**<Untitled Game>**

**Game Design Document**

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**Initial Description**

It is a 2D post-apocalyptic run and gun game with a significant resource management element set inside of a semi-destroyed city. It requires the player to venture out into the wilderness multiple times in order to collect equipment and scrap metal which will help the player get further and further each time they go out. The goal is for the player to travel between outposts until they make it to the safe-zone outside the city where they will finish the game.

**Strategy**

The player should try to defeat as many enemies as they can in order to maximise the amount of scrap metal they earn and in order to progress through the game. However, they will need to monitor both their ammunition levels and the current status of their gas mask in order to survive in the wilderness and make it back to their original outpost or the next outpost.

It is likely a player will have to make multiple trips out into the wilderness and keep returning to their current outpost so that they can collect good items and build up a supply of scrap metal for boosting their stats. Over time this will lead to the player becoming strong enough to beat all the standard enemies and the elite enemies to progress through the game.

**Gameplay**

**Character Stats**

The character has some basic stats which can be upgraded through items crafted from scrap metal.

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| **Default Player Stats** | | | |
| **Health** | **Armour (Dmg. Reduction, %)** | **Run Speed** | **Carry Capacity** |
| 100 | 0 | 100% | 4 |

The player will start out with no items in their inventory, however upon starting the game the first level they play will have multiple guaranteed item spawns while they are being taught how to player the game. These items will be a common pistol, 50 bullets and 5 bandages. This will take up 3 of the players’ inventory slots leaving 1 free for items they collect while in the wilderness.

Another guaranteed spawn will be the standard backpack; however, this item will spawn when the player is near to the second outpost. This is a guaranteed spawn because it can become very frustrating for the player to only have one available inventory slot if they’re trying to collect good loot but forced to drop some early into the game.

**Death / Respawning**

The player can die by being hit or shot from enemies in the wilderness. The corpse will drop to the floor and all currently equipped items will remain there. The player will appear back inside the previous outpost but will essentially be playing as another person who was also staying there. They can venture out to where the character died and choose to pick up the items that were inside the other characters’ inventory.

The items which are dropped to the floor will lose 50% of their durability. If the durability of the item reaches 0% then the item will not be usable and will have to be repaired in an outpost using scrap metal before it can be used again.

**Equipment**

**Equipment Types:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Melee Weapons** | | | |
| **Weapon** | **Damage** | **Speed (Secs)** | **Reload Speed (Secs)** |
| Mop | 5 | 0.8 | 0 |
| Baseball Bat | 8 | 0.8 | 0 |
| Fire Axe | 12 | 1.0 | 0 |
| Long Sword | 14 | 0.6 | 0 |
| Chain Saw | 18 | 0.6 | 0 |

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| --- | --- | --- | --- |
| **Ranged Weapons** | | | |
| **Weapon** | **Damage** | **Speed (Secs)** | **Reload Speed (secs)** |
| Pistol | 6 | 0.4 | 1.2 |
| Shotgun | 2x4\*¹ | 0.6 | 1.5 |
| Sniper Rifle | 16 | 1.0 | 1.6 |
| Assault Rifle | 12 | 0.4 | 1.2 |
| Mini Gun | 5 | 0.2 | 0.6 |

\*¹ Shotgun fires 4 simultaneous projectiles dealing 2 damage each.

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| --- | --- | --- | --- |
| **Armour** | | | |
| **Armour** | **Damage Modifier (%)** | **Speed Modifier (%)** | **Effect** |
| Leather Armour | -10 | -5 | None |
| Combat garments | -20 | -10 |  |
| Riot Gear | -30 | -15 |  |
| Juggernaut Armour | -40 | -20 |  |
| Running Vest | +20 | +20 |  |

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| --- | --- |
| **Accessories** | |
| **Accessory** | **Effect** |
| Trainers | Increases run speed by 25% |
| Bandages | Heals 25% of HP |
| Glasses | Reduces reload speed by 20% |
| Ammunition | Used for all ranged weapons |
| Backpack | Increases player inventory size by 2 |
| Military Backpack | Increases player inventory size by 4 |
| Helmet | Increases HP by 15% |
| Gloves | Increases weapon speed by 20% |
| Filter Extender | Increases the gas mask filter duration by 5% |

**Equipment Quality:**

There will be five different qualities that the equipment may spawn with. The five different qualities will be “Common; represented with the colour white”. “Uncommon; represented with the colour green”. “Rare; represented with the colour blue”. “Epic represented with the colour Purple” and “Legendary; represented with the colour Orange”.

As the quality of an item increases the stat boost provided by that item will also increase. The stat that is boosted varies between equipment type but will provide a linear increase in that particular stat. Another boost that is provide from improved equipment quality is the trade in value of each item when sold in an outpost. This will also be a linear increase in the item value, similar to the stat boost.

**Equipment Spawning:**

On each level in the game a selection of items will spawn at specified locations on the map. The items that spawn will be different each time the player travels through the level and their drop rate will be based off a loot table system. This means certain items will be very common and others will be extremely rare.

