



# Antarctic Base

## *Build Notes*

8/23/2009  
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## Build Notes for Antarctic Level:

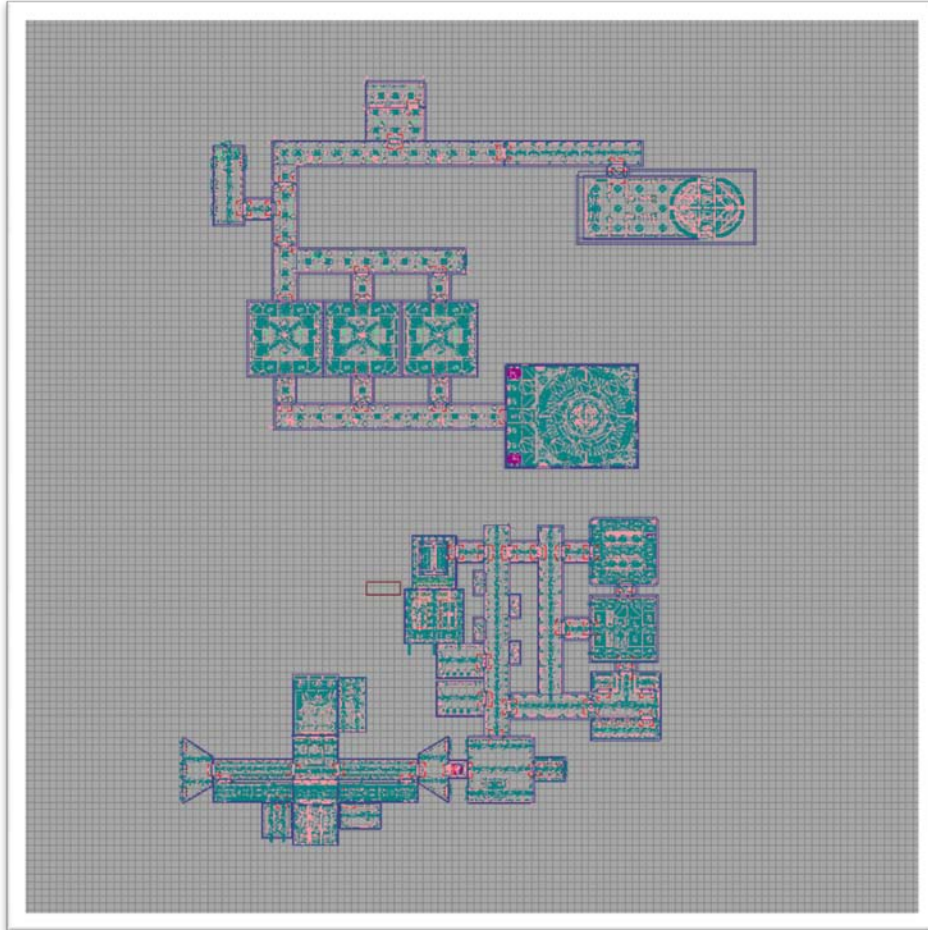


Figure 1 Unreal Level Overhead View

### Preproduction 8-10-09 to 8-13-09:

The first step in creating my level design was to do some research. I purchased *Conduit* and played through it in its entirety twice. I then went and read many of the different reviews posted online. Being very familiar with a lot of the background information such as UFOs, cryptozoology, archeology, and various other paranormal subject matter I began to formulate ideas for a level location that would fit within *Conduit's* world while providing a sense of epic scale not found in the first game. I settled on an underwater base of the coast of Antarctica situated on and around ancient underwater ruins. The goal of the level was to get to Prometheus's ship that had crashed there thousands of years before when the ruins were above water. I originally had four sublevels to the Antarctic base: surface, portal receiving area, research and development labs, and ancient ruins. I cut the first sublevel because I did not want to have players backtracking and having the player start in the Portal Room made more sense. After setting out some extremely basic flow diagrams, I began to map out the base.

