

# The System

## Game Design Document

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# 1 Overview

## 1.1 Summary

In this post-apocalyptic 2D Metroidvania game, [Hackerman] explores the ruined world of [insert world name here] to find his missing brother, overcoming enemies and obstacles with the help of allies he finds along the way.

## 1.2 Vision Statement

General: As the player progresses through the world they unlock more characters to add to their party as well as upgrades to existing powers. These additions to the party as well as upgrades will allow the following:

- **Exploration** of varied environments
- **Fluid** combat and movement

## 1.3 Genre

The System is a 2D Action/Adventure Metroidvania.

## 1.4 Target Audience

The target audience is people between the age of 14 and 40. There will be a low bar of entry, but also additional areas with higher difficulty curves for puzzles and combat for those who enjoy retro metroidvania games.

## 1.5 Art Direction

- Currently unknown, will figure that out later

## 1.6 Target Platforms

The System will be available on itch.io for PC with potential plans to port to Xbox, Playstation, and Nintendo Switch at a later date.

### 1.6.1 Game Engine and Development Software

The following software will be used during the development of The System:

- Unity 2020.3.42f1
- Visual Studio 2022
- GitHub
- Google Drive Suite

## 1.7 Reference games

- Metroid Zero Mission
- AM2R
- Super Metroid
- Metroid Fusion
- Hollow Knight
- Starbound
- Dead Cells

## 2 Narrative

### 2.1 Story Synopsis

[Hackerman]'s brother has been missing after he mysteriously disappeared near the abandoned city they hunted for scrap in. After months of searching to no avail, [Hackerman] finally catches a glimpse of what he believes to be his brother's old red scarf, prompting him to rashly go to the edge of a cliff face. The ground slides out from underneath him and he falls into a prison that everyone had forgotten. This prompts his journey of discovering the reason behind the wreckage of this place and how he could potentially fix it.

As it turns out, there are evil machines that have corrupted the world and laid it to ruin, and their base just happens to be in the cave system next to this very city. The machines fled to space after the humans fought back, but they are trying to make a return now that most of the humans have died out. In plotting their return, they corrupted [Hackerman]'s brother and turned him into a weapon who could facilitate their return.

### 2.2 Backstory

#### 2.2.1 World

##### 2.2.1.0 Area 0 - Start

Survivor camp where [Hackerman] and his brother lived with the other survivors. It's a grueling world but the people here make it seem just a little bit easier to live with. The survivors make regular runs to the city to gather scrap and materials necessary for survival.

##### 2.2.1.2 Area 1 - Forgotten Prison

Before the city was abandoned, there was a prison underground that originally was used by the humans for prison things but the machines repurposed it to hold anyone they deemed a threat. One of these people was military soldier [Soldier], who was one of the greatest commander's humanity had ever seen. Stored in a Prison Containment Pill, he gets freed by [Hackerman] and they escape the prison together through the sewers.

##### 2.2.1.3 Area 2 - Sewers

Leading to the city, the sewers are a maze-like connection of pipes and tunnels with many gates and secrets to uncover.

##### 2.2.1.1 Area 3 - Ruined City

Once a bustling city, these ruins have laid here for quite some time. No one knows why the city is in the state that it is, but people come down from their village to search for scrap often.

Unbeknownst to anyone, the city was ground zero for the machine takeover of the world, with remnants of that past being drones flying around hunting for humans as well as metal scraps almost everywhere. The humans fought back and pushed them from the planet but they are trying to return and finish their conquest now that most of the humans have died out.

#### 2.2.1.4 Area 4 - Research Lab

Before the city was abandoned, there was a prominent research company the soldier knew of that was part of the army base against the machines. Inside are the resulting experiments, both human and technological. One of the Soldier's friends was taken here for experimentation and was never heard from again. Little does he know that his friend has been kept alive and was transformed into a mutant, with superhuman abilities and regenerative healing to boot. However there is also another experiment here, one that was far less successful, or far more successful if you count destroying everything in its path a success. This monster has been successfully trapped in the lab but only barely, and the rescue of the mutant has resulted in the escape of this being who will either kill or be killed.

#### 2.2.1.4 Area 5 - Mysterious caves

During the machine takeover, they used this cave as an operations base, and remnants of that are still visible today. In this cave [Hackerman] will eventually find a computer console, next to which he will find his brother who is still surprisingly alive and well, although he is corrupted. His brother then gets into a mech suit and a boss fight ensues. The cave starts being destroyed, brother escapes to an escape ship, and the party follows closely behind, taking off to space and continuing the destruction of the machines.

