As The Sun Dies

End of Project Report

Word Count: 4259

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Abstract

My project 'As The Sun Dies' was developed as my Final Year Project for the Teesside University BA Games Design course. This report details the development, in its entirety, of my narrative exploration project 'As The Sun Dies'. From the beginning pre-project planning to the technical development of mechanics, and the narrative process that all lead to the project's completion. This report acts as a reflection and evaluation of the project development, including the original project deliverables and what I ended up changing about them, and why.

Key areas in this report cover the research phase of my project, where I gathered literature sources and media references to aid in the development, the development process itself, with a look into what fundamental mechanics my project contains, and a critical reflection of the processes that lead to project completion, discussing the intended project deliverables compared to the end product.

Acknowledgments

Contents

Introduction

The aim was to create a single player narrative-exploration experience with narrative elements, told through conventional means, and environmental storytelling, including mechanics to help this process. The created game world was to include a small outdoor area, a reception, and six motel rooms with intertwining stories, told via environmental storytelling and notes left by former inhabitants. The play time aimed to be around 15-20 minutes for a casual player exploring and interacting with most items, eventually finding out the fate of the motel. I wanted the story to provide the player with the satisfaction of linking stories of heartbreak and crime, before adding the twist of the motel being ran by a cult that worshiped an Eldrich God beneath motel grounds.

Due to the explorative nature, my project is similar to games such as *Firewatch* (2016) and *Gone Home* (2013), which both include similar narrative twists that keep the player guessing. Both of these games were great inspiration to the narrative direction and storytelling devices in my project. The idea for the quite severe twist of the Eldrich Cult came while watching Robert Rodriguez' *From Dusk Til Dawn* (1996), in which a seemingly formulaic crime film is flipped on its head by the inclusion of Aztec Vampires. I wanted to lull the player into thinking that the narrative was somewhat straightforward, with intertwining stories of various characters from all walks of life, while slowly hinting at something more surreal, in this case, the tentacled monster that lies beneath.

The main motivation for the concept of my project was to showcase my narrative and level design capabilities, furthering my skills while having prior skills. I also hoped that developing the systems within this specific project would aid my visual scripting skills in relation to creating fun mechanics such as the item inspection system. These are skills showcased on my portfolio that I wished to show off in a single, small-scale project, which can be used as evidence of my personal games development experience for future employers. I also enjoy writing stories with a slightly off-centre twist while otherwise being quite grounded in reality, which I was able to do in this project.

Project Deliverables

- A playable executable of the game (.exe)
- A detailed level with evidence of conventional and environmental storytelling
- Detailed pre-production documents of characters and story links

Software Usage

Below is a table of the software used. A more detailed breakdown is available in the Project Development section:

Name of Software	Project Usage
Unreal Engine 4.27.2	Game Engine
Audacity	Audio recording and editing
MS PowerPoint	Presentations and note asset creation

Figure 1: A table of software used in my Final Year Project

Research

Skill Development

Before undertaking my project, I knew there would be some areas that would require me to develop my skills. As a primarily narrative and level focused developer, I lacked any more than basic visual scripting skills, which would be necessary in order to create functioning mechanics. Rather than looking to boost my visual scripting skills as a whole, which would be time consuming for the purpose of the project, I decided to list all of the required mechanics my game would feature. The primary mechanic that required more advanced knowledge of Unreal Engine blueprints was item inspection. After researching online, I discovered a series of guides on developing such a system, by *Ryan Laley* (2020). I will discuss this system and its implementation later. I also researched games that use a similar system, such as *L.A. Noire* (2011), and more specifically games of a similar genre, like *Gone Home* (2013) or *Firewatch* (2016). Understanding how these games used item inspection to tell a story was a concept I could replicate to further my own storytelling.

Figure 2: Item inspection in the game L.A. Noire (2011)

I researched articles and GDC talks about level design with a focus on telling a story, such as "*What Happened Here*" Harvey and Worch (2010), which details physical properties that guide players' movement, which in my case would be the motel's basic layout, and the way items are placed, in such a way to catch the players eye and not be overlooked. The talk also details implications, such as CCTV cameras implying the need for security, or the presence of cars implying people. Page 13 of the talk's notes discusses the importance of level and environment design for character design, with item placement and tone providing narrative context that is vital to understanding characters.
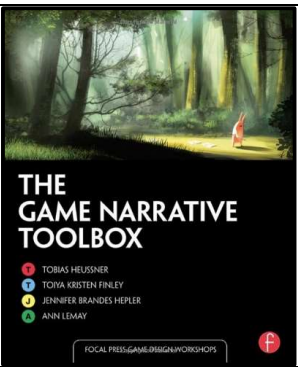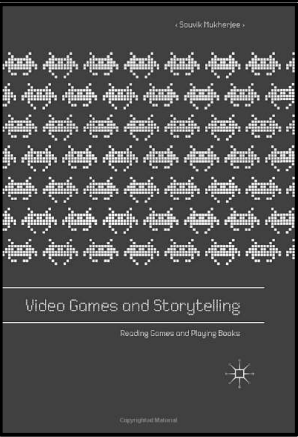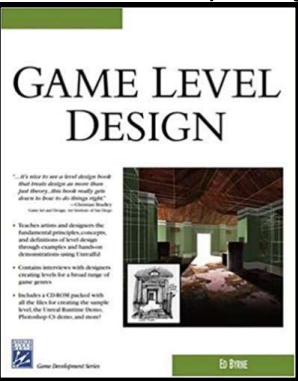
All of this research would mean nothing without the primary aspect of my project, the El Sol motel itself. In order to create a believable play space, I needed to create fundamentally accurate motel environment. Rather than look at actual motels along the US-Mexico border, I stuck to motels in the medias. My justification for this was that motels in the medias served a similar purpose to my project, continuing and relaying a story, rather than just being a cheap room with a bed as many are in real life. I began by looking at motels in *Fallout: New Vegas* (2010), which served as a similar desert setting to my project. Here I saw that, rather than real motels, furniture was more spread out as to not impede player movement. I also took into consideration the surrounding environment, many of which included nearby

scrapyards and fuel stations, which I could use to suit the narrative and make the immediate area of my motel less barren. The motels in Fallout: New Vegas proved extremely useful in one regard, they were, a lot of the time, recently vacant or abandoned - a theme shared by my project. This proved helpful when creating environmental storytelling in terms of what kind of things do people leave, and what arouses suspicion when left behind, such as valuables and letters.

