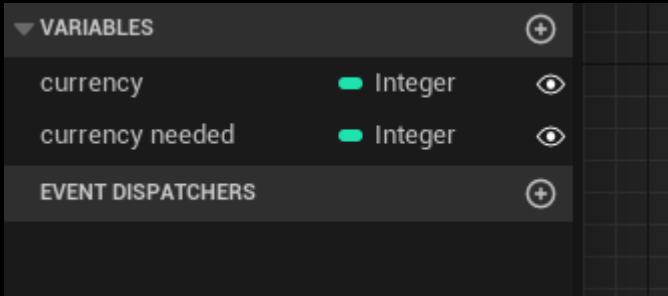
MainMenu

Made a single button to take the person back to the mainmenu. And made a game over slide may made a game completed slide as it seems they have failed to do what they want.

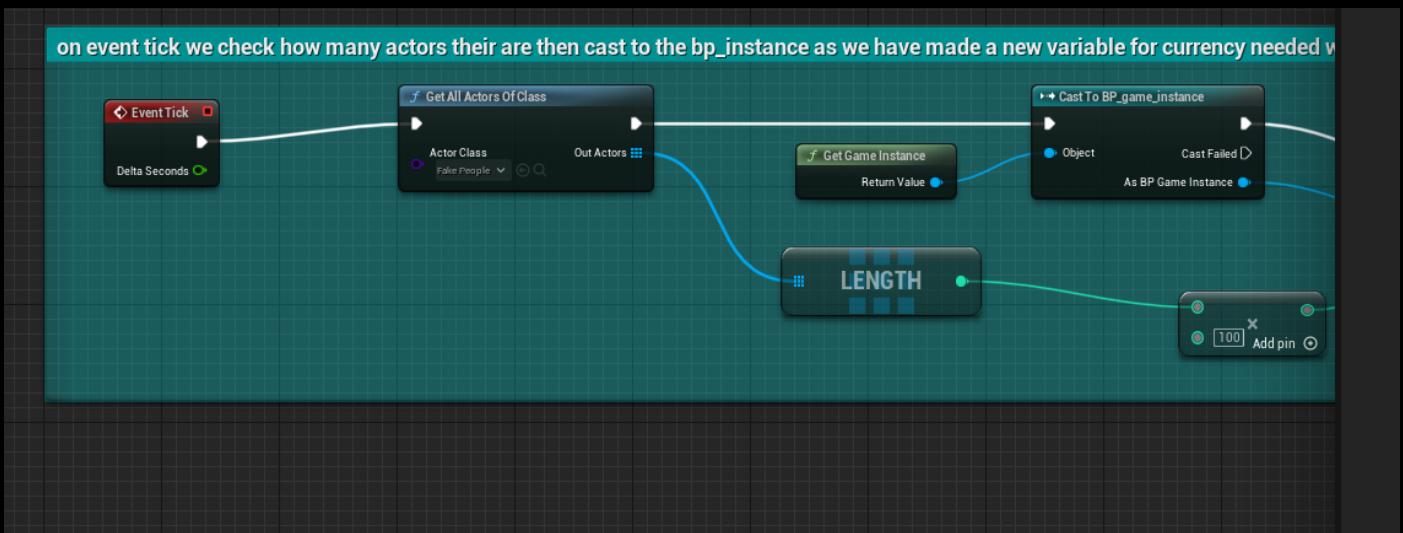


The buttons opens the main menu and we made it cursor mode for the ui only. So we can see the mouse and aren't interacting with the character in the background. Now we need to make it activate when certain conditions are met.

First im going to need to make a variable in the game instance . made the variable currency needed and is an integer as we are going to compare it to currency

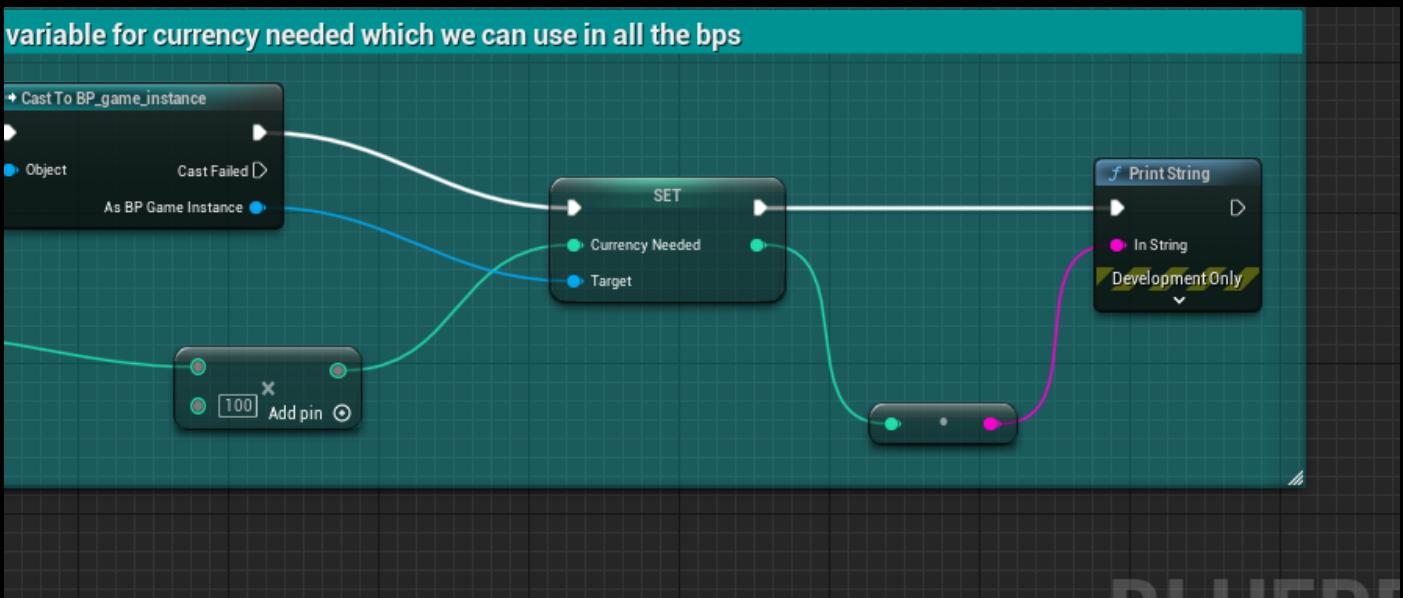


Now I want to make it so that I compare currency and currency needed and that ends the game. In the fake people bp.



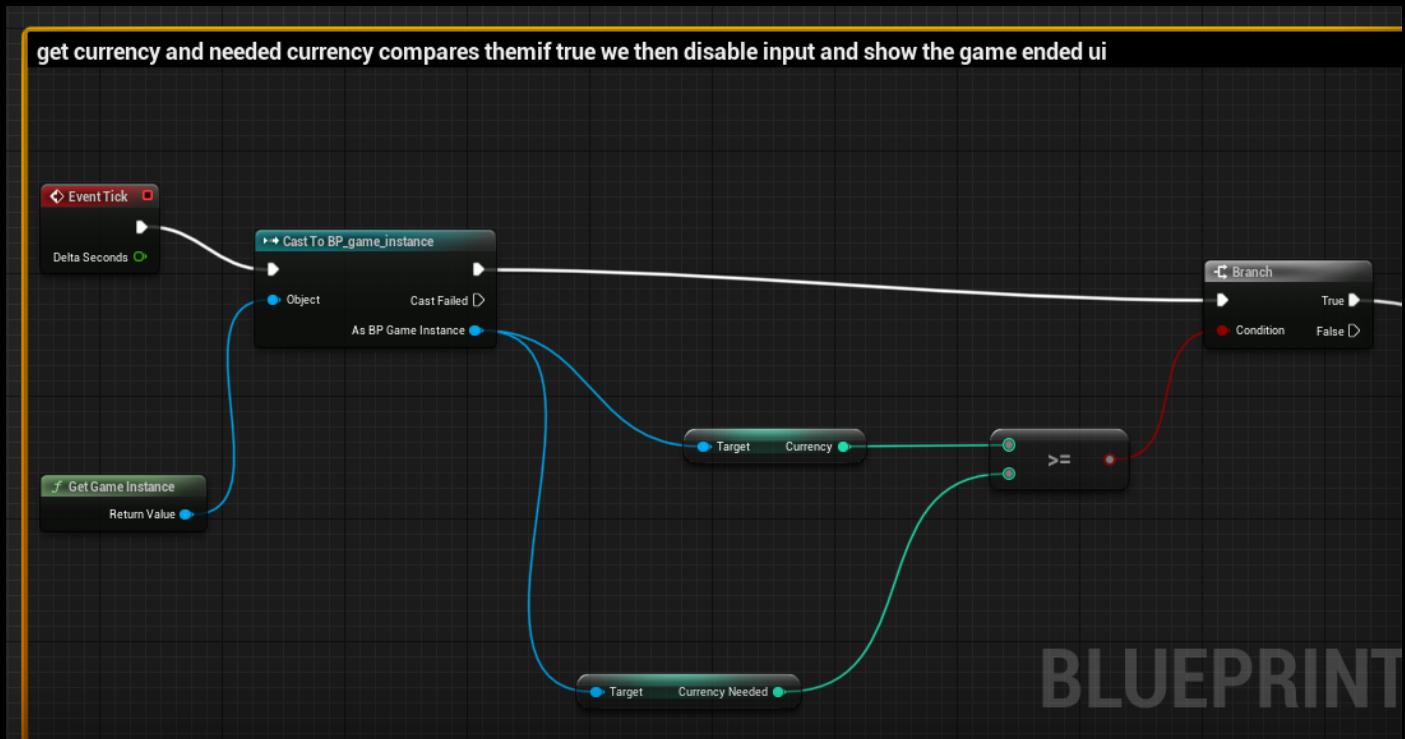
We have event tick and we get all the actors of a class and get the array and convert it into the length which is just the number of actors being converted into a number then we multiply said number by 100 .

Then we cast to bp game instance and get the game instance as we want to change the variable in their.



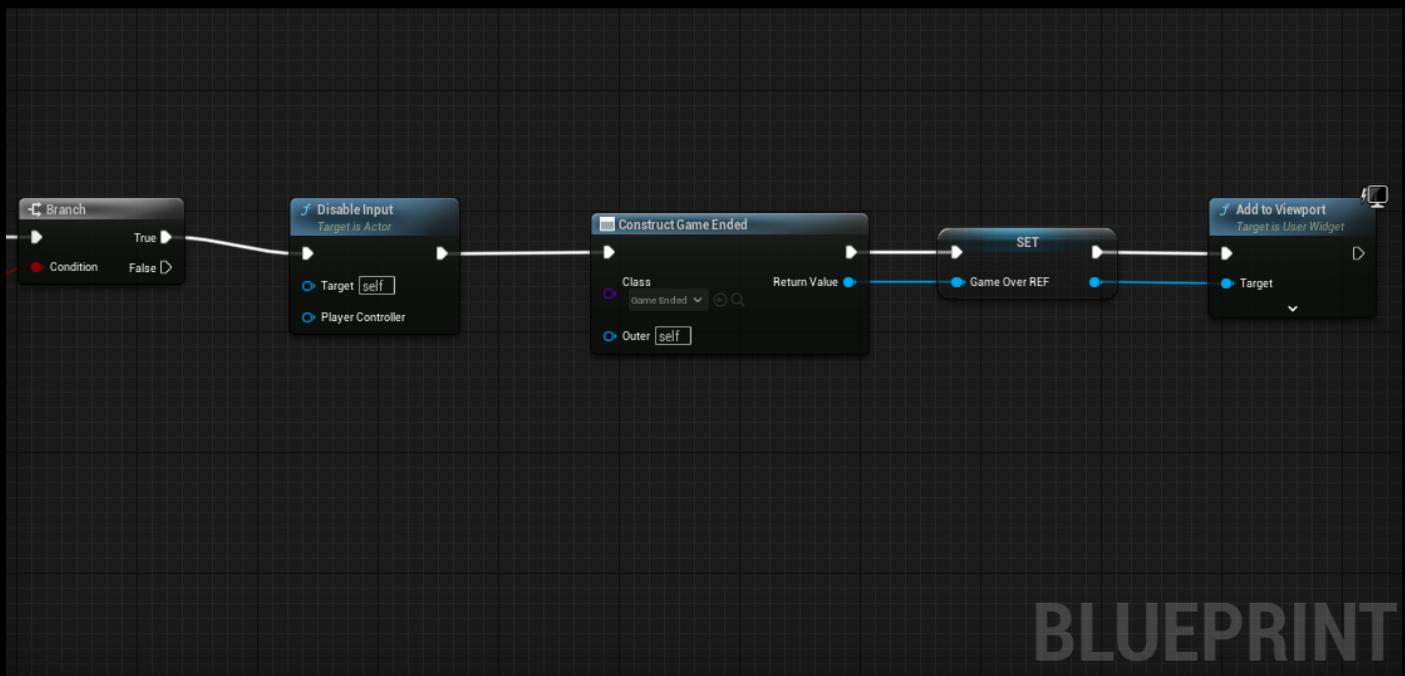
We then set the currency needed as we have the numbers of customers and the amount of money we want the player to collect per customer and we have a print string to test and the test returns the expected value.

get currency and needed currency compares them if true we then disable input and show the game ended ui



BLUEPRINT

Now on event tick in the character bp . we cast to bp game instance as we want to retrieve two variables from it the current and the currency needed and compare them if currency is equal to or greater than we return the condition to the branch and if the condition is met .

