

(trimmed version for sony)



Breaking Down Classic FPS Design

By Leonardo “DavoX” Pellegrini, Level Designer on Ion Fury

With ***Ion Fury*** coming out on PS4 tomorrow, we wanted to give everyone a peek behind the scenes by diving into one of the game’s most important features, its unique level design philosophy!

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A key aspect of every Build Engine game was their memorable introduction to the first level.

Duke Nukem 3D: Ejected from a flaming ship on the rooftop of a building.

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Shadow Warrior: Start in a dojo and a zombie ninja jumps inside from the window, allowing you to slice him in half with your katana.

Ion Fury is no exception to this rule, so we had to start the game in a memorable way, which set the tone and showed the players that this was no walk in the park!

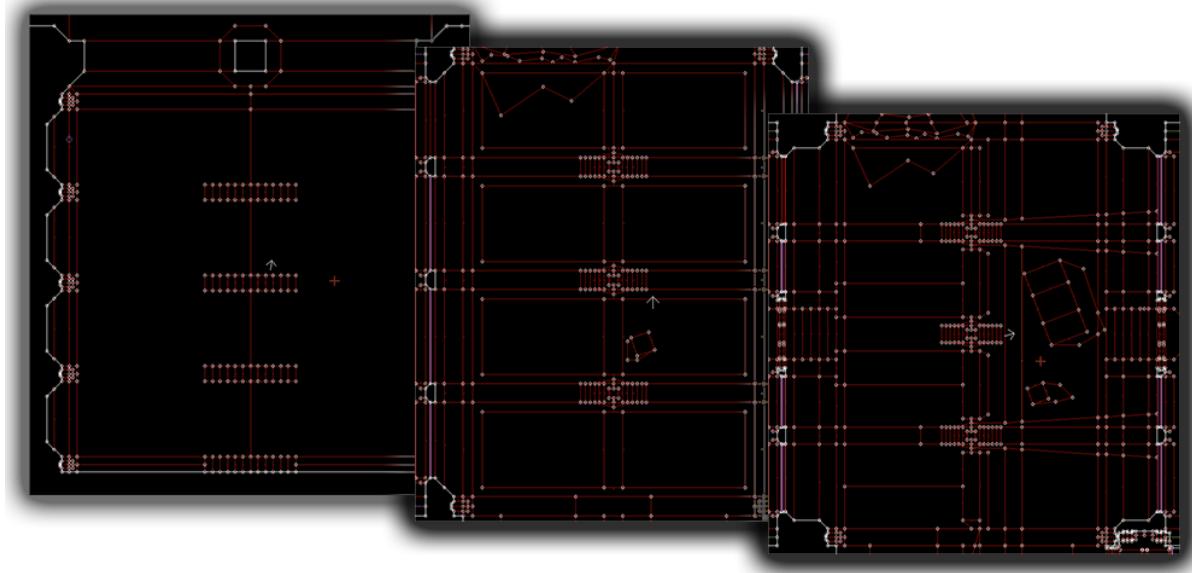
Lets analyze ***Ion Fury***’s Preview Campaign introduction:

Heskel cultists crash a truck at full speed onto the GDF entry point



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Level Design Process



The Basic Concept

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This can come from the story itself or the story can later revolve around the levels you made. In our case we had a basic guideline regarding the story and we built a plan with it in mind. Once we knew which locations our game was going to feature, we assigned each location to a different Level Designer.