### **Creating the Level Diagram 8-13-09 to 8-14-09:**

The second step in creating the level was to sit down and draw out the 2D level map. I originally started with a simple flow chart in Visio, but found the lack of detail provided by a simple flow chart to be too limiting so I switched directions and decided to create the 2D level map in Adobe Illustrator. Doing the diagram this way allowed me to quickly move around rooms and really begin to think and design level flow as well as a story behind the level. I wanted each sublevel to have its own theme and style and to ramp up in difficulty. After getting the basic shape of each sublevel done I then wrote some notes on what the goal was on each sublevel and began to add and remove rooms. I determined which rooms were mandatory and which ones were secondary. I had to limit the amount of nonessential rooms due to time constraints and only added one or two per sublevel. With the rooms completed, I ran through the level and placed where I wanted hidden messages and disks to fully utilize the space I had created. With all the 2D work completed, I began writing the level walkthrough.

### **Writing the Walkthrough 8-15-09:**

Writing the walkthrough was mostly a simple matter of combining all my notes and thoughts into a concise document. I really set out to create a level with interesting gameplay mechanics that I liked from *Conduit* while adding aspects from other games such as mini-boss fights, non-linear aspects, and player choice which will impact gameplay. Gameplay choices such as killing the enemy general on sublevel one to hamper the enemy's efforts to locate the player and the option of killing the queen on sublevel three were two ideas that I incorporated into the level design. I also wanted to give the players a sense of immersion stemming from the "epicness" of the game's fiction. I accomplished this by providing windows throughout the game, especially in sublevel two, that would provide the player with a view into the ocean outside, the massive alien ruins below, and other base sections. After the completion of the level walkthrough, it was onto unreal to try and build the level as close to the design as possible.

### **Building the Level in Unreal III 8-16-09 to 8-23-09:**

Building the level in Unreal was going to be a challenge. Since I did not have the luxury of an art team to provide custom art assets, I would have to try and build objects and locations with what was supplied with Unreal. I also learned throughout the process that I would have to adapt the design to the tools I had within Unreal. I choose to go full steam on the building of the level by adding textures, static meshes, particles, lighting, and basic scripting in order to provide a more visual demonstration of my skills instead of just basic brush collision with default textures.

### Sublevel One 8-16-09 to 8-18-09:

Sublevel One took the longest amount of time per size of all the sublevels. This was due to the setting of scale and look of the level. The first room that was created was the Portal Receiving Room. I modeled the room after the Gate Room in Stargate SG1. I wanted this room to be large and expansive allowing the player to be able to run around and get the handle of the 2.35" controls. The Portal Receiving Room is technically two rooms as I added a gate control room at the top of the room. The windows provide a view of the gate room. I added the red guide rails throughout this level to serve as a kind of leading mechanism to different rooms. After all the static meshes were added, I went through and lit the room.

Next I modeled out the lift room. This room was the central room of Sublevel One as it branched off to both hallways as well as the Heavy Machinery Room. I figured many battles would be fought in this small room, so I wanted to add many obstacles that would block line of sight and provide cover to the player. I had initially planned for the player to ride the lift in this room to the same room in Sublevel Two, but abandoned the idea in favor of a class elevator that would show off the ruins below the base.

Following the Lift Room I created the Heavy Machinery Room. This was one of the rooms that I wished that I had the time to create custom meshes for the design. I pictured this room having welding machines, forklifts, and a series of manufacturing tables. I created a robotic repair station in the center of the room using pieces of different static meshes.

