Game Design Document (GDD) for **Project Singularity:**

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Summary:

Project Singularity is a third-person action-adventure game where players control a soldier protecting a scientist from an space pirates invasion while gathering key parts and solving puzzles to escape the Earth!

"Project Singularity" is an action-packed, story-driven game where players control a soldier tasked with protecting a scientist after a groundbreaking discovery. The scientist's research on a wormhole known as "Project Singularity" attracts space pirates forces, leading to a battle for survival. As the soldier, players must navigate dangerous environments, solve puzzles and fight enemies using a variety of weapons and upgrades. The goal is to help the scientist escape, gather resources to operate a spacecraft, and ultimately find safety from the threat of space pirates.

The game combines tense combat with exploration as players collect parts to operate the spacecraft while trying to stay alive. As they progress, they encounter different levels of enemies, including a powerful space pirate's boss. The game also features a companion AI to assist in solving tasks, enhancing the experience.

Game References: Warhammer 40,000: Space Marine 2 & Marvel's Guardians of the Galaxy

Core:

1. Game Title: Project Singularity

2. Game Genre: Sci-fi Action/Adventure, Shooter

3. Platform(s): Primary - PC (with a potential mobile release later)

4. Software used:

- **Game Engine:** Unreal Engine 5

- **3D Modeling:** Blender (for creating assets and animation)

- **Cascadeur & other AI tools:** For creating animations (and many more) using AI

5. Core Gameplay Mechanics:

- **Player Character:**
  - The player controls the soldier, with a focus on both combat and puzzle-solving.
  - The soldier is assisted by a female AI companion, who provides voice guidance through an earphone.

- **Combat:**
  - Players can switch between range and close combat.
  - Use advanced weaponry to fight space pirates.
  - Stealthy tactics can be used to avoid or defeat enemies.
  - Cut-scenes as cinematic finishers during combat.
  - Defeated space pirates will drop their weapons, which the player can pick up and use temporarily.

- **Upgrades:**
  - Players can upgrade weapons at upgrade benches located in destroyed houses.

- **Puzzle-Solving:**
  - Puzzles are a key aspect of progression, particularly for gaining access to important locations, such as the spacecraft.

- **Teleportation:**
  - The soldier uses a teleportation device in the form of a hand-held device to travel through portals.
  - The teleportation portal mechanic introduces strategic mobility, allowing players to escape tight situations or reposition during combat. It adds an element of

planning, as the player must consider the portal's endpoint and the surrounding environment while managing the health cost and recharge time.

6. Story & Narrative:

- **Premise:** Earth's development of groundbreaking technology is targeted by space pirates before it can be completed. The soldier and scientist must escape, survive, and ultimately confront the space pirates.
  - o The narrative reaches a point where survival becomes more important than fighting. The player's final objective shifts from defeating the boss to escaping the situation, further emphasizing the themes of survival and teamwork.
- **Setting:**
  - o **Starting Location:** The game begins in a high-security military zone inspired by Area 51, where the groundbreaking technology is being developed.
  - o **Environmental Change**: The peaceful, sunny environment shifts to a dark and stormy atmosphere as the space pirates invade Earth. The destruction around the area intensifies as their presence becomes more apparent, marking a shift in tone and urgency.
- **Final Encounter (Boss Fight)**:

  - In the final level, the player is presented with an unwinnable fight against the space pirate boss. The boss heals during the fight, making it impossible for the player to win. After several deaths, the AI companion will intervene, urging the soldier to escape instead of continuing the fight. This shift from combat to escape provides an emotional turn in the story.

7. Characters:

- **Main Character (Soldier):**
  - Soldier, the protagonist uses combat skills, intelligence, and technology to survive and protect the scientist.

- **Scientist:**
  - The creator of the technology that the space pirates are after. The scientist helps the player with upgrades and puzzle-solving.

- **AI Companion (Female):**
  - Provides voice assistance through an earphone. Offers tips, mission objectives, and occasional emotional support.
  - Provides guidance during pivotal moments, such as the final boss fight. After the player's death, the AI intervenes to guide the soldier to safety, enhancing the player's emotional connection with the game.
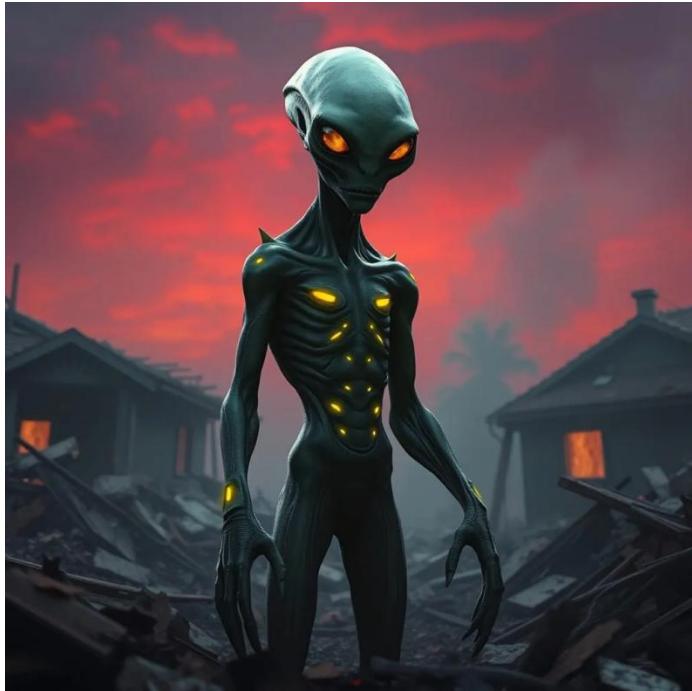
8. Enemies:

- **Level 1 pirates:**
  - Tall with horns and basic weaponry.

