__Tower- Level Design Document__

"Fight, explore and ascend to the top"

By Guvvy Atwal
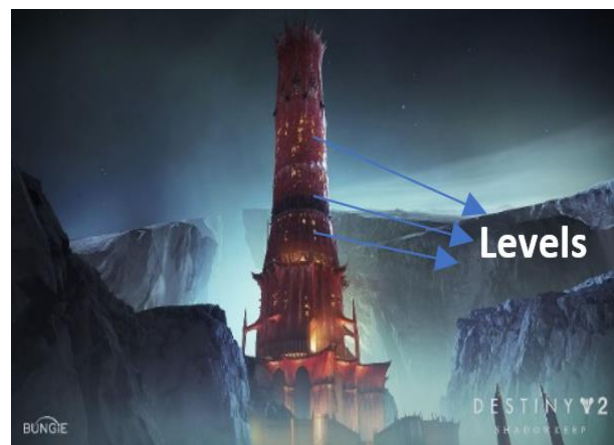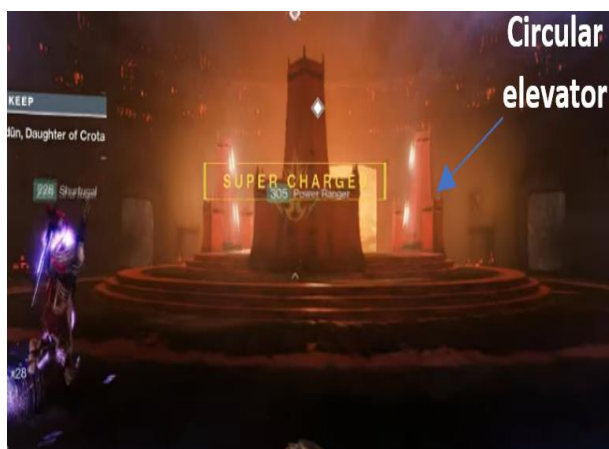
Contents:

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High Concept Overview:

Quick pitch:

Tower is a top-down shooter, where the player must storm through a sprawling high-tech tower and discover the horrors that lie at the top. All while featuring tense action, phenomenal puzzles, and excellent environmental storytelling.

Look and feel:

Ideas and inspiration- Destiny 2-Tower of Woe:

This level in Destiny 2 has contributed some inspiration for Tower because I want an elevator that rises between multiple floors. But stops at each floor and only goes to the next floor upon the player completing an objective. In contrast to Destiny 2 where the objective is to slay a mini boss to clear the floor. Tower's main objective on each floor will offer a more engaging experience. By instead featuring puzzles that need solving and action in the form of environment obstacles and enemies to fight. In a sense each floor is a significant area of my game.
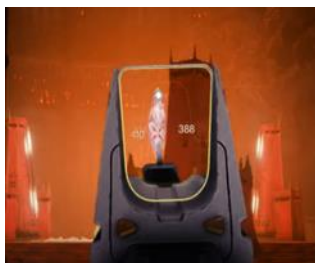
This is a complicated gameplay mechanic to implement, but I can always create a Blueprint actor related to the completion of the floor's objective. That reactivates the elevator to rise to the next floor. Which is something similar that occurs within Destiny 2's Tower of Woe (example on the left). Where upon the player killing the mini boss of the floor, a crystal spawns on the top of the elevator. Then upon players destroying the crystal, it reactivates the elevator movement event. With likely a delay to allow all players to return to the elevator.
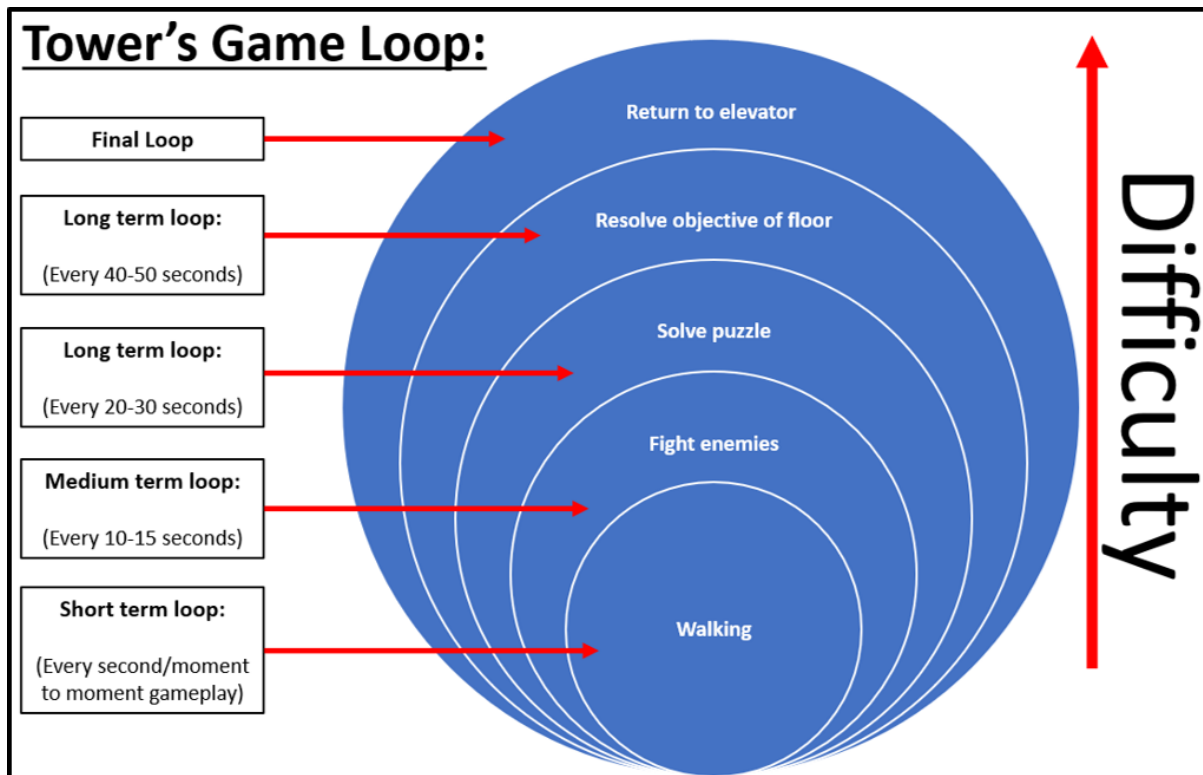
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Many games that use elevators tend to spice up the action by having enemies that spawn for the player to fight while they are traversing to a target location. However, for Tower, all action takes place within its connected areas. With the elevator more serving as a safe haven for players to catch their breath from action. Resulting in a more balanced pacing experience because there is a key area players come back to, they know is safe.

Other similar top-down games where inspiration has been taken from is RUINER, The Ascent, Blaster Master Zero 3, and Links Awakening (2019):

Gameplay summary:

From examining the framework, the genre is an action-adventure style game. Therefore, the core gameplay experienced will be a mixture of action and progression-based puzzle. With higher emphasis placed on action because it features gameplay such as players shooting enemies and overcoming environmental obstacles. Whilst sprinkling in some puzzles on each floor to give players a break from action or they are directly connected. Resulting in a game that has dynamic pacing because of the multitude of different paced gameplay beats throughout every floor that make up the level. With difficulty scaling rising the higher floor the player is on.

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Tower's Game Loop:

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Final Loop	→ Return to elevator
Long term loop: (Every 40-50 seconds)	→ Resolve objective of floor
Long term loop: (Every 20-30 seconds)	→ Solve puzzle
Medium term loop: (Every 10-15 seconds)	→ Fight enemies
Short term loop: (Every second/moment to moment gameplay)	→ Walking

Dificulty ↑

Competitors and market overview:

In terms of competition there are several popular top-down style games Tower will be competing with. First up is Unreal Engine developed top-down shooters: RUINER and The Ascent. RUINER has a highly appealing setting and lighting that Tower will adapt towards its own aesthetic. These aspects include the futuristic setting and blood-red lighting. Then like The Ascent, Tower will capture some of the similar tense action moments that are sprung upon the player. With a tight emphasis on gun play and quickly disposing of enemies and moving across a level. The Legend of Zelda: Links Awakening (2019) set a bar for top-down games and Tower will hold a similar quality when it comes its level design in terms of where enemies and key objects are placed.

Tower will be marketed towards a target audience that enjoys top-down style shooting games. But also enjoys top-down style action and puzzles. There is no specific age range or gender type for this demographic. However, according to psychological research/theory like Bartle's taxonomy of player types. (A model that categorises a person into one of four player types.) Tower features gameplay that would directly appeal towards "Killer" and "Explorer" player types. With its focus on action and killing enemies, a Killer player type may find speed running the level or obtaining a higher score to be an appealing process. Whereas an Explorer player type would find discovering the areas within the tower to be an enjoyable process because this player type is likely to enjoy exploring. The premise of Tower should be enticing enough for an Explorer player type to establish a strong desire to play this game. Or at the very least, have their curiosity piqued.

