Hydrus

Game Design Document

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**A.C.C.K.** games

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## Game Concept

### Overview

Hydrus is a sci-fi grid-based dungeon crawler with roguelike elements. The gameplay focuses on an intuitive combat system and exploration of both procedurally generated areas and manually designed rooms. Being single-player with a first person perspective, the claustrophobic and dark sci-fi environment provides a tense atmosphere to serve as a setting for the combative game.

The player must fight through areas teeming with a hostile presence, learning how to best defeat every type of enemy.

### Description

Inspired by games like Legend of Grimrock, Vaporum, and old-school dungeon crawlers, Hydrus attempts to bring another original game to the genre with a dark sci-fi aesthetic, souls-like player progression, and procedural level design. The game is designed with the goal of maintaining a high difficulty floor, and an equally high difficulty ceiling. Souls-like design elements will feel at home in this highly strategic dungeon crawler.

### Key Features

* Dark Sci-Fi Aesthetic
* First Person Real-Time Combat
* Grid-Based Movement
* Ability Upgrade Tree
* Procedurally Generated Areas
* Multiple Enemy Types and Abilities

### Scope

The scope of Hydrus reflects its ten week schedule. The scope may be amended during the development timeline, and features may be cut or added. A list of the main features to be implemented has been compiled.

* Main menu
* Settings menu with system settings
* Minimal UI and HUD
* Real-time grid-based movement
* Real-time combat with abilities for player and enemies
* Resource accumulation via defeating enemies
* Enemy utility-based AI
* Two player classes
* Eight unique player abilities
* One non-hostile main hub area
* Two explorable hostile areas
* Static level design
* Four total unique enemies (Two per area)
* Two regular bosses
* One final boss area
* One final boss

## Story

### Narrative

Hydrus, an advanced space station sent to terraform a distant planet, has recently gone silent. The station, which is currently orbiting the lifeless planet, had a limited human crew, relying on robots equipped with the latest artificial intelligence to tend to the majority of the systems, including a self-sustaining biodome within the station.

The player, piloting the only even remotely nearby ship, arrives at Hydrus to find it in complete disarray. The power system is failing, and the dim hallways are devoid of human life. The crew is missing, and both the mechanical bay and the biodome have become mysteriously dangerous.

As the player explores and struggles through the grim areas of Hydrus, it becomes apparent that the source of this chaos is behind the locked door to the bridge of the space station.

Behind the locked door the player finds an alien parasitic creature - the source of the corruption that has plagued the space station. The player must survive the creature’s devastating onslaught and defeat it in order to bring resolution to the terrible situation.

### Setting

The player is trapped on an abandoned space station orbiting a distant star 12 million light years away from Earth. Once a marvel of astro-engineering, the station has been reduced to dark, twisting hallways and forgotten rooms. Hints to the sad fate of the minimal human crew litter the station. With their overseers gone, the autonomous systems that once allowed Hydrus to thrive have instead mysteriously transformed into vicious anomalies that attack anything that moves.

The Biodome served as the primary source of nutrients and other organic resources for the inhabitants of the station. However, unchecked mutation has since resulted in a far more hostile environment filled with oversized flora and fauna.

The Mechanical Bay built, housed, and maintained the robots that performed the majority of basic tasks aboard Hydrus, from cleaning to security. Due to the harsh trials of time, or perhaps something more sinister, these formerly docile and elegant feats of engineering have become cold and dangerous machines.

### Character

The player controls a skilled, futuristic fighter (or not-so futuristic if the Knight class is selected) with the versatility and skills to face any of the many dangerous foes within the Hydrus space station. This fighter is also equipped with the ability to utilize cores collected from enemies to upgrade and adapt their abilities to the situation.

## Gameplay and Mechanics

### Gameplay

#### Goals

The player’s primary goal is to collect enough cores to power themselves up and purchase access to the final boss fight. Cores are gained by defeating enemies.