After the Heavy Machinery Room I modeled out the hallways connecting to the southern and northern elevator rooms as well as

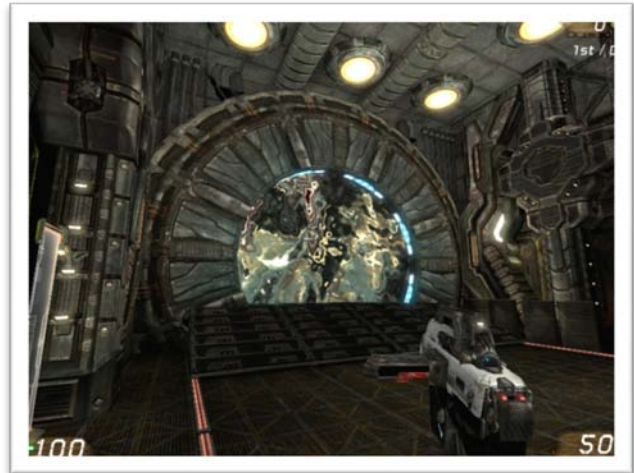


Figure 2 Portal Receiving Room



Figure 3 Gate Control Room



Figure 4Lift Room

the stair cases. Each one was just modeled once, then duplicated and rotated to save on development time. The stair cases were the first instance of where I had to adapt the design to Unreal. The stairs I was using could not be scaled in a way that looked good as well as remain functional as in the 2D design, so I had to extend the hallway and have the stairs run north to south instead of east to west. This drastically increased the number of static meshes and lights I was going to have to place in the rooms in order to better utilize the space. I also had to spend more time on the ceiling and upper walls of the stairways because they would have more screen time due to the player ascending and descending the stairs while playing through the level.

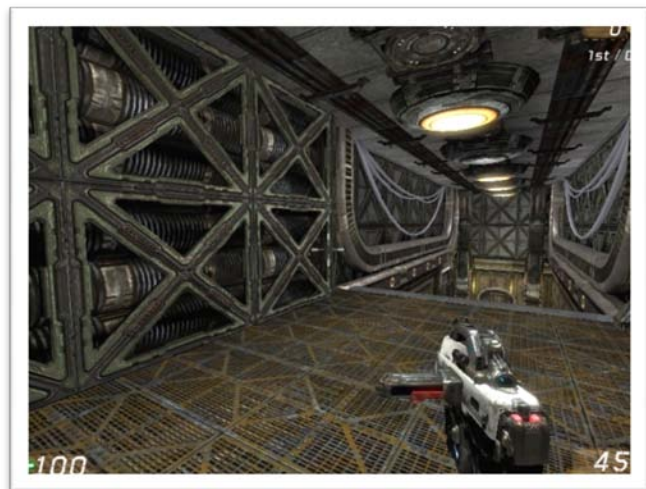
I quickly modeled out the Conference Room and the General's Room and an elevator room which I duplicated after finishing it to make the other elevator room. At this point I had already utilized all the days I had allotted to work on Sublevel One, so I cut short the further detailing out the rooms with more static meshes. I also put off adding working doors and any particle emitters until after I had completed all three sublevels. The final Room I had to do was the elevator shaft from Sublevel One to Sublevel Two. I tried many different building techniques. I originally wanted to have a circular elevator shaft with a glass elevator in which the player rides, but after many attempts, I could not get the joining brushes to work with a curved surface. At this point I decided to make the shaft square which would work with square builder brushes as well as square doors. I created a basic moving elevator in Kismet and then moved onto Sublevel Two.