Literature

When researching for my project, I focused on literature relating to skills I already had, hoping to gain further insights into these areas:

The Game Narrative Toolbox (2015) separated the key differences between writing and narrative design	 Figure 3.0: Cover image of the book "The game Narrative Toolbox"
Video Games and Storytelling (2015) allowed to reinforce my understanding of narrative fundamentals in games	 Figure 3.1: Cover image of the book "Video Games and Storytelling"
Game Level Design (2004) helped understand the importance of level design on influencing tone, through use of lighting and foreshadowing	 Figure 3.2: Cover image of the book "Game Level Design"

Software Justification

In pre-production, one of the first tasks was figuring out what software to utilise:

- o *Unreal Engine* (Ver. 4.27.2) was an obvious choice, given my experience with the software and comfort in using it.
- o To record any voice lines and edit any found online, I used *Audacity*, a free software with the means to record and edit sounds, which I have prior experience with.
- o For asset creation, I initially chose Blender, after research lead me to an article by *Mozolevska* (2022), which stated that for beginners in asset creation, Blender was easiest to get into. However, due to time constraints I created assets within Unreal Engine.
- o For the bulk of my projects art style, I made use of various low-poly asset packs from the *Unreal Marketplace*, as well as a skybox system, and a kraken, namely:
  - o Assetville Town Pack, for the bulk of the items and environment
  - o Low Poly Style Deluxe 2: Tropical Environment, for the rock formations and occasional items
  - o Low Poly Medieval Interior and Constructions, for miscellaneous cult items
  - o Dynamic Volumetric Sky, for the games skybox, mainly the sun
  - o Kraken, using its tentacles to represent the Eldrich god under the motel

Project Development/Implementation

Narrative Design

Plot Summary

The main character of As The Sun Dies is Detective Savini, an off-duty police officer exploring the US-Mexico border. After a long day of driving, he pulls into a motel. Unbeknownst to him, this motel is run by a cult worshipping an Eldrich god living beneath. After checking the reception only to find it empty, the player must explore each room in an attempt to find someone to talk to. In doing so, they discover the stories behind every room and its inhabitants, before reaching the locked door leading to room 6. Finding the key-card back at the reception desk, the door opens to reveal a sacrificial scene, with a body lying dead on a pedestal, another in the bathtub, and 2 in body-bags on the floor. A set of keys lay on a bench, leading the player to the hatch outside. This hatch leads to a cave, the cave leads to a door, the door leads to certain death (if the player chooses to open it). Upon finding the remaining bodies strapped to the walls and being prompted to open the final door to reveal the monster, the player can instead turn around and return to their car.

This is just the overarching plot and culmination; however, each room also contains a story, with unique characters, all interlinking with others. The idea behind this came from films like *Pulp Fiction* (1994) and *Love Actually* (2003), and books such as *Everybody Dies Famous in a Small Town* (2021), where characters have their own separate stories that interlink and reference other characters' stories, whether that be through relationships, settings, or acts. Below is a table of each character's story and how it links together:

Character name and room no.	Story and story links	Image of room
Cartel drug and weapon smugglers; Cheech and Tito (ROOM 1)	This room contains evidence of a weapons and drug deal, with the bed littered with a variety of firearms, and the counters laced with drugs. This is where the Cartel conducts sales of illicit goods and keeps post-it note records of transactions. This Cartel is also responsible for the smuggling of Room 2 and 4's inhabitants into the country. It is being watched by the Detectives conducting a stakeout in Room 3.	Figure 4.0: An image of Room 1
A family smuggled across the border illegally; Tom, Salma, and Danny (ROOM 2)	Room 2 houses the family of illegal immigrants brought over by the Cartel. They have little in terms of personal belongings and have made a makeshift bed for the child out of the two bedside tables and a sleeping bag. The child's toys can be found on the floor. They are close friends with Room 4's guest, having been smuggled together	Figure 4.1: An image of Room2
A police stakeout; Harvey and George (ROOM 3)	This room acts as the base of operations for Detectives George and Harvey, conducting a stakeout operation against the Cartel in Room 1. Equipment has been set up on the counters and the right-hand side of the bed, with furniture being moved out of the way. They keep their weapons close. They are colleagues of the woman in Room 5.	Figure 4.2: An image of Room 3
A heartbroken and suffering man; Earnest (ROOM 4)	A man with an unfortunate life, Room 4's guest, Earnest, recently got back into the country after a nasty fight with his wife, Juliette from Room 5, caused him to leave. He became alcoholic and suicidal after both the fight, the loss of his daughter and his cancer diagnosis, evidenced in the various notes and empty bottles around the room. He is fondly known by the inhabitants of Room 2, having been smuggled across the border alongside them by the Cartel. He sleeps with a gun beneath his pillow.	Figure 4.3: An image of Room 4

A heartbroken woman searching for her daughter's killer; Juliette (ROOM 5)	This room houses Juliette, wife to Earnest and unknowingly in the room just next door, she requested to come along on the stakeout with her colleagues in Room 3 in order to get some time away to research her daughters murder, at the hands of the Cult who own this very motel. She carries bear spray as a form of protection.	 Figure 4.4: An image if Room 5
The cults sacrificial chamber (ROOM 6)	The grisliest room in the motel, this room contains a number of corpses, including one on the table, one in the bathtub, and 2 secured in body-bags in the bathroom. The cult conducts their sacrifices in this room, yet still enjoy the simple pleasures of a glass of wine or cup of coffee while they do so.	 Figure 4.5: An image of Room 6

Items

One of the primary systems of getting narrative information across was the item inspection system. Using this, I could create an object with any static mesh available and provide it with a unique name and description, which was usually either a direct description of the object or the player characters thoughts about it. Each room contains a selection of items thematically suitable to it and its inhabitants. It was important to keep the descriptions gender neutral as the player and player character does not know who the inhabitants actually are. Below is a table of these items and their descriptions, as well as which room they can be found in:

Room Number	Item	Item Description
Reception	USA Flag	Good 'ol US of A
	Shotgun	Expecting trouble? This ain't even locked up, and the safety's off.
	Keycard	This keycard should open room 6. Better keep hold of it

Figure 5.0: A table containing the items and their descriptions in the Reception

Room Number	Item	Item Description
Room 1 (Cartel)	Cocaine	Jesus, this shit's enough to take down a bear. More than enough here to keep a small town high
	Grenade	This is some serious ordinance. Dear god I hope these are okay to touch.
	Money Case	Gotta be a couple hundred thousand here. Wonder if they'd notice a few bucks missing
	Post-It Note	Looks like someone was keeping records of the sales

Figure 5.1: A table containing the items and their descriptions in Room 1

Room Number	Item	Item Description
Room 2 (Family)	Passport	Forged. Badly too, who let these guys across?
	Toy	Young kid lives, or lived, here. This is no place for a child

Room Number	Item	Item Description
Room 3 (Stakeout)	Police Badges	Police, makes sense. Better write down their numbers and send it out to dispatch
	Empty Coffee Cup	Bone dry. Must've been sitting here a while
	Logbook	List of times and events. Stopped yesterday. Why's their stuff still here?
	Standard Issue Firearm	Standard issue, looks unused. Why didn't they take this with 'em?

Figure 5.3: A table containing the items and their descriptions in Room 3

Room Number	Item	Item Description
Room 4 (Earnest)	Empty Bottle	Whiskey whiskey everywhere, but not a drop to drink. Hope they shared all this
	Old Guitar	Who brings a guitar to a motel in the middle of nowhere? Bet they were fun at parties
	Gun Under Pillow	Kinda folk that sleep with a gun under their pillow ain't the kinda folk living the high life. Who were they scared of?
	Picture of Woman	Wife? Relative? Must miss them a lot if they're dragging a photo around

Figure 5.4: A table containing the items and their descriptions in Room 4

Room Number	Item	Item Description
Room 5 (Juliette)	Bear Spray	Bear spray? Better than nothing I suppose. Gun'd be more useful out here.
	Picture of Man	Who's this guy? Gotta assume dead or missing if they keep a photo by the bed
	Police Badge	They're a cop? Should take the number and report it in

Figure 5.5: A table containing the items and their descriptions in Room 5

Room Number	Item	Item Description
Room 6 (Cult)	Hatch Key	Looks like this key could open that hatch outside. Wouldn't hurt to give it a go.
	Cleaver	Holy shit. Surgically clean, hope this means they haven't been used
	List of Names	If this is what I think it is…

