

Fallout 4: Groundhog Day

Version 1.0

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| --- | --- |
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# Level Summary

## Quick Summary

*Groundhog Day* is a Fallout 4 level where the Player plays as the sole survivor who was invited to solve the great mystery of a never-ending cycle of a town in the Commonwealth. The Player enters a research facility, where the researchers tell them that every day repeats itself in this town once you step outside this facility, the Player’s goal is to find the reason behind this repetition at the heart of the Abandoned Factory in this town.

This level has two zones, the Town (with time loops) and the Lab (out of the loop). Everything the Player keeps in the Lab is safe after the Player dies, however, if the Player dies in the Town, everything in the Player’s inventory disappears. The Player keeps their inventory by safely exiting the Town using Extraction Points around the map.

## Level Feature Overview

|  |  |  |
| --- | --- | --- |
| Category | Sub-Category | Feature List |
| Player | Player Weapons | * Melee (early stages)   + Blunt (i.e. baseball bat, rolling pin)   + Sharp (i.e. knife, sword) * Ranged (mid stages)   + Pistol (.44 round/10mm round)   + Rifle (.45/.308)   + Shotgun (shotgun shells)   + Pipe Weapons (.38) * Energy (late stages)   + Institute Pistol (Fusion cell)   + Institute Rifle (Fusion cell) |
|  | Player Skills/Abilities | * Standard traversal Abilities * Map Extraction (exit points) * Resource gather & Resource management |
| AI | Enemies | * Ghouls/Feral Ghouls * Raiders (Ranged + Melee) * Synths (Gen 1 + Gen 2) |
|  | Friendlies | * Humans (Scientists) |
| Challenges | Gameplay Themes | * Fast paced map traversal and resource gathering * Frequent exit and extraction with looted resources * In-arena combat to earn caps and experience * Out-of-arena armor and weaponry growth with caps |
|  | Obstacles/Hazards | * Ghouls, Raiders, Synths as enemies * Radiation water environmental hazards * Fire hazards (deals damage) * No ammo or armor resource within the arena |
|  | New/Unique Gameplay | * The Player loses their entire inventory upon dying in the town, respawning with an empty inventory. * The Player can store their extracted resources in a chest outside of the arena. * Player can grow by buying better gears from the merchant with caps extracted from the arena. |
| Context | Where Fits in Game | * It fits at the start at the beginning of the main quest and at early stage of the main quest. |
|  | Challenge Fit | * Standalone playable quest * The Player can “grind” XP from this level |
|  | Additional Info | N/A |
| Aesthetics | Major Visual Themes | * The Slums (Residential Shacks & Buildings) * The Church (Deco, marble-like, church buildings) * The Abandoned Factory (concrete, bricks, steels) |
|  | Setting/Mood | * Abandoned * Overcast * Run-down town |

## Development Schedule

|  |  |
| --- | --- |
| Milestone | Date |
| LDD | May 30th, 2023 |
| Whitebox | Jun 5th, 2023 |
| Initial Gameplay | June 19th, 2023 |
| Gameplay Complete | July 3rd, 2023 |
| Aesthetics | July 10th, 2023 |
| Launch | July 19th, 2023 |

## Level Overview

### Overview Map

#### Red Rocket

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**1**

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*\*Map painted over Red Rocket Screenshot, not created in 1:1 Grid Scale*

Figure 1 Overview Map - Red Rocket Ext [21]

|  |  |
| --- | --- |
| Map Label | Gameplay Summary |
| 1 | The player arrives at Red Rocket, they see an anxious reporter standing next to a blue convertible car. The Player goes to speak with him |
| 2 | After speaking with the reporter, Phil Connors, the car unlocks, and the Player can travel to Punxsutawney. |

***Punxsutawney TownA map of a game

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**19**

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**14**

Figure 2 Overview Map - Punxsutawney Town [21]

