

# Tartarus Protocol GDD

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## **Overview**

The initial brief and current goal for Tartarus Protocol is a vertical slice for an experimental immersive shooter so this Design Document is scaled to go over the prototyping goals for the project.

You play as a pilot controlling an old mech named Atlas who has to defend a base from waves of incoming drones by shooting them down while also maintaining the mech which will break down over time.

The main goal of the game is to make the player immersed in the gameplay and world, which is achieved with multiple interactable objects/actions and a large industrial environment.

## **User Experience & Gameplay**

While the mech aspect of the gameplay was largely inspired by games like TitanFall which have believable mech interactions such as the opening hatch and pilot UI another big inspiration for the overall gameplay and style was Unsorted Horror with its simple but bleak environments and immersive interactions that make the player engaged by having outside events that bring various downsides and which the player has to be reactive to fix.

The singular Gameplay Loop switches between Combat <-> Repairs. Facilitating a simple gameplay loop with a “break of pace” element that enhances immersion.

### **Game-end conditions**

The player has a set amount of health (100) that depletes very fast making them vulnerable when outside the mech, with enemies dealing a lot of damage fast (25 per shot). Health replenishes inside the mech at a rate of 2 HP per second.

The mech does not have a health value but instead taking damage causes it to break down more often. Which in turn will force the player to be vulnerable and less effective in combat. This creates a loop where the player has to deal with the enemies fast to not get locked by the mech breaking down too badly and needing too many repairs.

The core interactables are:

### **Part of the MVP**

- A) The Barrel that visibly heats up when shooting continuously and which can blow up if not careful.
- B) The Steam Valve that will turn on and restrict the player's vision until they turn it off
- C) The Fire and Extinguisher that will be activated at random when the mech takes damage and has to extinguish it with the Extinguisher otherwise they will take damage on every second until sorted out

### **Outside of MVP scope (to be decided)**

- D) set of 3 fuses in the outside fuse box which will turn off at small random and have to be flipped back up - they respectively: turn the leg power/movement off; disable the mech diegetic HUD crosshair; lower the fire rate
- E) Chain Pulley start-up on the back of the mech. This is a one time interact at the begging of the game that the player has to do once in order to start the mech

The main feature that has multiple layers are the Barrels (A) which are the main condition for the player to be effective. They are the most disruptive as the player needs to go outside to pick a new barrel from the back of the mech and replace the blown out one. While punishing, the mech has 2 barrels that function independently so the player can have a less effective backup until they can fix it. This also forces the player to be mindful of the heat generated by the barrel and make them shoot more conservatively when possible.

The other 2 main features (B) & (C) are less pushing and don't take the player outside the comfort of the cockpit. They act as breaks of pace from the core loop and take much less time to do, which makes getting back to combat faster as well.

Another gameplay feature and prevention of being locked by too many breakdowns at once is the Smokescreen. The player can choose to deploy it every 60 seconds and lasts 15 seconds where the enemies will disengage the player for the duration allowing them to fix the mech. However this too has a downside of limiting the players visibility to a small degree.

### **HUD & effects**

The hud is an important part of the experience to facilitate a full pilot's experience. The main inspiration for it are fighter jet HUDs, simplified to fit the atmosphere and be practical, and minimal enough as not to be disruptive.

The mech's view is diegetically rendered on a physical screen inside of it together with its hud. This is achieved with a secondary camera that acts as a material for the monitor model.

## **Controls & Values**

| KeyBind | Description | Values |
|---------|-------------|--------|
| W A S D | Movement    |        |

|       |                |                        |
|-------|----------------|------------------------|
| Space | Jump           |                        |
| Shift | Run            |                        |
| E     | Interact       |                        |
| RMB   | Shoot/Use item | Infinite ammunition    |
| G     | Drop           |                        |
| X     | Smokescreen    | 15 sec/60 sec recharge |

(Mech leg ladders are climbable)