- **Level 2 pirates (Advanced):**
  - A humanoid with enhanced combat abilities and advanced weaponry.
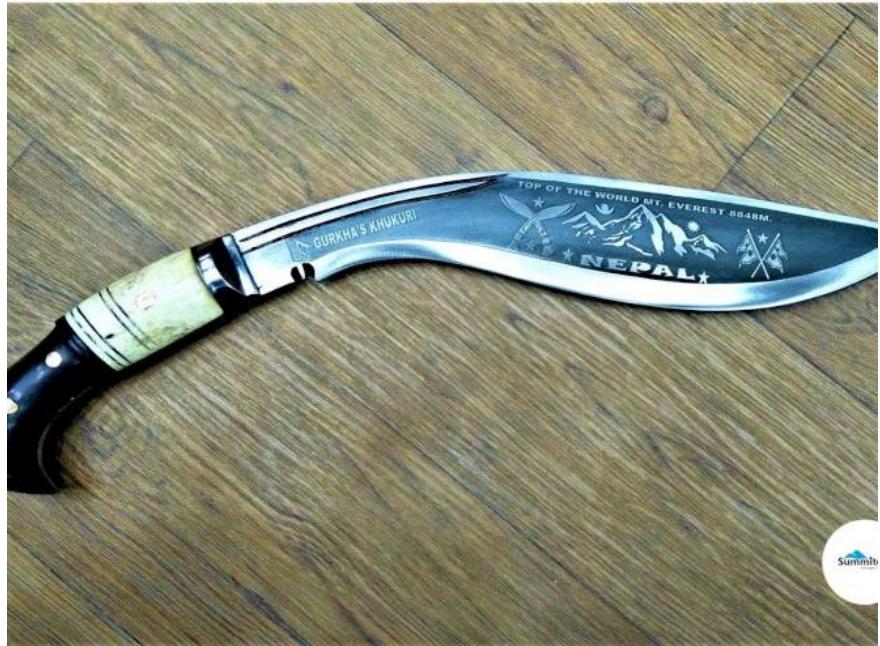
- **Level 3 pirate (Boss):**
  - A massive space pirate with a humanoid face structure, glowing shield, and the ability to morph its hand using nanotech powers.
  - The boss is unwinnable and will heal during the fight, making it impossible to defeat.
  - Add the player's eventual death leading to the AI companion's intervention, advising the player to escape.

9. Weapons:

- **Soldier's Weapons:**
    - **Pulse Cannon:** A wrist-mounted device for creating powerful pulses in a circular area
    - **Nepali Knife (Khukuri):** Short ranged weapon

- **Space pirate's Weapons:**
  - o **Level 1:** Basic energy rifle.

o **Level 2:** Heavy energy cannon.

o **Level 3:** Plasma gun capable of shooting destructive energy beams.

10. Art & Aesthetics:

- **Visual Style:**
  - Dark, futuristic sci-fi world combining space pirates technology with post-apocalyptic Earth (inspired from Area 51).
  - Detailed space pirates architecture and humanoid designs.
  - The environment transitions from peaceful to chaotic and destroyed after the space pirates invasion.
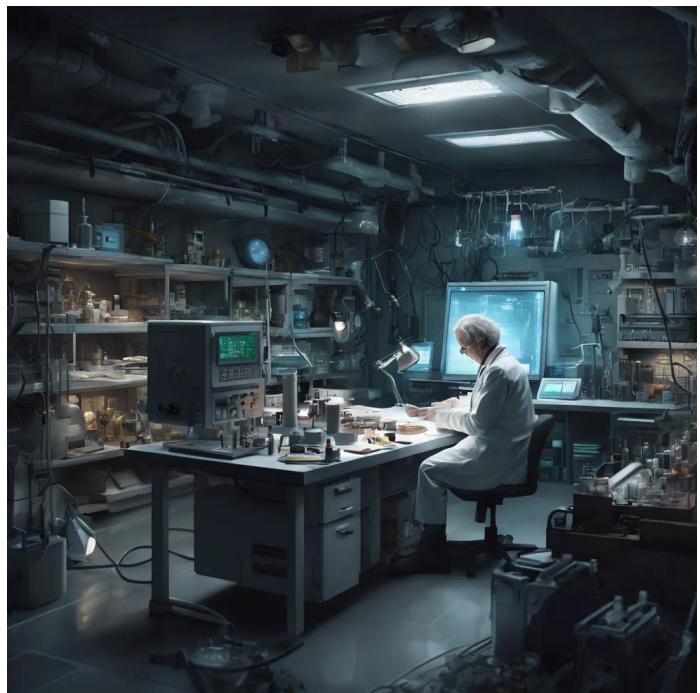
- **Character Design:**
  - Humanoid space pirates forms for basic soldiers, with more complex and scary designs for advanced space pirates and boss.

- **Environment Design:**
  - Bunker interiors filled with high-tech equipment.

○ Space pirates-human hybrid spacecraft with advanced technology.

11. Audio & Sound:

- **Sound Design:**
  - ○ High-tech futuristic sounds for space pirates weapons and technology.
  - ○ Environmental sounds change from peaceful (pre-invasion) to chaotic (post-invasion).
  - ○ Tension-building sounds during combat and pivotal story moments.
- **Voice Acting:**
  - ○ AI Companion: A female voice providing hints, guidance, and emotional support.
  - ○ Scientist: Provides crucial dialogue, contributing to the story.
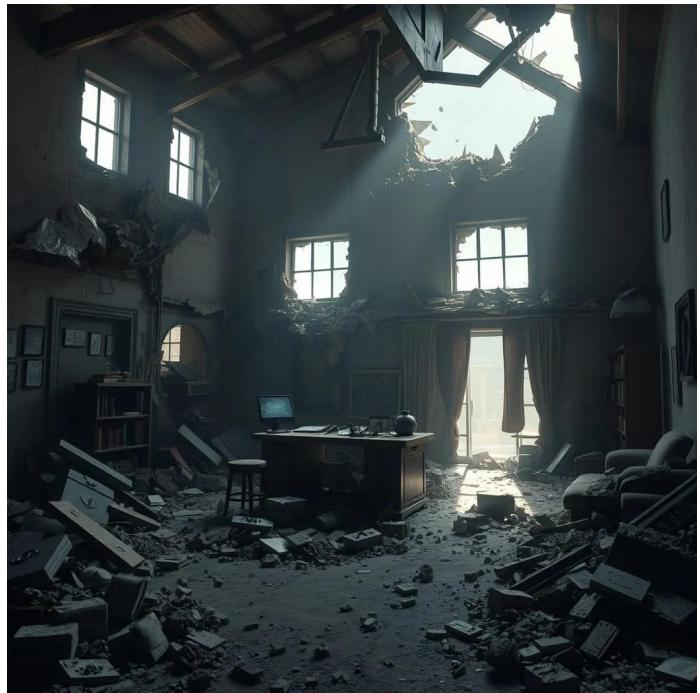
12. Progression:

- **Chapter Breakdown:**
    - **Chapter 1:** Escape from the bunker and initial space pirates encounters.

- **Chapter 2:** Puzzle-solving, upgrades, and preparation for the final battle.