|  |  |
| --- | --- |
| Map Label | Gameplay Summary |
| 3 | The Player arrives outside the town, **surrounded by a temporary lab facility**, with **two stairs leading to a door**. |
| 4 | The Player enters the lab and sees **Dr. Rita Hanson standing by the window**, goes to speak with her to ask about the situation of the town. Dr. Rita explains the situation to the Player. |
| 5 | The Player **enters the town through the door furthest to the left**, arriving at the top floor of a residential building. Facing the **first wave of Ghouls**. \*Symbol on the map does not represent the number of Ghouls, they represent the spawn location of the Ghouls, the number changes depend on how many numbers of extractions the Player has\* |
| 6 | In this safehouse, the Player can **find Stimpaks** to replenishment. |
| 7 | This is an indoor roundabout garden that the Player can **find more Ghouls** in, it has indoor circular cover with Ghouls in ambush. |
| 8 | This wide walkway of the Slums has **a safehouse with Stimpaks** in it, it is also where **the Feral Ghouls and regular Ghouls roam the roads**. It is **the pathway to the Church** area. |
| 9 | This is **the entrance to the town’s Church**, there are **Raiders guarding the entrance of the local Church**. The Player enters from the ground floor. **There are three stories – Balcony, Ground Floor, Basement.** (These Raiders are more difficult in level than the Ghouls in the Slums.)  \*Symbol on the map does not represent the number of Raiders, they represent the spawn location of the Ghouls, the number changes depend on how many numbers of extractions the Player has\* |
| 10 | Enter **the church area from the front door on the ground floor**, the Player faces some ranged Raiders on the ground floor. |
| 11 | Going **up to the second-floor balcony via the ramp**, the Player faces **ranged Raiders and melee Raiders**. |
| 12 | The Player has a chance to **enter the basement of the church via the stairs** on either side of the church, **finding Stimpaks** in the basement and **more Ranged raiders**. |
| 13 | The Player can **enter the abandoned factory and leave the Church** **through the broken window** on the second floor of the Church. Piled up objects beneath the broken window guides the Player down to the factory area. |
| 14 | Going under the overpass walkway of the factory, the Player **can enter the factory on the right** to find abandoned work streamline machines and some synths.  \*Symbol on the map does not represent the number of Synths, they represent the spawn location of the Ghouls, the number changes depend on how many numbers of extractions the Player has\* |
| 15 | There are **ranged Synths on the raised platforms** on one side of the factory building, the Player can go up the raised platform and **get Stimpaks** there. |
| 16 | The Player can enter the **observation shack between two factory buildings** to go through to the other factory building. There is **another Stimpaks deposit** there. |
| 17 | Here the Player finds the **machine that powers up the nuclear facility** that is causing the anomaly, the Player needs to **defeat the Synth Boss to turn it off**. |
| 18 | The player can **use the shortcut exit to return to the Slums** and exit the map. |

## Narrative Flow Chart

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Figure 3 Groundhog Day Quest Narrative Flow Chart [23]

# Level Details

## Detail Maps

### Section 1 – The Lab

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**window**

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Figure 4 Section 1 Map - The Lab [21]

|  |  |  |
| --- | --- | --- |
| Map Label / Stage | Event Summary | Event Details |
| 1 | Player arrives at Punxsutawney town. | The Player sees a research facility ahead, a big radiation machine further in the distance, glowing. The Player is guided to approach the lab doors. |
| 2 | Player speaks with Dr. Rita Hanson. | Dr. Rita Hanson tells the Player about how the anomaly started and how to stop it. If the Player agrees, their personal items will be removed and placed in a chest. |
| 3 | Player speaks with the merchant and examines the chest. | Player can deposit personal items in the chest and speaks with the merchant to purchase armors to bring into the town. |
| 4 | Player enters the affected town. | Player enters the town through the door to the furthest left. |

### Section 2 – The Slums

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Figure 5 Section 2 Map - The Slums [21]

|  |  |  |
| --- | --- | --- |
| Map Label | Event Summary | Event Details |
| 4 | Player enters the first area of the Slums.  Enemy: 1 \* Stage Number\*\* | The introductory area has two Ghouls facing away from the Player, the Player can learn the mechanic of earning caps from killing enemies. From here, the Player can go forward towards the overpass bridge or down into the Slums area. |
| 5 | Player encounters more Ghouls and Feral Ghouls.  Enemy: 2 \* Stage Number | The indoor areas are crawling with Ghoul ambushes, there’s a chance of Feral Ghouls rushing indoor towards the Player from the outside. |
| 6 | Indoor garden/greenhouse area with Ghouls  Enemy: 2 \* Stage Number | Area with a circular flow, good for the Player to guide and hunt down Ghouls without the distraction of the Feral Ghouls. |
| 7 | Outside safehouse for the Player to take cover and recover | A safehouse with circular flow that allows the Player to take cover and loot for Stimpaks. |
| 8 | Back alleyway of the Slums for chokepoints with the Ghouls | The Player can circle around the safehouse to the alleyways to face more Ghouls, and a direct passageway towards the next area. |
| 9 | Ramp upwards towards the Church | After clearing the Slums, the Player can move towards the ramp to the Church, with a few more Ghouls standing in the way. Some Raiders will be clearing out some Ghouls as well. |