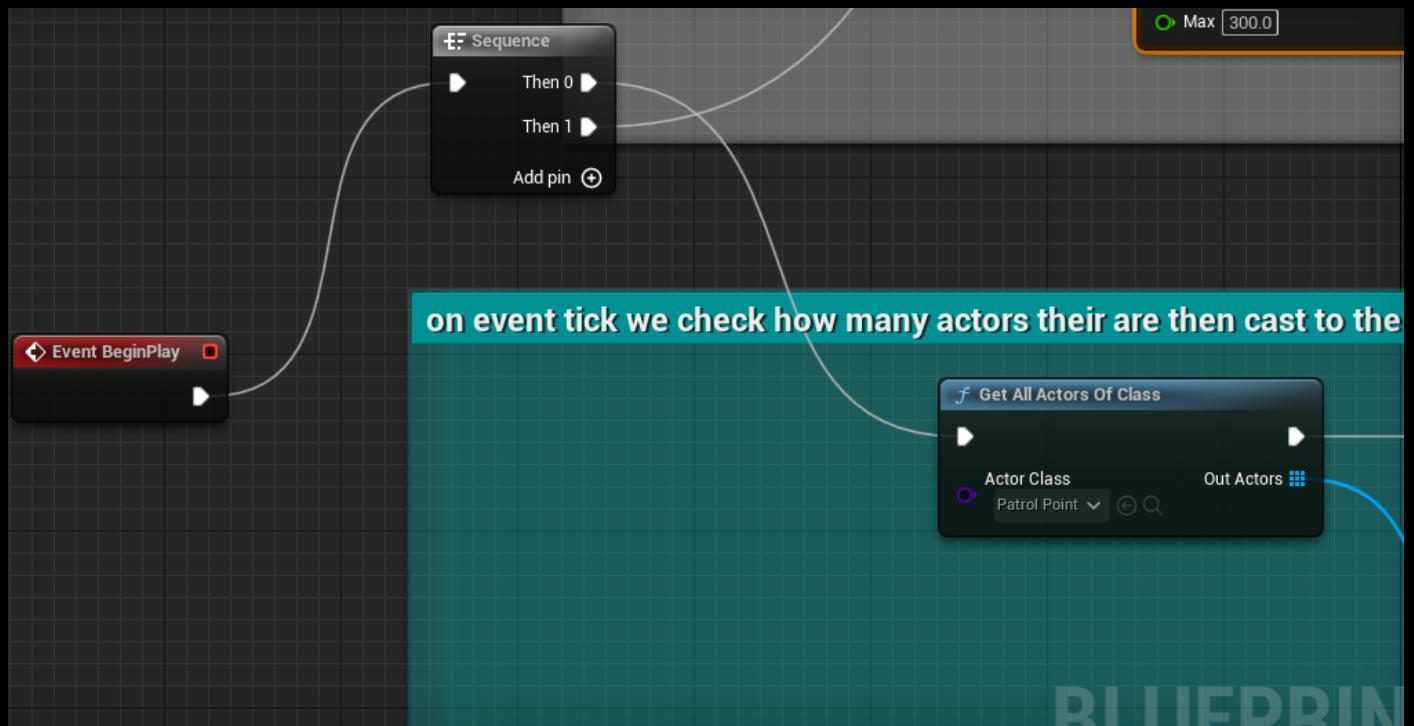


BLUEPRINT

Now we have disabled the input for the character and got the ui and added it to the viewport.so that we can see and interact with it got rid of input as we don't want the character to carry on moving.

I used event tick thinking it would get rid of the problem of catching nothing at the beginning of the event play as its delayed however since both start with event tick it will register the number multiple times and if one is destroyed the number will decrease so if we had 4 people we need 400 but when we serve two customers we need 200 but we will already have more than that money so instead of getting the fake people we will get the patrol point which spawns them and they don't get destroyed so the

money stays the same. And we can save some performance as we can use event begin player and only need to gather it once at the start instead of every frame.

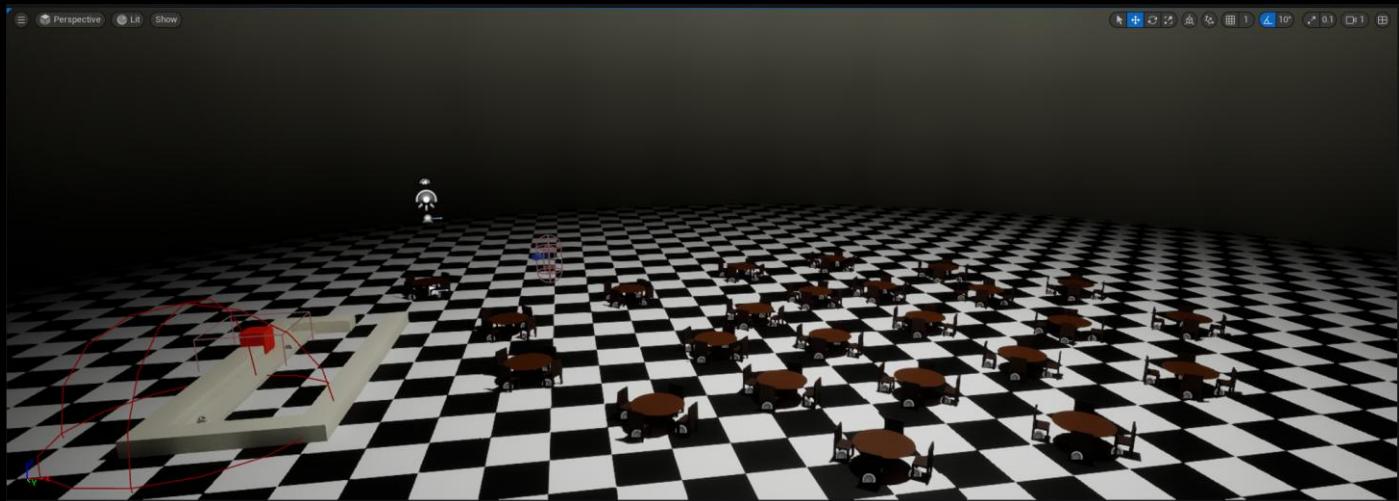


Now we just need to change the actors of class to patrol point and now it should work. Since we already have something activated on event begin play we need to make a sequence so that both are activated at event beginplay just makes it so we can do multiple things at the start of the event begin play.

Now I'm going to add materials to my buildings from the starter content and I have also changed the tables to the updated versions with the code working in level 2.

Level 1 with textures

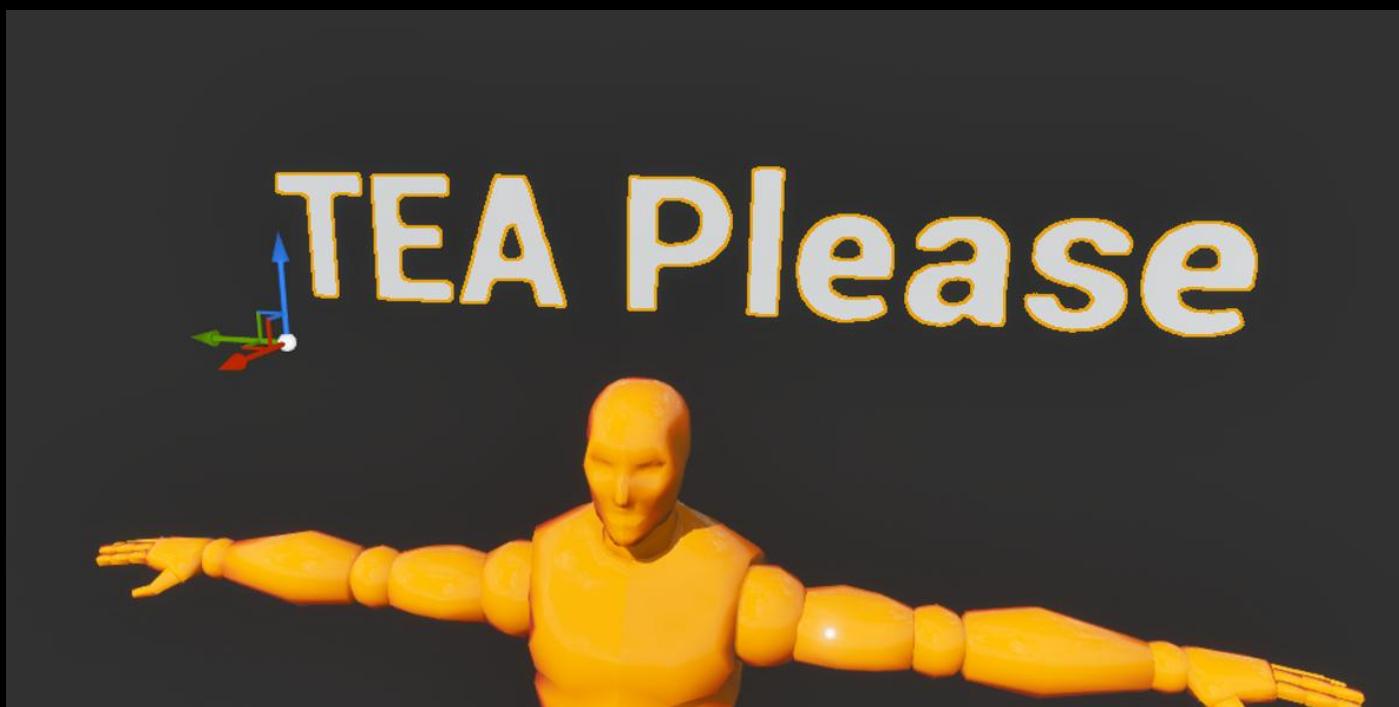




Updated level 2 with smaller tables and updated tables and spawns.

Going to make it so the character can ask what they want.

Placed text above the customers head

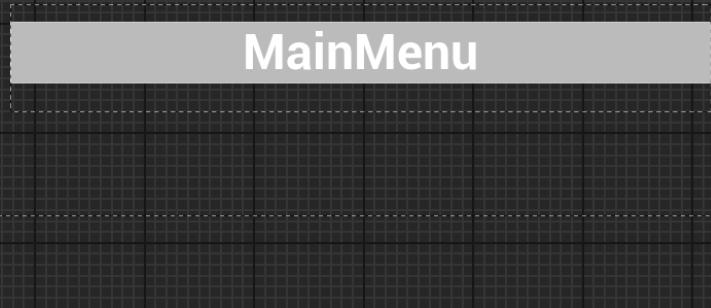


Customer shows that they want tea can change this if I had multiple items by having them spawn in randomly but as I have one item rn I have decided just to put it in the customer viewport.