Figure 5.6: A table containing the items and their descriptions in Room 6

Notes

Some rooms contain notes that the player can pick up in a similar manner as the items. These provide further context and information on character relationships. Due to how the item inspection system works and how the physical note items were created, they are unfortunately double sided. In place of the item description, these notes instead include a scrolling text copy of the writing, for those who may struggle to read the various handwritings found on the notes. Below are the text copies of these note items:

Room Found In	Name and Writer	Note Text
Room 1 (Cartel)	Letter To Boss (Tito)	Boss, Business is good. We're pushing a good lot of snow, could call it a blizzard. Still plenty to deal, but Cheech thinks the Federales are watching. The family is doing fine, we'll know quick if they talk, but Cheech made a pretty convincing argument not to. As for the guy, he's a wreck, don't think he's said a work since we got in, hopefully he keeps it up, and keeps it together. Got a meeting with the owner tonight, I'll ship this letter when it's done. – Tito
Room 4 (Earnest)	Letter To Earnest (Tom)	Earnest, my brother. Words cannot express the gratitude me and mi familia have for you. Had you not come into our lives when you did, we would surely not be here now. Salma appreciated you standing up for her when I could not, and Danny wants you to know that he loved learning to play marbles with you and that he is going to learn guitar. If he sounds terrible, I am blaming you, my friend. I personally want you to know that you are always in my prayers. You have lived a life many would not have dreamed of, and yet you stayed strong. We hope you find peace with your wife. With Love, Tom, Salma, and Danny
	Letter To Earnest (Juliette)	My dear Earnest, I'm sorry, and I know you are too. We are both to blame for the words we wielded against one another, but it was me who brought up what I did. I know it isn't your fault she's dead, it's nobodies, but I let my emotions take control, and for that I am eternally sorry. Please come home, I can't bear to stay in that place without you, it's as if all the life, all the warmth, has been ripped straight from the walls. I hope to be with you again one day, even as the sun dies, I'd love to be in your arms once more. With regret, Juliette x
	Suicide Note (Earnest)	Hello. To whoever has found me, let me begin by saying "I'm sorry". You probably don't deserve to have seen a dead body today. If you want some context, I'm dying. Well, not anymore, obviously, but you know what I meant. The big C has caught me, and I thought going out like this would be easier than wasting everyone's time putting up with my suffering. If you're a more selfless soul than I, please inform my wife. Her address is in my wallet, please take what you need otherwise, it's worthless to me now. Be gentle with her, she has suffered more that most and experienced loss on an incomparable scale. Again, I'm sorry you found me, but someone had to. God I'm a dick
Room 5 (Juliette)	Letter to Juliette (Earnest)	Darling Juliette I have missed you dearly while away. For what I said, I am sorry, for leaving, I am not. Your words hurt, but so did mine. Had I not left, I fear I could have said irreparable things, that is not how we should be. Our daughter is gone, and part of us went with her. I made some friends while I was away. A family looking to get out of Mexico. Their son, Danny, reminded me so much of our Sarah. It hurt to see them happy, but in a good way. Made me realise that what we had was real. I miss you both terribly. I am back in the country now. I will return to you, my love, in due time. I want to spend what little time on this earth we have with you. Yours, Earnest P.S. I still have the guitar

		P.P.S. No, I haven't gotten any better
	Cult Warning (Quentin Lou – Cultist)	MISS JULIETTE. YOU KNOW WHO WE ARE. IT APPEARS OUR PRIOR WARING WAS NOT SUFFICIENT. YOU OF ALL PEOPLE SHOULD KNOW THAT WE ARE NOT UNWILLING TO DO WHAT IT TAKES TO GUARANTEE OUR MISSION GOES UNINTERRUPTED. IT WAS NOT A REGRETTABLE DECISION TO TAKE YOUR DAUGHTERS LIFE, WHILE WE DO NOT RELISH IT, IN THE GRAND SCHEME OF WHAT IS COMING, SHE WAS MERELY A SPECK OF DUST BRUSHED ASIDE BY COSMIC WINDS. MAKE NO MISTAKE, WE WILL AWAKEN HIM. YOUR INTERFERENCE CAUSED BARELY A HICCUP IN OUR OPERATION. IF YOU WOULD LIKE TO CONTINUE YOUR FUTILE ATTEMPTS, YOU WILL LIVE TO REGRET IT. EVERYONE YOU LOVE WILL PERISH AS THE SUN DIES, AND YOU WILL BE LEFT TO ROT. THIS IS YOUR LAST CHANCE TO GIVE UP. WE SUGGEST YOU TAKE IT, WHILE YOU STILL CAN."
Room 6	Cult Manuscript (Unnamed Cultist)	And so he was brought unto us, a god sent to our plane to judge we mortals in our actions and our beliefs. to beset the sins of man, we offer him our own flesh, satiating his hunger so as we may serve him longer, and should we stop our gifts, he should take from us our worldly possessions, our loved ones, our oceans, our shelters, and our light, and as the sun dies, we will be born anew, in his image, owing all in the new world to him. as the sun dies, we will be absolute.
Figure 6: A table containing a text copy of notes and letters found within the game		

Voice lines

Another system I use to portray the narrative is voice lines. These are short, sentence long phrases said by the player character to add flavour while the player traverses the map, and often relate directly to what the player is looking at. These voice lines were recorded by me and edited in *Audacity* before being exported into the build. Here, I created an individual actor for each line, which plays the line upon the player entering a collision box, before deleting the actor to remove chance of the voice line overlapping with itself. To get subtitles, I used the built-in Unreal subtitle system within the project settings and set the font to be something other than the basic UE4 font to differentiate from more basic projects.
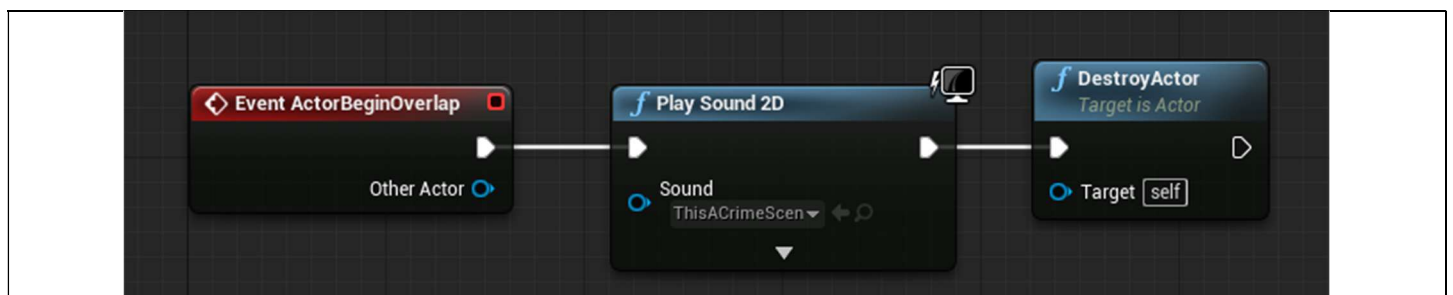