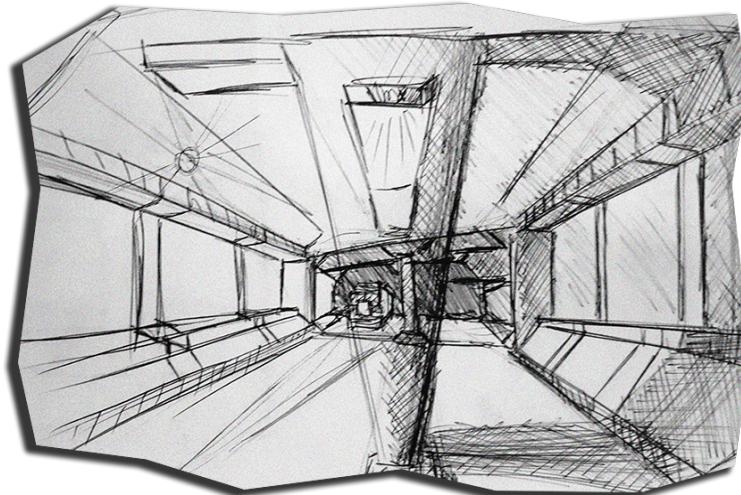
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We wanted to pay a bit of tribute to this and go beyond. *Ion Fury* would be a single campaign that would seamlessly flow from one level to another with only a brief intermission between every major chapter.

Truck crash sequence

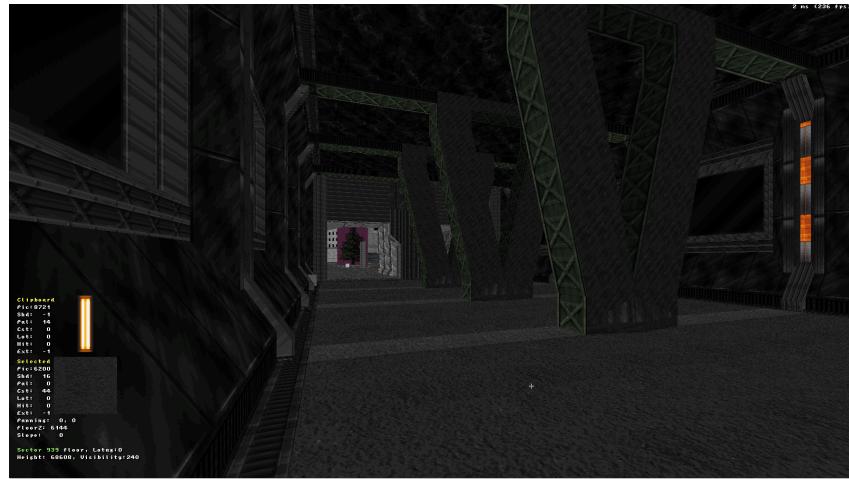
Going back to our Truck crash sequence example, this is how it was done.

1 - Sketch and the Blockout:



Early sketch by level designer.

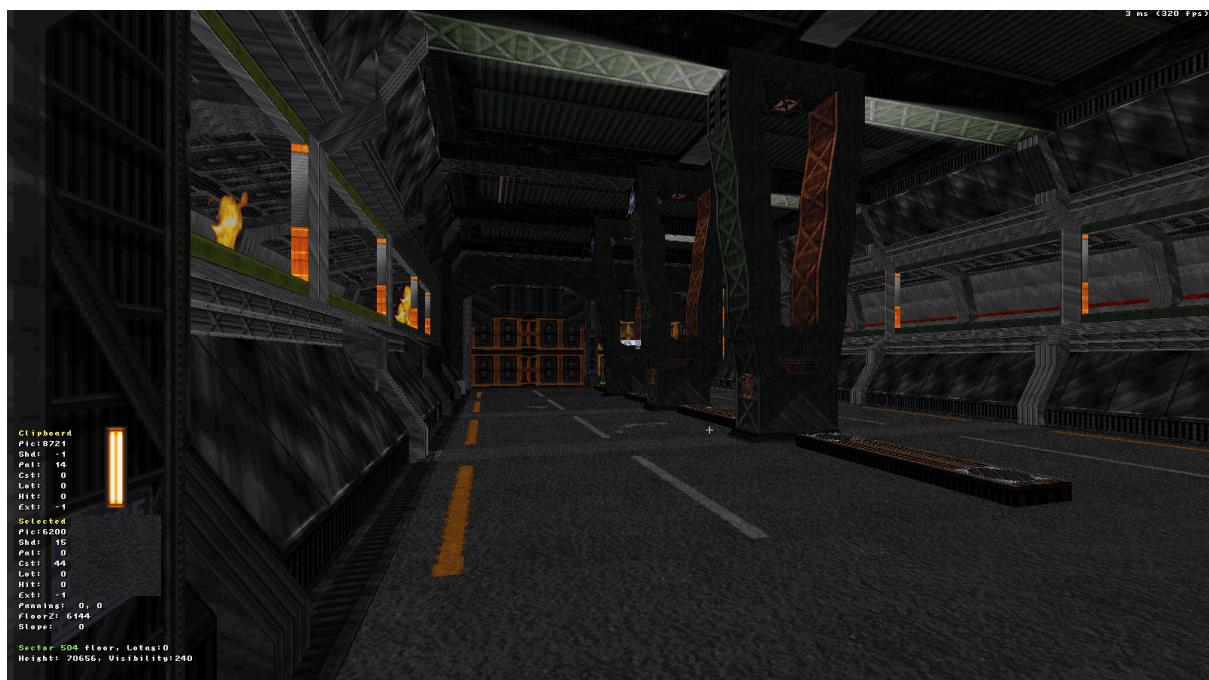
First we started out with some basic shapes to have a sense of scale, might even throw in some lighting as well to make out the different forms. Even when doing a basic room it's important to look at the aesthetic part of it as well, kind of making the room visually pleasant from every angle if possible. This is probably the best moment to plan out which strategies the level will have (most of the time plans change during production). In this case, we know we want the truck to come from the streets outside, going directly at the player, so the starting spawn point must face the entry directly.



