INM717
Design Report
[Hopium]

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Contents

Section 1 – Introduction

Welcome to *The Buckerburg Files*, a provocative and immersive VR experience set in a future where data privacy has become a core human right and the tech giants of the past have been dismantled for their crimes against digital freedom. Users step into the scales of a mysterious lizard-like creature who awakens outside the crumbling ruins of BetaCorp. This was a once-dominant tech empire whose founder, Bark Buckerburg, has disappeared from public life.

As the player, you journey into the abandoned headquarters of BetaCorp, navigating eerie, liminal spaces and piecing together the dark history of one of the world's most powerful data manipulators. Through first-person exploration, immersive puzzle-solving, and moral decision-making, you'll uncover the truth about Beta's past and the identity of the creature you've become.

Our standalone VR demo is a narrative, interactive journey designed for the Meta Quest 2 headset. Built in Unity, the experience is designed for seated or standing use and lasts approximately 5–7 minutes. Users explore four core spaces namely the outside area, reception area, server room, and the CEO's office, each space filled with environmental storytelling, hidden interactions, and escalating tension.

The demo focusses on embodiment, narrative choice, and spatial interaction. Through real-time stress feedback and morally challenging decisions, players ultimately decide whether to erase Beta's history or expose the truth. It taps on a moral choice, whether to reclaim their human form or remain hidden from accountability forever.

Logo

Image created using ChatGPT

Title
The Buckerburg Files

Genre / Theme
Genre – Sci-Fi/Dystopian

Theme: Fight Against the System

Tagline
What if the only way to expose the truth was to become the villain?

Synopsis
In a world where surveillance empires have fallen you awake as something less than human. Drawn to the ruins of BetaCorp you must examine its remains, uncover its secrets, and decide what kind of world will emerge from the ashes. In this VR thriller, your past is the key to the future, if you can face it.

How did you interpret the brief

In response to the brief's theme of "experiencing the unknown," our team created a world where the unknown is not just a place, but a forgotten identity. The player begins the experience in a strange, non-human form, unaware of who they are or why they're drawn to the ruins of a tech giant.

We interpreted "the unknown" as a psychological and ethical journey presented through a liminal, corporate ruin filled with pieces of dystopian memory. Our use of embodiment, puzzle interaction, and diegetic stress systems place players inside a story of moral ambiguity. This allows the player to engage with themes of accountability, power, and digital ethics.

Group Member Roles and Contributions

Group Member	Assigned Role	Contributions to Project
Shannon Dsouza	UX/UI Designer, Environmental Artist, Concept Artist	Layout Area Sketches, Concept Art, Puzzle Charts, Environmental Storytelling Visuals, Sound Design, Narrative Storytelling
Omar Ahmed	UX/UI Designer, Environmental Artist, Concept Artist	Layout Area Sketches, Concept Art, Puzzle Charts, Environmental Storytelling Visuals, Sound Design, Narrative Storytelling
Dora Akbulut	Gameplay Programmer, Producer	Haptics, UI, Sound, Optimisation, Mechanics, Level Design, Game Design, Game Development
Sai Chirumarri	Gameplay Programmer, Level Designer	Haptics, UI, Sound, Optimisation, Mechanics, Game Design, Game Development
Carmen Preece	Gameplay Designer, Environmental Artist	Environment Artist, Unity (Creation of Areas), Level Design, Technical Art

Section 2 – Story and Gameplay

What do you want your users to experience?

Environment

Protest posters and graffiti on walls as part of the environmental storytelling

The environment of *The Buckerburg Files* is the abandoned corporate headquarters of BetaCorp, a towering, deteriorated structure within a dystopian city. It is represented by protest, decay, and silence. The designed VR environment captures Mel Slater's concept of the Place Illusion, allowing users to realistically believe they have been transported elsewhere through the visual and thematic details (Slater, 2009).

Environmental storytelling helped to enhance this illusion, as users uncover the story through strategically positioned objects to provide affordances for user interactions (Norman, 2013). The setting connects with themes of institutional collapse, surveillance capitalism, and the haunting presence of the past. It is showcased through the environment in the form of vandalism art, protest artefacts, discarded items, lighting and sounds. The user begins outside the building, entering through a graffiti covered entrance and other signs to indicate the corporation's controversial past and downfall. This storytelling approach leverages the concept of liminal spaces, to portray an eerie and unsettling sense of abandonment.

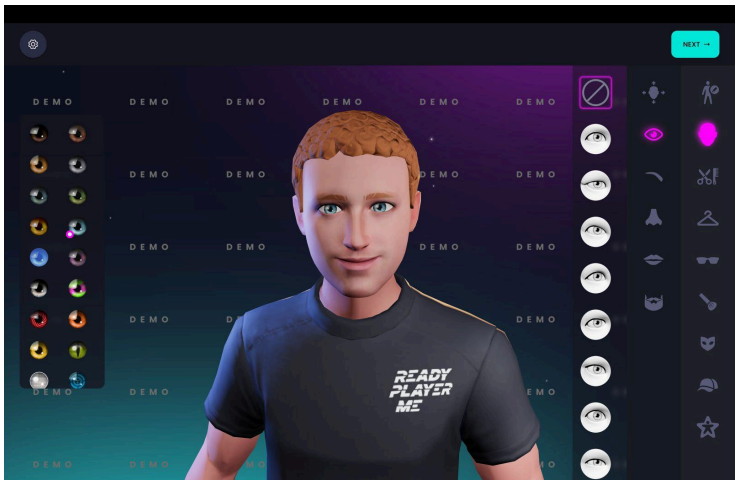
Inside, users explore three primary spaces which are the reception area, the server room, and the CEO's office. Each space has been designed to evoke a different emotion while supporting the overall narrative. The reception area focuses on corporate decay owing to the building's break-down and former branding. The server room shows a cold, data-driven aesthetic filled with flickering lights, failing servers and broken-down units. The CEO's room is sterile, corporate and untouched, suggesting denial and preserved power. The use of appropriate sounds, layout and depth within every room helps to strengthen the illusion of presence for the user as suggested by Jerald (2015).

This environment is particularly suited for VR because of its liminal atmosphere and environmental storytelling. Objects and interactions built within the space help users feel fully immersed. The environment encourages active interaction, exploration and interpretation of what happened to uncover the narrative.

Embodiment

Player hands to represent the non-human embodiment

Mirror reflection for lizard embodiment representation



Bark Buckerburg avatar created for end reveal-scene

In *The Buckerburg Files*, players embody an unfamiliar, non-human lizard-like creature emerging from a prison without memory or identity. This unconventional embodiment was chosen on purpose to disrupt player expectations and gradually reveal the user's identity through the game's narrative. The player's view of the lizard-like hands, and assets like the stress meter and the note in their pocket, all contribute to the perception that the user is inhibiting the body in the virtual world. By matching the players hand interactions to the VR avatar's hands, we create an illusion of self-embodiment (Jerald, 2015).

The non-human form helps communicate the theme of alienation and loss of humanity. By following a diegetic narrative approach, we created a central character of a lizard that conveys his story through the experience. According to Bucher (2017), by immersing oneself in the skin of something or someone else, it helps create a greater sense of empathy for humanity. The design reinforces these feelings through gameplay mechanics and environmental interaction.

The embodiment is truly revealed at the end of the experience through the mirror moment while opening the CEO's safe to retrieve the serum. At this critical moment, players face a choice which is to inject themselves with the transformation serum or reject it. If players accept the serum, their human form i.e. Bark Buckerburg is restored, revealing their past identity. If they reject the serum, they remain as a lizard-creature, embracing their exile and staying anonymous. This moment impacts the user's sense of ownership and agency over their virtual body and identity, nudging them to directly confront their virtual embodiment. The user can thus drive the story with their decisions and agency, making the experience more realistic and further contributing to the illusion of embodiment (Bucher, 2017).

Narrative Elements

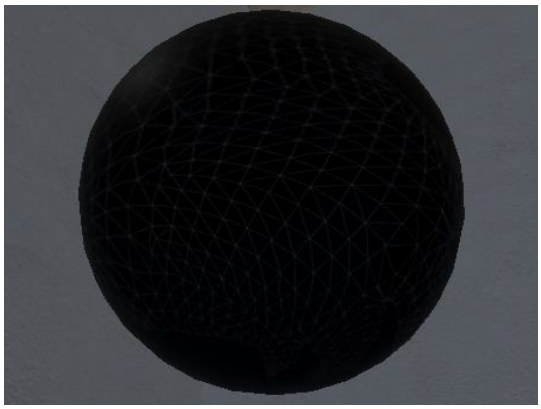
The narrative of *The Buckerburg Files* is layered, interactive and designed to be experienced through emergent discovery rather than direct explanation, an approach suggested by Bucher (2017). The story follows a character who unknowingly returns to the scene of their own downfall and must ultimately choose whether to erase of expose the truth about their past. The narrative is delivered through environmental storytelling, visual cues, written notes, audio-logs and moral choices.

Through the experience, plays will uncover graffiti, posters, protest placards, and vandalised imagery within the environment signalling public outrage. The notepad serves as a narrative shard to nudge the user to navigate the experience enjoyably, a recommendation by Bucher (2017). Other objects such as email logs, terminal files and newspaper articles provide further cues that there is something to be investigated. Some items like CEO portraits and corporate propaganda articles and slides trigger an emotional response in the avatar, increasing the stress levels on the stress-meter to remind users of their role in the unethical system. According to Christian (2023) adding ambient sound effects enhances the virtual environment proving a more real, believable, and authentic experience. We added audio such as footsteps, the ticking countdown of a timer in the server room, the beep of keycard scanners, the whistle of wind outside, and others to invoke this perception.