Figure 7.0: The UE4 blueprint containing the Play Sound node, followed by destroying the actor
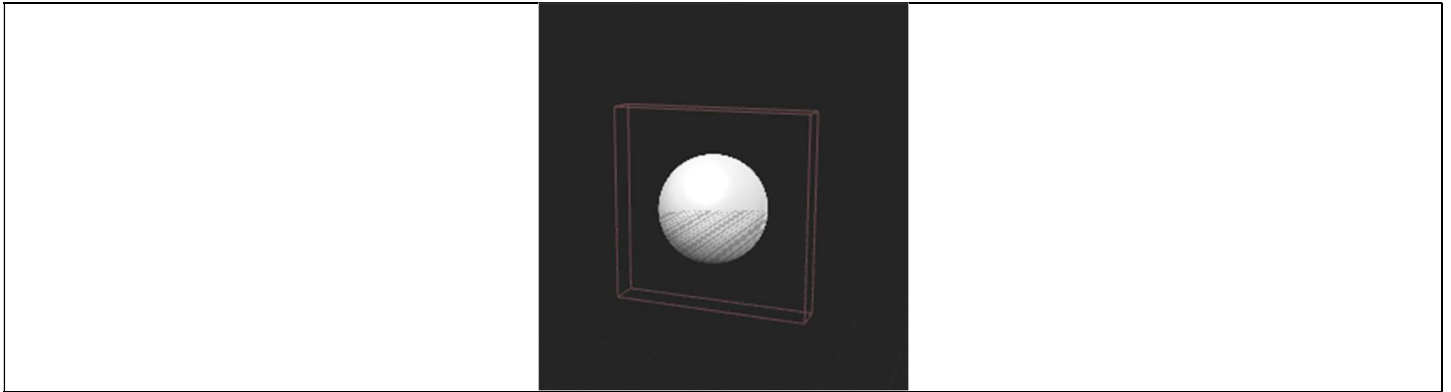
Figure 7.1: The viewport of an Audio blueprint, containing only the collision box
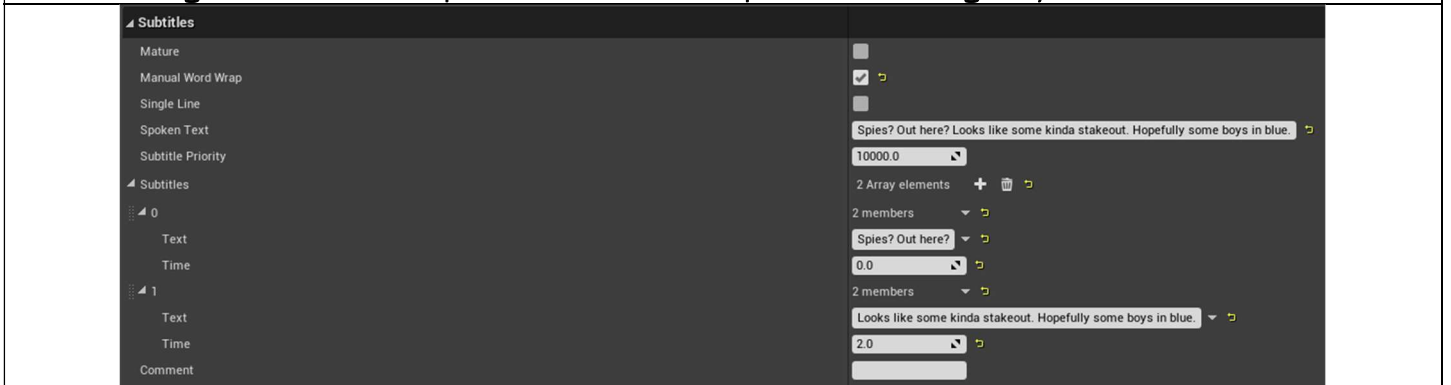

Figure 7.2: The project settings allowing subtitles to be set, containing the text spoken and timing for when it is spoken

Below is a table of voice line contents and when they appear. Unless specified, these lines are said by Detective Savini:

Voice Line Subtitles	Appearance In-game
"These bastards will pay for this"	Upon seeing the hanging bodies on the left side of the cave
"Spies? Out here? Looks like some kinda stakeout. Hopefully some boys in blue"	Upon entering Room 3, the stakeout room
"Creepy cave? Sure, why not. Hopefully it's just a wine cellar or something"	When first walking into the cave via the hatch
"This is Detective Savini, Seattle P.D. I'm coming down, and I want answers!"	After walking down the cave stairs, before seeing the hanging bodies
"Fuck this place! I ain't letting my vacation get ruined by some hippie cult assholes."	If the player chooses the 'walk away' ending, this triggers beside their car and the game cuts to black
"Locked tight. But something in there smells real bad."	When standing by the locked door to Room 6, the Cult sacrifice room
"Hello? Anyone in here? Just looking for help."	When entering on Room 5
"Anyone here? I'm just looking for the receptionist."	When entering Room 2
"Oh fuck..."	After the cave door opens, revealing the monster
"Hello, anyone here? Just pumped some gas. Here to pay for it, and rent a room if you got one." (PAUSE) "Nobody home? Maybe they're out in one of the rooms, better go check."	Entering the reception and standing near the desk
"Sealed. Might find some answers behind that door."	Standing near the button that opens the cave door
"Alright, pay for gas and hope they have a room free. I've had enough of sleeping in this car."	Walking past the car just after the game begins
"Someone? Anyone? I'm not an intruder, I'm just looking for the folk who run this place."	Entering Room 4

"Ah that's a fucking kid!"	Seeing the hanging bodies on the right side of the cave, which includes a child
"Shit that was close!"	During the truck BP event, when the truck almost hits the player character
"What the fuck happened in here!? Gotta call someone, this is a crime scene."	Upon entering Room 6, the Cult room, and seeing the dead body on the table
"The hells going on here? Too much gear not to be noticed by whoever runs this place."	Entering Room 2, the Cartel room
Harvey – "Total 13 activities, 2 visits. Detective George is taking the night watch. Detective Harvey signing out" *George – "Signing out? You're taking this shit more seriously than half your marriages"* *Harvey – "Shut it, these fuckers could land us a promotion, no more fucking watchdog ops for us"* *George – "What about Juliette?"* *Harvey – "What about her? She ain't here on work. Bitch is here on vacation"* *George – "Calm down, man. She ain't having the best time right now. I wouldn't if my husband up and left like that"* *Harvey – "Oh boo hoo. I'm not saying she hasn't got it rough; I'm just saying at least some of us gotta work to get sent out here. Alright, Pamela Anderson or Madonna?"* *George - "Dude, come on!.."* *Harvey – "Alright, alright, don't get your panties in a twist. How about this one; George Clooney or Brad Pitt?"* *3 second pause -* *George – "…Brad"*	Found on the tape recorder in Room 3, the stakeout room, activated by pressing the corresponding UI button

Figure 8: The in-game voice line subtitles and where their trigger point is located