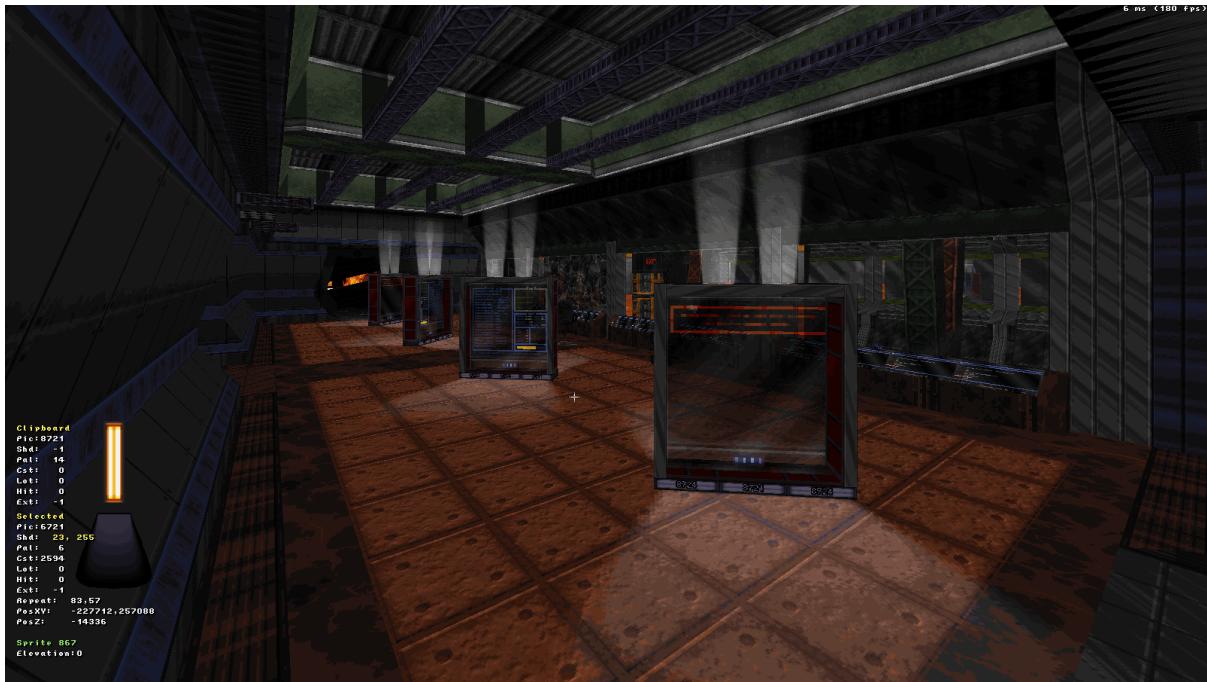
It's best to try different shapes and ideas. Always in big blocks, avoiding too much detail at this stage.

