

-The Silver Bullet-
The Implementation of Narrative
and Level Design Techniques to
Guide the Player in a Non-Linear
Exploration Game



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Abstract

Level and narrative design often go hand-in-hand in delivering engaging, intriguing and inviting game worlds, with various theories coming together that suggest how levels and narratives enthrall players, however willing, to explore these created environments. Through use of industry practices such as environmental storytelling, breadcrumbing and lighting, the player should feel drawn towards certain areas within the level, whilst maintaining a natural flow.

This project focused on the implementation of these theories and practices into one project, The Silver Bullet, a noir-style Detective exploration game, aimed to capture the atmosphere of the Pacific-North-West USA. Conducting player testing, these theories were put to the test in a unique environment created with this proposal in mind.

Keywords: Level design, Narrative, Theory, Dialogue

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Introduction

The purpose of my project is to investigate level and narrative design theories, applying these to a short interactive exploration game. This was for personal and professional growth, as I have a keen interest in level and narrative design as disciplines. However, this project can also be used to disprove or reinforce existing theories in games design. This report documents the development of my project and the outcomes, with studies into relevant literature, technical breakdowns, and iterative changes made in accordance with feedback.

Similar to a previous project of mine, *As The Sun Dies* (2023), *The Silver Bullet* sees the player assume the role of a Detective, this time exploring an enclosed section of a North-Western American town, not dissimilar to those seen in other medias such as *Twilight* (2008) and *Alan Wake* (2010). The moody, dismal weather and atmosphere commonly associated with this region fit the noir themes of this project perfectly, as well as facilitating the other themes explored, such as folklore and Close-Knit Communities.

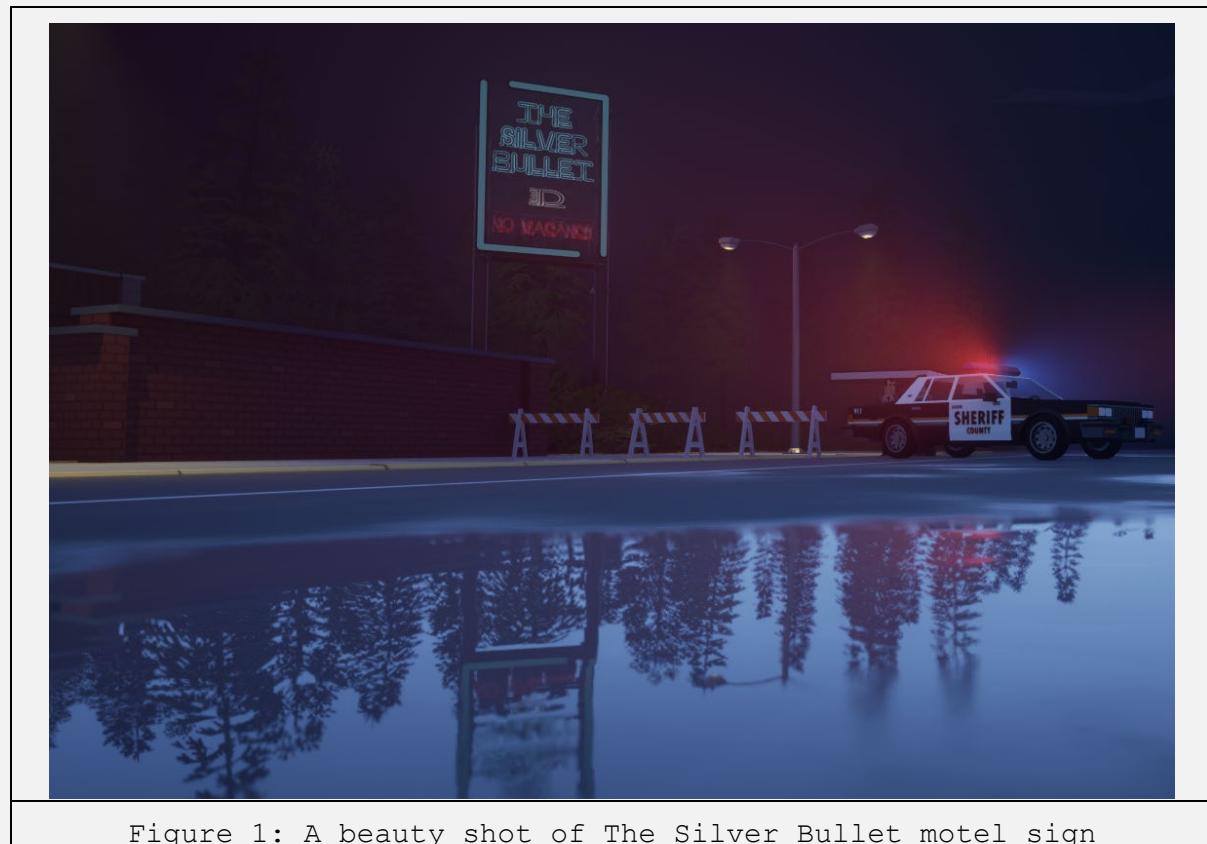


Figure 1: A beauty shot of The Silver Bullet motel sign

Aims and Hypothesis

The aim was to provide an interactive environment that a player could explore freely but through use of level and narrative design techniques, would naturally explore in a more orchestrated manner. This was done through research into level and narrative theories, like the idea of Breadcrumbs, by Skobelev (2023) and Barney's (2021) suggestions about push vs. pull narratives.

My hypothesis was that, although the player has the choice to go anywhere and talk to anyone, certain elements would be more prevalent than others when it came to playtesting.

Literature Review

At the heart of my research into level and narrative theories were level and narrative designers. Talking at the GDC conferences or on their own personal pages, these articles and videos proved an invaluable vault of information.

Level Design

The first topic I researched was how to design a level that players can navigate freely and with ease. For guiding players, it was clear that breadcrumbing, detailed by Lantz and Leinenveber (2018), landmarks (2014) and leading lines (2023) were some of the most important techniques to guide players naturally through a game. Breadcrumbing aims to guide the player through use of the environment, building familiarity with the player and being a more visible and obvious technique. The same can be said for landmarks, again breeding familiarity throughout the level, and often discerning points of interest that players will naturally gravitate towards. Leading lines appear as a subtle technique, but through their use, can guide the player to look where the developer has intended. Together, these elements are used to guide the player around a game world in a more orchestrated fashion. Frequently, landmarks in The Silver Bullet were accompanied by lighting, helping accentuate their visuals and their importance within the level. I also considered the Hierarchy of Lights, in which Yang (2018) suggests that critical paths are well lit, and that these lights are more important looking to signify this.

In the book Video Game Level Design, Salmond (2021) promotes the concept of building a level and story through "beats", defined as movement, dialogue, puzzles, etc. Applied to a non-linear project, this comes as how the level can be utilised to advance the story, such as gating off areas until necessary or placing puzzles to break up lengthier sections. Salmond (2021) also writes that "Good Level Design Constantly Teaches". To adhere to this, during the prologue the player is given information on where they need to go, teaching them how to pick up objects, how to open locked doors and soon after, how to open regular doors.

Narrative Design

To research narrative design, I first looked at sources that combine narrative and level theory, discerning that this was a distinct and important crossover. Both Szczepanski (2017) and Scherr (2018) promote similar concepts which Szczepanski calls the "wall of sticky notes". The suggestion here is that narrative elements should be split into individual parts and connected from there. In Szczepanski's case, this is split into plot points and events, with lines linking causes and effects. This was particularly helpful in my project as with a dialogue and evidence system intertwining, story beats would play out

differently depending on who you had talked to, and what you had picked up. With Scherr, the focus of the notes was to gauge importance of the plot points, and which elements are better suited to which parts, such as which characters should give which information, or which Act to reveal certain plot elements in.

Menzel (2017) formed the basis for the narrative foundations used within my project. Splitting each narrative element into the five W's (and one H). Broken down these are:

- Why - theme
- Who - characters
- Where - setting
- What - plot, events, and mechanics
- When - time of day and pacing
- How - governing the presentation and tone of the project

With these intertwined, each element came together to create a coherent story in a believable world.

A large part of The Silver Bullet was the large roster of NPCs that the player can choose to interact with. In developing these characters, Chamberlain (2021) surmised that characters should fall into one of the categories listed:

- Protagonist
- antagonist
- sidekick
- sub-plot
- extras

With this in mind, each character was given a purpose, some more meaningful than others. With the nature of the game I was creating, even the extras provided additions to the worldbuilding elements. The protagonist and antagonist are easy spots, as is the game's side-kick, but the sub-plot characters proved an interesting addition. These were usually characters that had direct interaction with the plot, or direct interaction with evidence the player had collected. Chamberlain (2021) talks about the concept of stakes and urgency, which go hand-in-hand with a Detective-noir game. The stakes are that there is a murderer on the loose, and the urgency is that they could kill again, although this urgency isn't correlated to the gameplay, as the player can take their time exploring without threat of failure.

Populating the world with characters meant also creating a link for them all, that being the town of Kessler. Cavannagh (2023) suggests that a world-space should be populated with a variety of people, with its own economy and power structure, to create a believable world with believable characters, with creative freedom taken on locational history. Each character in The Silver Bullet, whether plot-important or extra, serves a purpose in building the world and the story, with everyone having a job, a link to the world, often a link to the protagonist or other characters, intertwining into a close-knit community of NPCs.

To strengthen the believability of these characters and these moments in which you converse, I studied Oleson-Cormack (2017), in which he said that non-repeatable dialogue strengthens conversation, and specific

responses and outcomes show the player that dialogue choices matter. Although the latter is only truly seen by players who experience the game twice, it is still important as players can potentially have vastly different experiences than others by something as simple as a conversation. Due to the timeframe and scope of The Silver Bullet, I opted not to follow some of this theory, as having truly branching dialogue that locks players out would create a potentially massive amount of new content to consider, such as how the player would progress without access to certain information.

When it came to writing the bulk of my dialogue, it was important that it came across as intended, and was suitable for the game world. Skolnick (2014) suggests "Any line of dialogue that survives the editing process should convey at least one of the previously listed forms of exposition [plot, character, emotion, gameplay] – ideally, two or more – while at the same time flowing smoothly and being interesting, entertaining, and natural-sounding". This applied to the 200+ lines of dialogue spoken by the NPCs in The Silver Bullet, each offering advancement.

To consider how the story would be told, it was important to research different types of narrative. I elected to use an extended three-act paradigm, popularised by Field (1979), and how it can be implemented into games, expressed by Buckley (2023), and in a talk by Blackman (2020), suggesting it helps keep the pace. My version of the Acts structure is slightly modified with exceptions having to be made for the non-linearity of my project. The Silver Bullet still follows 3 primary acts, each with unique dialogue, but with a short Act 4 acting as an intense finale, rather than a falling action. These Acts follow the Push Vs. Pull principal from Barney (2021), where push narratives are pushed upon the player, through cutscenes or spoken dialogue, and pull narratives, which require player intervention. In my case being the dialogue system, where the player must interact with an NPC to begin conversation and the evidence system, where you must collect and interact with evidence before you can speak about it to NPCs. This direct player intervention with the game world helps push the narrative forward at the player's pace.

Developmental Work

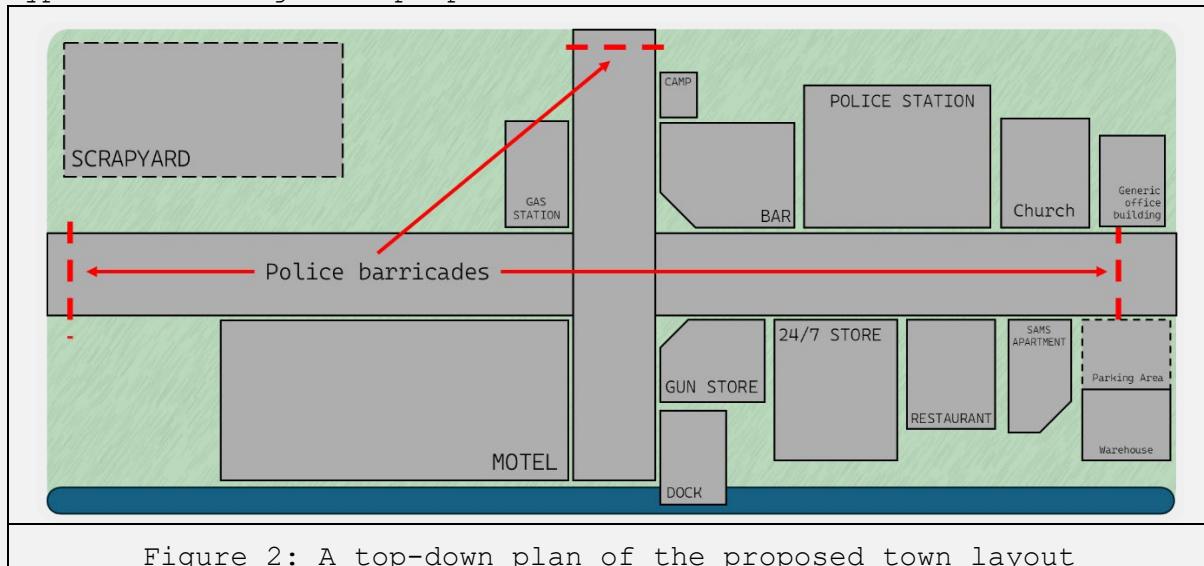
This section covers the development work that went into constructing The Silver Bullet. Created on Unreal Engine [Ver. 5.2] (2023), as well as various asset packs, notably Assetville Town and a variety of other low-poly assets. I utilised Unreal as it is highly versatile, as suggested in an article by Ivanov (2023), and is an engine I have experience in.

Technical developmental breakdown can be found in appendix A-H.

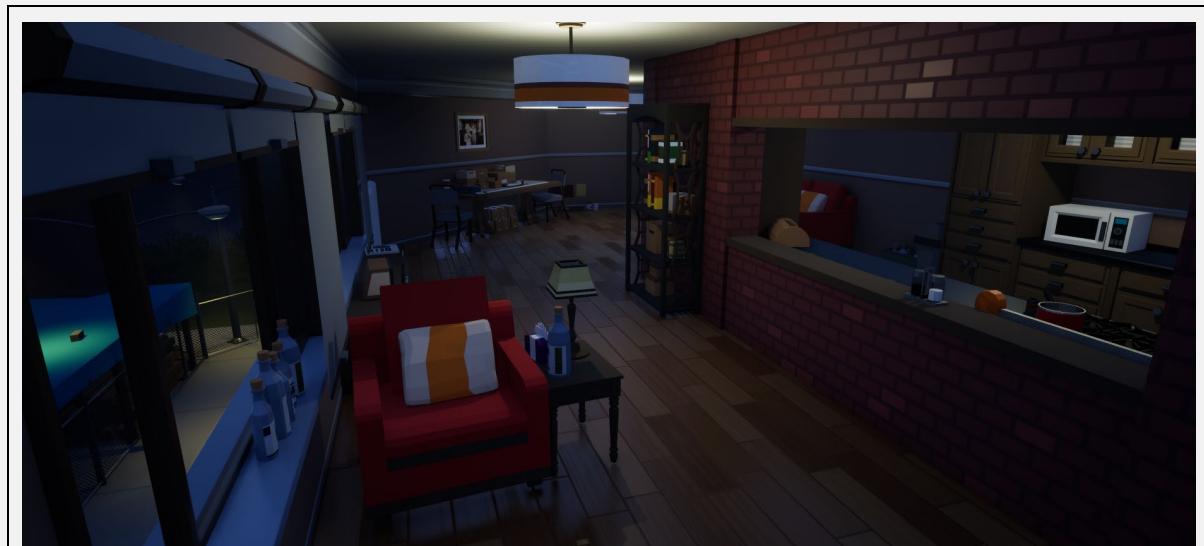
Level Design

Level design work began in Microsoft PowerPoint (2016) to plan where buildings would go within the town. I gathered reference images from North-West American towns, and these towns in various medias, such as Twilight (2008), Alan Wake (2001), and Dexter: New Blood (2021). These

served as the basis for not only the town layout and style, but the type of buildings and people within.



