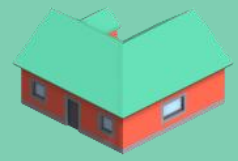
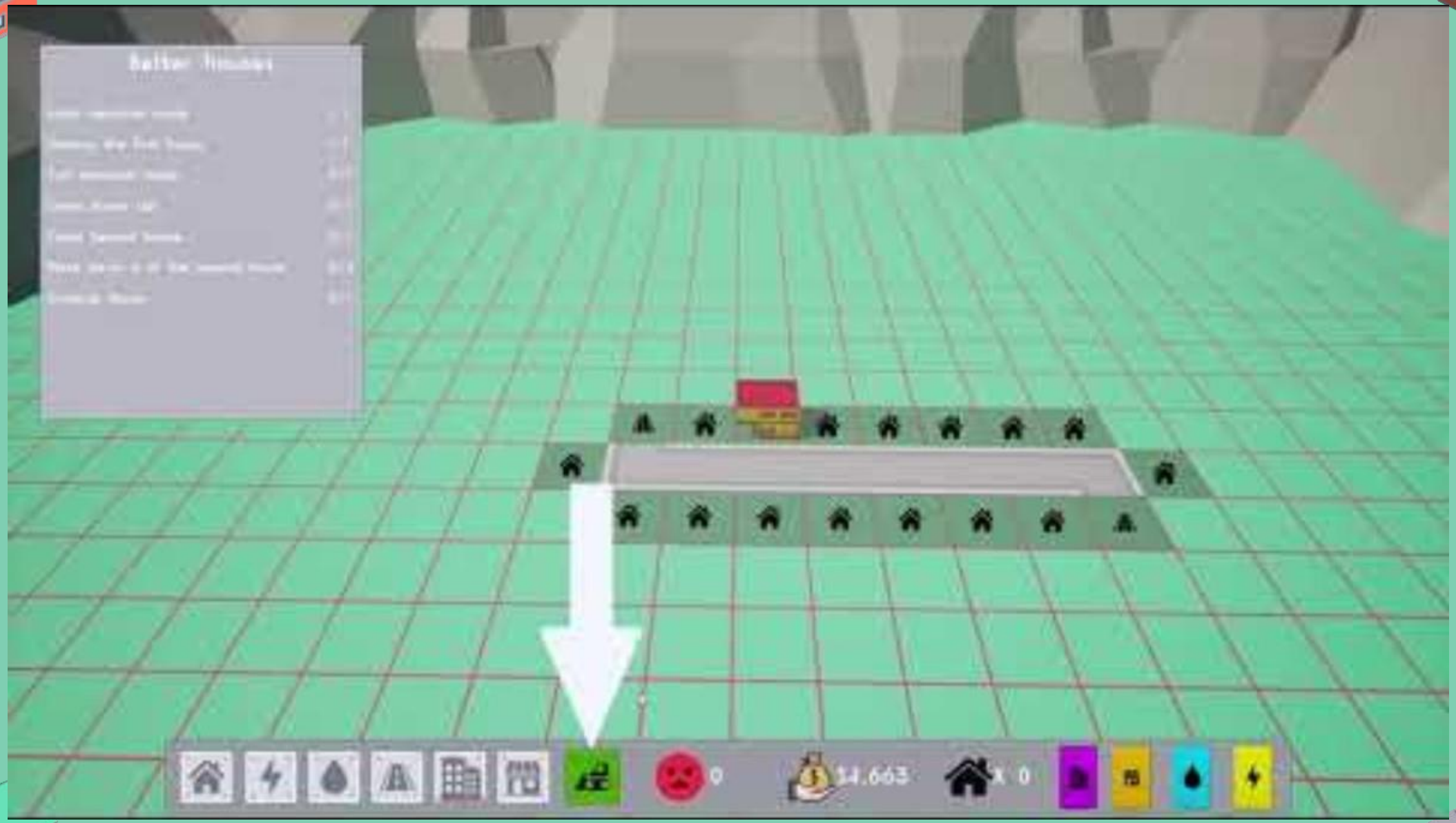


Szymon's City Builder Tutorial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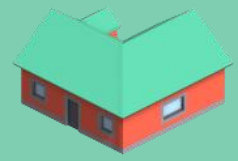
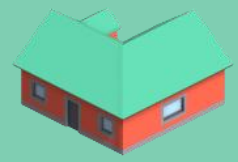


Project problem

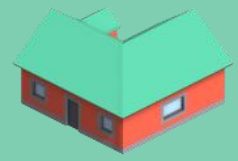
Project problem



-City builder games can feel intimidating because of the complexity they usually have; the player is put straight into the game then bombarded with information all at once without a thorough tutorial.

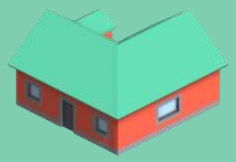
-A lot of city builders are meant to be played as infinite sandboxes so the developers don't put much effort into explaining anything to the players and hope they figure it out themselves which can cause some players to lose interest.

-This project focuses on the users experience by providing them a tutorial level of a city builder with a step-by-step guide on how everything works, this will hopefully lead to the player having a better understanding of the basics of city builders.

Deliverables


Deliverables

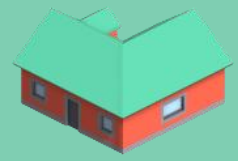


-This project is a playable tutorial level of a city builder game which was created In UE5.

-This would be the first thing a player would have to do when they launch the game for the first time (if this were a part of a whole game).

-This Project includes a step-by-step live tutorial where the player is told how to do something and then they do it to get onto their next objective.

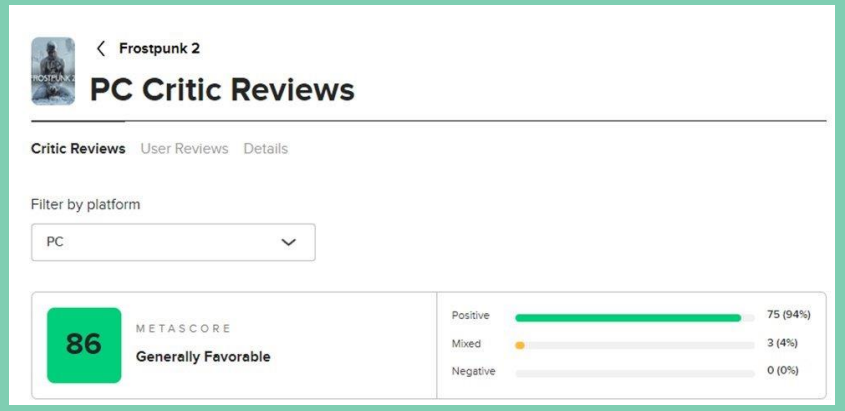
-once the player completes the tutorial level that is the end of the project unless they wish to repeat it.

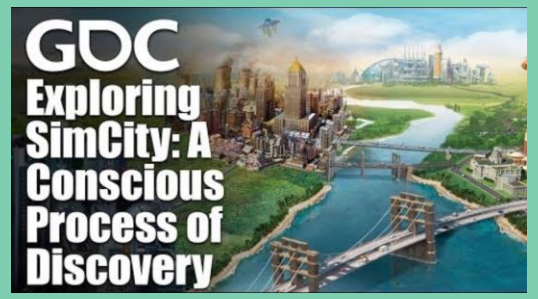
Research methodologies


Research Methodologies

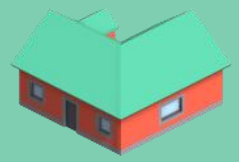
-Reviews: I looked at reviews of city builders to get an understanding of what critics and players think a game did well and what could be improved.