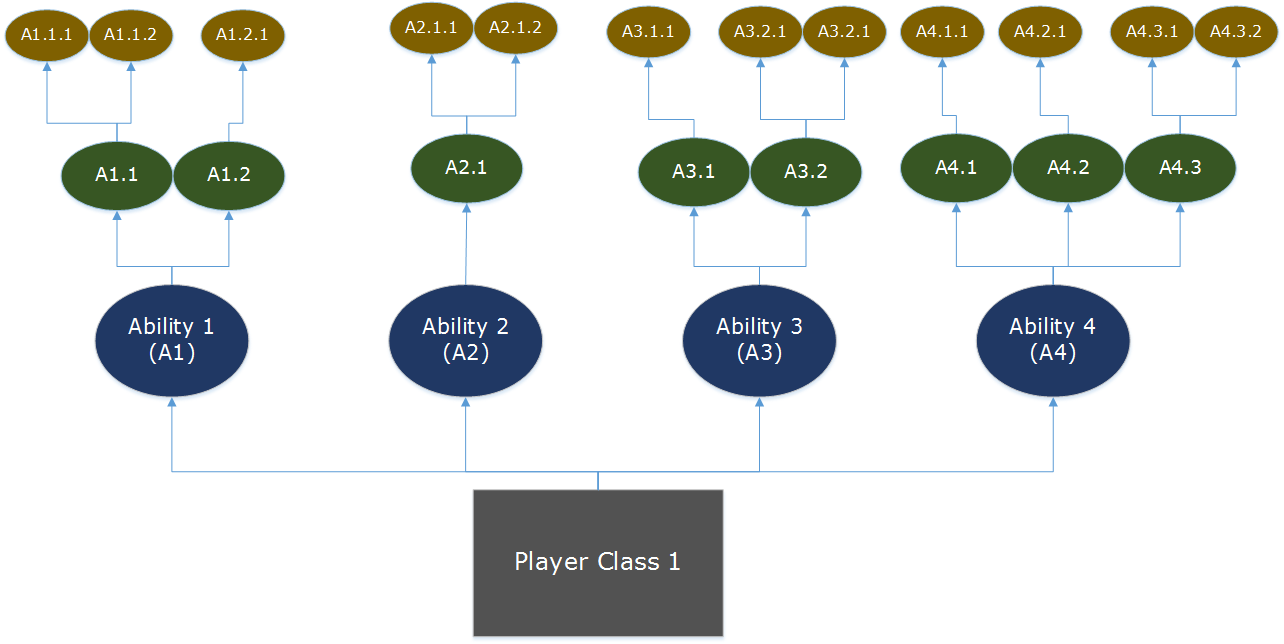
In order to reach the final boss, the player must defeat an abundance of enemies, including two sub-bosses. The stronger an enemy is, the more cores they will drop.

Defeating the final boss will end the game.

#### Game Progression

The player will have the option to spend cores to upgrade their abilities. Each ability will have three total tiers, with one or two mutations on each tier after the first. Upgrade costs will increase with each tier, forcing the player to make the choice between upgrading evenly, or specializing in one ability early to abuse its strategic power.

A sample tree may look like:



#### 

#### Game Flow

##### Overview

1. Start in hub area.
2. Traverse to one of the two open areas.
3. Defeat enemies.
4. Collect cores.
5. Find and unlock boss door.
6. Defeat area boss, collect many cores.
7. Repeat 1 - 6 until enough cores are collected to unlock final boss door.
8. Defeat final boss.
9. Victory!
10. ???
11. Profit.

##### Game Layout

The player begins in the main hub area, met with a short tutorial at the beginning of the game, followed by access to both main areas. From the hub, the player can enter one of three areas via its corresponding door. The boss area’s door will be locked at the beginning of the game, and must be unlocked by collecting the required number of cores. Cores are collected from defeated enemies found in the other two areas.

The two main areas will each have a unique layout with enemies and key-door puzzles strewn throughout. Some rooms will be statically loaded, while the hallways will be procedurally generated when the area is loaded.

The player must then find the area’s boss door and defeat the boss beyond. After defeating the boss, the player will be teleported back to the hub area with restored resources.

Spawn/Hub Area

Final Boss

Boss Door

(Locked)

Mechanical Bay

Boss

Biodome

Boss

Door

Door

##### Level Layout

Each area will have multiple statically loaded rooms with procedurally generated, maze-like hallways connecting them. The player will always spawn in a predetermined static room. The player will sometimes encounter locked doors, which they must unlock with a key. Keys can be found within the area.

After finding and unlocking the area’s boss door, the player will enter an encounter with the area’s boss. The encounter will take place in a separate, statically loaded room.

Static Room

Door

Static Room

Locked Door

Boss

Procedural Hallways

Procedural Hallways

Static Room

Procedural Hallways

Key

##### Combat Flow

While exploring the Hydrus’ areas, the player will encounter many enemies of varying types. While single-enemy encounters will be common, the player will have remain aware of their surroundings and possible actions. Striking the perfect balance between maneuvering, using quick attacks, timing interrupts, and charging up powerful attacks at the most opportune of times, will be the deciding factor of the player’s success.

If the player does not behave strategically, their enemies will overwhelm and defeat them quickly.

Player

Enemy

Enemy

Enemy

**-20**

**-50**

E

Q

WASD

##### Death

Upon their health points reaching zero, the player loses all of their current cores and is transported to the hub area. Their ability upgrades are unaffected.

### Mechanics

#### Movement

The game will feature tile-based real-time movement. All entities will be moving simultaneously and on one constant timeline. The player will always be present in one tile, facing one of four cardinal directions. They will be able to move forwards, backwards, left, and right by one tile, as well as rotate counter-clockwise and clockwise by 90 degrees, all relative to the player’s current orientation.