Level Design

To design the level I looked at motels in various forms of media, primarily sticking to those found in games. The main inspirations for the layout came from *Fallout: New Vegas* (2010) and *Fallout: 76* (2018), which both include run down, low-class motels. Here I was able to create a basic top-down diagram of the motel I intended to create. This design was adapted over time, but the room layout and contents remained largely the same.
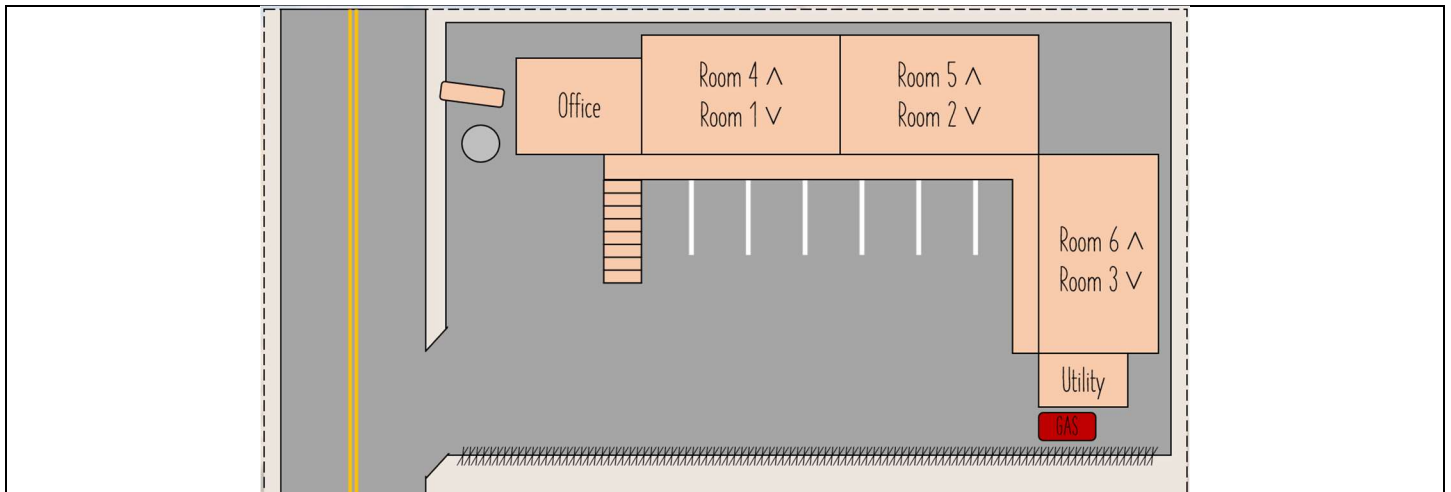
Figure 9: The initial top-down design for the motel in my project

Due to the timeline of my project, I took a less than conventional approach to the motels creation. Wanting to show off my ability to create realistic environments, I skipped the '*blockout*' or stage completely, instead creating the stakeout room using the AssetVille asset pack. Because this room was successful in showcasing my ability to create rooms. Being motel rooms were fairly modular, it was a simple enough task to have 6 rooms ready early in the project. Outside, the map began simple, being almost entirely a flat desert scene. Over time elements were added, such as mountains, shrubbery, a gas station, and a nearby scrapyard, like those seen both in Media such as *Fallout: New Vegas* (2010), as well as existing in real life at establishments like the Blue Bell Inn. I also included an area that is supposed to represent where the motel's owner sleeps, surrounded by a chain link fence to separate it from the motel. Although never confirmed in game, it could be implied that the scrapyard is the final resting place for the cars of the cult's victims, providing a solid cover.

Figure 10.0: The gas station connected to the motel	Figure 10.1: The neighbouring scrapyard across the road from the motel

Figure 10.2: The separated area implied to be the motel owners private residence

Taking realism into consideration during the level and environment design was a huge focus. Items that would be found in any area, such as light switches, plug sockets and accompanying items such as laundry detergent near washing machines and fire extinguishers in kitchen areas, for example, were thought of as innate features rather than suggestions. In order to make the rooms all feel somewhat

believable, they must contain these necessary everyday items. Thankfully, a large portion of these could be sourced from various packs I utilised, however some, such as light switches and plug sockets, had to be created bespoke for my project. Initially, I had thought to use Blender as, stated by *Mozolevska* (2022, this was the easier of the 2 beginner asset creation giants, the other being Maya. However, due to time constraints not permitting time spent on learning asset creation software, these items were created within Unreal Engine, using basic shapes and geometry with custom materials.
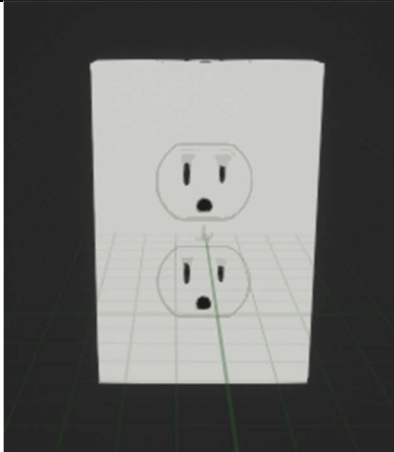

Figure 11.0: A plug socket created using a basic cube and a stylised material

Figure 11.1: A light switch created using 2 basic cubes with slightly differentiated textures

Figure 11.2: A pull-cord created using basic cylinders and a cone, with a basic white texture

As described in *Game Level Design* (2004), use of environmental placement can help reinforce or develop different tones within games, such as bright lighting indicating safety or red lighting suggesting danger. This extends to physical assets, such as introducing chest high walls to inform the player of an impending fight, or coating walls in scratches/blood to warn the player of upcoming threats. I used this theory when developing the motel by adding subtle hints at the motel owners being suspicious in notes, having a locked hatch in the yard, and most importantly, covering the room 6 window entirely with a curtain. All other rooms in the motel, including the more illicit ones such as the cartel and stakeout rooms, can still be viewed from

outside through the windows, yet Room 6, where the Cult conduct their sacrifices has its window entirely blocked out by a red curtain, red being a common denotation of danger. Add to this, the only locked motel door, and the keys to the cave hatch being in this room, this helps build suspense before the big reveal in the cave.

Figure 12: A red curtain covering up the contents of Room 6, the Cult room

Gameplay Design

Inspection system

The item inspection system allows the player to pick up a large collection of items and notes they find within each room. Inspired by *L.A. Noire* (2011) and *Resident Evil Village* (2021), this system is used as one of the primary storytelling devices of my project. It was created with a series of online guides by *Ryan Laley* (2020). In my project, the player is able to pick up various items and notes within each room, rotating them and zooming in and out while a UI in the top-right-hand corner displays the name and description, as well as controls required to operate it.

| Figure 13.0: An item being looked at by the player | Figure 13.1: An item being held by the player |

[E]: Leave Inspection
Left Click and drag: Rotate Item

Kinda folk that sleep with a gun
under their pillow ain't the kinda
folk living the high life. Who
were they scared of?

Figure 13.2: An item being inspected further by the player

To begin, a component is attached to the player characters capsule. This is the point that each item will attach to immediately after being picked up. A blueprint interface was then created in order to be able to call 2 common functions within the game, these being 'Look At' and 'Interact With'. In the player characters blueprint, a 'Check Look At' function will be called per-tick, ensuring there is little to no delay when looking at an item that can be picked up. For gameplay purposes, the line-trace associated with this was left on so players could see what the player character was looking at, and this was only possible up to a certain distance in front of the player. If this line-trace hit a qualified inspection actor, the interact interface would relay information regarding the items name.
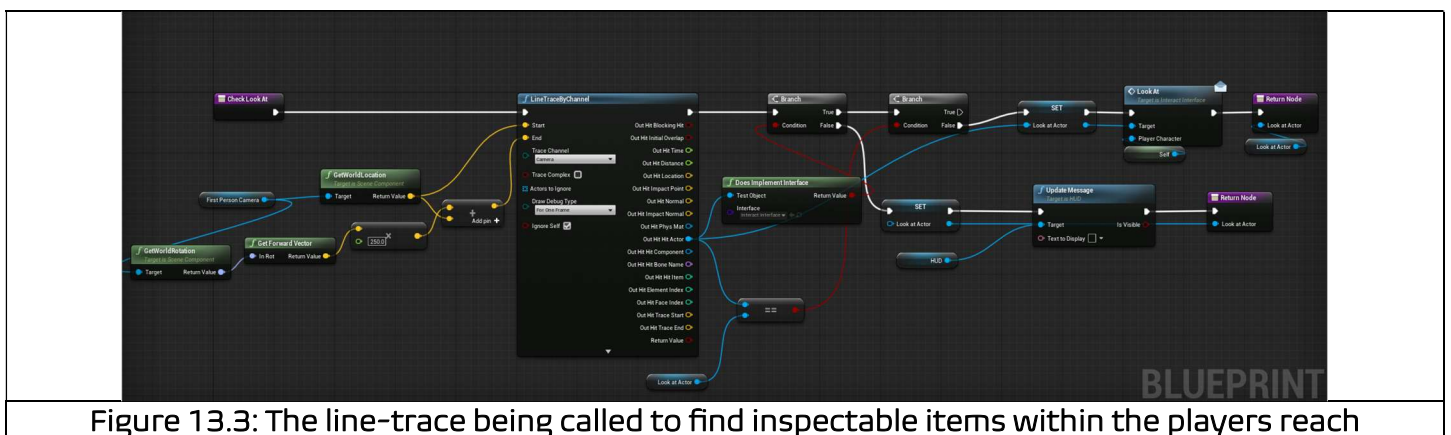