2 - Defining geometrical shapes:

At this point we want most of the level geometry and textures in their almost-final form. Making sure textures are properly aligned next to another, doors have their proper frames, Columns are the right size, etc. In this shot we can see some light and decorative sprites have been added to get a better sense of what the final look is going to be. Rooms on the side behind the glass are still just placeholders, but looking at the fire sprites we know that at some point we want these rooms to be in a destroyed state.



Once the basic blockout is complete, it's time to improve geometry and aligning texture work.



Rooms behind the windows are done repeating steps 1 and 2.



The truck was built into the game by Fox Martins, our expert cars builder.

3 - Light Work:

We now proceed to add the final touches to the level's lighting work, shading every wall one by one to get a sense of "realism" with it. At this point it's good to mix up different sets of colors to make it both visually pleasant but at the same time recognizable among other locations. It's important for every level to have a distinctive landmark.

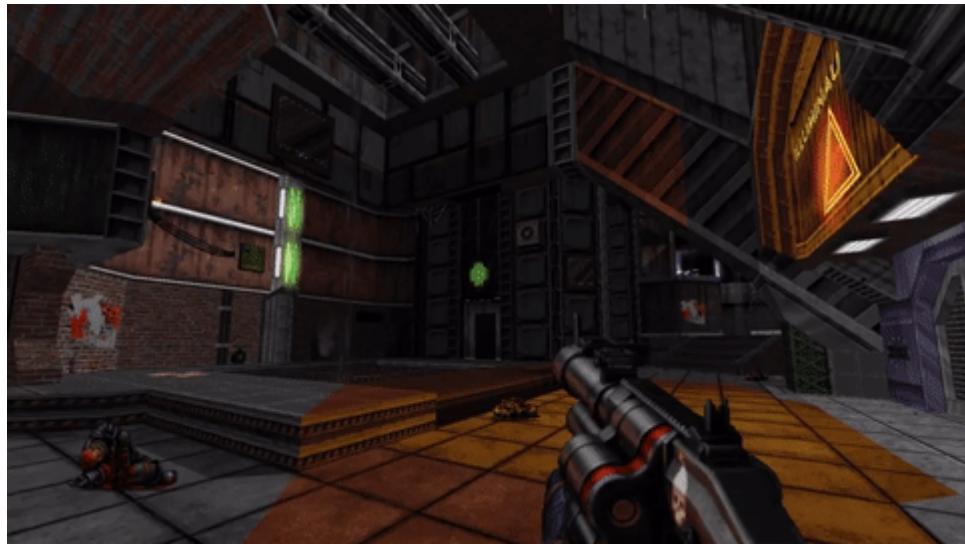


GDF garage is now finished aesthetically and ready for the destruction sequence.

4 - Detailing and bringing the world to life:

When everything just “works” it’s time to make the place feel alive. In our case we used a variety of options like the following:

- *Flickering Neon lights*
- *Rain, thunder, and lightning.*
- *Smoke coming out of vents, grates, pipes, etc.*
- *Particles help when trying to show broken machinery with sparks, splashes when stepping on water, of course blood coming out of our enemies entrails, etc.*
- *Having interactive objects is a must. Arcade Machines, Flushing Toilets, Jukeboxes, etc.*
- *Adding ambient and interaction sounds where they belong in different locations is important in making a level in ***Ion Fury*** feel alive.*



*Finished scene from another level of **Ion Fury**. Neon lights, water drips, steam coming out of vents, flickering signs, etc. are some of the means to bring this world to life.*

5 - Creating the crash sequence:

This is where most of the new additions and enhancements to the build engine come into play. With a new set of effects it's possible to create almost anything in the world of **Ion Fury**. These effects were co created between Jonathan "Mblackwell" Strander and Max "Oasiz" Ylitalo for the use of every level designer involved.

