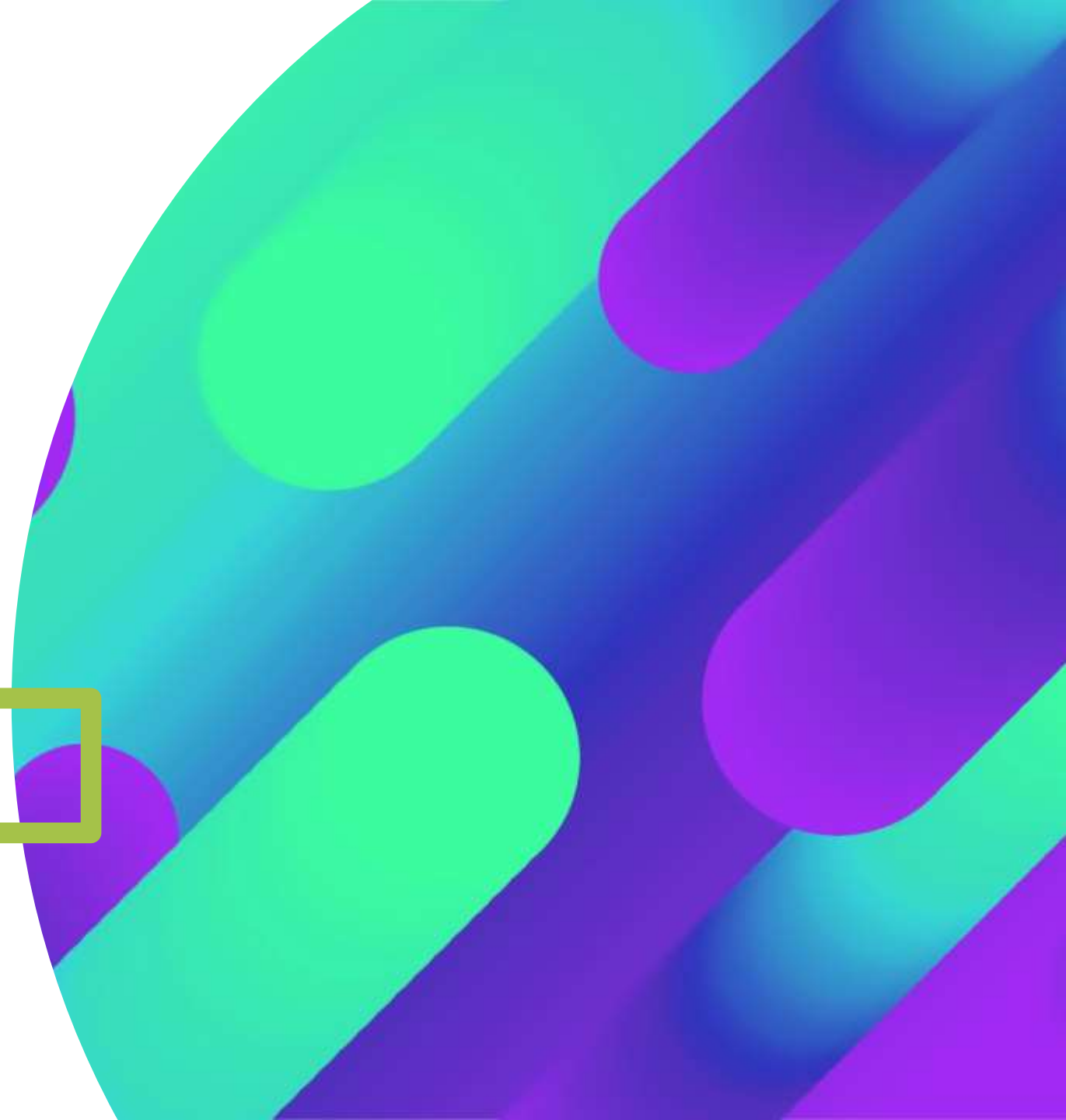


FYP
presentation:
Desolate
Detective

Jacob Harvey





What Is Desolate Detective?

- Non-linear Level design
- Focus on environmental story telling



The game sees the player explore a settlement and uncover what happened with the use of a detective vision which allows them to peer into the past.

What Inspired This?