Figure 13.3: The line-trace being called to find inspectable items within the players reach

The UI was made to be simple, nothing flashy, simply text informing the player of their input choices. A new input was created in the project settings, being the 'E' key, and this would be used to pick up and inspect items. If an item was being looked at, the UI would tell the player that 'E' picks the item up, if an item is already held, 'E' will instead inspect the item further, bringing it to the front of the players camera. While the item is in the players hand and in front of their camera, it has no collision,

ensuring it won't get stuck on the environment. While the item is being further inspected, the players controls are disabled, as the inspection requires mouse input to be rotated, and movement may be difficult with larger items taking up valuable screen-space in front of the camera.

To give different items different names and descriptions, the parent actor for the inspection system was built with 2 text variables: the item name and item description. This is called in the blueprint to the UI, and editable separately for each child actor of the parent. The item name is called when the player looks at an item or wishes to interact further, and the description is displayed in a text box below the input instructions, providing further context on items. Although the description text box was made smaller on purpose to take up less space on the screen, some items, especially notes, had descriptions too long to be displayed. To combat this, the description text box was into a scroll box, with the speed and delay between scrolling editable within the blueprint.
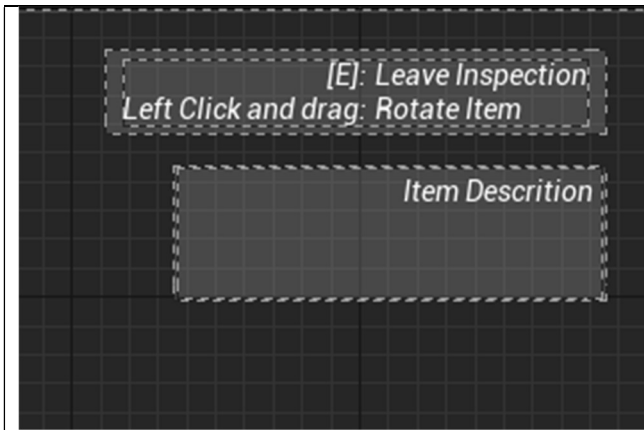

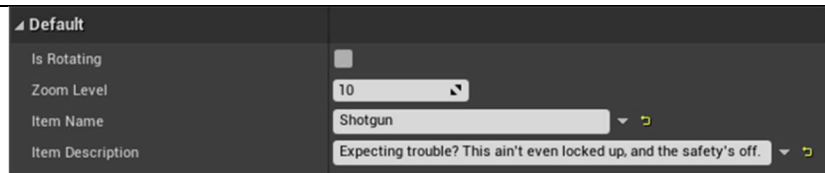
Figure 13.4: The item description box	Figure 13.5: The editable name and description of an item

This system works in tandem with a locked door system, a continuation of the same tutorial series by *Laley* (2020), in which doors can be set to be closed, and open using a timeline upon interaction with the correct held item, which in my project is a keycard for Room 6 and a set of keys for the cave hatch.

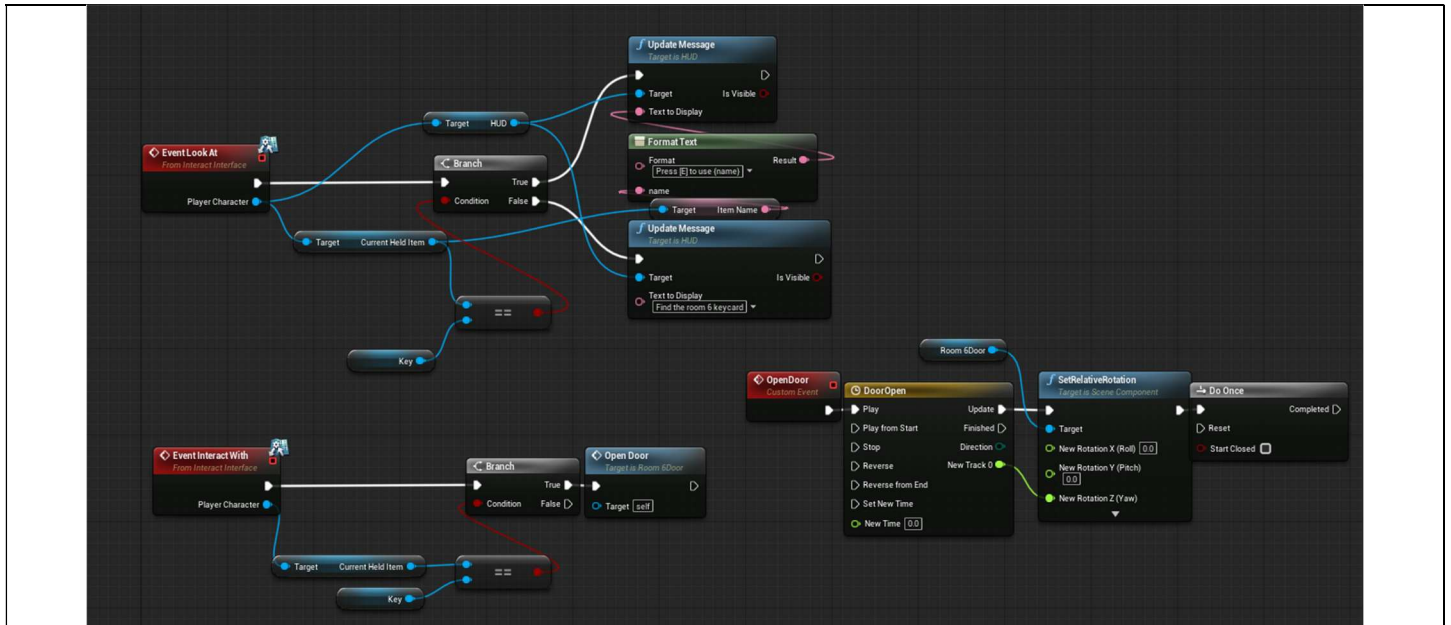| Figure 13.6: UI showing the locked door requiring a key	Figure 13.7: The UI updating to show the player has the correct held item	Figure 13.8: The door being open after being interacted with using the correct held item

Figure 13.9: The blueprint showing the code requiring a certain item being help in order to being a timeline that simulates the opening of a door

Main Menu

I wanted the main menu of my project to feel purposeful, rather than a grey-box UI with the sole purpose of getting into the game. With this in mind, I opted to make a semi-3D menu with the reception scene playing in the background, including a steaming cup of coffee, gun on the counter and ambient music to get the player immediately invested. To create this effect, I cloned the main level, removing anything not visible in frame for optimisation purposes, creating a new game mode unique to the main menu and setting the default pawn class to 'none', forcing the player to inherit the camera. I then cast a simple UI comprised of the games logo, a start and quit button and a slight background blur and the main menu was done. To get the ambient music, in this case taken from ambient noise in *Red Dead Redemption 2* (2018), to play into the main level continuously, I created a new game instance, and connected a 'Start Music' node from the casts execute.