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Lighting:

In term of lighting, Tower is going to be inspired to have similar lighting aesthetic to games like RUINER. Where light sources will be placed with purpose to illuminate key areas of the map. For example, collectibles will use point lights to signify to the player this is something important to be aware of. As an absence of lighting could lead to players missing out on collectibles and feeling a sense of incoherency while progressing.
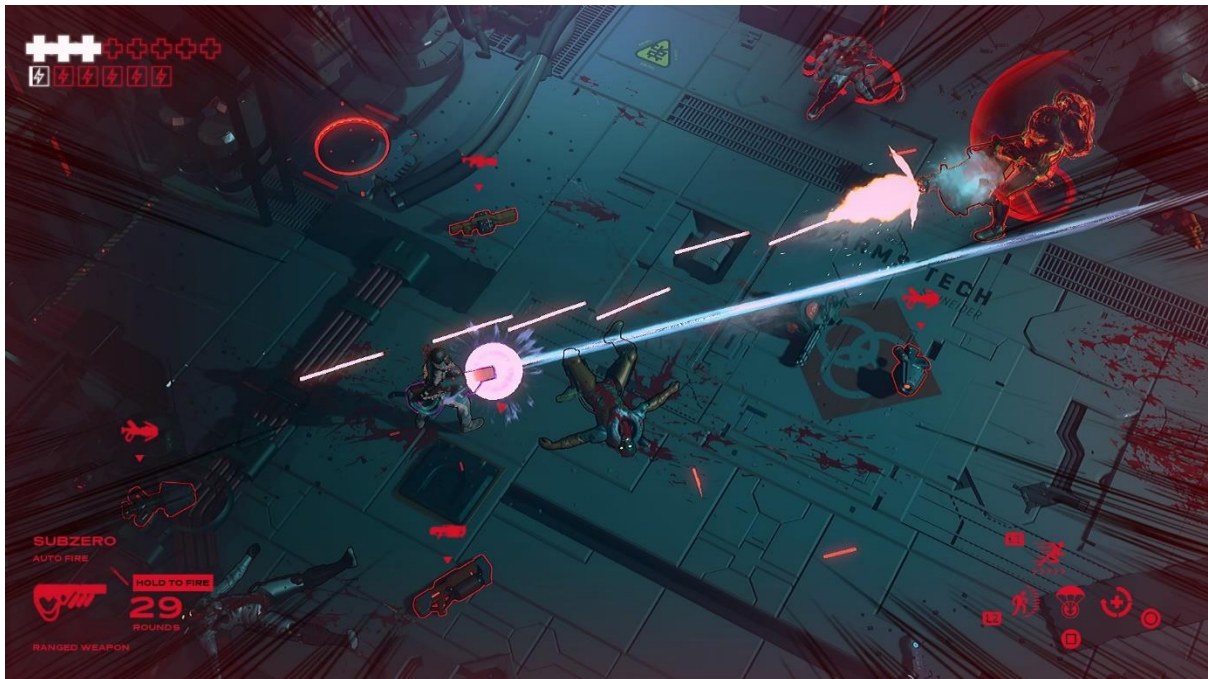
Similar to how red is a core colour component used in RUINER, Tower is the same for the colour orange. With it being used throughout the main tower and elevator section. Through the use of Unreal Engine's post process volumes can create better visual enhancements. To further heighten the realism of players being in a vast Tower. But also serving as a safe space for players to catch their breath from action as they transition to the next area. Post process volume enhancements will include warmer colour temperature and vignette usage.

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Character:

Character background:
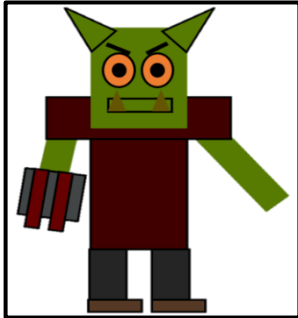
Player's control one character throughout Tower. This is an Ork who comes equipped with high tech armour and can pick up and fire weapons. Resulting in a character who can pick up weapons, weapon ammo, loot, armour and health collectibles. Plus, even be able to interact with interactable environmental components such as computer screens and switches. Which in turn activate various other mechanisms within the level.

Character statistics:

Character stats types:	Character stat values:
Starting Health	65 HP
Maximum Health	100 HP
Starting Armour	65 AP
Maximum Armour	100 AP
Weapon Slots	X1 for each weapon

Player character has a base armour and health statistic they start off with. This allows for players to immediately discover how the armour mechanic works because the lower the armour stat the less physical armour the player character will be wearing. In addition to incentivizing players to not be careless when encountering danger and to potentially look out for armour/health collectibles.

Character physics:

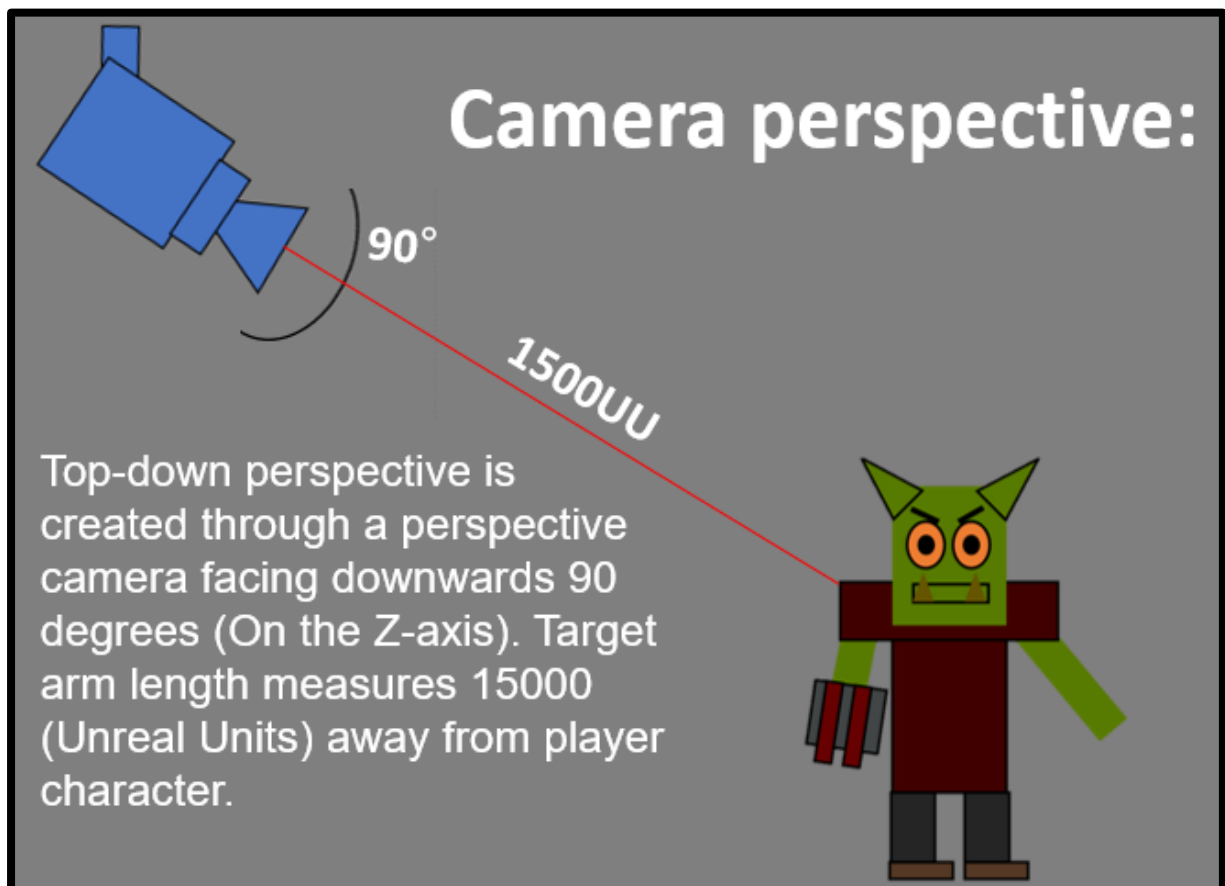| Character physics:	Character physic values:	
Walk speed	600cm/s	Physics with no units are using → Unreal Engine 5's custom units of measurements.
Max acceleration	2048	
Mass	100	
Gravity force applied	204800	
Air Control	0.05	

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Air control is a useful stat to include because some areas have vertically to them. With either stairs or movers transporting the player to new heights. Giving players the option to fall off. Therefore, requiring some air control.
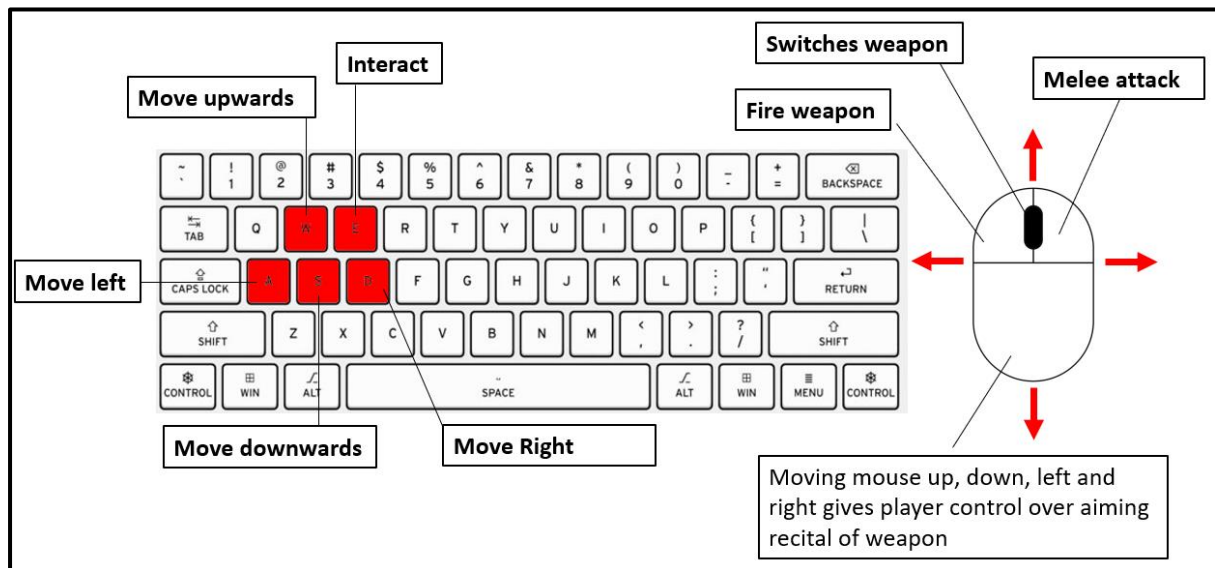
Character weapon loadout:

Weapon loadout:		
Weapon:	**Ammo type:**	**Location within level:**
Rifle	Semi-automatic bullets	Player starts with Rifle
Shotgun	Up to 4 line traces	Found at top platform section on floor 1.
Minigun	Fully-automatic bullets.	Found just after hallway sequence on floor 2.

These 3 weapons can be switched between at any time after collecting them. Even holding 3 different ammo types, the player can use and collect within each respective weapon.