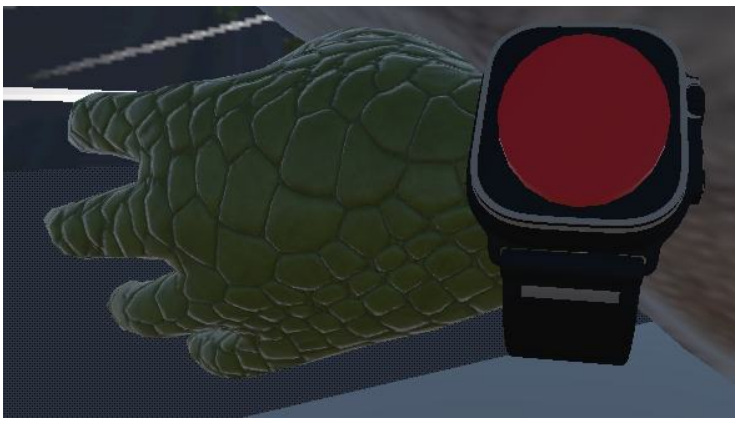
When users complete the experience, they should describe it as a virtual reality experience where they were the villain, and they didn't realise it until the very end. We want them to feel a shift from initial curiosity to increasing discomfort and eventually prompting reflection on their own ethical responsibility. This gradual storytelling narrative approach is what transforms *The Buckerburg Files* from a puzzle-based game into an exploration of digital power and personal accountability.

Desired Mechanics

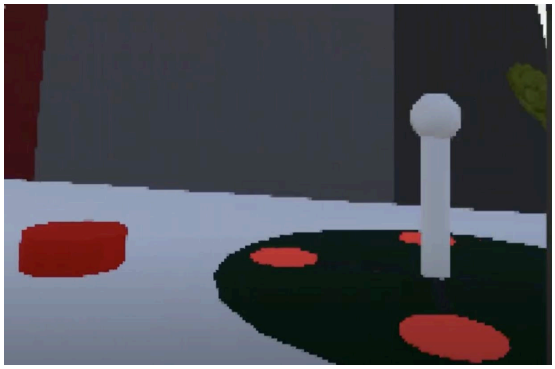
Mechanism for scooter which is steered using both-hands



Pressing the stress ball to release stress



Watch on players wrist that serves as a stress-indicator



Joystick interaction to control the terminal

In *The Buckerburg Files*, player mechanics are designed to support an emotionally immersive, narrative-focused VR experience. Movement is handled through joystick-based navigation with snap turning, prioritising user comfort while allowing fluid control of confined spaces.

Interaction design is grounded in theories of embodied cognition and presence (Jerald, 2015). Players engage naturally with the environment by picking up keycards, newspapers, and stress-relief tools like the stress ball, which is stored in the player's pocket and used to reduce stress levels by squeezing the trigger. They activate terminals using a joystick, allowing for tactile, realistic input that controls the diegetic UI (Appendix C). Players also handle larger objects such as a scooter, which is steered with both hands by tilting the handlebars, with the right trigger accelerating and the left reversing. This design enhances task-based realism and tactile engagement, supported by haptic feedback.

These physical actions reflect the three-layer embodiment model proposed by Chatain, Kapur and Summer (2024), which emphasises embodied cognition, embodied interaction, and avatar embodiment as key dimensions of engagement in VR. The stress ball represents cognitive embodiment, linking physical input to emotional regulation. The scooter exemplifies embodied interaction through coordinated motor control and spatial navigation. The transformation mechanic, in which players choose whether to return to human form or remain a lizard, enacts avatar embodiment and ties bodily form to narrative identity.

This layering is further reinforced by the stress regulation system, which replaces health mechanics with an emotionally reactive feedback loop. Stress is visualised through a diegetic smartwatch, which changes colour and triggers heartbeat audio and screen distortion in response to environmental stimuli. Relief is offered through the stress ball, which calms the system and restores clarity. This mechanic draws on multisensory feedback research by Slater et al. (2009), who demonstrated that synchronised visual-tactile input can induce compelling illusions of body ownership and heighten presence.

In addition to core mechanics, we implemented two non-diegetic menu screens to support usability. The main menu (Appendix A), presented before the experience begins, includes settings for motion control preferences (snap vs. continuous turning), sensitivity adjustments, and basic accessibility options. It also features a controls screen to familiarise players with movement and interaction inputs. Once in-game, players can access a pause menu (Appendix A) that allows them to resume play or return to the main menu to exit. These interfaces were intentionally kept minimal, supporting player needs whilst trying not to disrupt narrative flow too much.

Another intentional design choice was the use of designed failure, inspired by a conversation with Katie Grayson in class. In the Reception area, players must test multiple non-functional keycards before finding the one that unlocks the stair gate, a deliberate friction point that introduces tension and realism. A similar experience occurs in the Server Room, where the elevator powers on for only 15 seconds after terminal activation (Appendix C). This intentional failure moment prompts players to explore further and discover the scooter solution. These instances exemplify how failure can be used not to punish the player, but to propel narrative progression and encourage active problem-solving. This approach aligns with Foch and Kirman's (2022) findings that failure, when framed meaningfully, can serve as an expressive design tool, guiding player behaviour, triggering reflection, and shifting failure from frustration to narrative opportunity.

To support player autonomy and encourage exploration we implemented a "rewarding rebellion" principle, where players who explore vents or off-path areas are rewarded with hidden anti-stress pills or narrative fragments. These optional discoveries reinforce the game's theme of surveillance. This also aligns with Phillips et al. (2018), who showed that varied and meaningful rewards, especially when tied to autonomy, enhance motivation and engagement. Overall, the mechanics are designed to foster tension, ethical reflection, and embodied presence, grounding physical actions in the emotional arc of the story.

Gameplay

Gameplay in *The Buckerburg Files* is shaped by cognitive and emotional challenges, unfolding through spatial exploration, environmental storytelling, and moral tension. Rather than relying on combat or physical exertion, the game prioritises interaction, timing, and psychological pressure to drive immersion.

Reception Room

The experience begins in the decaying lobby of BetaCorp, where players must either push through the main doors or break a side window with a brick subtly introducing choice through physical action. Inside, the player's first challenge is to unlock a stair gate, surrounded by scattered keycards most of which fail. Only one works. This designed failure, introduces friction and realism early on, establishing a theme of technological decay and setting a tone of uncertainty and trial-and-error discovery.

Server Room

In the Server Room, players activate a terminal that powers the elevator, but only for 15 seconds (Appendix C). After likely failing to reach the elevator on foot, they must problem-solve by locating and accessing a locked Experimental Tech Room. This introduces a branching interaction where players can either force entry with a crowbar or strategically hack the keycard scanner via a glyph puzzle. This was intended to be implemented, however due to time constraints, this remained aspirational. This challenge would have encouraged players to rely on their intuition, reinforcing player agency. The moment of failure would not only deepen immersion but also reflect the game's broader emphasis on moral ambiguity and player-driven choice, as players determine how to infiltrate the tech room, a theme that comes back in the final decision. Inside, a prototype scooter, which is implemented offers the traversal solution, rewarding spatial problem-solving and reinforcing the game's commitment to embodied interaction.

While accessing the terminal, players also encounter archived BetaCorp files, which include emails, audio logs, and internal communications detailing corporate malpractice. Reading or listening to this material is optional, but doing so deepens narrative understanding and may subconsciously influence the player's final ethical decision, to erase the data or expose it, and to reclaim their human form or remain anonymous.

Tension is heightened by the stress system, which responds dynamically to emotional triggers throughout the experience. As players uncover disturbing information, or encounter BetaCorp wrongdoings through graffiti, placards, or news articles, the system induces screen distortion, heightened heartbeat audio, and sluggish input (Some of these have been implemented). These effects must be actively managed using tools like the stress ball or by locating hidden anti-stress pills. This mechanic keeps players cognitively and physically engaged during puzzle sequences, blurring the line between narrative tension and mechanical difficulty.

CEO Floor

The final area, the CEO Floor, is filled with the remains of failed control, scattered PR plans, reports, and desperate messaging strategies. These fragments of BetaCorp's collapse deepen the sense of corporate decay. In the CEO's office, players confront their identity through a mirror and a transformation serum, leading to the game's climactic decision i.e. whether to expose or erase the archive, and whether to return to human form or remain in lizard form. This binary choice, though simple on the surface, is deeply shaped by the player's prior actions particularly whether they explored the archived files. This reflects Ferchaud and Oliver's (2019) findings that narrative engagement in games is significantly heightened when players feel their moral decisions carry weight and directly influence outcomes.

These design choices align with theories of immersive storytelling (McMahan, 2004) and affective presence in VR (Slater & Sanchez-Vives, 2016), demonstrating that emotional engagement and moral complexity can drive compelling gameplay without relying on combat or scores. By incorporating moral conflict, reactive puzzles, and emotionally responsive systems into each environment, *The Buckerburg Files* delivers a compact but conceptually rich experience.

	Moral Choice	Identity Choice	Ending Title	Meaning
A	Expose data	Take serum	Public Reckoning	You reveal the truth and own it. Your human face appears in the mirror. Beta is exposed, and so are you. Full accountability.
B	Expose data	Refuse serum	Silent Uprising	You unleash the truth anonymously. You remain a lizard, avoiding fame or blame. The purest rebellion.
C	Erase data	Take serum	Reinstallation	You erase the past and reclaim your power. Your identity returns, but so does the system you once built.
D	Erase data	Refuse serum	Ghost in the Wires	You vanish entirely, no truth, no identity. History forgets you, and that's what you wanted.

Table of possible outcomes for the gameplay

Message

At the heart of *The Buckerburg Files* is a focus on accountability, power, and digital memory. The experience is designed to leave players with a lingering ethical question:

"Is exposing the truth enough, if no one knows it was you?"

The journey begins in ignorance and anonymity and ends with a moral decision which is whether to confront your past and be held accountable, or to walk away, unseen. By gradually revealing the player's identity as Bark Buckerburg, the disgraced CEO of BetaCorp's surveillance empire, the experience invites reflection on complicity, legacy, and justice.

The final dual-choice mechanic, to release or erase the company's data archive, and to either take the transformation serum or remain a lizard, reinforces this tension. Choosing to release the data and return to human form brings the truth to light, but also reclaims identity and responsibility, potentially at the cost of returning to prison or public shame. Choosing to stay hidden avoids consequence but leaves the past buried.