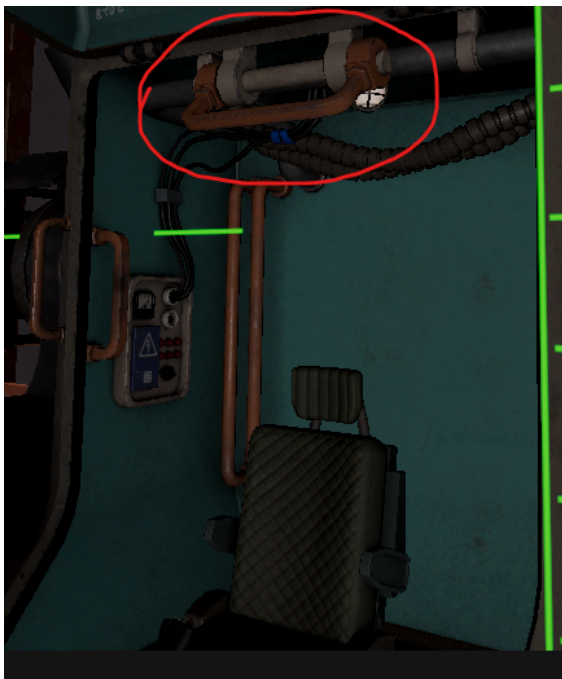
### Controls Manual

To enter the mech you first have to close the hatch by interacting (E key) with the handle at the top of the mech's interior. Then you can press on the seat to control it (E key). Pressing E again will eject you from the seat and let you move in the cabin and perform repair actions (extinguisher on the left side for the fire & pressing on the valve to close it). To exit the mech you have to interact with the top handle again to open it and exit.

To change the barrel you need to go outside to the back of the mech and press E on the barrel bag. Then with the barrel in hand press E on the Broken Barrel to fix it.

To drop an item from your hands (Barrel & Extinguisher) you have to press G.

To exit the main area there is a switch with a red light on the side of the gate that you have to interact with by pressing E to open it.



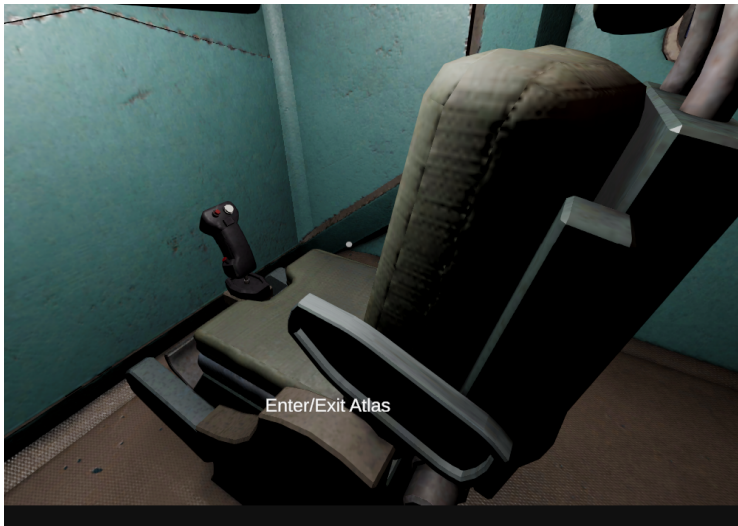
Open/Close Hatch



Spare Barrels



Valve and Extinguisher



Seat Interact to control the Mech

## Stats

| Entity      | Health | Damage |
|-------------|--------|--------|
| Playe       | 100    | 30     |
| Enemy drone | 90     | 25     |

## Visuals, Assets & Environment

The artistic direction is focused on creating a relatively large, dark and gritty environment with an indoors scene for the start area and an outdoors play area.