### Section 3 – The Church

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**14**

**14a**

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**11a**

**11**

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Figure 6 Section 3 Map - The Church [21]

|  |  |  |
| --- | --- | --- |
| Map Label | Event Summary | Event Details |
| 10 | The player arrives at the entrance of the Church, guarded by Raiders.  Enemy: 1 \* Stage Number | The Raiders guard and secure the Church as their base, there are ranged Raiders guarding the entrance on the Ground floor. |
| 11 | Across the Church, it is the church’s graveyard area, guarded by Raiders and some Ghouls.  Enemy: 1 \* Stage Number | The graveyard is a rather open area with a lot of Ranged Raiders and a few Melee Raiders. There is a Stimpak deposit as well. The Player can use the gravestones as cover to proceed. |
| 11a | Extraction Point available for this area. | Extracts from the end of this graveyard area to a safe zone in order to keep the currently looted items. |
| 12 | The broken floor acting as ramp leads the Player to the second-floor balcony.  Enemy: 2 \* Stage Number | The ramp visually guides the Player upstairs to the balcony area, where the Player can eventually leave the Church by jumping out of the broken window. |
| 13 | Church basement area with Stimpaks and Raiders.  Enemy: 2 \* Stage Number | The Player can go into the church basement to loot more Stimpaks and encounter more enemies. |
| 14 | Player jumps out of the broken window to the Factory area. | There are stacked objects and debris that prevents fall damage and leads the Player down to the Factory area. |
| 14a | Extra Stimpak available. | The Player can loot extra Stimpaks in these areas. |

### Section 4 – The Abandoned Factory

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Figure 7 Section 4 Map - The Abandoned Factory [21]

|  |  |  |
| --- | --- | --- |
| Map Label | Event Summary | Event Details |
| 15 | Player arrives at the Abandoned Factory area.  Enemy: 1 \* Stage Number | The Player sees two buildings on either side of the road, and Synths on the road, some ranged Synths and a few Melee synths. |
| 16 | The Player is guided to the building on the right, with the doors open. | Walking into the building on the right, the Player sees an abandoned factory streamline with melee Synths in the area. There is also a Stimpak deposit there. |
| 17 | The Player reaches the raise platform on the other side of the building with some Synths.  Enemy: 2 \* Stage Number | The Player reaches the raised platform through stairs and faces Ranged Synths on top of the raised platform, along with a Stimpak deposit. |
| 18 | The Player enters the overseeing trailer through the raised Platform.  Enemy: 1 | The trailer connects the two buildings, the Player finds a melee Synth in the trailer, but also a Stimpak deposit. The Player can access to the other building through the observation trailer. |
| 19 | Entering the Second Building, the Player sees the raised observation dock in the middle with the Synth Boss.  Enemy: 2 \* Stage Number | The Player finds more ranged and melee Synths in this building defending the boss. After the Player clears the enemies in this area, the Synth Boss challenges the Player. |
| 20 | The Player defeats the Synth Boss.  Enemy Boss: 1 | The Synth Boss is carrying the key to the door behind the boss, and a Fatman gun. The Player turns off the machine that is causing the anomaly. |
| 21 | The Player exits the Abandoned Factory towards the Slums. | The Player leaves the Abandoned Factory and return to the Slums using the shortcut, hence leaving the town. |

*\*\*Details on the Stage Number are on Figure 12*

## Skill Progression Chart





Figure 8 Skill Progression Chart (with Legend) [22]

## Aesthetic References

There are three major visual themes for this level – The Slums, The Church, and The Abandoned Factory. Each represents a major area of the map. The goal of the level is to create a run-down-looking town that is not lively.

### Visual Theme 1 – The Slums

The Slums used to be a residential area before everyone moved out, the buildings are run-down and abandoned. There are shallow alleyways and tall buildings. The common theme around this area would be the alleys and the stair-ladders that the Player can use to traverse through areas.

A picture containing building, house, outdoor, collage

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Figure 9 Contact Sheet for Visual Theme 1 - The Slums [1,2,3,4,5,6,7]

### Visual Theme 2 – The Church

The Church used to be the central area of the town; the Church has a large interior space with traversable interiors. The lights should be shining through all the glass windows on the walls. The church is made up of one main area, a side room, and a backroom.

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Figure 10 Contact Sheet for Visual Theme 2 - The Church [8,9,10,11,12,13]

### Visual Theme 3 – The Abandoned Factory

As the final area of the map, the factory has broken walls and torn ceilings. There are bridges between the buildings that act as transitioning areas. The interior has observation rooms and mechanic rooms with a large open space with catwalks.

A picture containing screenshot, sky, text, outdoor

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Figure 11 Contact Sheet for Visual Theme 3 - The Abandoned Factory [14, 15, 16, 17, 18, 19, 20]

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**Detailed Map Icons**

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**Other Documents**

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[22] Zhang, Emily, table created with Microsoft Excel, created on May 30th, 2023.