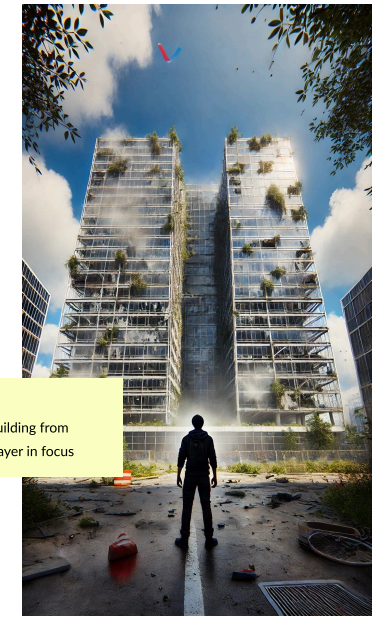
Drawing on theories of immersive storytelling and moral agency in VR (McMahan, 2004; Slater & Sanchez-Vives, 2016), the game doesn't offer binary good-versus-evil outcomes. Instead, it asks the player to reflect on how systems of power are maintained, and whether justice means exposure, or ownership. By embodying the very figure who built the world they now navigate, players are not simply asked to act, they are asked to decide who they are. The experience ends with unease, uncertainty, and reflection.

Section 3 – Evidence of Design Process

Reference Images / Sketches

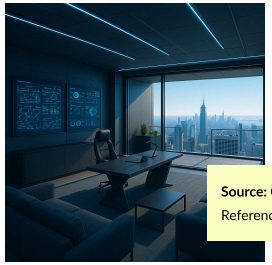
Source: ChatGPT
Reference of the reception of the office space

Source: Google
Reference of the outside area from "The Last of Us" game



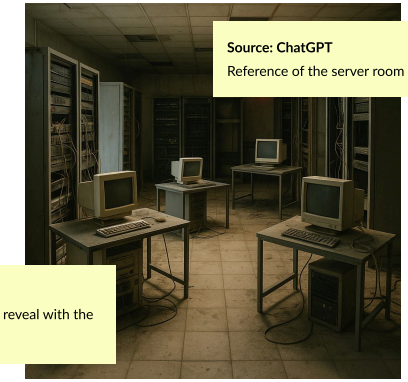
Source: ChatGPT
Reference of the building from outside with the player in focus

Source: Google
Reference of the abandoned outside area from "The Last of Us"

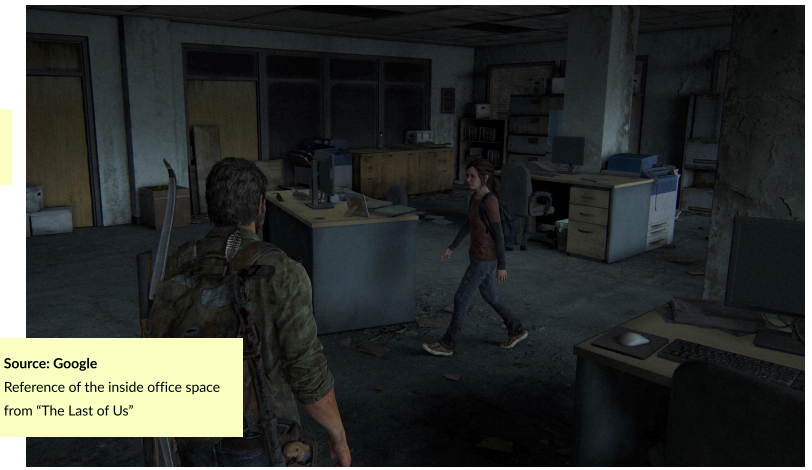


Source: ChatGPT
Reference of the CEO's office space

Source: ChatGPT
Reference of the big reveal with the lizard persona

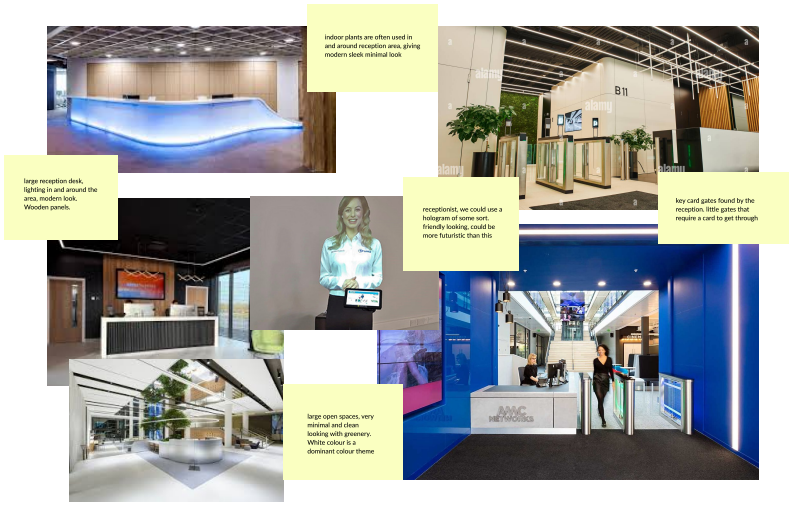


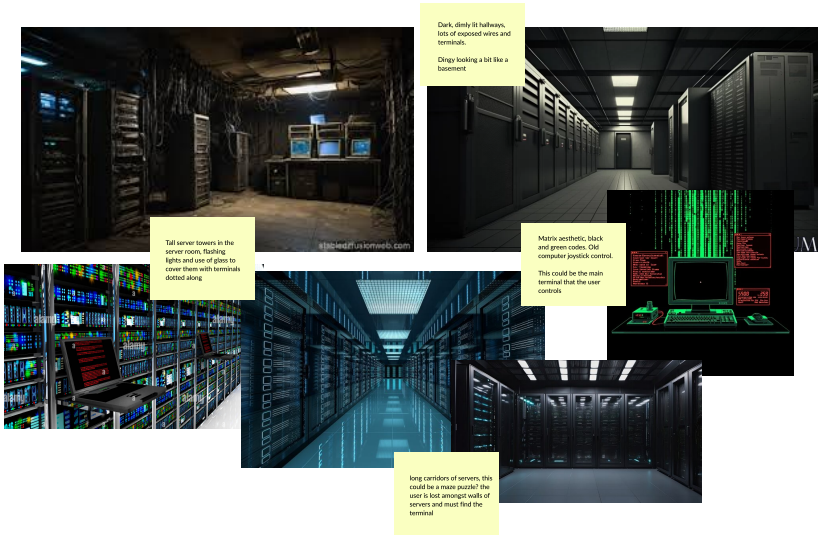
Source: ChatGPT
Reference of the server room

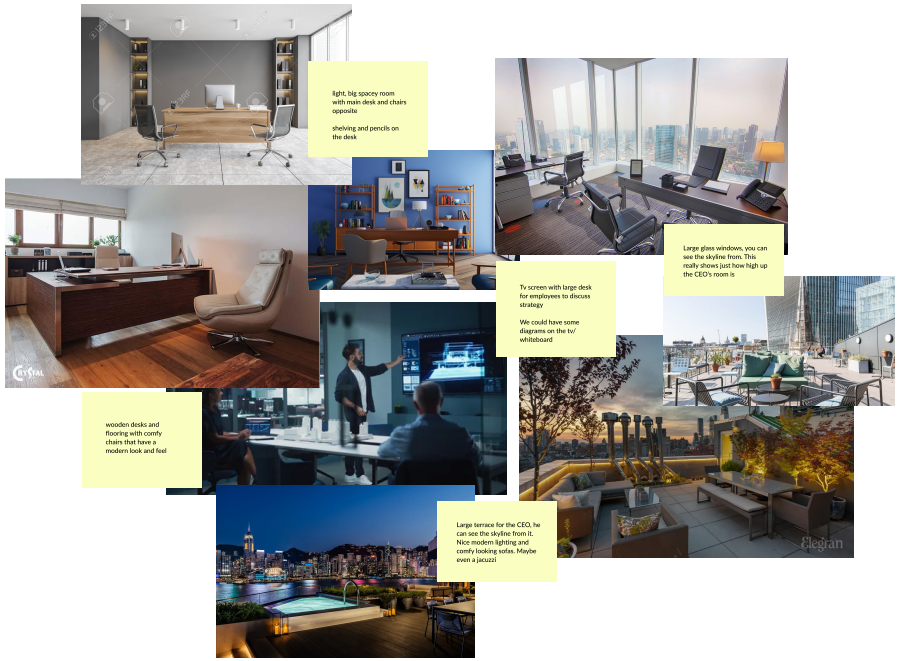


Source: Google
Reference of the inside office space from "The Last of Us"