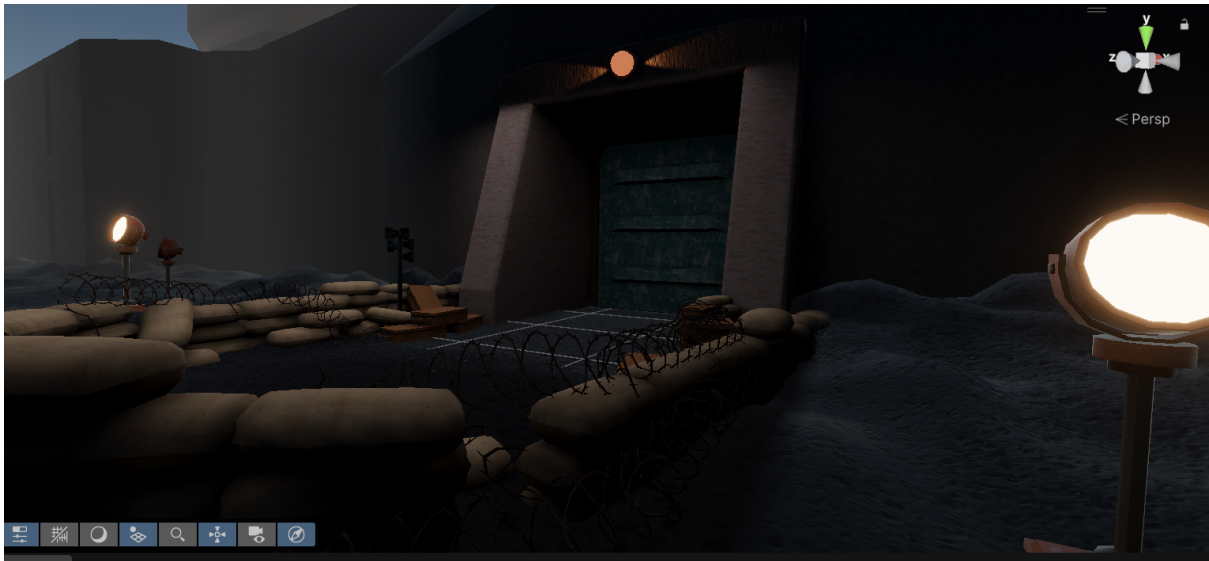
Aesthetically the game has a late 20th century and low fantasy futuristic mix, to achieve an interesting and grittier, worn down look, and makes use of inspiration from brutalist architecture and cold war military equipment/vehicles.

## Environment

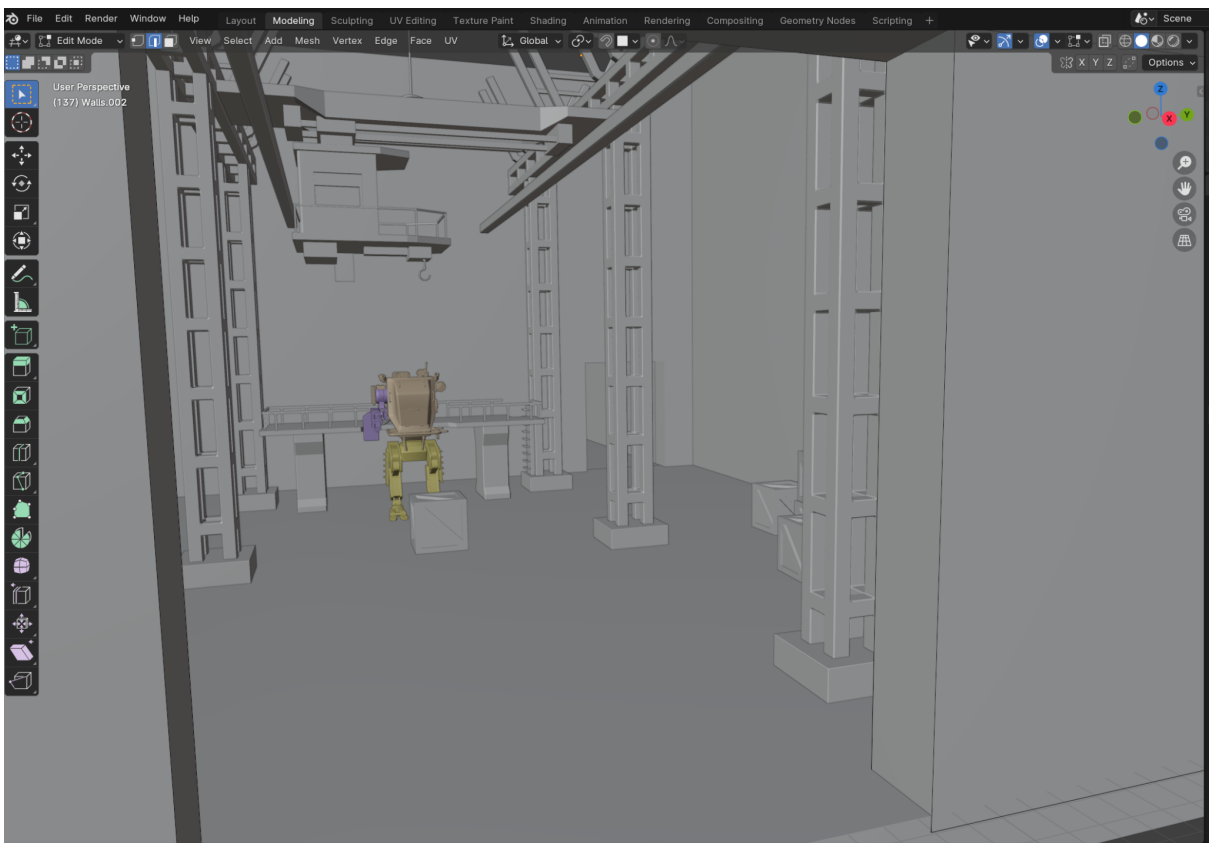
The environment itself both for the interior and exterior is large visually but the play area is relatively small and contained using geometry diegetically - sandbags for the outside of the warehouse.