In engine, I skipped the block-out phase, with the Assetville Town pack I utilised being highly modular. Starting with the road, I added buildings one by one, focusing on buildings that the player could explore. After this, I developed building externally to the playable area, to aid worldbuilding. To the surrounding area, I added foliage as decoration, although most of this ended up hidden behind the fog. Through testing, very little needed iterating on, therefore I began to populate each building with environmental storytelling and general clutter.



It was important to highlight to the player which buildings held importance, as although every building within the playable area could be accessed, some should be more pronounced. As Yang (2021) suggested, lighting was used to make these buildings stand out, with bright signs adorning the walls and rooftops. Important paths were also marked out by streetlights, which very occasionally flicker for added worldbuilding, and are optimised to only emit light when the player is close enough, as are all lights within The Silver Bullet.

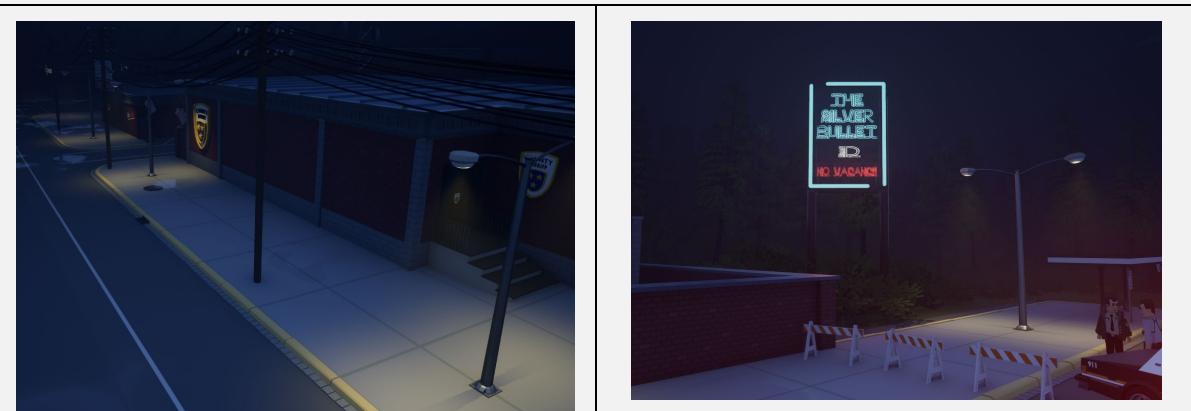


Figure 4: Streetlights marking a path (left), The Silver bullet motel sign (right)

Narrative Design

Alongside level design, the narrative delivery was vital to the success of my project. This began with creating a basic plot outline of events and concept, as well as an exhaustive list of all the characters within The Silver Bullet, their location within the world, and some basic information pertaining to them.

Name:	Occupation:	Location:	Notes:
Chloe McKay	Bartender	McKay's (Bar)	<ul style="list-style-type: none"> Conversation ██████████
Jack	Bar Patron	McKay's (Bar)	<ul style="list-style-type: none"> Biker History with Sam
Grant	Bar Patron	McKay's (Bar)	<ul style="list-style-type: none"> Biker
Daniel	Motel Clerk	The Silver Bullet (Motel)	<ul style="list-style-type: none"> Conversation
Leon	Motel Patron	The Silver Bullet (Motel)	<ul style="list-style-type: none"> Skittish Scared of wolves
Molly	Motel Patron	The Silver Bullet (Motel)	<ul style="list-style-type: none"> Hiker
Redd	Sex Worker	The Silver Bullet (Motel)	<ul style="list-style-type: none"> Conversation "Patron" of Sam
Chase Harlow	Drug Dealer	The Silver Bullet (Motel)	<ul style="list-style-type: none"> Conversation Occasionally deals drugs to Sam Occasionally an informant for Sam
Murphy S. Murphy	Store Owner	Murphy's Store	<ul style="list-style-type: none"> Conversation
George	Store Patron	Murphy's Store	<ul style="list-style-type: none"> Clearly high
Lucy Packard	Gas Station Clerk	86 Gasoline	<ul style="list-style-type: none"> Conversation
Max Valentine	Detective	Crime Scene	<ul style="list-style-type: none"> Conversation ██████████
Steven Reed	Forensics	Crime Scene	<ul style="list-style-type: none"> Conversation Not great at forensics A bit slow
Charles Swohn	Police Officer	Police Station	<ul style="list-style-type: none"> Twilight reference
Tomas Savini	Police Officer	Police Station	<ul style="list-style-type: none"> Main character from FYP
Dexter Kilgore	Prisoner	Police Station	<ul style="list-style-type: none"> Conversation
Hank Marston	Gun Store Owner	Marston's Hunting Emporium	<ul style="list-style-type: none"> Conversation Western music in store
Billy	Dock Worker	Dock	<ul style="list-style-type: none"> Drunk
Tommy	Dock Worker	Dock	<ul style="list-style-type: none"> Drunk
Bobby	Dock Worker	Dock	<ul style="list-style-type: none"> Drunk
John F. Kentucky	Homeless	Homeless Camp	<ul style="list-style-type: none"> Conversation Knows about ██████████, nobody believes him because he's a lunatic Kept around by ██████████ as a distraction
Baxter	Restaurant Owner	Baxter's BBQ	<ul style="list-style-type: none"> Conversation
Father Kyle	Priest	Church	<ul style="list-style-type: none"> Conversation Brother-in-law Friendly with Sam, despite divorce
Jameson Kentucky	Warehouse owner	J&J Warehouse	<ul style="list-style-type: none"> Conversation ██████████ Killer Lures Sam to warehouse to kill them
Jim Dickson	Scrapyard Owner	Jim's Scrap	<ul style="list-style-type: none"> Conversation Lost key in bar Feud with Sam
Rufus Packard	Mechanic	Mechanics Shop	<ul style="list-style-type: none"> Conversation Friendly with Sam

Figure 5: The character sheet created pre-production

Once the dialogue system was in place, I populated the world with these characters and wrote 400+ lines of dialogue. To save time, this

was done on a character-to-character basis, directly into the project. Although this was not ideal, it allowed me to spend time fleshing out the dialogue straight away, rather than going through iterative stages outside of engine.

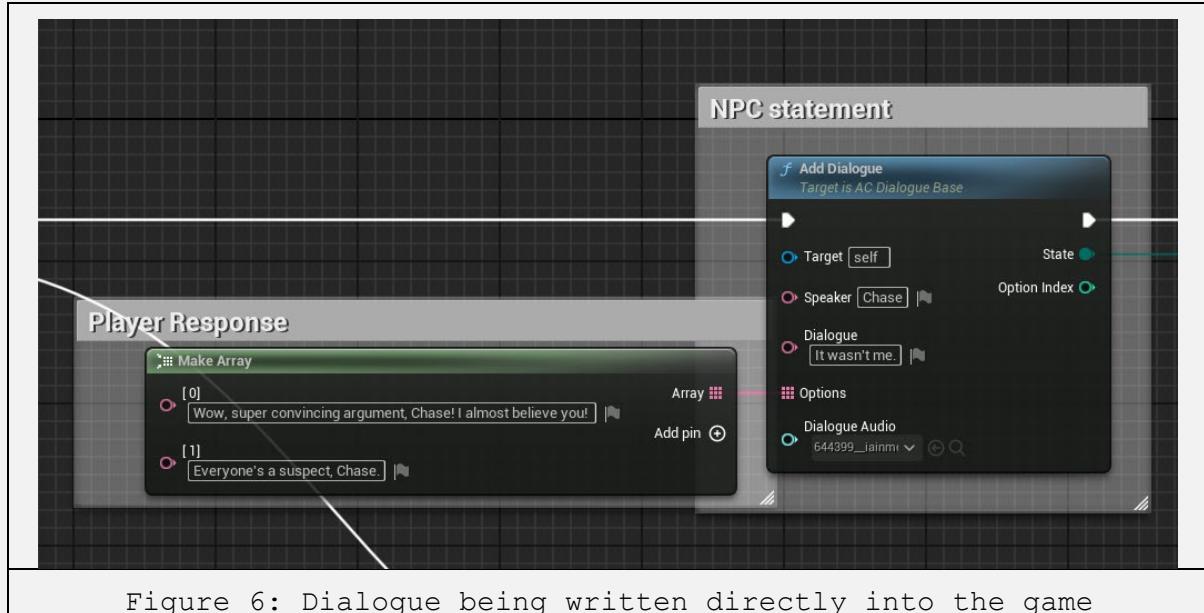


Figure 6: Dialogue being written directly into the game

Through Szczepanski's (2017) "wall of sticky notes" concept, I was able to plan out key plot points with relation to which NPCs were involved, when they would trigger, and what the consequence would be. This was frequently used alongside the evidence system, where a piece of evidence may affect multiple conversations, or even when conversations with certain NPCs would affect conversations with entirely different NPCs. Some NPCs were important to move the plot along or guide the player, dropping hints or being obtuse with their responses to hint at how the player may wish to progress.

To set the tone of the character, I looked at other Noir-type titles like Max Payne 3 (2012), and followed the system of monologue delivery where the characters thoughts about the world or events would be read aloud, usually being witty and dark humoured with rampant self-deprecation.

My large projects often include twists on otherwise "ordinary" adventures, such as the Eldritch Being in *As The Sun Dies* (2023) or the vampires in *From Dusk Til Dawn* (1996). This time, in keeping with North-Western American folklore, the antagonist of *The Silver Bullet* is a Werewolf. This is not revealed until the end, where the player meets their demise, but it is hinted at throughout, with characters being afraid of wolves, the body at the crime scene having bite marks, or the Town of Kessler being named after the main character David Kessler in *An American Werewolf in London* (1981).



Figure 7: A werewolf seen during the final cutscene of The Silver Bullet

Item Inspection (+ evidence and doors)

A system first used in *As The Sun Dies* (2023), the item inspection system allows players to pick up items, inspecting them closely by rotating the item and zooming in and out. A brief description of the item is given, in the case of letters or notes, this description is a printed format of any text on the object, providing accessibility. This system is similar to those seen in *L.A. Noire* (2011) and *Resident Evil Village* (2021), where the player can be fed narrative and progress through interacting with the game world.



Figure 8: An item being held by the player, with name and description provided alongside

Items in The Silver Bullet are split into 3 categories:

- evidence - which when picked up sets a relevant Boolean to True within the player blueprint, allowing for changes to the dialogue system
- junk items - which mainly exist as a worldbuilding feature, such as pool balls
- keys - which can be used to open certain doors

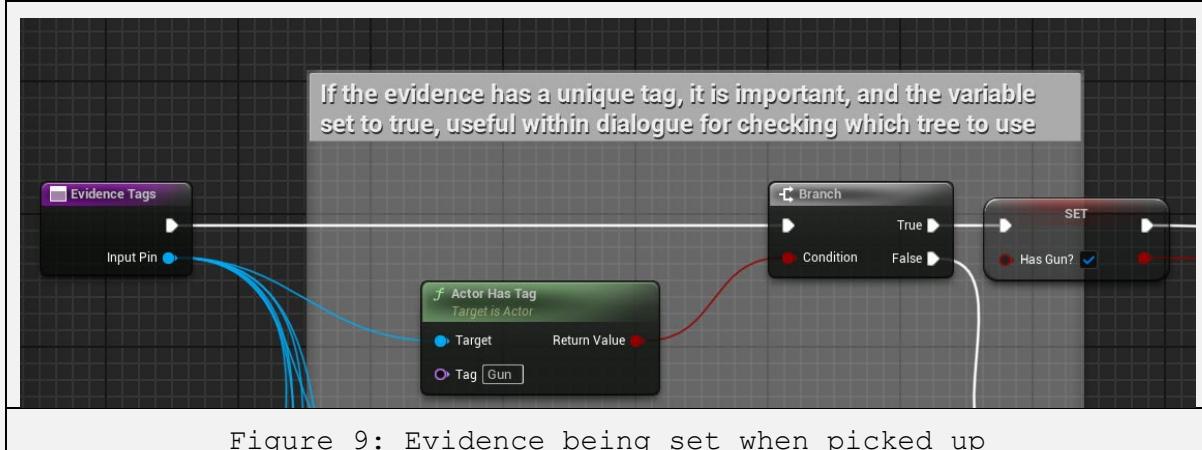


Figure 9: Evidence being set when picked up

Some doors around the map require a key, which is hidden somewhere nearby, or has its location hinted. When in range, the HUD notifies the player that the door is locked, and which key can be used to open it. The corresponding key, when found, mentions which door it can be used on. Other doors around the map are simple interactions where the player can press Space to trigger and open/close animation.

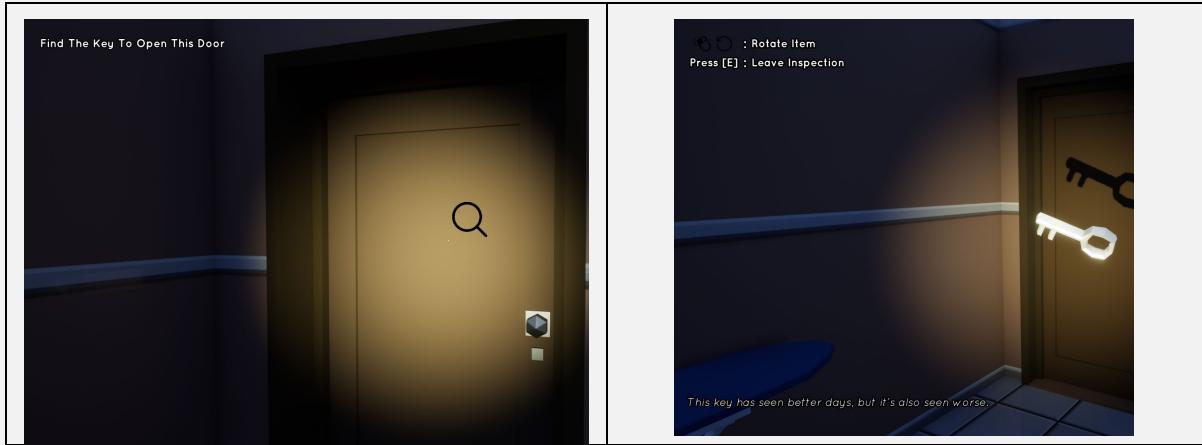


Figure 10: A door requiring a key (left), and the key item (right)

Dialogue System

The dialogue system was created with assistance from Michael Pattison (2023). It adapts a more basic system, allowing for multiple lines of branching dialogue, alongside audio and animations. I modified this system to work alongside the item inspections "evidence" system, making it so players could question certain NPCs about relevant evidence only when they had found said evidence, with an entirely different conversation taking place without this.

The system is NPC based, with characters in inheriting different dialogue trees depending on which Act the game is currently in. This meant that I could have different dialogue at different times throughout the game, making dialogue feel more unique as it would not repeat, in line with Oleson-Cormack (2017).