Camera:

Camera perspective:

90°

1500UU

Top-down perspective is created through a perspective camera facing downwards 90 degrees (On the Z-axis). Target arm length measures 15000 (Unreal Units) away from player character.

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Controls:

| Control scheme key:	
Input:	**Output:**
E	Interacts with environment component.
W	Moves player upwards.
A	Moves player left.
S	Moves player downwards.
D	Moves player right
Left Click	Fires weapon.
Right Click	Melee attack.
Scroll wheel	Switches weapon.
Moving mouse	Moving mouse up, down, left and right gives control over aiming recital of weapon.

World/Gameplay Mechanics:

Elevator:

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Within the main tower players traverse through is the elevator. This mechanic upon activating gives players a method of transporting to the next floor. A key feature of the elevator is players don't have free rein to choose whatever floor they want. The journey is permanently fixed to rise from one floor to the next. Having this restriction in place is good because it guides the player naturally to exploring the floors other areas. Below is a breakdown of how this mechanic functions:
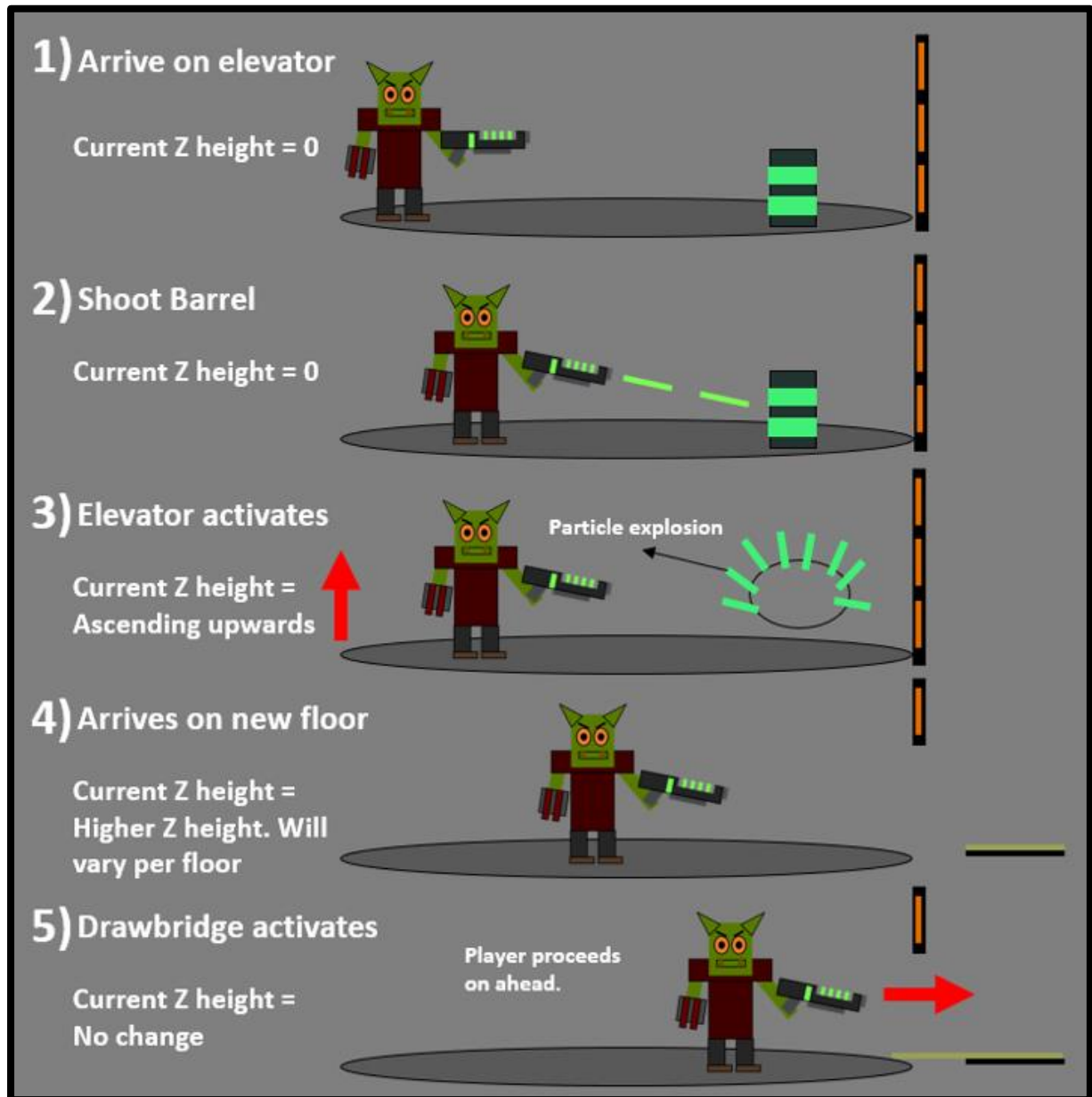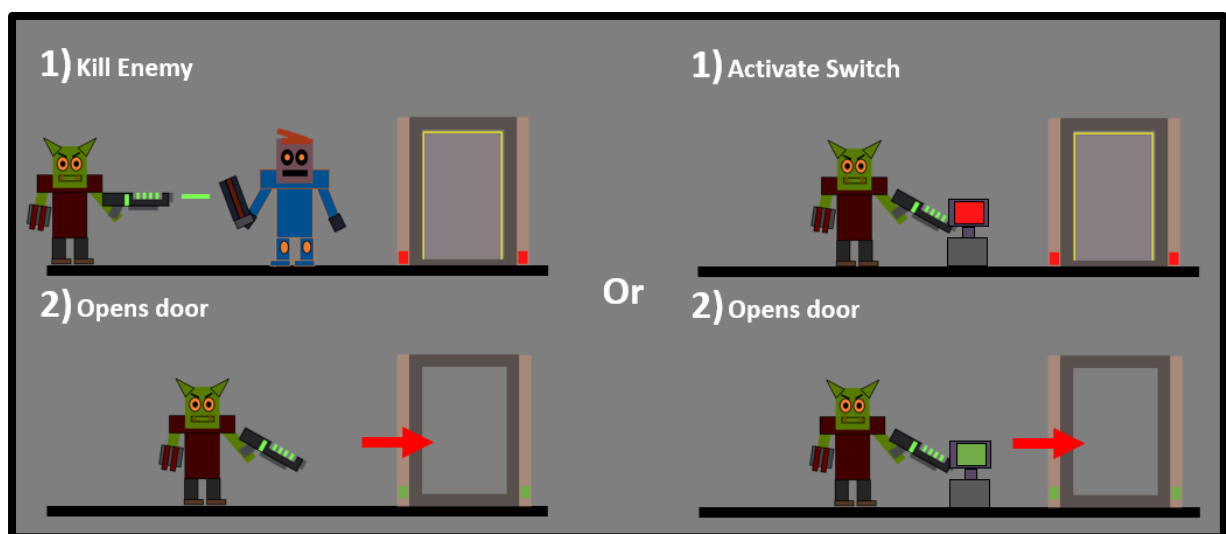

Automatic door:

As players approach door, they will overlap with a box collision which automatically opens door.

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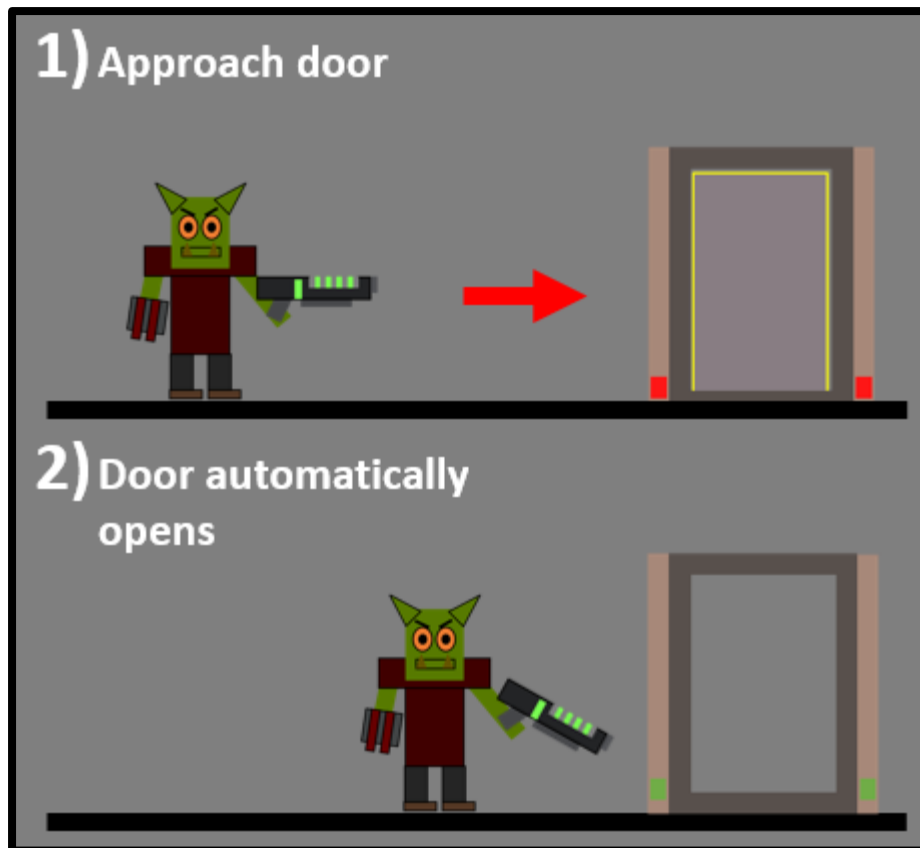
Switch door:

Switch doors can be activated through completion of objectives. These objectives can include:
- Killing a specific enemy.
- Activating a Switch.