Visually makes use of multiple baked lights together with real time lighting when needed (for the moving elements) to achieve a semi dark and atmospheric look.

As the environment itself is overshadowed by the mech for screen time and point of interest the geometry can be simpler and use tiling materials to save up on performance and labour.



Prototype combat area



In progress indoors environment + mech scale reference

## Main Assets

**The mech** will be split into its proprietary parts - legs, body, interior+props, arm, barrel, barrel lug, and use an in-engine animation for the rotation of certain parts (e.g. opening the barrel lug to change the barrel)

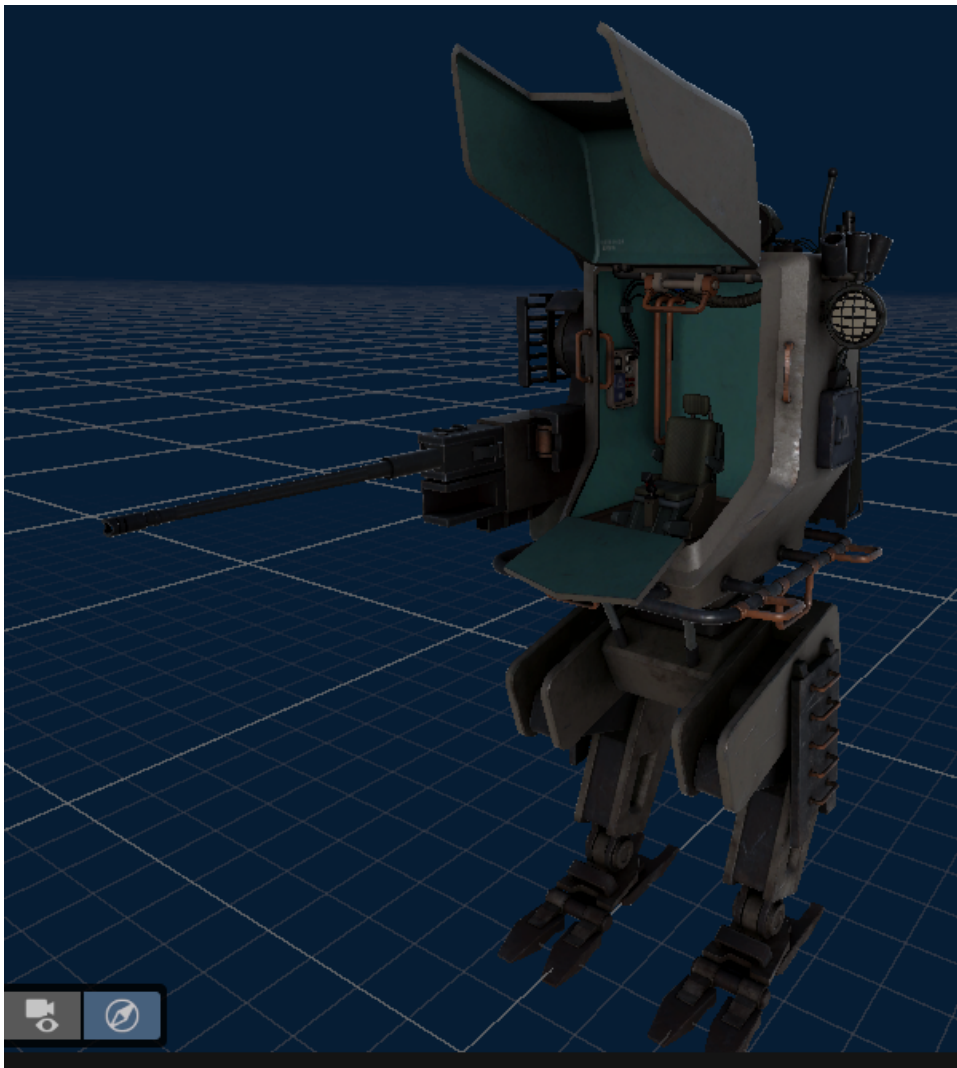
Visually the mech is supposed to look past its prime and fairly simple & bulky in its silhouette using rounded square shapes. The goal is to make it feel more grounded and weighty in its aesthetic to mimic the gameplay. The in house reference is “fridge with legs”.