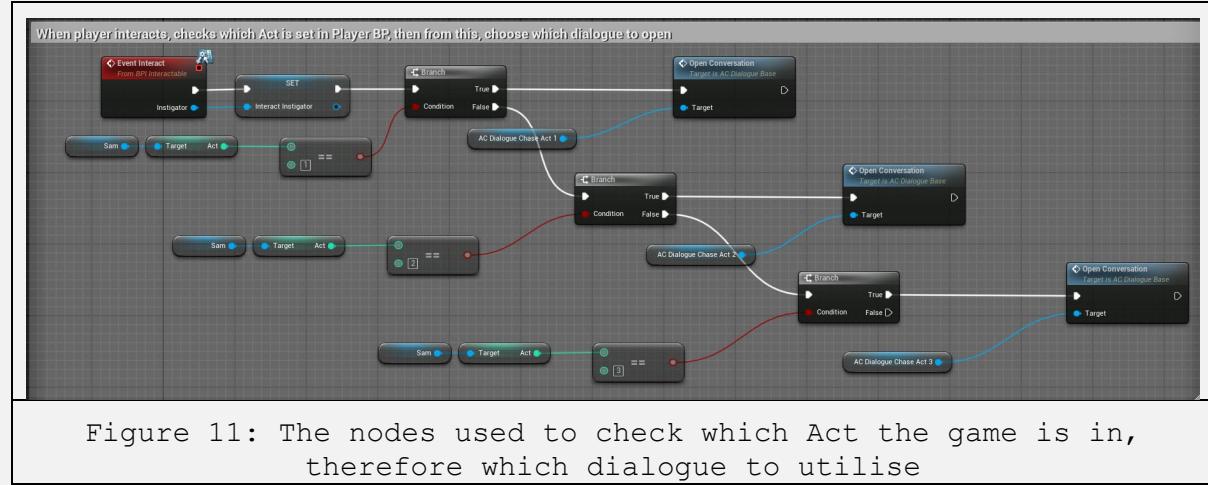


Figure 11: The nodes used to check which Act the game is in, therefore which dialogue to utilise

In short, when an NPC is interacted with (signified with UI), and interface shows up with their name, what they are saying, and what you can reply. Some conversations have numerous branches, others are limited to call and response. This was done both due to scope-management, as well as signifying which conversations could be considered more important therefore more requiring of being "fleshed out". After a conversation has played, the NPC will enter a default state, where the conversation will not branch, and the only response option is to End Conversation. This changes if a condition, usually evidence collected, is met, and new dialogue can be entered.

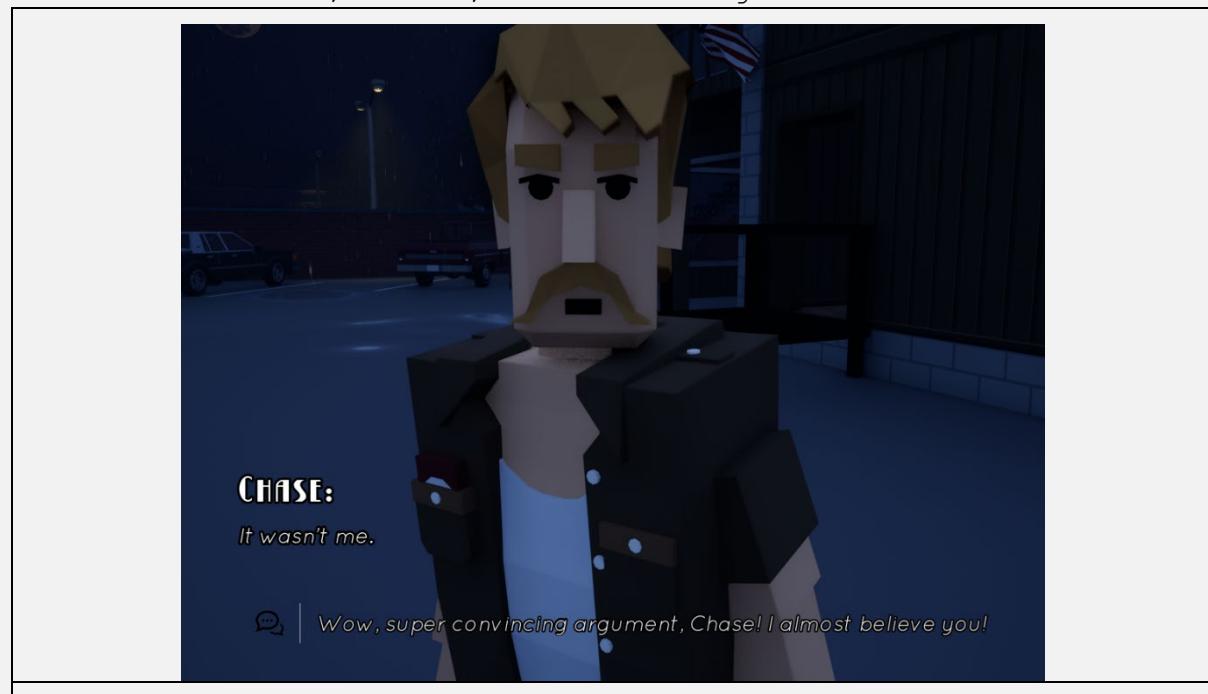


Figure 12: An NPC being talked to in-game, through dialogue box

Acts (+ Objectives)

With The Silver Bullet being narratively split into Acts, I implemented a system that would split the game itself into 5 separate sections. After progressing past the main menu, the player enters the prologue. After a short introduction to the game world, the player interacts with the door, triggering Act 1. With this change, each character is moved into position, and "fake" non-interactable stand-ins for evidence are placed around the map. After inspecting the body at the crime scene, Act 2 is triggered. This again moves NPCs to their new positions, and the stand-ins are swapped out for the real evidence. After all important evidence is collected, the player is informed to talk to a specific NPC. Once this has been done, Act 3 triggers. Here, the player gets one last chance to talk to all the NPCs, before returning to a specific one, triggering Act 4. In Act 4, the player is moved to a previously inaccessible area of the map, until they encounter a cutscene, which plays, and then ends the game.

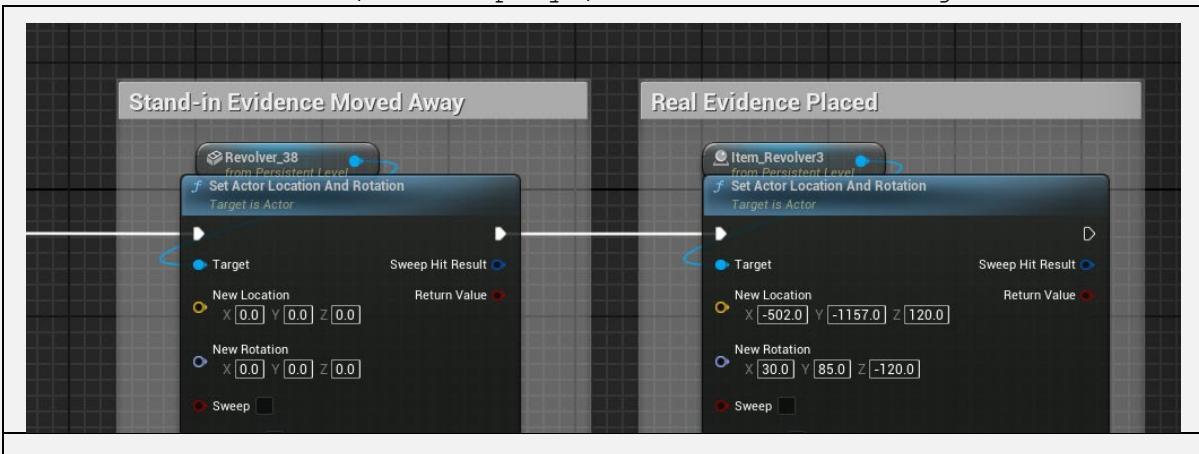


Figure 13: The nodes used to control the location of evidence

Although my research topic regarded guiding players through level and narrative techniques, I opted to include an objective system for accessibility. This is not placed on the HUD, but in the pause menu, as this felt less forced upon players who would want to explore.

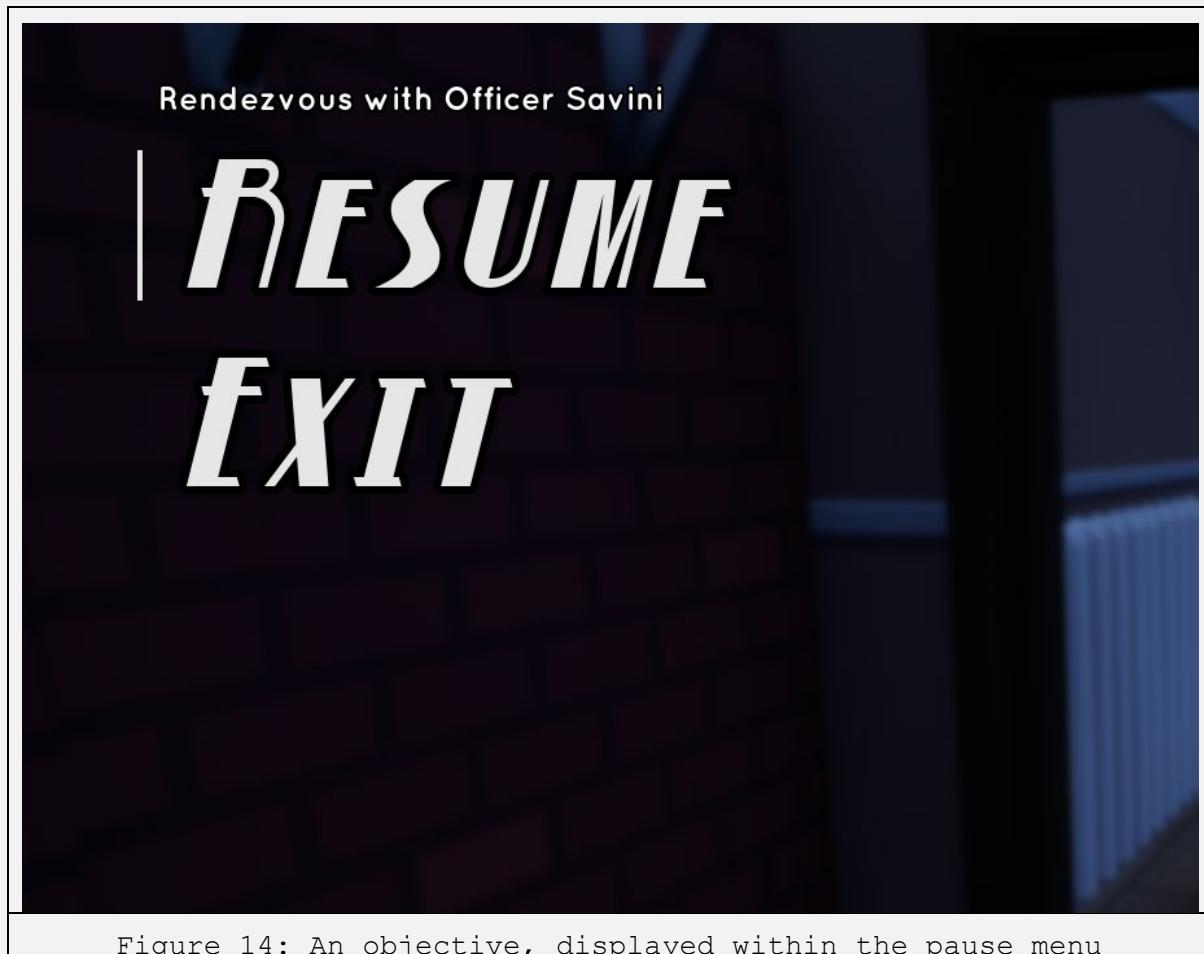


Figure 14: An objective, displayed within the pause menu

Audio

An important feature that aided building atmosphere was the audio design. There was a focus on 2 areas in particular, ambient sound, and footsteps. As The Silver Bullet takes place during a rainy night, rain ambience and sounds of insects can be heard, and through occlusion volumes placed within buildings, these sounds are deafened when indoors. Some buildings even have unique audio, such as the supermarket music playing classic supermarket Muzak, commonplace in this environment as evidenced by Dunning (2013).

Footsteps play a large part in the audio range within my project, with different floor types offering different footstep sounds being:

- hard interior - wooden floors
- hard exterior - pavement
- soft interior - carpet
- soft exterior - grass

These small details add realism.

Worldbuilding

As with any project that focuses on intertwining narrative and level design, a myriad of worldbuilding elements can be seen. Lee (2017) describes "everything as a worldbuilding opportunity", to which I

laced almost every building with a variety of these techniques, such as:

- a gun under the protagonists bed signifying some state of concern
- a demolished car mentioned in the opening prologue appearing in the scrapyard
- a gun-store owner whose business is doing so good that they're actively putting out stock in the middle of the night.



Figure 15: A gun under the protagonists pillow

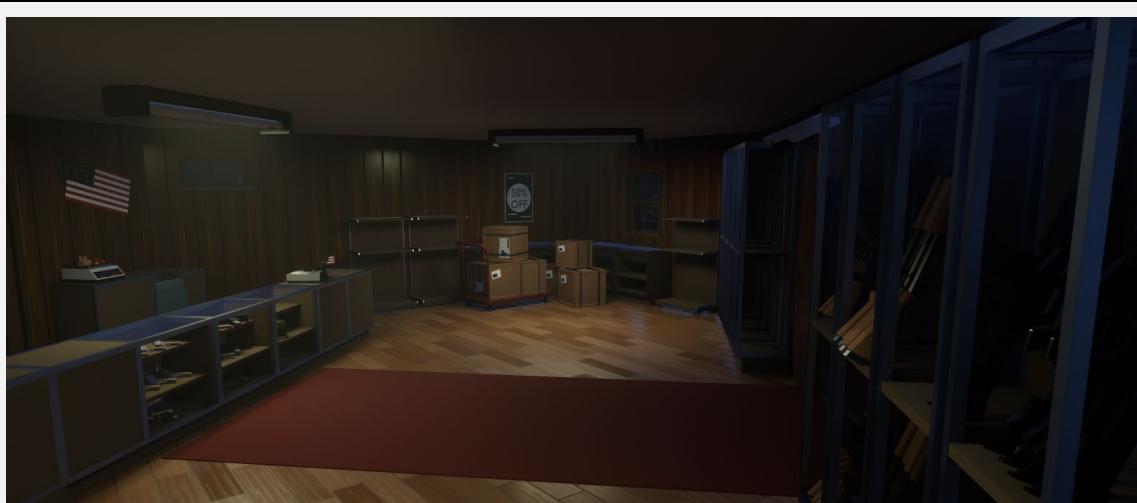


Figure 16: Empty shelves in the gun store behind a stack of crates

Results and Findings

Once the core of the game had been built in accordance with research, I could begin testing to prove my theories. Primarily, this was done using heatmaps, data taken from a playtest, plotting where players walked to in which act, and who they talked to. This information would

be invaluable to decide where more important MPCs should be placed, and whether some buildings were more frequently visited than others.

What I found was that buildings with well-lit points of interest, such as the various neon signs, were more commonly explored throughout the entire game, which aligned with Yang's (2021) study into lighting. Some buildings got less attention than others, such as the Church. Most players explored it in Act 1, as before the player can fully explore the map, it is the most prominent building in view, also there was an NPC stood outside. Rather than move the building, or coerce players into exploring it in later Acts, I kept it as it was, but changed the dialogue to provide character exposition, rather than push the plot along. This allowed for certain player types, described by Bartle (1999), to get the most out of this exploration, with explorers appreciating their effort being rewarded with character building, while other players would not feel as though they were missing out on content.

