ETERNAL SOULS

BRAINGENIX

Game Design Document
Written by: Josh Coldiron
Date: 4-1-2023

Revision: 0.0.0

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- 2D

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Revision History

This section will track any changes made in the document relating to the design. An example below is the format to follow.

Version (Number based on dev system)

List any changes made. (Update front page number) – Name of who changed it.

Overview

Philosophy
Philosophical Point 1:

    The goal is designed to promote the concept of Carboncopies brain emulation research. It will rely on the ERS engine project which will act as an open-source development tool.

Philosophical Point 2:

    The game is heavily story focused and many of the mechanics revolve around telling that story. Key elements will be dialogue systems that are player character to NPC, through phone texting systems, and through emails. The game will also rely on environmental storytelling to help flesh out the world the player inhabits.

Philosophical Point 3:

    The game will evolve as it progresses to introduce other game mechanics such as hacking and combat. This will help provide variety in the experience and translate the end game results of the Player Character existing in a virtual world.

Theme / Setting / Genre
Theme
A college student who comes to grip with his mortality through his interest in eternal existence with brain emulation research.

Setting
The theme of the game is a modern city with progressive developments. The color scheme and environment will convey the feeling of cold though. As the intensity ramps up due to the altercation the theme will be a warmer intensity. Light can be given off by alarms and lights as well as fire. Textures will be clean but still have a lived-in look. Music will largely be in the background for most of the level but will change to an intense fast tempo song for the scene where the player must flee.

Genre
3rd person Action-Adventure game. This game combines genera. It is primarily and Adventure game in the beginning that relies heavily on story and interaction with NPCs. As the game progresses more Action elements are introduced.

Core Gameplay Mechanics Brief
- Explorations of city environment
- Dialogue Choices with NPCs
- Communication and tools with handheld device
- Hacking
- Building a virtual world
- Strategic Combat
- Deep story

Targeted platform(s)
- Linux
- Windows 10+ (May be dropped later)

Monetization model (Brief/Document)
NA: Open Source, free title.

Project Scope
- The development time will be open without limitations as it relies on volunteers as well as the research that supports it.
- Volunteers and open-source tools will be used and all additional required financial costs will go through director Thomas Liao for requests.
- Schedule with Time Estimates: TBD

Team Info

- Core Team
    - Thomas Liao – Project Director
        - Approves project concepts, manages, and organizes ERS and Game Team
    - Alan Ordukhanov – Recruiter
        - Source Volunteers for project
    - Josh Coldiron – Game/Level Designer
        - Design Game Mechanics and Documentation. Develop level design for game.
    - Nikolai Schiller – Writer/ Story Boarder
        - Writing story, characters, and dialogue. Directing the cutscenes, cinematography, lighting, editing
    - Tomas Zergarra – Writer
        - Writing story, characters,
    - Jake Welty – Audio Designer/ Engineer
        - Audio Engineering, Sound Design, Music Production, and all music related development
    - Poonam Shokeen – Dev Lead
        - Responsibilities
    - Illya Baburashvili – Developer
        - Responsibilities
    - Jerome Lam – Developer
        - Responsibilities
    - Fabiano Souza – Developer
        - Responsibilities
    - Philip Gudijanto – Developer
        - Responsibilities
    - Sanyukta Loke – Project Manager
        - Responsibilities

Resources

Hardware

Volunteer's person equipment will be used for most of the project.

Software

Work is to primarily be done on open source or free applications. Some work can be done be done on personal applications if it is exported to a universal file format that can be edited at a later time by a team member.

Some tools include:
Google Office Suite – Communications, storage, and documentation
GitLab – File repository/ Project Management
Blender – 3D modeling
Inkscape, Vectr, or Apache OpenOffice Draw – Vector graphics
Gimp, Krita – Raster Graphics
Miro – Writing, collaboration, & Brainstorming
Ink – Dialogue scripting tool for engine

Influences

Movies: The Dark Knight, Ghost in the Shell, Matrix
TV Shows: Person of Interest, Evangelion, Upload
Games: Cyberpunk 2077, Mass Effect

- The films and tv shows give influence in respect to how to consider the world's future and interactions as well as how integrated human-machine technology might be handled. The games that influence us let us consider techniques for interactions between players and NPCs.

Project Details

The Pitch
- Experience a thrilling and thought-provoking journey as a student exploring brain emulation and confronting mortality in a story-driven 3rd person perspective game designed to promote Carboncopies' groundbreaking research on whole brain emulation.

Project Description (Brief)
- Eternal Souls is a 3rd person story driven game that educates the player about Whole Brain Emulation (WBE). The story follows college student Theodore Lallemant through his journey contemplating existence and continually living on past his mortal shell through WBE. The game will primarily focus on story telling interactions and evolve into more fast-paced action and strategy as the stakes get higher for the player.

Project Description (Detailed)
- The primary goal of this project is to educate players about Whole Brain Emulation (WBE) research by the parent company Carboncopies. At the Carboncopies Foundation, we believe that the possibilities and opportunities enabled by **Whole Brain Emulation** (WBE) represent the most promising technological path to overcoming our fundamental limitations as a species.
- The Main Character, Theodore Lallemant, is a smart college student, with a passion for trains, and wants to the right thing. He struggles with thoughts of his mortality and has an interest in the Universities' WBE program. Through him we learn more about the research as well as follow an adventure with twists and turns where he takes on a terrorist's group after he meets his supposed end.
- The game focuses on story telling mechanics allowing the player to converse with NPCs and learn about this interesting research and world of our near future. As the game progresses and the stakes are raised the player will have to escape, hack, and devise solutions for various problems on campus.
- The game will evolve once the player character becomes an emulation, and they exist in a virtual world. With a network link to devices in the outside world they can help solve the crimes of this terrorist group and help bring them to justice.

Story and Gameplay

Miro Board has break down of story and character notes as well as documents linked with high level details. The main/player character will be referred to PC or MC interchangeably. All story changes should be reflected in this document as well.

- **Quest 0**

MC's motivation to pursue WBE is simply out of fear of death and him almost being killed reinforces this. While getting groceries, A narrowly avoids getting caught up in the middle of a street fight, which further progresses his fear of death (and interest in mind uploading).

- **MC Navigating to lecture/university**

Carbon City - futuristic, high tech but realistic, not overly dystopian or utopian. Introduce MC, university student in apartment. Receives reminder for university lecture. Additional update that professor wants to speak with him afterwards. Show university campus

- **Navigate to campus and make it lecture**

PC must navigate to campus and to computational neuroscience lecture. Topic of lecture is WBE and recent developments in field. Meet and chat with other students before and after lecture. Discuss religious groups (Naturalists) who are protesting WBE.

- **Professor recruits MC to BrainGenix**

Antoine Lucas asks PC to help set up computer servers for BrainGenix - introduce company/system. Antoine tells A he was chosen due to his interest in WBE research and his computing expertise.

- **MC travels by train to research center**

PC leaves campus uses high speed train to travel across city to research center. Journey shows off city landscape.

- **MC arrives at research center**

PC arrives at research center - high tech, semi-industrial concrete appearance. PC is given tour by Antoine and meets research team: Lucifer Toussaint, Marie Descoteaux, and Sophie Asefi. PC already knows Lucifer - shown as close friends. Quick explanation of WBE given. PC is taken to data center, briefed on task - setting up servers.

