Doom (2016) Level : Processing Facility

Video 1: Basic Walkthrough: https://youtu.be/bBclgaIu6nk?si=Rn0f0l-9pSZNpwnC
Video 2: All Content + Secrets Walkthrough: https://youtu.be/YR4QO4ZY0DE?si=uPqlaeenclmRtFYQ

Design Pillars

- High level of Player Agency
- Linear pathing through non-linear space
- Smooth combat scaling

Design Pillars In Execution

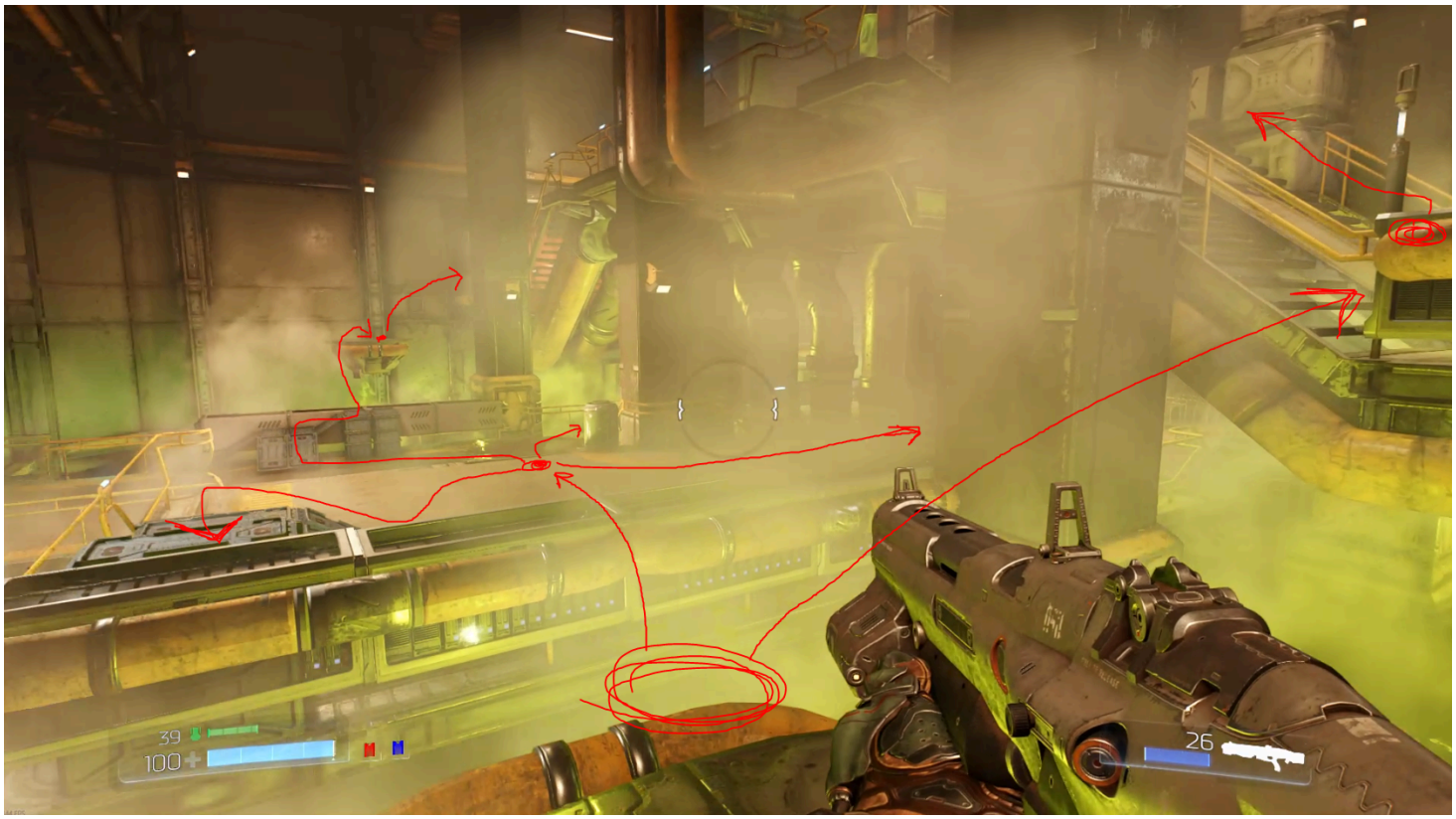
ARENA TRAVERSAL OPTIONS : Player Agency

Combat arenas designed in a manner to allow a high level of flow and options during gameplay. I set up lines of sight so that at any time in an arena you can see a split decision potential in your traversal. I made this decision to allow more intense combat and heighten the amount of decisions a player can chain together to create their own paths carving through demons.