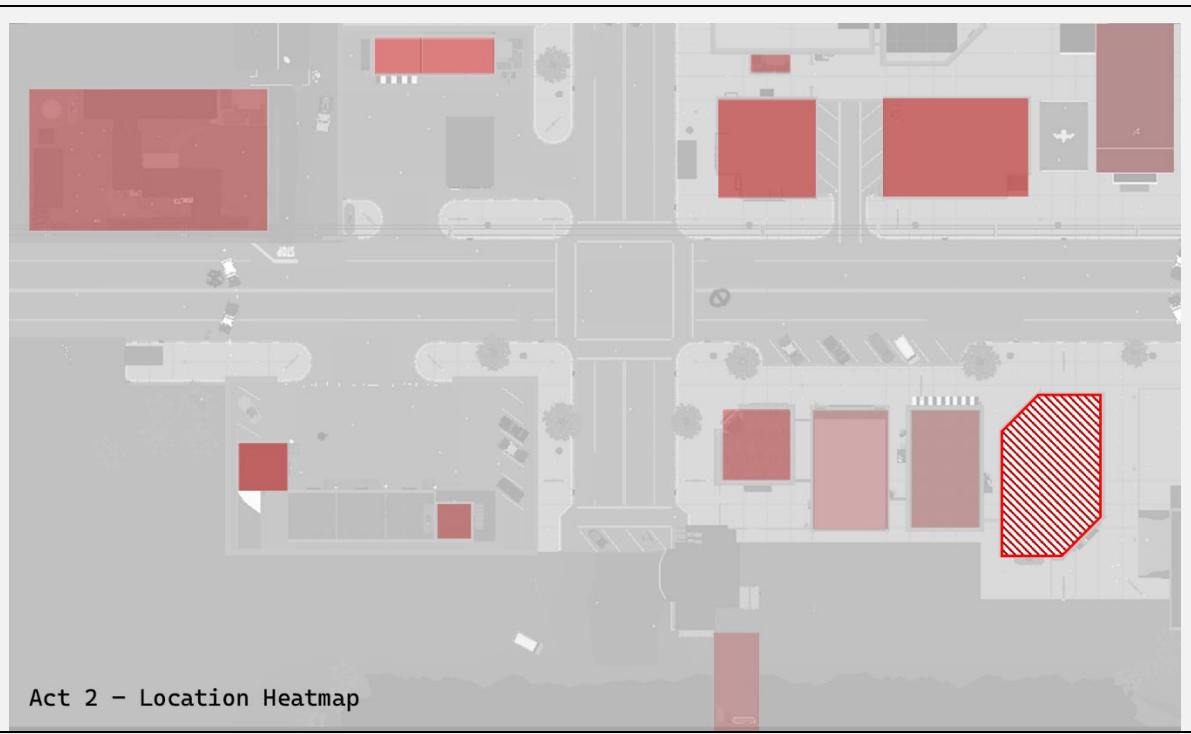


Figure 18: The heatmap showing buildings more explored by players

For NPCs, the dock workers were rarely interacted with in any Act, but rather than moving their location, I added a short "quest" where the player would follow a trail of empty bottles and encounter the workers at the end. This both introduced these characters to a lot of players, and brought them more prominently into the narrative. One of the characters who people visited the most was the Bartender, Chloe. Due to this, I gave her a much more important role within the overarching story, as players seemed to build a greater association with this character.

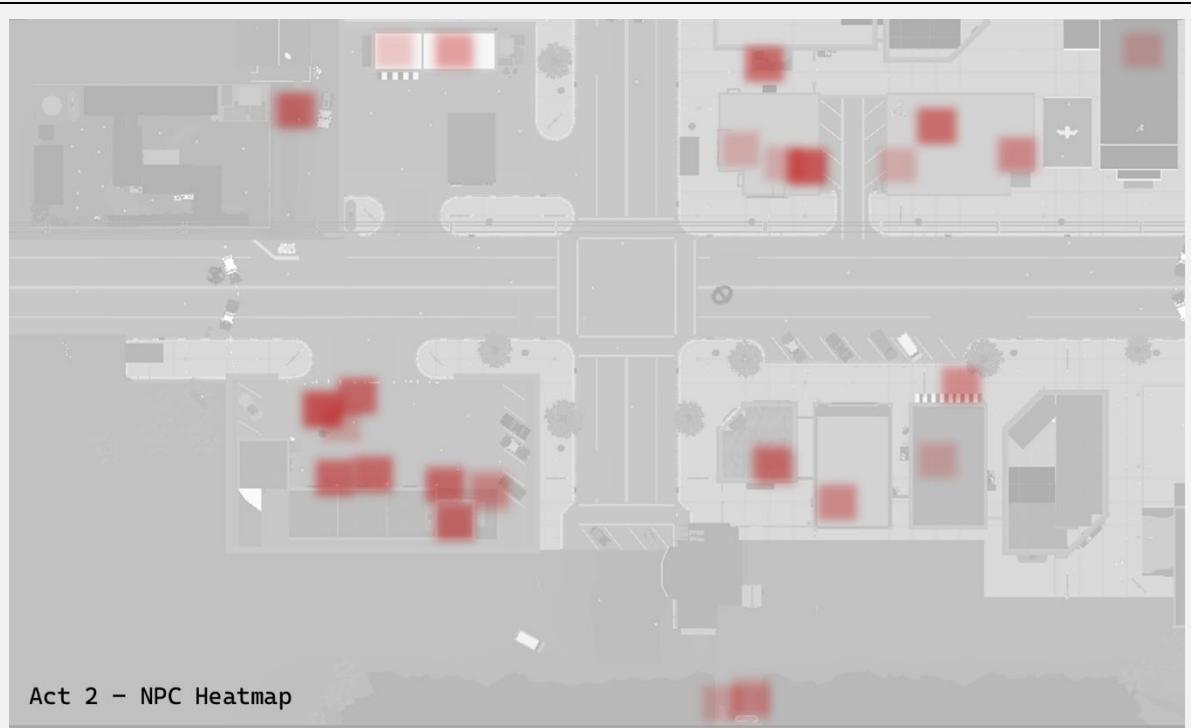


Figure 19: The heatmap showing characters most and least talked to by players

To collect qualitative data about the atmosphere and enjoyability of these games, I opted to conduct casual interviews after each playtesting session, as I felt this more conversational tone would provide more natural and fulfilling answers. Some of the more notable feedback included that *The Silver Bullet* lacked puddles, especially for the amount of rain present. Others mentioned that they appreciated some of the non-important interactable items, like the pool balls.

Players also appreciated the amount of dialogue, and that the branching felt unique, rather than branches leading to generic dialogue. This suggests that Oleson-Cormack's (2017) idea's about this strengthening the games narrative intentions were correct.

Further playtesting data can be seen in appendix I.

Reflection

Academically, this project provided an environment to test narrative and level design theory, and through playtesting has proved many of these successful in both ideology and implementation.

As a level and narrative design project, I believe this project is a high-quality showcase of my skills. With 26 characters, a variety of mechanical systems and a large chunk of locale, I have expressed a variety of technical and academic skills, whilst also expressing creativity through design.

Further reinforcement of Salmond's 4th Level Design Principal "Good Level Design Constantly Teaches" to cover more mechanics in the game's opening Act, such as dialogue, movement and the torch, would elevate this project further, providing blanket tutorialisation to players. There could also have been more included to facilitate worldbuilding,

with Cavanagh's (2023) suggestion about fictitious locational history, perhaps with a museum of some kind, to emphasise the twist at the end of the game.

Overall I consider the project a success, although some theory and literature proved more valuable than others, I personally believe that using them greatly advanced my project and provides a good example of narrative and level design techniques guiding the player in a non-linear exploration game.

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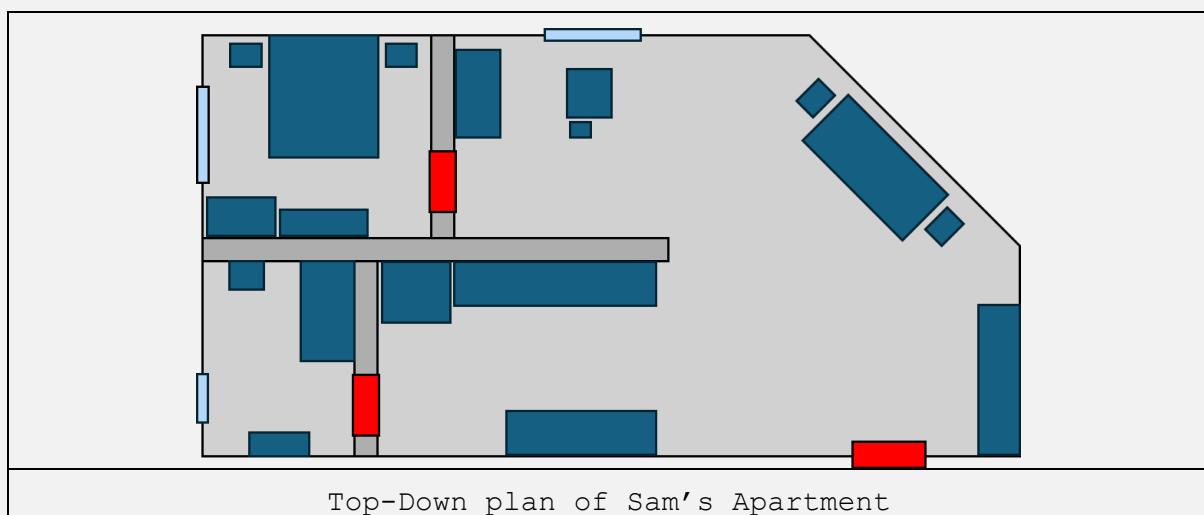
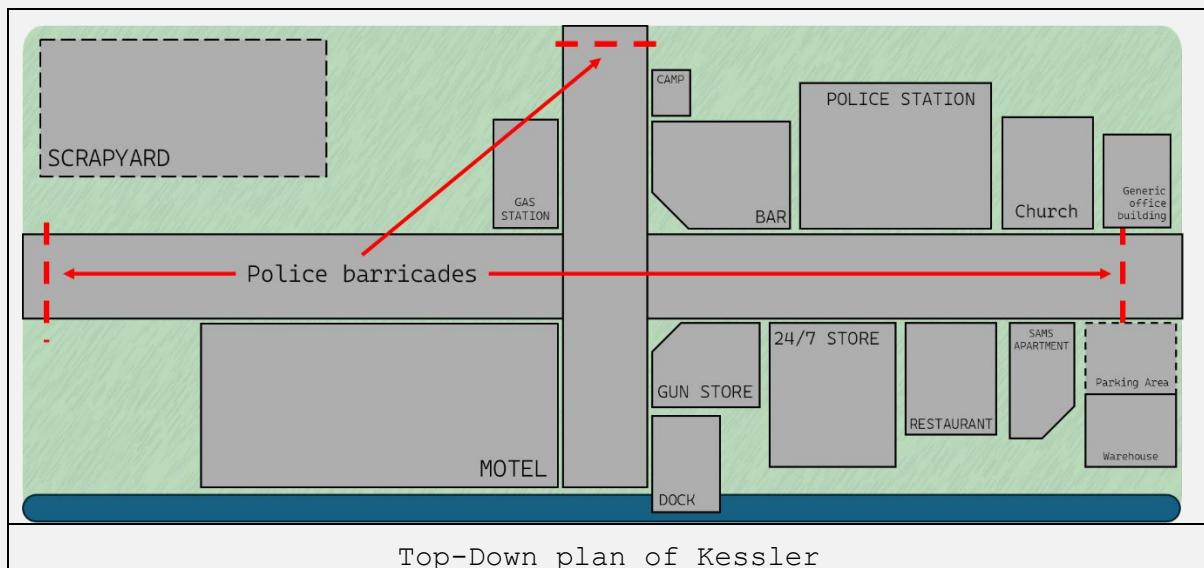
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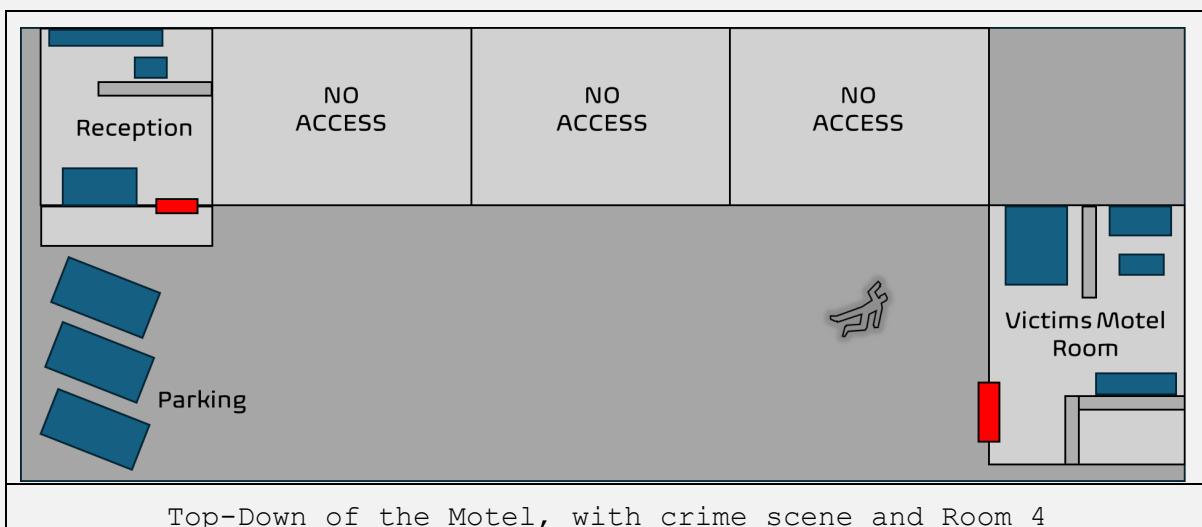
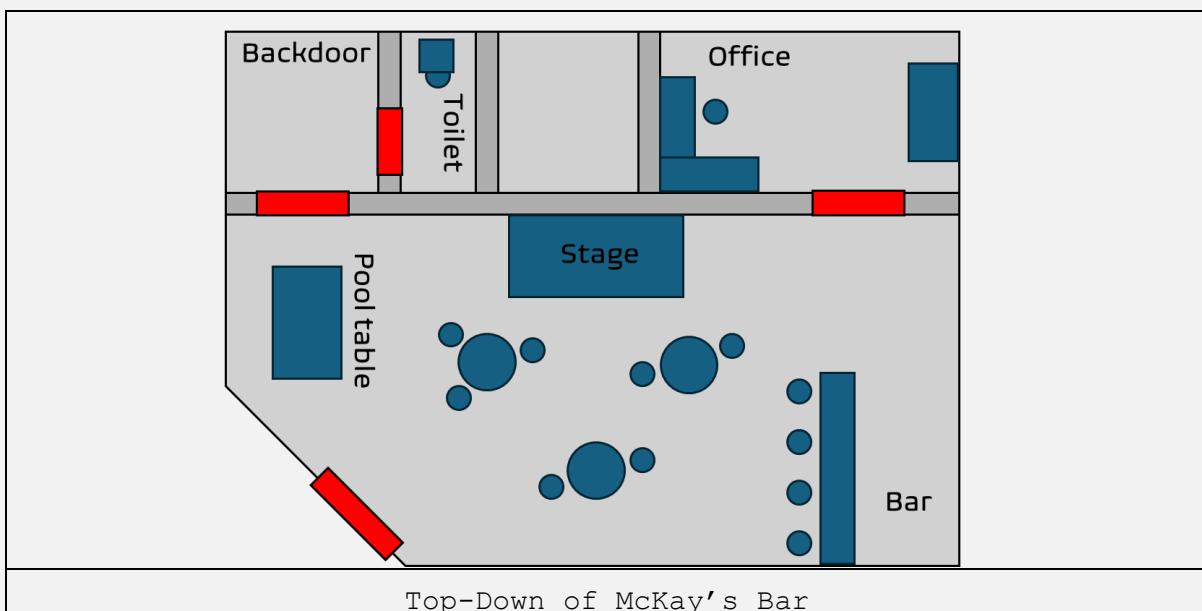
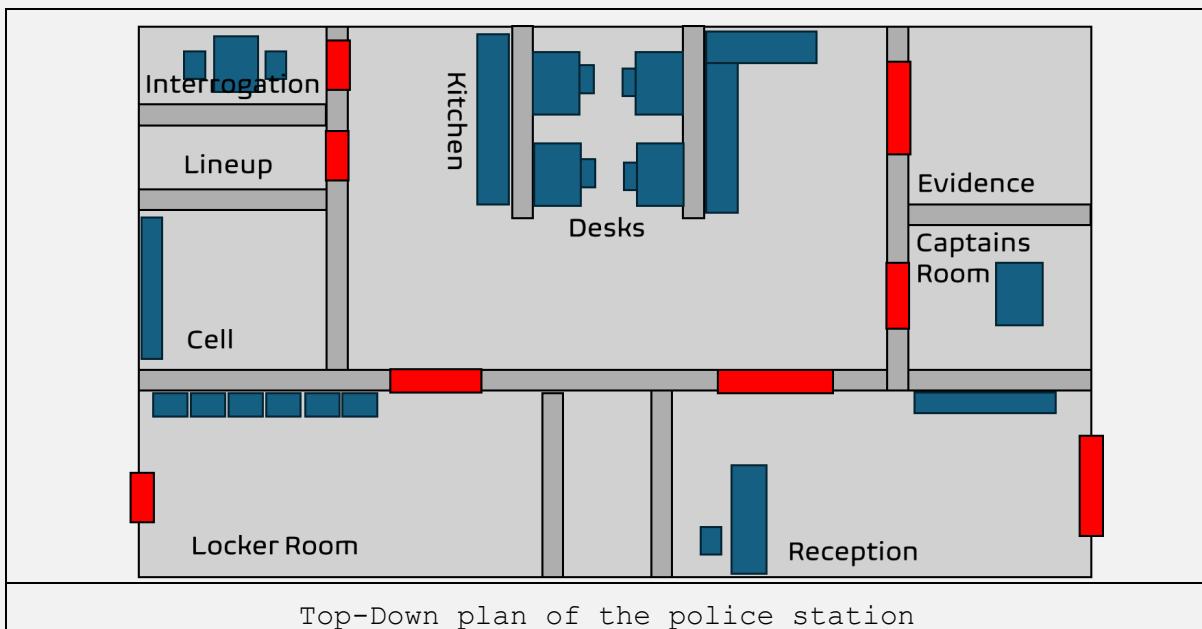
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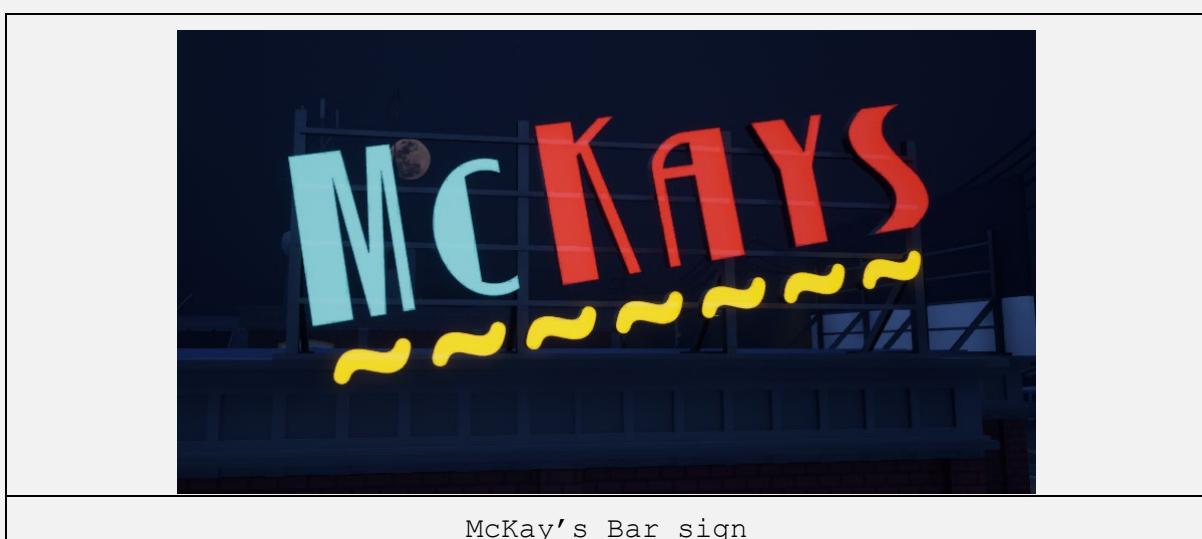
Appendix