- I want to go into level design
- I had a gap in my knowledge of how level design principles would be applied in a non linear setting
- Always had a liking for open world levels and how they combine both level design principles and visual storytelling
- The mechanics of the level where inspired by the detective vision from the Batman: Arkham games



Final Product



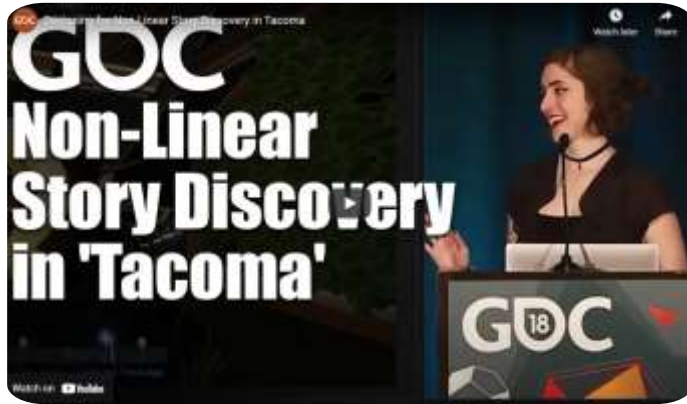
Final Product: Continued





How Did We Get here?

- I knew that creating a entire open world game would have been unrealistic
- A level such as one of the settlements from Skyrim would be more realistic
- Discussions with supervisor lead to the addition of a tutorial section
- Allowed me to test that the main game idea worked in a more controlled environment



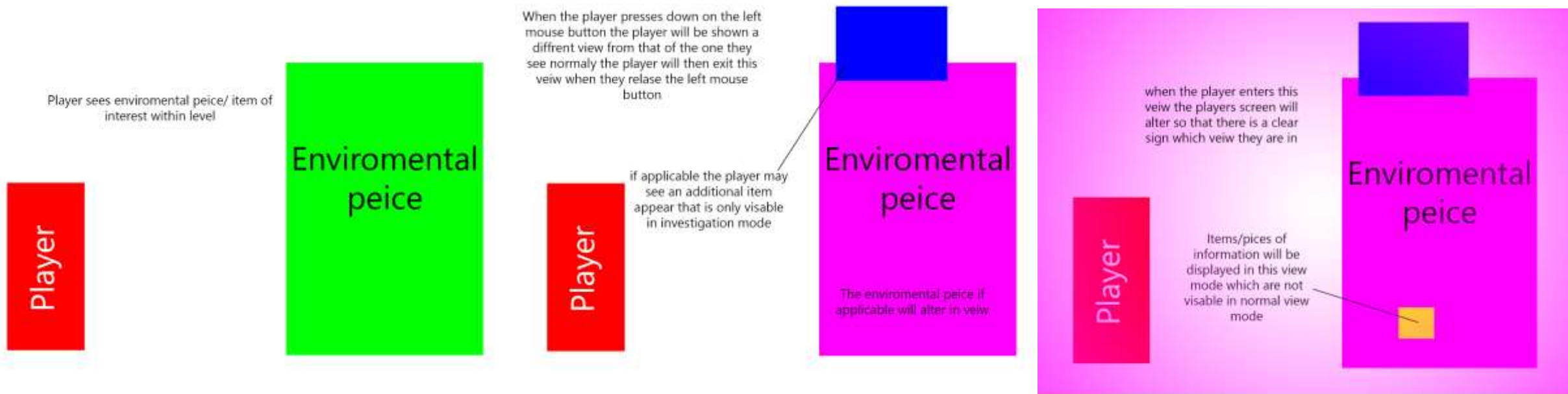
How Did We Get here?

- Research was needed for the level itself due to lack of knowledge
- Looked at GDC talks that looked at how professional level designers accommodated for non linearity in both the level structure and story telling
- I then applied these processes within in the designs I made
- Mainly applied to layout and landmark placement



Development: The Mechanics

Investigation Mode





- Had a look to demonstrate how it would work in game
- Had discussion with supervisor looked at how to let the player know about where to go into the view mode
- Added on top of this was an audio component to further push this and make it feel less hand holding

The Journal

During the level the player will come across items of interest that they will help them identify what is going on in the level

Player

The item of interest can be a section of the, level specific areas as well as items that may only visible in investigation view

Item of interest

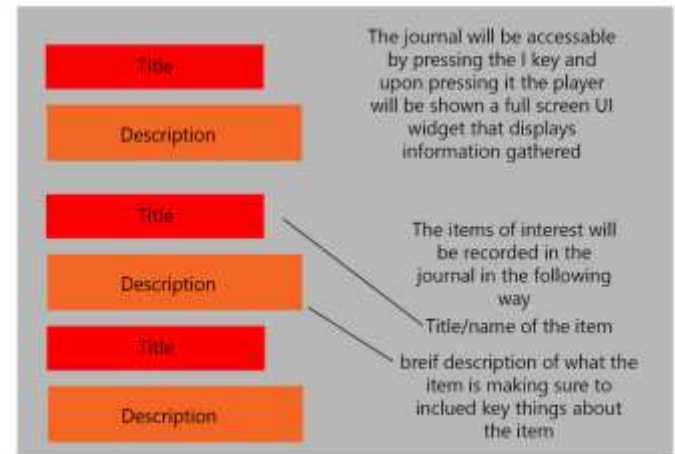
When the player sees an item of interest that item of interest will be recored in a journal that the player can access at any point