- **Set up servers**

Set up servers. Call researcher to confirm.

- **Terrorists hack research center, MC dies**

Terrorists hack into fire suppression system and release carbon dioxide into data center. They also hack door access controls, preventing door from being opened. PC tries escaping, makes it to door and screams to open door because he can't breathe. Terrorists have sabotaged the oxygen masks and door, making them inoperable. Cut to third person, show researchers on other side (including Lucifer) screaming and pounding to try and open the door. PC starts to feel effects of CO2 poisoning, puts hand on glass window of door, says "help me" inaudibly then sits down to accept fate. PC slowly comes to the realization that he is going to die and closes his eyes.

- **Introduction to virtual world**

Textures start loading in environment and avatar of PC forms. Antoine tells PC about the terrorist attack and how he died trying to escape. Antoine explains that although his physical body died in attack, his brain was preserved. Antoine tells PC that they have been uploaded to a virtual world and explains preservation, scanning, emulating, and uploading. Shows short video log of process. Tutorial introduction to virtual world - how to alter it and such. Explain domains - virtual environments that are independent of each other but interconnected, like websites. How to interact with virtual environment (and other emulations when they appear), how to use enhanced abilities. Tutorial to show editing mode.

- **Create avatar**

Choose and customize avatar to reflect new emulated identity.

- **Intro to HUD interface and social media system, discovery of Naturalist misinformation.**

Sophie introduces the new HUD interface to PC. There's a social media system which Sophie guides the player to check. A discovers posts on social media about how Antoine is the bad guy, and the PC is a victim.

- **Hack professor's computer, locate terrorist computer**

PC thinks that Antoine is the bad guy and decides to do some research on Antoine's background. This is the first hacking mission where the PC hacks into Antoine's server. A discovers that Antoine is not actually bad and is on his side. Only publications and credentials on server. PC goes through the logs in fire suppression system, finds IP address of computer that connected to system. PC hacks into computer and follows short chain to computer in a cafe. PC hacks

into security camera system there and finds footage of when computer was used at time of attack. PC finds out that a high-ranking member of the Naturalists performed the attack (this will be Lucius Orlov).

- **Naturalist fake news / propaganda, terrorist attack on research center**
Naturalists claim (via social media image/video) that Antoine killed one of his own researchers to use as a test subject in his experiments. They also talk about the PC as if he weren't alive as an emulation (using phrases like: "He was" or "He will be remembered as"). They have some deep fakes of Antoine pulling the fire alarm and locking the door to trap the PC inside.
The PC is angry at Antoine and demands an explanation. Antoine calls him to explain. Midway through their conversation, Sophie runs into room where Antoine is having his call and tells them to turn on the TV. On TV, the Naturalist leader, Ophelia Magdalene makes an announcement telling the public to demand that emulation research cease and to oppose Antoine's research organization. This announcement will incite anti-emulation protests around the research center where they have signs saying that Antoine murdered the PC, and that sort of thing. This should also make the player angry at the Naturalists and confirm what Antoine was saying. Lucifer runs in and shows via cameras that armed terrorist scouts in combat gear are approaching BrainGenix's research site. Lucifer calls up the PC and tells him about the Combat System which was created after the last terrorist attack.

- **Learn Combat System**
PC is given tutorial on how to use the Combat System.
Shown special system of AI guns/turrets designed to protect research center in event of threat/attack (installed after the attack that killed them).
Designed by the security team in response to escalating protests and violence.
Show prior evidence of attack on facility, perhaps crowbar laying around, or something like that).

- **Stop terrorists from reaching data center**
PC identifies terrorist scouts before they enter building. Terrorists are spotted in back alleyway searching for something (access card to data center that one of the researchers would have dropped, plan to shoot up research center to get card if they can't find one) but this is not known to the PC. Terrorists then break into building via back door where The PC's servers are as well as all the researchers. PC must keep the terrorists from reaching the data center and help the researchers escape. Will be the first major event in the game and will have a lot of player input. During this event, the player and researchers will overhear a snippet of conversation that will have Ophelia's voice in it.

- **Aftermath with police**

Police show up, Lucifer brings up the voice that they overheard and links it to the Naturalist leader (Ophelia). The leader was referred to with some codename (Vedma). Police don't believe him. PC then calls Lucifer and pretends to be a building security contractor who was monitoring the cameras and saw and overheard the conversation with the Naturalist leader. Police still don't believe that the Naturalists are involved. Marie receives phone call at this exact moment and walks out (this is where Marie is forced into being a terrorist operative).

- **MC appears on TV**

PC and Antoine arrange a televised interview with Rolande Sauvageot, a reporter from a well-known TV show - Carbon City TV (CCTV). The PC's aim is to educate the public on the opportunities that an emulated life enables, as well as clear the name of the research organization and prove that he's alive and well. PC gives a talk show style interview about life as an emulation (mainly positive, talks about enhanced capabilities but also acknowledges the need to adjust to living in a virtual world long term).

- **MC onboards new emulations**

The PC onboards second and third emulation. This is a short cutscene showing the introductory process as well as the benefits of being an emulation. Second emulation, Louie Thayer, was formerly a 90-year-old born in the early 1990s. Third emulation, Alex Morrison, was formerly a kid with terminal disease. Had ALS and used uploading to free himself from his disability. This scene will serve as a moment of levity where these somewhat outlandish characters bump into each other and their eyes are opened to the possibilities of emulated life.

- **More emulations arrive, virtual world grows into city**

More emulations appear in the virtual environment (months after the interview), and it has the size and appearance of a city e.g., Cyberpunk. Explorable via interconnected doors. More protests the research organization. More content from Naturalists on social media calling it wrong and those from the organization supporting it. Heated arguments in comment sections. The PC interacts with emulations (e.g., getting to know one another, interacting as a community, communicating by thought, emulation backstories) (overhear some outrage at the Naturalists, talking about current events). Antoine calls the PC, tells him about the skill transfer system, explains leveling system - see Features document.
Emulations make their own domains/extensions of the main area.
Antoine and researchers agree that they'd like to be uploaded if something happens.

- **Emulations start vanishing**

The PC's extended domain suddenly vanishes, some other emulations in other domains vanish as well. Antoine calls and informs PC that they have lost contact with the main data center and asks him to hack the security system for the data center.

- **Rescue the emulations**

Hack the security cameras to see what's going on. Reports back to Antoine and notify police that the data center is occupied by the terrorists.
Enter combat mode. Use control of lights, doors, locks, and weapons to manipulate the terrorists into a specific room in the data center.
Use the AI weapons to either incapacitate or kill them.

- **Police interrogation**

Police arrive, PC lets them into building whilst simultaneously preventing terrorists from escaping by controlling the doors. Police capture terrorists.
PC watches in on police interrogation (hacks into interrogation room camera), realizes that terrorists are communicating cryptic message about next target through lawyer intended for the other members of their terror cell. PC must decipher the clues and figure out what the next target is.

- **MC gets robot body**

PC gets a robotic body and is introduced to usage and other stuff. Robotic body is designed by emulation community for emulation community Open source and modular.