The truck crash sequence goes as follows:

1. Player steps into the garage and the GDF main gate is destroyed by a kamikaze truck coming at full speed.
2. The emergency system of the base is activated closing the inner Steel Doors. and window curtains.
3. Truck then crashes onto the closed Steel Doors and still deals quite a lot of damage to the entrance and surroundings.
4. Lights go out momentarily, alarm starts to sound, emergency generator is activated, lighting up the place again. Window curtains are lifted.
5. The Bent Steel Door is visible, destroyed rooms are now ablaze.
6. Doors on the sides open up and enemies enter; time to kill some invading cyborgs.

And this is only one of many cool sequences you are going to find in **Ion Fury**.



We hope you liked this blog entry made to give you a little bit of insight into the design process of our game, ***Ion Fury***.

Until next time!

- ***Leonardo Pellegrini***

(Original Version)



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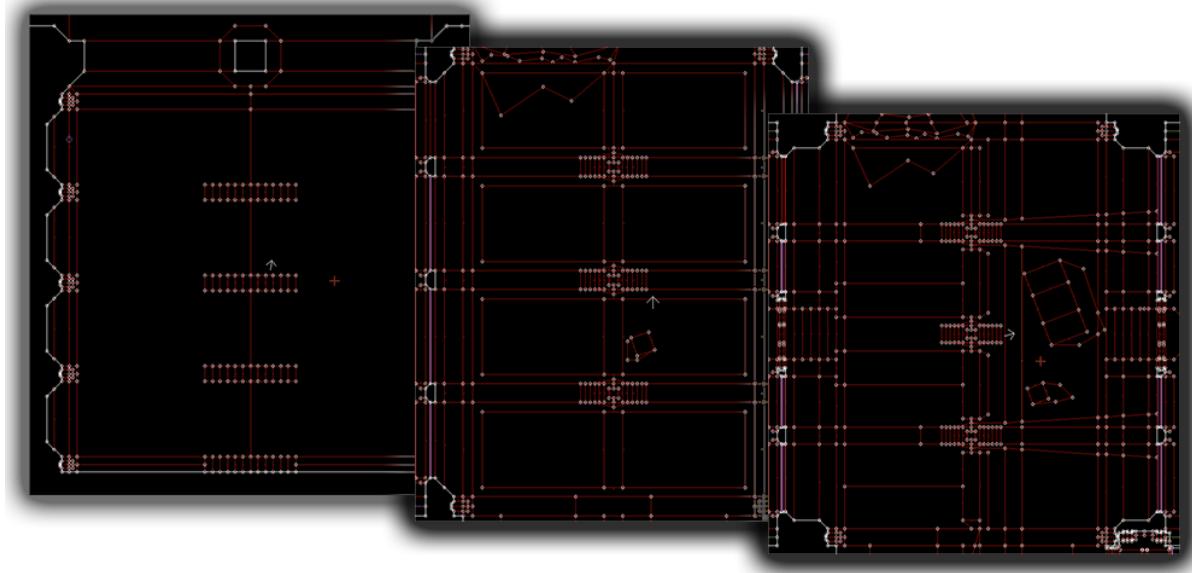
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Given that all designers have developed their own way of working with Build, artistic style and not to mention living all across the world, it was important to agree on some design ground rules in order to give them a degree of consistency in appearance, and more importantly in the expected game play between levels. If one mapper's exploding fire extinguisher leaves a hole in the wall then there is reason to expect that others will too. Even this otherwise mundane prop must have consistent behavior in the game world.