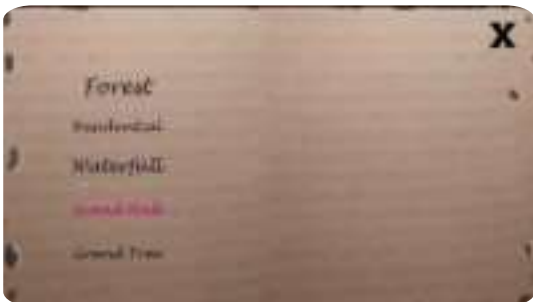
The item of interest will automaticaly be recorded when the item of interest is in clear view to the player

Player

A clear notification of the fact the journal has been updated will also be sent to the player

Item of interest

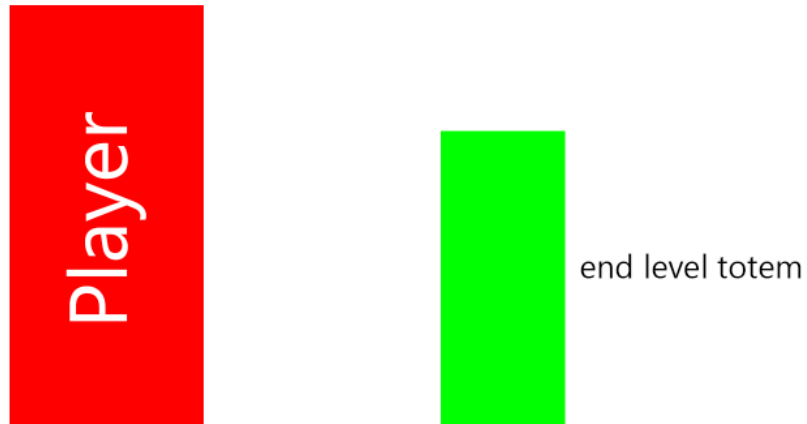




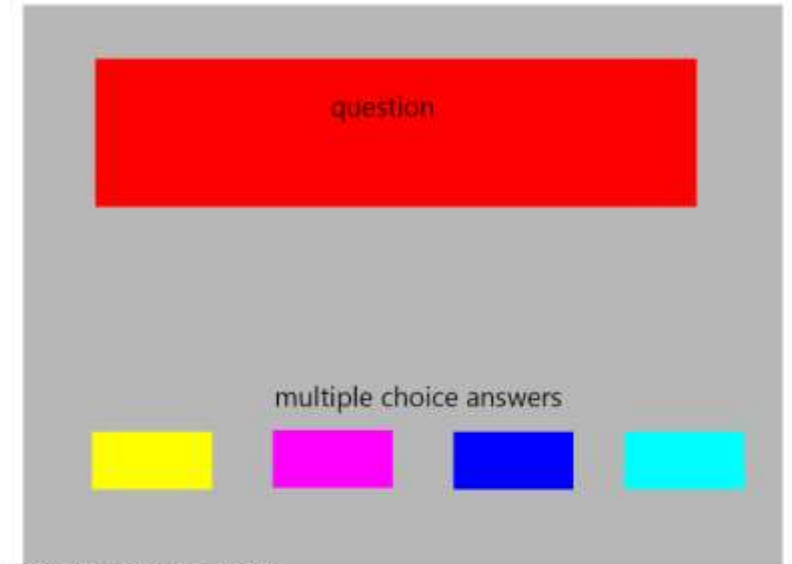
- Journal started with testing it on basic items
- Added a widget image to make the journal look more visually appealing
- Changed sound que
- The journal was still pretty hard to navigate as it was all one screen
- Added a menu type system the player can navigate

The End Quiz

When the player feels as if they collected enough information to gather what has gone on they will approach the end level totem where they will be asked what they think has happened



when the player interacts with totem the player will be taken to a fullscreen UI screen in which the player will be given a series of multiple choice questions



if the player gets a question wrong they will be taken out of the quiz the progress of the quiz will however be saved

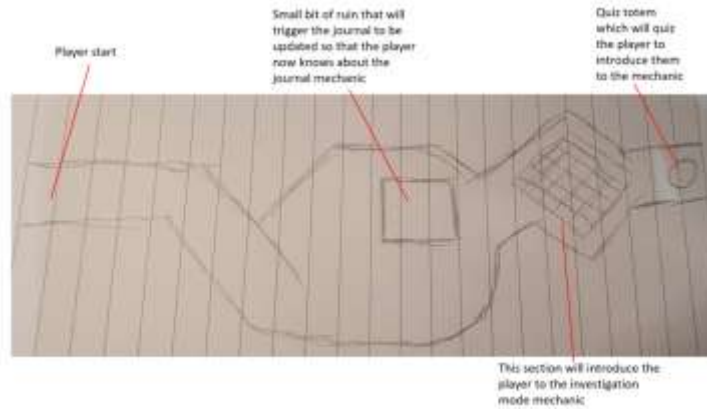


- Started with an example of how it would work
- Added buttons to give more professional look
- Improved on that further
- Added a section at the end of quiz which tied the quiz to feel more relevant to the game rather than something tacked on at the end