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Mover:

A mover allows the player to proceed to a specific target location. The mechanic has no limitation to what X, Y or Z coordinate it is allocated. Allowing further flexibility to where the player ends up.
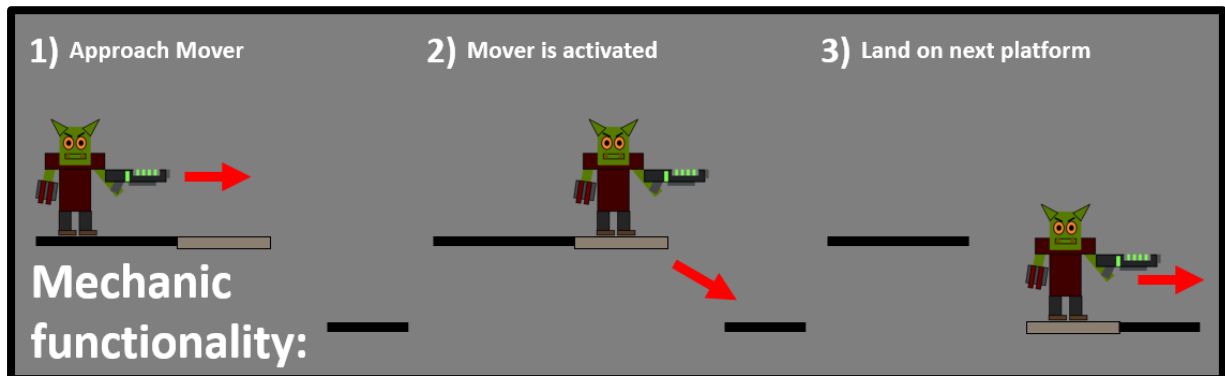
This mechanic has three types of behaviours that can be assigned to it. As outlined below:

| Mover behavioural traits	
Behaviour:	**Outcome:**
Do once and no return.	Permanently moves to a target location. With no returns.
Do and return once.	Temporarily moves to target location, before returning to start location.
Ping-Pong.	Constantly loops between start and target location.

Enemy mechanics:

Enemy behaviour:

Teef- is one of the weakest enemy players will encounter. They don't have a traditional weapon, making it easy to kill. However, players can't get too careless because their weapon is themselves because upon colliding with the player, they will self-destruct and explode.

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1) Runs towards player.

65 / 100

2) Upon collision with player, Teef explodes.

65 / 100

3) Explosion cause 15 damage to player

50 / 100

Axton-is another melee enemy but is slightly more formidable. Because they hold a sword which upon swinging and hitting the player will cause 15 damage. However, with being a close-range enemy, the advantage of fighting against them is if players are remaining versatile and moving while shooting Axton's. Their threat level will be mitigated.

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1) Chases player

2) Melee attacks player

**3) Causes 15 damage per hit**
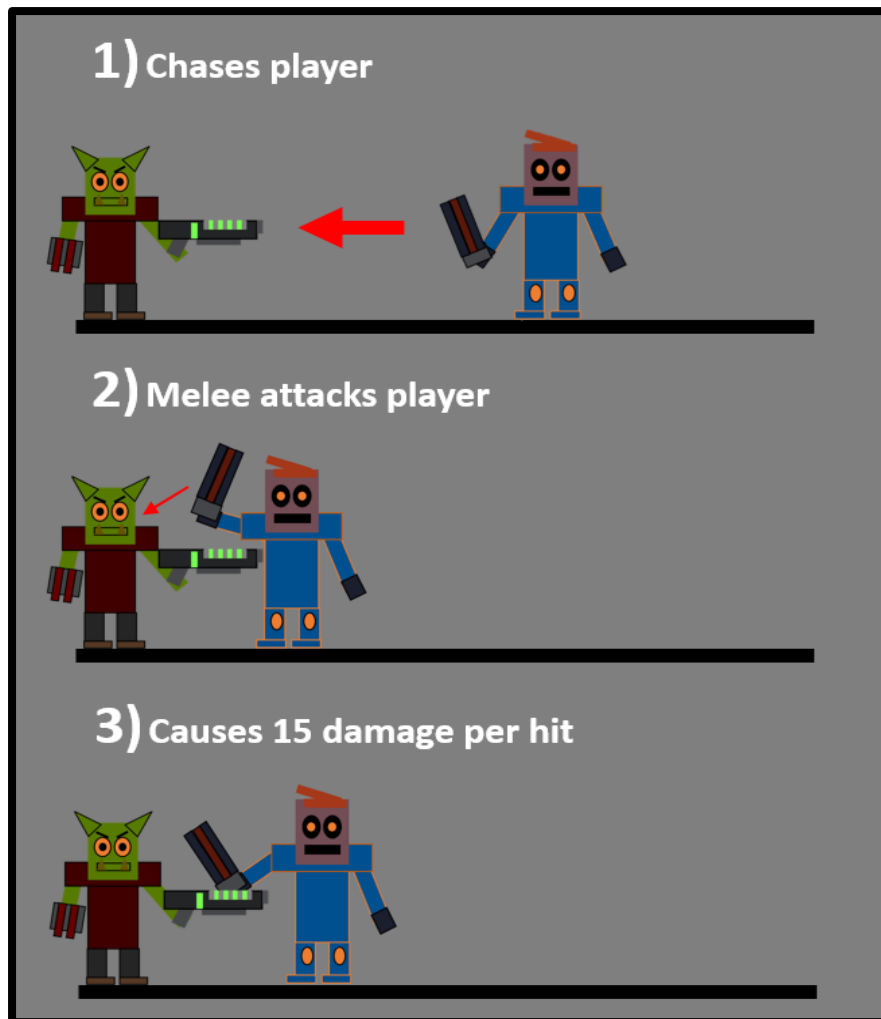
Strong Axton- enemies behave the same way as regular Axton' enemies. With a key difference being in having stronger health and damage totals. So, to exemplify the difference to the player these enemies will use a different colour scheme to the current blue and orange colour scheme. Now these enemies have a red and purple colour palette on display.

Sang- enemies can chase the player. Upon entering medium proximity to the player, they will fire their pistol. Pistol weapons can only fire one bullet per shot, causing 20 damage per shot.

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Strong Sang- enemies behave the same as regular Sang enemies. With a key difference being in having stronger health and damage totals. So, to exemplify the difference to the player these enemies will use a different colour scheme to the current blue and orange colour scheme. Now these enemies have a red and purple colour palette on display.

Colossus- This enemy has a mini gun weapon. Which can fire from a long range and cause high damage. The weapon rapidly fires laser projectiles at the player dealing 4 damage per second of firing.

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1) Spots player

2) Fires rapid fire minigun, dealing 4 damage/sec

Apex- is the final boss enemy, players will face before completing the level. This enemy has two weapons it can use. The first is its twin flamethrowers which fire flames around the surrounding area, dealing 1 damage per second. Its primary weapons it will use throughout most of its combat encounter against the player is a twin set of laser cannons. These weapons rapidly fire at the player and deals around 8 damage per second.

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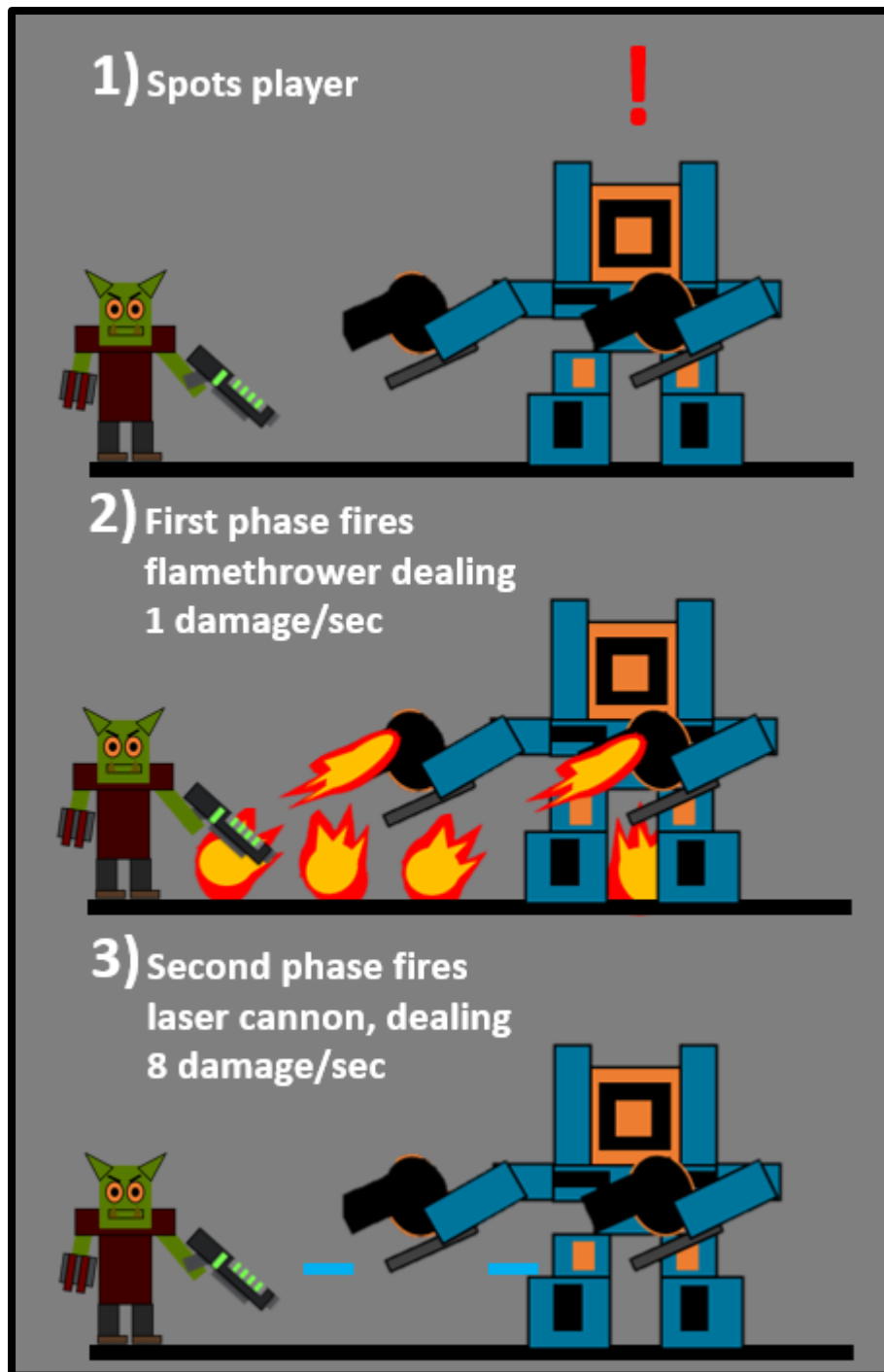
Enemy statistics:

Below is a table breaking down enemy statistics. Plus, a point table displaying a ranking of how good quality each of these stats are in comparison to the rest of the enemies. It should be noted many of these stats are using Unreal Engine's units of measurement.