Arena 4



Arena 5



Battery Replacement Platforming/Puzzle Arena



Arena 6



<u>BACKTRACKING</u> : Player Agency, Linear Pathing Through Non-linear Space

In this level you are able to backtrack through the entire map both for main objective progression and for extra combat encounters and secrets that reward explorative players. Players will always be traversing on a semi-linear path past doors gated by colored keycards that they don't have access to yet, once the path leads them to the next colored key, the map opens up further.

EXAMPLE:

1. Beginning of level, the player passes by a red door on their way to retrieve a blue keycard. When the player returns they pass by the red door again, continue down the hall, and use the blue keycard to progress. Whilst the player is on their way to the next area, a second red door appears on their left, they can only continue forward to progress.



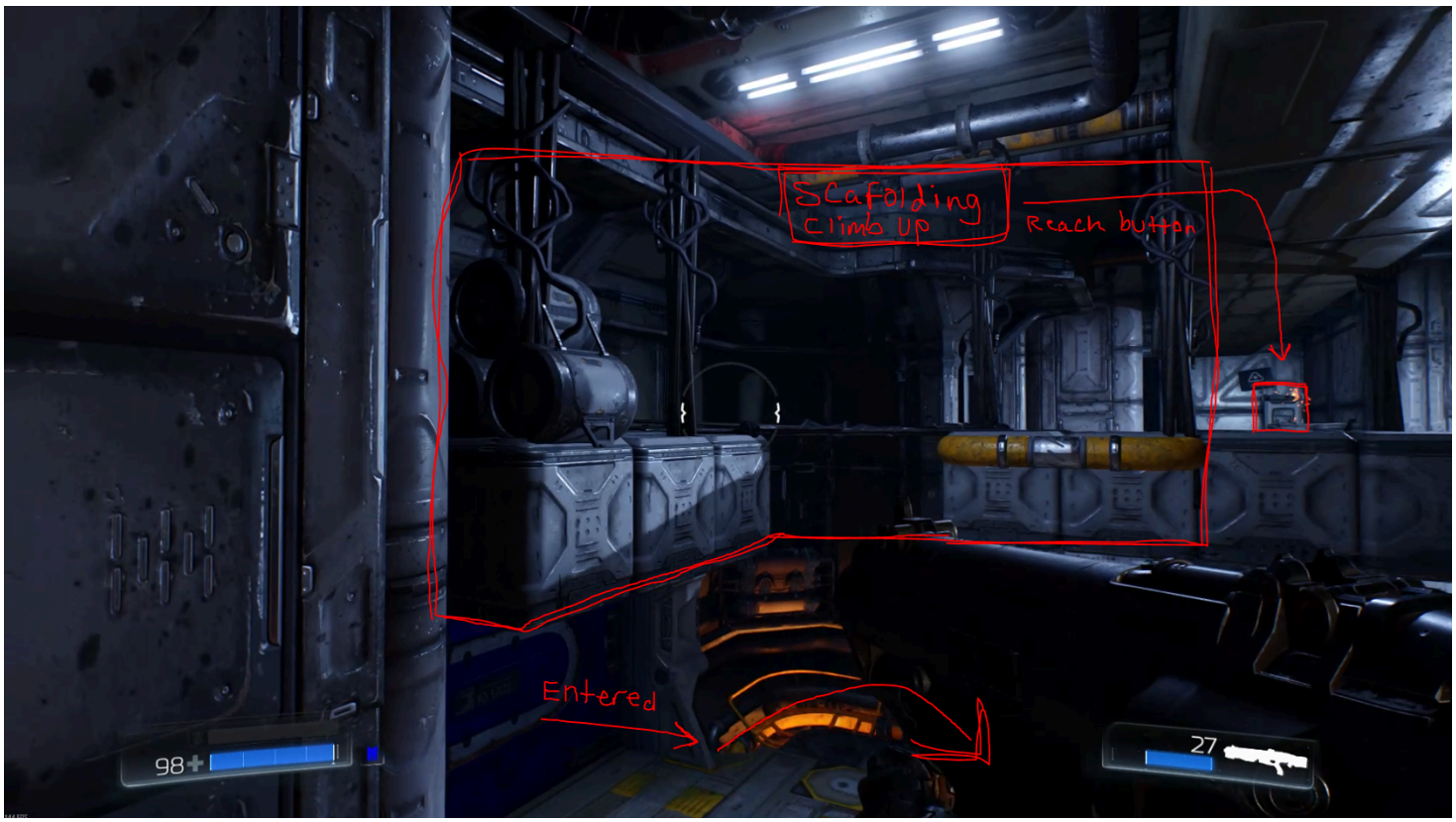
2. Blue Door Room enter, scaffolding above, a third red door in front of you, player still does not have red key



3. On the other side of the room, a locked door presents itself to be the only way forward. A sparking electric shock makes noise and flashing lighting high up to right of the player to draw them there.