-GDC Talks: I watched GDC talks to do with city builders and onboarding whilst taking notes to get a professional developers view on how certain things should be done.



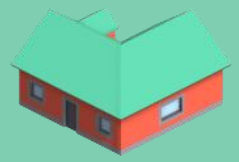
Research Methodologies



-Playing games: I played city builder games to experience their tutorials firsthand, and to understand what could be done better, or what they have done well.

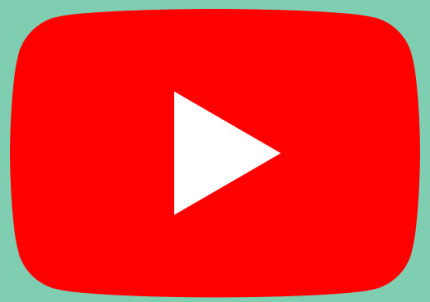
-Looking into games: I watched videos and read game wikis in order to see what mechanics they have, this gave me an idea of what mechanics I should include in my own project

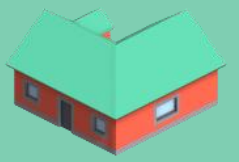
Research Methodologies



-Playtesting: This allowed me to see what others thought about my project and more specifically the tutorial, people filled in a form with questions after playtesting and I was able to make changes based on their answers.

-Technial research: I used things such as reddit, Unreal forums and YouTube to gain information on the best way to do things within the project's blueprints, these sources were also helpful when it came to bug fixing.