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Enemy statistics breakdown:				
Enemy:	Health:	Weapon:	Weapon range type:	Damage:
Teef	25	N/A	Close range	15
Axton	15	Sword	Close range	15
Strong Axton	100	Sword	Close range	30
Sang	50	Pistol	Medium range	20
Strong Sang	200	Pistol	Medium range	20
Colossus	300	Vortex Cannon	Long range	4 per second
Apex phase 1	1500	Flamer	Close range	1 per second
Apex phase 2	1500	Laser Cannon	Medium Range	8 per second

Enemy Point Table- Scale: 1=Poor, 2=Bad, 3= Average, 4=Good, 5= Excellent			
Enemy:	Health:	Weapon range type:	Damage:
Teef	2	1	1
Axton	1	1	1
Strong Axton	3	1	4
Sang	3	3	3
Strong Sang	4	3	3
Colossus	4	5	4
Apex phase 1	5	1	1
Apex phase 2	5	3	5

Weapons:

Rifle:

Rifle is the primary weapon players start with. It is characterised by the single shot, rapid fire line trace weapon. Total ammo clip size is 100 and gives the player plenty of ammo to take out a few fair enemies. Each shot deals 2 damage per hit and the player has a 180 degrees accuracy, giving them perfect precision to fire their weapon in a range of up to 3 Unreal Units in any given direction.

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Rifle:

6 Unreal Engine units

8 Unreal Engine units

Single shot, rapid fire line trace weapon. With a total ammo clip of 100.

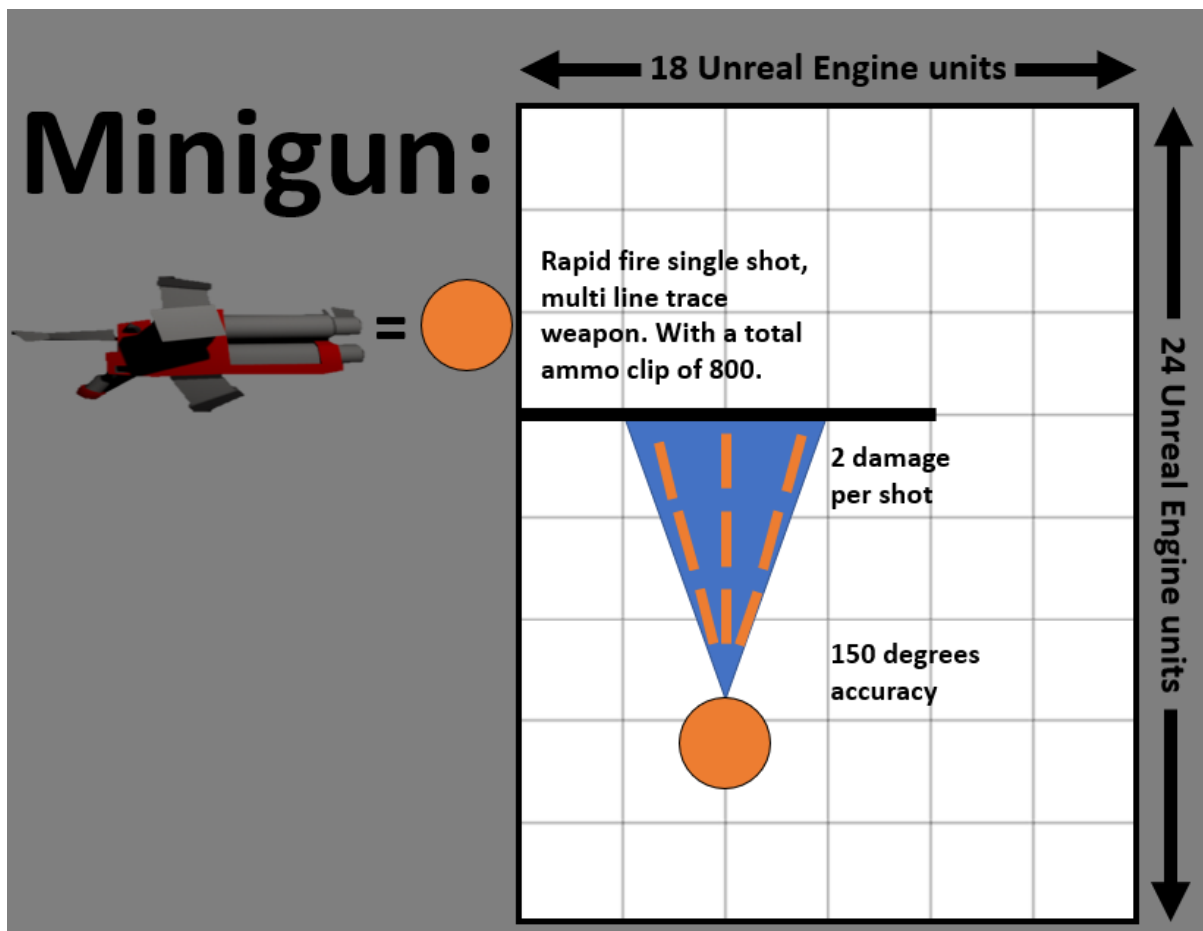2 damage per shot

180 degrees accuracy
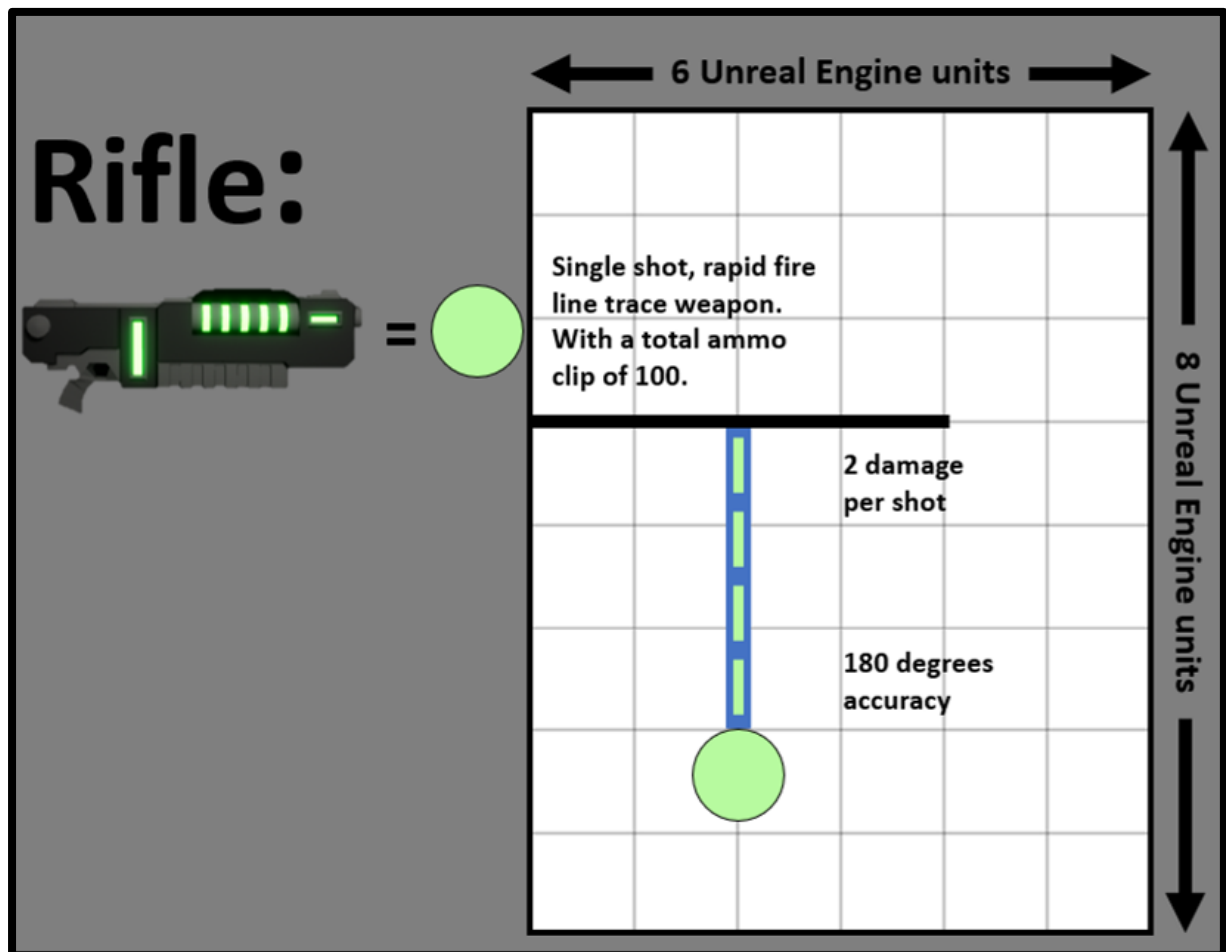
Shotgun:

Is the first new weapon players can pick up and switch to. It is characterised by a 4-burst shot multi line trace. Total ammo clip size is 18 and gives players a more powerful weapon that can deal more damage. Even if it comes at the expense of 15 degrees accuracy region for the shots to traverse in and lower range of 2.5 Unreal Units.

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Shotgun:

6 Unreal Engine units

8 Unreal Engine units

4 burst shot, multi line trace weapon. With a total ammo clip of 18.