Appendix A: Top-Downs



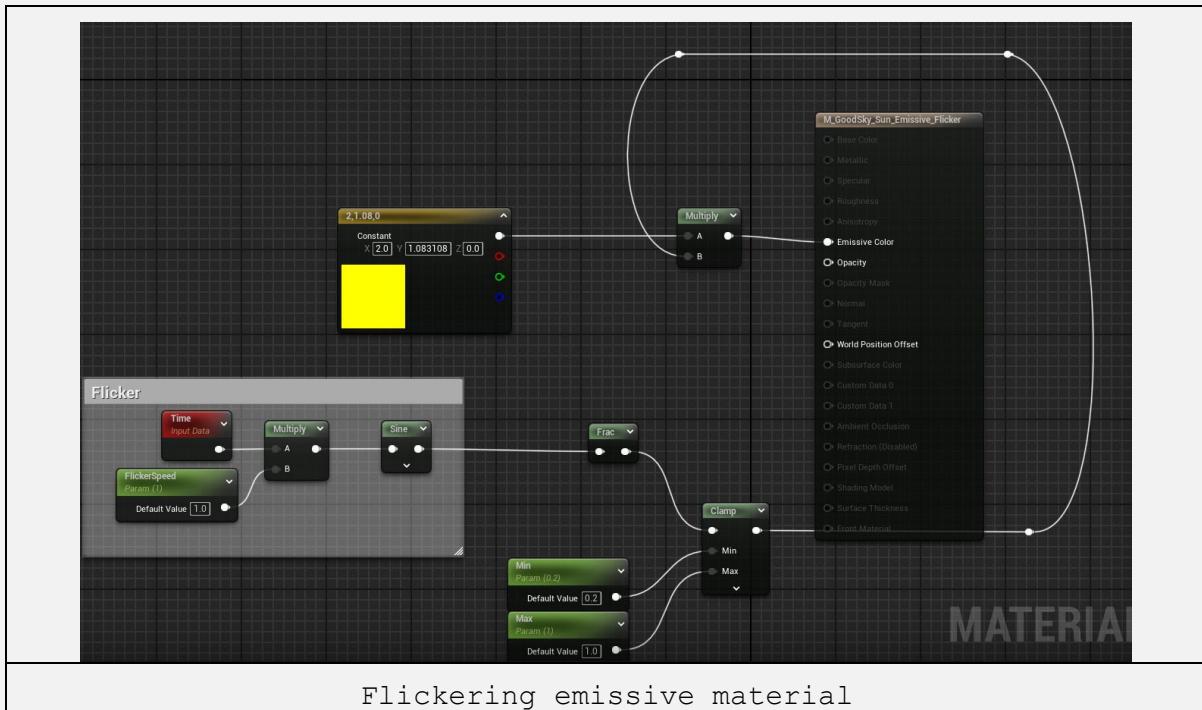


Appendix B: Lighting





The Silver bullet Motel sign



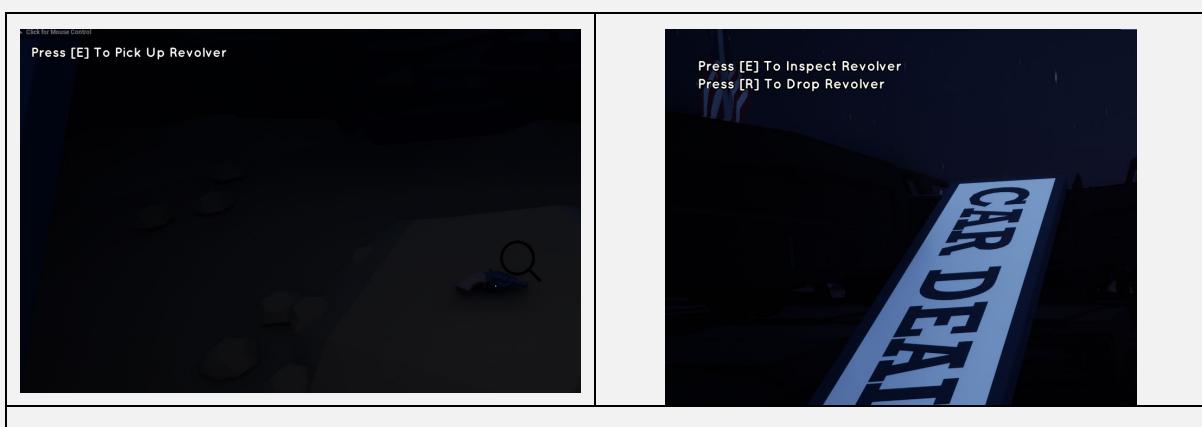
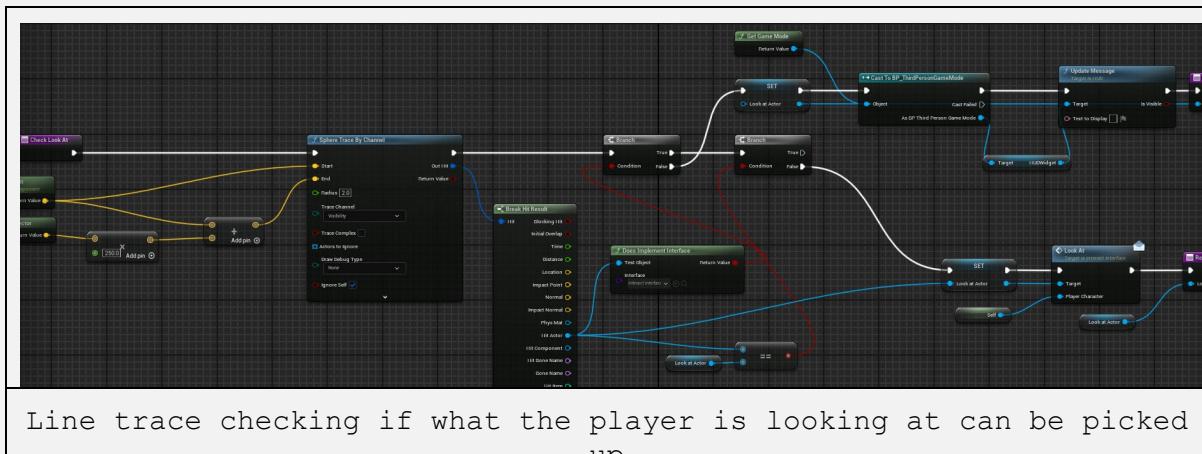
Flickering emissive material



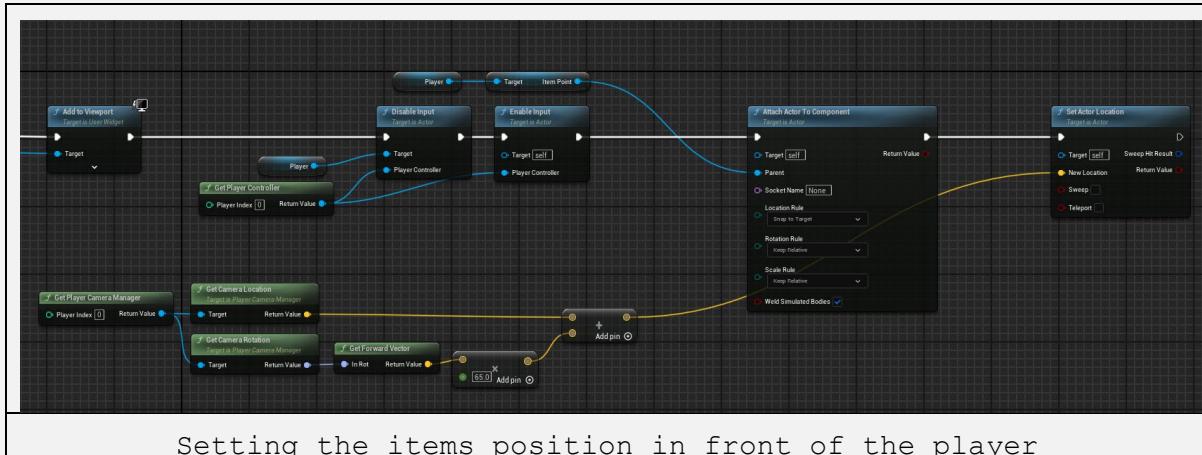
Appendix C: Noir Dialogue

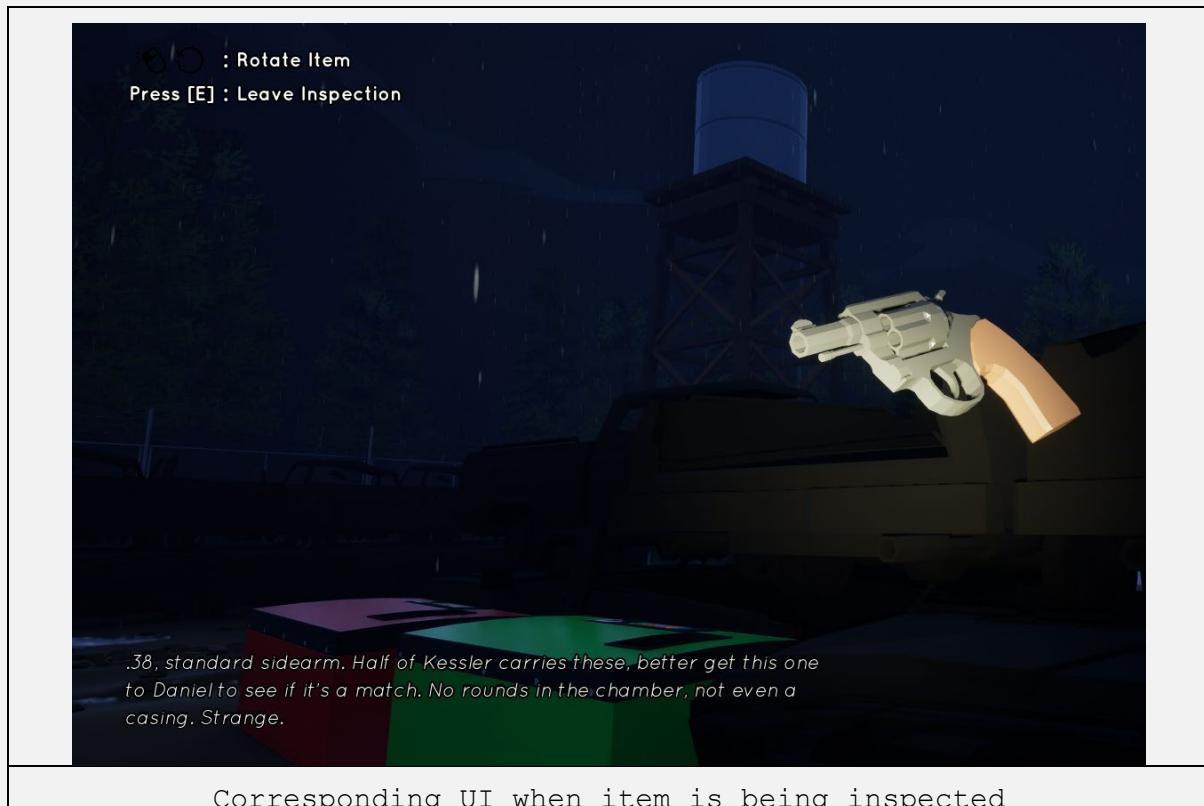
<p><i>"Off to work. Early bird catches the worm, they say. Well, I'm the worm, and the bird won't be up for a few hours, so I've got some time to play in the dirt." - Upon leaving the apartment</i></p> <p><i>"They can take my <u>gun</u> and they can take my badge, but they can't take my pride. Haven't kept that around since I took this job."</i></p> <p><i>"This town has more smoke and mirrors than a strip club locker room." - After talking to Chloe</i></p> <p><i>"First shot - pause. Second shot - pause. Third-fourth-fifth. Fifth grazes my arm, adrenaline must've kicked in because I can't pinpoint when the flashing changed from gunshots to the coroner's camera. "Needs new batteries" Lousy excuse for a smoke break, but who was I to judge, I don't even remember how the body on the ground before me got there."</i></p> <p><i>"My husband was off two-timing me with some German broad, and I was doing some Irish gal on the side. If we all went to a bar, you'd think it was the start of a bad joke. Hell, it was a bad joke." - After talking to Redd</i></p> <p><i>"Another clue. If this case got any deeper, we'd hit fossils. I'd feel right at home. Ha ha." - After finding a clue</i></p> <p><i>"I was half a year from retirement and about to get fired, both options I preferred over being shot." - En-route to the J&J Warehouse</i></p> <p><i>"The call came in around midnight. Truth be told, I was half a bottle too deep to deal with this right now, but that's never stopped me before." - Just before the player wakes up, in the cut between main menu and level</i></p> <p><i>"John Doe, for now. Nothing about this guy screamed unique. Put four of him together, you've got your average rock band. Even his mortality wasn't out of place in this town. Part of my just wanted to file this as another overdose. It'd save on paperwork, but somehow, I don't think I could convince a jury that cocaine shot the guy." - Upon discovering the body at the crime scene</i></p> <p><i>"It was no use talking to anyone on the street. They kept more secrets than the KGB and were half as friendly." - Walking past not-interactable NPCs</i></p> <p><i>"This town has always been down in the dumps. "Poor me, poor me" pour me a drink, we've all got problems." - After talking to an NPC outside the bar</i></p> <p><i>"I'd caught more criminals by sheer luck than by skill. Nights like this make me think Lady Luck was a hooker, and I was broke." - After finding a clue</i></p> <p><i>"Through the years I'd put away most of this town, for some reason or another. It wasn't heaven, that's for sure, but I'm pretty sure it wasn't hell." - After talking to one of the bar patrons</i></p> <p><i>"Back to square one, this was like doing a crossword puzzle while half-cut and the newspapers on fire." - After finding a clue</i></p> <p><i>"Bite marks. Too big to be Redd's MO, I've got the battle scars to prove that." - After analysing the body at the crime scene</i></p> <p><i>"Outsiders were a rare breed in this town. It had nothing to offer the occasional traveller unless they had a particular interest in nothing very much at all. Murphy was the newest resident, his store the newest building this town had seen since 1932. That sign lit up the town like a bright, burning scab". - Walking through Murphys Store</i></p> <p><i>"The cops in this town were a mixed bunch. Most of 'em either crooked or dumb. Me? I'm also a mixed bag". - Encountering a <u>police</u> (tagged) NPC</i></p>
List of all noir monologues spoken by the protagonist, and where they would play