4. Climb scaffolding to platform over and reach an electrically sparking area, revealing itself to be a button which unlocks the door.



5. The now unlocked door leads to an open arena with a red keycard found near the bottom under a strong fluorescent overhead light. Picking it up triggers a combat encounter.



6. Upon returning from the combat arena, having collected the red keycard, scaffolding crashes down blocking your way back to both the initial red door and the second one just outside where the scaffolding fell, forcing use of the red keycard on the third red door on the left.



7. Following through the red door and another combat arena, the player winds up near the beginning of the map where the blue keycard was collected.



8. Finally, the player following their previous path back from the blue keycard, passes by the red door that they initially passed by in the beginning. Explorative players may think back to the second red door they passed, which they can continue to loop back toward for a new weapon and a subsequent combat encounter.



SECRETS : Player Agency, Linear Pathing Through Non-linear Space

Secrets allow collection of extra weapons, powerups, ammo, and health/armor at any time the player chooses and puts the effort towards the hunt! Rewarding players for exploring areas that have been occluded through intentionally designed lines of sight and lighting, is intended to feed their curiosity and push them to engage further with the map.

Secret room, leads to a modded rocket launcher



Mega Health healing item



Quad Damage powerup under staircase



Ammo & gas can under staircase descending to toxic sector



Health, armor, ammo stash right before final encounter



ENCOUNTER DESIGN : Smooth Combat Scaling

My goal with combat encounters was to surprise players without overwhelming them, while still pumping out new tougher enemies and formations every encounter. I decided on sort of an exponential curve where the first 2 encounters would ease you in, and subsequent ones upped difficulty but gave you new weapons and upgrades to match. This way players feel more powerful and have more options but skillful use of these options is still required.

Encounter 1

3 basic grunts in open space for player to get bearings of weapon



Encounter 2

2 aggressive grunts in tighter space, player knows how to shoot -> test them in close quarters

Followed by 3 more aggressive grunts on the other side of same space, juggle 3 enemies



Encounter 3

first open space arena: 2 shooting grunts + 5 aggressive grunts + first tough aggressive enemy: Hell Knight, test player on new long range shooters and Hell Knight using newly acquired long range Plasma Rifle and a large arena to balance the increased enemy count.



Encounter 4

Mancubus encounter: tank like enemy shoots fire globs + 2 shooting enemies + another 5 aggressive grunts, similar to previous encounter, but tightened space allowing large enemy to force players to re-route



ADDRESSING CRITIQUE

PLAYTEST FEEDBACK:

Critiques To Address:

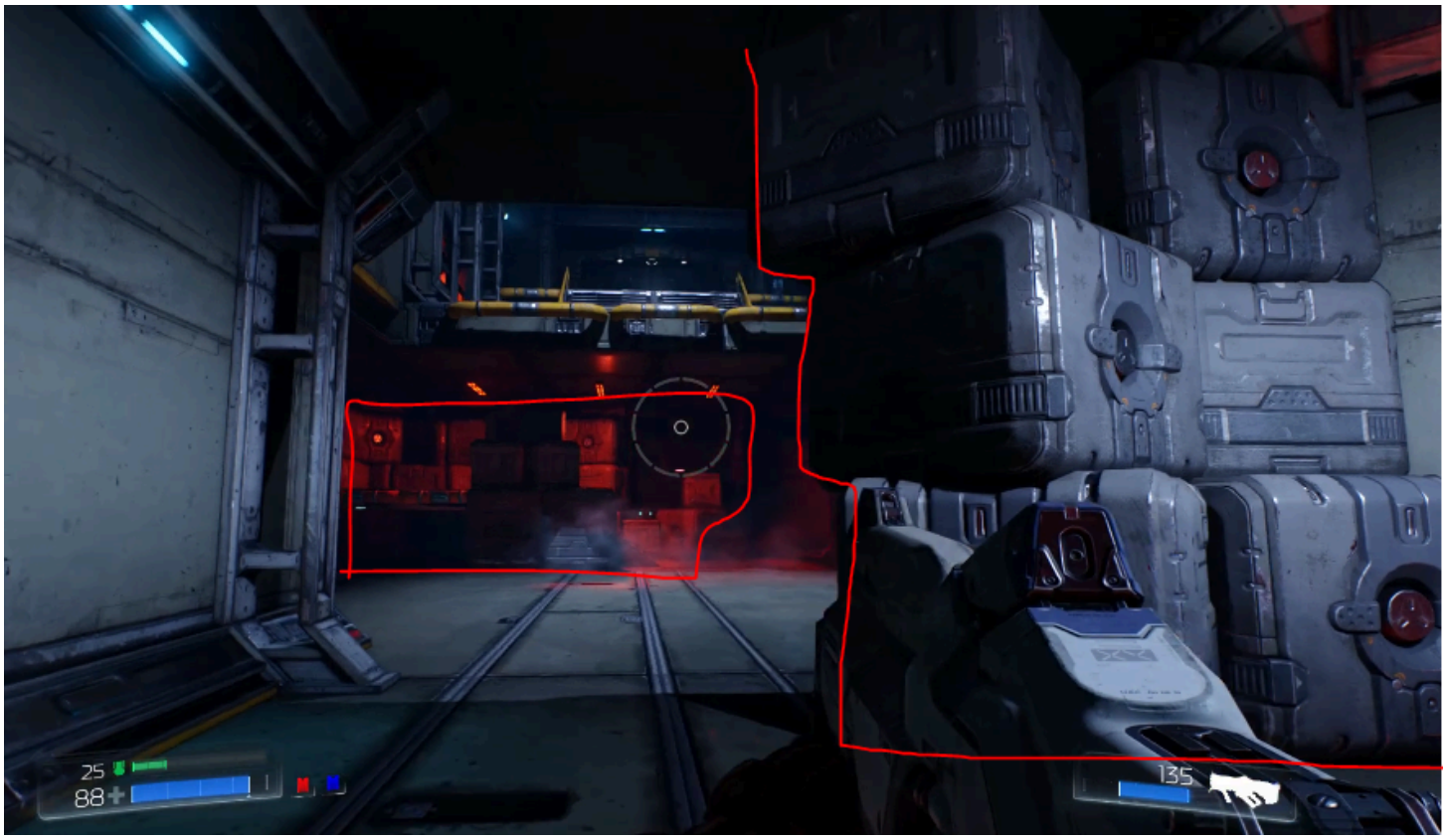
- Got stuck due to a bug with respawning
- Final arena needs more ammo pickups
- Arenas are generally barren and need more cover or ways to avoid attacks and keep moving
- Some areas too much health/ammo and some not enough
- Battery replacement section was not clear that old battery needed to be removed to stop alarm