3 damage per shot

15 degrees accuracy
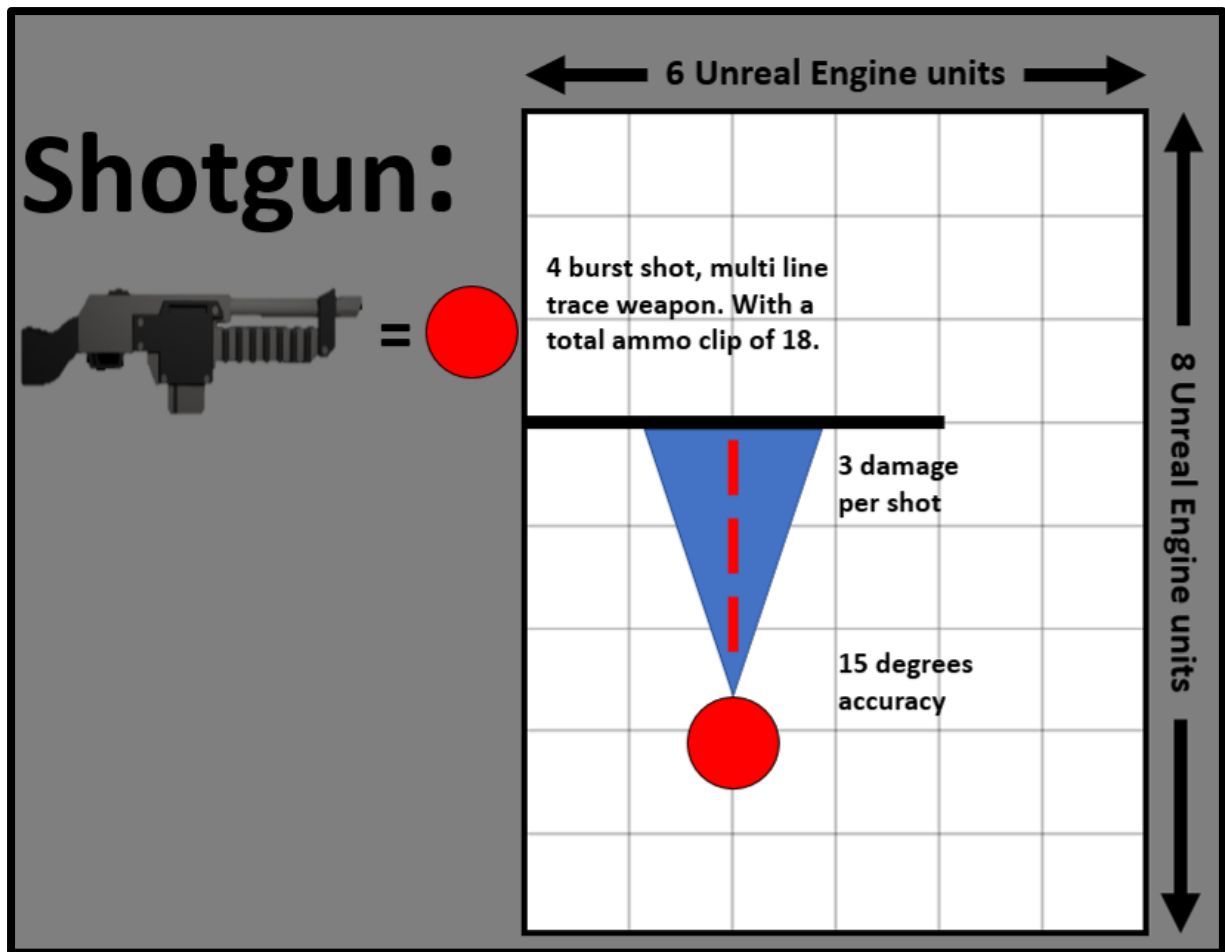
Minigun:

The minigun Is the strongest weapon players can unlock and switch to. It is characterised by a rapid-fire single shot line multi line trace. Unleashing a lot of firepower onto enemies. Which is reinforced by the total ammo clip size of 800 and deals the most damage because of how fast ammo is used up after firing. The weapon can shoot enemies from a long distance of 7 Unreal Units and covers a 150-degree accuracy region.

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Minigun:

18 Unreal Engine units

24 Unreal Engine units

Rapid fire single shot, multi line trace weapon. With a total ammo clip of 800.

2 damage per shot

150 degrees accuracy

Comparison data:

Weapons statistics overview				
Weapon	Weapon name:	Damage per shot:	Ammo total:	Range: (UU)
	Rifle	2	100	3
	Shotgun	3	18	2.5
	Minigun	2	800	7

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Comparative Weapon Statistics overview
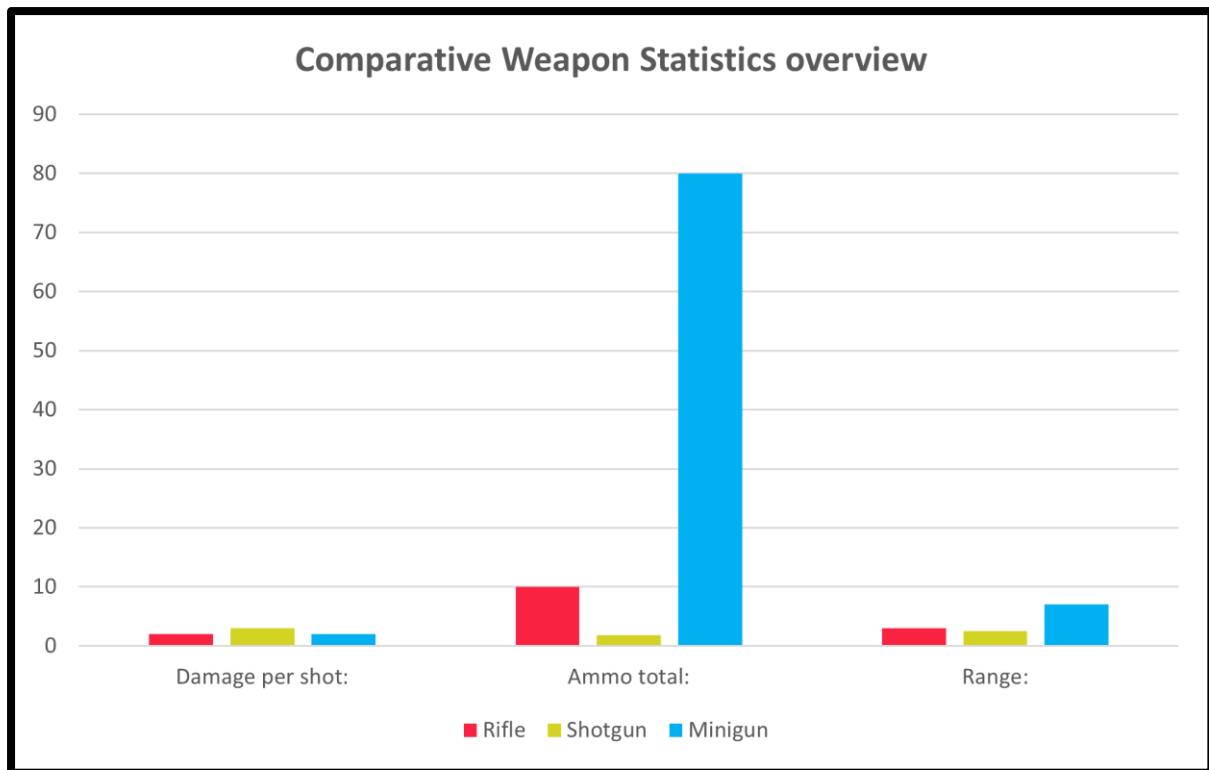
(It should be noted ammo total has been divided by 10, to give a better-quality comparison because of how much lower amount range and damage totals are in comparison.)

Weapons Point Table- Scale: 1=Poor, 2=Average, 3= Excellent				
Weapon	Weapon name:	Damage per shot:	Ammo total:	Range: (UU)
	Rifle	2	2	2
	Shotgun	3	1	2
	Minigun	2	3	3

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Compartive Weapon Visual
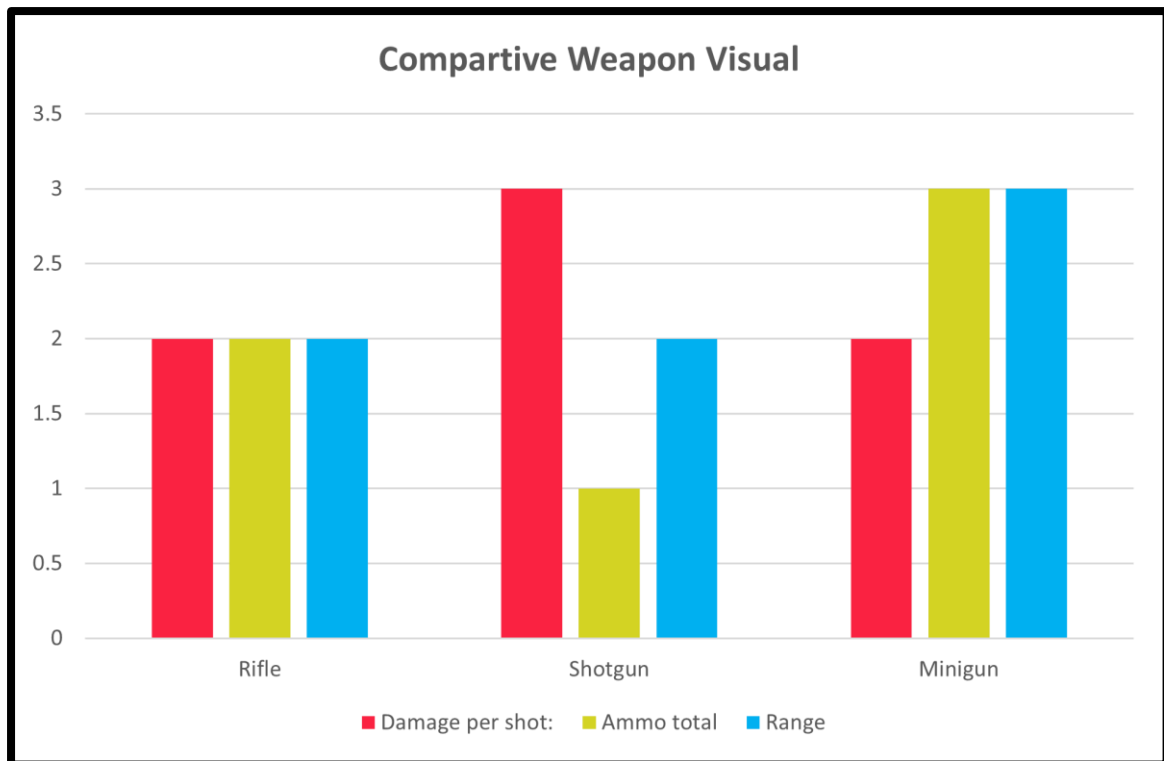
Pickups:

To create a fair and balanced gameplay experience all pickups apart from Loot will respawn on player death. One reason why every other pick up respawns upon the player dying is because those pickups have a direct impact on the gameplay players experience. With it affecting the amount of health, armour and ammo of players. Furthermore, this could create an unbalanced experience because if the picks ups don't respawn then players will be punished severely for dying. Since the game is potentially harder because they no longer hold as much health, armour and ammo. In some cases, could completely halt progression against some of the tougher enemies in the level. Therefore, this is a logical decision to set these pickups to respawn on player death.