- o **Chapter 3:** Final confrontation with Level 3 space pirate's boss and emotional departure.
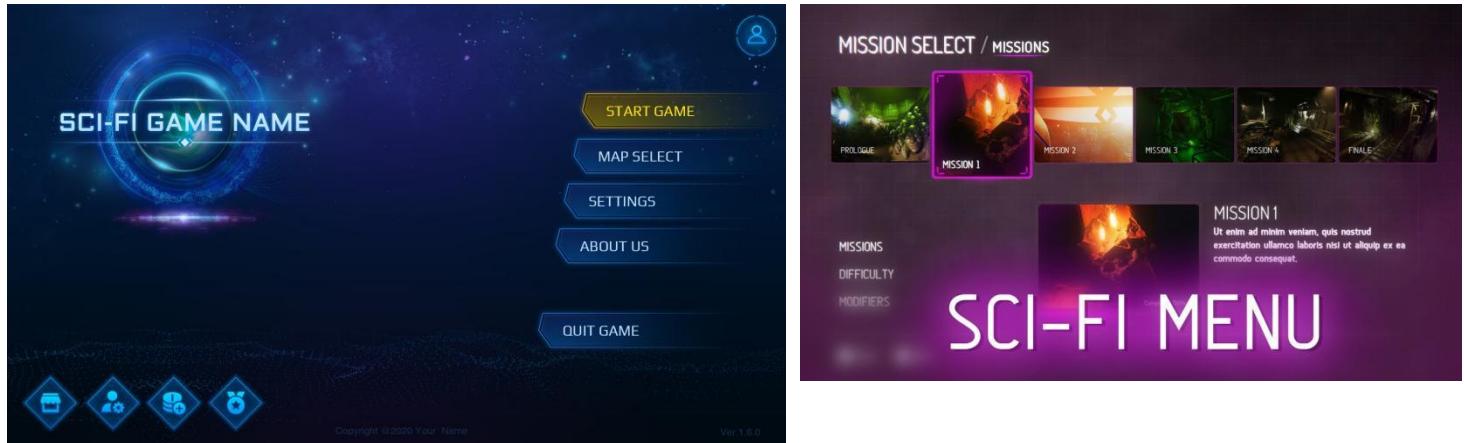

13. User Interface (UI):

- Mainmenu:
  - o Continue
  - o New Game
  - o Controls
    - Key change, etc.

- ○ Options:
  - ▪ Graphics
  - ▪ Music
   - • Volume, etc.

- ○ Quit, etc.
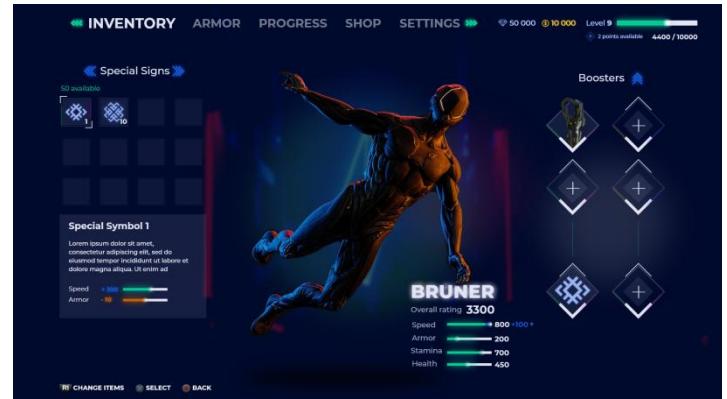
- Object Interactions:

- Inventory System:
    - Guns
   - Nepali Knife (Khukuri), etc.

- HUD:
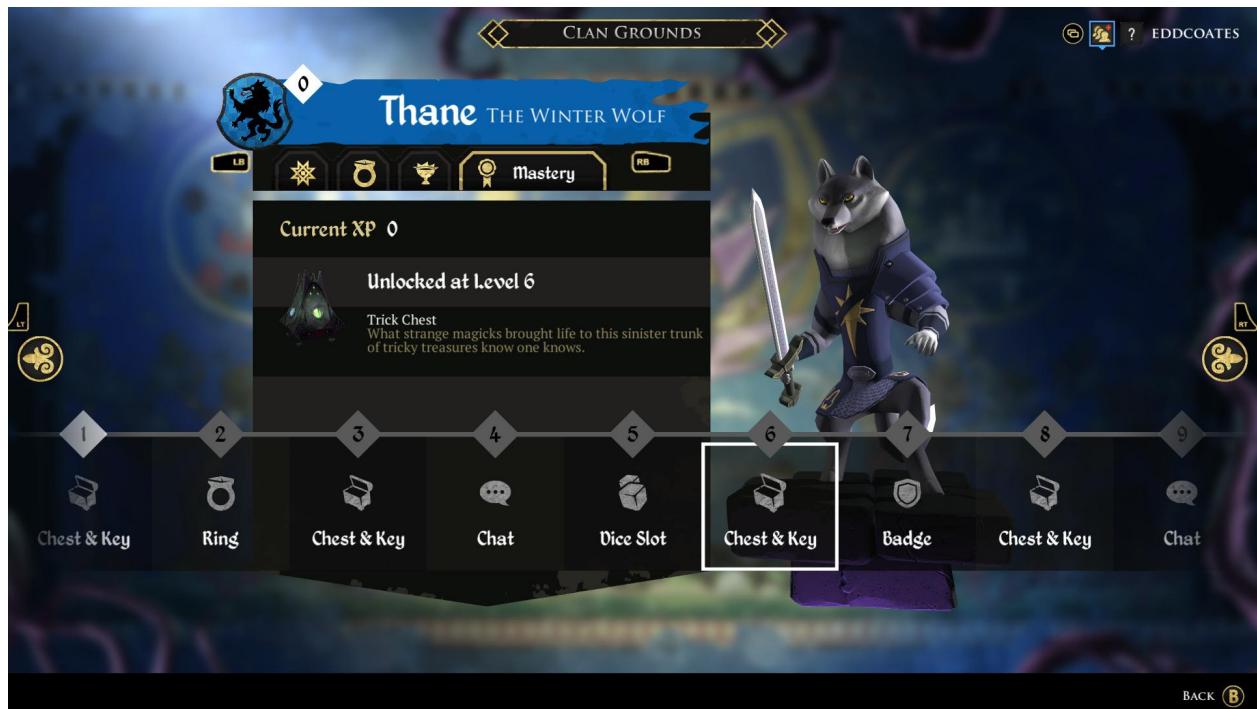
  o Health bar + Abilities:

- Skill Tree:

- Enemy Health Bar:
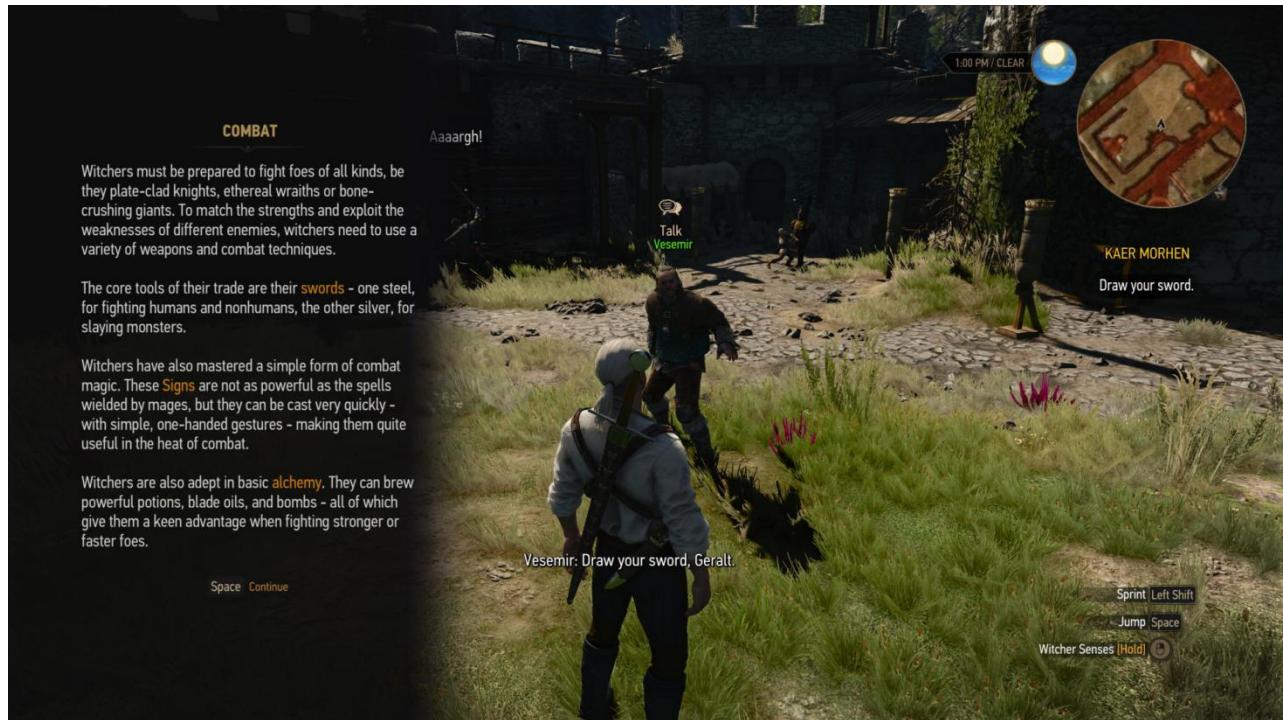
- Dialogue:

- Hints:

- Tutorial:

- Mission:

- Scale:

- Pausing:
    - Continue
    - Save
    - Load last saved checkpoint
    - Exit, etc. -> Will take to the Mainmenu

14. AI Behavior:

- **Enemy AI:**
    - Basic AI for Level 1 space pirates, with advanced combat and strategic behavior for Level 2.
    - Boss AI for Level 3, involving complex combat behavior, shield mechanics, and nanotech morphing.
- **AI Companion:**
    - Provides context-sensitive hints and mission updates, offering emotional guidance in critical moments.

Design pillars:

- **Immersive Sci-Fi World:**
    - A rich, believable world where space pirates technology meets a post-apocalyptic Earth.
- **Tactical Combat:**
    - Fast-paced action mixed with strategic decisions that require the player to think during combat.
- **Emotional Storytelling:**
    - Creating strong emotional moments that make the player care about the characters and their journey.
- **Exploration and Discovery:**
    - The thrill of exploring new areas, solving puzzles, and finding hidden secrets that shape the story.

- **Player Choice and Impact:**
    - Giving the player control over decisions that affect the narrative and gameplay.
- **Escalating Challenge:**
    - The game increases in difficulty as the player progresses, ensuring a sense of growth and reward.

Game loops:

Core game loop:

Explore the environment:

- The player navigates through the various areas of the bunker, outside and space pirates spacecraft.

Fight space pirates:

- The player engages in combat with different levels of space pirates using weapons, stealth and tactics.

Healing Upon Enemy Defeat:

- **Description**: When an enemy is defeated, it leaves behind healing energy (or an energy drop) and it is applied automatically to the player's health bar. The healing amount varies based on the level of the enemy killed.
- **Level 1 Enemies**: Provide a small amount of healing. These enemies are easier to defeat and thus reward the player with less health.
- **Level 2 Enemies**: Provide a moderate amount of healing. These enemies are tougher and require more effort to defeat, resulting in a better reward.
- **Level 3 Enemies (Boss)**: Provide a significant amount of healing. These are the toughest enemies, and defeating them offers substantial health recovery, reflecting the player's hard-earned victory (but for this game, it must be impossible for the player to defeat the boss).

Functionality:

- After defeating an enemy, healing drops appear near their body.
- The healing is applied immediately to the player's health bar.
- The player alternates between basic shooting and using chargeable abilities like the vaporizer and teleporter. Strategic use of these abilities is critical for managing tough encounters, as they are powerful but require downtime for charging.

Solve puzzles:

- The player solves environmental puzzles, often involving interaction with high-tech devices, to progress through the game or unlock upgrades.

Upgrade weapons and abilities:

- The player collects resources, uses upgrade benches, and customizes their gear to become stronger and more capable in battle.

- The teleporter lets players open a portal to a selected location within a set radius. A **wireframe** mode highlights the endpoint, helping visualize placement. If a collision is detected, the portal can't be placed and the player must adjust. It has a longer charge time than other abilities.

Uncover the story:

- The player uncovers more about the space pirates invasion, the scientist's research and the protagonist's role through dialogues, cutscenes and exploration.

Escape or advance the mission:

- The player's goal is to either escape the environment or complete mission objectives while surviving space pirate's threat.

Secondary loops:

- These loops are the additional activities that complement the core gameplay, providing variety and depth to the player's experience.
    - **Stealth Mechanics:**
        - The player sneaks past patrolling enemies by avoiding their line of sight and sound detection.
        - A lock-on mechanic enables precise targeting of enemies, making stealth encounters smoother and more rewarding.
        - Utilize the environment (e.g., hiding behind walls) to remain undetected.
    - **Weapon Upgrades:**
        - The scientist will automatically upgrade the soldier's weapon at the upgrade bench when certain criteria are met.