### 2.2.2 Characters

#### 2.2.2.1 Scrapper

- Experienced hacker who can bypass security systems with relative ease
- Primary ability which is an electric staff that stuns enemies on hit. Can swing in any direction.
  - Press is a regular attack that can be combined into a 3-hit combo
    - First 2 hits stagger an enemy while the 3rd stuns
  - Hold is the shield, slamming the electric pole into the ground
- Secondary ability is a grapple that can attach to specific points
- Can interact in specific locations to use a small robot to put into the vents
- Fastest movement speed

#### 2.2.2.2 Old Soldier

- Primary ability is a gun
  - Press for 1 shot
  - Hold to charge a scattershot

- Grenades
  - Can break open cracked walls
- Rocket Boots
  - For double jump
  - Air dash
- Has extra hit points in the form of armor
- Movement speed is slower than Scrapper

#### 2.2.2.3 Mutant

- Primary Melee attacks
  - Slow and heavy(Like Juggernaut or Kratos Spartan Rage)
- Deals heavy damage to enemies but will take damage from spiked enemies etc.
- Slow wind-up and cooldown frames
- Lift and move heavy blocks to solve puzzles
- Pull some heavy levers

## 3 Game Mechanics

### 3.1 Player Controls

Gamepad	Keyboard	Action
Left Stick	WASD	Move
South Button	Space	Jump
West Button	Left Click	Primary Ability
North Button	Right Click	Secondary Ability
Right Stick	Q/E/S	Roll/Dodge
Left Bumper	F	Swap Character
Left Stick	Aim with mouse	Aiming
Left Trigger	Left Shift	Enter Aim mode (stands still)
Up on Left Stick	W	Interact(if within range)

There will eventually be fully controller remapping

## 3.2 Combat

The combat is focused around using different characters' strengths to your advantage in order to take down varying opponents. The speed of combat is inspired by Dead Cells, which has fast paced but synergistic combos with its weapon system.

## 3.3 Character Swapping

There will be 3 separate characters for the player to control: Scrapper, Soldier, and Mutant. They have the ability to interchange places with each other via the Scrapper rigging up a system with a Federation Prison Pill Device. The animation will be a simple blink into the silhouette of the next character and then they load in.

### 3.3.1 Character Health

Each character has their own individual health pool

- Scrapper has 2 hits with an extra 3 using his shield
  - The shield regenerates after a certain amount of time without taking damage
- Soldier has 3 hits with an extra 3 using armor
- Mutant has 5 hits but can regen the last hit it took if it doesn't take another hit for a period of time
  - Like the hiveblood charm in hollow knight

### 3.3.2 Character Placement

- Characters will be able to handle certain stations in order to solve puzzles or win encounters.
  - This mechanic references Legend of Zelda: Four Swords and Star Wars Republic Commando
- The Scrapper can handle the following stations
  - Hacking Terminals - opening doors/vents/platforms/power/etc.
  - Ducts - The Scrapper has a little r/c car he sends into ducts to accomplish a task
  - Electrical Surges (Point Defense) - The Scrapper can wire into voltage arrays to absorb power in his staff to amplify his defense damage, making an impenetrable wall.
- The Soldier can handle the following stations
  - Suppressive Fire - From cover/turrets/high ground
  - Can scan objects to find out lore.
  - Can jetboot jump to high locations.
- The Mutant can handle the following stations
  - Pickup/Slide Boulder



- Can punch through 1 tile steel doors
- Can throw large objects at gaps or enemies

## 3.4 Puzzles

As the player progresses through areas of the game, they will come across different puzzles, some unique to those areas

### 3.4.1 Forgotten Prison

- Hackable doors
- Powered lasers

### 3.4.2 Sewers

- Locked gates that require levers to be pulled
- Hackable gateways

### 3.4.3 Research Laboratory

- Electric gates
- Powered platforms and/or doors
- Hackable platforms

### 3.4.4 Abandoned City

- Hackable doors

## 3.5 Camping System

The System will feature a camping system, which is this game's version of a saving system. The game will establish specific things like a spotlight and wall graffiti to mean that this area can be used as a campsite. If the player sets up camp, they go to sleep and wake up again in the same location, with full health and all of their ammo and abilities replenished.

## 3.6 A.I.

### 3.6.1 Generic Enemies

All enemies will have aggro range, if they lose line of sight of the player for x amount of time (minimum 2 seconds) then they will go back into their leash range.

Name	Movement Logic	References
Simple Corrupted	Wanders around slowly until in range of the player and then chases the player with some sort of punch or pincer or something	Red Koopa (Mario Bros.) Tik-Tik (Hollow Knight)

Corrupted Sentry	Translucent and stands still until it recognizes the player. Once it recognizes the player it walks towards them and becomes less translucent and will attack unless swung at with the scrappers staff. (They are afraid of light and/or weak to electricity)	Husk Bully (Hollow Knight)
Corrupted Guard	Has a shield of some sort and has to be either stunned with electricity or dodged through in order to be passed	Great Sentry Husk (Hollow Knight)
Laser 1	Doesn't move, shoots a beam straight in the direction it is facing and can be destroyed by a grenade. Used as prison gates to block the player from entering places too early	
Laser 2	Doesn't move, but rotates. Shoots a beam in the direction it is facing, pivots between 2 points. Player has to move between and under platforms to dodge the laser	
Flying Enemy 1	Floats between 2 set points, has a cone that can detect the player and the player can see this cone to avoid it	
Flying Enemy 2	DVD logo, bounces around a room	DVD screensaver

## 3.6.2 Bosses

### 3.6.2.1 Researched Monster

- A room filled with platforms
  - Vents and ducts around the room that the hacker can send his robot into
  - The soldier has to defend the hacker in order for the task to be completed and the robot to hit the switch to attack the boss
  - Start the fight by cleaning out the ventilation systems
  - Phase 2 would then require the power to be restored
    - Once the power is restored then the anti-alien system comes back on and beams the boss down

## 3.7 Character Physics

All units are defined by standard unity units that have no real world equivalent.