[23] Zhang, Emily, diagram created with diagrams.net, created on May 30th, 2023.

# Appendices

## Appendix A: New Skills / Gameplay Mechanics

### Mechanic A – Gain Resource by Killing Enemies And Loot

* The Player gain resources through fighting inside the arena, earning caps by killing enemies and looting Stimpaks and Chems.
  + Enemies do not drop weapons.
  + Kill a Ghoul = 100 caps
  + Kill a Raider = 200 caps
  + Kill a Synth = 300 caps

### Mechanic B – Retaining Resources by Extraction

* The Slums and the Church areas each of an “extraction point” built into the arena, when the Player exits the arena with looted items in the inventory, the Player keeps the inventory
  + They can store the items in the chests provided to the Player outside of the arena.
  + They can purchase better gear at the merchants nearby to fight more difficult enemies.
* If the Player dies before reaching the extraction point, the Player loses everything in their inventory, including the caps earned in this round.
* Enemies increase in difficulty and count by the table below, after multiple extractions.







Figure 12 Extraction Count vs. Enemy Count Planning Table [22]

### Mechanic C – Bonus Mechanic – Daily Log for extra resources

* At the beginning of each day (in-game time) at the arena, the Player can “sign in” by a terminal outside of the arena to earn extra resources.
  + If the Player is logging with a streak, bonus resources will be given to the Player.
  + If the Player loses the “streak”, a standard daily number of resources will be given to the Player.
  + Resources include: Stimpaks, Chems, Ammos, Caps

## Appendix B: Context Detail

**General *Context***

A mysterious curse has shrouded this town for a while – this town seems to be repeating the same day over and over again, with slight variations. Scientists have surrounded this town with laboratories and have figured out something from the Abandoned Factory that has been affecting this town.

**Backstory**

The Abandoned Factory used to be a nuclear mechanic manufacturer, the war has left it abandoned and the radiation emission has somehow changed the town little by little, until the whole town has been living the same day over and over again. In order to stop this cycle, someone needs to go inside the factory and shut down the machines.

**Aftermath**

After the Player goes into the Abandoned Factory and shuts down the machines, the town will resume its normal activities. People start moving back into their homes with their families. Scientists in the laboratory pack up getting ready to leave with all the research results.

**Narrative *Summary***

|  |  |  |
| --- | --- | --- |
| Stage | Event Summary | Event Details |
| 0 | The Player has not talked to the quest giver and has not accepted the quest yet. | Phil Connors is waiting anxiously at Red Rocket, looking for someone who can help him save his town. |
| 10 | The Player has agreed to save his town and travel there. | Phil tells the Player that the town has been living the same day over and over again for a long time now, the scientists stationing at the town doesn’t want to help at all. They need someone else to help. |
| 20 | The Player needs to speak to the lead Scientist at the research facility | Rita tells the Player that they need to get to the central area of the factory in order to stop this cycle. |
| 30 | The Player begins to enter the arena | Gameplay only |
| … | … | Gameplay only |
| 80 | The Player successfully turned off the machine and returned the town to normal. | The townspeople all thank the Player for their efforts, some of them start moving back into their houses. Phil Connors moved back to his house. |

## Appendix C: Character Descriptions

**NPC 1: Phil Connors**

|  |  |
| --- | --- |
| **Description** | A young man in his dirty suits looking distressed and worried at Red Rocket, waiting by his car. |
| **Background** | He is a resident at the town, he doesn’t believe that the scientists are here to help them out at all, so he wants to find someone else to help his town out. |
| **Goals/Motivation** | He wants his town to function as normal, they don’t want to repeat their days anymore. |
| **Personality/Archetype** | Anxious, worried |
| **Relationships** | Quest giver, town resident |

**NPC 2: Rita Hanson**

|  |  |
| --- | --- |
| **Description** | A scientist working for the Institute researching the phenomenon that is happening to this town. |
| **Background** | She is an expert researcher who has been stationed here since the beginning. |
| **Goals/Motivation** | She wants someone to go inside the town to turn off the machine that causes this unfortunate phenomenon. |
| **Personality/Archetype** | Brave, stern, smart |
| **Relationships** | Explains the Player’s motivation, gives more narrative background |

**NPC 3: Larry**

|  |  |
| --- | --- |
| **Description** | A hardworking businessman who is chased out of his home because of this incident in the town. He is the only merchant in this town as well. |
| **Background** | He owns the shops around the town, but he had to leave his home and his shop after the incident happened. |
| **Goals/Motivation** | He wants to return to his home and continue to sell more goods to the townspeople. |
| **Personality/Archetype** | Friendly, encouraging |
| **Relationships** | Town resident, weapons merchant |