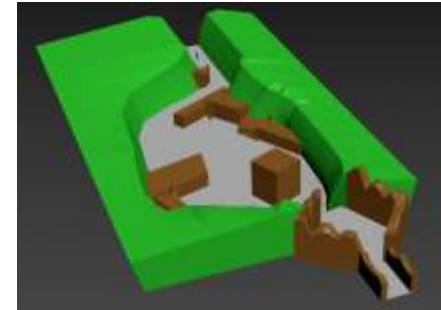
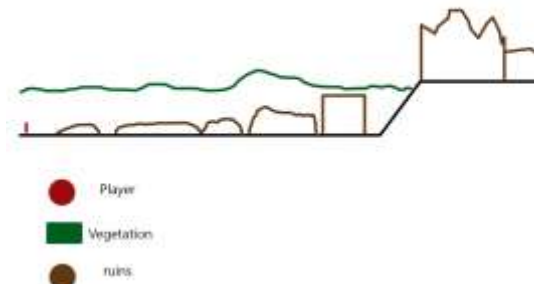
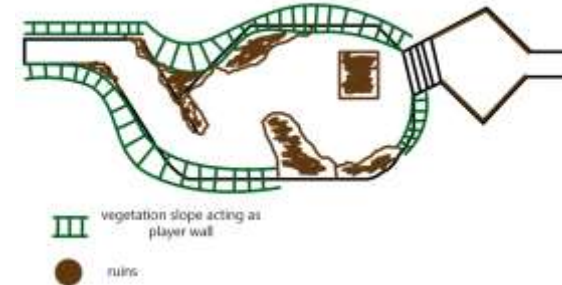
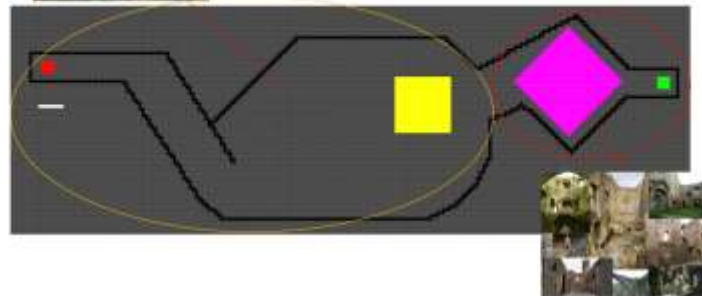