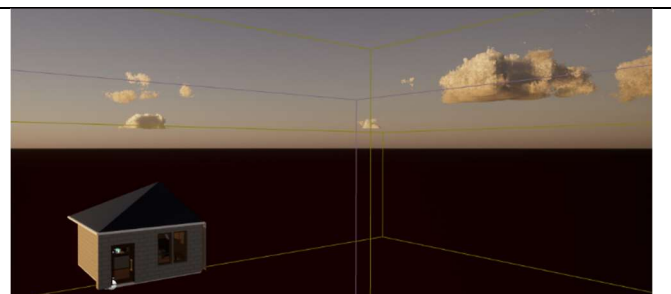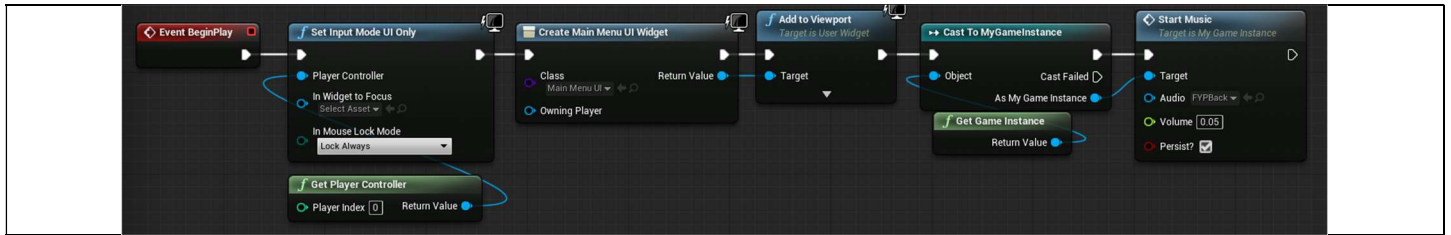| Figure 14.0: The main menu as it appears upon launching the game	Figure 14.1: The main menu level, showing the reception only, with everything else removed for optimisation

Figure 14.2: The level blueprint that causes the UI and game instance to be set

Miscellaneous Mechanics (Doors, The Cave, The Truck)

Doors:

- o To access the rooms within the motel, the player is required to walk through doors by pushing, using physics. Initially, the player was required to find each rooms keycard, but thematically this made little sense for the player character to do and was ultimately changed to doors being automatically unlocked, other than Room 6. To do this, doors were changed to 'Physics Actors', with 2 physics restraints being placed on the hinges. This stopped the doors from falling over but allowed them to open the correct way when pushed. To prevent them being able to be pushed 360°, box collisions were put in the game world.
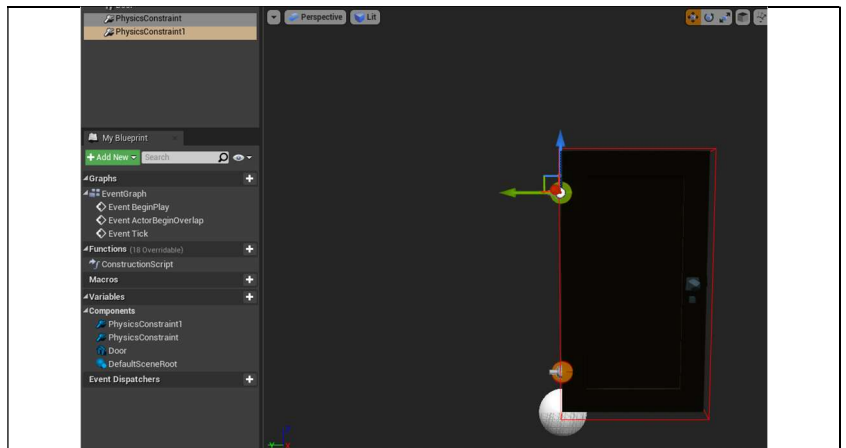
Figure 15: The static mesh for a door, with physics constraints applied to the hinges

The Cave

- o To build tension for the player as they enter the cave, I created an actor with the purpose of slowing the players movement by half. On overlap, the player characters speed is reduced to a set number, in this case 150, and then set back to 300 when they no longer overlap the box collision attached to the actor.
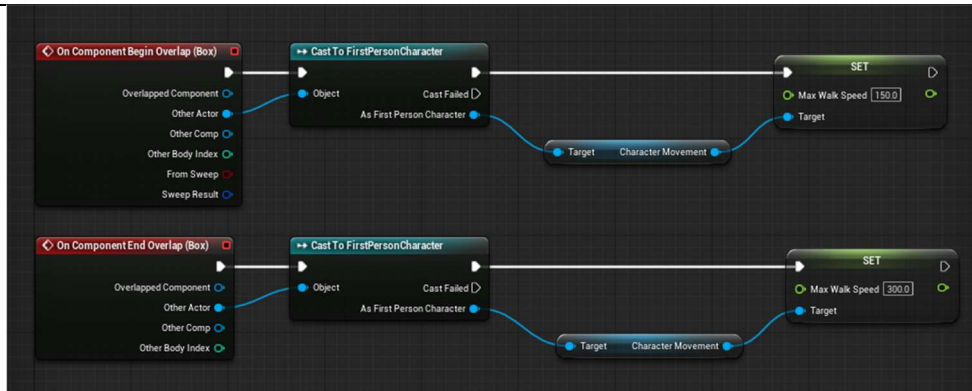
Figure 16: The cave slow blueprint, which forces a change in the player characters speed using a collision box

The Truck

- o To prevent the player from leaving the map, rather than leave the constraints as an invisible blocking volume, I added a truck. When they player approaches the road, they are stopped by a blocking volume while a truck drives past at high speed and plays a horn sound effect. This provides an in-universe reason why the character does not walk on the road, as they are seemingly almost hit by this truck before exclaiming "Shit, that was close!"

Figure 17.0: The truck as seen by the player as it momentarily passes

Figure 17.1: The 'Truck Fast' blueprint, which causes a sound to be played at the location the truck passes the player on the road, and the truck to move to a spot unseeable by the player in the distance, providing the speeding effect