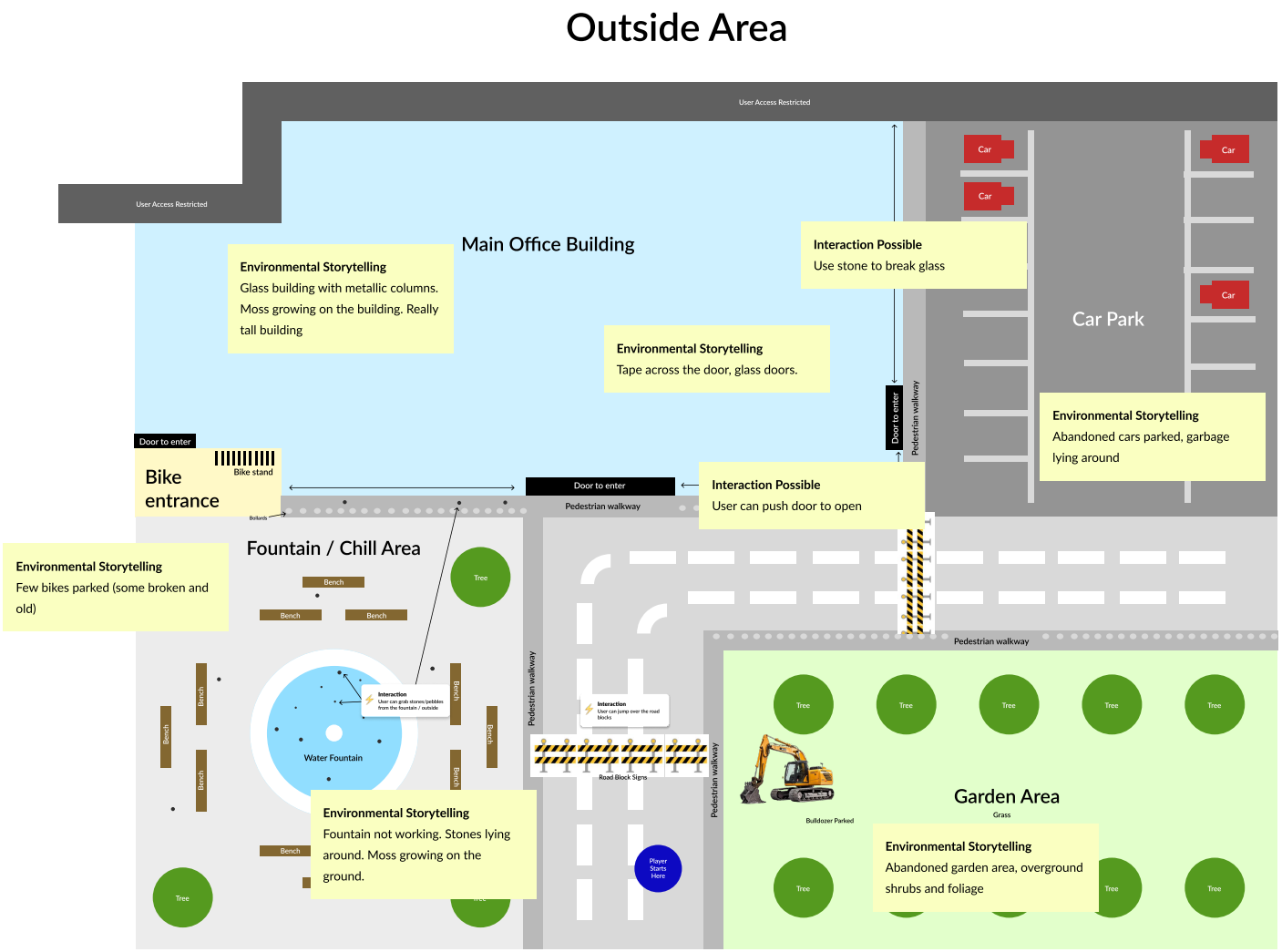
Concept Art / Mood Boards



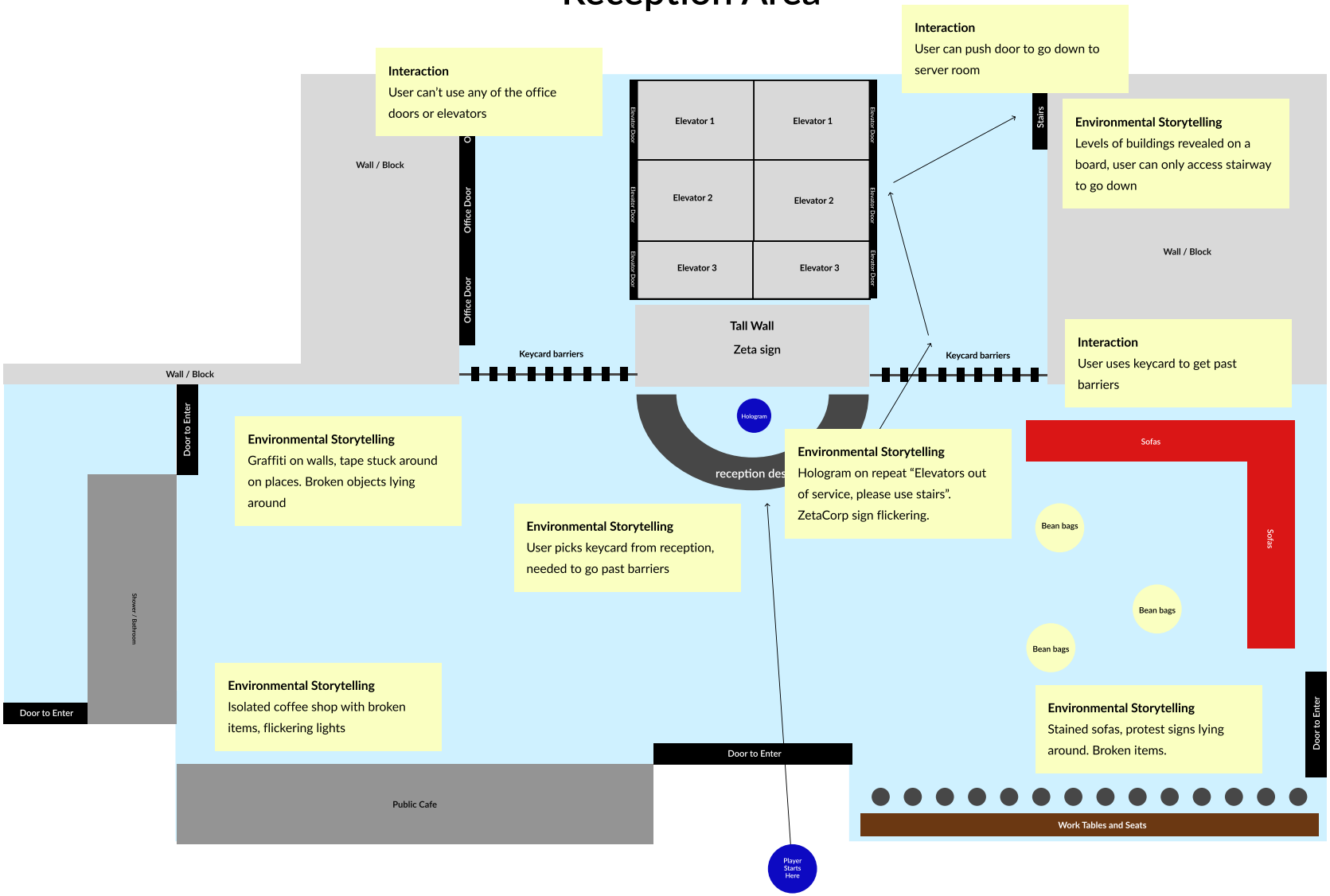




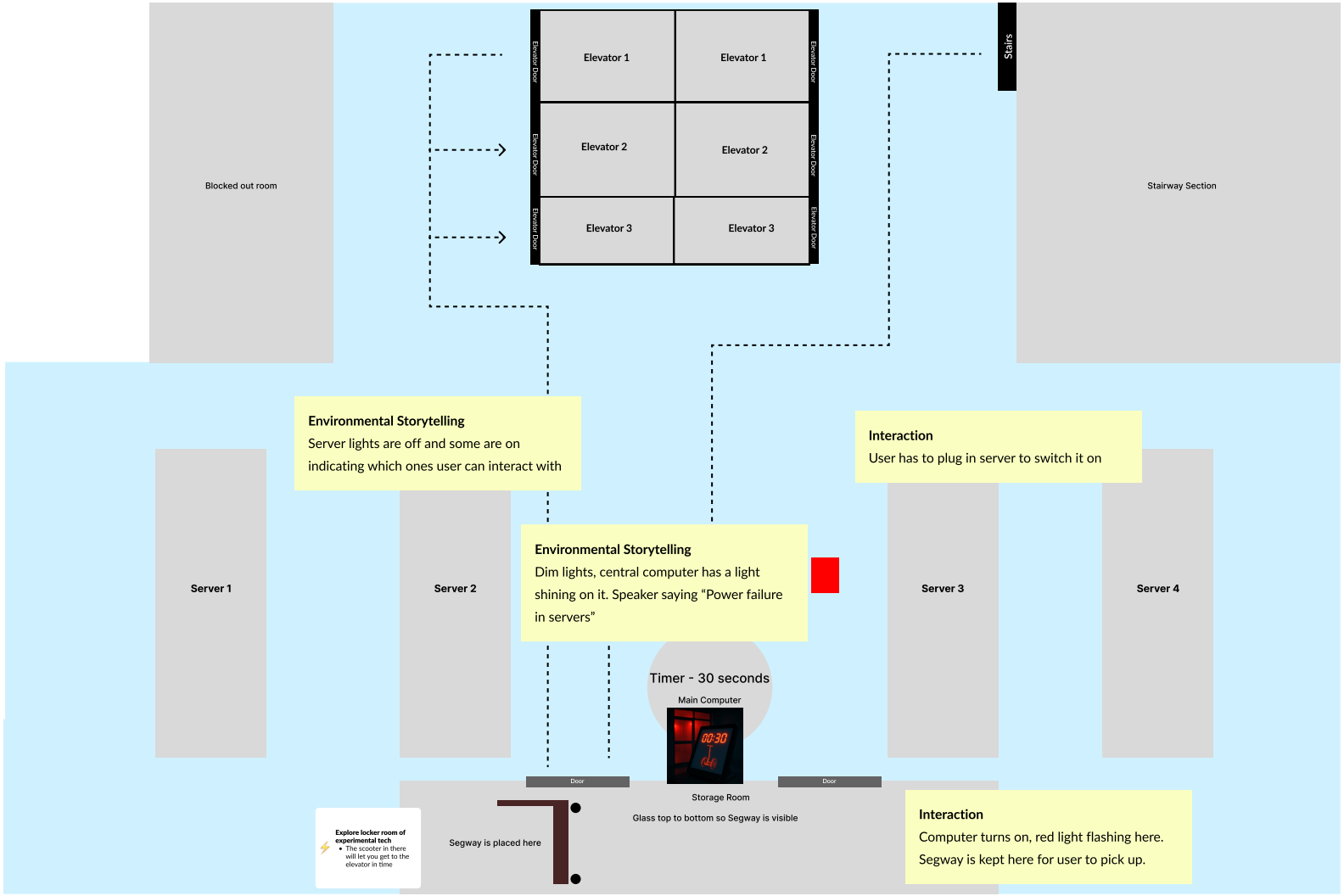
Annotated Map of Environment



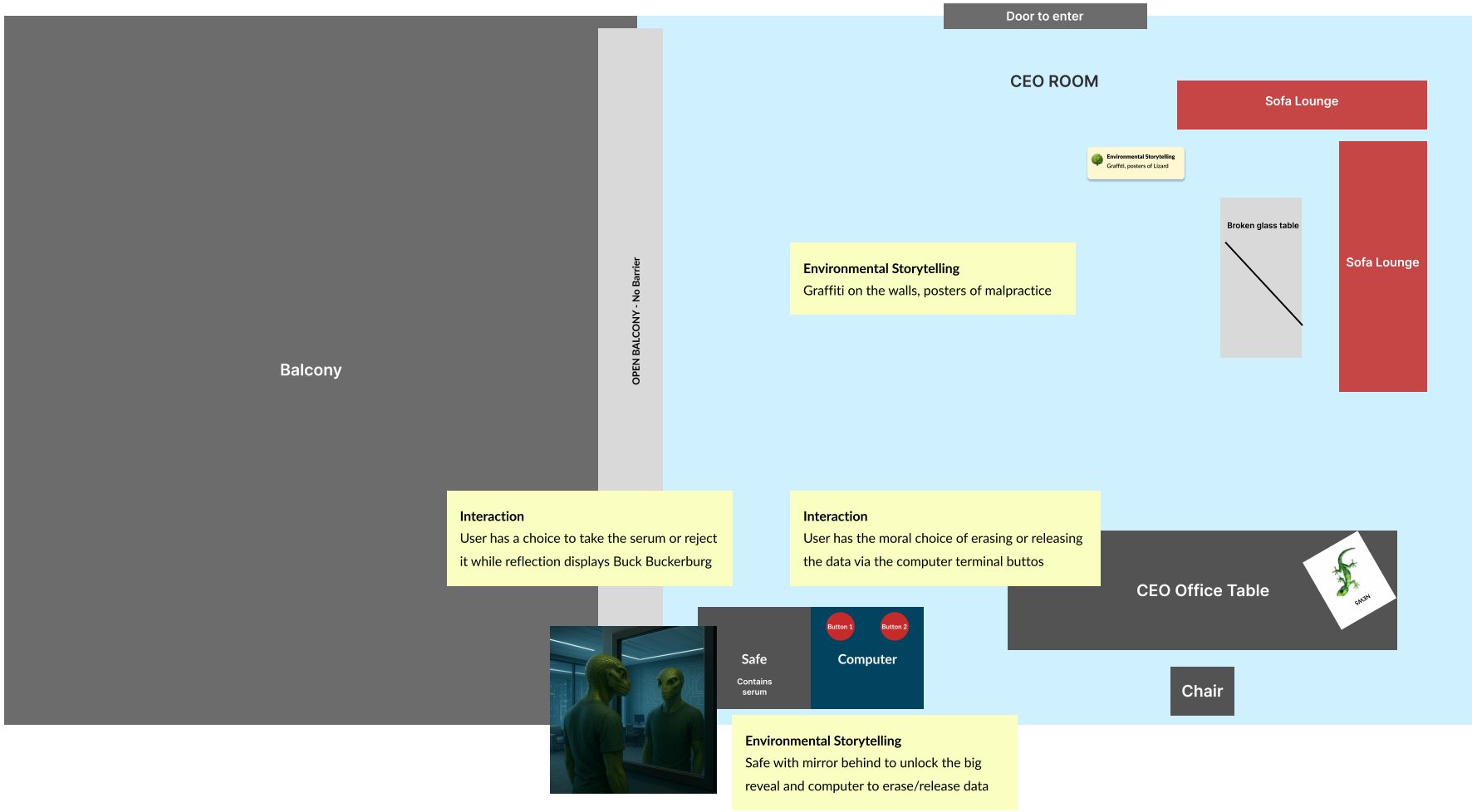
Reception Area



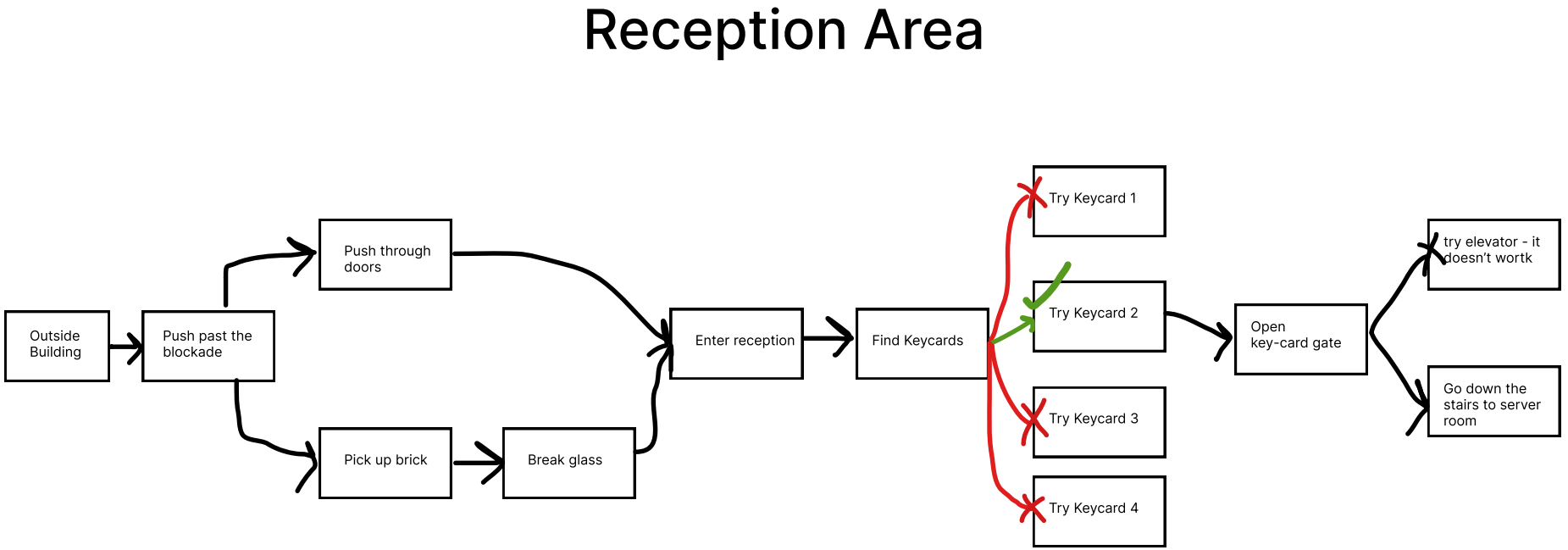
Server Room


Blocked out room
Elevator Door
Elevator 1
Elevator 1
Elevator Door
Elevator Door
Elevator 2
Elevator 2
Elevator Door
Elevator Door
Elevator 3
Elevator 3
Elevator Door
Stairs
Stairway Section
Environmental Storytelling
Server lights are off and some are on indicating which ones user can interact with
Interaction
User has to plug in server to switch it on
Server 1
Server 2
Environmental Storytelling
Dim lights, central computer has a light shining on it. Speaker saying “Power failure in servers”
Server 3
Server 4
Timer - 30 seconds
Main Computer
00:30
Door
Door
Storage Room
Glass top to bottom so Segway is visible