#### **Sublevel Two 8-18-09 to 8-20-09**

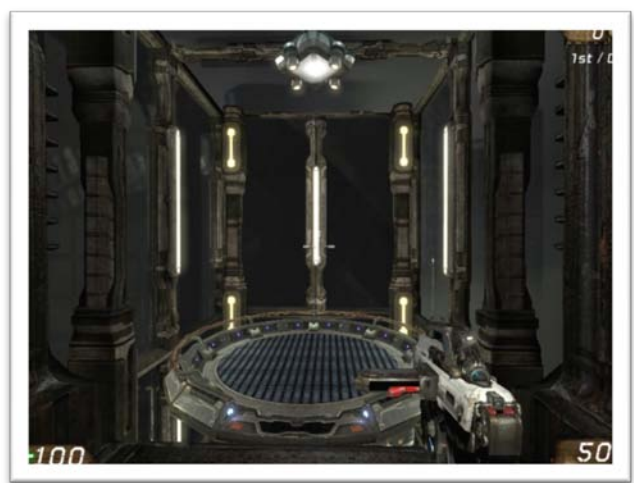
Sublevel Two consisted of the various



**Figure 5 Heavy Machinery Room**



**Figure 6 Southern Stairwell**



**Figure 7 Glass Elevator Shaft**

labs that the Trust was utilizing to modify alien technology as well as grow the hybrid aliens in vats. I wanted this level to have more of a clean look and changed the paneling in the labs as well as the floor texture. The first rooms I modeled were the elevator room and the small armory at the back of the elevator room. After finishing the rooms, I modeled out the first of the three labs. This was because I had no idea how long the hallways needed to be before I knew the size of each lab.

The first lab was the simplest, being only one floor, but slightly larger because I had to incorporate the three smaller labs inside the room. The challenge in this lab was making sure the player could maneuver around all the different labs and it took much iteration to get everything lined up properly. Once this was done I duplicated the brush collision to make the base collision for the other two labs.

The second lab was the first room that I used static meshes for floor dividers. This made me have to modify the BSP brushes many times in order to get everything to fit right. The stairs were particularly difficult to get positioned and duplicated right. This room took a long time to light due to the alien hybrid capsules needing to be lit inside the glass as well as outside the glass.

The third lab was one of the more enjoyable rooms I made. I used the techniques I learned in the second lab to create three floors from static meshes as well as the elevators to get from one floor to the other. I added a water volume to the base of the level to provide for a pool of coolant that the generators are sitting in. I also changed the position of the elevators from the initial design due to static mesh placement.



Figure 8 Lab One: Alien Artifact Research and Development

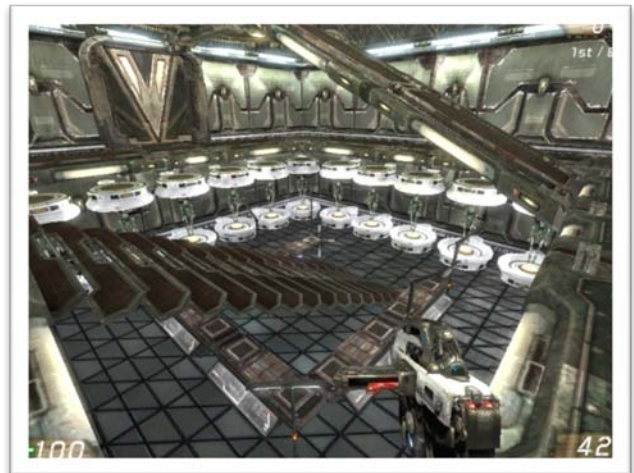


Figure 9 Lab Two: Hybrid Development

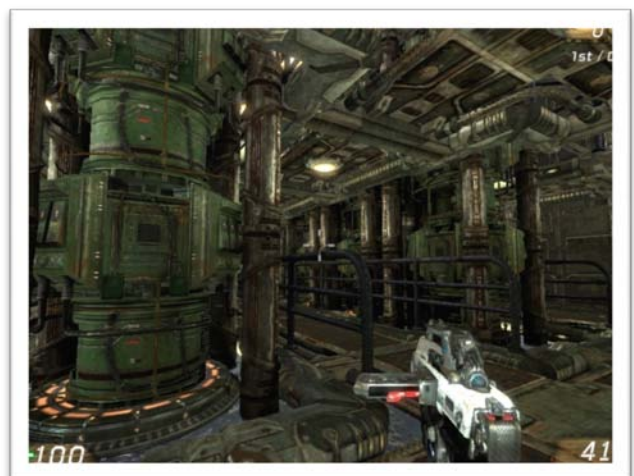


Figure 10 Lab Three: Energy Generation Room

After finishing the three labs, I was then able to layout the two hallways. When building the Main Hallway, I made sure to evenly space out the alcoves to provide players a place to hide from the incoming fire from the robot mini-boss that would be situated at the end of the hallway. These alcoves would initially be occupied by elite soldiers that the player would have to defeat so that they may use the alcove for cover. Any soldiers pathing into this hallway searching for the player will occupy any vacant alcoves so I wanted to make sure that they were not directly across from each other. I took into consideration the two bathrooms on the north side of the hallway when placing the alcoves as well.