- **Deciphering the clues**

The MC follows terrorist's handover points to get clues. Everyone on research team is stumped about clues and worried they won't be able to stop attack in time. Lucius Orlov hacks researchers' computer and displays message saying he can help them figure out what the terrorists are planning in exchange for amnesty.
Reluctant, the team keeps trying to decipher the clues but no success, so they agree to Lucius's terms and promise him amnesty. He then assists them in deciphering the clues. Lucius explains that he was initially with the terrorists and after a while realized what they were doing was crazy and therefore wanted out. Lucius reveals that he was the one who hacked the fire suppression system but wasn't told that it would kill the PC, rather that it would just cause a distraction.
Lucius gives convincing evidence to the police that Ophelia is the terrorist leader. He joins the researcher team initially as a low-level researcher, eventually proving himself to the rest of the team. First point tells the PC that

threat will involve bombs, PC follows clue to next handover point, discovers that target is a building. The last clue is how many meters tall the building is which enables the PC to identify the target: BrainGenix HQ.

- **Informing the police**

PC informs police of threat and target.

Police give him access to security cameras/footage/turrets from target building. He accesses cameras for target building, rewinds footage to identify exact location of bombs within building. The PC tells special SWAT team where bombs are planted.

Carbon City Police send unarmed bomb squad to 4 locations (in BrainGenix HQ). SWAT team is also dispatched but terrorists block the routes so SWAT team can't reach the bomb squad. Police contact the PC and ask what resources he has access to help. The PC says weapons installed around the city to prevent crime and protect against terrorists.

- **Protect bomb squad**

Kill terrorists before they kill the bomb disposal experts.

Protect bomb squad, take them to other locations so they can disarm 3 of the 4 bombs.

- **Terrorists destroy HQ**

Last remaining bomb is on top floor of BrainGenix HQ where terrorists have taken hostages. Floor houses scanning equipment. Hostages can't be rescued as terrorists have cut power to floor. Bomb explodes - massive loss of life - mainly college students (from PC's class) who came to tour the scanning facilities. Rolande Sauvageot is also assassinated for hosting an emulation on his show. Act 2 low point.

- **Confronting the traitor**

The PC is devastated, so Lucifer investigates how the terrorists got access to the scanning floor, discovers that Marie's access card was used. Lucifer investigates further and notices that Marie is working as if everything is normal. Lucifer informs the police. Lucifer confronts Marie about why she gave the terrorists access, but Marie is already distressed and takes Lucifer hostage as the police enter the building.

Police reach Marie and Lucifer and there's a standoff. Short but violent struggle ensues, resulting in Lucifer being fatally wounded. Bullet hits the window so just glass fragments left. Marie, in shock at her own actions, confesses and provides information about terrorist leader (Ophelia) - show leader backstory.

Marie then tries to kill herself but has no bullets left as she used the only one on Lucifer. Marie runs at broken window, police can't stop her, she jumps and falls to her death.

- **MC finds terrorist leader**

Lucifer is uploaded and convinces the PC to return to the investigation. Police find phone on Marie containing a contact that matches terrorist leader's codename. A triangulates the phone to find last known location of terrorist leader.

- **Stop terrorist leader**

The PC and Lucifer go to location using robot bodies and hacking where needed. Police follow. Fight scene with terrorist henchmen ensues.
The PC locates Ophelia who is on the move via a high-speed train (3 connected carriages). Ophelia threatens to blow up train if police try to prevent her from escaping.
The PC sends secret message to all passengers alerting them of Ophelia's plan. Asks them to quietly vacate the carriage where Ophelia is and move along the train. Ophelia is watching and speaking to the police, not passengers.
Everyone vacates the front carriage (where Ophelia is) and the PC de-couples front carriage from rest, taking passengers to safety. However, Ophelia hacks the passenger carriages to try and regain control. The PC and Lucifer battle Ophelia and lose control for a while. PC and Lucifer de-energize track so Ophelia's carriage can't move. To avoid capture, Ophelia blows up her carriage, killing herself.

- **Resolution**

The PC is lauded as a hero. WBE is vindicated since it was the PC's enhancements as an emulation that saved the passengers. Tons of news coverage. BrainGenix HQ is rebuilt. Antoine receives Nobel Prize. PC and Lucifer share a heartfelt interaction before confronting Ophelia, who has been uploaded and put in a virtual prison.
Ophelia explains how her perspective has changed. PC reassures her that she will be released when her sentence is up - in 300 years. Ophelia doesn't mind now that she's immortal.
End on sweeping view of a bustling virtual world with millions of emulations - camera moves further away to reveal the scale of the virtual world - starts on city, then out to continent, to planet, to galaxy, to universe and finally out of the virtual world to a massive, heavily guarded server farm housing the emulations.

Gameplay

Gameplay (Brief)
- The game is about exploration and learning so it is slower paced during these events. There will be some intense moments and variety of mini games to break up the informational sections to help keep the player engaged.
    Movement: Walk, run, jump
    Camera: Look
    Interact: Examine, open doors
    Conversational: Talk to NPCs, text, email, call
    Tech: Navigation, social media, take photos
    Hacking: Doors, machines, trains, networks, accounts
    Combat: Attacking with hacked machines
    Misc: Server setup, terminal coding, train spotting
    Virtual World: World Editing, Teleportation, Flying

Gameplay (Detailed)
- Some of the following mechanics have been prototyped in a Unity build that can be found in BrainGenix's GitLab. Once implemented in ERS refining of mechanics may be done through further testing.

The following columns of mechanics is broken into categories. They can be referenced here when reading the descriptions in the document. Rather than using a single mechanic once it is better to build on it. This helps the player retain an understanding of how it works and how it adapts to a new situation without having to provide more tutorials. The player character will be referred as PC or through the rest of the document.

Some mechanics also aim to gamify certain elements and actions that would be in the cut scene to provide more interactivity for the player. Being there is a lot of stories to unpack there is a focus on conversational mechanics. This can vary from speaking in person, to email, social media, or text. It gives the player a way to interact while also gaining more info on the story. It also provides the player a choice to learn as much as they desire.

Later mechanics proposed for the virtual world will require further testing and refinement once we have the full capabilities of the ERS engine understood. These features will allow world customization as well as a place for emulated brains from the Carboncopies research to inhabit.

Core Controls	Action Controls	Tech Controls	Hacking Controls	Novel Controls	Combat Controls	Virtual Controls
Movement/ Camera	Running	Phone	Hacking Device (Real World)	Server Setup		Movement
Element Interactions	Jumping	Email	Hacking Virtual	Trainspotting		Special Abilities
Conversation				Terminals		World Editing

Core Mechanics

(Movement/ Camera) The core controls will be active from when the beginning of the game and used till the end of the game. Basic movement is controlled with the AWSD or arrow keys and through the left stick on a controller. Movement will be modified with camera controls and action controls (noted in the action mechanics section). The robot body the player inhabits late game will use the same core mechanics as the human form.

Movement inputs will always reference the camera view position. If the player presses up (forward) they will move in that direction and the camera will follow. Moving the mouse on a side-to-side axis or in conjunction with a left/right directional key you will move the PC in a diagonal direction. Pressing the left/right keys alone will change the PC forward trajectory to those directions and the camera will follow them on that axis showing their side view. Pressing down will allow the PC to move towards the camera and the camera will maintain the follow distances.

The camera, which is also a core mechanic, will also have an up and down viewing direction by moving the mouse forward/back or the right controller stick up or down. All these view mechanics can be inverted through the menu screen to accommodate players. These mechanics can be demoed in the Unity builds located in the team google drive. The camera will also have a controller that will help it avoid obstacles while keeping the player in view. This must work in conjunction with the players control of the camera.