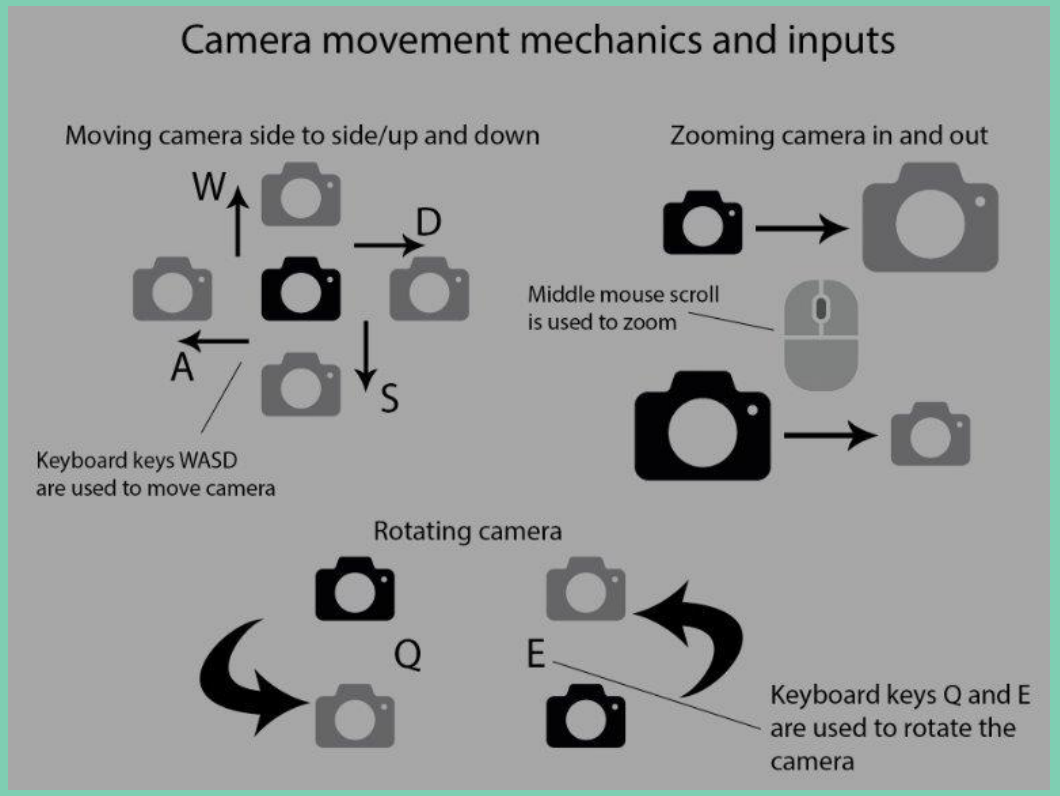


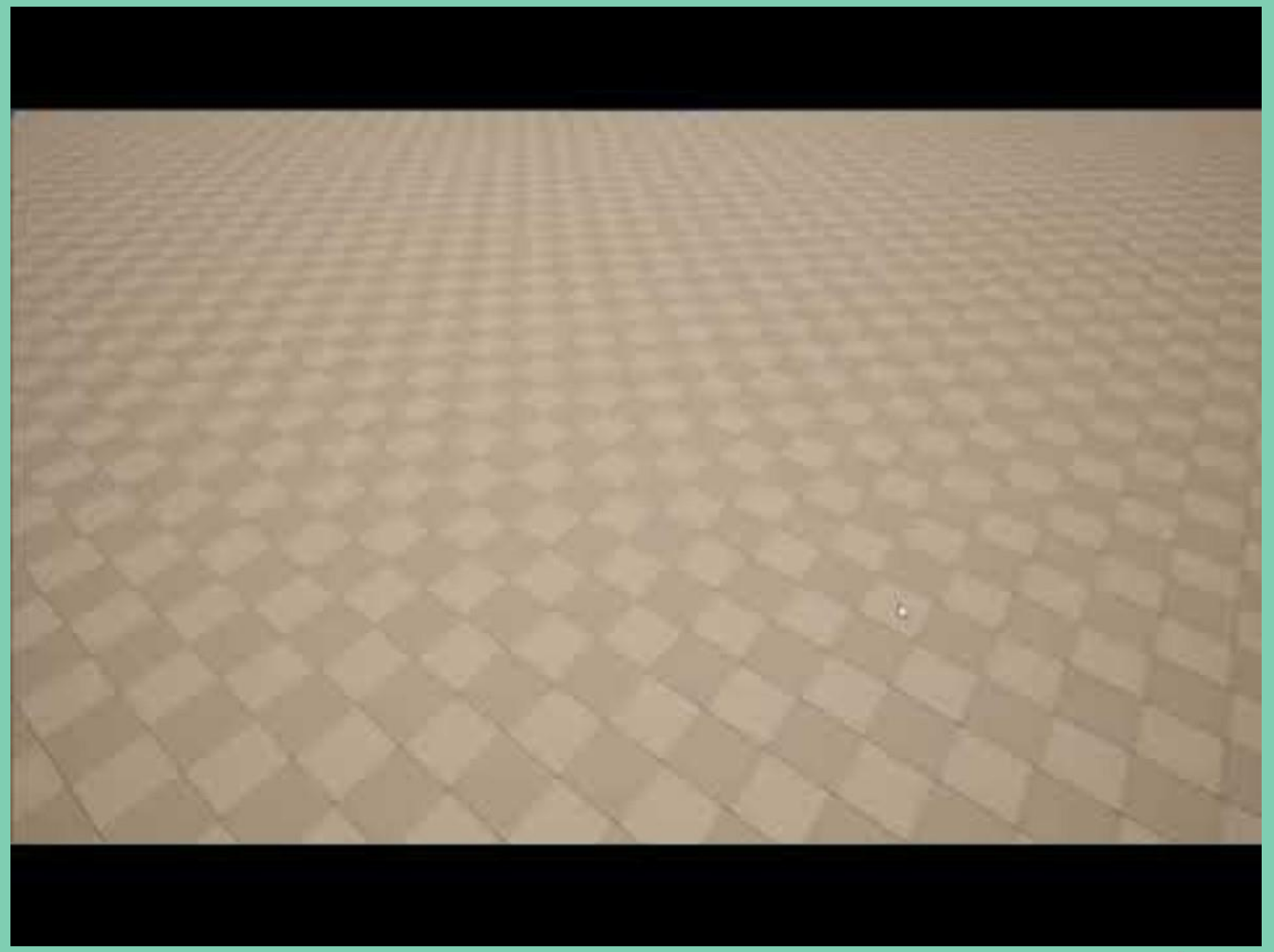



Production

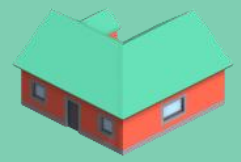

Production

Movement mechanics

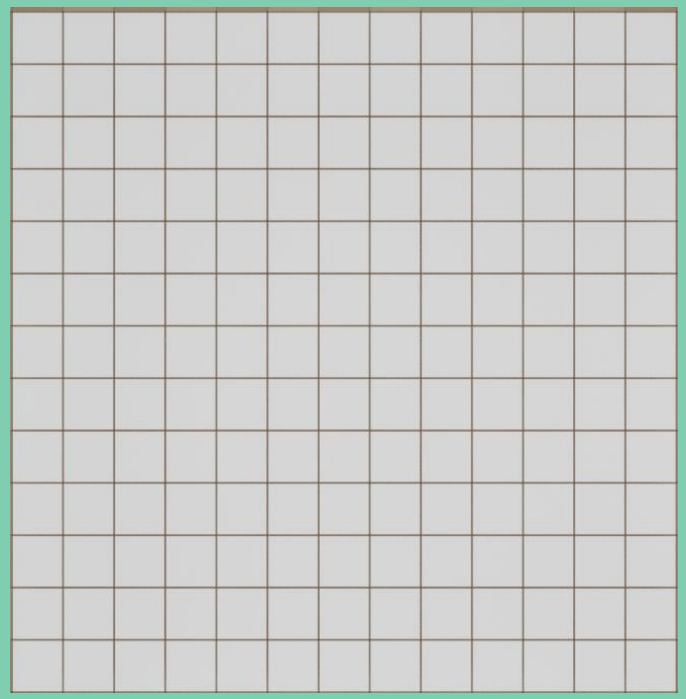




Production



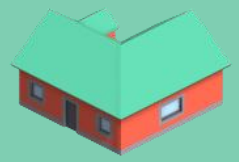
Grid system



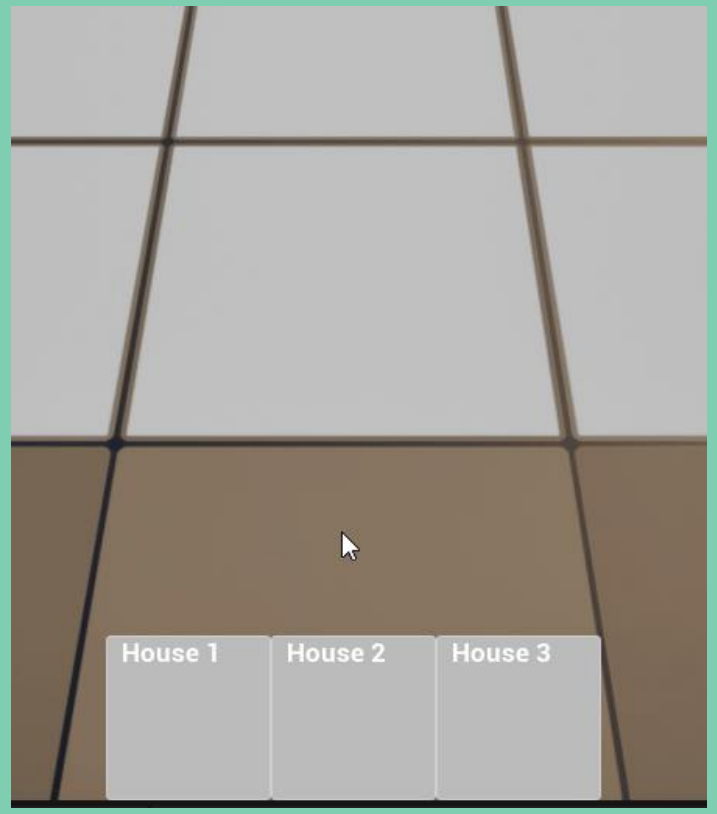
-First iteration of the grid system

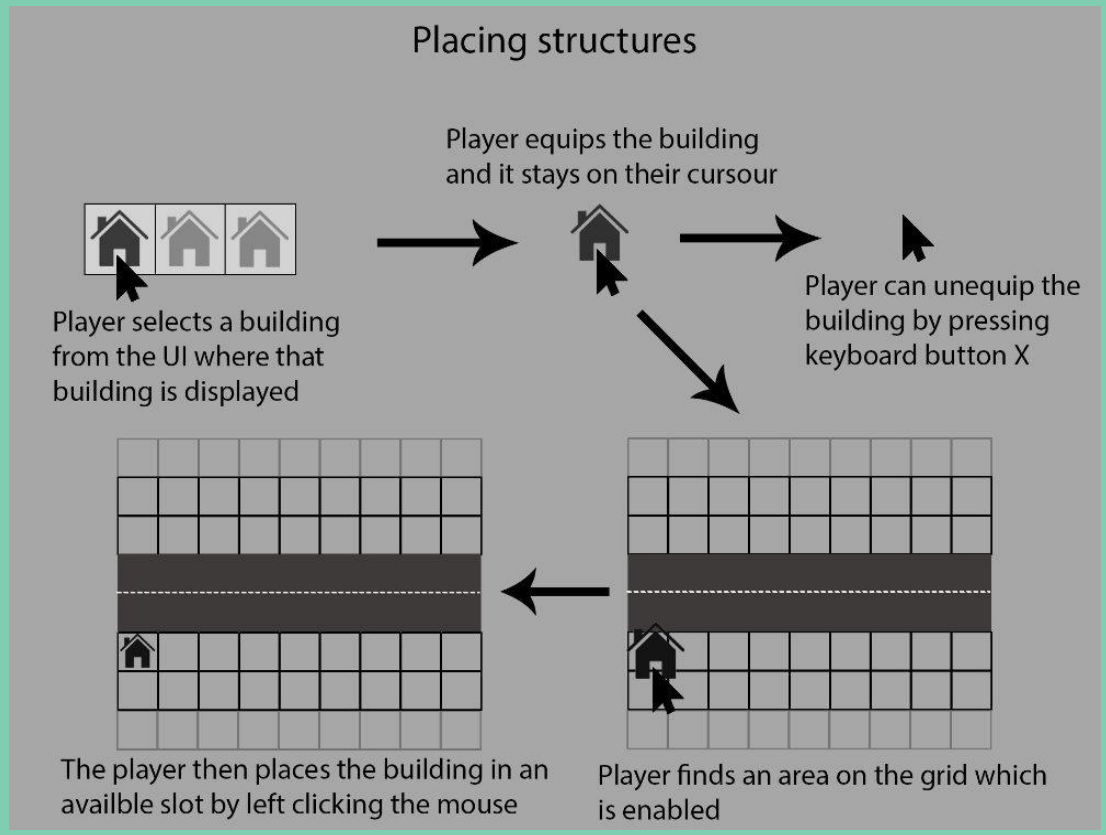
-This was created with help from a YouTube tutorial