- Experiment with different upgrades to improve performance in combat.

o **Puzzles and Exploration:**

  - Solve environmental puzzles to unlock pathways or access hidden areas (e.g., deciphering codes to open the door of the spacecraft's storage bunker).

  - Explore the destroyed environment for hidden items or lore pieces that enhance the story.

o **AI Companion Interactions:**

  - Use the AI companion to gather intel or provide guidance.

  - The AI helps the player strategize during challenging encounters.

Player motivation and progression:

- The player's core motivation is **to survive and protect humanity's future** by ensuring the groundbreaking technology "Project Singularity" does not fall into space pirates hands. This involves guiding the soldier and scientist through dangerous environments, defeating enemies, solving puzzles and escaping Earth with the technology intact.

Motivations:

Primary motivation:

- The player's primary motivation is **to ensure the survival of the scientist and the groundbreaking technology "Project Singularity" while escaping the space pirates invasion.** This drive stems from the urgent need to protect humanity's future and prevent space pirates from exploiting the technology.

Secondary motivations:

- **Discovering the Unknown:**
  - Curiosity about the space pirates technology and the mysteries of their invasion provides an intellectual and exploratory motivation.
- **Emotional Connection:**
  - The bond between the soldier and the scientist creates an emotional motivation to protect and trust one another, driving the player to succeed in their mission.

Progression:

- The **core action** in the game → fighting space pirates, solving puzzles and upgrading abilities → supports the player's primary motivation of ensuring the survival of the soldier and the scientist while protecting Earth's groundbreaking technology.

- By defeating space pirates and overcoming obstacles, the player progresses toward the **ultimate** goal of escaping with the scientist and the technology. Upgrades and puzzle-solving provide a sense of growth and accomplishment, directly aligning with the player's motivation to succeed against overwhelming odds.

Fight against the space pirates:

- The player combats various levels of space pirates using their skills and weaponry to protect the scientist and themselves.

Upgrade weapons and abilities:

- The player uses upgrade benches found in destroyed houses to improve their weapons and abilities, enhancing their combat effectiveness.

Mission Progression Funnel

Initial Combat Encounter

← Upgrade Weapons

← Solve Puzzles

← Explore Technology

← Achieve Escape

Survival Achieved

Solve puzzles and overcome obstacles:

- The player solves challenging puzzles to unlock access to critical areas such as the spacecraft's storage bunker.

Explore space pirate-human hybrid technology:

- Interacting with the advanced technology of the pirates (like their weapons) allows the player to uncover new mechanics and progress the mission.

Achieve escape and survival:

- Successfully navigating through space pirates encounters and environmental challenges ensures the survival of the soldier and the scientist, fulfilling the primary motivation.

Features:

Soldier Features and Abilities:

Weapons and Combat:

1. Basic Shooting (Simple Attack):

Context: Basic shooting is the core combat mechanic that allows the player to engage enemies without special abilities or upgrades. It provides an accessible starting point for players to familiarize themselves with the weapon.

Hypothesis: Players will find the basic shooting mechanic intuitive and satisfying, creating a foundation for more advanced upgrades.

Measuring Success:

- Players consistently use basic shooting during early combat encounters.
- Smooth transition to advanced mechanics as players gain confidence.

Design:

- **Summary:** A simple, continuous shooting ability with no charge requirements, serving as the default attack. It is effective against weaker enemies but will evolve with upgrades for more powerful attacks.

User Journey:

- Player encounters an enemy.
- Player uses basic shooting to deal damage and defeat the enemy.

Flow:

- Aim → Shoot → Enemy Health Reduces → Repeat → Enemy Defeated

Values:

- Simplicity
- Accessibility
- Reliability

2. Vaporizer Shot (Ability after the upgrade in the teleportation device):

Context: The Vaporizer Shot introduces a charged attack to deal significant damage, targeting multiple enemies or tougher opponents. It represents a strategic escalation in combat mechanics.

Hypothesis: Adding the Vaporizer Shot will make players feel empowered, especially during encounters with higher-level enemies or groups.

Measuring Success:

- Players frequently use the ability in challenging scenarios.

- Players successfully manage the charge time and use it strategically.

Design:

- **Summary:** A charged, high-damage shot with a radius effect that disintegrates enemies into particles.

- **User Journey:**

  o Player identifies a challenging encounter (e.g., multiple enemies).

  o Player charges the Vaporizer Shot.

  o Player fires, disintegrating enemies and clearing the threat.

- **Flow:**

  o Encounter → Charge → Fire → Radius Effect → Enemy Defeat

- **Values:**

  o Power.

  o Strategy.

  o Satisfaction.

3. Teleportation (Hand-held Device):

Context: Teleportation provides a mobility mechanic to enhance combat versatility and escape options. Its health-draining feature introduces a tactical trade-off. The addition of distance-based health reduction further encourages strategic use of the ability.

Hypothesis: The teleportation ability will increase player engagement by adding a layer of strategy to combat and positioning. Players will weigh the risks and benefits of teleportation based on their health and distance needs.

Measuring Success:

- Players use teleportation to avoid critical damage or reposition effectively.

- Players balance health loss with tactical gains.

- Players are encouraged to think strategically about teleportation distance during combat.

Design:

- **Summary:** A health-draining teleportation ability with a cooldown. Health reduction is scaled based on teleportation distance within the set radius, adding a risk-reward dynamic.

- **User Journey:**

  - Player is cornered or in a difficult position.
  - Player considers teleportation distance and associated health cost.
  - Player activates teleportation to relocate and avoid damage.
  - Health is reduced proportionally to teleportation distance.
  - Player resumes combat from a safer or advantageous position.

- **Flow:**

  - Encounter → Decide Teleport (Analyze Distance vs. Health Cost) → Teleport → Health Drains → Reposition → Resume Combat

- **Values:**

  - **Strategy:** Encourages thoughtful decisions on teleportation distance.
  - **Risk-Reward:** Balances impactful movement with health trade-offs.
  - **Mobility:** Enhances tactical combat through dynamic repositioning.

4. Weapon Versatility:

Context: Introduce the mechanic as a unique feature where the player can pick up and use space pirate weapons. These weapons are temporarily available, with limited ammo and specific characteristics, allowing the player to adapt to different combat situations.

Hypothesis: The ability to use enemy weapons will create dynamic combat scenarios and encourage experimentation with different playstyles, giving players more freedom in how they approach battles.

Measuring Success:

- Players frequently pick up and use enemy weapons.
- Players find the feature fun and engaging, enjoying the variety and tactical depth it adds to combat.