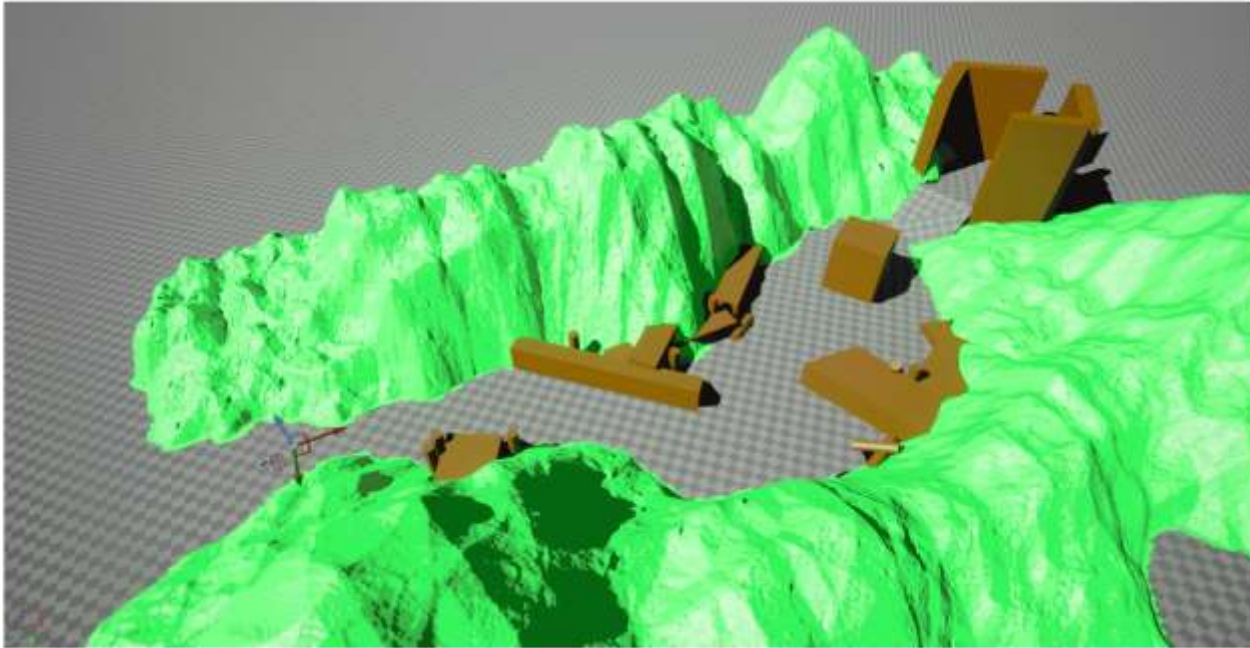
Development: The Level

The Tutorial Section



Mood board theming for this section

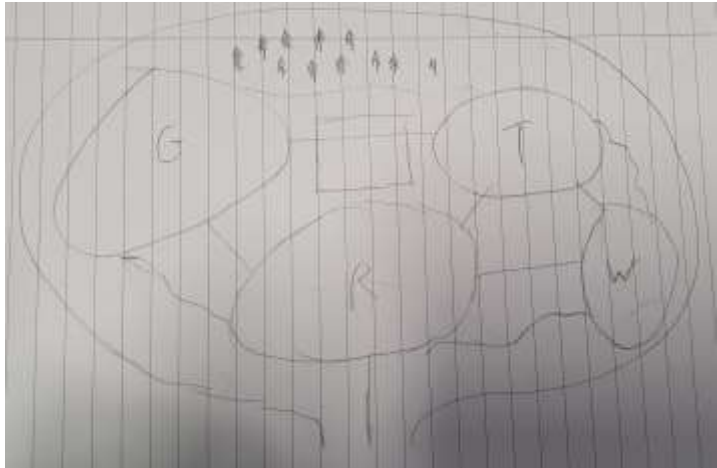
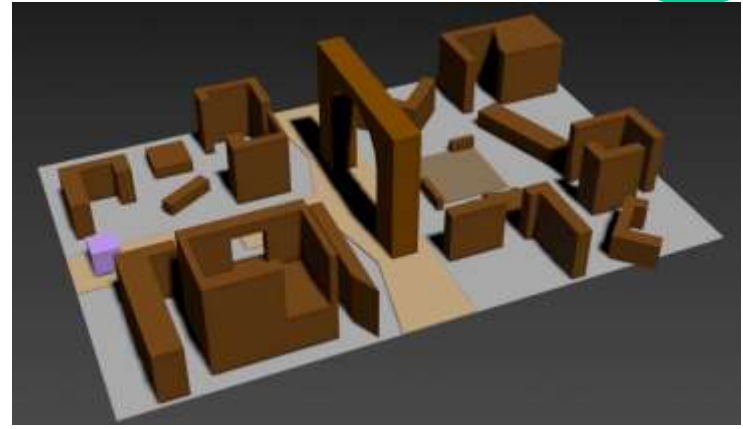
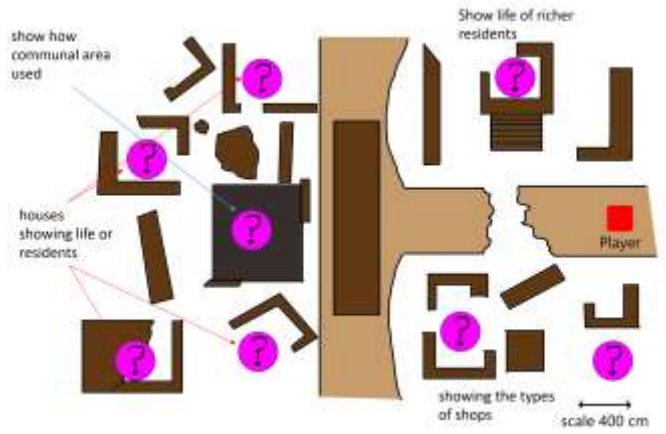
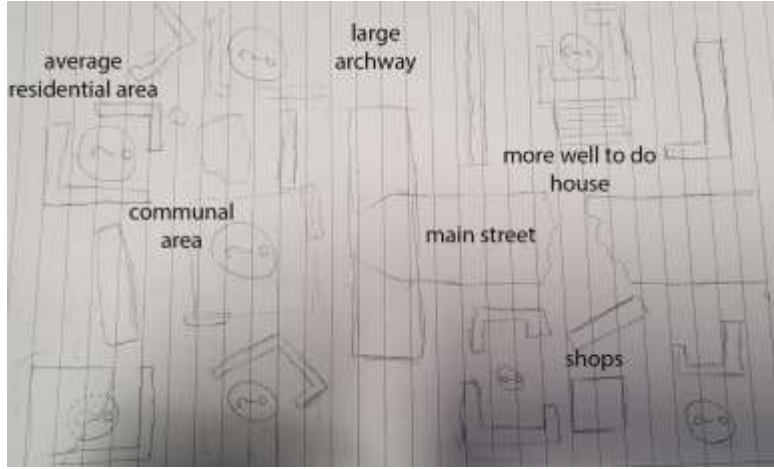




