Mind the Gap

By Cal Thorndyke
UAL: MA Virtual Reality
21032739

Revision: 0.0.1

GDD Template Written by: Benjamin "HeadClot" Stanley

TABLE OF CONTENTS

Overview

Theme / Setting / Genre
Theme: Mysterious Escape Room Experience
Setting: The London Underground (Subway/Train)
Genre: Thriller/Puzzle

Core Gameplay Mechanics Brief
GM #1: Grab and place
- Player presses left and right triggers to grab words floating around the environment and when they place the Object on a correct word pad it will snap in place.

GM #2: Button Press Sequence
- Players will be able to push buttons that are around the environment using their left or right hands to trigger a sequence of events in a certain order.

GM #3: Grab and Move
- Players will press the left and right triggers to pick up certain objects and physically move the objects to a different area while letting go of the triggers to release those objects.

GM #4: Pulling Sequence
- Players will be able to grab and pull certain objects or handles in the environment either up or down depending on events sequence within certain puzzles or tasks.

GM #5: Movement
- Player uses the left joystick to move around the environment and the right joystick to rotate their field of view around the environment.

Targeted platforms
- Oculus Rift S (Tethered Headset) – Primary Platform Target
- Oculus Quest 2 (Wireless Headset)
- HTC Vive (Tethered Headset)

Influences (Brief)
Escape Room: Tournament of Champions (Film)
- This film puts multiple people into lethal escape rooms and in this sequel, there is one escape room which takes place on a train carriage. I felt that this would be interesting to do in virtual reality because you are limited by space the same as being tethered to a headset and this would also be good for a linear experience to simple move up and down the carriage.

Death Note (Japanese Manga Series)
- The main premise of death note is a Shinigami (Supernatural Spirit in Japanese religion and culture) called Ryuk becomes bored and decides to give a mortal human his death note which can kill anyone who's name is written within the book. I thought this premise was interesting just the idea of a spirit being bored and wanting to be entertained so I wanted to carry this premise into my experience so that the entity is trying to entertain himself by making people who have died complete tasks for him in order to live again.

The elevator Pitch
The player finds themselves in a difficulty situation on the London Underground where they are between life and death with a demonic entity testing them with multiple puzzles and tasks in order to have the chance of living again and escape the supernatural world they have been thrown into.

Project Description (Brief):
This project is called 'Mind the Gap' and is a supernatural escape room type of experience with an immersive narrative based around the whole environment the player is thrown into. The main theme of this experience is to complete tasks or puzzles within a certain time limit while also giving the illusion of choice or uncertainty while being instructed what to do by the entity or antagonist of the experience.

Project Description (Detailed)
Mind the Gap is a short story driven Virtual Reality experience in which the player starts on an Underground train and are suddenly killed in a crash only to find themselves brought back by a reaper/entity that has given the player a second chance to live again. The entity who saves the player is bored, wanting to be entertained and so they place the player into a purgatory state to test them and see if they deserve to live again. The tests are based on four tasks which involve the players heart, wits, strength and their speed and these will all need to be completed to escape this purgatory train and return to the living world.

The main driving force for the narrative is the entity acting as the train announcer instructing the player throughout the experience on what they need to do next. The entity is the only speaking character in this game and so continuously guides and speaks to the player as they progress through the train carriage. As the players completes tasks the announcer will gradually start revealing more information and subtilties behind what has happened to them. This eventually leads to the announcer being found at the front of the carriage and leaving the player and returning them to the original carriage before they were killed leaving a small level of mystery for the player to question.

Each task that the player encounters have a narrative purpose to the overarching story where the entity wants to test the player and see how they deal with different types of situations while finding out more about them. The first task acts as both a tutorial area for the user and acts as the first task which is the 'Test of Hearts' where the player needs to grab and choose an item that means most to the player which will be between a wallet, book, watch and a gun showing their personality. The second task will be based on their wits showing the players mind/thinking where they will need to press a sequence of buttons in a certain order dependent on their knowledge of chess piece strengths. The third task is a test of strength where the player will need to move a series of objects around the environment while the fourth and final task is a test of speed where the player as a short amount of time to pull several handrails in the train carriage in order to progress.

This experience uses rather simple VR mechanics of moving, grabbing, pulling and pushing interactions around the environment while keeping the player on a linear path to create a short narrative game while also including many different gameplay elements to trigger the players interest and attention. The narrative driving force of the train announcer gives the illusion of choice by keeping some statements, questions and instructions open ended for the player the insistence on moving quickly to keep the sense of mystery and create a sense of urgency.