Production



Structure placement



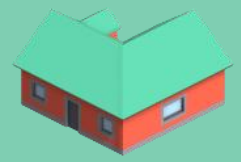


-First iteration of structure placement onto the grid

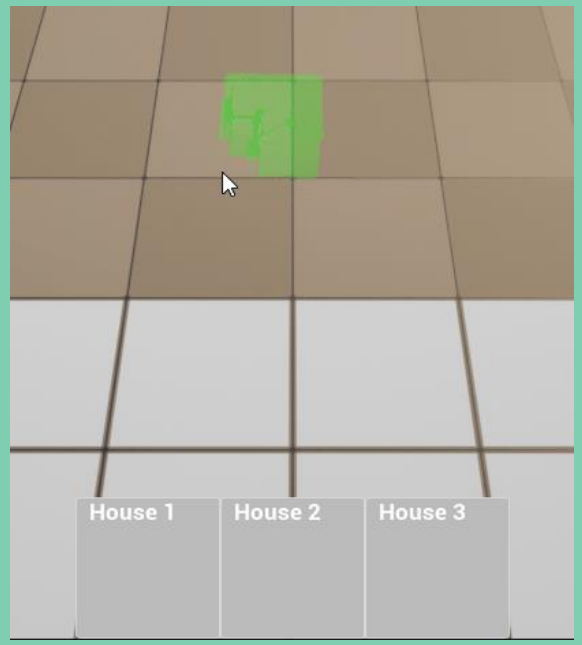
-The player selects a structure they want to place on the grid

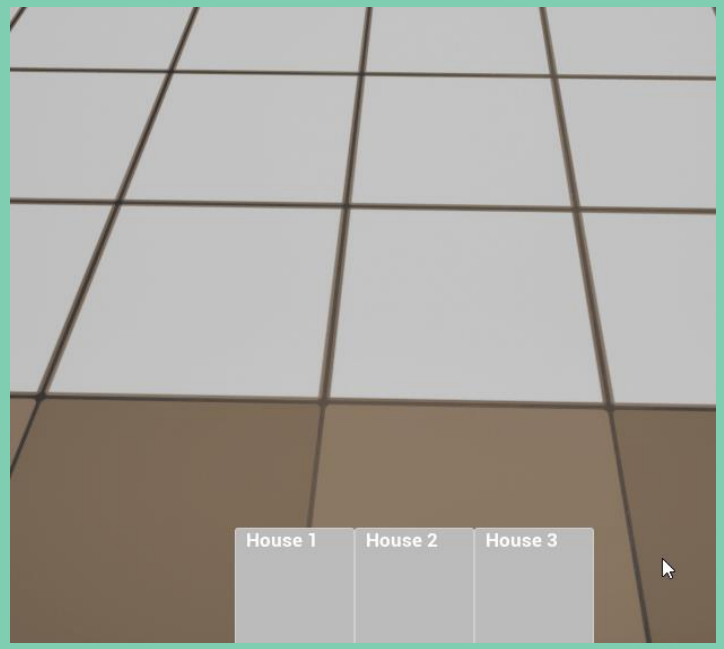
-Then they click on a grid point which spawns that structure

Production



Structure appearing on cursor, snapping to grid and rotation





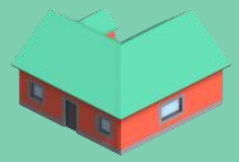
-The equipped structure will appear on the players cursor

-Once the player hovers over a grid point it will snap to it

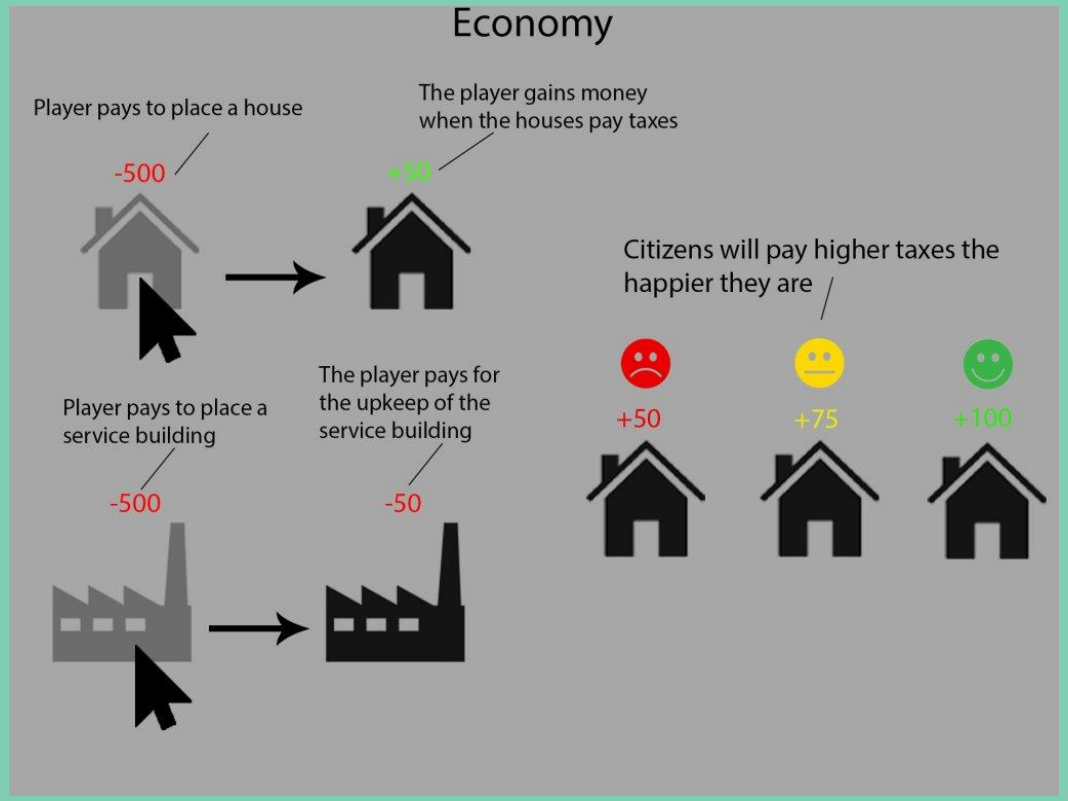
-The color of the structure changes depending on whether it can be placed

-The player is also able to rotate the structure by pressing R

Production



Economy System

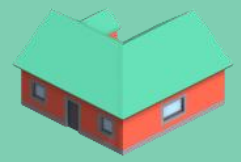


-The economy system tracks the players money and income

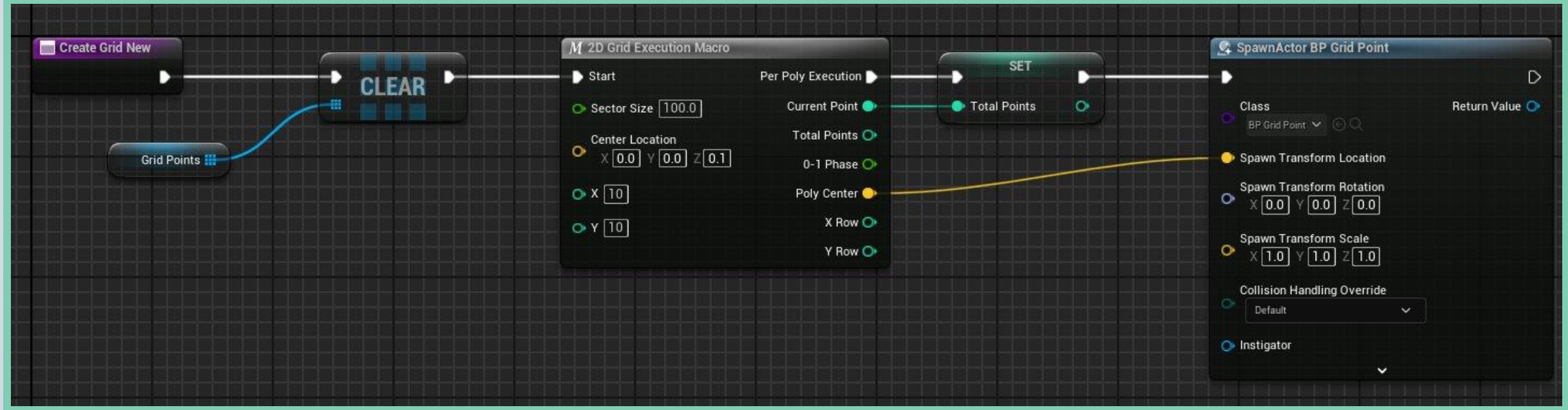
-All structures will have an upkeep cost which charges the player