Appendix D: Item Inspection System



Corresponding UI for looking at (left) and picked up (right). When picked up, the item is attached to the player characters hand



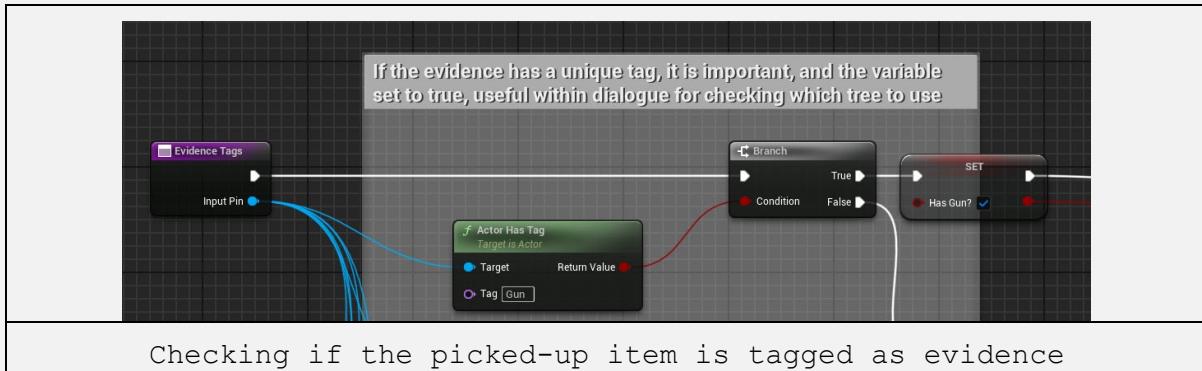


Corresponding UI when item is being inspected

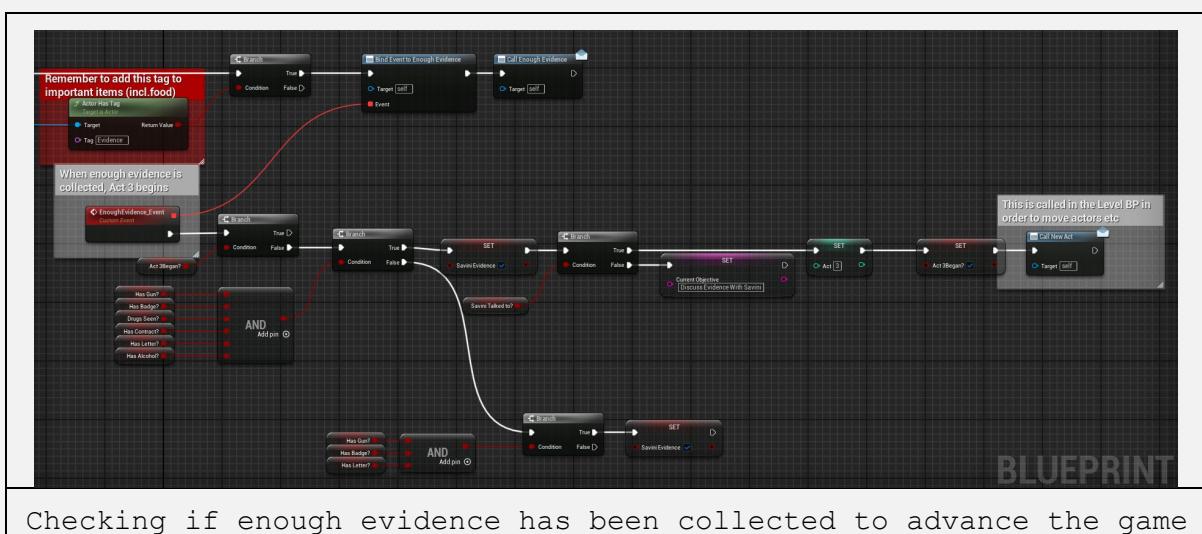
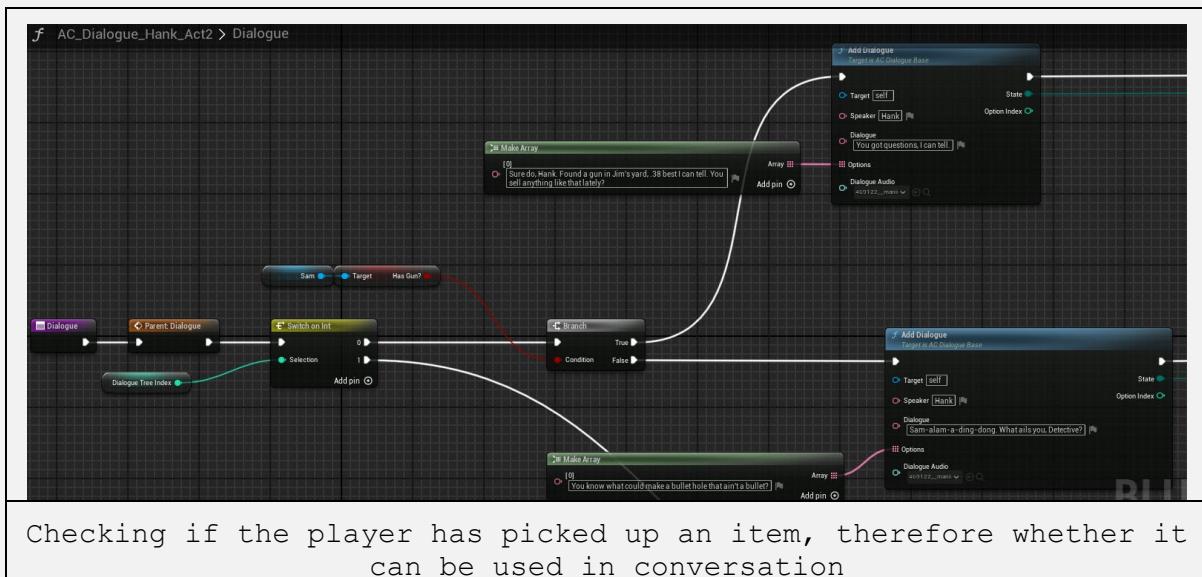
Appendix E: Evidence System

Name	Location	Description	Visual
Trail of Alcohol	Motel Room to Dock	There's a trail of these bottles lying all around Kessler. Maybe they'll lead me to something.	
Warning Letter	McKays Bar	"Do not mess with J&J. For your own good" Made with magazine cutouts and wiped with gasoline. This is the kind of thing serial killers do.	
Gun	Jim's Scrap (Location unlocked after Jim quest)	.38, standard sidearm. Half of Kessler carries these, better get this one to Daniel to see if it's a match. No rounds in the chamber, not even a casing. Strange.	
J&J Contract	John's Shack (location given after Drunk quest)	Looks like a contract to buy out the J&J Warehouse. I bet Jameson wasn't too happy about this.	
Police Badge	Park (location given after George quest)	Every Officer I know barely even takes this thing while they sleep. No ID number, I should ask around.	
Drugs	Victims Motel Room	Either our victim was a dope fiend, or someone he was staying with was. Better ask around, see if anyone knows where they came from.	

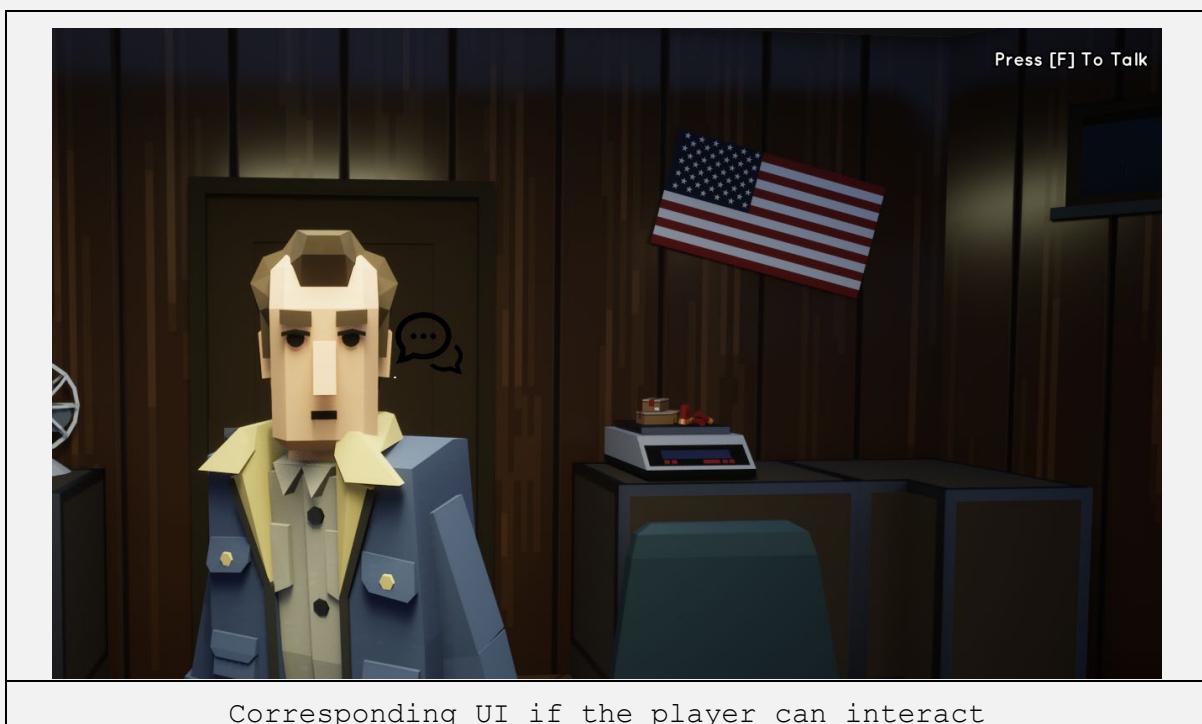
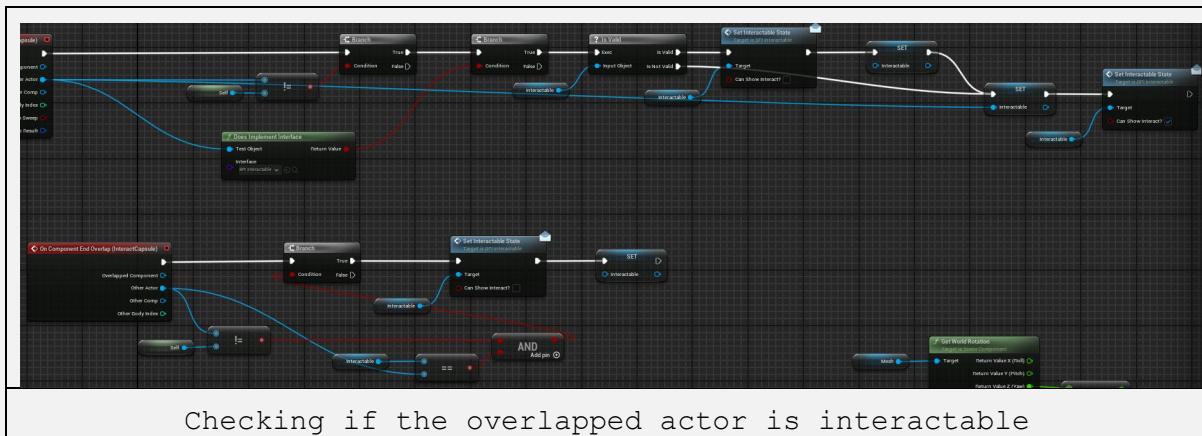
List of items classed as evidence, with details