Movement Controls (Keyboard)	Movement Controls (Controller)
Forward: Up Arrow/W	Forward: Left Stick Forward
Back: Down Arrow /S	Back: Left Stick Back
Left: Left Arrow /A	Left: Left Stick Move Left
Right: Right Arrow/ D	Right: Left Stick Move Right

| Camera Controls (Mouse)	Camera Controls (Controller)
Look UP: Move Mouse Forward	Look Up: Right Stick Backward
Look Down: Move Mouse Backward	Look Down: Right Stick Forward
Left: Move Mouse Left	Left: Left Right Move Left
Right: Move Mouse Right	Right: Left Right Move Right
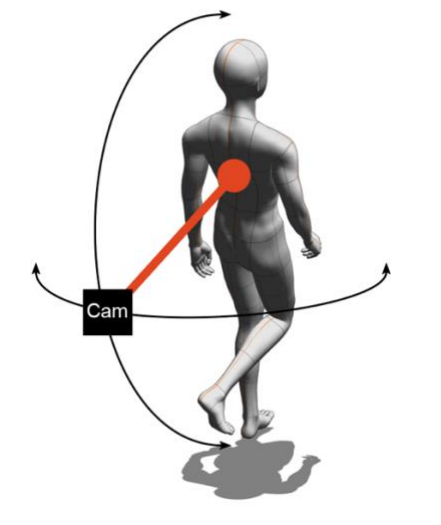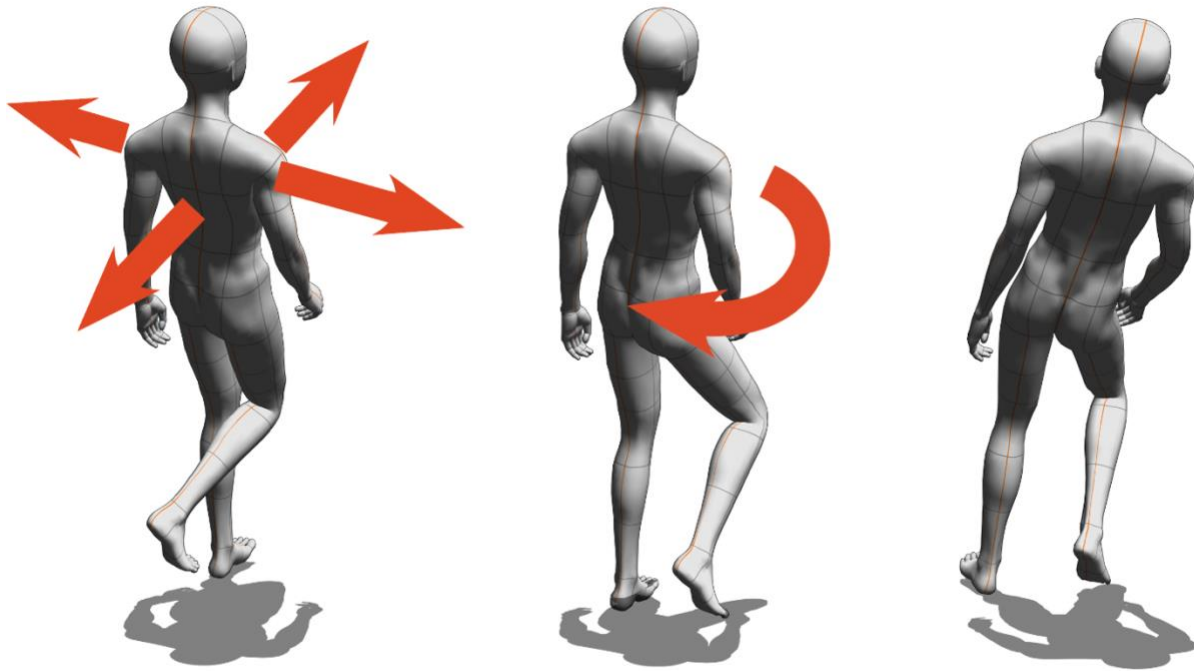
Above: Illustration demonstrates movement on a single axis as well as when turning is modified with camera controls.

Left: The axis movement of the camera with a center that is fixed. This axis will be linked to all movement controls and rotations.
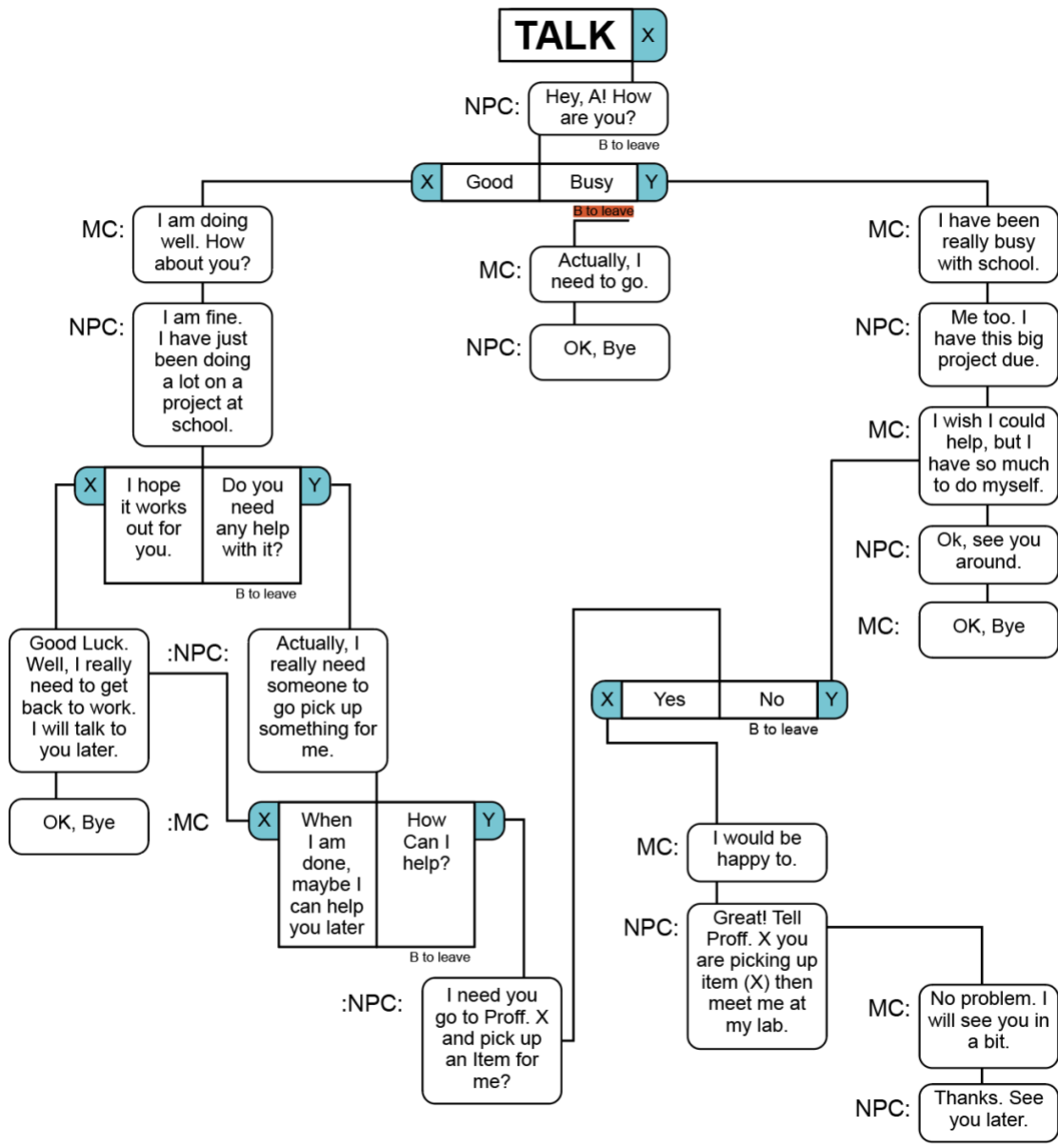
The controls are available in the demo on GitLab.