The Glass Hallway took considerable time to line up all the glass frames and the glass itself. After finishing the level, I realized it looked too plain and that there was no protection for the player from incoming fire from the turret in the design, so I added box meshes to provide cover for the player as well as any enemies that path through the hallway to get to the player. It would also create a great place to use grenades.

After getting the two hallways in place, I created the two bathrooms. I modeled out one and placed all the static meshes and lighting, then duplicated it and moved it over to make the other bathroom. Lacking any model for a toilet, I modeled all the doors shut.

After the bathrooms, I took the time to model out all the connecting hallways in Sublevel Two. I had spaced most of the rooms at the same distance from each other so one connecting hallway would could be duplicated and moved to fit in the next place. Each was made with glass walls.



Figure 11 Main Hallway Alcove

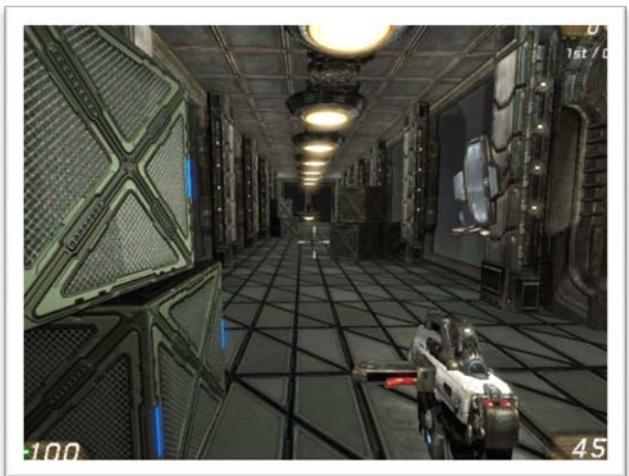


Figure 11 Glass Hallway



Figure 13 Bathroom

The final two rooms that I modeled were the Lift Room as well as the Hydroponics and Sea Lab. For the lift room I mostly duplicated elements from the Lift Room in Sublevel One. I added a doorway at the top of the room to show that the lift went up into the floor above and placed a few lights to highlight the chamber.

Hydroponics and Sea Lab was one of the most fun rooms to model. I created the duel water pools and then covered one up to provide for greater movement around the room as the Lift Room was fairly constrictive. I took a ship model from the Unreal assets and shrunk it down considerably to act as a small one man submersible. To allow for the player to get to Sublevel Three, I added a teleporter that would take them there. In the actual design I had wanted to have a short session where the player pilots the sub and fights enemy subs before crashing into Sublevel Three.

### Sublevel Three 8-20-09 to 8-22-09

Sublevel Three was the smallest of all the sublevels and took the shortest amount of time. To create a feeling of warmth with an organic twist, I used yellow and orange lights throughout the level except in the Queen's Chamber and Enki's ship which I used a blue lights to give a cold feeling.

The first room I modeled was the room where the player crashes into at the end of Sublevel Three. This room was really fun to make because I liked trashing a room and breaking up everything. I also put a lot of water splashing, smoke, and spark particles to really give the feeling of a wrecked room.