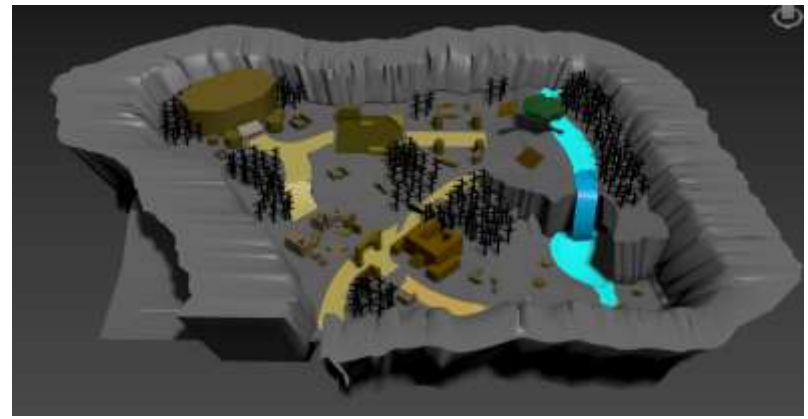
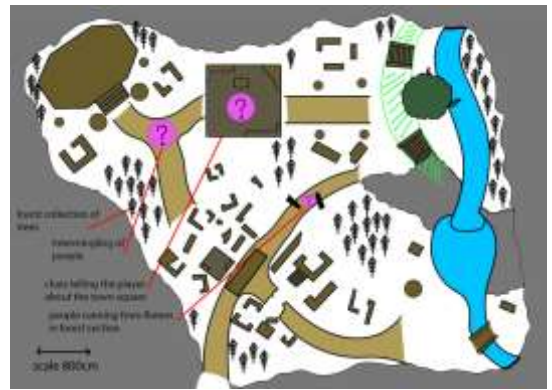
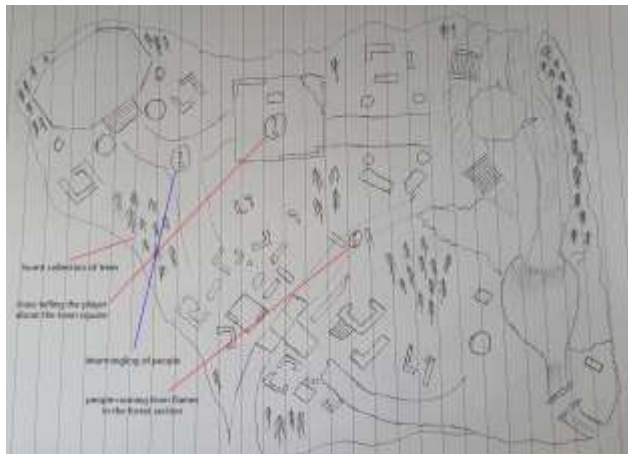
- Started with a block out stage and slowly built on that
- Added a section of the player going through the forest due to discussion with supervisor
- Looked at seamlessly blending the teaching section to the actual game as well as adding further exploration and wonder to section
- Added non diegetic ways of conveying the tutorial to the player