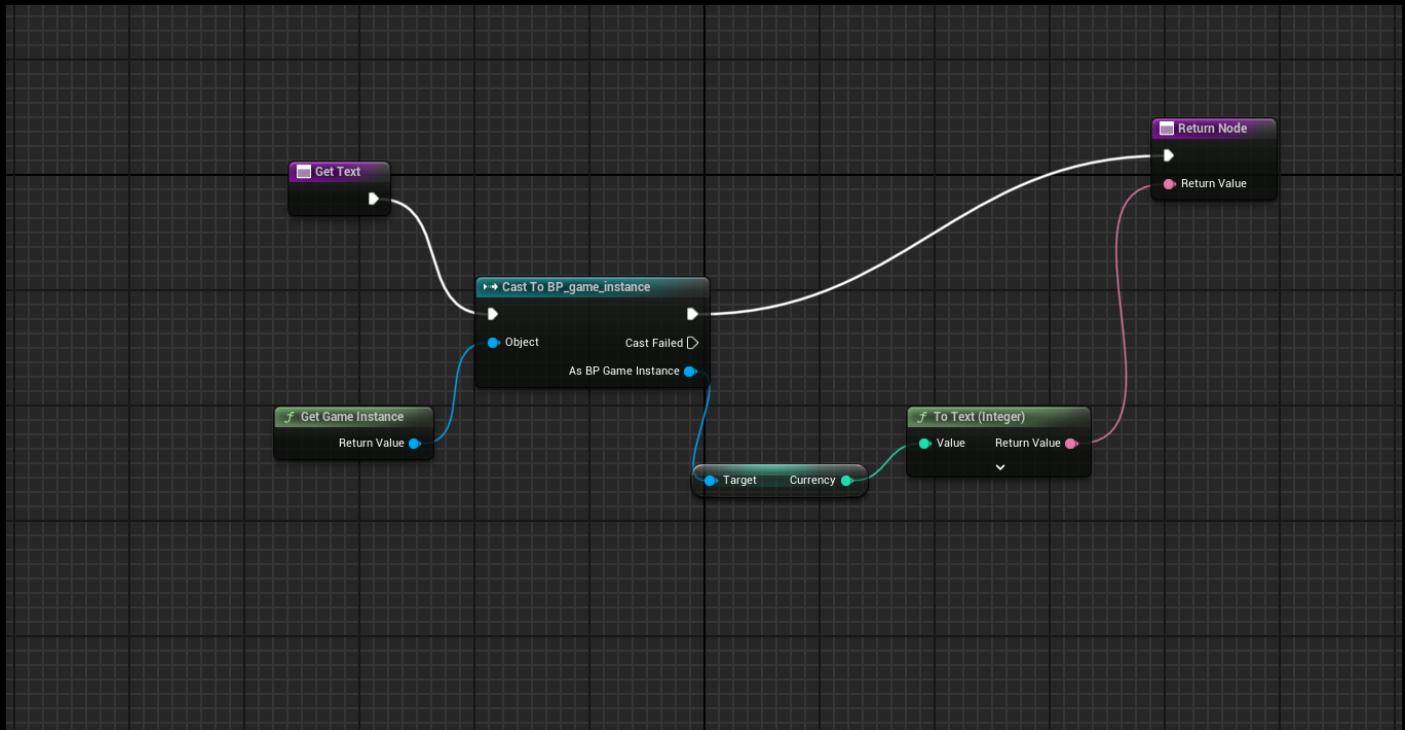
18/1/25

Game Over

Money collected: ¥ Text Block



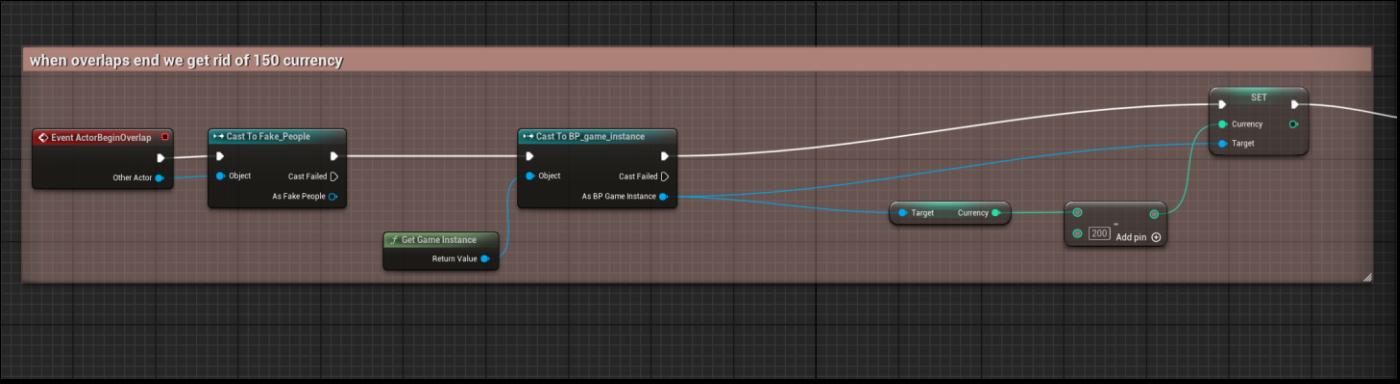
Made it so that the money collected is shown when the game ends reused code from the money ui for the text box



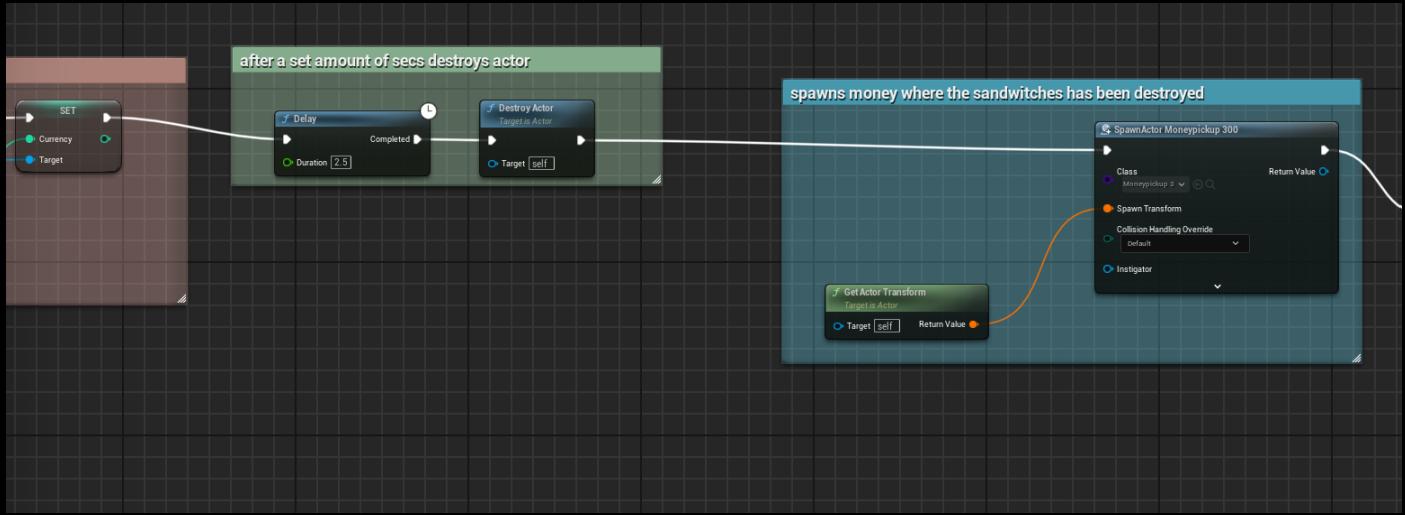
This just gets the money value.

Now im going to add a second item and see if it works.

Made a bp for the sandwiches and copy the code from the teacup but changed it slightly.



This code makes the currency minus by 200 instead of 150 so it costs more to place down.



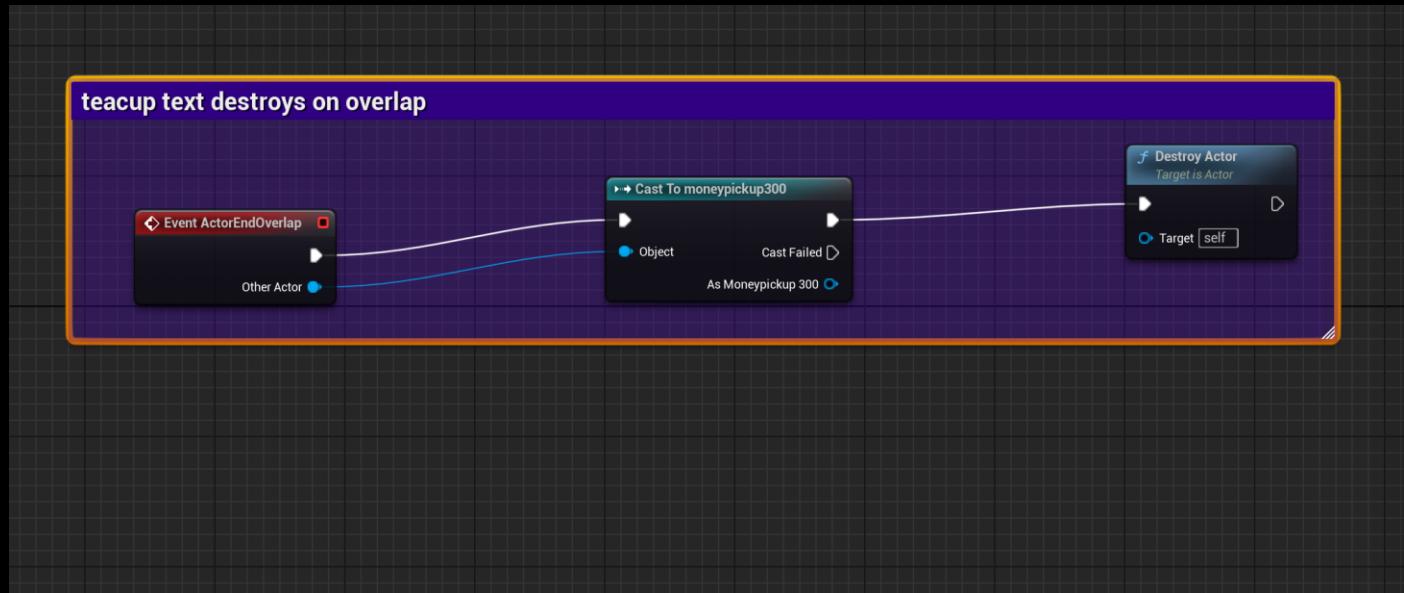
This destroys the actor and spawns a money pickup and spawns on a delay.

Tea Please

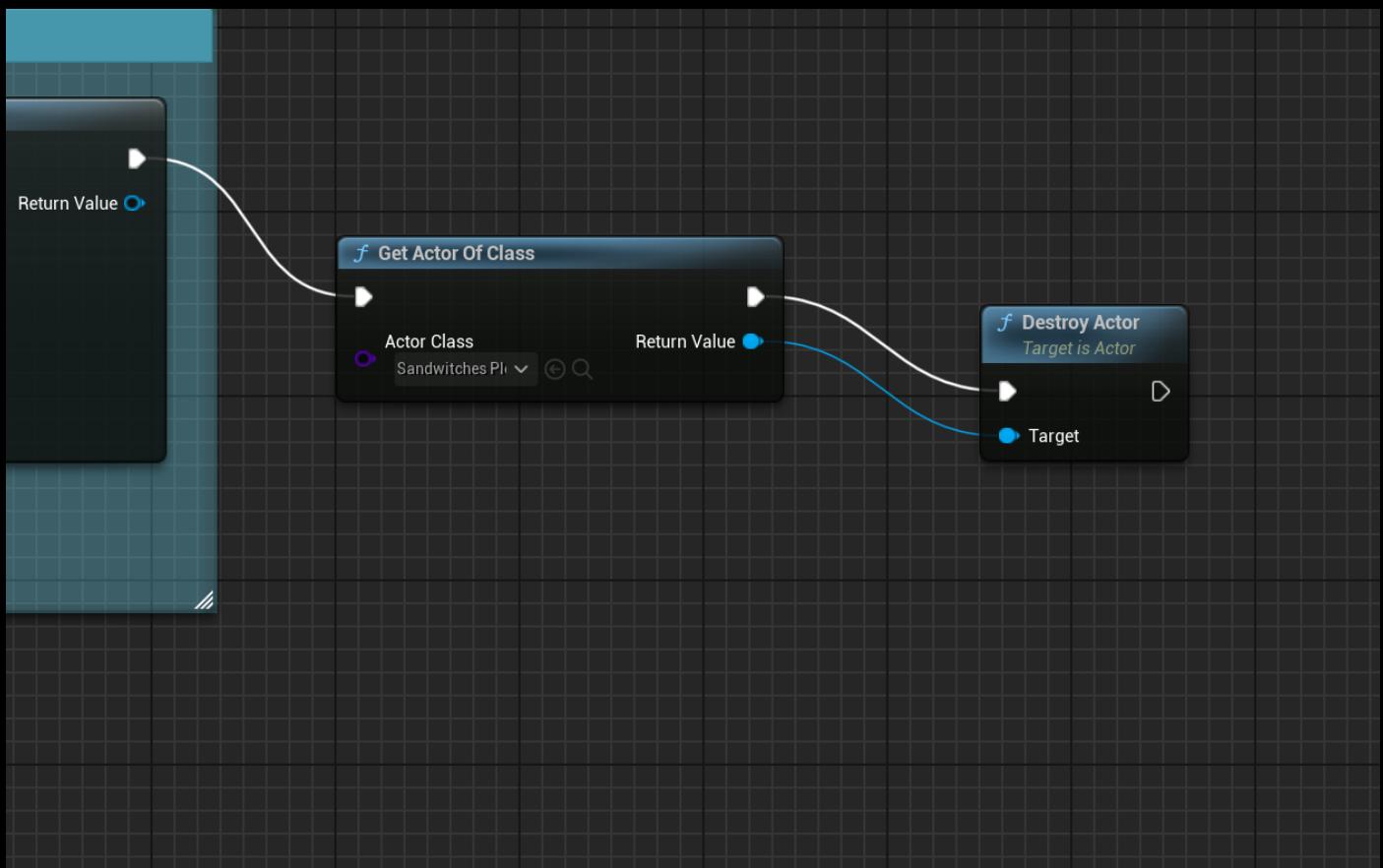
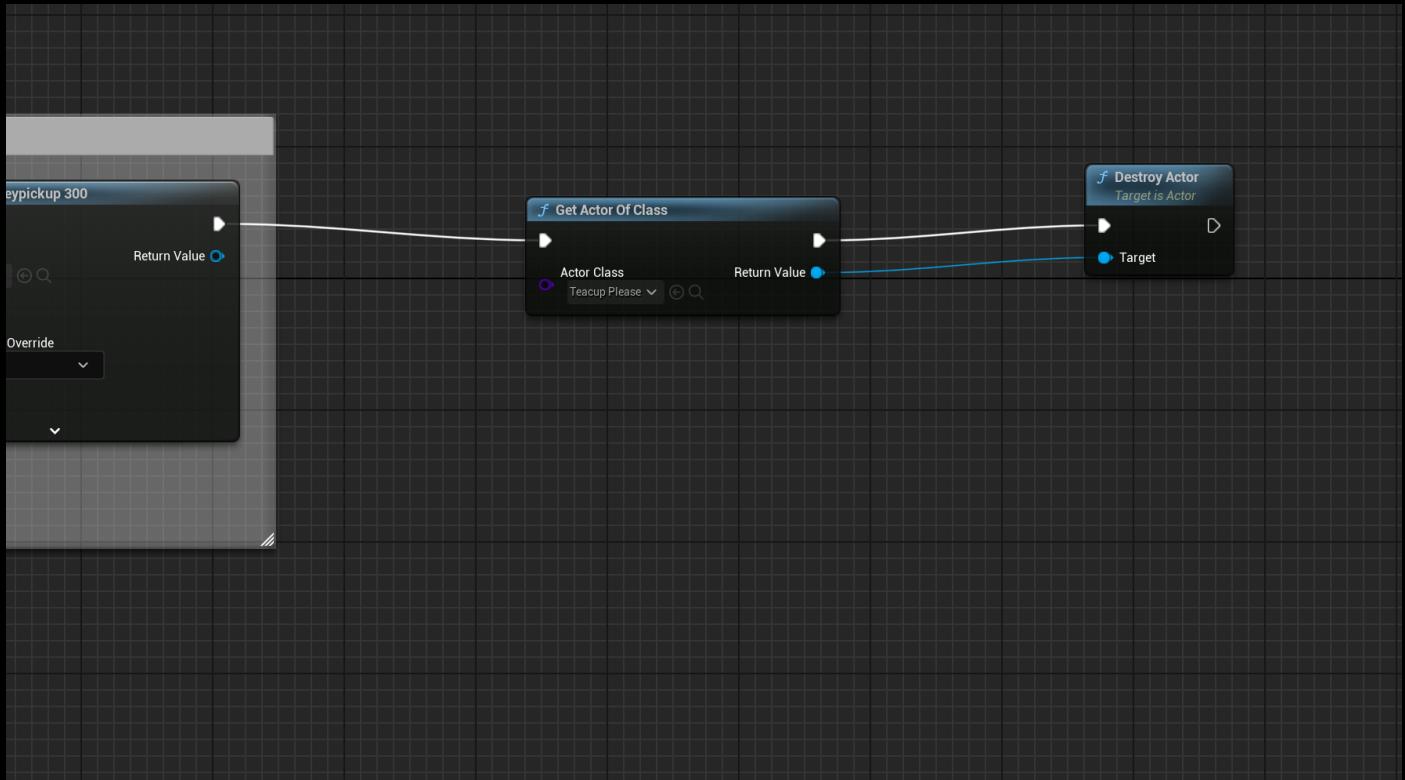
sandwiches please