-Houses will also provide the player with an income in the form of taxes

Production



Grid generation rework

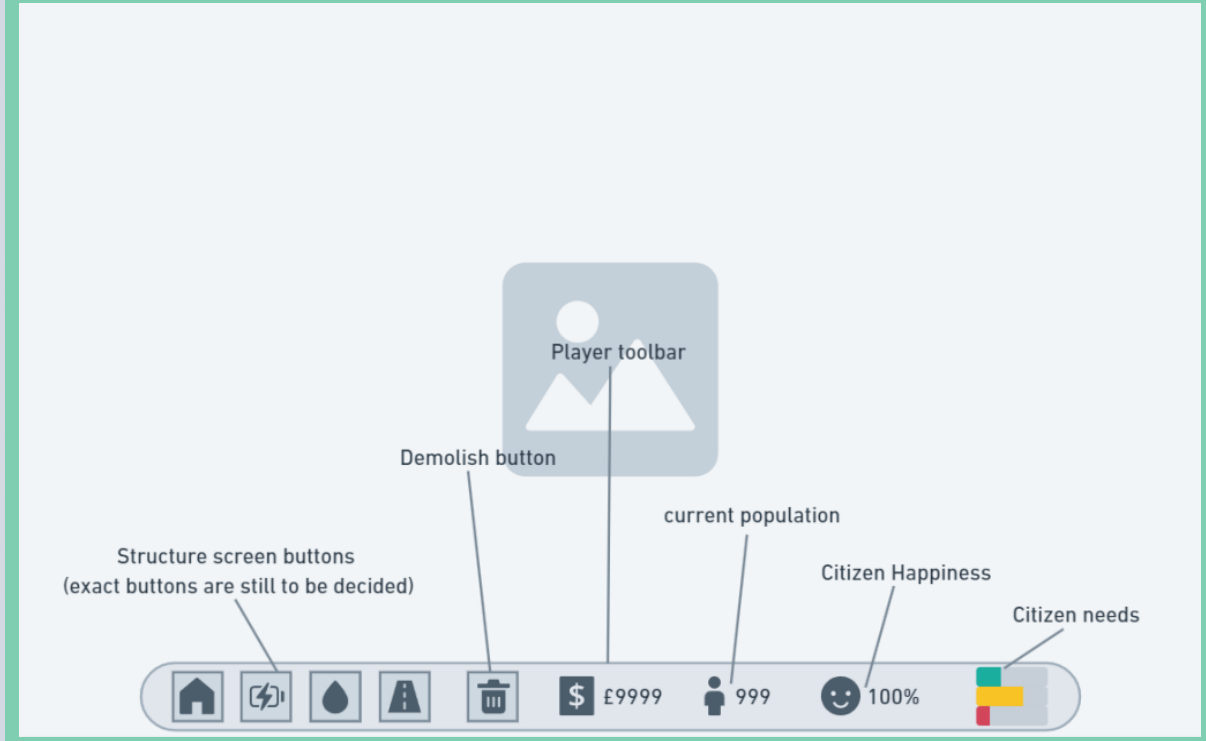


-I remade the grid generation using a macro which already existed in unreal

-The reason for this was that this method is more efficient

Production

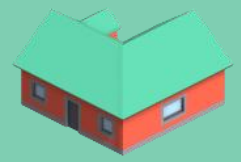
Toolbar



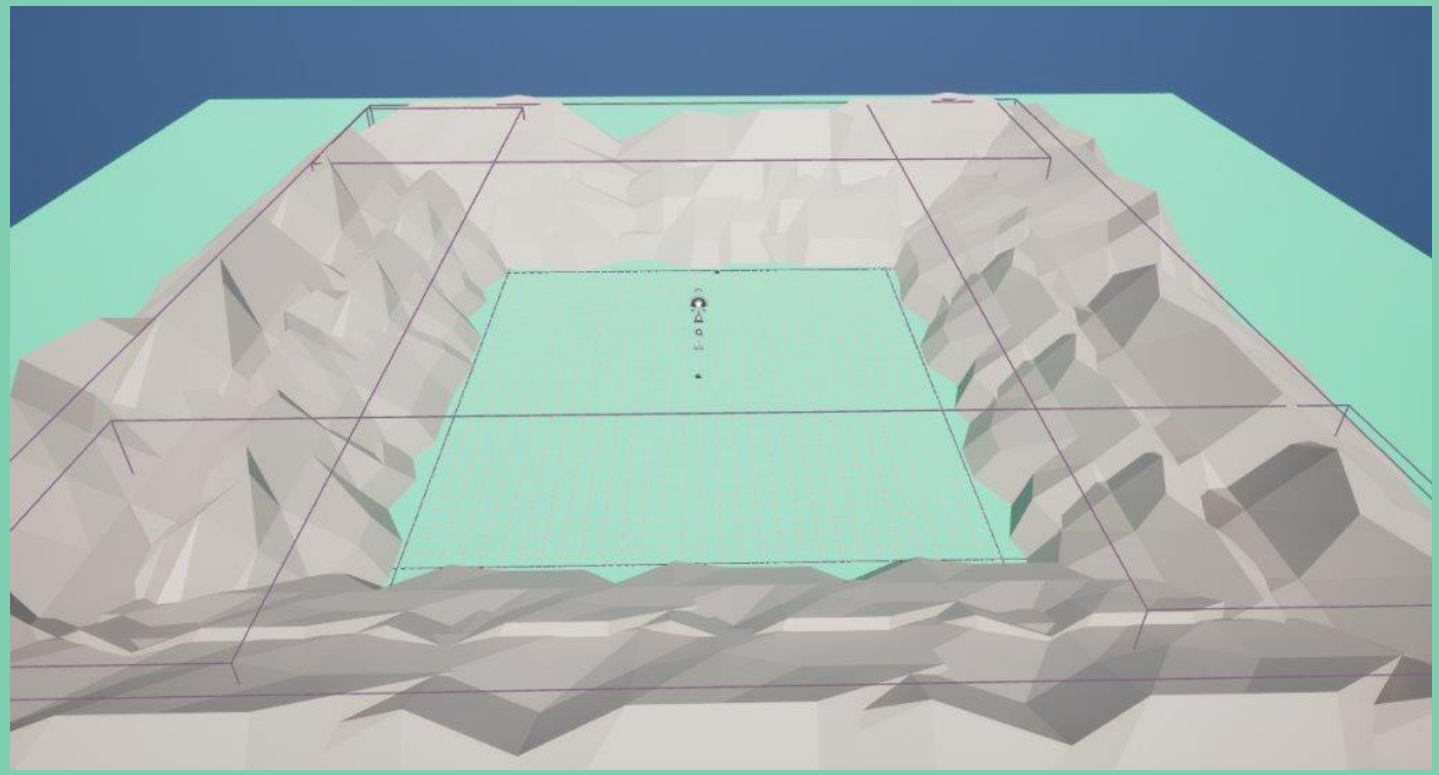
-I created the first iteration of the toolbar

-This is where the player will do things such as equip structures, view their money etc.