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Pickups overview			
Pickup:	Pickup name:	Pick up type:	Output result:
	HP pickup	Respawn on player death.	Restores 20 HP to player.
	Armour pickup	Respawn on player death.	Restores 20 Armour to player.
	Loot pickup	One shot.	Adds 30 loot to player.
	Rifle ammo pickup	Respawn on player death.	Adds 100 Rifle ammo to players Rifle weapon.
	Shotgun ammo pickup	Respawn on player death.	Adds 15 Shotgun ammo to players Shotgun weapon.
	Minigun ammo pickup	Respawn on player death.	Adds 800 Minigun ammo to players Minigun weapon.

On the other hand, loot only impacts the high score and isn't connected to players progression of the level. So, it makes sense to make it one shot because it can potentially incentives players to replay and try to get a higher score without dying. While rewarding players who don't die because they now have a higher score.

Progression Mechanics:

Victory conditions:

Players can win the game by making it to the final floor and interacting with a computer screen switch to end the game. This gives an end splash screen displaying the total high score players have accumulated throughout their gameplay session. Score is generated by players killing enemies and collecting pick ups such as loot, health, armour, ammo and weapons. Throughout progression players can tailor the

gameplay experience to their liking. Essentially whilst playing this level, players are given agency to choose what type of approach they would like to implement to tackle various situations. For example, if there is a combat encounter with enemies ahead, players could opt to go all guns blazing and take out all enemies. Or perhaps players wish to conserve ammo for later sections of the level and opt to slaying a few enemies and decide to dash through an area. Providing this level of choice enables different types of gameplays experiences each time a player replays the game, even if the environment and scenarios remain the same.

The progression and victory conditions can be visualised as seen below

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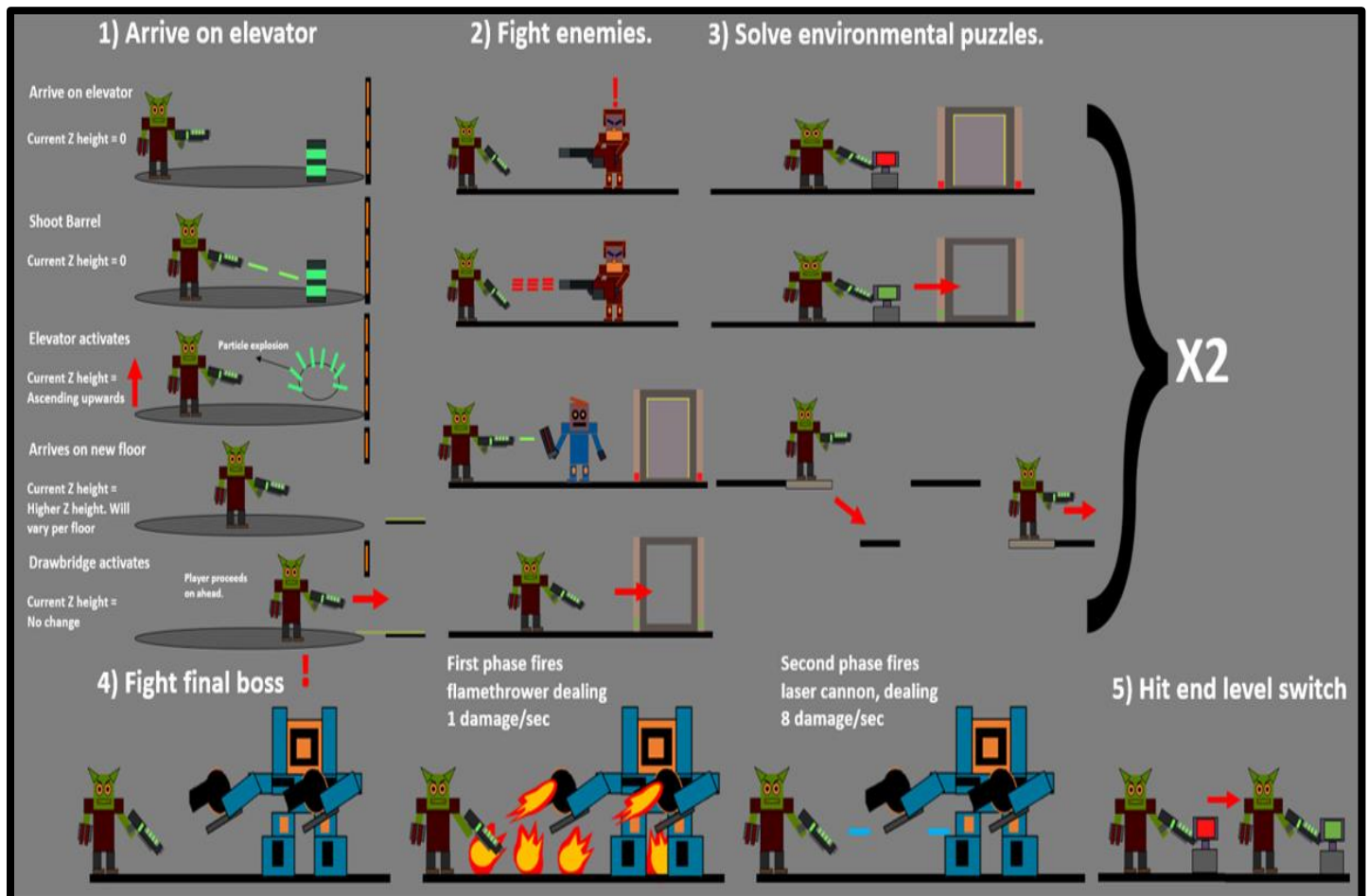
Level Overview:

Player journey:

The journey players take will comprise of going up and across three floors of a tower. With the centre being the elevator, which takes the player to each floor. Where a drawbridge will activate, that opens a path for players to go across the into a new area. The left area of the level is located on floor 1. With the right area being floor 2. Finally, the upper area is the third and final floor. From a narrative perspective the players journey can be broken down further into a traditional three act structure.

Floor 0 (player entering elevator) is act 1, relaying the objective to players. With act 2 comprising of rising action of floors 1-2. These floors share most gameplay players will experience as they rise to the top both literally and metaphorically. Because they are going up each floor and getting stronger weapons. In addition to difficulty scaling towards players progression. For example, on floor 1, players will be introduced to basic enemy types like Teef and Axton's. Whereas floor 2 will prove more challenging because it has stronger enemies like Colossus and Strong Sang enemies. These enemies have higher health and output higher damage. Ultimately, the player's journey culminates during act 3 in a climax where they face Apex and reach the final Computer End Switch. It should be mentioned within every section of the level, players will find environmental interactables like switches that activate doors, movers that transports players to a new target location and collectibles that enhance the players stats and weapon type.
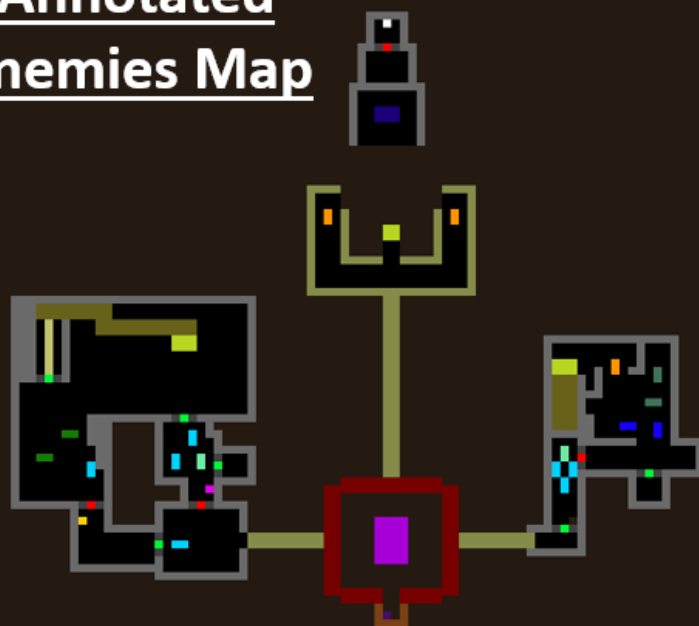
Visual examples:

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Annotated Pixel Map

|	
■	Player start
■	Rock wall
■	Floor
■	Elevator walls
■	Elevator
■	Bridge
■	Door frame
■	Automatic door
■	Computer switch
■	Stairs
■	Raised floor
■	Mover
■	Computer end switch