Explore locker room of experimental tech
The scooter in there will let you get to the elevator in time
Segway is placed here
Interaction
Computer turns on, red light flashing here.
Segway is kept here for user to pick up.

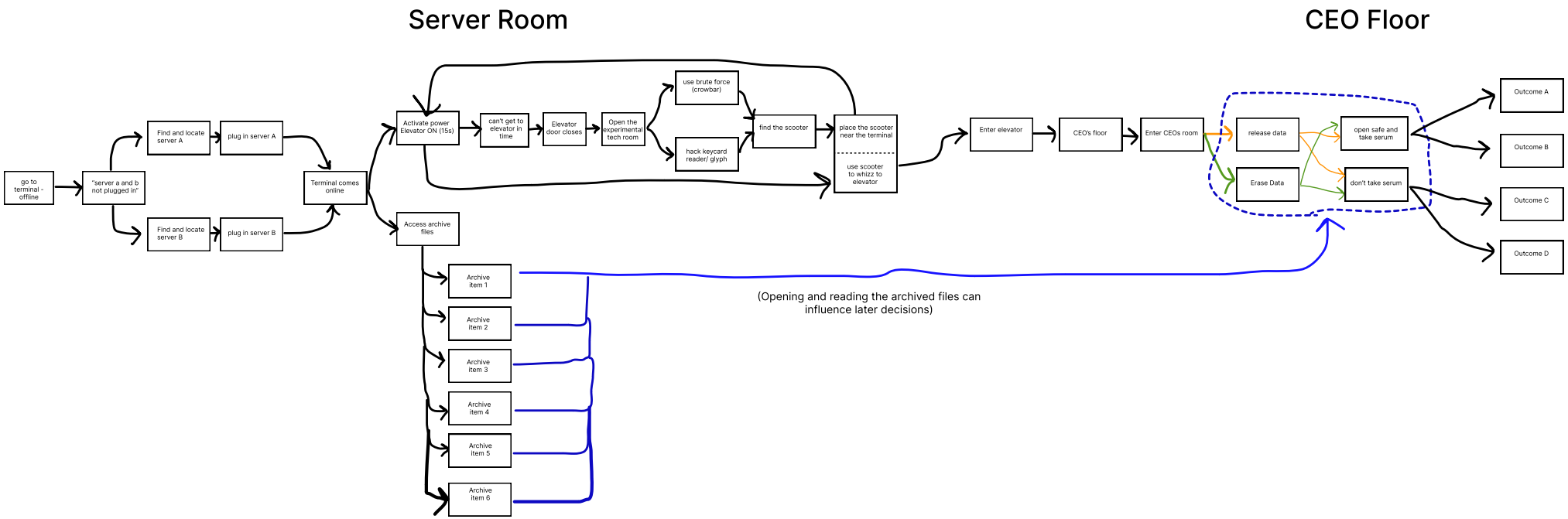
CEO's Room


Door to enter
CEO ROOM
Sofa Lounge
Environmental Storytelling
Graffiti, posters of Lizard
Broken glass table
Sofa Lounge
Balcony
OPEN BALCONY - No Barrier
Environmental Storytelling
Graffiti on the walls, posters of malpractice
Interaction
User has a choice to take the serum or reject it while reflection displays Buck Buckerburg
Interaction
User has the moral choice of erasing or releasing the data via the computer terminal buttos
CEO Office Table
SKKN
Button 1
Button 2
Safe
Contains serum
Computer
Chair
Environmental Storytelling
Safe with mirror behind to unlock the big reveal and computer to erase/release data