Design:

- **Summary:** Allow the player to pick up weapons dropped by space pirates. These weapons come with unique abilities and a limited ammo supply (e.g., 35–40 bullets), offering a temporary advantage during combat. Once the ammo runs out, the weapon can be thrown away, encouraging players to use it strategically.

User Journey:

- Player defeats a space pirate.
- Player picks up the weapon dropped by the pirate and experiments with its mechanics.
- Player uses the weapon effectively in combat and switches back to their default weapon when the enemy weapon's ammo runs out or when it's no longer needed.

Flow:

- Defeat Enemy → Collect Weapon → Equip & Use → Engage in Combat → Switch or Discard Weapon when Ammo Runs Out

Values:

- Variety
- Adaptability
- Replayability

5. Stealth Mechanic:

Context: The stealth mechanic is necessary for players to approach combat situations strategically, giving them the option to avoid conflict when desired. The Lock-On feature enhances this by providing the player a way to focus on specific enemies for precise movement and positioning during stealth, especially when deciding whether to sneak past or engage.

Hypothesis: Allowing the player to sneak around enemies and lock onto specific targets during stealth will increase their control and make it easier to plan strategies. It enhances the dynamic world and adds more precision when deciding to avoid detection or confront enemies.

Measuring Success: The success will be measured by how often players use stealth alongside the lock-on system. Playtesting will assess whether this feature feels intuitive and rewarding. Success will be indicated by players using both stealth and lock-on in at least 30% of encounters.

Design:

- **Summary:** The player can crouch to avoid detection with detection based on line of sight. The Lock-On feature will allow the player to focus on specific enemies while in stealth mode, making it easier to track enemy movements and plan the next action, either avoiding detection or preparing for a silent takedown.

- **User Journey with Lock-On Integration:**
  - The player encounters a group of enemies.
  - The player decides whether to hide or engage in combat.
  - If they choose stealth, they crouch and move slowly to avoid detection.
  - When in stealth mode, the player can use the Lock-On feature by pressing a specific key (e.g., L or Tab).
    - This will allow the player to focus on one enemy, making it easier to track their movement without risking detection.
    - The Lock-On will highlight the enemy and show their line of sight, giving the player a clear indication of where to move.
  - If the player is detected, they must either fight or run.

- **Flow:**
  - Player enters an enemy zone → Crouch to hide → Use Lock-On to target a specific enemy → Track enemy movement and line of sight → Wait for enemies to pass or move strategically → Proceed stealthily or initiate a silent takedown → If detected, either fight or run

- **Values:**
  - Choice
  - Precision
  - Tension

6. Healing Mechanic:

Context: The healing mechanic enables the player to recover health through defeated enemies, providing a resource management aspect to combat. To further enhance this mechanic, defeated space pirates will also drop ammo, adding another layer of strategic decision-making for the player.

Purpose:

- **Player Motivation**: This mechanic encourages players to engage in combat, as defeating enemies becomes crucial for staying alive. It rewards the player with health & ammo, which promotes strategy.
- **Reduce Inventory Complexity**: By not requiring consumable health items, this system simplifies inventory management, making the gameplay smoother and more intuitive

Hypothesis: Adding ammo drops alongside health pickups will encourage players to engage in combat more frequently, balancing the need for both survival and resource management.

Measuring Success:

- **Analytics**: Success will be measured by how often players engage in combat to collect resources. This will be indicated by players frequently collecting both health and ammo after defeating enemies.
- **Playtesting**: We will observe if players feel that the healing system makes combat more rewarding and whether they are satisfied with how much health they recover and amount of ammo they collect. The goal is to ensure that players don't feel overwhelmed by too many resources or underpowered by too few.

Design:

- **Summary**: Defeated space pirates drop health and ammo pickups, which are automatically collected. This system ties combat directly to resource management, encouraging players to engage in fights for survival.

User Journey:

- The player defeats an enemy (space pirate).
- The enemy drops health and ammo pickups.
- The player collects the drops, ensuring they are replenished for future encounters.

Flow:

- Encounter enemy → Fight and defeat enemy → Energy drop appears → Player collects healing drop & ammo → Player's health and ammo is restored
- The flow is continuous, with more challenging enemies rewarding the player with higher healing amounts and ammo

Values:

- **Level 1 Enemy Healing**: Small healing reward & ammo
- **Level 2 Enemy Healing**: Medium healing reward & ammo
- **Level 3 Enemy Healing**: High healing reward & ammo

7. Upgrade System:

Context: To ensure progression and reward exploration,Two specific upgrades will be added: **one for the Teleportation Device** and **one for the Soldier's Gun**, providing players with additional combat and mobility options.

Hypothesis: By offering upgrades that significantly impact gameplay, such as the **Vaporizer** ability and dual-mode functionality for the **Soldier's Gun**, players will have more control over combat and movement, enhancing player choice and strategic decision-making.

Measuring Success: Success will be measured by how often players choose to upgrade their **Teleportation Device** and **Soldier's Gun** and how these upgrades affect their combat and exploration strategies. Players should experience both a noticeable change in their playstyle and an increased sense of power after acquiring these upgrades.

Design:

- **Summary:** The Teleportation Device upgrade enables the Vaporizer ability, while the Soldier's Gun upgrade unlocks dual-mode functionality for different combat scenarios.
    - Teleportation Device Upgrade:
        - **Effect:** Unlocks the Vaporizer ability, which allows the soldier to fire a powerful shot that disintegrates enemies into atoms.
    - Soldier's Gun Upgrade:
        - **Effect:** Unlocks dual-mode functionality, offering two modes of fire.
            - Basic Mode: Faster fire rate, low damage, uses 1 charge per bullet.
            - Advanced Mode: Slower fire rate, high damage, uses 3-4 charges per bullet.
- **User Journey:**
    - 1st Upgrade:
        - Player locates an upgrade bench.
        - They choose to upgrade the Teleportation Device.
        - Player spends resources to unlock the Vaporizer ability, allowing for powerful shots that disintegrate enemies.
        - The player continues gameplay with the new Vaporizer ability, enhancing combat strategy.

- 2nd Upgrade:
    - Player locates another upgrade bench (or the same bench for the second upgrade).
    - They choose to upgrade the Soldier's Gun.
    - Player spends resources to unlock dual-mode functionality for the gun.
        - Basic Mode: Faster fire rate, low damage (uses 1 charge per bullet).
        - Advanced Mode: Slower fire rate, high damage (uses 3-4 charges per bullet).
    - The player continues gameplay with the newly upgraded gun, providing more combat versatility.