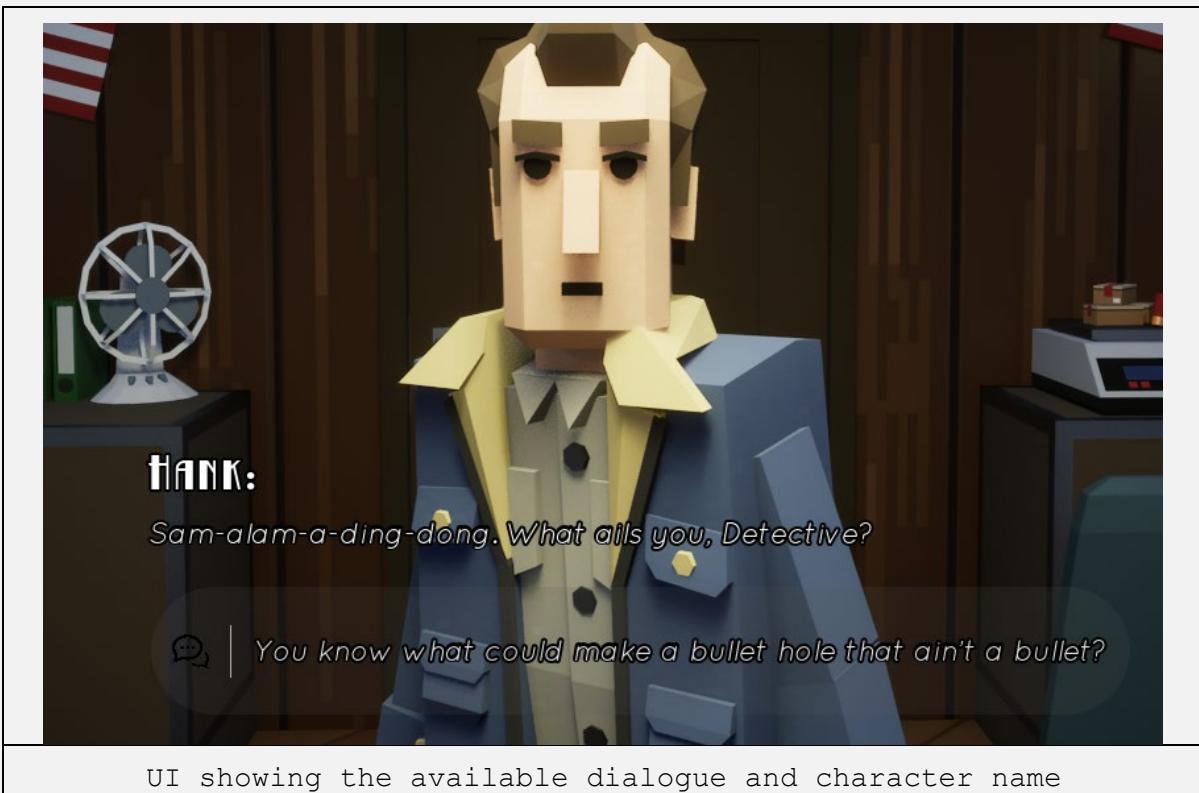


Checking if the picked-up item is tagged as evidence

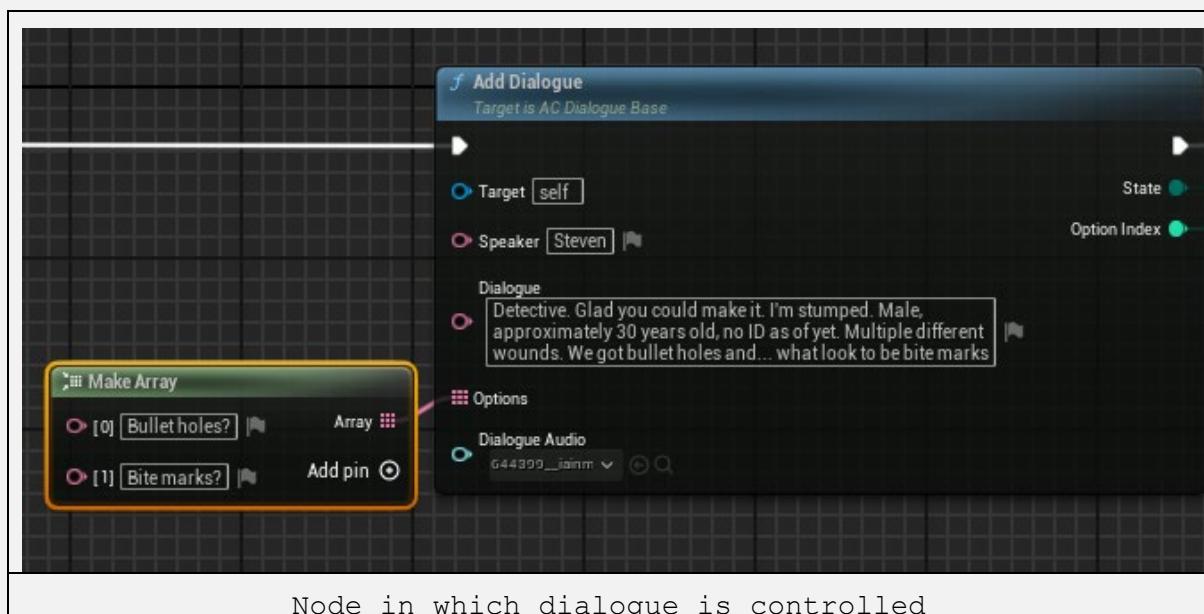


Appendix F: Dialogue System

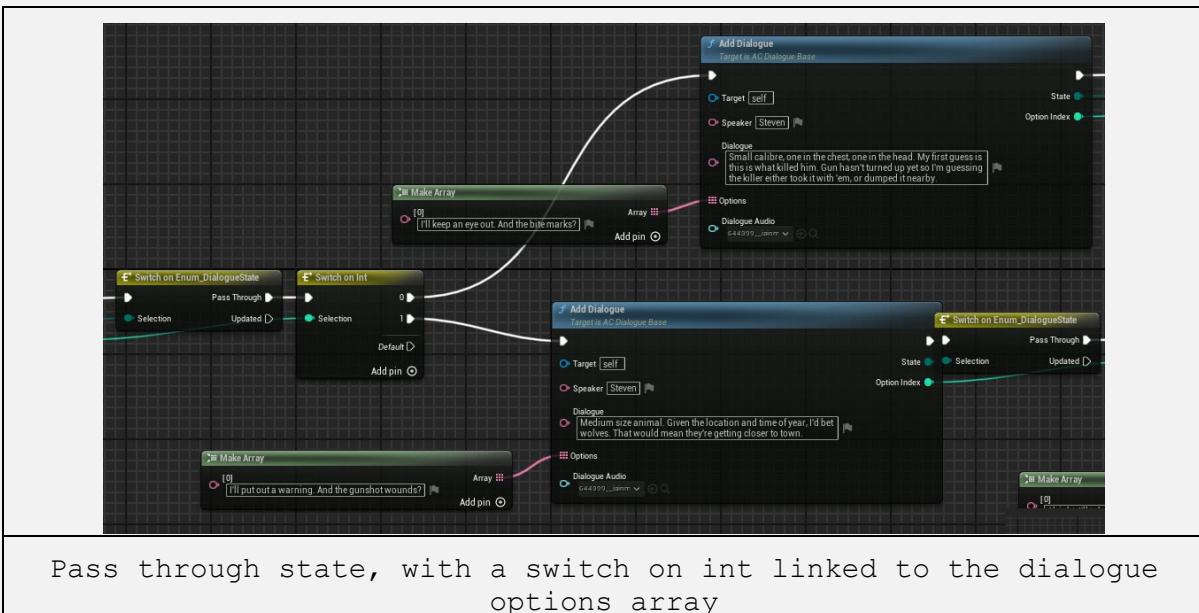




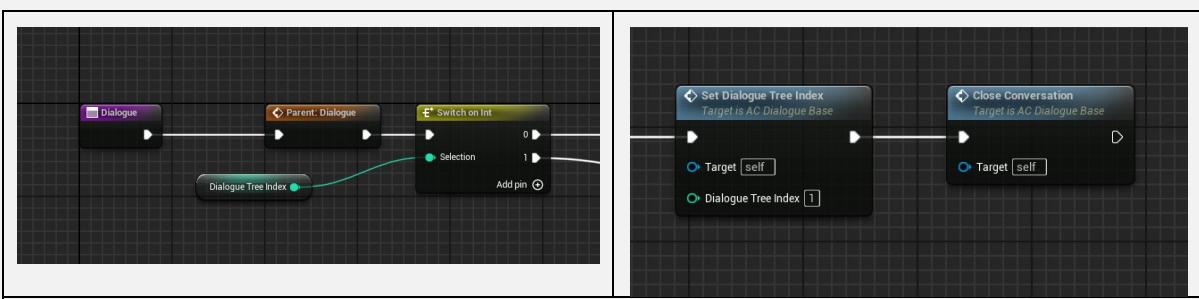
UI showing the available dialogue and character name



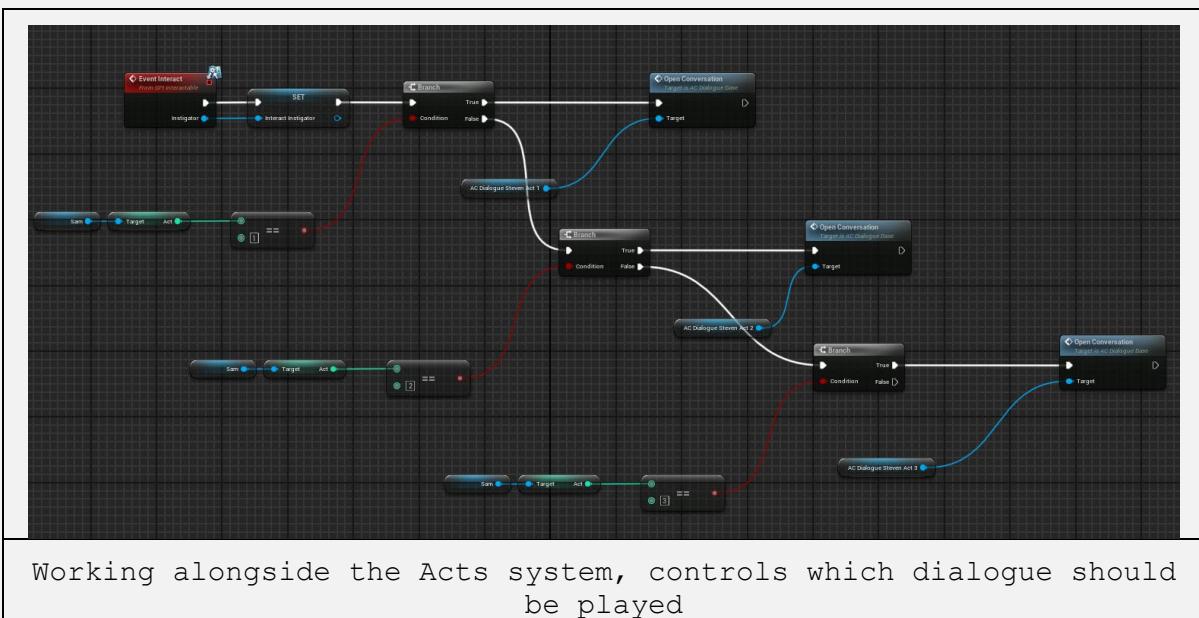
Node in which dialogue is controlled



Pass through state, with a switch on int linked to the dialogue options array



The dialogue index, controlling which dialogue is selected (left) and the set tree index node, controlling which conversation will play when the player re-enters conversation (right)

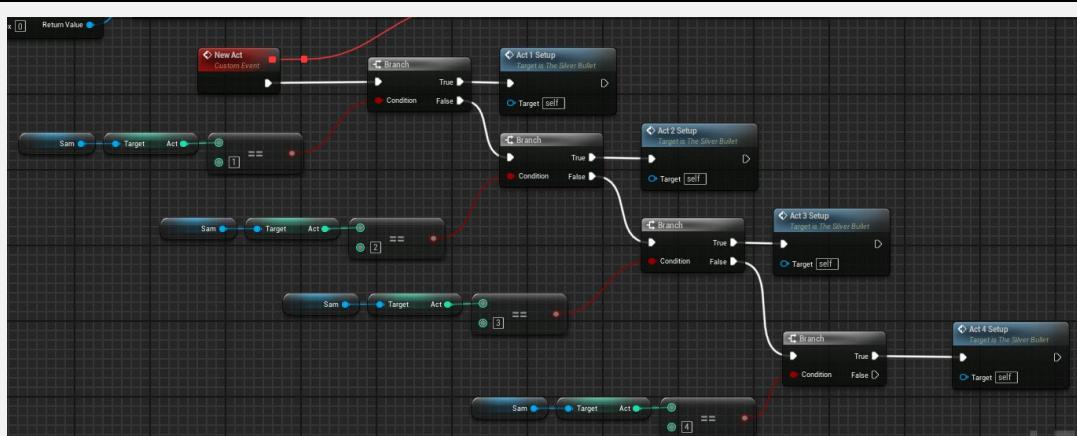


Working alongside the Acts system, controls which dialogue should be played

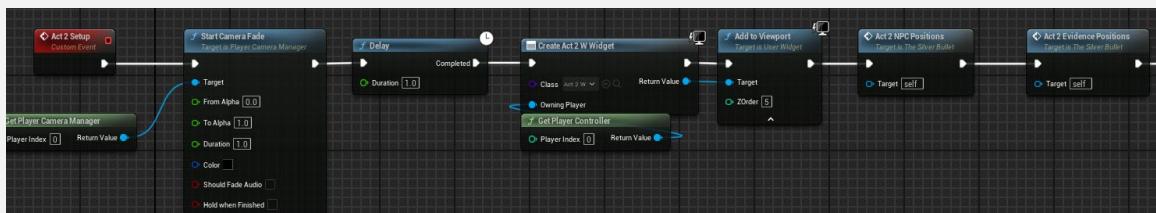
Appendix G: Acts

ACT 1: THE SILVER BULLET

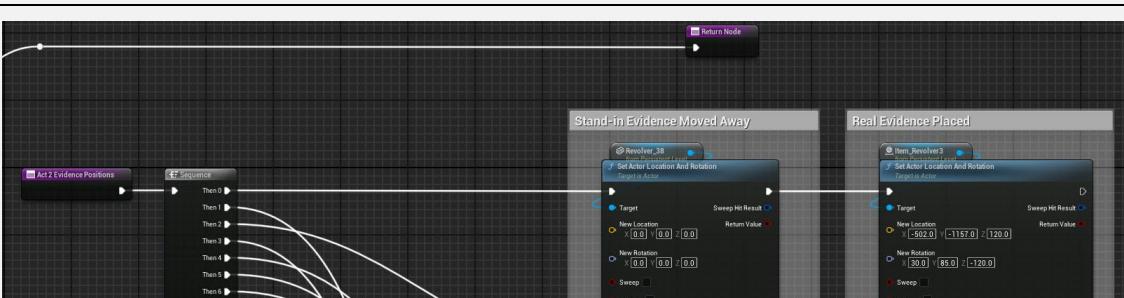
The widget indicating the start of a new Act