Conversational

Conversations with NPCs is the primary method in which the player learns more about the story. To make the experience of talking to NPCs interesting it is made into a mechanic which allows the player to have choices. These choices will have an impact on NPC responses and as to what information is obtained through those conversations. The player has the option to decide when they speak to available NPCs allowing them control of when to move the story along.
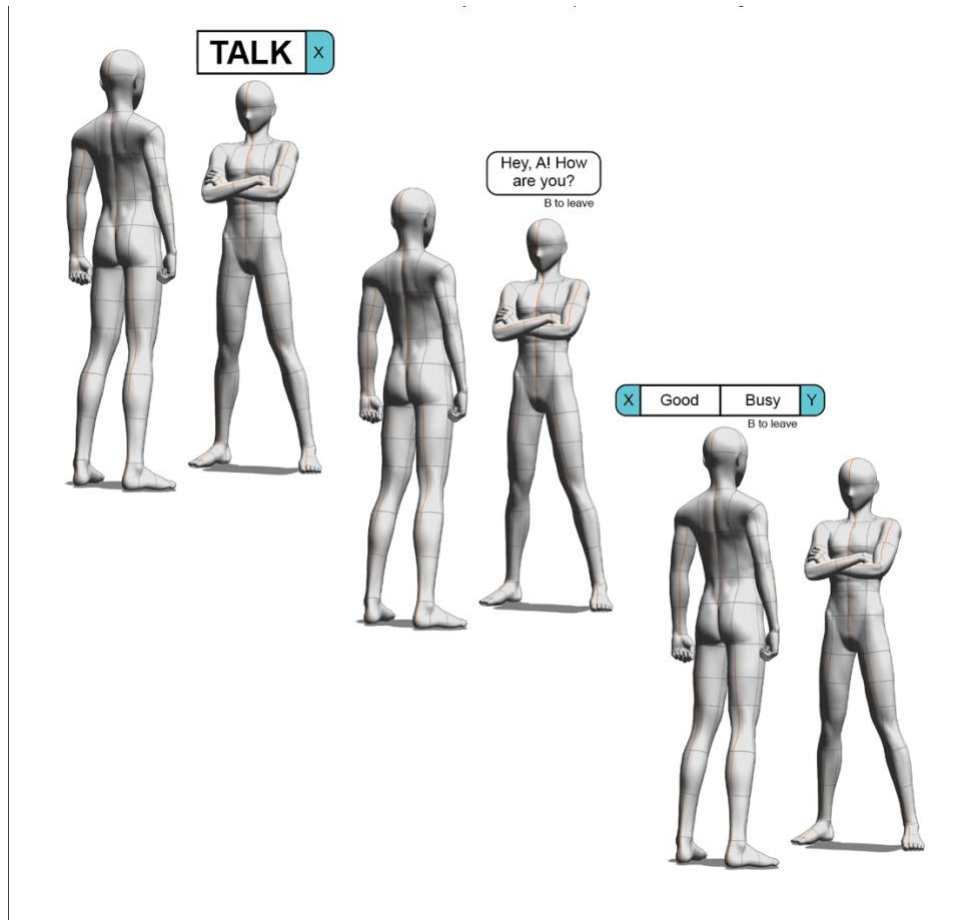
Conversation will be handled with the Ink plugin. Writers will produce dialogue and branches through an ink file which will be handled in the ERS system. You can read more about using Ink via the link: Ink Github
Below is an example of a branching conversation between the PC and an NPC. Selecting various options will cause each character to respond accordingly and direct the path of the conversation options. The writers will determine the branching paths as well as the final impact on story and events which the dev team will implement. Inky has its own editor and tag system that allows writers to make dialogue with branching choices that can be process through the dev teams code. A demo of the mechanic exists on GITLAB.

TALK [X]

NPC: Hey, A! How are you?
B to leave

[X] Good | Busy [Y]
B to leave

Left branch (Good):

MC: I am doing well. How about you?

NPC: I am fine. I have just been doing a lot on a project at school.

[X] I hope it works out for you. | Do you need any help with it? [Y]
B to leave

:NPC: Good Luck. Well, I really need to get back to work. I will talk to you later.

OK, Bye

:NPC: Actually, I really need someone to go pick up something for me.

:MC [X] When I am done, maybe I can help you later | How Can I help? [Y]
B to leave

:NPC: I need you go to Proff. X and pick up an Item for me?

Middle branch (Busy, B to leave):

MC: Actually, I need to go.

NPC: OK, Bye

Right branch (Busy):

MC: I have been really busy with school.

NPC: Me too. I have this big project due.

MC: I wish I could help, but I have so much to do myself.

NPC: Ok, see you around.

MC: OK, Bye

[X] Yes | No [Y]
B to leave

MC: I would be happy to.

NPC: Great! Tell Proff. X you are picking up item (X) then meet me at my lab.

MC: No problem. I will see you in a bit.

NPC: Thanks. See you later.

Interaction

Being able to interact with objects and scenes is another method in which the player can gain more info about the story through the environment. The HUD will display an icon showing that the PC can interact with it. The interaction is often followed by an animation and sometimes internal monologue that will elaborate on a situation. Examples of the uses of these mechanics are the player selecting a book off a shelf and thinking to themselves the importance of that book to them. Another type of interaction is one which something is

happening in the environment and the interaction button will focus the camera on the scene rather than the PC and allow a background animation to occur that will influence the story. The most common type of interaction will be those like opening a door. When a player opens the door, then an animation will play having them open and close it as they pass through the door frame. Below is a list of interactions. The interaction command will also begin other interaction types. For example, choosing to interact with certain elements will start a mini game in some situations.