Puzzle Dependency Charts

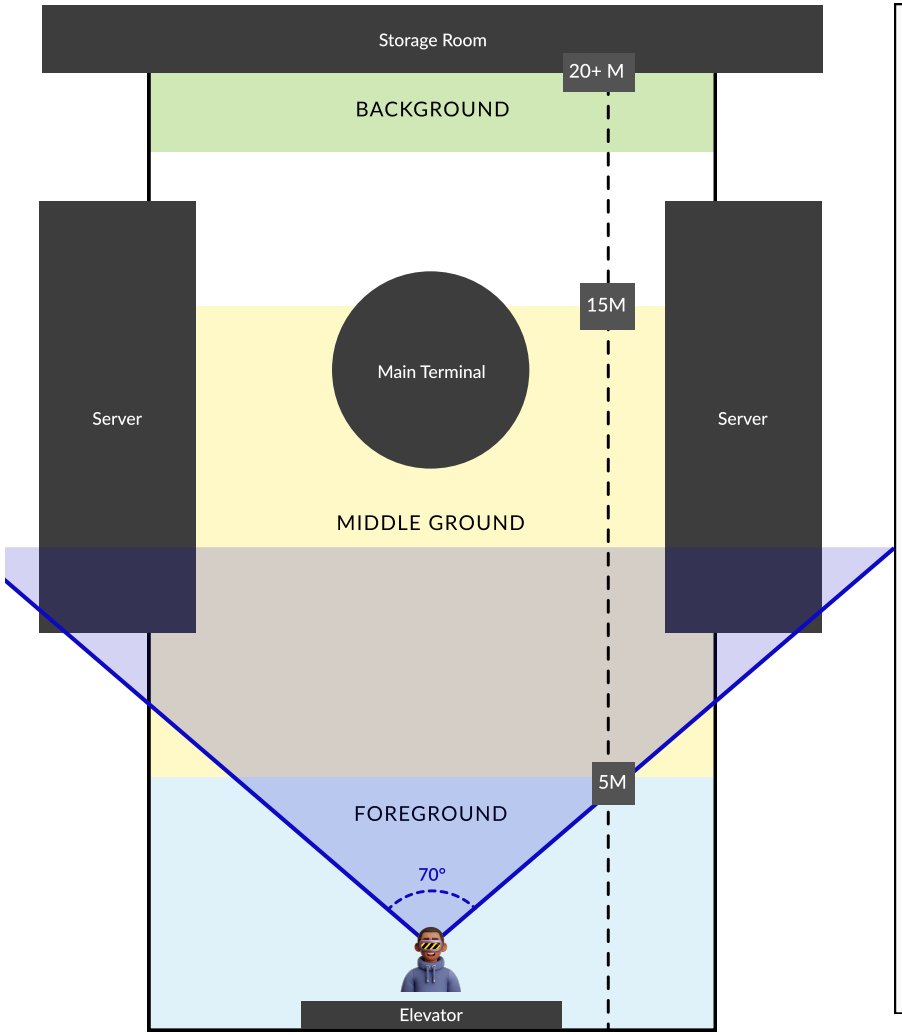


Puzzle Dependency Charts

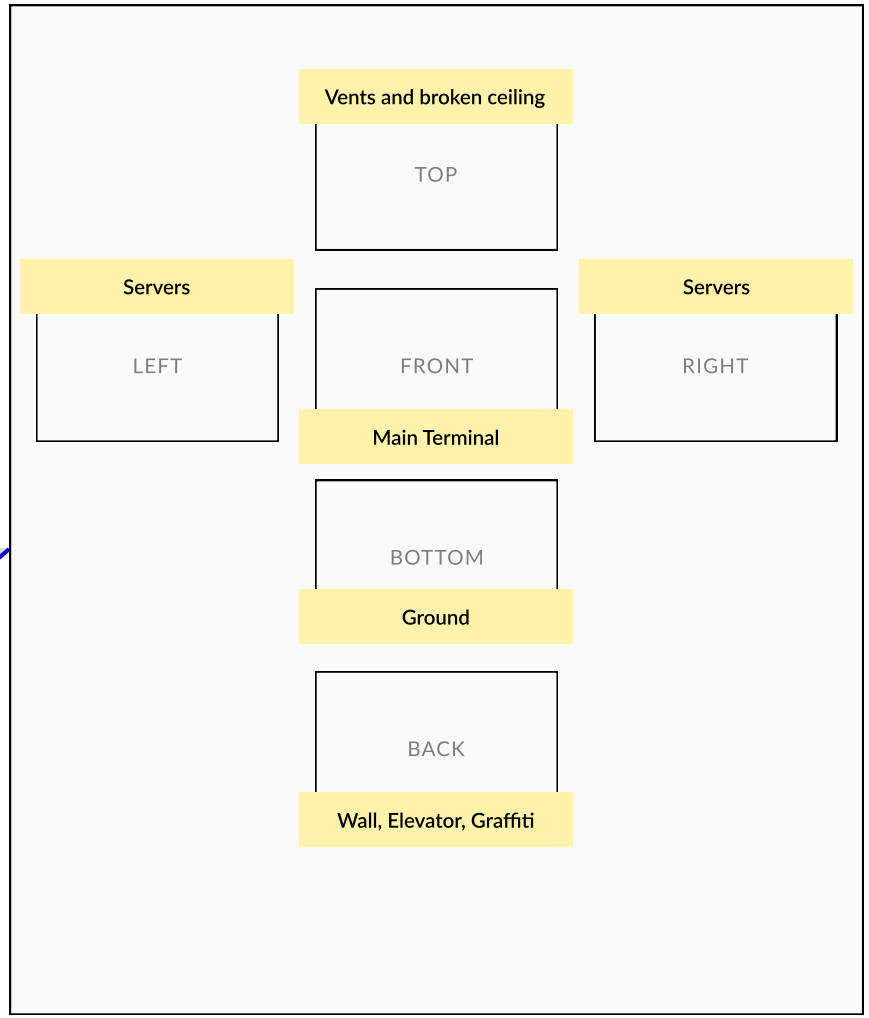


Sketches of Key Viewpoints (Server Room)

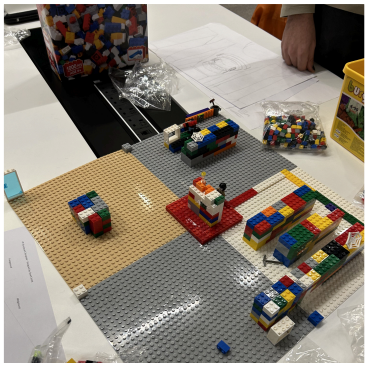
Designing for Depth - Server Room

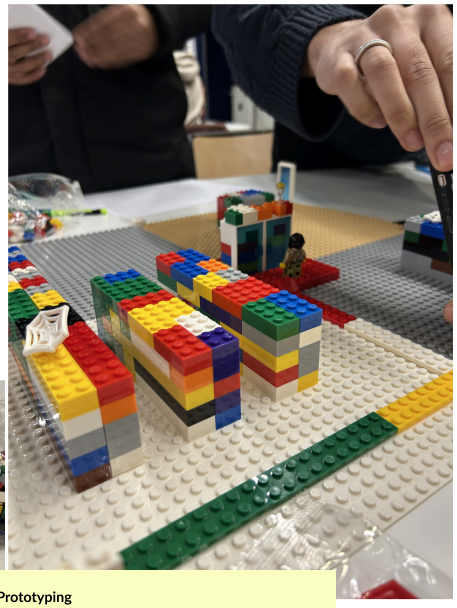


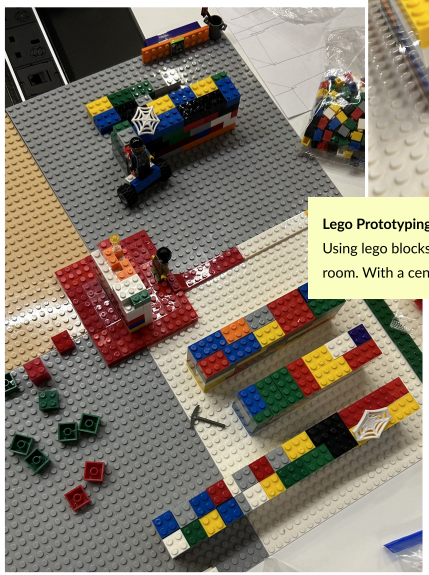
Spatial Angles - Server Room



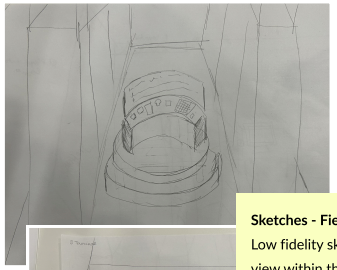
Evidence of Prototyping

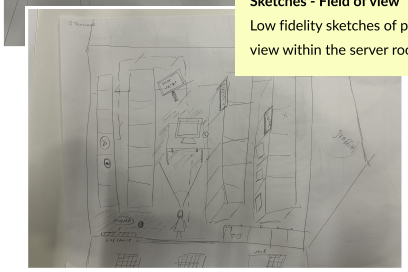


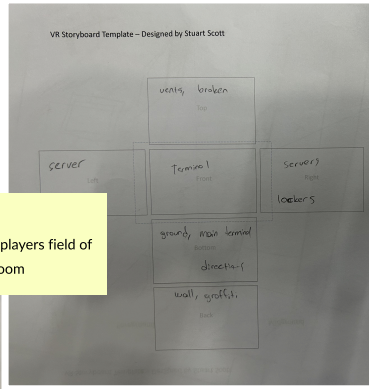




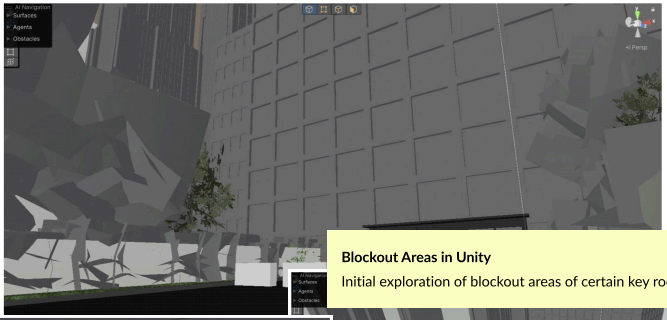
Lego Prototyping
Using lego blocks to replicate the layout of the server room. With a central computer, servers and the segway.