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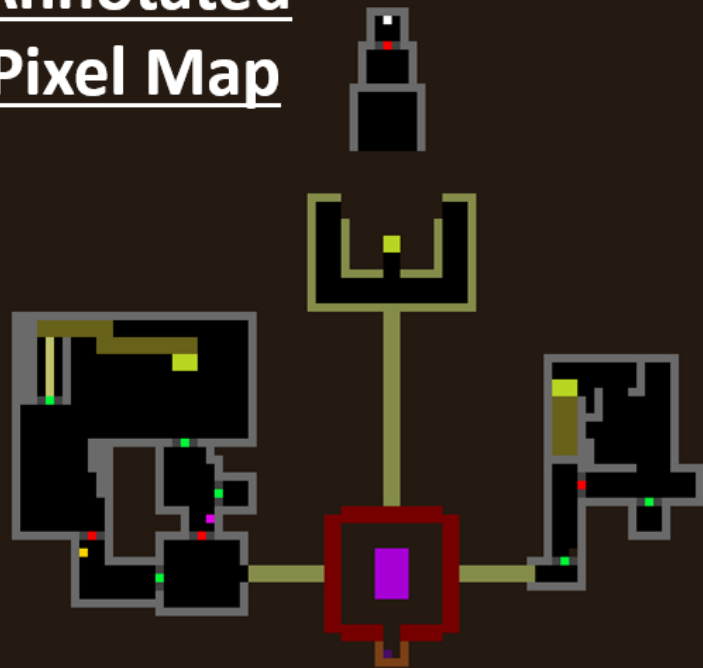
Annotated Enemies Map

Axton
Teef
Sang
Strong Axton
Strong Sang
Colossus
Apex

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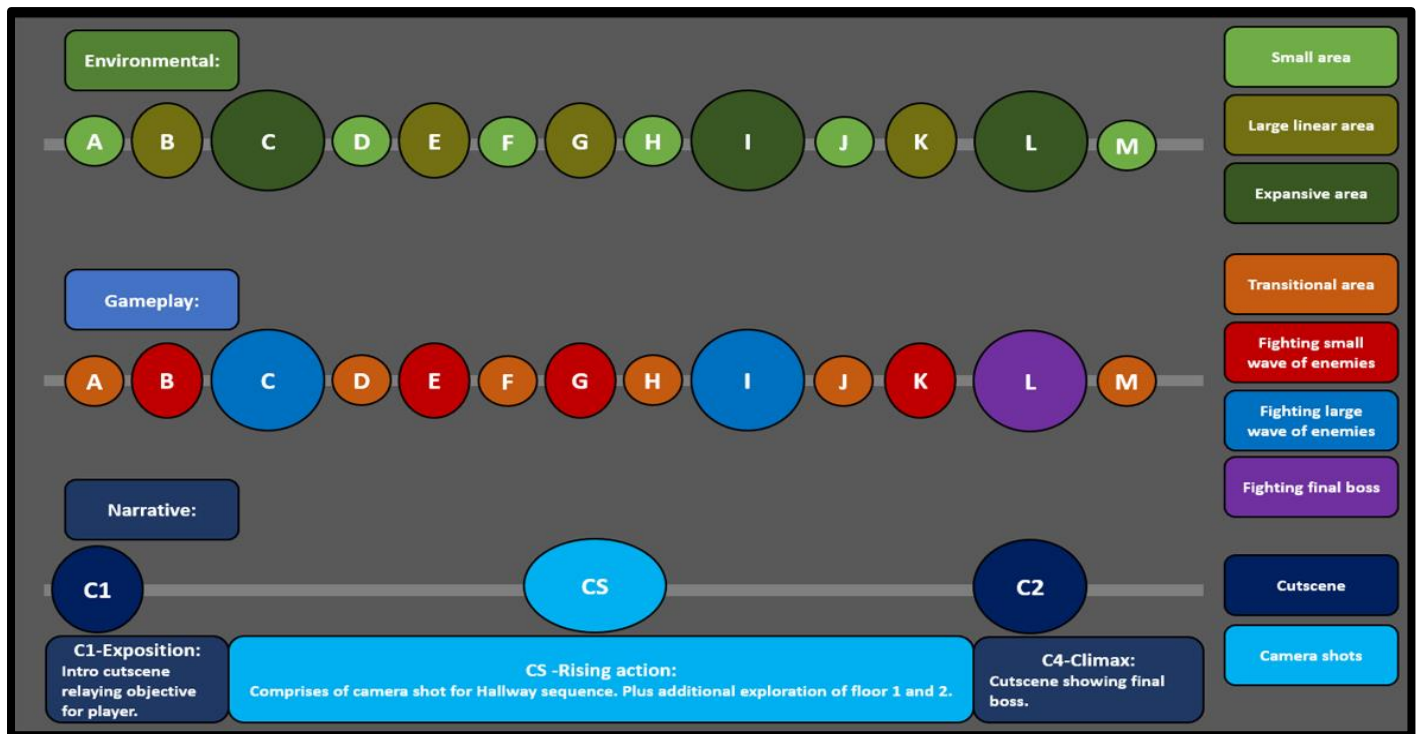## Annotated Pickups Map

- Rifle ammo
- Loot
- Shotgun
- Armour
- Health
- Shotgun ammo
- Minigun
- Minigun ammo

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Fully Expanded Pixel Map:
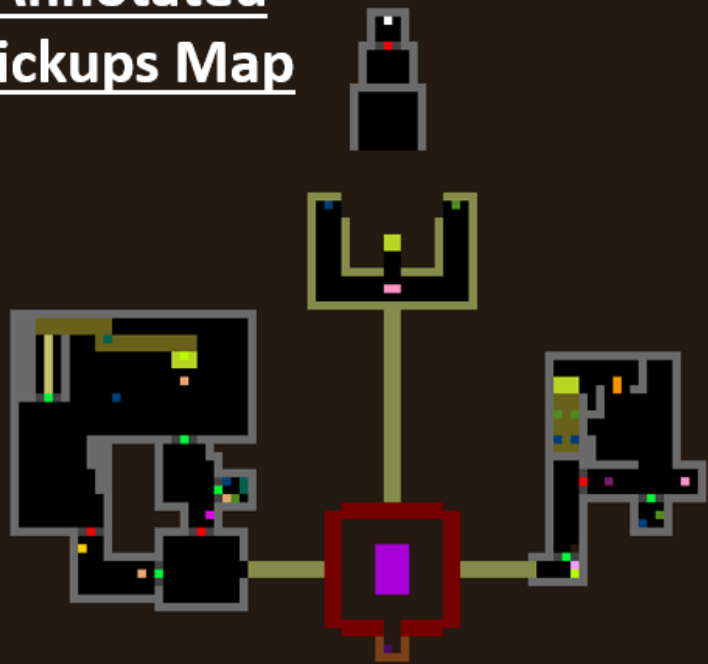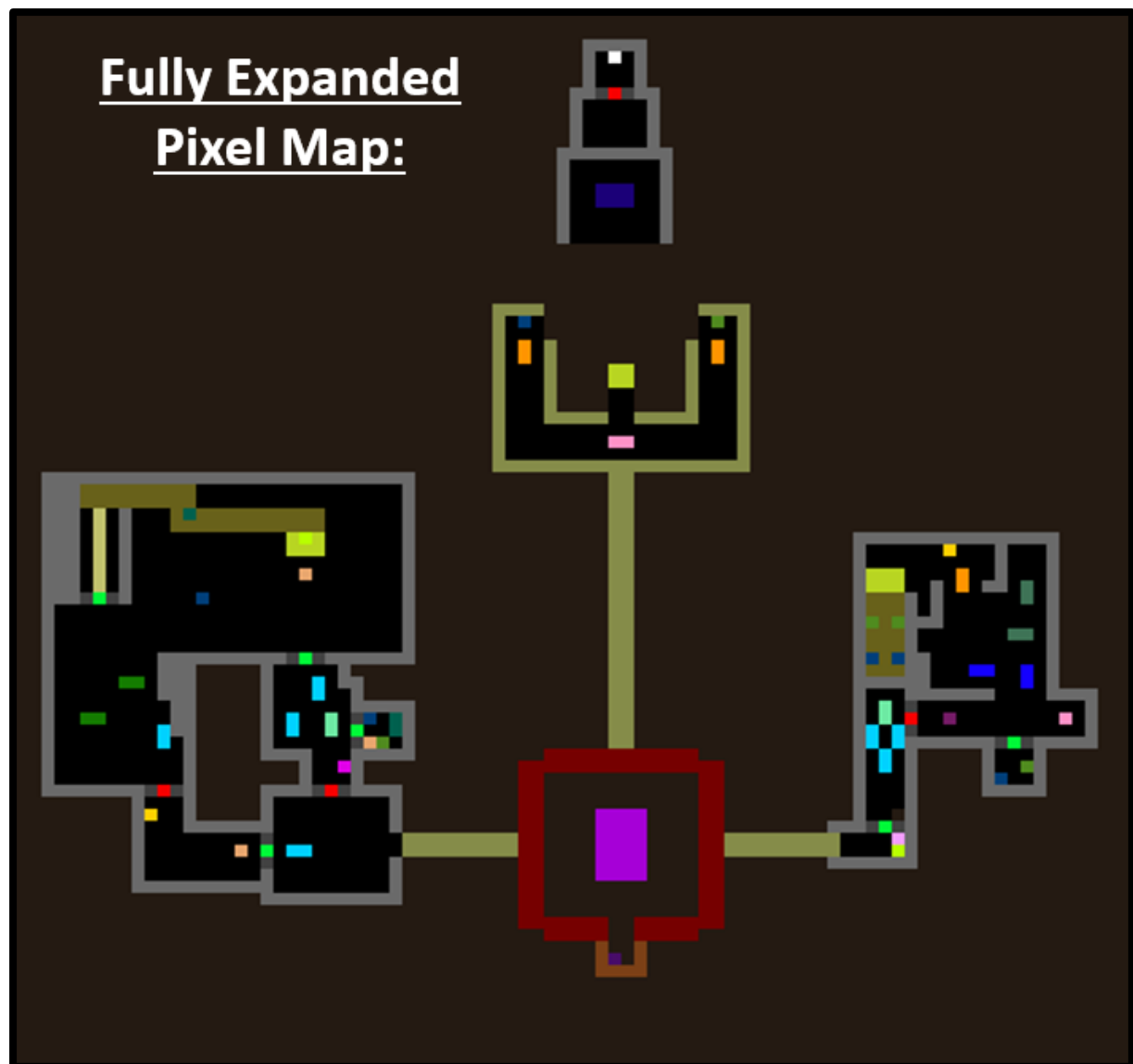
Full linear bubble map:

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Non-linear bubble map with critical path:

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Annotated Pixel Map with bubble map and critical path

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