Production



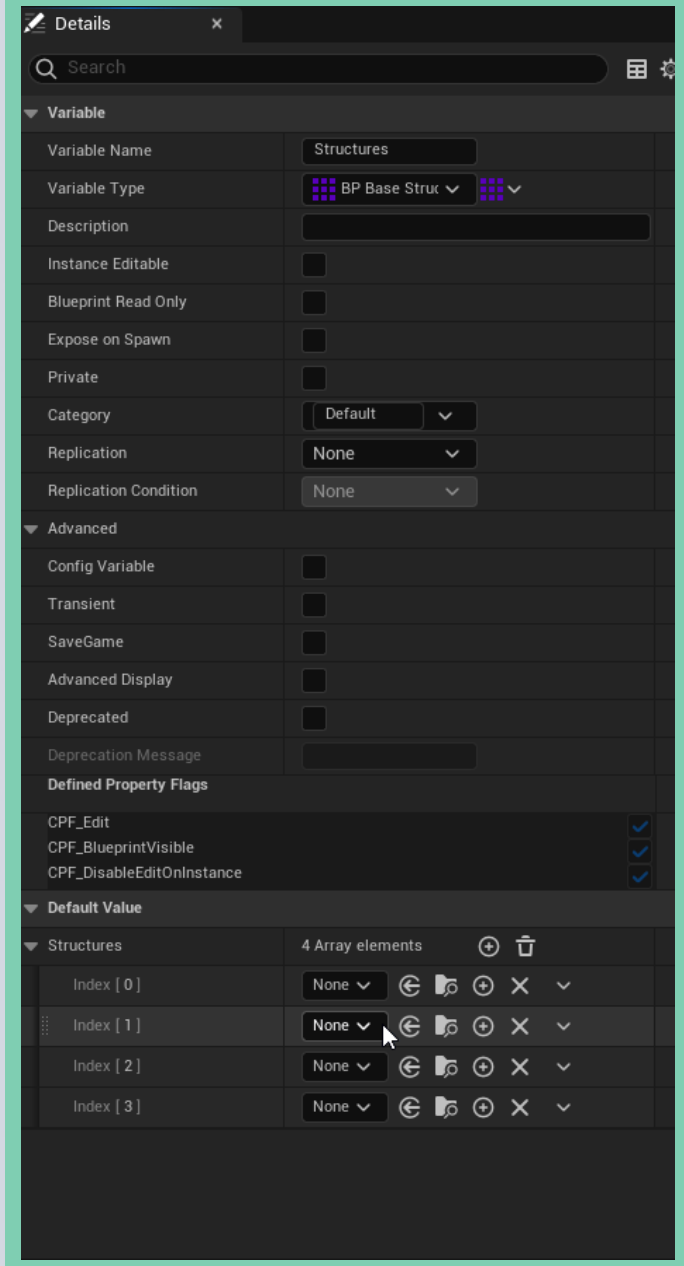
Map

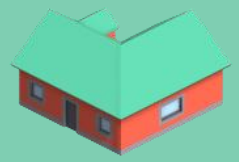


-I created a simple low poly map

-I sourced low poly assets for the mountains and created a simple grid texture for the ground

Production





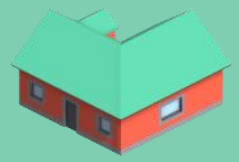
Structure array bug and solution

-The structure array stopped working and was not able to have its default values set

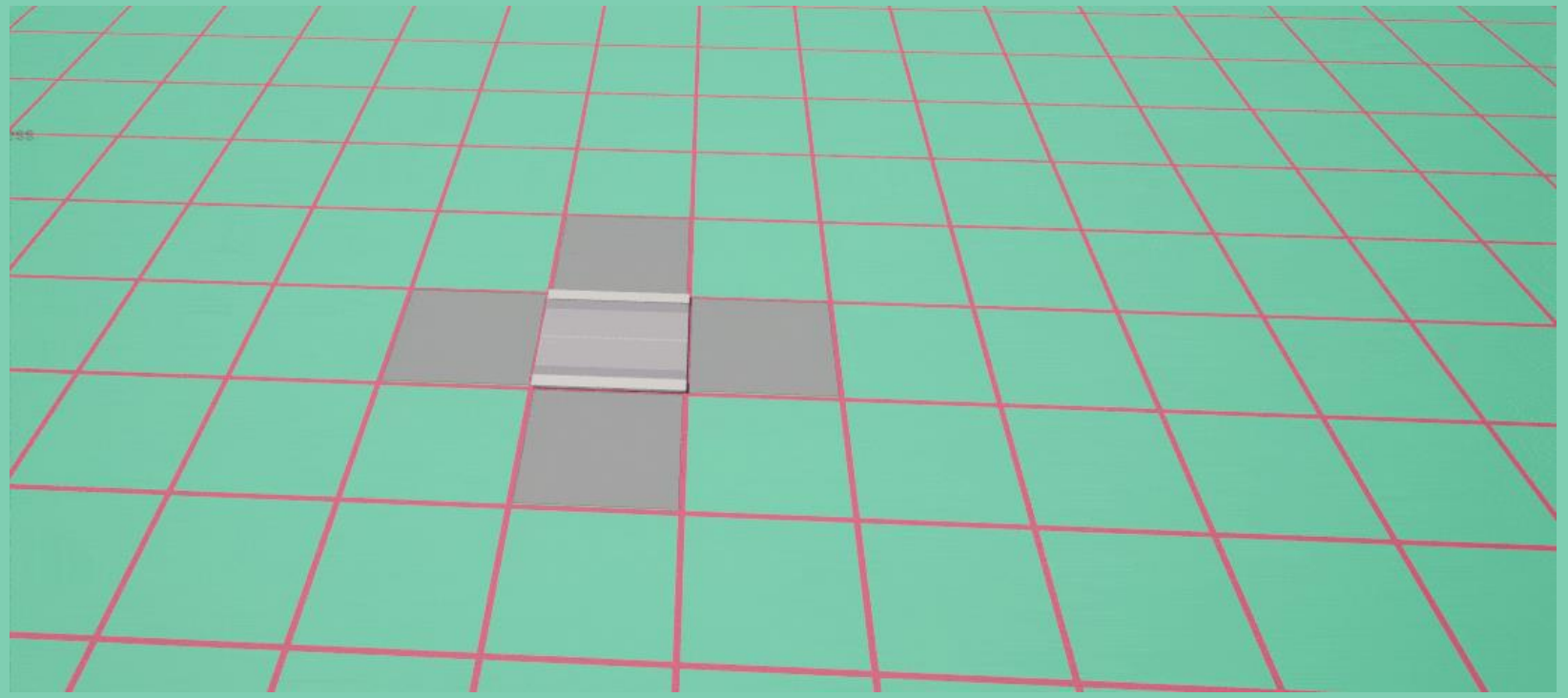
-This meant that a big part of the game was no longer functioning as the structure buttons weren't being generated