Added a text render to make it so people can ask for money for tea and sandwiches.

19/1/25



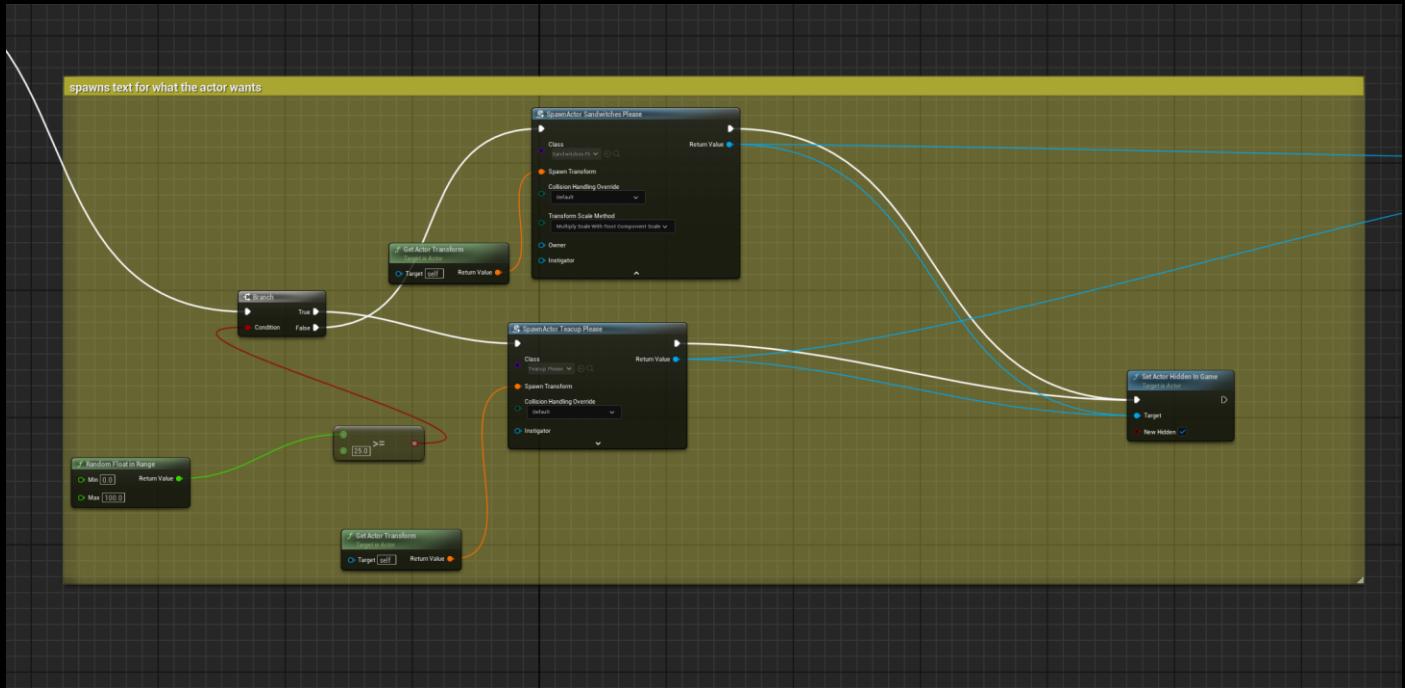
The overlap was bugging so instead I added code to destroy the actor when the money pickup was spawned instead as it can destroy two of the same thing and I only want one to be destroyed.



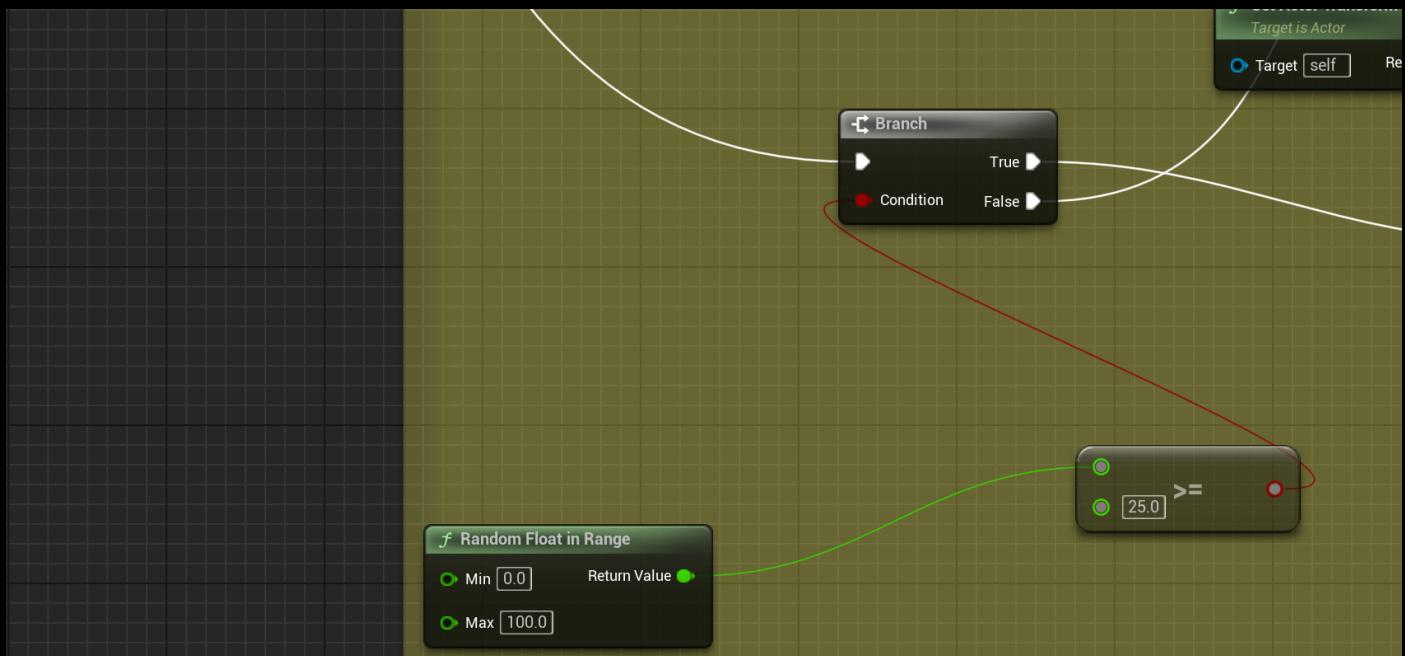
This destroys a the actor we want to when the money pickup spawns.

In the teacup bp and the sandwitches bp.

This is code for spawning the actors

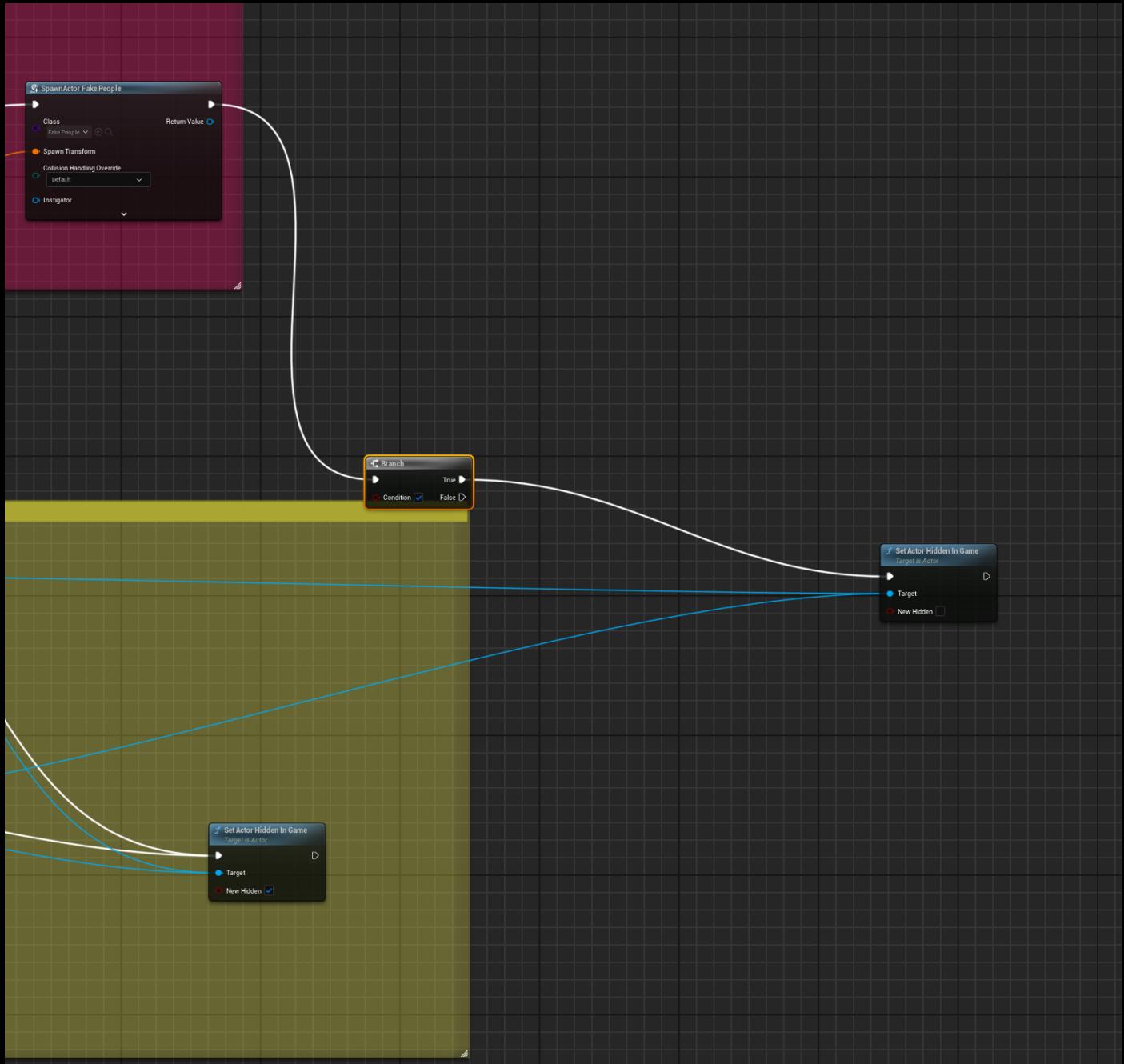


We get a random float between 100 and 0. I want the people to ask for tea more as it's a café not a food shop.