### 3.7.1 Character 1 - Scrapper

Name	Value
Height	2 units
Gravity	-98 units/s <sup>2</sup>
Jump	34.29 units/s <sup>2</sup>
Maximum Horizontal Speed	11 units/s
Time to Max H. Speed	~14 frames ~0.23 seconds
Dash Speed	27 units/s
Dash time	0.2 seconds
Dash cooldown	0.3 seconds

### 3.7.2 Character 2 - Soldier

Name	Value
Height	2 units
Gravity	-98 units/s <sup>2</sup>
Jump	34 units/s <sup>2</sup>
Maximum Horizontal Speed	9 units/s
Time to Max H. Speed	~14 frames ~0.23 seconds
Dash Speed	11 units/s
Dash time	0.2 seconds
Dash cooldown	0.3 seconds

## 3.8 Environment Hazards

Each area will have its own set of hazards, some with fully unique functionality while other are just reskins of the same thing

### 3.8.1 - Forgotten Prison

- Spikes
- Lasers

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### 3.8.2 - Sewers

- Spikes
- Water pools
- Explosive gas clouds/barrels/

## 4 World Design

### 4.0.1 Game Progression

The game starts with a cutscene of the Scrapper in his village, when he sees a glimpse of the old red scarf his missing brother used to wear near the edge of a cliff face. Upon closer inspection, the ground starts collapsing from underneath him, sending him over the cliff. He then wakes up inside of the Forgotten Prison, which he wanders around until he finds the Old Soldier in his containment pod. After restoring power to the prison, the Scrapper frees the Soldier, who tells him that they need to go back to his cell and get his gear. When they reach the Soldier's cell, the gate slams and locks behind them, leaving the only way out through the cracked wall at the back of the cell. With the Soldier's gear this proves to be easy work and you blast through the wall to find yourselves in the sewer system. The Soldier tells the Scrapper that this sewer system should lead to the city above, and they venture through it.

### 4.1 Area 1 - Forgotten Prison

#### 4.1.1 Goals of the area

- Teach the player basic movement mechanics
- Explore the Scrapper's unique moveset
- Introduce combat with the Scrapper
- Develop more challenging combat
- Teach the player how to hack things
  - Opening doors
  - Restoring power
- Introduce the camping save system

#### 4.1.2 Important Subareas

- Power room and inmate storage room
- Soldier cell(entrance to sewer)

### 4.2 Area 2 - Sewers

#### 4.2.1 Goals of the area

- Introduce character switching for different situations
- Introduce soldier's mechanics
- Introduce switching character's midair
- Introduce puzzles
  - Gates that require lever's to be pulled

- Combat arenas
- Lights that require hacking to turn on

#### 4.2.2 Important Subareas

- Entrance to the city
- Lever rooms

### 4.3 Area 3 - Abandoned City

#### 4.3.1 Goals of the area

- Continue developing both Scrapper and Soldier mechanics
- Introduce a new type of hackable object(maybe an encrypted door?)

#### 4.3.2 Important Subareas

- Entrance to the caves
- Entrance to the research lab
- Entrance to the sewers
- Elevator to the village

### 4.4 Area 4 - Research Laboratory

#### 4.4.1 Goals of the area

- Introduce the mutant
- Develop mutant abilities
- Introduce highly aggressive enemies
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#### 4.4.2 Important Subareas

- Entrance to the city

## 5 Audio

## 5.1 Music

The System will have music when we get it made

### 5.1.1 Abandoned City Theme

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### 5.1.2 Forgotten Prison Theme

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## 5.2 Sound Effects

[illegible]


## 6 UI

### 6.1 Gameplay UI



#### 6.1.1 Electricity

- Blue electricity will represent environmental and player electricity
- Yellow will represent controlled elements
- Red will represent uncontrolled(rogue) elements

Each character will have their own set of health and it will be represented in a similar manner to how Hollow Knight has its masks. The active character's health bar would be colored and in the top left of the screen, then the inactive character's health would be underneath that bar and smaller and slightly transparent.

### 6.2 Menu UI

The Menu UI is still in progress, but will contain 3 main components to it. The Main, Pause, and Settings Menu.

#### 6.2.1 Main Menu

Start by looking at the night sky full of stars, then as you move to different menu items, the camera shifts to different locations and focuses on different aspects

- Hovering over new game is the player in their house



- Hovering over options could be the lab
- Hovering over exit could go back to space

### 6.2.2 Pause Menu

Light tablet-esque menu(like the subnautica tablet), with a flash when it turns on(Z has a thing for it)

### 6.2.3 Settings Menu

A satellite screen that has all the different controller, audio, and gameplay options on it