Player Sees and selects   Automated animation   Examining (story)
interactive element   of situational element.   of situational element.
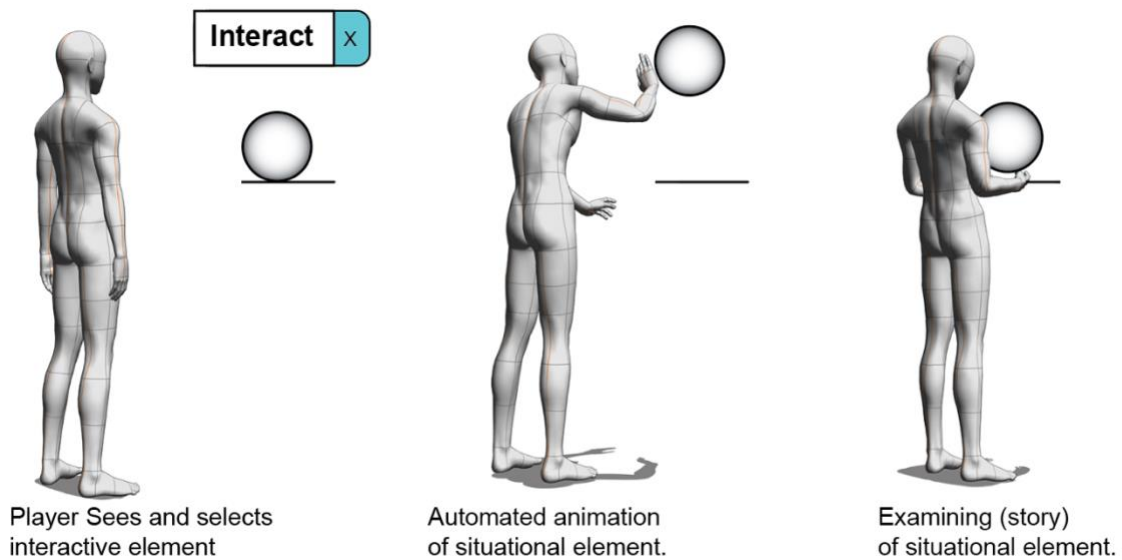
The interact is also used in narrative situations to direct the player's attention to an event or area. By interacting with a look prompt the PC will no longer be in control during these events. The camera will focus on a specific area and an animation will run the PC as well as any other events needed to tell the story.
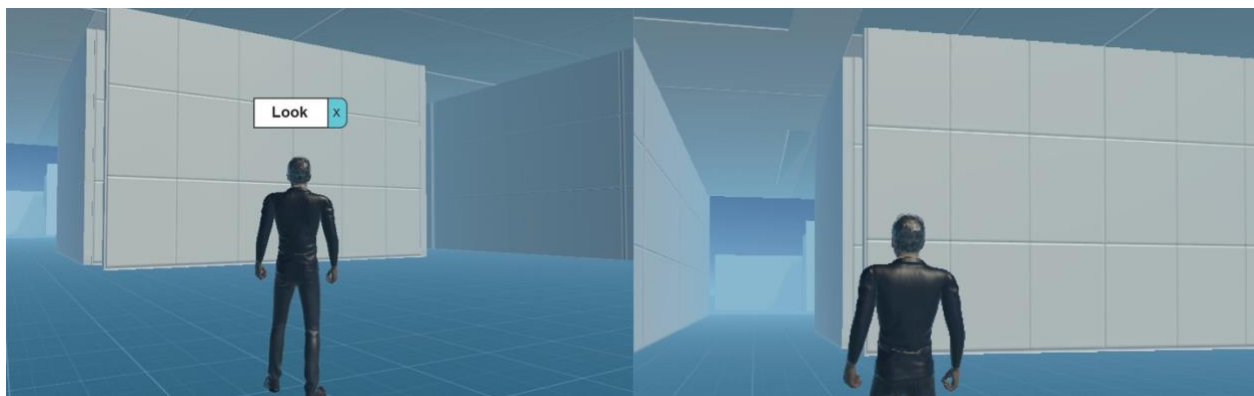
Action Mechanics
(Movement Modifiers)

These are movement modifier commands used for action scenes. They include a run and jump button. This is introduced during the first action scenes when the PC is required to flee the area to get to safety. Most obstacle avoidance will require running.

| Action Controls (Keyboard)	Action Controls (Controller)
Run: Hold Shift Key	Run: Click Left Stick
Jump: Press Space Bar	Jump: A

Tech Mechanics
(Phone)
The MC will use a phone for various task. It will have apps that gives limited functionality based on how they add to the story. The phone design and UI elements are for demonstration purposes only and are to by remade in final version by the UI artist. The following section will expand on the mechanics of each app and its application. Universal inputs will be focused on here. The initial functionality list of the smart phone is mail, text, social media, navigation, camera, and phone. Through testing we should consider merging texting and email to avoiding over complicating features. They may also pose as redundant features.

When switching to the phone mode, the player will animate reaching for their phone them the camera will move from 3rd person view to focusing on their device in their hand. The controls here will change to only focus on the phone UI. Below are the general controls.

Phone Controls (Keyboard)	Phone Controls (Controller)
Use/ Putaway Device: P Key	Use/ Putaway Device: D-pad Right
Navigate Apps: Arrow Keys	Navigate Apps: Left Stick
Confirm Choice: Space	Confirm Choice: A Buttton
Back One screen: Esc Button	Back One screen: B Button
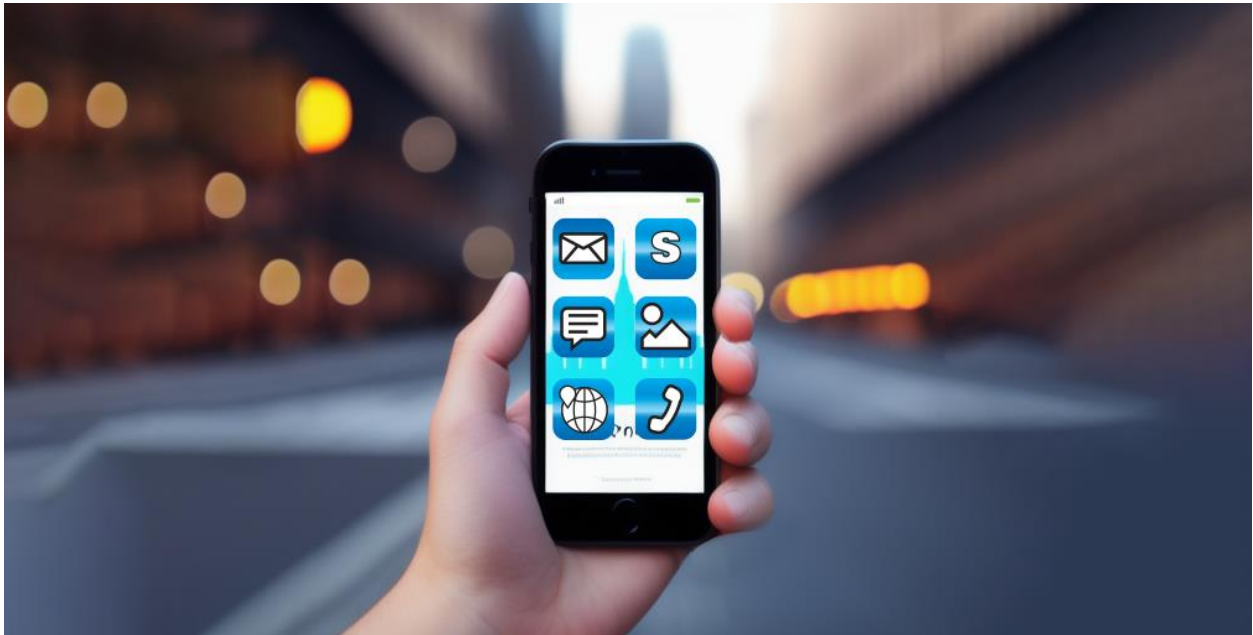
Apps

(Voice Call)
The player will receive calls and when occurring they will be only given the option to accept the call via the Voice Call app. This portion will function the same as the dialogue trees in a player to NPC conversation but handled through the phone. This will be used to direct the player during gameplay when there is no NPC in range.