The textures take vague inspiration from cold war Eastern Bloc jet fighters and vehicles and general equipment, especially the contrast of the tan/gray exterior and the cyan interior. This is the most detailed asset and what the player is constantly interacting with so the geometry count, while optimised for the parts that are less visible has to provide great visual fidelity

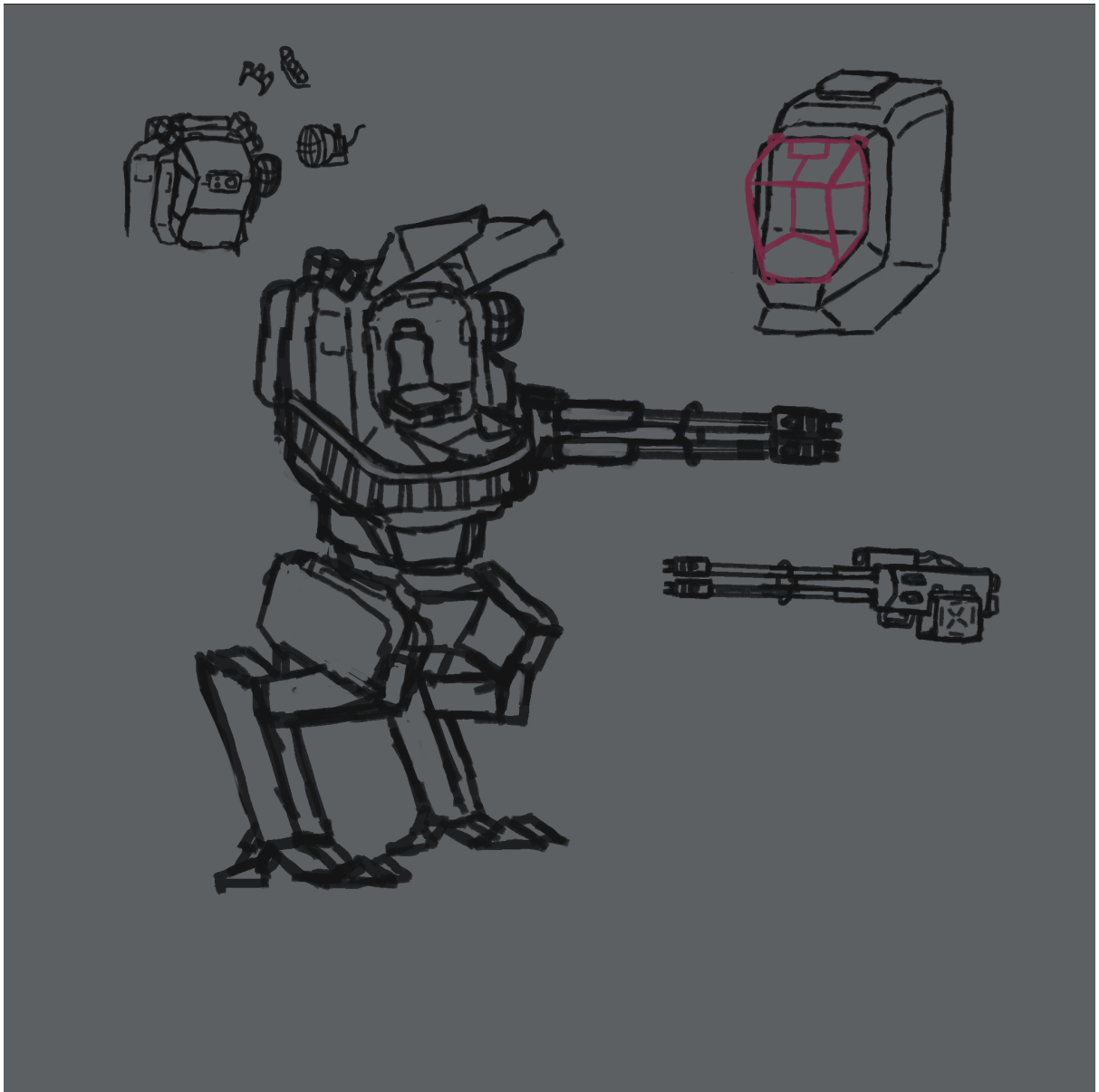
The guns are a big part and will use an emissive mask controlled by the shooting script to create and decrees heat (emissive intensity).