Changes Made:

- Fixed respawning bug where player got respawned outside of combat arena allowing them to go somewhere they shouldn't be able to yet
- Balanced health and ammo better and added more pickups the final encounter
- 3D audio, re-positioning of flashing red lights, and pillars with warning labels near entrance guide player toward battery station more intuitively. In battery station now changed removing old battery to a simple prompt when near console to disable alarm prompting an objective “Find 3 Replacement Batteries"
- More cover and traversable areas to route around enemies in arenas

Entering Arena 2:

Used metal crates (red outline on the right) positioned creating a left leaning slant to guide players into the space with a more tense feeling. This helps guide players into space in a curated way, **addressing part of the openness critique** by providing a sense of direction immediately upon entering. Added the red lit sub-area (red outline on the left) that acts as a **space to re-route enemies around, take quick cover,** and contains extra ammo. These additions help fill the space and **address open areas that were lacking in cover and traversal options.**



Red lit sub-area closeup



Center of Arena 2:

Created raised scaffolding platform to add an **extra traversal option to the space.** This is the second combat arena after the vaulting tutorial that introduces the yellow pull up bars. So I made the decision to both raise the platform up to add elevation (providing high ground in an area that is exposed and low to the ground) and to make jumping to reach the pull up bar the criteria to access the platform. This pushes players to use what they've just learned to gain an advantageous position. **This also helps fill the space, addressing the empty arena issue.**



Beginning of Arena 4:

To address the **critique of areas being too open and lacking in cover / traversal options**, I created a structure with an opening (Red outline on the left in the image) and a second staircase platform deep into the arena (Red outline to the middle-right in the image). **Both structures serve to provide cover and extra traversal options.** The first structure's center opening is used to provoke players with another position to enter combat encounters from. Using multiple ways of physically entering the space reinforces the level's focus on **high player agency** by providing more ways to encounter enemy formations and create **more options for chaining of movement** decisions throughout the space.



Final Arena Overall:

The final arena initially had a **lack of opportunity for dynamic path carving and resources** for the player, creating the need for more traversable geometry, verticality, and resource re-balancing. I focused on creating **more opportunities for the player to chain movement** throughout the space, **source more ammunition and health pickups**, and **carve more paths between the arena's upper and lower level.**

Final Arena Entrance:

To address the overall emptiness and lack of resources critiques, I filled a corner of the map with a **high ground opportunity** with a jump **leading to ammo.**



Back Corner of Arena's Lower Level:

To **address the lack of traversal options and resources,** I filled a corner with a platforming section that connects the upper and lower levels with ammo and health pickups along the path (Image 1 & 2). It provides **variation to movement decisions** in a relatively flat area, high ground position to **get advantage over enemies**, an **opportunity to replenish resources**, and a path framing the area in which the player initiates the encounter (Image 2).