What sets this project apart?
There have been multiple Virtual reality games and experience which create escape rooms, but I feel what sets this experience apart is the driving narrative and reason behind the whole story for this game. Most escape room games will have the player try to find puzzles and clues to escape the environment like a real escape room experience would but there isn't always a direct story or narrative driving the whole experience. While I would classify this game as type of escape room experience, it is quite different in the ways that it is more being instructed to complete tasks, almost like a game of

Simon says due to the train announcer continuously communicating and telling the character what they want them to do next.

Core Gameplay Mechanics (Detailed)
CGM #1: Grab and place

- Player presses left and right triggers to grab words floating around the environment and when they place the Object on a correct word pad it will snap in place.

CGM #2: Button Press Sequence

- Players will be able to push buttons that are around the environment using their left or right hands to trigger a sequence of events in a certain order.

CGM #3: Grab and Move

- Players will press the left and right triggers to pick up certain objects and physically move the objects to a different area while letting go of the triggers to release those objects. This is another basic VR functionality in which the players will quite easily be able to grab and move an object especially with the joystick movement assisting in this mechanic in case an object is out of reach.

CGM #4: Pulling Sequence

- Players will be able to grab and pull certain objects or handles in the environment either up or down depending on events sequence within certain puzzles or tasks. This will also hopefully be a moderately easy task depending the speed of the player's movement and possibly depending on the play environment if they are able to reach far around them or also the height of the person playing.

CGM #5: Movement

- Player uses the left joystick to move around the environment and the right joystick to rotate their field of view around the environment. This is a very basic VR functionality and will be easy to use and understand for experience gamers who are used to movements with joysticks.

Story and Gameplay

Story (Brief)

The player is suddenly in a blackout and crash on the London Underground leading to the characters death, but they are brought back by a grim reaper/entity that has given the player another opportunity to live again. The entity wants to test the player to judge there will to live while also wanting to be entertained in the process by making the player completing a series of tasks or puzzles in order to escape the train and return to the world of the living.

Story (Detailed)
The player starts in the middle of a normal London Underground carriage on their way to the next tube station where they can see multiple NPC characters sat around them in the carriage. The player will hear the normal rumble and tumble of the underground as well as the normal train announcements indicating what the next stop is going to be etc. Shortly after the story begins the lights will start to flicker leaving the players visual in complete darkness where they will suddenly hear a loud sound of the train crashing. The lights will start to flick back on revealing that everyone else in the carriage has suddenly disappeared and the main character is left in the carriage on their own.
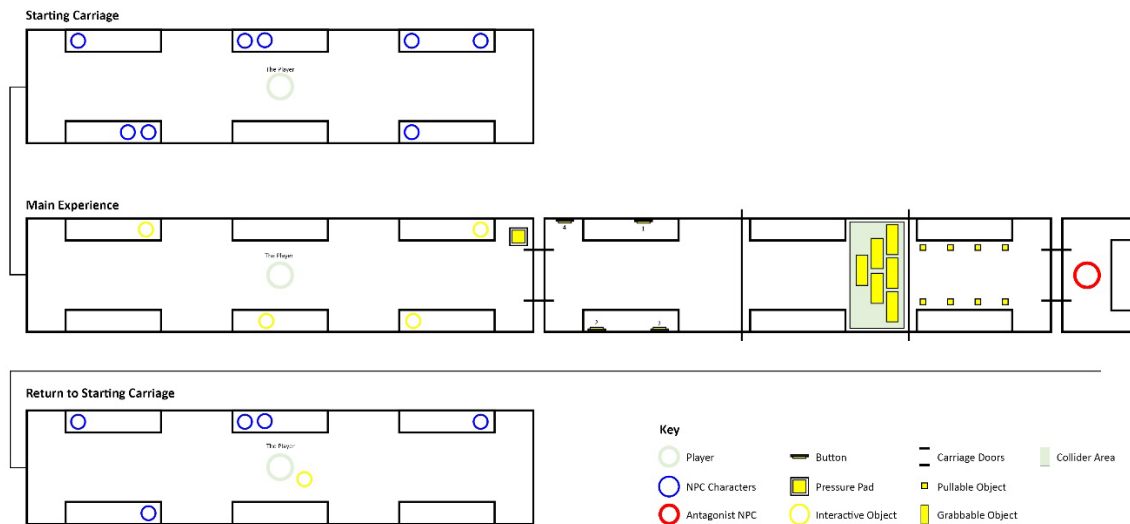
You will then start to hear the train announcer's voice change revealing a new male character that will begin to talk and taunt the main character. This voice will tell the player that if they want to continue living, they will need to do what he says and complete certain tasks and puzzles within the process. These tasks are split into four objects which are a 'Test of Hearts', 'Test of Wits', 'Test of Strength' and a 'Test of Speed' which the player will complete over the course of the experience. The test of hearts will involve the player needing to pick one of four objects around the carriage that means most to them to show the entity what their personality is like. The objects of choice are a wallet which represents greed, a watch which represents time, a book which represents knowledge and a gun which represents aggression. Once the player has picked an object the door to the next carriage will open and reveal the next test of wits.