The barrels have their position transformed on shot to recoil backwards when fired. This together with a camera bounce on shot will make the combat more satisfying.

The shell casing will add another layer of immersion. They are instanced physical assets that will pile up on the floor as you shoot and despawn after 15 seconds to save on performance.



In engine mech (in progress)



Mech Rough Concept Art

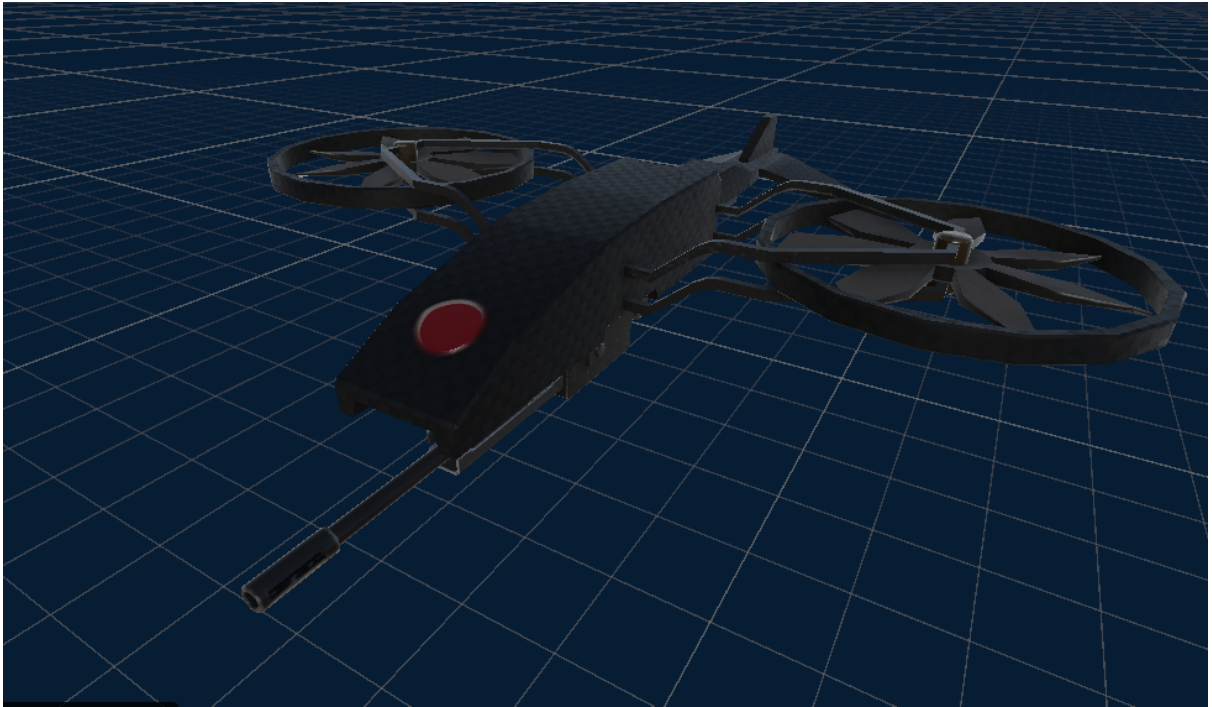


Jet fighter interior reference

## Enemies

The main and singular enemy for this vertical slice are the **flying drones** with a more sleek modernist look that are supposed to contrast with the rest of the assets and differentiate them. They have a general plastic/carbon fibre texture vs the mech's worn paint over metal and have a much simpler geometry to save on performance when large amounts of them are present on screen and at a distance.

Their spawning is split into waves of 10 per wave and 2 waves at different positions at once every 30 seconds. They hone in on the player and shoot a burst of 3 rounds every 2 seconds. Once they are close enough to the player or when they lose sight of them in the smokescreen, they disengage and return to the initial position and reset. They also have a variable speed modifier to make their formation have some pattern variation.



Enemy : Drone