The second room I modeled was the Neural Node Room. Since I was going to duplicate this room three times, I spent more time adding static meshes to the room. After I



Figure 14 Lift Room

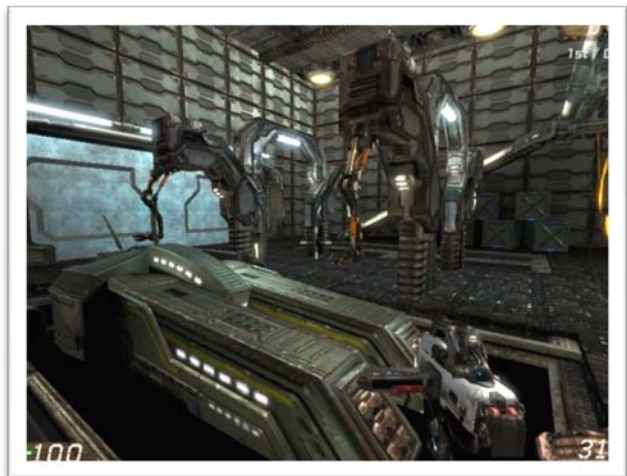


Figure 15 Hydroponics and Sea Lab



Figure 16 Elevator Crash Room

finished one room, I duplicated it twice to make the other two Neural Node Rooms. I made sure I spaced them out evenly from each other.

After I had all the Neural Node Rooms in place I was able to create the three long hallways in Sublevel Three. These were mostly duplicated with minor alterations made to accommodate their particular needs.

The Queen's Room was next and was the second most difficult room to create for Sublevel Three. The room was one of the most difficult to light and had over 50 lights in the room second only to the Hybrid Development Lab in Sublevel Two. I added an acid volume on the floor that the players can easily avoid if they are careful, but it adds a little bit of ambiance to the room. The Huge central glass chamber would hold the queen alien. I also used the static meshes from previous sublevels to divide the different floors in this level. I lit the Queen's Room with blue lights to give a cold depressed feeling reflecting the queen alien's captive status.

From here I jumped to the upper Command Center. This was a really simple room to build with mostly copy paste operations from other rooms I had created previously.

After Finishing the Command Center I jumped to the final room for the entire level. This level was Enki's Ship and was interesting to build. One of the problems I ran into is that the collision mesh for the glass once scaled caused some issues, so I had to raise the central glass ceiling up to address this issue. Instead of making walls to divide the small rooms in the ship, I used static mesh walls and piped to hide the seams.