(Navigation)
This app allows the player to select locations that are part of their current objectives. Activating this will overlay augmented reality over the world showing the path to take. The player can toggle this on and off. This portion can also utilize voice instructions which can also be toggled.

(Camera)
Allows the player to use their device to take pictures of the environment as well as view their photos.

(Social Media)
This allows the player to view social media posts as well as make occasional posts. Interaction in this mode is limited and meant to convey news related story events to the player.

(Text)
The player will receive text and when occurring they will be only given the
option to accept the call via the Text app. This portion will function the same
as the dialogue trees in a player to NPC conversation but handled through the
phone. This will be used to direct the player during gameplay when there is no
NPC in range. The player can also scroll through pasts texts as a mean to reveal
more story or as reminders to their current goals. Can act as a log for the
player.

(Email)
Email can work for long form texts for the player to read. There will be options
to reply. The player will be shown shorter versions of the text as their options
but be able to read the full text once selected.

Other app notes:
Apps will each need their own UI, but they will all use the same interaction
patterns.
If there are any additional app suggestions by the team, they should be listed
in this section so they can be explored and tested.

Hacking Mechanics

Hacking will be the primary tool for the PC to handle various situations. Rather than using brawn, he relies on his brains. The background of his device is his love for trains led him to use a pocket watch as his fashion accessory. The watch, however, is a device he built that allows him to conspicuously hack integrated technology around this game world. To keep the number of interactions simple the back story of the device was devised. The PC has already written code that would be used to hack these everyday devices. To go unnoticed, he uses a simple UI that is like a dial that allows him to select code that would hack the selected device with a remote connection. When this device is in use, the background will blur out over the device being hacked and the focus will then be on the tool. As the player moves the dial, they are given feedback when they are over code that is a solution. They can then select it and then move to the next level of hacking security where they repeat the process until the equipment is hacked.

Hacking Controls (Keyboard)	Hacking Controls (Controller)
Begin Hacking: Interaction Key	Begin Hacking: Interaction Button
Rotate Dial: Arrow Keys Left/Right	Rotate Dial: Left Stick
Confirm Choice: Space	Confirm Choice: A Buttton
Back One screen: Esc Button	Back One screen: B Button

Items that can be hacked: Doors, Cameras, social media, Machines, Train
On first use the player can select feedback types: Haptic, visual, audio

Novel Mechanics
These are mini game type mechanics that last for a shorter duration and are intended to break up the main gameplay as well as tell other story elements.

(Server Setup)
Server setup requires the player to connect cables and components in the correct configuration to setup a server for the (WBE) project. This involves the player selecting a component, then selecting the area to place it. The same action will be varied by placing cables and powering it on. The end of the server mechanic will transition into a terminal game.

(Terminal)
Terminal is where the player gets to sit at a mainframe computer and select commands to enter. This is setup with a similar system as the dialogue mechanic. When they select the correct commands, they will get a printout of text that goes onto the next stage of the game.

(Train Spotting)
Train spotting is a hobby that focuses on trains and related elements. This mechanic will be paired with the "look" interaction. When a train is present in the view of the player that is accompted with an interact prompt, the player can do a variety of tasks: Take a picture, log it in a notebook, record audio of it. This can be reworked into an app on their phone if we need to simplify the number of interactions.

(Train Driving)
Trains are one of the machines the PC can hack. Hacking a train will allow you to drive it to various stations as it pertains to the game story. Controls will allow you to change speed, direction, and stop the train.

Virtual World Mechanics
Once the PC has died and been emulated into the server, the player will then control their new form. From this point forward the gameplay will dramatically change, however mechanics will be rooted in the same control schema used previously to make the transition easy for the player.

(Avatar)
Once the player has gone through the death and rebirth cutscene they are able to create an avatar. This would take them from sort of simple digital shaped being and let them select features, and colors for their new player character.
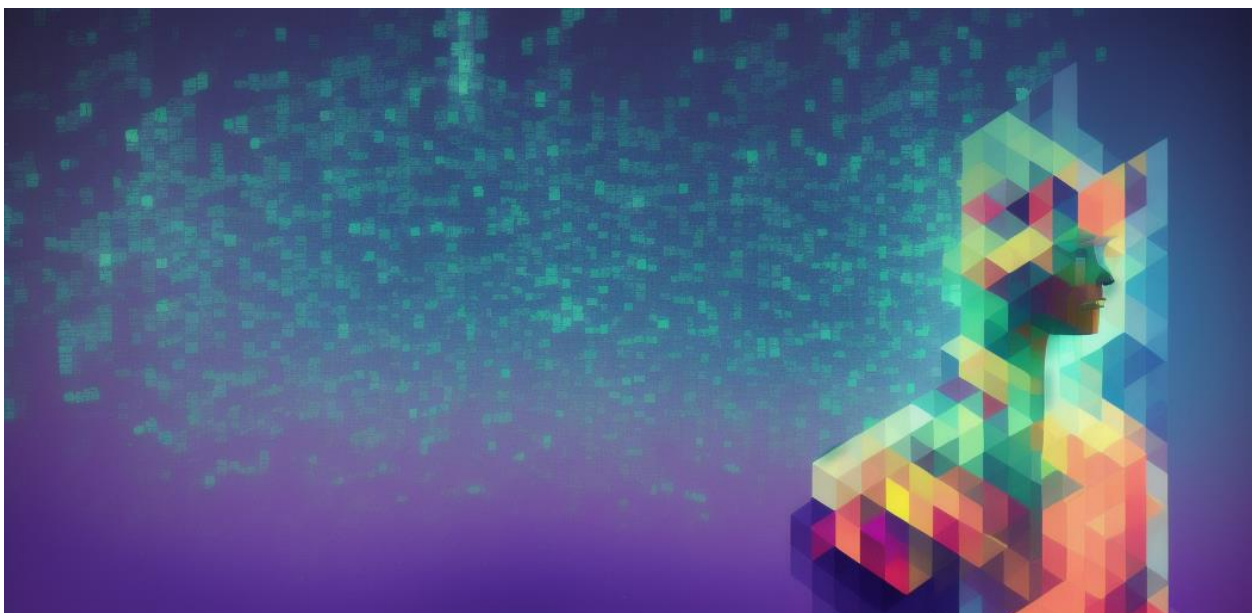
(World Editing)
A sub feature of the game will be world editing. This may be reserved for post story mode. The player will be able to design this world in which they reside. The player will be able to form structures with prefab walls, add lights, and a variety of decorations to make the space their own.

(Abilities)
The virtual version of the PC gains new special abilities once they are emulated. They can fly through the environment. They can continually hover and move around the same axis or now add a change to the Y-axis to go higher or lower in the environment. Using the shift key modifier will allow flying to be faster.
The next ability is teleportation. This will be more along the lines of fast travel area to area. It will be required to be done in certain areas and rely on the interaction mechanic to access its functions.

(Hacking)
Hacking has been modified for this portion visually and slightly mechanically. Hacking will rely on a combination of the previous watch-based mechanics but also be broken up with the terminal mechanics as well as traveling a maze in the network. Hacking will also be changed visually. The player will be moving through code and terminal popup windows as they go through this challenge. It will rely on previously learned mechanics so very little new instruction will need to be conveyed.