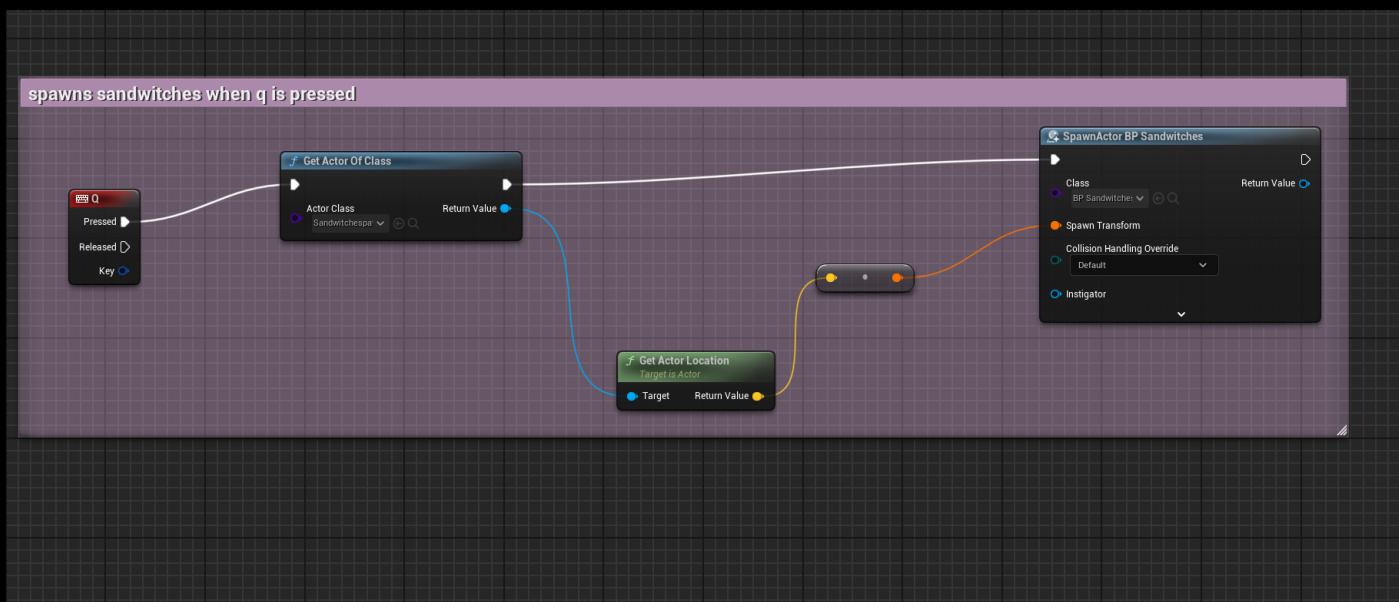
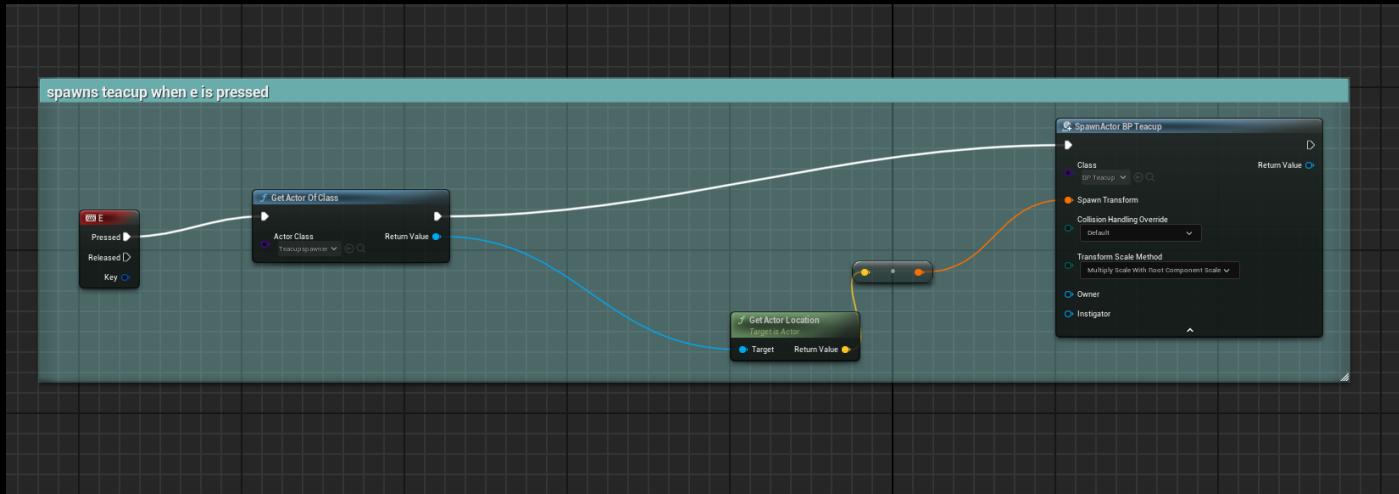
If the float is more than or equal to 25 its spawns a teacup and if false spawns a sandwiches. Its connected to the begin play node and not after the actor spawns because I was having problems spawning them in so I set the actor as hidden.

20/1/25

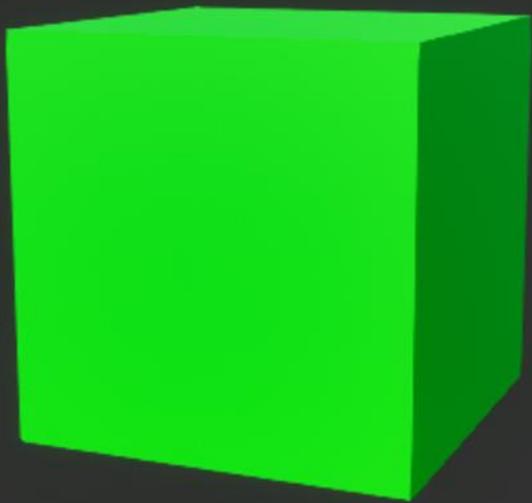


Sets the actor as hidden and when corresponding fake person has spawned in its sets the actor as unhidden and pops up.

Copied this code for a sandwich spawner



Sandwich spawner is a green box added new text for tutorial for sandwich spawner.



Q - Spawn sandwiches

Doing some world building.

Want to add an environment for my level 1 as a city area and add buildings



Made a grid with my roads and will fill it up and add buildings in the middle I'm using the starter content textures as I haven't added my own.

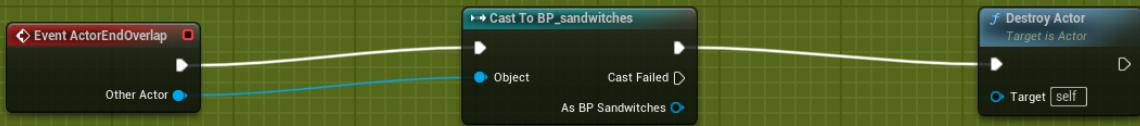
21/1/25

Found a bug with destroying the text above head it doesn't work.

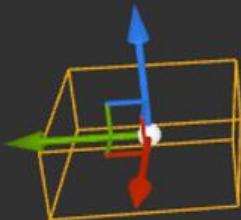
I found a roundabout way to fix my problem using collision I added a collision box to the viewport of the text asking for sandwiches and tea.

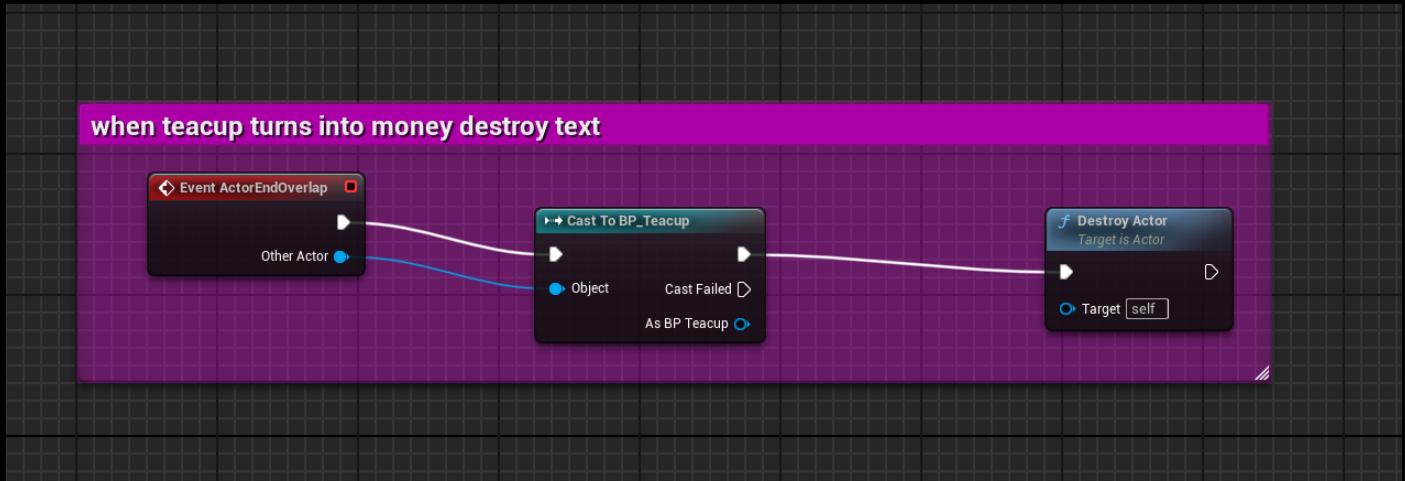


when sandwitches turn into money it then ends in the collision box overlap and destroys the text