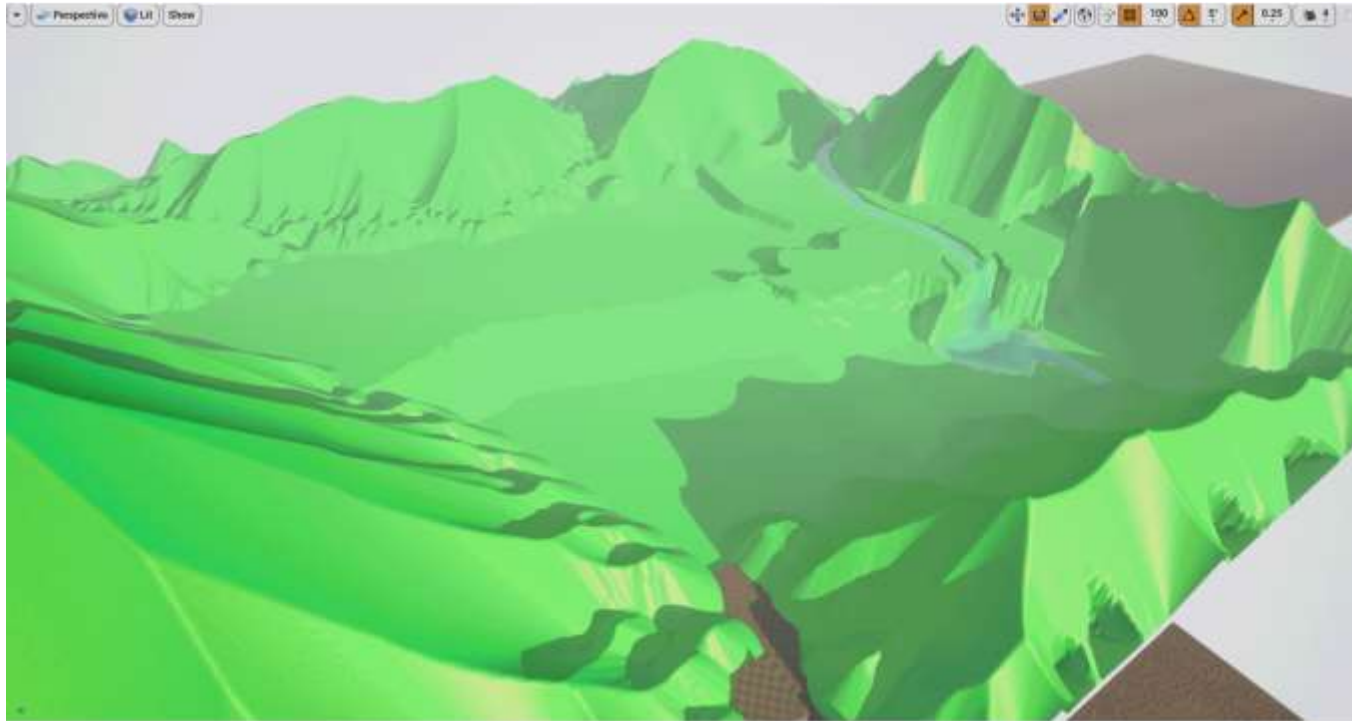
The Main Level





- Started with a paper sketch of an area
- From there created a more professional map
- Then played with how it would lay out in 3d space using 3DS max
- Once all the section had planned a similar process was followed for the level as a whole





- Started with the land scape using landscape blueprints to add mountains and rivers
- Blocked the sections in using BSP
- Added texture to landscape
- Then went to adding in Blueprints that decided to include
- Meshed out the level
- Added further meshing and post process details

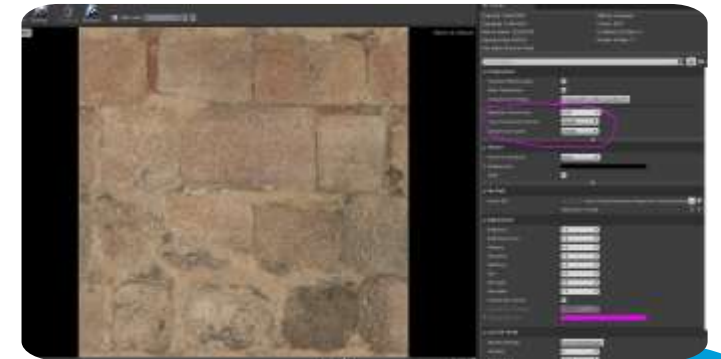
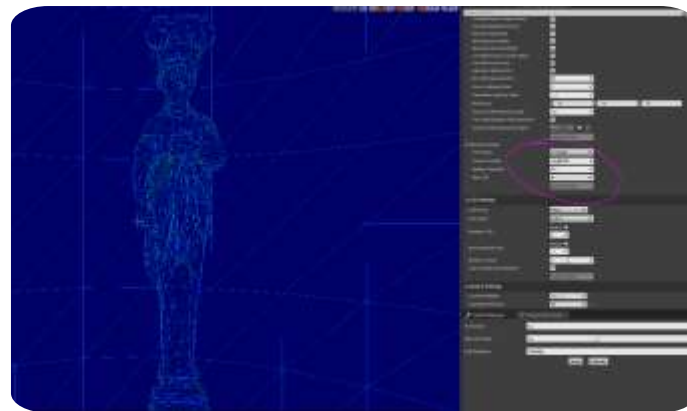
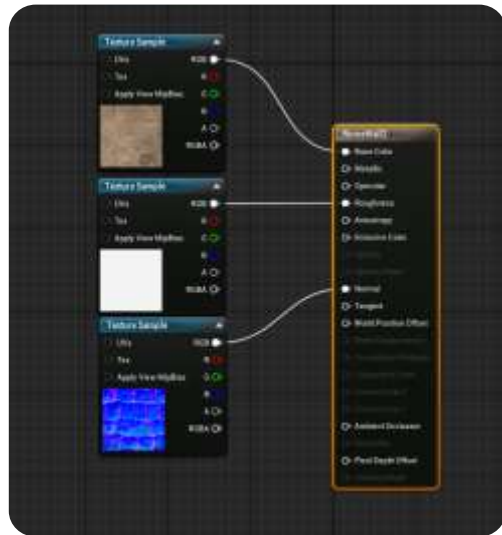


The Problems During Development

Performance

The choice to use Quixel assets lead to significant performance problems. However this was overcome with extensive reworks of the meshes LOD's and textures