The items being hacked now are social media accounts and users' devices for gathering information to reveal the truth about the terrorists. They will move through the file structure as well as deal with firewalls and other command line operations. The PC will also be able to hack doors, and cameras which will be used as strategy assists in the combat sections. For the combat sections the PC will be able to hack into and possess police drones in the area to stop terrorists.

(Combat)
Combat will require the player to hack into a police drone. There will be flying drones with guns as well as rover drones that move on wheels. If a drone is destroyed the player will need to rehack another drone. They will be able to switch to hacked cameras and doors to control the direction the terrorist goes. Controls for the drones will be like the core controls. The ground drones will move like the living player and the flying drones will control like the virtual player in flight. There will be a reticle on the screen used for aiming. The weapons will fire at that reticle and the player will attempt to aim those over enemies. The player can exit a drone if they need to for any reason.

Above: Flying drone
Below: Rover Drone
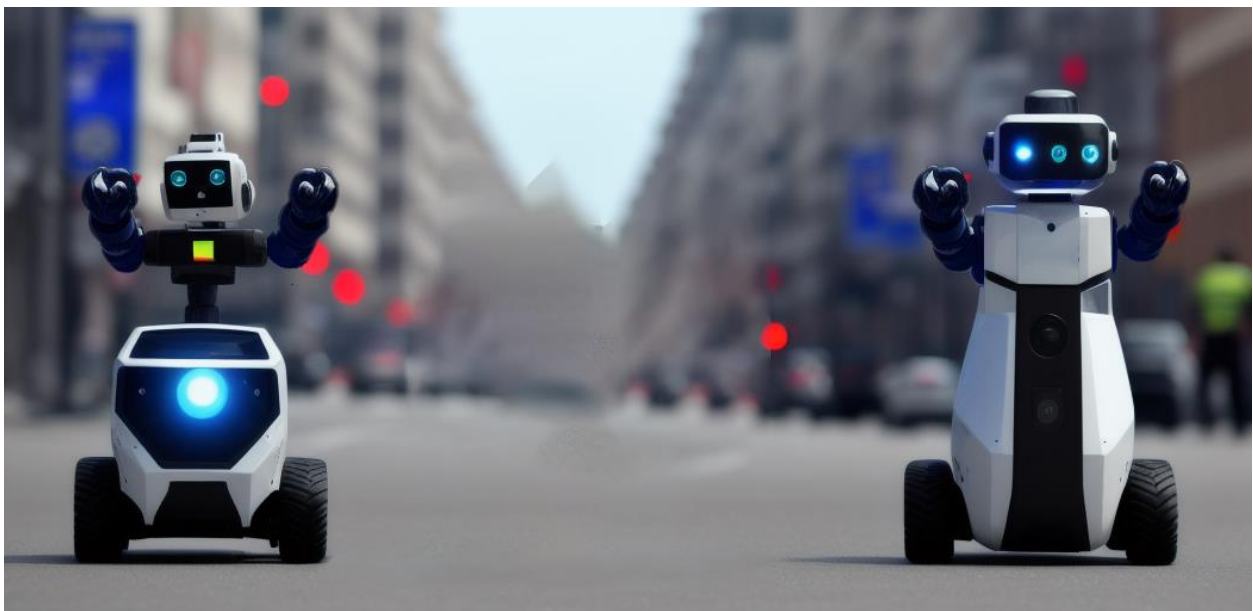
Music and Audio Theme

The electronic music in Eternal Souls not only reflects the bleak future world but also serves to enhance the contemplative tone surrounding life and death. The beats and tones work together to evoke emotions that complement the player's exploration of the world, immersing them in a haunting soundscape that emphasizes the game's atmosphere and mood. As the player navigates through the game's environments, the music heightens their emotional response, adding depth to their experience of the story.

Assets Needed

- 2D
- Textures
    - **Characters**
    - Environments
    - Decorations
    - Trains
- UI

- 3D
- Characters List
    - Character descriptions on Miro Board (Linked at end of document)
    - **Theodore Lallemant**
    - **Antoine Lucas**
    - **Elliott Toussaint**
    - **Ophelia Magdalene**
    - **Rolande Sauvageot**
    - **Lucius Orlov**
    - **Alex Morrison**
    - **Marie Descoteaux**
    - **Sophie Asefi**
    - **Louie Thayer**

- Environmental Art Lists
    - See Level Design Documents (Linked at end of document)

- Sound
- Sound List
    - Environment(s)
        - Ambient Noise
        - Train sounds
    - Character(s)
        - Footsteps
        - Landing
        - Melee
        - Hacking
        - Melee hit
        - Actions (Hits, Attacks, Death, etc.)

- Music
- Intro
- Outro/ Credits
- Cutscene Calm
- Cutscene Intense
- Cutscene Dramatic
- Cutscene Focus
- Ambient for exploring environment
- Intense for combat or evasion

- Code
- Character Scripts
    - Movement and camera
    - Hacking
    - Object/ scene interaction
    - Dialogue

- Game Managers
    - Main game manager
    - Menu System (start/ pause)
    - UI
    - Music
    - SFX
    - Particle Systems
    - Level Elements To load

- NPC Scripts
    - Idle
    - Flee
    - Conversation
    - Walking
    - Enemy Combat

- Animation
- Environment Animations
    - Train
        Wheel system
        Rocking of train during movement
        Movement at car attachment points when turning
        Train Doors

Hanging handles
Train controls
Train station in background

- Other
Building Doors
Water in rivers
Clouds
Sun/ Moon Sequence
Birds
Swaying of trees/bushes
Debris in wind

- Character Animations
- Player
Idle (multiple versions)
Walking
Running
Crouching to jump
Jumping
Landing
Falling
Sitting
Winded
Looking at object in distance
Death animation
Open/close doors
Pickup object
Set down object
Examine object
Conversing
Typing
Taking out phone
Using phone touch screen
Setup Server actions
Using hacking device

- Player (Combat)
Drone boot up sequence
Drone movement

Drone take damage
Drone Destroyed
Drone attack

- NPC
    Idle (multiple versions)
    Sitting Idle
    Walking
    Looking around
    Protesting
    Conversation
    Attack (multiple versions)
    Fleeing
    Deaths
    Riding on Bike
    Sitting on Train
    Standing on train
    Boarding train
    Giving lecture
    Sitting in class
    Taking notes in class

Schedule

(Currently Open Ended)
- Game Stage (Milestone 1)
  - Develop Game Concept
  - Develop Game Story
  - Develop Game Levels
  - Develop Game Mechanics
  - Develop Engine Features

- Game Stage (Milestone 2)
  - Produce Concept Art
  - Asset Generations
  - Develop Visual Identity
  - Object Modeling
  - Develop Engine
  - Prototype Game Mechanics

- Game Stage (Milestone 3)
  - Implement Game Mechanics
  - Character Modeling
  - Rigging
  - In Game Animation
  - Cut Scenes

- Game Stage (Milestone 4)
  - Sound FX
  - Music
  - QA Testing Focus

Document Links
- The section links any related documents. These documents cover standardization as well as any other related design documents.

- Project Onboarding Document
  Explains core project in more detail as well as standardization of naming conventions etc…
  <Link to Doc Goes Here>

- Quest 0 Level Design Document
  Describes design and goals of Quest 0. Includes maps, visual guides and acts as a template for future LDDs.
  <Link to Doc Goes Here>

- Story Board Details
  All story and character details
  <Link to Miro Board>