- **Flow:**
    - 1st Upgrade:
        - Player locates upgrade bench → Select Teleportation Device upgrade (Vaporizer ability) → Spend resources → Unlock Vaporizer → Continue gameplay with new ability
    - 2nd Upgrade:
        - Player locates upgrade bench → Select Soldier's Gun upgrade (dual-mode functionality) → Spend resources → Unlock dual-mode functionality (Basic and Advanced Mode) → Continue gameplay with new gun modes

- **Values:**
    - Progression
    - Reward

8. AI Helper (Earphone):

Context: The AI helper is designed to support the player without being intrusive. The voice guidance is there to assist and make the player feel like they are not alone, especially in moments of high tension.

Hypothesis: The AI will help guide the player, increasing their sense of connection to the world and helping them navigate challenging situations. This enhances immersion and supports the design pillar "Narrative-driven Experience"

Measuring Success: The success will be measured by how often players listen to the AI's advice and how much they rely on it in challenging moments. A positive impact will be shown if players consistently feel the AI helped them in difficult situations.

Design:

- **Summary:** The AI is embedded in an earphone and communicates tips and guidance during key moments in gameplay.
- **User Journey:**
  - Player encounters a new enemy type or challenge.
  - The AI gives advice via the earphone.
  - Player decides whether to follow the advice.
- **Flow:**
  - Encounter → AI advice → Player decision → Action taken based on AI advice
- **Values:**
  - Guidance
  - Immersion

9. Dodging Mechanics:

Context: The dodging mechanic allows the player to avoid incoming attacks by using quick, responsive movements. By pressing the A, S or D keys, the soldier can dodge left, back or right, helping them avoid enemy strikes and creating a more dynamic combat experience. This mechanic is crucial for avoiding damage during intense combat sequences, especially when facing tougher enemies or the main boss. The dodging system gives the player a sense of control and responsiveness, which is important for maintaining engagement in combat.

Hypothesis: The dodging mechanic will enhance the player's ability to react to enemy attacks, increasing their engagement with the game's combat system. It provides an extra layer of strategic depth, encouraging players to time their movements correctly to avoid damage. This mechanic will increase player satisfaction by giving them more agency and control over combat, supporting the design pillar of **"Immersive Combat"**

Measuring Success:

The success of the dodging mechanic will be measured by:

- **Player Feedback**: How players feel about the mechanic's responsiveness and usefulness.
- **Frequency of Use**: How often players use the dodge during combat sequences. A higher frequency will indicate the mechanic's importance in player strategy.
- **Combat Difficulty**: Ensuring players can effectively dodge in both normal and boss fights without making the game too easy.

A positive impact will be seen if players consistently use the dodging mechanic in both everyday combat and boss fights to avoid taking damage.

Design:

Summary: The dodging mechanic allows the player to quickly move left, back or right by pressing the A, S or D keys. This mechanic adds depth to combat by offering the player the opportunity to avoid enemy attacks, especially during challenging encounters. Timing the dodging correctly will allow the player to survive longer and feel more in control of the action.

User Journey:

- Player encounters a new enemy or attack pattern.
- The player uses the dodge mechanic (pressing A, S or D) to avoid the enemy's attack.
- The player successfully avoids damage or evades critical attacks, gaining a sense of accomplishment.

Flow:

- Encounter → Enemy attack → Player dodges → Survives the attack or avoids damage → Continue combat

Values:

- **Tactical Control**: Giving the player control over their survival with the dodge mechanic.
- **Immersion**: Enhancing the player's experience by making them feel like they have the skill to survive intense combat situations.

10. Final Level Encounter:

Context: In the final level, the player is presented with a fight against the space pirate boss. The fight is designed to be unwinnable to push the player towards making a strategic escape instead of continuing to battle. The player will face the challenge of managing their resources, health, and abilities in the final moments.

Hypothesis: The unwinnable boss fight will create a unique and memorable finale while subverting player expectations, leading to a satisfying escape sequence.

Measuring Success: Success will be measured by how quickly players understand they need to escape and their satisfaction with the finale's resolution.

Design:

- **Summary:** A challenging boss encounter that transitions into an escape sequence.

User Journey:

- Initial Boss Fight: The player fights the space pirate boss, attempting to defeat it. The boss heals when the player reloads, making it impossible to defeat.

- Player's Death: After several attempts, the player dies, realizing the boss cannot be defeated.
- AI Intervention: After the player dies a few times, the AI companion intervenes, saying, "You can't defeat this enemy. It's time to escape." This shifts the player's objective from fighting to escaping.
- Escape Phase: The player must escape the boss encounter, avoiding attacks and finding an escape route.
- Final Decision: The player must use their abilities strategically to escape the boss's attacks and reach safety.

Flow:

- Boss encounter → Multiple defeat attempts → AI guidance → Strategic escape → Safety

Values:

- Surprise
- Strategy
- Tension

Enemy Features:

Level 1 Enemies:

1. **Normal Shooting:**

2. **Ranged Drone:**

- **Context**: The Ranged Drone introduces long-distance combat, forcing the player to adapt and avoid energy bullets. This prepares them for tougher enemies.

- **Hypothesis**: Introducing ranged combat early helps players prepare for more complex enemy mechanics later in the game.
- **Measuring Success**: Success will be measured by how effectively players can avoid the drone's attacks and use cover to their advantage.
- **Design**:
  - **Summary:** The Ranged Drone stays at a distance, firing slow-moving energy bullets.
  - **User Journey:**
    - Player encounters Ranged Drone.
    - Player uses cover to dodge bullets.
    - Player defeats the drone.
  - **Flow:**
    - Encounter → Dodge → Attack → Defeat
  - **Values**:
    - Strategy
    - Action

Level 2 Enemies:

1. Normal Shooting:

2. Greater Resistance to Damage:

- **Context**: Level 2 enemies have stronger defenses, making them more resilient to standard attacks and requiring more effort from the player to defeat them.
- **Hypothesis**: Increased resistance will make combat encounters more rewarding by encouraging players to use advanced weapons or charged attacks strategically.

- **Measuring Success**: Success will be assessed by how players adapt to longer combat encounters and whether they find the increased durability engaging rather than frustrating.
- **Design**:
  - **Summary**: Higher durability through enhanced armor or natural resilience.
  - **User Journey**:
    - Player notices Level 2 enemies take more hits to defeat.
    - Switches to powerful weapons or abilities (e.g., Vaporizer) to bypass resistance.
  - **Flow**:
    - Encounter → Recognize resistance → Use advanced attacks → Defeat
  - **Values**:
    - Rewarding Combat
    - Strategic Mastery

3. Enemy Can Dodge Player Attacks:

- **Context**: Level 2 enemies are more agile, capable of dodging some of the player's attacks, increasing the challenge and requiring precise aiming.
- **Hypothesis**: Enemies with dodging mechanics will force players to focus on timing and accuracy, making combat more skill-based and engaging.
- **Measuring Success**: Success will be measured by the frequency of missed shots against these enemies and feedback on whether dodging feels fair and exciting.
- **Design**:
  - **Summary**: Enemies perform quick sidesteps or rolls to evade attacks occasionally.