The test of wits is a simple knowledge question involving chess where the player will need to press four buttons showing four different chess pieces and press them in order of weakest to strongest (Pawn, Rook, Knight, and Queen). After the button sequence is completed the Test of strength will begin and when the next doors open the player will see a large pile of luggage and objects blocking the door to the next section. The player will need to move all the objects out of the way of the door for it to open as quickly as possible. During the process of all these tests the train announcer is continuously talking to the player, taunting them, and guiding them through the experience while making some witty remarks and questions for the player. After the player completes the test of strength all that is left is the test of speed in which the player will see multiple handrails around the last sections that they will need to pull all of them in under 30 seconds to release the final door.

After completing all the tests, the final door to the driver's carriage will open and when they go through the door, they will see the entity who has been testing them sat in the driver's seat. They will speak to the player for a short time explaining that they are fascinated by their choices and were entertained while also saying that they will meet again soon. The lights will start to flicker to black and back again showing that the entity has disappeared. While the lights are still flickering the player will see out the window of the driver's carriage to see a dead end approaching and right before the collision, it will completely cut to black again with a large crashing noise like previously. When the lights come back on the player will be stood back where they were at the start of the experience with other NPC characters around them. However, they will notice that there are less characters than previously perhaps indicating that they all went through the same tests that they did. If the player looks down to their left hand, they will see the object that the picked at the start of the experience showing the choice that they had made of their heart.

The Player Journey

Train Announcer

Scene Transition

First Carriage

Train Announcer

Player walks to end of the carriage

Train Announcer

Puzzle 01 (Test of Hearts) — Pressure Pad (Object Choice) — Train Announcer

Multiple Choice Objects (Any Object)

Wallet (Choice 01)	Watch (Choice 03)
Book (Choice 02)	Gun (Choice 04)

Door opens to second carriage

Train Announcer

Puzzle 02 (Test of Wits)

Train Announcer

Button Sequence — Train Announcer

Button Sequence Choices (1,2,3,4 Sequence)

Power (1 of 4)	Bright (2 of 4)
Book (3 of 4)	Queen (2 of 4)

Door opens to the next section of the carriage

Puzzle 03 (Test of Strength)

Move Luggage (Objects) — Train Announcer

Multiple Moveable objects (Any sequence)

Luggage 01	Luggage 02	Luggage 03	Luggage 04
Luggage 05	Luggage 06	Luggage 07	Luggage 08

Door opens to the next section of the carriage

Puzzle 04 (Test of Speed)

Pull Hand Rails — Train Announcer

Multiple pullable objects (Any Sequence)

Handrail 01	Handrail 02	Handrail 03	Handrail 04
Handrail 05	Handrail 06	Handrail 07	Handrail 08

Door opens to the drivers carriage

Drivers Carriage

Train Announcer

Environment Change

Scene Transition

Starting carriage

Environment Change

Player looks down at right hand and sees they are holding an object — Players Object of Choice

FADE OUT

THE END

Key

Audio		Scene Transition		Background Audio	Task/Objective
Environment		Interactive		Environment change	

World Layout/Environment

Gameplay (Brief)

The main gameplay elements for this experience will be based on the 'tests' or tasks that the player will need to complete. The player will be able to move and look around using the VR controller joysticks and using the triggers will be able to grab and interact with certain objects in the environment. Each test will have a slightly different gameplay element but still using basic VR functionality from grabbing and placing objects, pulling levers, pushing buttons and move around objects within the environment all while moving down a linear story path within the train carriage.

Gameplay (Detailed)

The gameplay for this experience is based around rather basic virtual reality functionality of moving and looking around the virtual environment and interacting with certain elements within that world. The story or narrative for this experience has a series of four 'tests' or tasks that the player will need to complete over the duration of the story while being prompted by the train announcer. The 'Test of Heart' will involve the player needing to look and move around the carriage to find and choose an object that means most to them. To do this the player will need to grab an object using the left- or right-hand trigger and place that object onto the pressure pad located at the front of the train carriage by releasing the object they are holding using the trigger.