- Using quad overdraw to reduce tris of the meshes to effective levels
- Reducing texture resolution to 1024
- Remaking the textures using less complex materials
- Project ran solidly at 60fps as a result

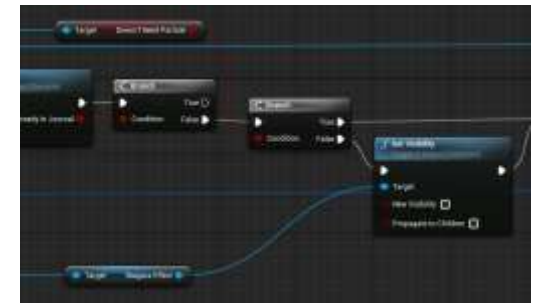
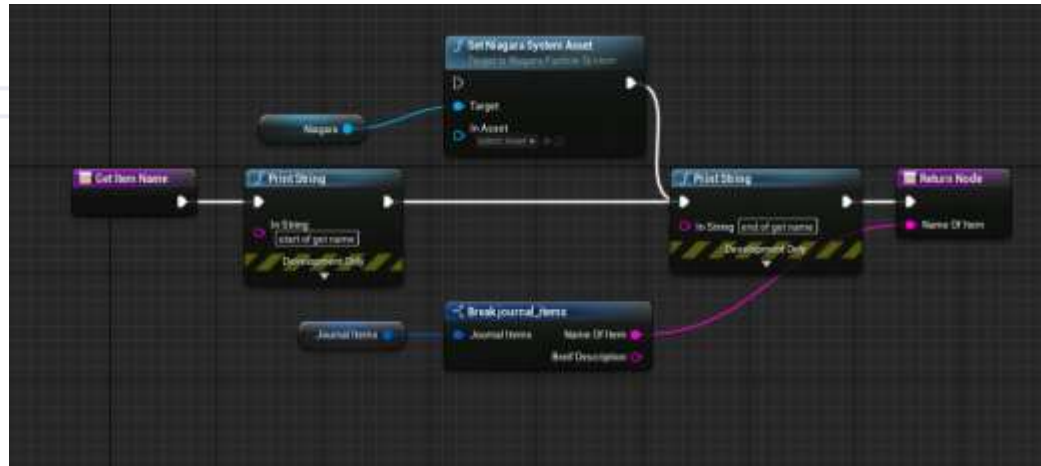


Crashing Build

When I built the project near the end of the project the build would crash with a “fatal error”

- Identified the crash was happening when finding clues
- Found a tutorial for fixing build crashes
- Used visual studio and print strings to narrow down where crash was happening
- Able to narrow it to individual function (switching particle)
- Replaced particle switch with custom blueprint

```
static int __cdecl invoke_main()  
{  
    return WinMain(  
        reinterpret_cast<HINSTANCE>(&__ImageBase),  
        nullptr,  
        _get_narrow_winmain_command_line(),  
        _sclr_get_show_window_mode());  
}  
  
#elif defined SCRT_STARTUP_WWINMAIN
```



```
LogAudio: Warning: Spatialization on sounds with channels greater than 2 is not supported. Soundwave: AMBIENCE_Cafe__B_People__  
Exception thrown at 0x00007FF7C123EA42 in MyProject.exe: 0xC0000005: Access violation reading location 0x00000000000002C0.
```

Fog stopping working

During development the exponential height fog effect I used in game to make the main area misty stopped updating in game or in game

- Used the already in place post process and tutorial to create a realistic fog effect that is present in editor as well as in game
- This actually helped in development as got rid of a lot of guess work
- Would use this method over the use of height fog in future





Educating the player

Making sure the player understood mechanics and where to use them was important as otherwise the player was unable to tell where to use the investigation mode

- Used diegetic methods to teach how to do a mechanic
- Used diegetic methods to prompt the player to use the mechanics in the right place
 - Use of visual and audio methods

Clarity of certain story beats

When conducting observations of players I noticed that people were confused by what had caused the damage as apart from the burnt trees there was not much to indicate it to the player outside of text.

- Created glowing orange decals to show glowing parts left by the fire
- Added lights of same colour under the trees to push this
- Added particle effects to represent embers
- Added audio of fire crackling to push it further





Player progression through level

Due to non linearity of level had to make sure the player knew where to go without compromising the open feel.

- Did this with addition of decals in similar colour as the investigation mode and mechanics on key sections or paths between them
- Used sight lines to expose items of interest from the different sections



Meshing

Two issues arose from meshing one was the somewhat limited selection for creating buildings/ items of interest from the roman collection of quixle assets and the level feeling bare in some places after first mesh pass

- Combined meshes together that had key pieces of the silhouette I wanted and combined them together to create an over all mesh
- Added additional meshing to fill in the emptier sections



The Deliverable