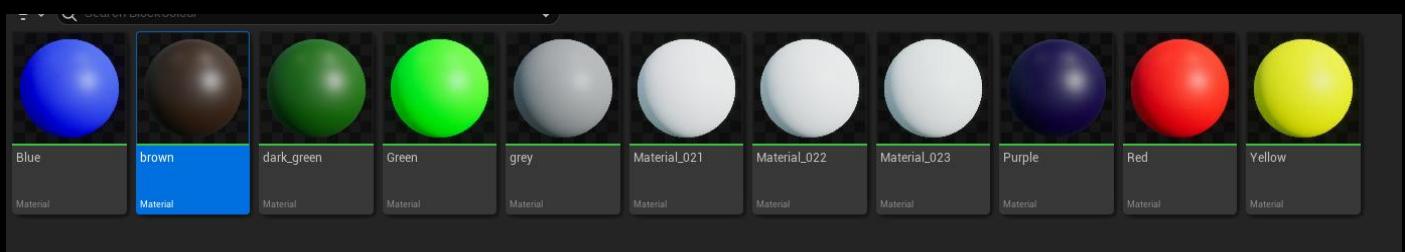
Tea Please





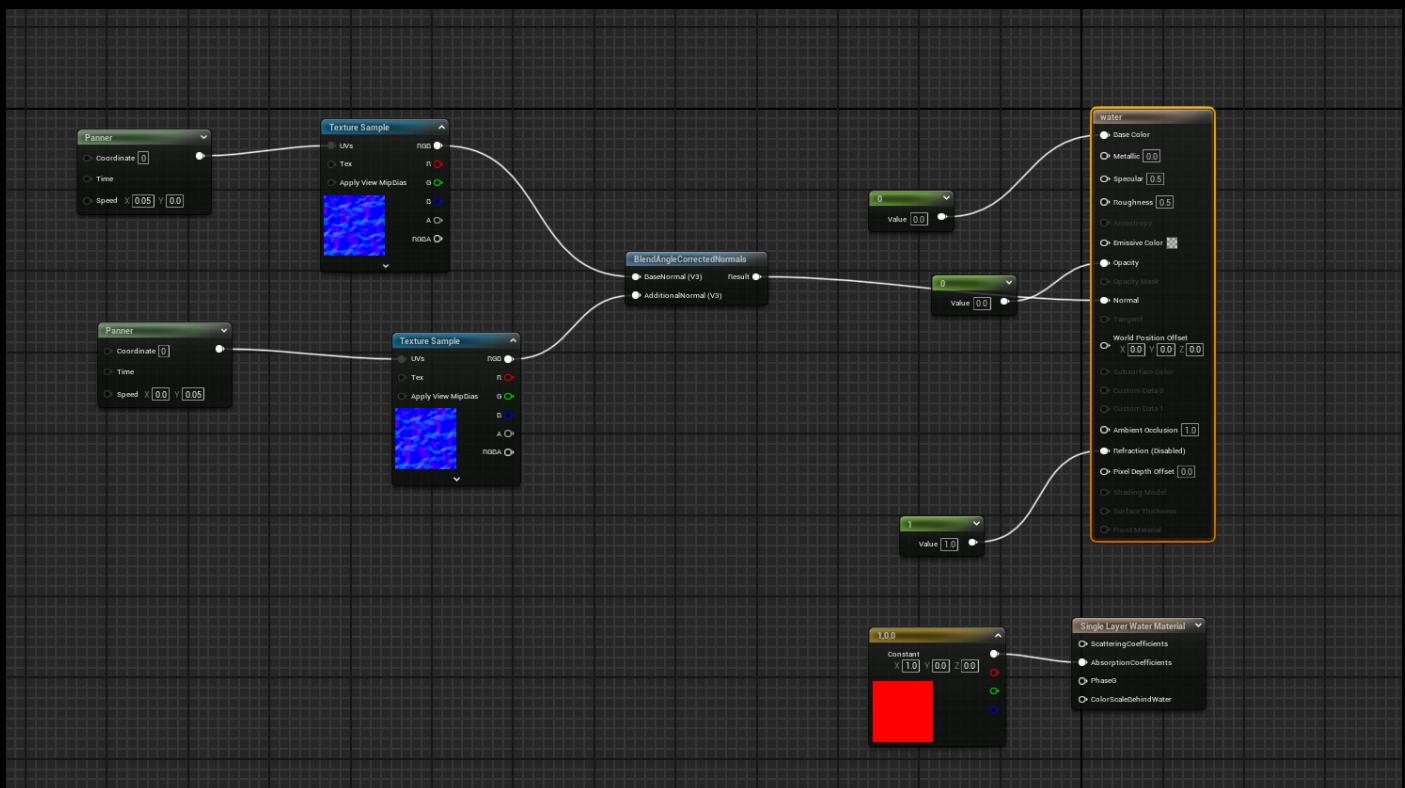
This allows when tea and sandwiches turn into money it deletes the text so it doesn't say when you have served them what they need.

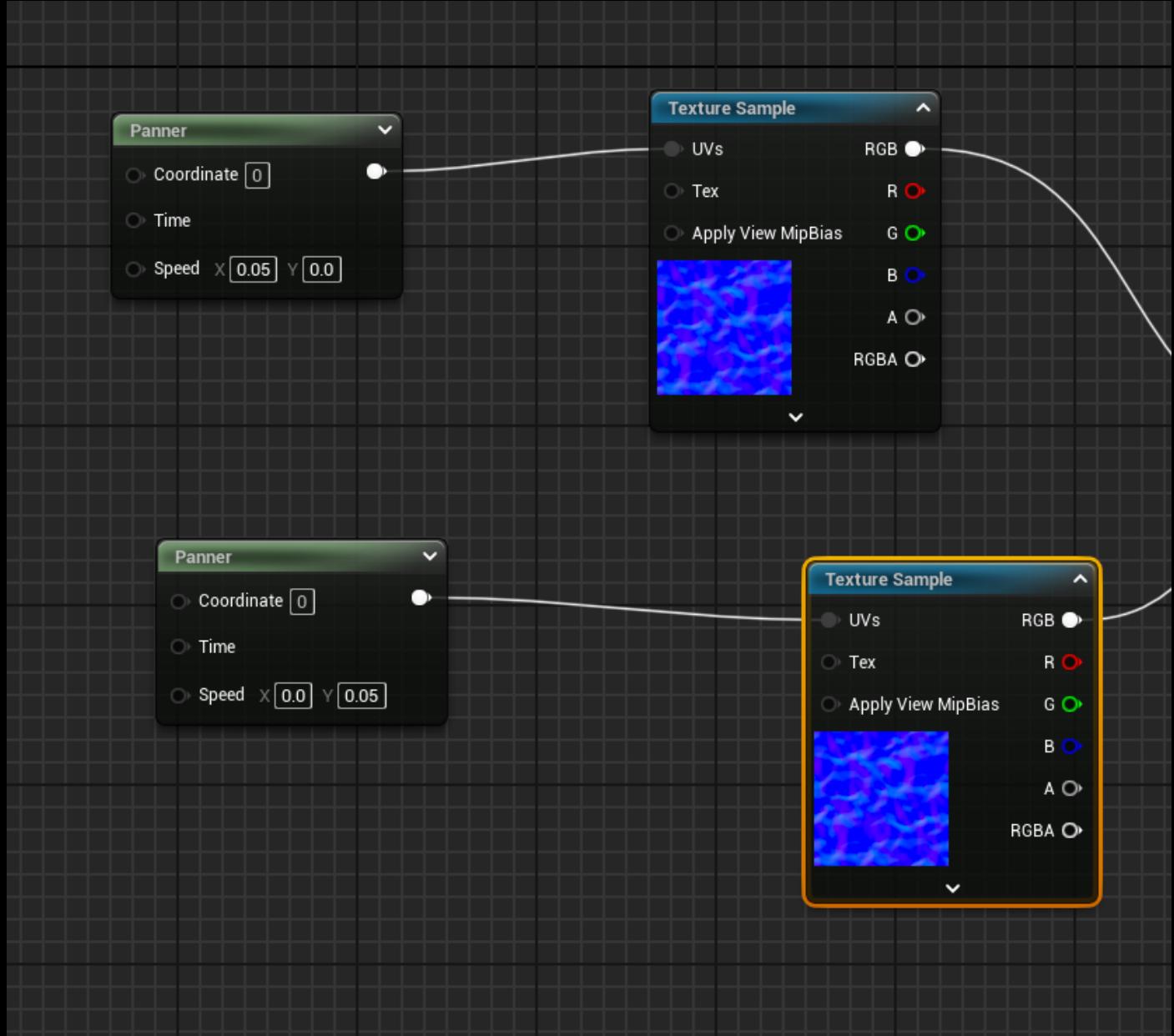
Making block colours so that the art style is consistent and not realistic



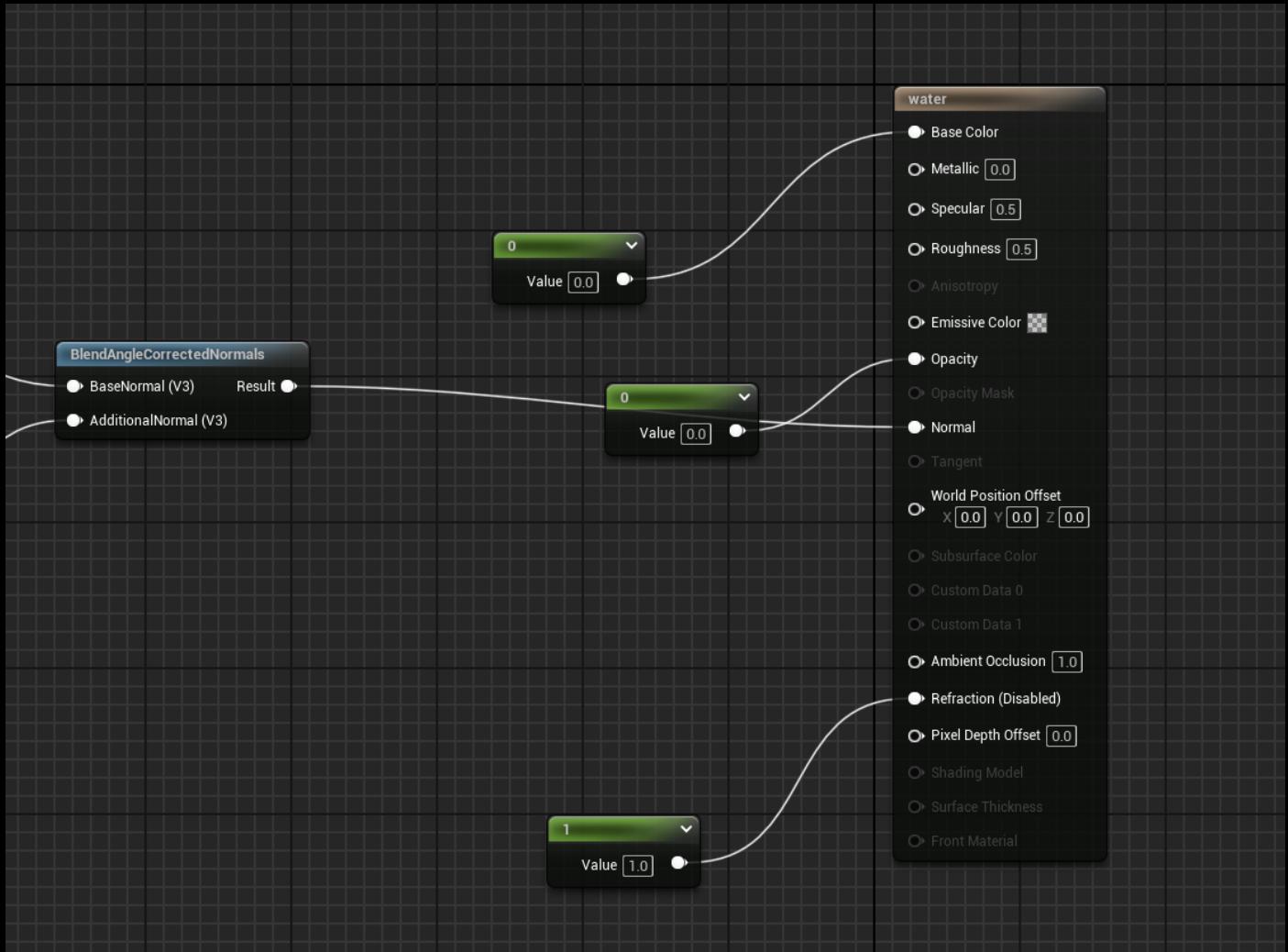
I just change the base colour in the material BP.

I made a river with the landscape mode by using water erosion and have added a water material.

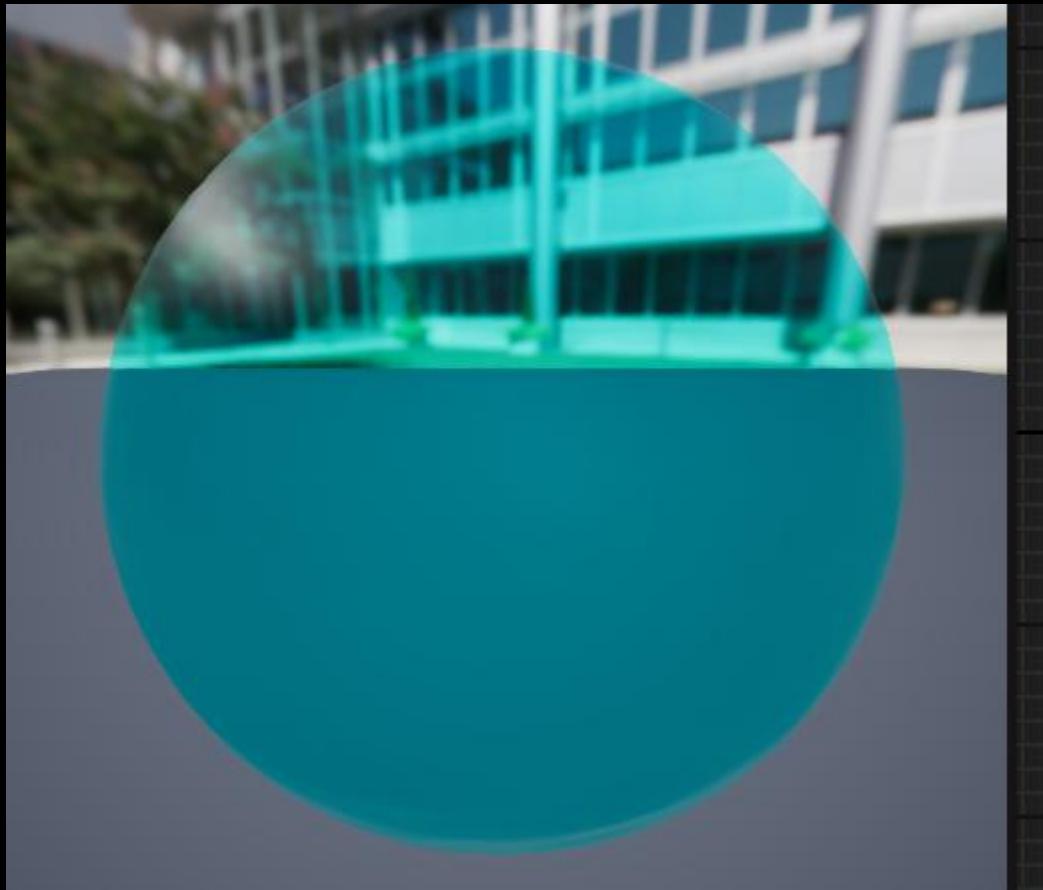




The panner moves the texture sample which is from the starter content by moving it by the x and y axis to make it seem like its moving.