## Appendix D: Dialog Flow

**NPC 1: Phil Connors**

A picture containing text, screenshot, diagram, line

Description automatically generated

Figure 13 Phil Connors - Start Dialogue

A picture containing text, screenshot, number, font

Description automatically generated

Figure 14 Phil Connors - In Progress Dialogue

A picture containing text, screenshot, font, line

Description automatically generated

Figure 15 Phil Connors – Completed Dialogue

**NPC 2: Rita Hanson**

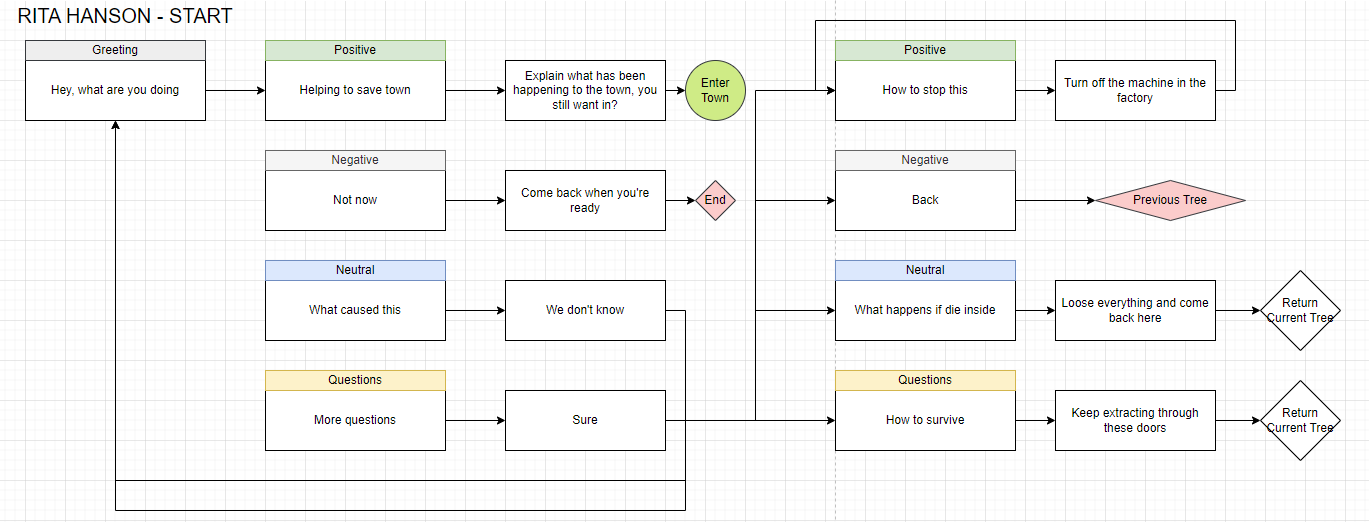


Figure 16 Rita Hanson - Start Dialogue

A picture containing text, screenshot, diagram, font

Description automatically generated

Figure 17 Rita Hanson - In Progress Dialogue

A screen shot of a computer screen

Description automatically generated with low confidence

Figure 18 Rita Hanson - Completed Dialogue

## Appendix E: Development Risks

|  |  |  |  |
| --- | --- | --- | --- |
| Map Label | Description/Mitigation | Type | Priority |
| \* | **New Feature:** Keeping a Global Count of the number of Player Extraction, while managing the enemy leveling, as well as shop upgrades according to the number of extractions.  **Mitigation Plan:** Keep the count of enemies killed instead of extraction count | Script | High |
| \* | **New Feature:** Taking away the number of caps earned, and inventory of the Player before/after the Player died.  **Mitigation Plan:** Take away their inventory after the Player respawned. | Script | High |
| \* | **Support Feature:** Making sure the Player respawn at the safehouse instead of the last place of death.  **Mitigation Plan:** Move/Teleport the Player to the safehouse after respawning. | Script | Medium |

## Appendix F: Key Asset Needs

|  |  |  |
| --- | --- | --- |
| Description | Type | Priority |
| Extraction vs. Enemy level system balancing sheet | Pre-Production | High |
| Extraction vs. Merchant resource allocation balancing sheet | Pre-Production | High |
| Mechanic A Implementation – Assign cap count to each enemy type | System Implementation | High |
| Mechanic B Implementation – Create mechanic to support the extraction system | System Implementation | High |
| Bonus Mechanic C – Daily check-in system | System Implementation | Low |