- I was unable to continue development because of this

Production



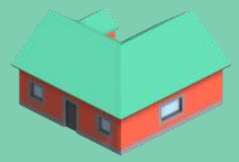
Road system



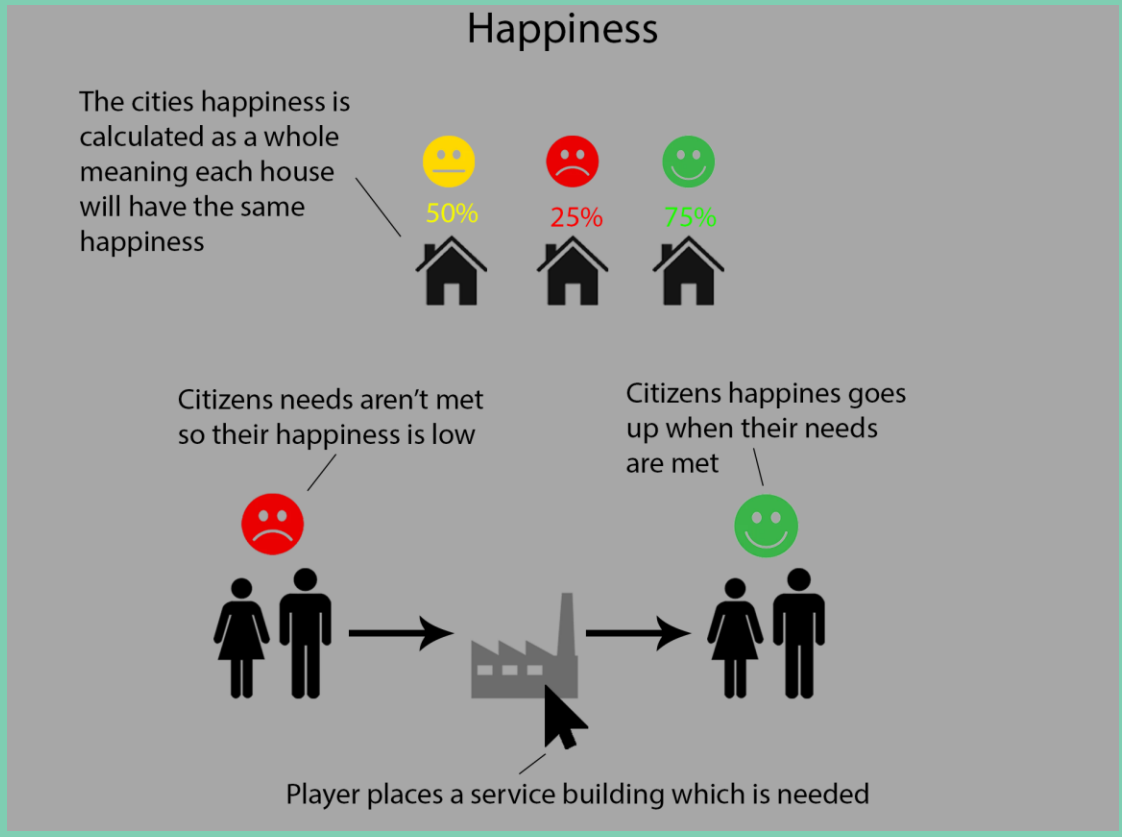
-I added the first iteration of the road system

-It enables the grid points around where it is placed

Production



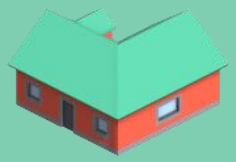
Happiness and service structures



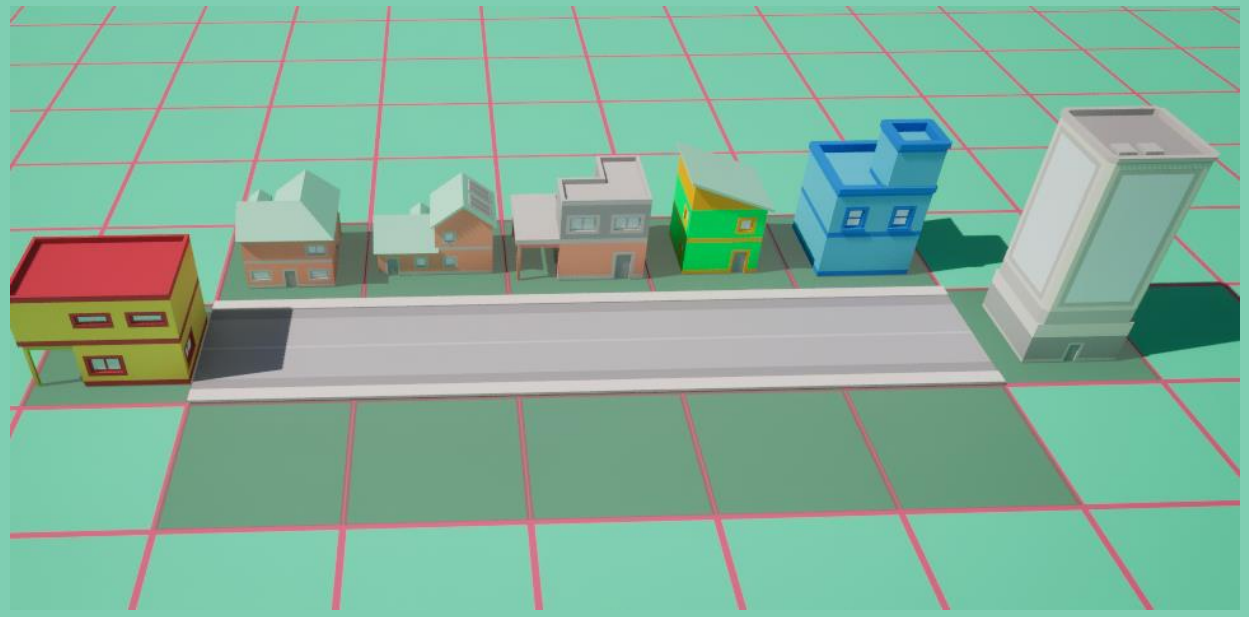
-The happiness system and service structures were added together as they go hand in hand

-The service structures provide the city with needs, if the cities needs are met happiness goes up

Production



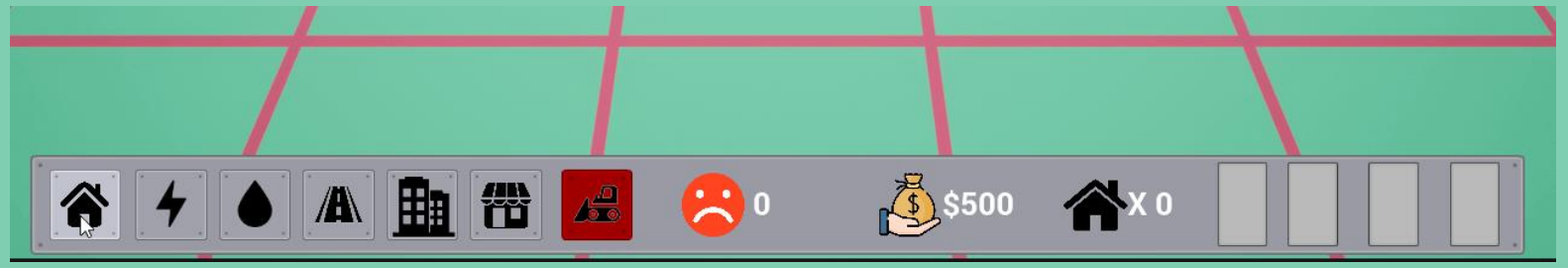
UI and structure mesh rework



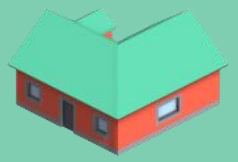
-I changed the UI completely with new buttons, icons etc.