As well as the standard item spawning system mentioned above, items will spawn with a particular equipment quality. There are 5 different qualities the equipment can spawn with and each quality will have a different chance of appearing. For example, a “Legendary Mini Gun” will be extremely rare while “Common Bandages” will appear very frequently.

**Gas Mask**

The gas mask is an item in which the player must monitor at all times while they are in the wilderness. The item is there to essentially limit how long a player can stay in the wilderness by having the gas mask filter deplete over time. If the gas mask filter depletes while the player is still in the wilderness they will start to take damage to their health. The amount of damage dealt will be a percentage based off of their total health but will start at 5% for the first hit and increase by 2% for every additional hit dealt to the player. The damage will be dealt every 2 seconds and will continue to increase until it kills the player or they reach an outpost. It is also possible that the player can attempt to out-heal the damage that is being dealt by using bandages if they need to, although this would likely consume a large amount of bandages in a short amount of time.

The gas mask will not take up any equipment slots like all other items in the game and the initial duration that it will last is 90 seconds. However, it can be improved by equipping the gas mask filter extender. This will increase the duration that the filter lasts by a minimum of 5%. The current status of the gas mask will be displayed on screen at all times within the game UI, the game will display both the current percent of the filter as well as the time remaining in seconds.

**Scrap Metal**

The scrap metal resource is used as a universal currency in the game to perform multiple tasks. These tasks include: -

1. Repairing broken equipment.
2. Crafting items which will provide permanent upgrades to the characters’ stats. These stat upgrades are kept on death.

Scrap metal is provided to the player through very common random spawns of it in the wilderness as well as drops from killing enemies.

**Combat**

The character will be able to fight mass amounts of oncoming enemies which have a set amount of health and damage they deal based off of which level the player is currently on.

Below is a table showing the various standard enemies that may spawn while the player is exploring the wilderness. There will be a mixture of ranged and melee enemies which have different amounts of health, damage, attack speed and drops. The chance for each enemy spawning is also varied with the “Raider” and “Irradiated Grunts” being very common with the “Boomers” and “Irradiated Giants” being rarer.

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| --- | --- | --- | --- | --- | --- |
| **Enemy** | **Health** | **Damage** | **Attack Speed (Secs)** | **Attack Type** | **Drop (Scrap)** |
| Raider | 50 | 8 | 1.2 | Ranged | 100 |
| Brutal Raider | 150 | 10 | 1.2 | Ranged | 180 |
| Boomer | 180 | 16 | 1.8 | Ranged | 220 |
| Irradiated Grunt | 60 | 12 | 0.8 | Melee | 80 |
| Irradiated Guard | 110 | 15 | 0.8 | Melee | 140 |
| Irradiated Giant | 200 | 18 | 1.0 | Melee | 220 |

Every so often an elite enemy may spawn which will deal a lot of damage and have a lot of health, therefore making it very difficult to kill them. However, killing them will result in the player getting a considerable amount of scrap metal compared to standard enemies. Just before the player reaches a new outpost they will also be required to kill one of the elite enemies in order to unlock it.

It is also possible for multiple elite enemies to spawn at the same time but this will not happen on the first level but will likely happen quite frequently on late levels.

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| --- | --- | --- | --- | --- | --- |
| **Enemy** | **Health** | **Damage** | **Attack Speed (Secs)** | **Attack Type** | **Drop (Scrap)** |
| Legate Commander | 550 | 18 | 0.6 | Ranged | 600 |
| Irradiated Warlord | 600 | 15 | 0.8 | Melee | 600 |

**Player Inventory**

Once the game begins the player will have 4 usable inventory slots however this can be expanded by equipping one of the two available backpacks which will increase the usable capacity of the player inventory by either 2 or 4 depending on which backpack was equipped.

A player can only equip one backpack at a time which will prevent them from stacking the increased capacity that having multiple backpacks equipped would provide. Also the backpack itself will take up 1 equipment slot which means the effective increase in inventory size for the smaller backpack will be 1 and the larger backpack will be 3.

**Outposts**

An outpost is a safe zone in which the player can prepare for the next time they're out in the wilderness. This means they can select which items they will take with them in their equipment slots. They can also choose to repair their equipment or upgrade their permanent stats using scrap metal.

The base has a limited storage size and can hold 10 items in its inventory. If a player would like to remove an item they don't need or should they want more inventory space, they can trade in their items for a set amount of scrap metal.

When the game starts the player will start in the first outpost and they will have no items inside of the outpost with only the starting items. Once the player reaches a checkpoint, all items will be transferred from the previous outpost to the new one. As the player progresses through the game and finds new outposts the capacity of all of them will remain at 10, however the about of scrap metal received by trading in items will increase by 10% for each new outpost found.

**Level Design**

**Level 1: The City**

**Level 2: The Sewer**

**Level 3: The Bomb Site**

**Menu Design**