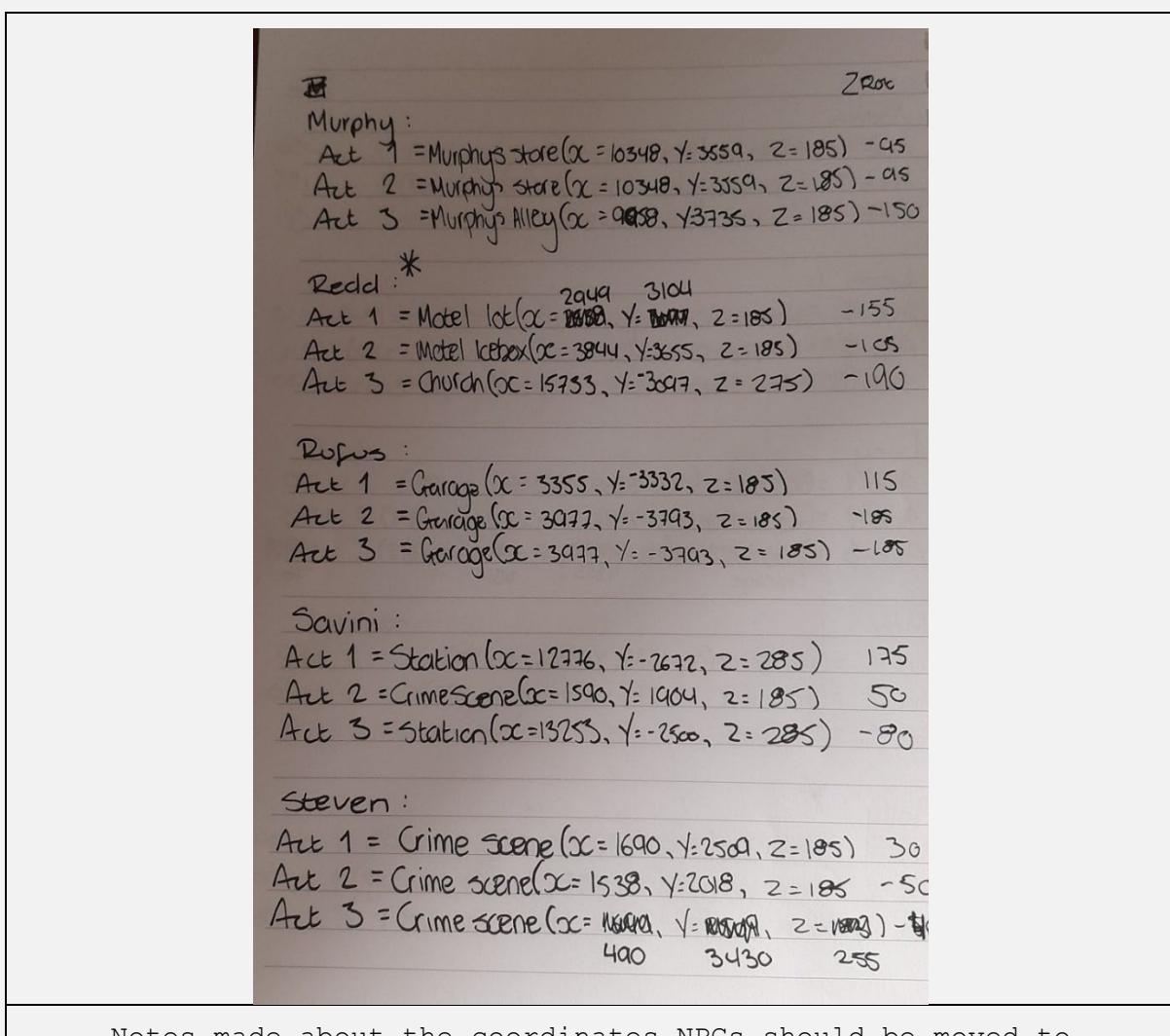
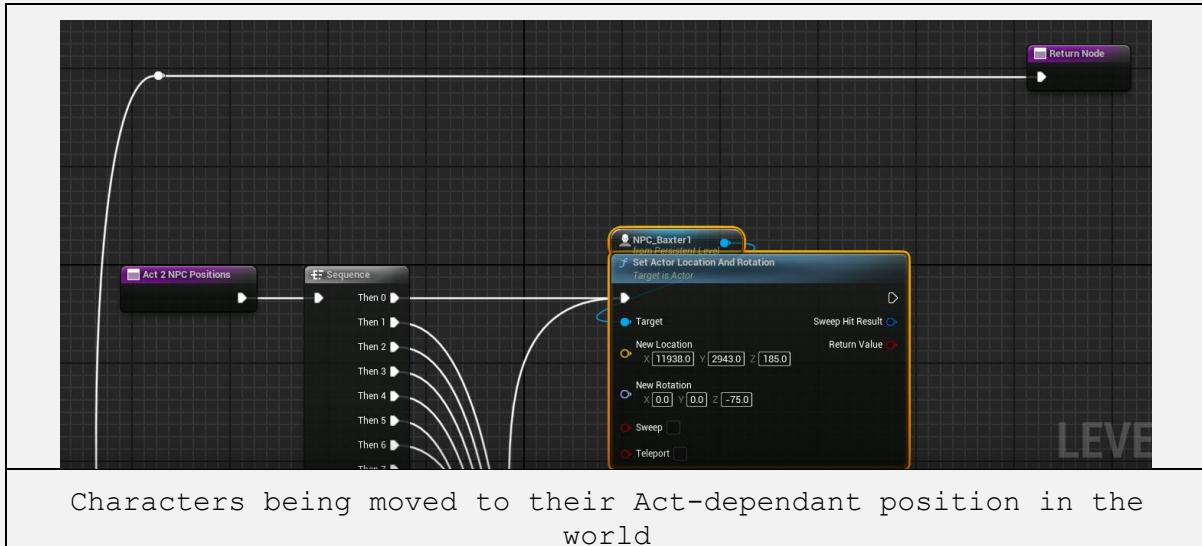
The New Act function that controls when an Act should be switched



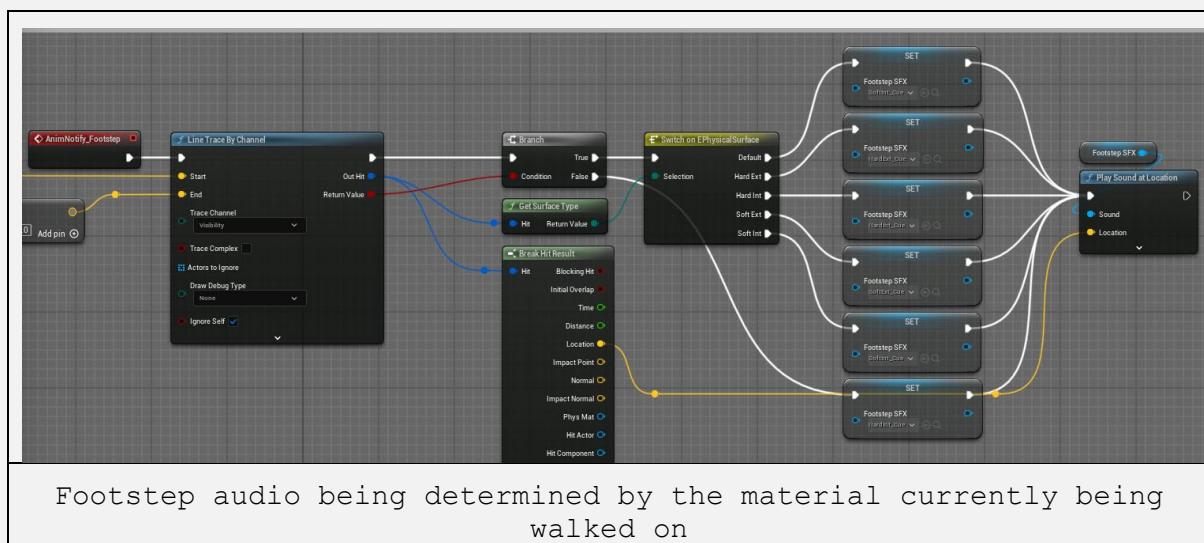
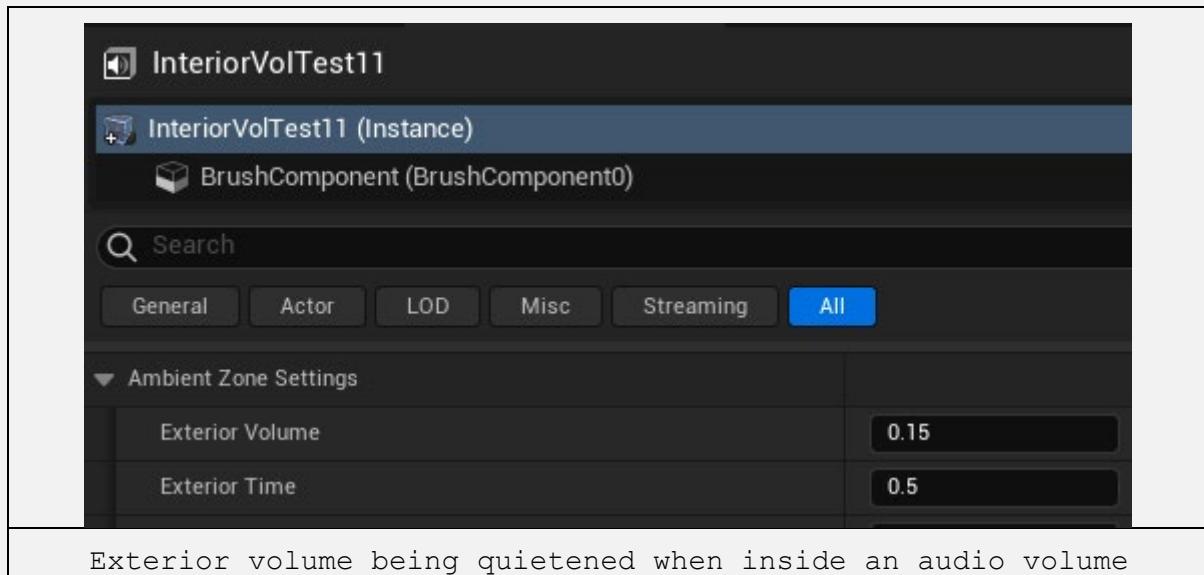
The functionality taking place at the start of an Act, moving evidence and characters



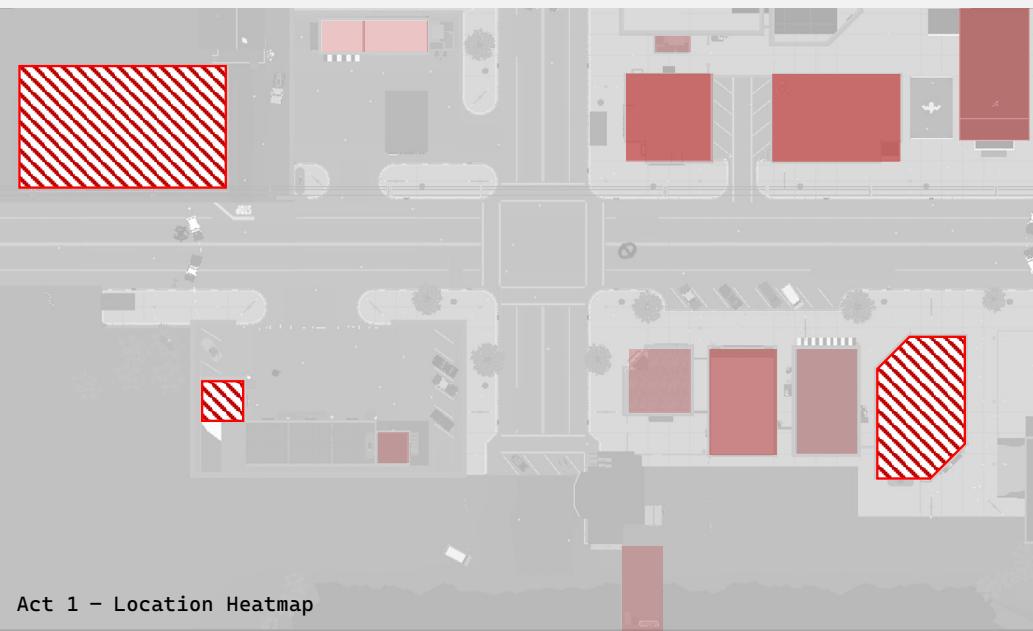
Evidence being moved to its position in the world



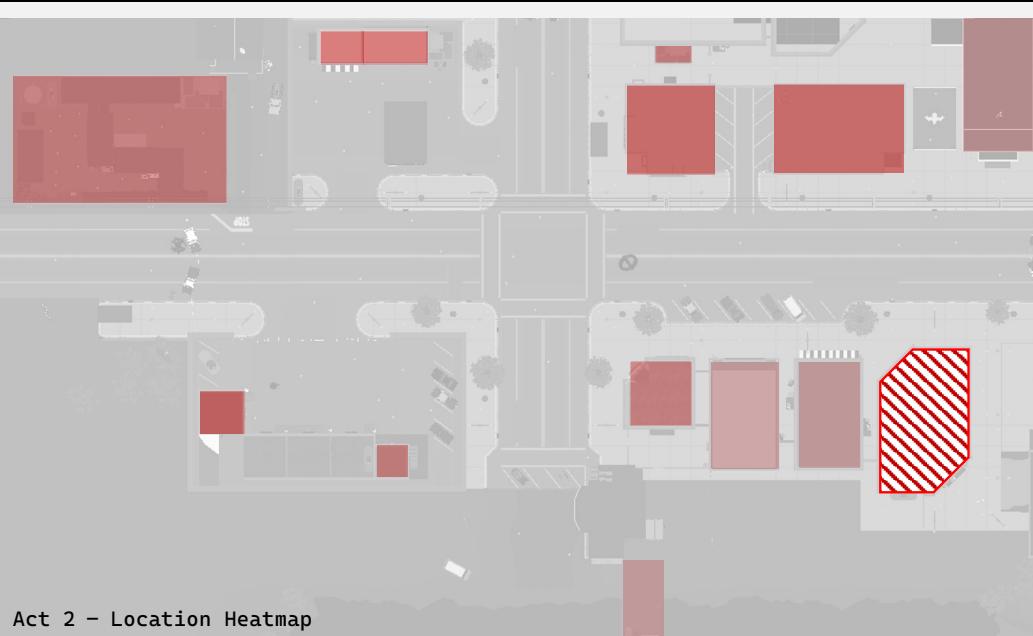
Appendix H: Audio



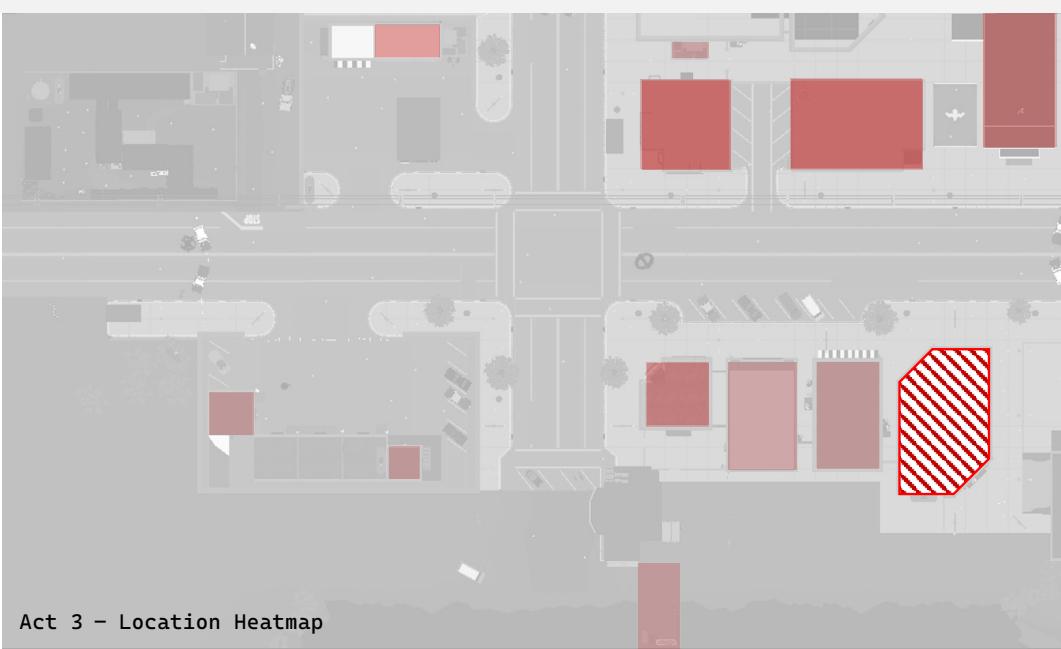
Appendix I: Playtesting Data



Reconstructed heatmap of locations explored in Act 1



Reconstructed heatmap of locations explored in Act 2



Reconstructed heatmap of locations explored in Act 2



Reconstructed heatmap of characters spoken to in Act 1



Playtesting Feedback

Player 1:

- good atmosphere with rain and fog
- missing puddles
- changing footstep SFX was nice touch
- flickering lights cool
- easy to get lost
- could use more guidance
- dialogue seems well done

Player 2:

- like the range of characters
- good ~~background~~ dialogue
- big level - lots to explore
- some NPCs feel not important

Player 3:

- good buildings
- lots of decoration
- needs more lighting
- item pickup is intuitive - well integrated
- liked details (pool balls, paint in apartment, sign flicker)
- missed some characters

Transcribed player feedback in short form (1 of 2)



Player 4:

- appreciate the minimal UI
- tone and atmosphere spot on
- reminds of Alan Wake
- interesting characters + dialogue (unique)
- some controls not taught
- needs more crime scene

Player 5:

- good level design - believable space
- footsteps are nice touch - good audio in general
- character voices would be nice
- pool table is great
- could do with more player guidance

Transcribed player feedback in short form (2 of 2)