Testing

Testing my project was not as thorough a process as I would have liked. Every new mechanic that was brought in was tested by me multiple times before being saved onto the main build, but this still left room for error. In the later stages of the project, I tested a packaged build of my game, and although the core gameplay worked w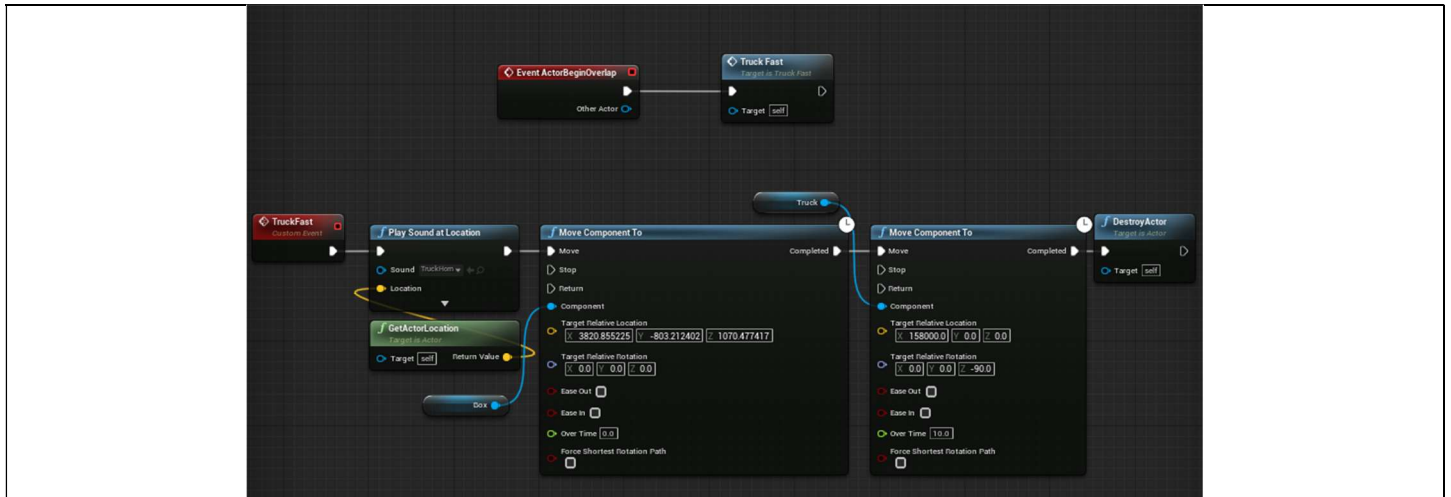ithout issue, the UI providing the player with instructions failed to show up. This was a major issue, as without this, new players would not know how to pick up items, not only losing out on the narrative told per-item, but also potentially not being able to figure out how to open the games various doors, ultimately preventing them from being able to progress further than the locked door to Room 6. This bug could not be fixed in the little time I had left before project submission, although fixes such as packaging settings and changing how the UI loaded were attempted.

In terms of peer testing, this was mostly conducted in the later weeks, when the project was at about 90% completion. This ensured I did not receive feedback related to features that were not finished or not began. This testing was conducted under my supervision, and involved a mix of people familiar with games, those familiar with my project, and those familiar with neither. Testing with this audience provided key feedback on the difference between what someone who has played similar games may play like, versus what someone with little gaming experience would.
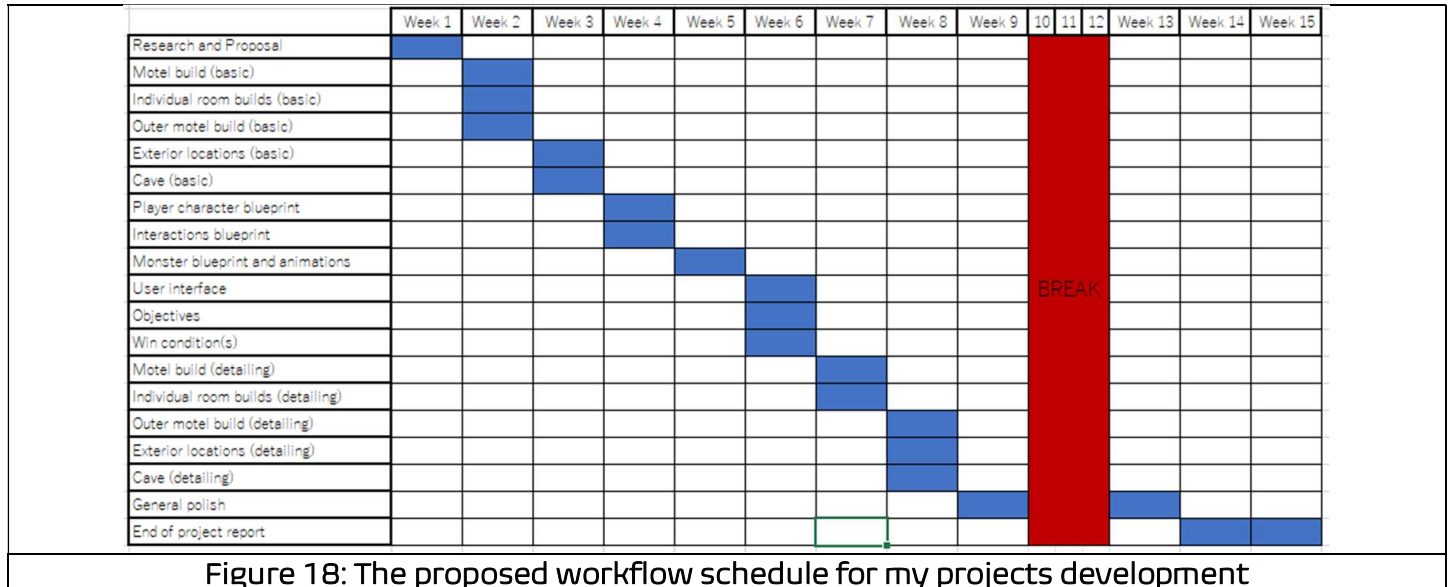
Evaluation

End Result

Comparing the project to the initial intended workflow, created using a GANTT chart, it is clear that it was not followed exactly. First off, I began by creating detailed rooms, rather than blocking out the entire motel and detailing later. Although this worked in

my favour this time, it is a habit I believe will rarely work again. Some tasks took longer than expected, and some took minutes. Knowing what I know, this timeframe could be changed to be more efficient, however, all deliverables were met. Playable .exe now exists, on it, a full motel level with detailed rooms showcasing my narrative, environmental and level design skills.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	10	11	12	Week 13	Week 14	Week 15
Research and Proposal	■														
Motel build (basic)		■													
Individual room builds (basic)		■													
Outer motel build (basic)		■													
Exterior locations (basic)			■												
Cave (basic)			■												
Player character blueprint				■											
Interactions blueprint				■											
Monster blueprint and animations					■										
User interface						■					BREAK				
Objectives						■									
Win condition(s)						■									
Motel build (detailing)							■								
Individual room builds (detailing)							■								
Outer motel build (detailing)								■							
Exterior locations (detailing)								■							
Cave (detailing)								■							
General polish									■				■		
End of project report														■	■

Figure 18: The proposed workflow schedule for my projects development

Reflection

On reflection, although I am happy with my project, there are a handful of changes I would make. Firstly, rather than simply use online guides to help implement mechanics, I would block out some time early on to better understand the fundamentals of visual scripting. This would not only help me build smaller mechanics quickly and therefore more frequently, but to more efficiently bug fix more node heavy mechanics should they break.

I also would have included some dedicated QA time. While it was beneficial to have people play my game and find issues towards the end, it was often either too late or a stressful rush to fix. Having dedicated testing time in my project earlier on would have allowed me to catch bigger issues like UI not loading, giving ample time to fix this before packaging the project.

Overall however, I understand that the project could have ended up in a much worse state than what it is, and I am happy that my skills as a narrative and level designer have been put to use, as well as testing my visual scripting skills.

Conclusion

Although As The Sun Dies was undoubtedly my largest solo project to date, I still believe it is my best work. Working to my own timeframe and having the freedom to add features as I saw fit provided a positive creative outlook that no doubt boosted my project workflow further than originally planned. It served as a chance to show

off my level and narrative design abilities, as well as letting my experiment with various mechanics, both with and without the help of online guides.

I am happy with the progress made throughout this projects development, and small issues aside, I am proud to show this work off as a primary portfolio piece, in hopes that it will help me get my first steps into the industry.

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