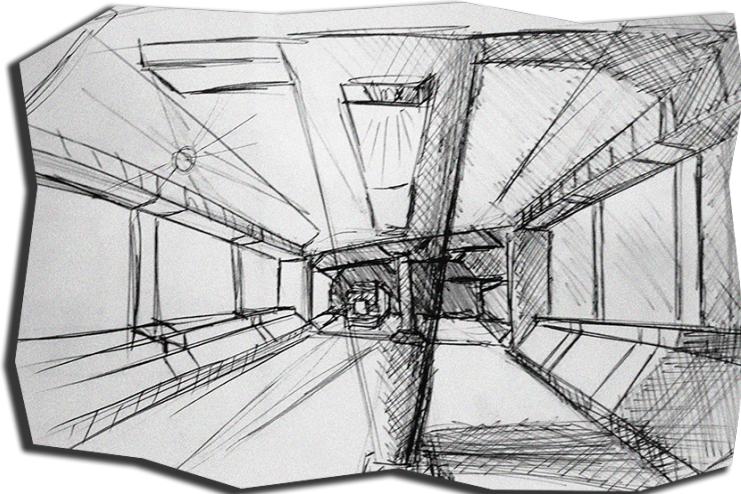
Our *Ion Fury* design philosophy

- Avoid hand-holding the player and let new mechanics be found naturally.
- Avoid creating designs that are too maze-like and hard to navigate, but do not make it too linear either. Instead allow many alternate paths toward combat situations, interconnections, and gradually open up the map as you progress.
- Environmental puzzles, including player, enemy, and object manipulation through game mechanics.
- Use tricks such as light or engine “visibility” to highlight the environment and various inter-looping connections to help direct the player.
- Capitalize on what Build games were known for: Kickass interactive sequences throughout the game.
- Enforce consistent scaling between every world object from door sizes (A Door bible was created for this) to even mundane things like flower pots.
- Avoid fake doors when possible, Player should expect that a locked door is an invitation to explore how to get behind it.
- Keep the game challenging but fair, balance the maps in a way that the players can always return for supplies and pick their own pace.
- Every interaction should have an associated sound.
- Always introduce a new enemy in a cool and memorable way
- Make sure the game is also playable without freeloop aiming (Keypads, etc..)
- All levels must be interconnected seamlessly between each other. This can be a bit challenging at times as the levels must not overlap and requires constant cooperation between designers.
- Most importantly: Encourage designers to make their levels their own. This resulted in each designer adding references and homages to what they found dear to them, in the form of various secrets littered across the game.