- o **User Journey**:
  - Player targets the enemy.
  - Enemy dodges, evading the attack.
  - Player adjusts aim and lands a follow-up hit.
- o **Flow**:
  - Encounter → Attack → Enemy dodges → Player adjusts → Attack lands → Defeat
- o **Values**:
  - Precision
  - Tactical Engagement

4. Explosive Shots:

- **Context**: Level 2 enemies' bullets explode upon impact, creating an area-of-effect damage zone and requiring players to stay mobile to avoid harm.
- **Hypothesis**: Explosive shots will make combat more dynamic, as players must consistently move to avoid damage, enhancing the challenge and immersion.
- **Measuring Success**:
  Success will be gauged by how effectively players dodge explosions and whether the mechanic adds excitement to battles.
- **Design**:
  - o **Summary**: Bullets cause small explosions, dealing area damage.
  - o **User Journey**:
    - Player engages the enemy and notices explosions after bullet impacts.
    - Adapts movement to avoid getting caught in the blast radius.
    - Continues fighting while dodging explosions.

- o **Flow**:

  - Encounter → Enemy shoots → Explosion triggers → Player dodges → Attack lands → Defeat

- o **Values**:

  - Mobility
  - Environmental Awarenes

Enemy Abilities Section:

- **Regeneration Ability:**
  - o **Level 2 Enemies**: Slow regeneration of health over time.
  - o **Level 3 Enemies (Boss)**: Faster regeneration rate compared to Level 2.
  - o **Purpose**: Adds challenge and strategy by encouraging the player to prioritize high-regenerating enemies.

Visual Feedback and Indicators:

- **Healing Effect:**
  - o Enemies glow blue or sky blue when regenerating, increasing in intensity based on the speed of healing.
  - o **Purpose**: Alerts the player to enemy regeneration, prompting quick action.
    - **Sound Effect (Optional)**: A sound accompanying the glow to enhance awareness.

Combat Strategies:

- **Player Response to Regeneration:**
  - o Emphasize the need for focused attacks on regenerating enemies to interrupt or counteract their healing.

Content:

Narrative summary:

Chapter	Main Plot Points	Setting
Chapter 1: The Discovery	- Introduction of the protagonist (soldier) and scientist, showcasing their development of groundbreaking teleportation technology. - Space pirates target the technology and attack the bunker. - Scientist gives the soldier a handheld teleportation device for escape.	- High-security military zone inspired by Area 51. - Underground bunker housing the teleportation setup. - Military halls on high alert.
Chapter 2: The Invasion	- Space pirate ships land on Earth, initiating the invasion. - Soldier and scientist escape using the handheld teleportation device. - Environment shifts to rainy and dark after the invasion. - pirate drones are introduced, patrolling the devastated areas.	- Bunker interior with the teleportation device. - Above-ground areas ravaged by pirate attacks. - Spaceship landing zones under storms.
Chapter 3: Escape and	Soldier and scientist search	Overrun military bases

Survival	- for key parts required to unlock the hybrid spacecraft. - Combat with Level 1 and Level 2 enemies (Melee and Ranged Drones). - Puzzles and glowing objects guide progression. - Teleportation's health-draining feature adds a tactical layer.	- with signs of human resistance. - Destroyed houses and buildings. - pirate drone patrols in open areas.
Chapter 4: Finding and Assembling the Key	- Player discovers the hybrid spacecraft needs a key, dismantled and hidden across the area. - Collecting all parts while fighting waves of space pirates. - Puzzles and ambushes escalate in difficulty.	- Locations with hidden key parts: destroyed facilities, pirate-modified terrain, and secure vaults. - High-tech spacecraft entrance.
Chapter 5: The Boss Fight – Level 3 Pirate	- Soldier faces the Level 3 pirate boss with nanotech regeneration powers. - Intense battle requiring strategic use of weapons, dodging and teleportation. - The pirate captures the scientist and drags them out of the spacecraft.	- Exterior of the hybrid spacecraft under a stormy sky. - Chaotic battle zone filled with pirate tech and debris.

	● Emotional despair sets the tone for the finale.	
Chapter 6: Unlocking the Spacecraft	● Soldier retrieves final key parts and assembles the key. ● Waves of enemies attack as the spacecraft activates. ● The player boards the spacecraft for either escape or confrontation.	● Fully activated pirate-human hybrid spacecraft interior. ● Stormy exterior with relentless enemies.
Endgame / Epilogue	● Soldier's final decision: escape or attempt to save the scientist. ● Alternate endings: 1. Escape Ending: The soldier retreats, leaving Earth with hope for humanity's survival and a chance to reclaim the planet later. 2. Despair Ending: The soldier hesitates too long or attempts to fight the boss, leading to a failed retreat, resulting in their capture or death, and Earth succumbs to the invasion. ● Reflection on the soldier's journey.	● Cut-scenes of Earth's fate: either hopeful or tragic. ● Final scenes depict the soldier's legacy.

Characters:

Name	Relationships	Description	Wants	Needs	Story Arc
Protagonist	Scientist, Creator	A soldier and researcher, the protagonist is central to the creation of the new technology. Resourceful and determined, they fight to protect their work and the scientist.	To complete the groundbreaking technology and defend it from the space pirates.	To retreat safely with the technology's future intact.	The protagonist is thrust into an unexpected conflict with space pirates, ultimately forced to retreat after failing to save the scientist.
Scientist	Mentor	The scientist is the creator of the new technology and the key figure the space pirates seek. They rely on the protagonist for protection during the attack.	To complete their research before it is taken by space pirates.	To survive and ensure the technology's success.	The scientist struggles to keep the technology safe and ensures it remains with the protagonist. However, during the final confrontation, the scientist is

					captured by the space pirates, leaving the protagonist to retreat with the technology intact.
Level 3 - Space Pirate	Space pirate race, Antagonist	The most powerful of the space pirates, their mission is to stop the completion of the technology and capture the scientist. Displays nanotech abilities and immense strength.	To eliminate the scientist and secure the technology.	To use advanced technology to dominate and evolve.	The space pirate's mission escalates, culminating in the capture of the scientist and the protagonist's forced retreat.