-I did this as the old UI didn’t fit the style of the game and were not that good in general

-New structure meshes were added and old ones were re-textured to fit their role better



Production

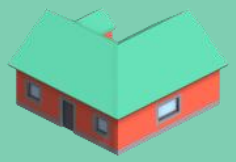


Tutorial: task panel

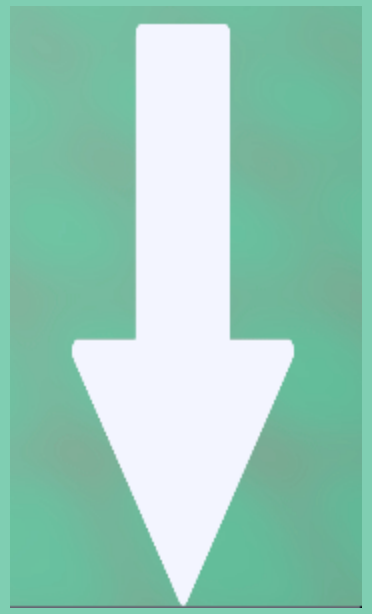
-The first step of making the tutorial was adding tasks and a task panel

-The player needs to complete these tasks to progress through the level

Production



Tutorial: Guidance



-These are the 2 main forms of the guidance the player receives throughout the tutorial

-Textboxes give the player a more in-depth explanation of how things work and what they do

-Arrows are used to show the player where they need to look and what element of the UI they currently need to use

Production

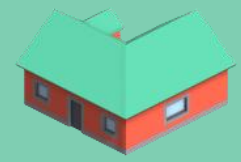
Playtesting

-The playtesting concluded that there were certain areas of the game where there was not enough visual guidance and things weren't explained properly

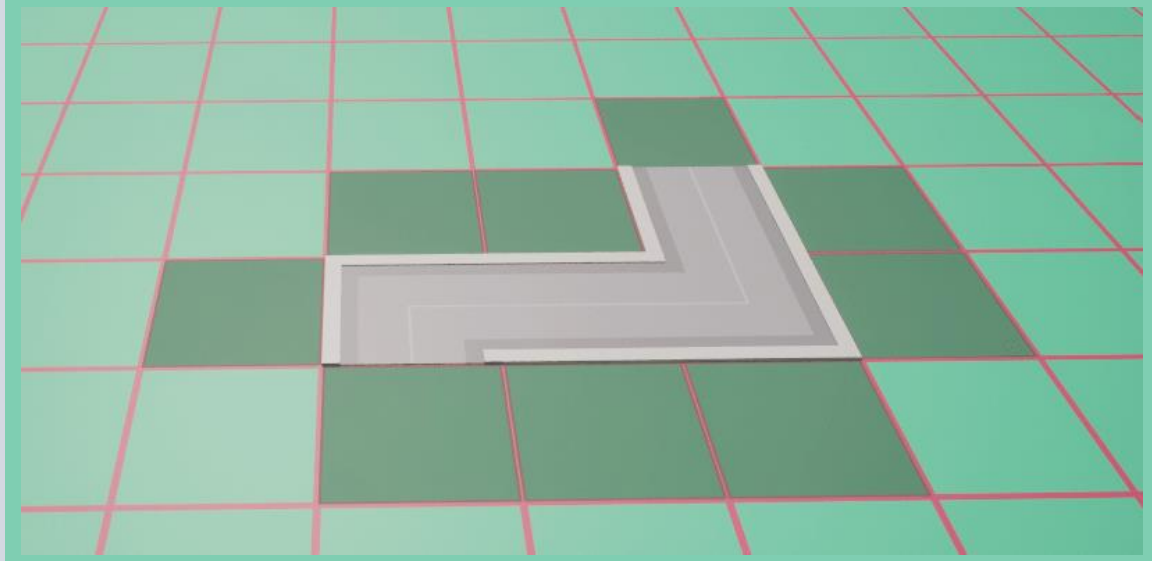
-This was resolved by adding more arrows to show exactly where the player needs to look

-And other elements of the game were explained more thoroughly

Production



Road and grid rework



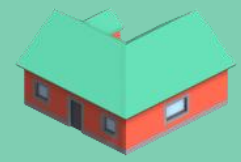
-Ability to destroy roads was removed as it was causing issues and wasn't necessary

-New type of road was added which allowed the player to make turns

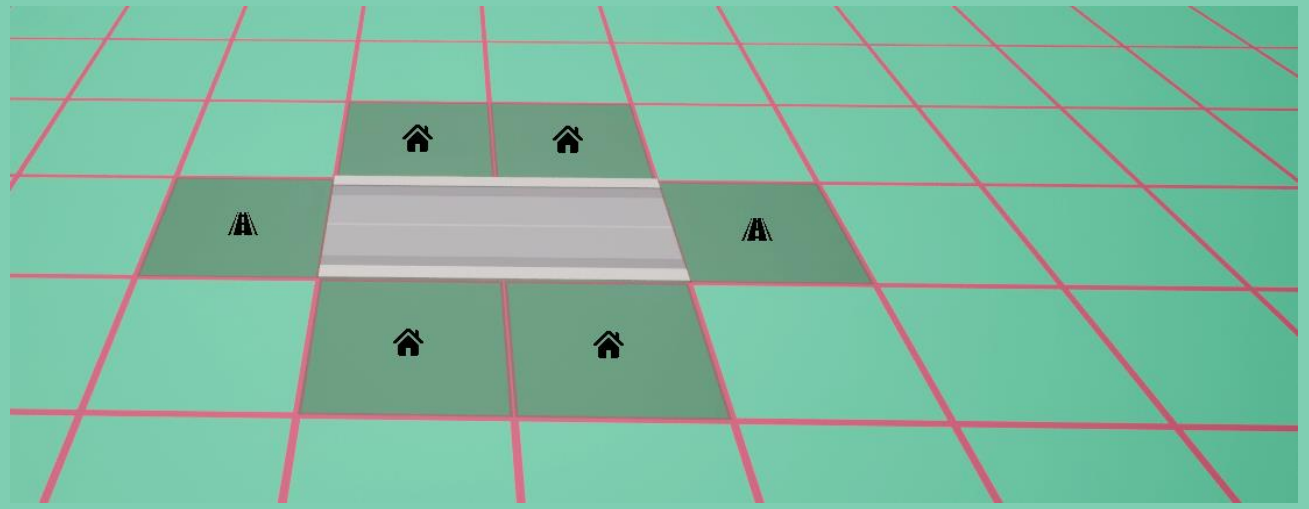
-The grid system was reworked back to its original state as the macro was causing issues with grid point Neighbours

-The grid system now does not use UI elements for its interactions as it was causing performance issues

Production



Final polish

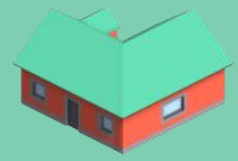


-A main menu and end game screen was added

-Icons were added to service bars

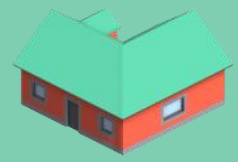
-Service bars were reversed

-Icons were added for grid point types so players would know what structures they can place in a grid point

Evaluation


Evaluation



-Overall, I am happy with the way my project turned out, the tutorial was simple enough to follow but not too boring which is what I aimed for

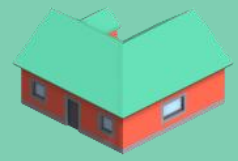
-I think the happiness system turned out really well and could easily be expanded upon if I were to make this project into a full-scale city builder

-The road system is something that could be improved, this was something completely new to me and I struggled to get it to work

-I had to deal with a lot of new bugs and issues and overcome them which taught me a lot about UE5

-I've learnt a lot about debugging and UE5 in general as I had to create many mechanics/systems which I've never had to make before

-The overall outcome of this project is positive as it led to my knowledge of games design to be expanded

Thank you for listening!