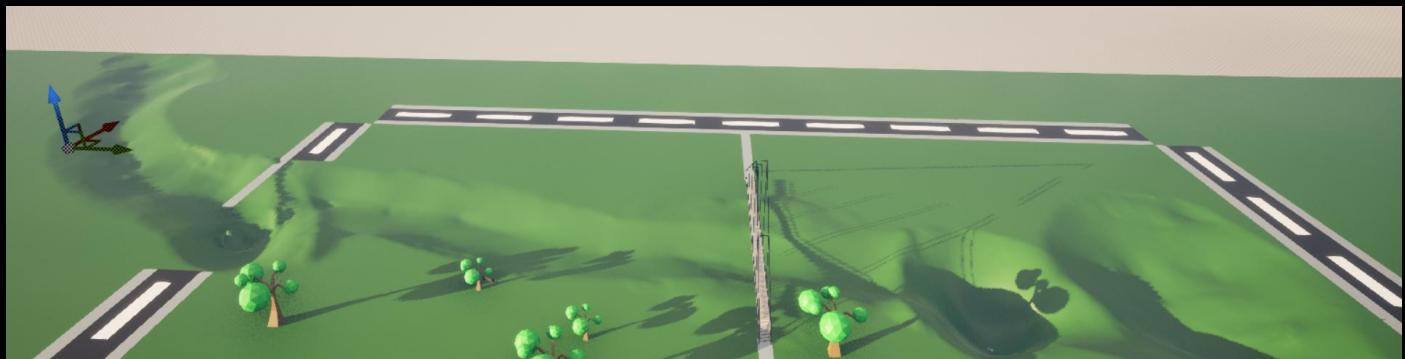


We blend the normals to make the simulated movement and our base colour is zero and we need no opacity.



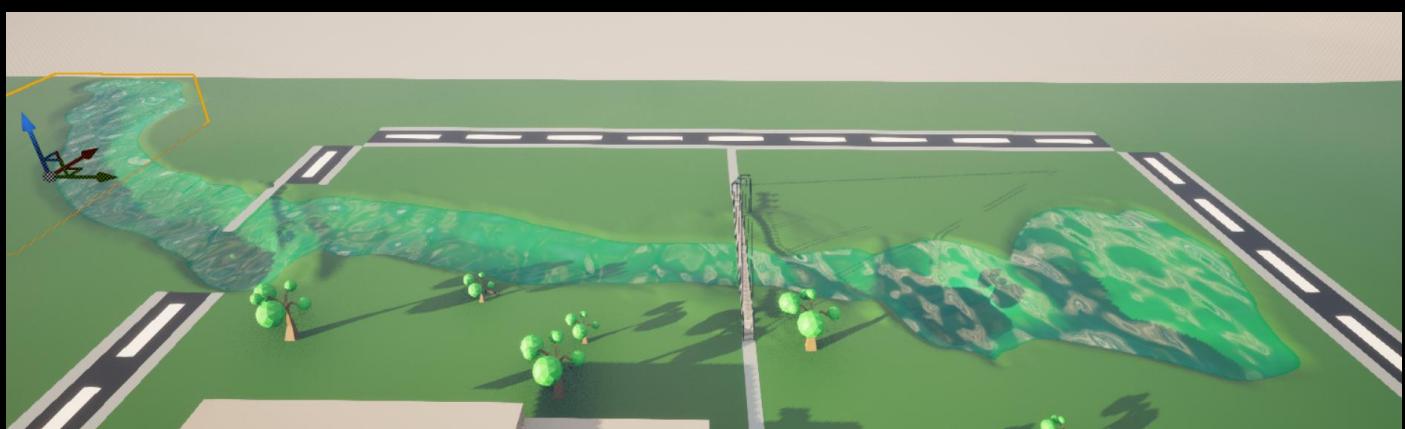
Now we add it to the river and add it to a cube.

Landscape mode first to make the river.



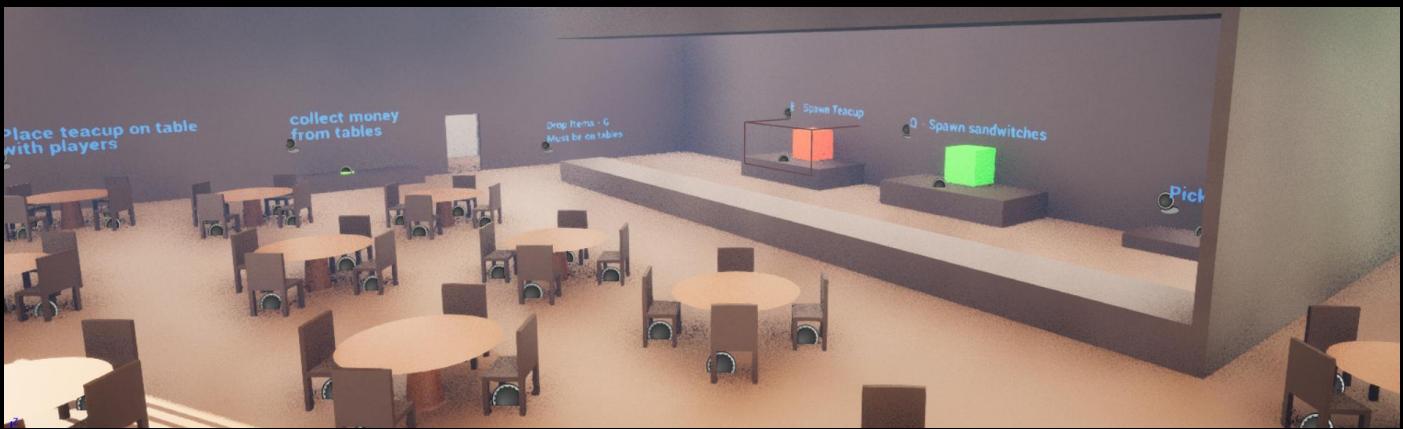
Made the environment a block colour.

I have added my trees I made in blender as well to the environment now to add the water



I have added water to the lake.

I used the materials for the maps and changed them into block colour.



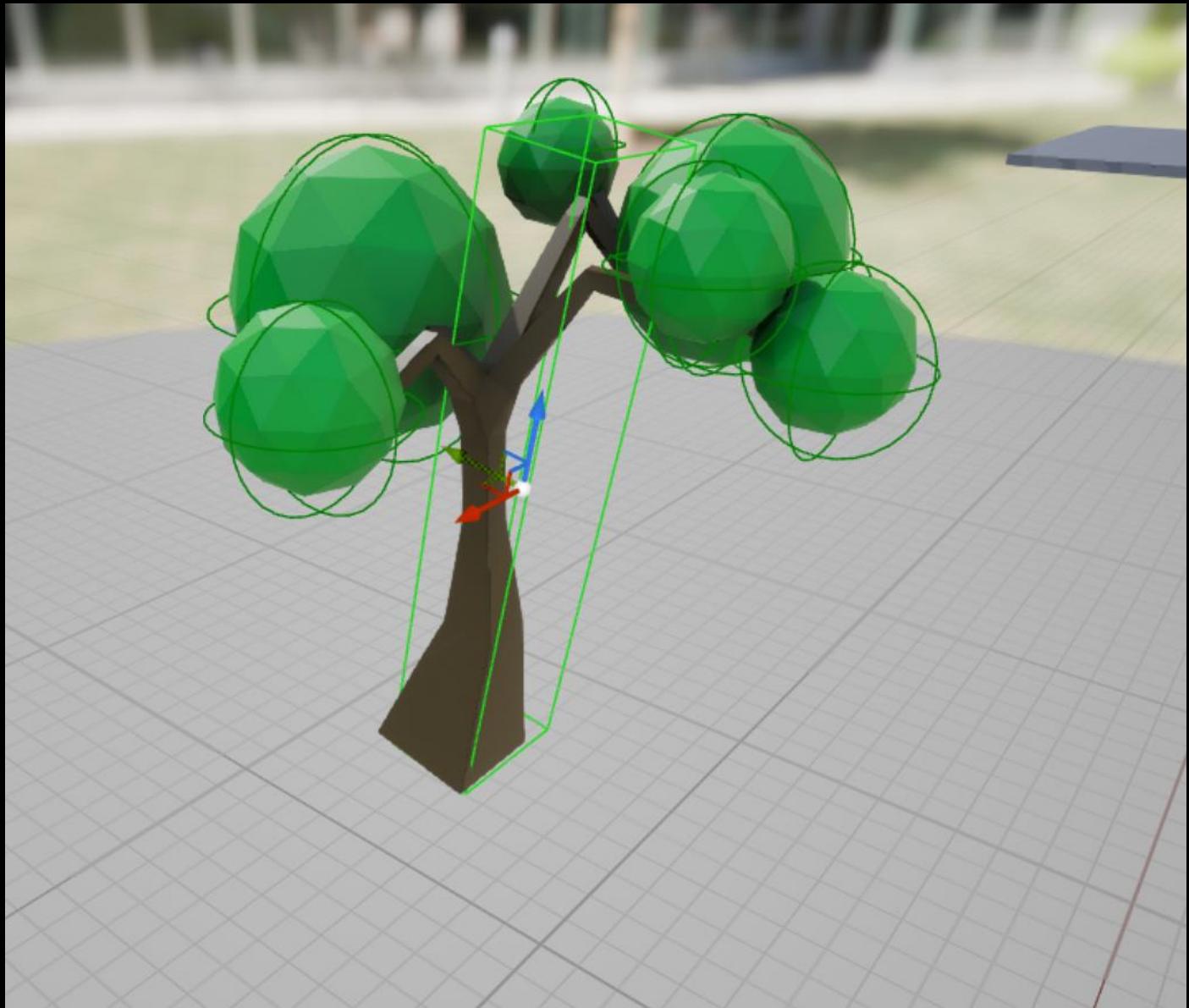
I'm going to add some smaller items to the environment such as benches and some more buildings.

22/1/25

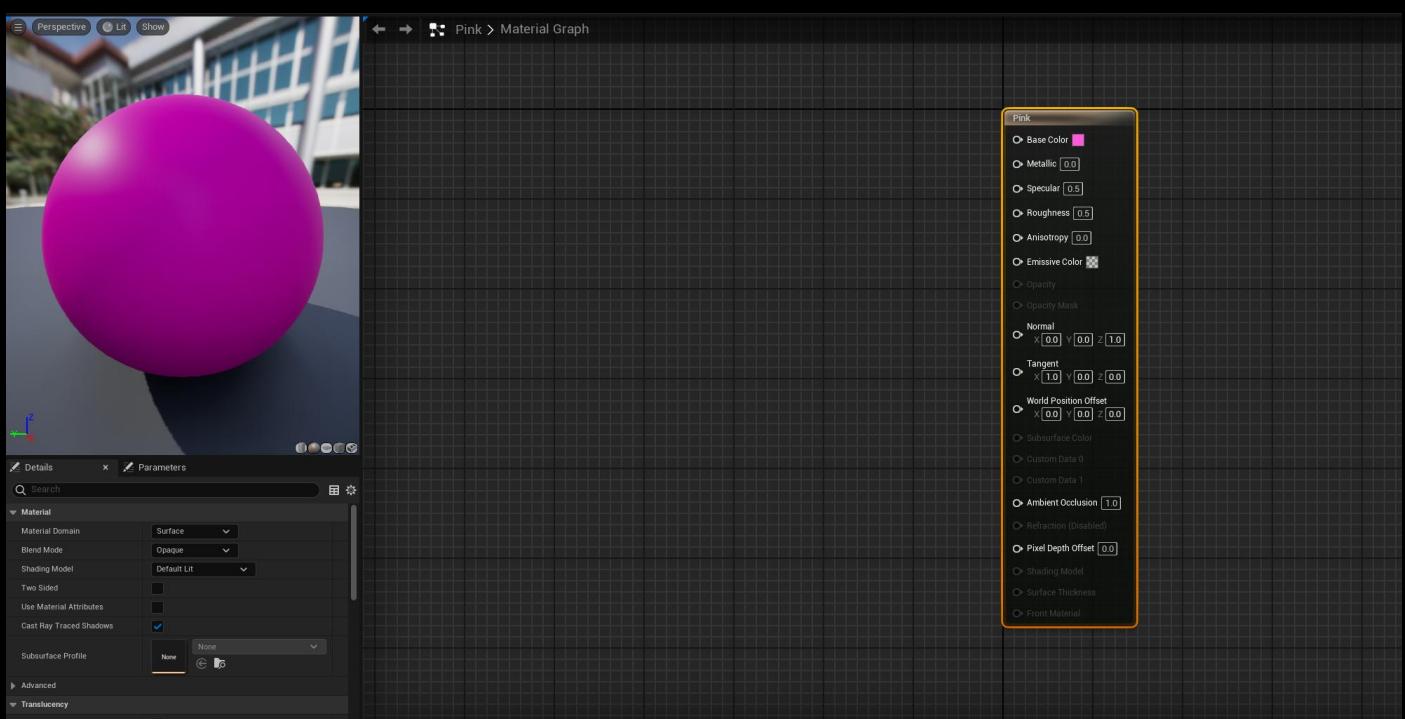
I have worked on research I have gotten from callum and improved my game.