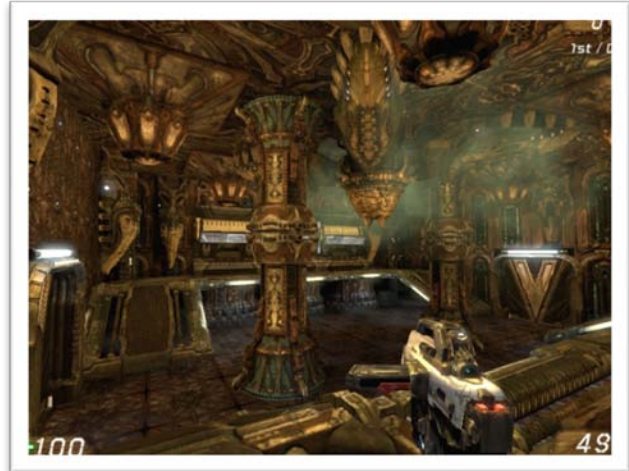


Figure 17 Neural Node Room

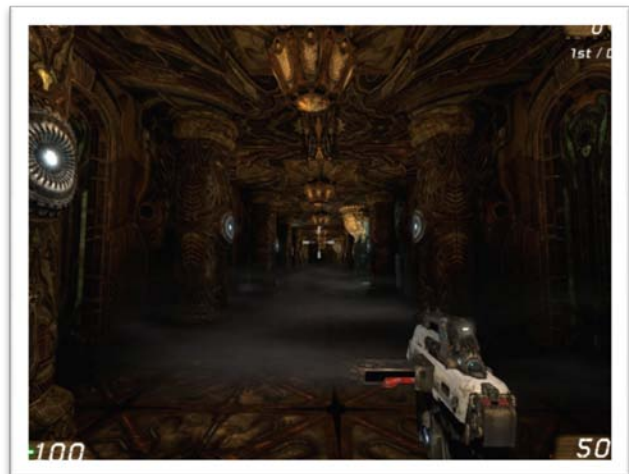


Figure 18 Sublevel Three Hallway

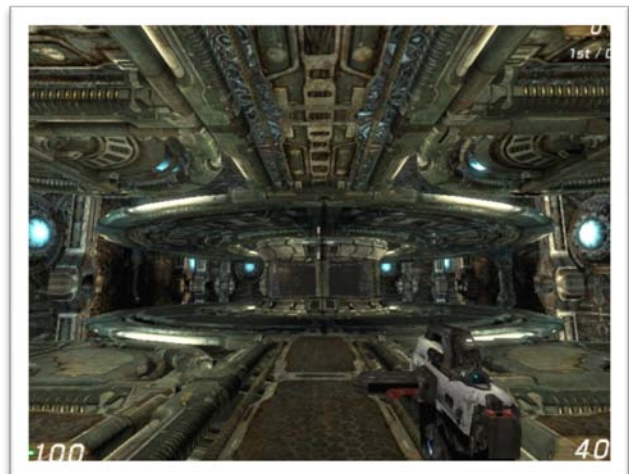


Figure 19 Queen's Room-Second Floor

### Polish Pass One 8-22-09

Well after the great task of building and lighting the level, I only had time to perform one polish pass to add particles and moving doors. I also fixed a few collision errors and played through the level a couple of times. While playing I found a few places where lights needed to emit the dynamic channel so that lifts and doors would actually receive light.

### Closing Thoughts

Well it was an extremely intense process from beginning to end. I learned that sometimes it is easier to place static meshes first, and then place your BSP brushes around them. I wish I had more time to iterate on the design, but I am extremely happy with what I was able to produce in such a short time frame. Building this level allowed me the opportunity to really dig deep down into my game design passion and build a level that takes place in a game world not of my own design.



Figure 20 Queen's Room-Third Floor

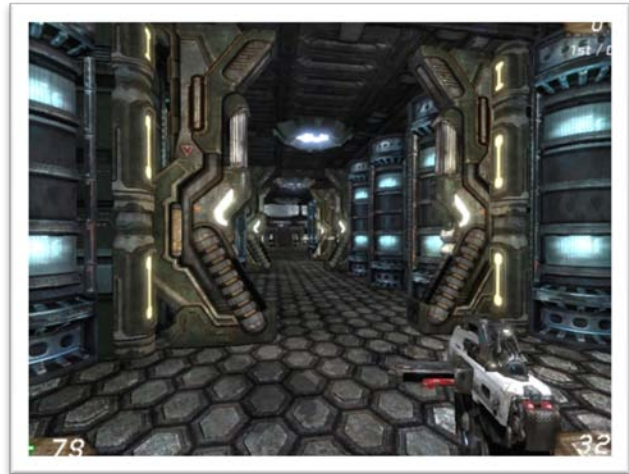


Figure 22 Alien Ship-Hallway

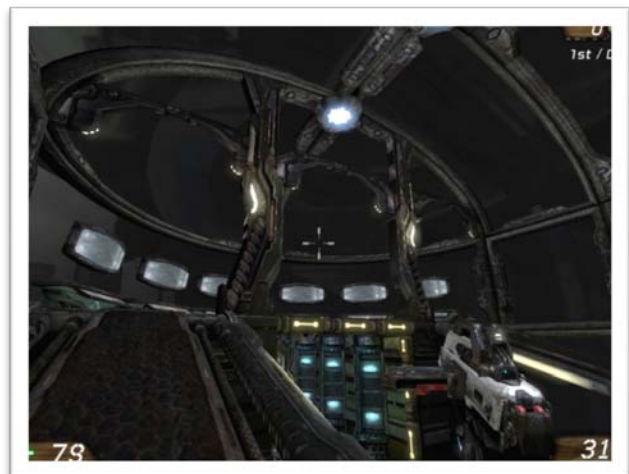


Figure 21 Alien Ship-Bridge