The 'Test of Wits' will involve the player having to press a specific button sequence based on their answer to the question given in this part of the narrative. Four buttons will be around different areas in that section of the train carriage displaying either an image of a 'Rook', 'Pawn', 'Knight' or 'Queen' chess piece or the player will need to press these buttons from weakest to strongest chess piece. To do this the player can physically use their hands to push the buttons which will then snap down in place and if all the buttons are pushed in the correct sequence the door to the next section of the carriage will open but if they push the buttons in the wrong sequence the buttons will reset, and the player will have to start again.

The 'Test of Strength' is a simple mechanic in which the player will be displayed with several intractable objects that are currently blocking the doorway to the next carriage and they simply need to move these objects out the way of the door for it to open. Using the left or right hand trigger the player can grab and move any of these interactive objects and the goal is to move all of these objects

to the other side of the carriage to reveal the door. This will be achieved by having a hidden collider that will open the door if all objects are removed from the area allowing the player to progress to the next section. Lastly the Test of 'Speed' will simply involve the player needing to grab and pull down all of the handrails in that section of the carriage within a certain time frame and there is no specific order as long as all have been pulled down in order for the player to progress.

For the narrative of the story the player will be guided and instructed what to do over time via the continuous train announcements from the entity of the story telling the player what to do. The player will not be able to leave the train carriages or attempt to go to a previous train carriage from the start of the experience so they will only be able to continue moving forward. The player can however move backwards to the previous test areas they have just completed if they choose but this will have no benefit to the overall task, gameplay or narrative of the story. The only interactive elements of each train carriage will be the laid-out tasks or 'tests' that the player will need to complete over time.

Ethics of the Experience

There is also the possibility of ethical challenges in this experience which would need to be considered in the production and development of this experience. One of the most important aspects is accessibility due to the physical needs of the gameplay because this experience is designed to be reliant on someone who can stand and fully move around to navigate around the environment by reaching and grabbing objects to complete the tasks or objects. In order to be more user friendly, the game could have adjustable POV to variable heights and possibly having scalable objects that can move to alternate positions to be more accessible. Subtitles and haptic feedback can also be included for those with other physical, visual or hearing impairments due to the train announcer or antagonist being such a vital part of the game's narrative guiding the player through the experience.

Another aspect which will need to be considered is the potential user trauma due to the experience loosely being based on real world environments like the London Underground and the somewhat intense or fearful situations that some players might feel or interpret during their playthrough. A solution to this issue will be to add an age restriction and disclaimer to warn players before starting the full experience. Lastly Improper distances will also need to be considered because some players may reflect themselves or their own emotions in the experience. A way of preventing this is the use of a silent protagonist within this narrative as the playable character which aims to keep their focus on the story and the environment to distance themselves from believing they are in danger while in VR. However, it would also need to be considered that the use of a silent protagonist may also be a cause of improper distance if they choose to reflect themselves as this character because they have no speech or identity to begin with.

Assets Needed

2D
Textures
- Pawn Chess Piece (Texture)
- Queen Chess Piece (Texture)
- Rook Chess Piece (Texture)
- Knight Chess Piece (Texture)

3D
Characters List
- The Entity/Reaper (Antagonist)
- The Player: Unknown Character (Silent Protagonist)
- Multiple NPC Models (Sat around carriage at start and end of experience)

Environmental Art Lists
- Watch Model
- Wallet Model
- Book Model
- Gun Model
- Luggage Model
- Hand Rails
- Train Carriage
- Train Seats
- Train Tracks
- Train Tunnel
- Drivers Carriage
- Drivers Control Panel
- Train Carriage Doors

Sound
Sound List (Ambient)
    Outside
- Subway sound effect
    Inside
- Train Announcer Dialogue (Multiple MP3 Recordings)
- Crashing Sound effects

Sound List (Player)
Character Movement Sound List
    - Footsteps sound effect
Other sounds
- Example 1, Example 2, etc.

Animation
Environment Animations
- Floating Entities/Spirits outside train window
- Train Tunnel Lights (Moving through tunnel effect)
- Opening Door Animations
Character Animations
    Player
- Hand Grab/Movement Animation
    NPC
- Starting NPC Movement animations (Sitting, fidgeting, slight movements etc.)