Coloured in the apartments building to add colour added some cherry blossom trees by creating a pink and taking the green out from the trees also changed the trees collision as it was annoying me but obstructing the path.

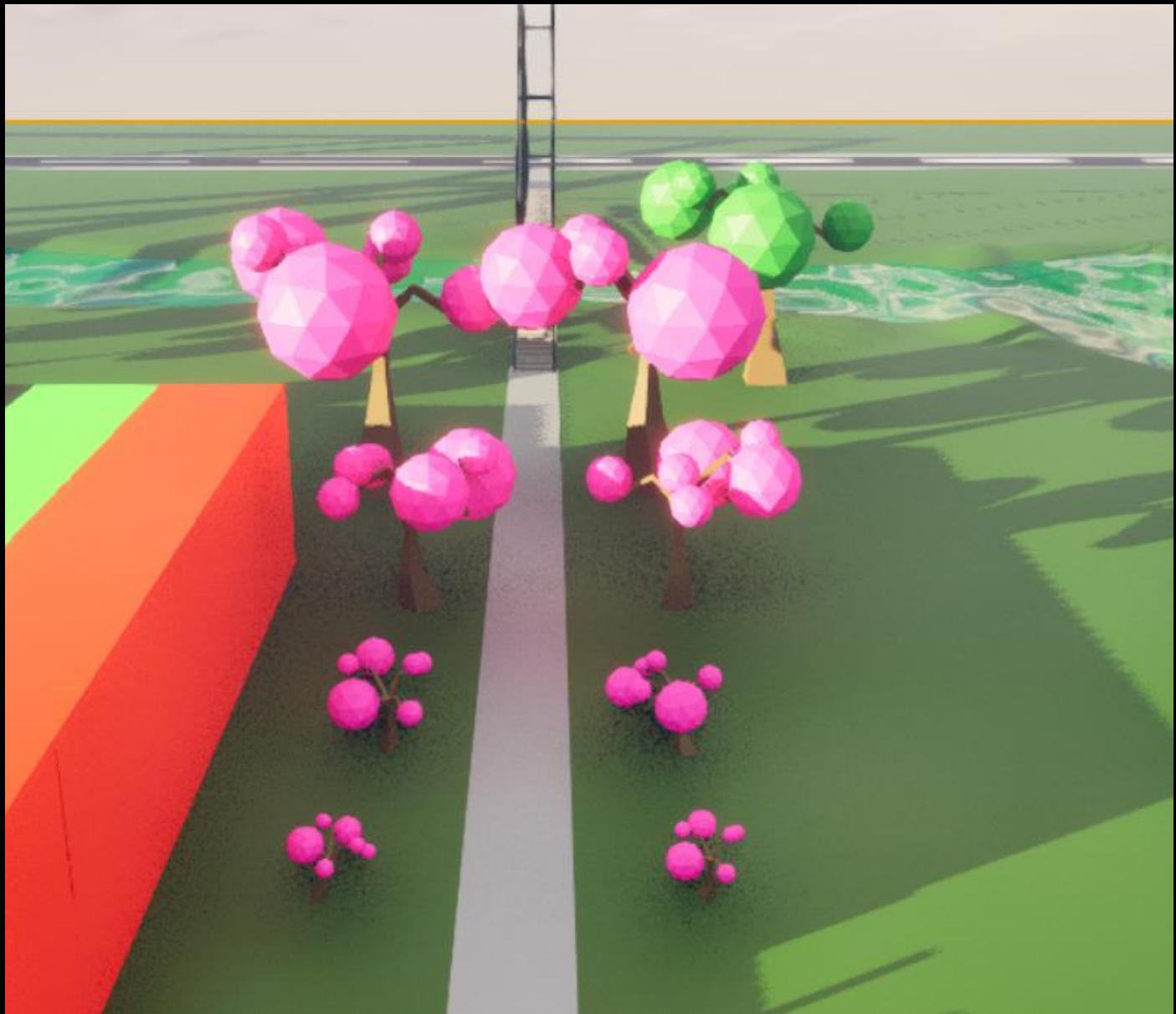
New custom collision



New colour pink.



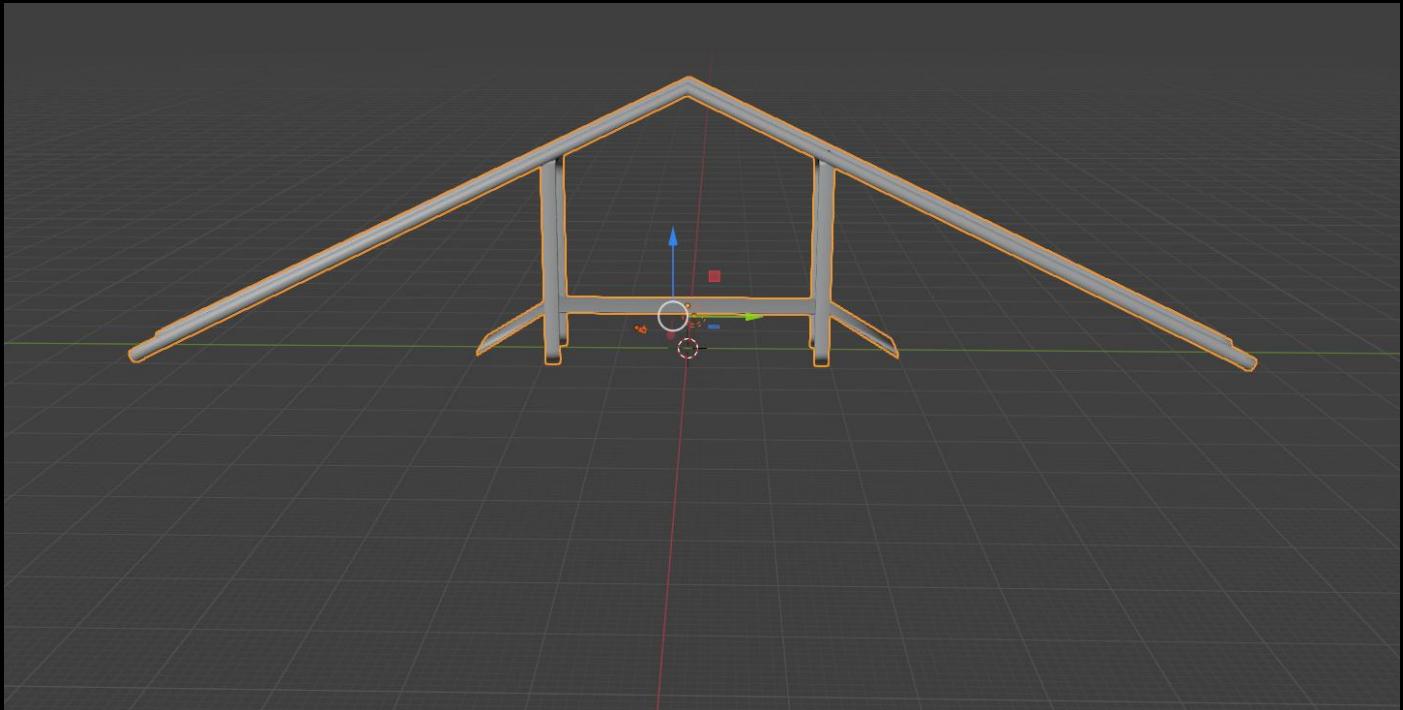
Updated tree colours cherry blossom



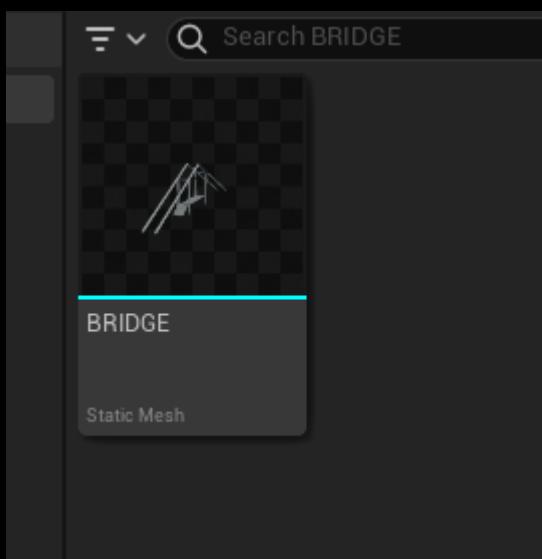
Added colour to the apartment buildings



Made a bridge in blender simple bridge



Added it into unreal. Using a fbx file.



Added it into the map



I placed my road floors above it to make the road continue over the bridge made the bridge red as I got inspiration from this image

23/1/25

GDD work .

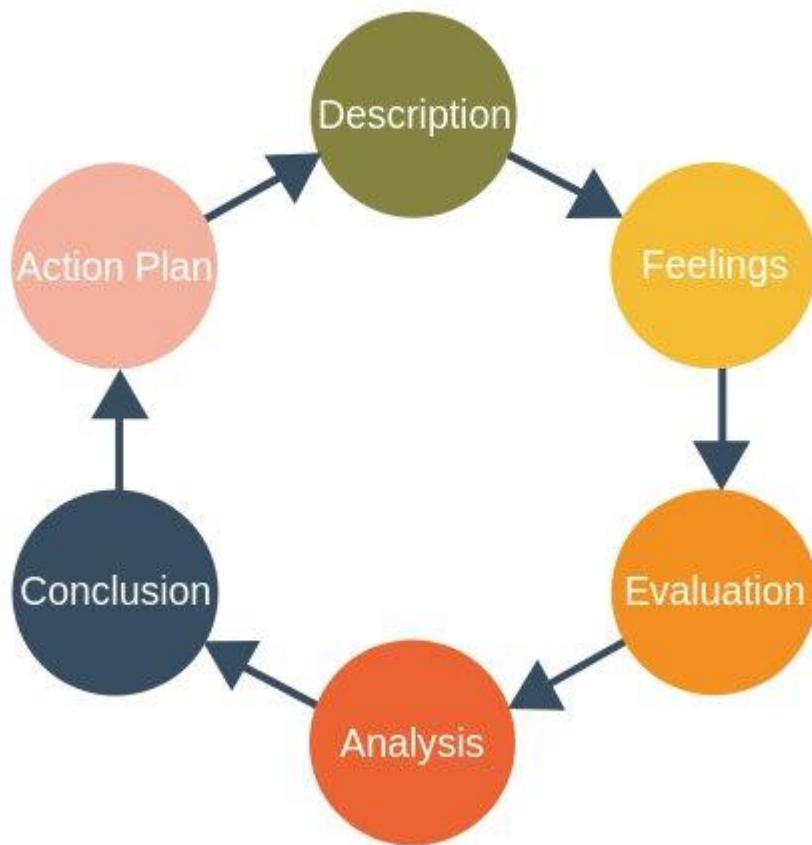


Its not as complicated as it could be as I just needed to make one quick and its not a integral part of the game.

Reflection

'It is not sufficient to have an experience in order to learn. Without reflecting on this experience, it may quickly be forgotten, or its learning potential lost.' (Gibbs, 1988, p9)

Gibbs' Reflective Cycle



I had about 4 months to make a game and piece together a minimum viable product so that I can present a prototype I have had to make a Games design document with research present a pitch of an idea I want to complete in a given timeframe. Improve on my skills that where basic and simple at the start of the project manage my time correctly and efficiently.

I believe that my coding and unreal skills developed a lot especially my understanding of collision and what certain nodes in the code do. I believe I implemented enough features and am satisfied with what I have completed in the time. I believe my work intensity was sufficient and consistent. I believe that my project management could be better as my time management didn't really work and I need to stick to a

plan as my work schedule was very vague and not planned. I didn't work as often as I would've liked to sometimes feeling demotivated however I was able to motivate myself easier than I thought would be able to. I believe that I should try to get through as much of the written work as quick as possible as I think that it's a slug to get through however is needed and to do more at the start relieving myself of the stress of doing most of it at the end of the project and I find I monogamous so it would be better to get it out of the way so I can enjoy having more time near the end of the project which is a stressful time doing unreal the thing I really like.

I believe things went well due to my consistency of work intensity and wanting to learn new mechanics and features in unreal. It motivated me and watching YouTube tutorials on unreal in my spare time helped with my skills and motivation. However due to my unplanned and inconsistent work schedule I could've got more done in the time I had and be able to get more features that I wanted to into the game such as controller support and ingredient combining and fixing a couple bugs for quality of life and to fix some more main bugs however, I didn't dedicate enough time for this project in my own personal opinion.

What I learnt from this is that my work rate is fine however my work times and management need improving and that I need to work more outside of college. Next project I'm going to work towards a more rigorous schedule and make sure I complete the schedule. I have an action plan for next project is to manage my time better and work more in my own time I will do this by restricting my own time for gaming and instead use it for making games.

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