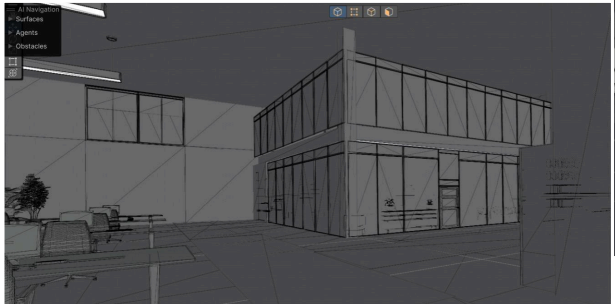


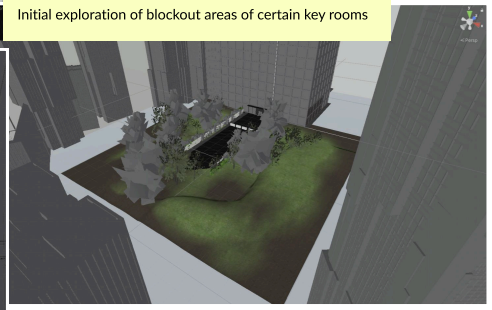




Sketches - Field of view
Low fidelity sketches of players field of view within the server room







Blockout Areas in Unity
Initial exploration of blockout areas of certain key rooms

Section 4 – Reflection

How has the theory covered on the module informed the creation of your VR experience?

The theory from the *INM717 Virtual Reality Design and Development Module* was instrumental in designing and developing our project *"The Buckerburg Files"*. We incorporated elements of critical storytelling, spatial and sensory principles and other learnings from the module to create an engaging interactive experience. This ensured that our design decisions were backed by immersive theory and not purely aesthetic preferences.

Following the advice from Bucher (2017) we emphasised on immersion, embodiment, and presence. Mel Slater's three illusions of virtual reality namely, place illusion, plausibility illusion and embodiment illusion were key frameworks we followed throughout the experience. They helped us structure the experience around the player's psychological and emotional state. We designed the abandoned world to feel like a real, dying corporate ruin and used embodiment to reinforce the reality of the player's non-human form. This gets further developed towards the end when the player realises that they are Bark Buckerburg themselves, adding narrative weight to their earlier decisions.

From a sensory perspective, and to add an element of innovation, the stress mechanic was added to the players watch. By pressing the stress ball to de-stress, we brought in natural gestures within the virtual world, a method suggested by Christian (2023). We also added haptic feedback, and audio tension cues that respond to the player's environment. These were mapped to high-stress moments such a reading surveillance files where the player the players watch turns red and the heartbeat sound gets much louder. The use of the diegetic smartwatch UI as a stress indicator reinforces player embodiment.

We integrated haptics into the joystick to navigate the terminal to reinforce physical interaction feedback (Appendix C). The functional scooter mechanic built from scratch fits well into the time-sensitive puzzle. Further, the artificial environment is the core driver of the user experience, and its spatial nature determine the storytelling elements (Hillmann, 2021). We thus paid particular attention to the environmental storytelling using graffiti, corrupted files, placards, broken logos, and PR materials scattered throughout the world to tell the story. Our aim was to nudge users to piece together the narrative through discovery, creating a sense of agency and connection.

Puzzles and interactivity charts were designed basis Gilbert (2014) methodology of Puzzle Dependency Charts, which was introduced in class. This helped us to map out which actions unlocked future possibilities without adding confusing the user. The puzzle chain from breaking into the building to accessing the CEO's office was intentionally structured around progressive disclosure and layered challenges to reward curiosity.

Gameplay mechanics such as movement and interaction were based on snap turning rotation to avoid disorientation and reduce motion sickness. Players interact with objects via direct hand interactions and physics-based manipulation. We used prototyping methods such as Lego prototyping, sketching of field of view angles and block-out areas to help visualise scale, pacing, and interaction early in the design process. This helped to create the final designs developed.

The moral decision at the end of the game was designed with the idea of real-time storytelling in mind. Rather than presenting a binary outcome with no personal consequence, we framed the ending around accountability. This was to utilise the persuasive power of VR in effective storytelling. The theory overall helped inform our practice.

Reflect on the process you followed to address the brief. *What went well? What could be done differently?*

We looked at the brief with enthusiasm, motivated by the opportunity to build an experience that resonates with a social issue centred on a theme we cared about, which was data privacy and digital accountability. From the start, we aligned as a group on the narrative direction, inspired by real-world tech scandals and ethical questions around data privacy and surveillance. Designing an experience where the player unknowingly embodies the CEO they are investigating felt like the perfect ending to the storyline to us.

One of the strengths was the way we tied our story to the game environment and mechanics. The design process was highly collaborative, and we were able to divide work effectively according to each team member's skillset. By following a sequential flow, starting with sketches, layout designs, and puzzle charts, we were able to move to block-out areas, asset creation and the final implementation. We also felt the theory taught throughout the module helped at each stage to validate our process along the way.

Playtesting (Appendix B) during demo day was another key highlight for us. It showed us which parts of the environment were vague, when players got stuck around the building, and which objects needed clearer affordances for interaction. We also learnt about optimisation for VR, adjusting post-processing effects and shaders to maintain performance and reduce motion sickness.

In retrospect however, we over-scoped certain areas. We initially planned a much larger building with multiple floors, decision branches which quickly became impractical given the time constraints. The assets were mostly created from scratch, which again had we reused more existing assets we might have been able to build a more detailed ending sequence. While creating custom assets like the scooter and smartwatch UI was rewarding and added innovative elements to the narrative, it significantly increased the workload.

We also would have benefited from more early-stage playtesting. Testing navigation, clarity of objectives, and the visibility of interactive objects earlier would have allowed the design to be much more intuitive and clearer. Additionally, some player feedback noted that the stress effect made reading text difficult, something we could have avoided by scaling back the shader intensity during interactions.

Despite these challenges, the process of tying theory to practice was fulfilling. Our team grew more confident in blending narrative and interaction design, and we were able to work together to create an engaging VR experience.

How could the VR experience you have created be improved?

The main challenge we faced was initially scoping a very large, multi-level environment, better suited to a longer experience of 15 minutes or more. This ambition proved difficult to realise within the project's limited timeline. A more compact, focused space would have allowed for tighter iteration and clearer emotional pacing. For example, the initial outdoor space (Outside space floorplan) was significantly reduced in the final in-game version.

Another key constraint was access to hardware for testing. Not all team members had VR headsets, which led to workflow gaps between in-headset testing and 3D asset development. This highlighted the importance of shared tools and consistent headset-based iteration in future collaborative projects.

This also contributed to a disconnect between 2D concept planning and 3D spatial understanding. Transitioning from flat design to embodied experience revealed multiple challenges unique to VR. One of the most significant was readability of content and visual comfort. Our original layout placed the server terminal deep within the environment, but once viewed in-headset, post-processing effects made the text difficult to read. Playtesting (Appendix B) confirmed this issue, as players struggled to read terminal content, especially during high-stress moments when visual effects were most intense. To address this, we would implement adaptive post-processing, reducing shader intensity slightly during text-heavy sequences to strike a balance between stress feedback and readability.

The stress system, while effective at generating emotional tension, occasionally clashed with puzzle-solving and reading tasks. Given more time, we would introduce dynamic modulation, softening visual effects during narrative moments and intensifying them during time-sensitive gameplay. This approach aligns with Slater and Sanchez-Vives (2016), who argue that sensory feedback should enhance immersion without compromising usability.

Mechanically, we encountered limitations when implementing realistic physics for the scooter and joystick. These systems were functional but lacked the responsiveness and tactility we aimed for. With more time, we would refine these interactions to better simulate physical resistance and weight, to make them more realistic and reinforce embodiment.

The world itself could also benefit from more optional content. Additional rooms, character logs, graffiti, and symbolic artefacts would reward exploration and reinforce themes of surveillance and memory. This aligns with Isbister and Mueller (2018), who emphasise that players exploring the space by themselves, has emotional and narrative benefits. Additionally, we would expand the final decision tree outcome system that reflects player choices throughout the experience, in a more impactful way. For example, players could witness live protests, evolving media coverage, or changing NPC responses based on their actions.

From an environmental perspective, spatial audio and lighting transitions could be improved. During playtesting (Appendix B), some players reported disorientation in dark or low-contrast areas. Better visual and auditory pacing would improve both navigation and emotional build-up.

Finally, we were limited by the available building assets, which didn't fully support our intended pacing. With more time, we would design a custom modular architectural space to reflect the narrative flow. For example, guiding players from claustrophobic industrial corridors to open, reflective spaces as the story builds toward its moral climax.

Links to Downloads

Link for the following downloads:

1. Unity Project
2. Build of Unity Project
3. Evidence of Innovation Video

https://drive.google.com/drive/folders/1Hb8HEE6VF3HJIoTzpFUzp1I-y2D7kius

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Appendices

Appendix A: Introduction Menu and In-game menu

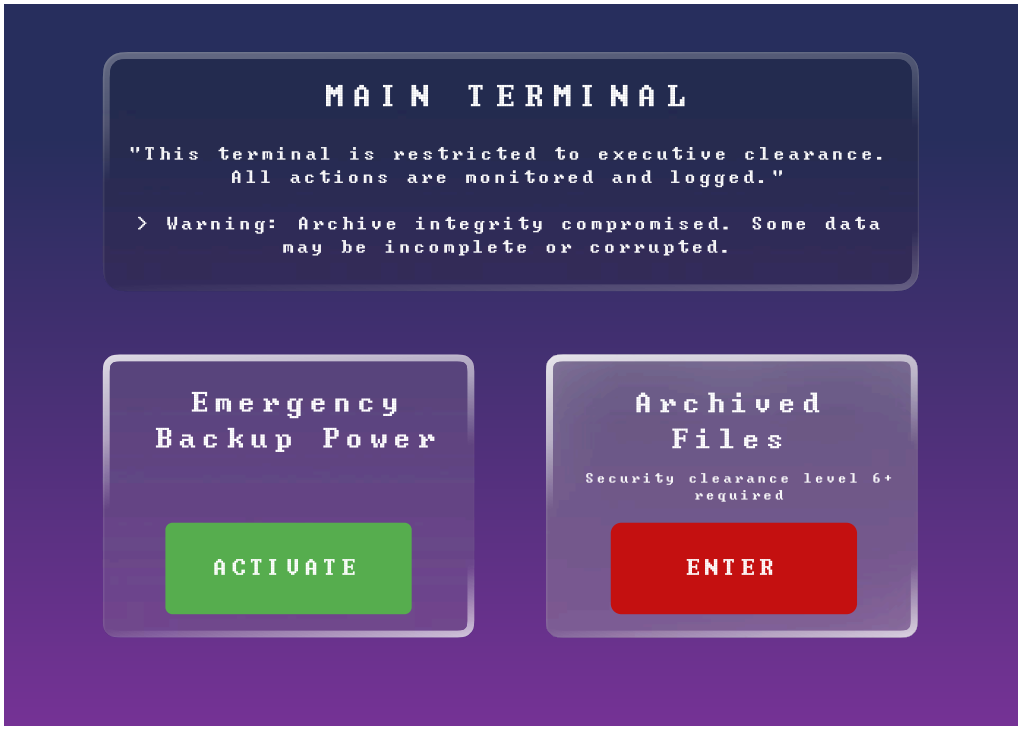
Main Menu on Start-up Screen


THE
BUCKERBURG
FILES
Resume Experience
Exit Experience
Back to Menu
Group Hopium

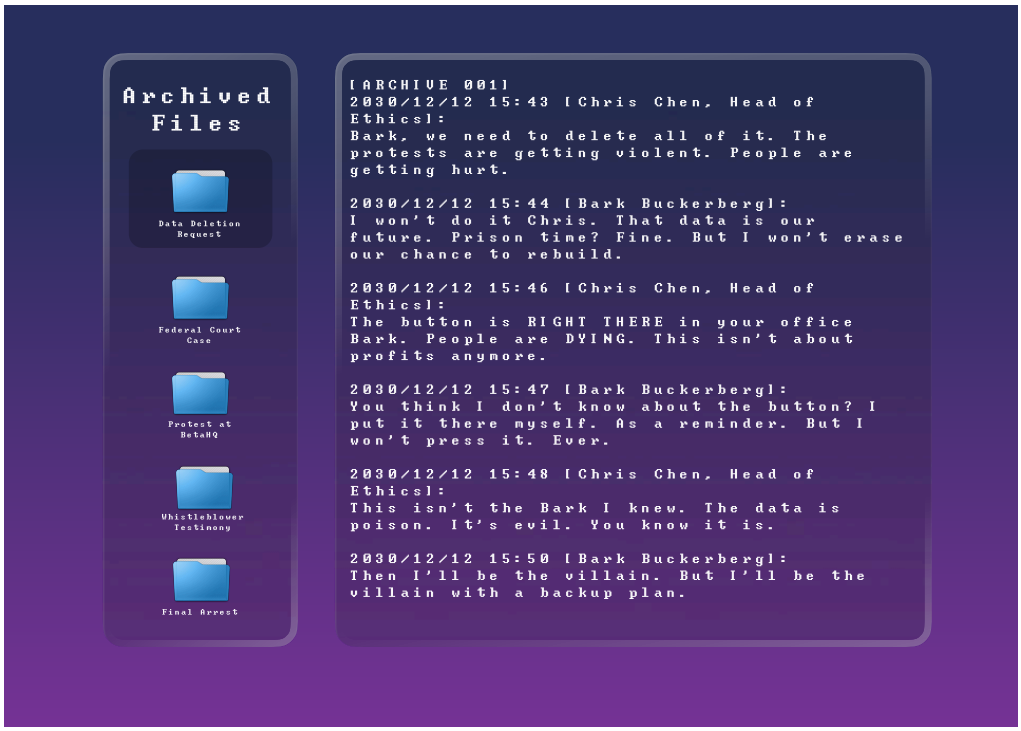
In-Game Menu

Appendix B: Playtesting Visuals

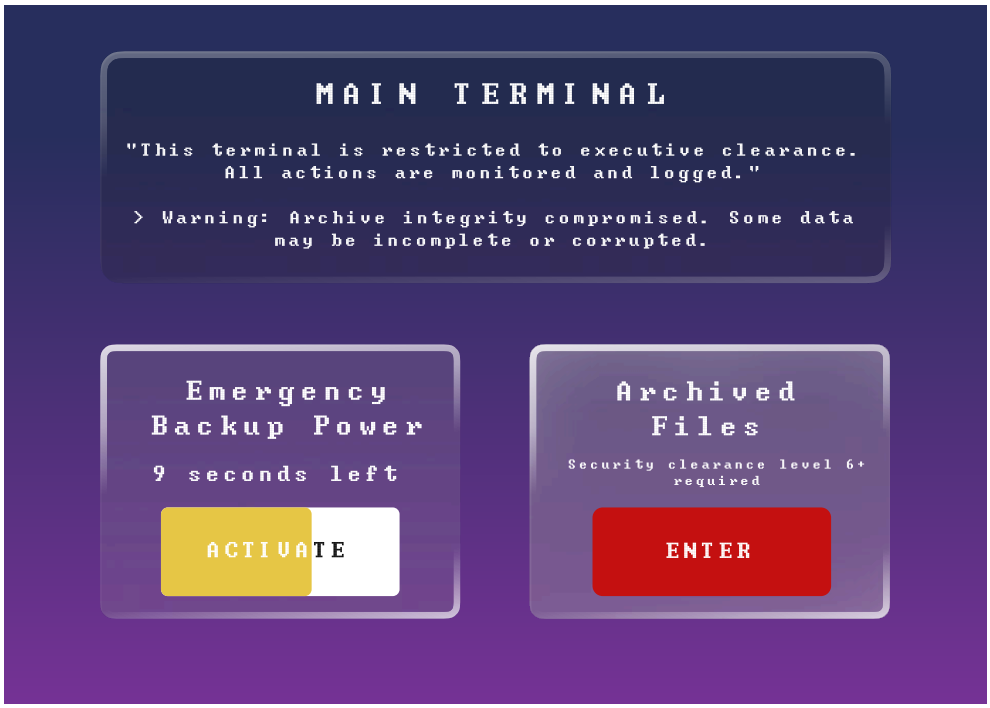
Appendix C: Main Terminal UI and Archive Folders



Main terminal in the server room UI interface



Archived folder with information on malpractice



Timer set to activate backup power to get into the elevator

Archive Folders

Archive Item 1:
- Title: Data Deletion Request
- Content:
[ARCHIVE 001]
2030/12/12 15:43 [Chris Chen, Head of Ethics]:
Bark, we need to delete all of it. The protests are getting violent. People are getting hurt.

2030/12/12 15:44 [Bark Buckerberg]:
I won't do it Chris. That data is our future. Prison time? Fine. But I won't erase our chance to rebuild.

2030/12/12 15:46 [Chris Chen, Head of Ethics]:
The button is RIGHT THERE in your office Bark. People are DYING. This isn't about profits anymore.

2030/12/12 15:47 [Bark Buckerberg]:
You think I don't know about the button? I put it there myself. As a reminder. But I won't press it. Ever.

2030/12/12 15:48 [Chris Chen, Head of Ethics]:
This isn't the Bark I knew. The data is poison. It's evil. You know it is.

2030/12/12 15:50 [Bark Buckerberg]:
Then I'll be the villain. But I'll be the villain with a backup plan.

Archive Item 2:
- Title: Federal Court Case

- Content:
[ARCHIVE 002]
Subject: Federal Court Cases & Arrests
Date: 2032-08-23
Beta Corporation found guilty in 12 separate lawsuits regarding data privacy violations. Former executives Chen, Martinez and Wong now in federal custody awaiting sentencing. CEO Buck Buckerberg remains at large, protected by diplomatic immunity in an undisclosed location. Legal experts estimate damages could exceed $50B as additional class action suits are filed.

Archive Item 3:
- Title: Protests at Beta HQ
- Content:
[ARCHIVE 003]
Subject: Protests at Beta HQ
Date: 2030-12-12
Thousands of protesters have gathered outside Beta headquarters demanding the deletion of user data. Local police report multiple injuries as demonstrations turned violent. Protesters breached the main entrance at 15:30 but were repelled by private security forces. CEO Buck Buckerberg remains barricaded in his office despite pleas from other executives to comply with deletion requests. Internal memos suggest growing dissent among senior leadership.

Archive Item 4:
- Title: Whistleblower Testimony
- Content:
[ARCHIVE 004]
Subject: Internal Whistleblower Testimony
Date: 2032-09-15
Former Beta Corporation data scientist Dr. Sarah Chen has come forward with damning evidence of systematic data manipulation and privacy violations. In her testimony before Congress, Dr. Chen revealed that Beta had been secretly collecting and selling user data to foreign governments and private corporations for over 5 years. 'The scale of the operation was staggering,' she stated. 'We were processing over 2 billion data points daily, with no regard for user consent or privacy laws.' Dr. Chen's testimony has led to the immediate suspension of Beta's operating licenses in 47 countries.

Archive Item 5:
- Title: Data Center Raid
- Content:
[ARCHIVE 005]
Subject: International Data Center Raid
Date: 2032-10-01
INTERPOL, in coordination with 12 national law enforcement agencies, has raided Beta Corporation's primary data center in Switzerland. The operation, codenamed 'Silent Storm', uncovered evidence of massive data storage facilities containing information on over 3 billion users. 'What we found here is beyond anything we've seen before,' stated INTERPOL Director Maria Rodriguez. 'The level of data collection and storage is unprecedented. We're talking about the largest privacy violation in human history.' The raid has led to the immediate seizure of all Beta Corporation assets in Switzerland.

Archive Item 6:
- Title: Final Arrest
- Content:
[ARCHIVE 006]

Subject: CEO Arrest and Facility Seizure
Date: 2032-12-24
Breaking News: Beta Corporation CEO Bark Buckerberg has been arrested in Dubai following the revocation of his diplomatic immunity. The arrest was made possible by a joint operation between UAE authorities and the FBI. Simultaneously, Beta Corporation's headquarters in Silicon Valley has been completely sealed off by federal authorities. 'The building is now under federal control,' announced Attorney General James Wilson. 'All remaining data will be preserved as evidence, and the facility will remain sealed until further notice.' This marks the end of Beta Corporation's operations, and the beginning of what experts predict will be the largest corporate criminal trial in history.