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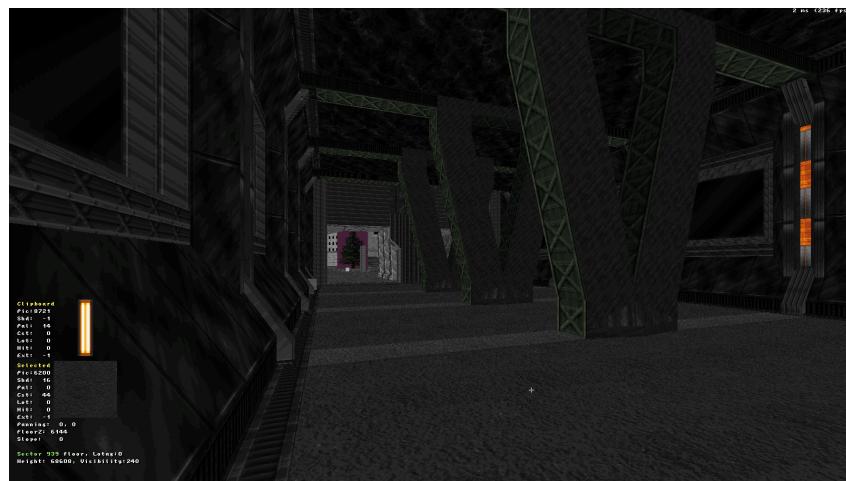
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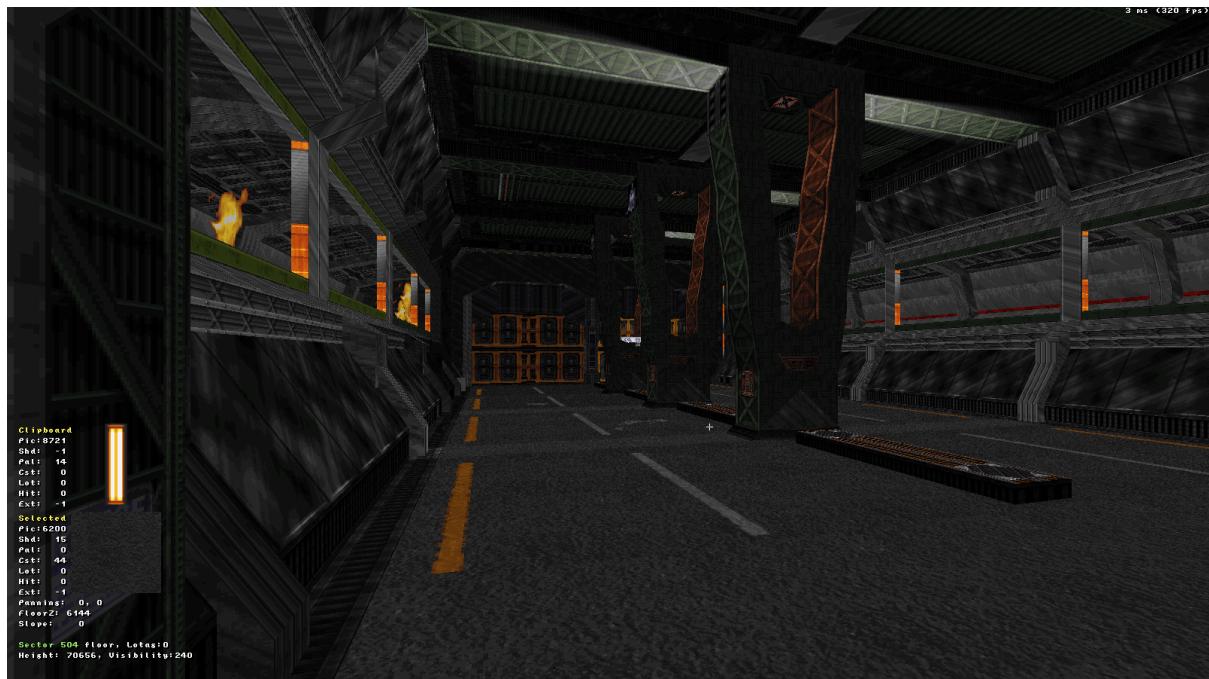
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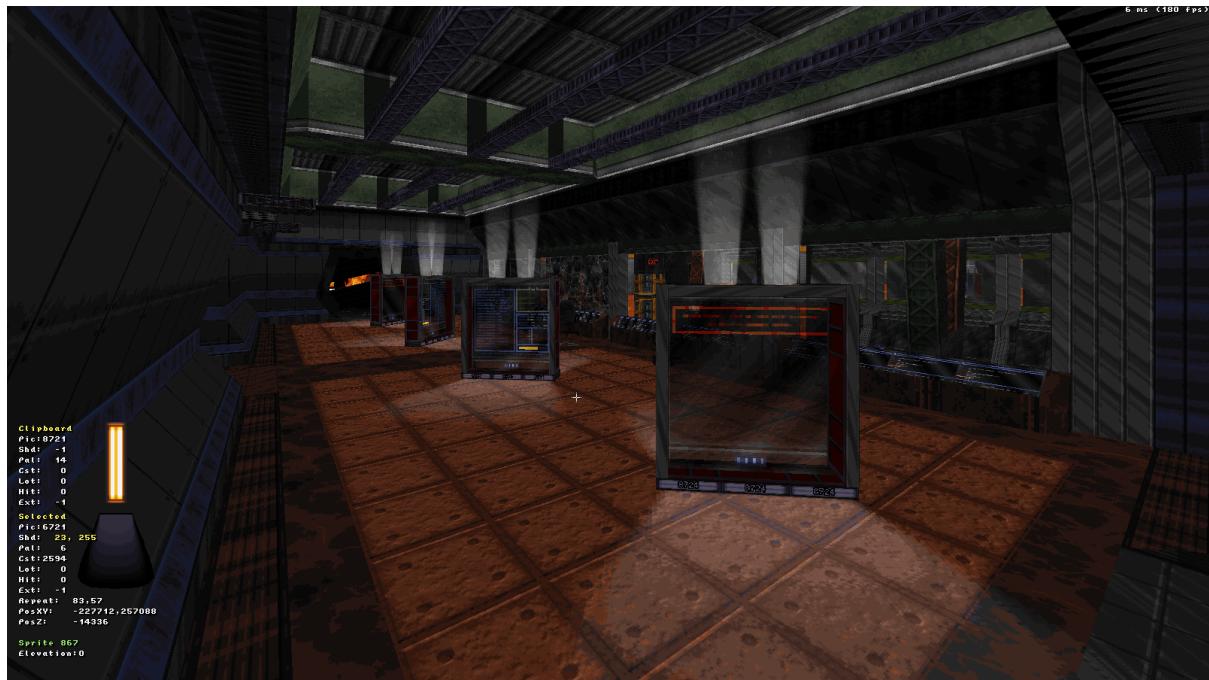
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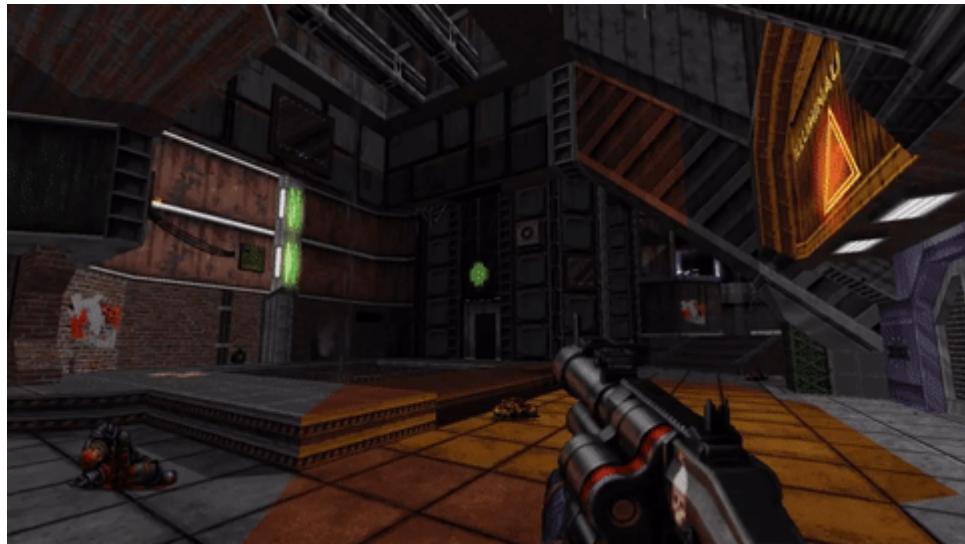


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6 - Gameplay

What's a good old school game without awesome enemy encounters, secrets, easter eggs, etc.? Here we mention a few cool tidbits we had in mind when designing the game

Enemy Patrolling:

You're almost never going to find enemies in the same location on every gameplay session. This is done by making most enemies patrol the areas they're in. Depending on which time you approach them you might find them on an easier or harder spot to kill. This of course adds a lot of replay value.



A shotgunner cultist patrols the area awaiting for your arrival.

New enemy appearances:

We wanted each new enemy appearance in the game to be memorable, not just drop the thing in the map and call it a day. If something strange or outrageous happens, make sure to reload!

Direct the player indirectly:

Given the openness of the levels we help a bit by using enemy encounters as a means to keep the player on the critical path. By doing this, we avoid the usual frustration of getting lost when there's so much to do.

Respect old school players:

It's possible to beat the game without freeloop aiming. For this we made sure all keypads, switches and interactive objects were placed at eye level for all those keyboard players out there!

And much more!

There are many more little things we added to the game here and there. Every asset, enemy, sequence, etc. was carefully planned and tested to bring you, the player, an awesome old school experience.

Few other development examples



Later sewer section in zone5 - From top-down sketch to 3D and completion

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- ***Leonardo Pellegrini / Level Design***