Enemies will have similar, but somewhat restricted, movement. They will have all of the same movement capabilities as the player, except without the ability to move left or right. Instead, enemies will turn in the direction they are attempting to move first.

While an entity is in transition between tiles, they will be considered by all other systems to be in their starting tile until they have physically moved 75% of the distance to the center of their destination tile. While an entity is enroute to a new tile, that destination tile is marked as locked, and other units are unable to begin movement into that new tile. The tile the entity is moving from is also marked as locked until the movement is beyond the threshold for the entity to be considered in the destination tile.

Entities will be unable to use items or abilities while moving.

#### Objects

Throughout the player’s exploration, some consumable objects may be found. Objects that can be found include:

* **Door keys** - Can be used on regular locked doors to open them. This does not include the final boss door. Requires a small cast time of 1 second.
* **Small medkits** - Can be consumed to restore a portion of the player’s health over a short duration. Requires a small cast time of 0.5 seconds.
* **Large medkits** - Can be consumed to restore a large portion of the player’s health immediately. Requires a small cast time of 0.5 seconds.

#### Combat

Combat in Hydrus will be implemented with a real-time, cooldown-based system. Every character in the game will use the same combat system.

Entities will deal damage to opposing entities by using the abilities at their disposal. Each entity will have access to two to four abilities. The player will have four abilities that are unique to their chosen class.

#### Abilities

The combat in Hydrus will be driven by the mechanics of the abilities. Abilities will have a cooldown after use, preventing that specific ability from being used until the cooldown period is over. Each ability will have an independent cooldown which begins immediately after the cast has completed or been interrupted.

Each ability will also have a cast time that prevents the entity from making other actions until the cast time has completed. This cast time will vary depending on the ability being used, and will be synced with any animations, damage, or particle effects.

While an ability is being cast, if the casting entity is damaged within the last 25% of the ability’s cast time, the cast will be cancelled. Essentially, this gives some strategic risk to using slower, more powerful abilities by allowing entities to stagger their attacker with quick attacks and correct timing.

Abilities will have various types and effects, allowing for more strategic and situational actions.

Entities will be unable to move or use items while using abilities.

##### Ability Types

* **Self** - Will affect the casting entity.
* **Melee** - Will affect the tile directly in front of the casting entity.
* **Ranged** - Will affect a tile within a predetermined amount of tiles in front of the casting entity.
* **Area of Effect** - Will affect numerous tiles in a predetermined area relative to the casting entity.
* **Over Time** - Will affect entities struck gradually over a specific duration.
* **Area of Effect over Time** - Will apply effects to numerous tiles in a predetermined area relative to the casting entity. These effects will be applied to entities on these tiles periodically for a specific duration.

##### Ability Status Effects

* **Cast Time Slow** - Affected entities have their cast times slowed for a specific duration.
* **Cooldown Slow** - Affected entities will have longer cooldowns for abilities used while affected.
* **Stun** - Affected entities are unable to take any actions for a specific duration.
* **Movement Slow** - Affected entities take longer to move between tiles for a specific duration.
* **Root** - Affected entities are unable to move between tiles for a specific duration. These entities can still use abilities and take other actions.
* **Silence** - Affected entities are unable to use abilities for a specific duration. These entities can still move between tiles and take other actions.
* **Heal** - Affected entities have a specific amount restored to their health over a specific duration. Entities cannot exceed their maximum health.
* **Haste** - Affected entities will have quicker cast times for any abilities used during the effect.
* **Rage** - Affected entities have their cooldowns lowered by a specific amount for a specific duration.
* **Damage Reduction** - Affected entities take reduced damage from all sources by a specific amount for a specific duration.

##### 

#### Player

Note: Ability names will not be included in the UI or anywhere else in the game. Names will only be relevant in implementation and organization.

##### Class 1 - Knight

Just a straight-up medieval knight???

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index | Name | Type | Range (Tiles) | Damage | Cooldown (Seconds) | Cast Time (Seconds) |
| **1.0.0** | Sword Swing | Melee |  | 20 | 2 | 1 |
| **1.1.0** | Cleave | Area of Effect |  | 25 | 2 | 1 |
| **1.1.1** | Greater Cleave | Area of Effect |  | 55 | 2.5 | 1.5 |
| **1.1.2** | Impale | Area of Effect |  | 40 | 2.25 | 0.75 |
| **1.2.0** | Single target | Melee |  | 30 | 2 | 0.5 |
| **1.2.1** | Bleed | Melee |  | 30 | 2 | 0.5 |
| **1.1.2** | Impale | Area of Effect |  | 40 | 2.25 | 0.75 |
| **2.0.0** | Punch | Melee |  | 10 | 3 | 0.5 |
| **2.1.0** | Power Fist | Melee |  | 20 | 3.5 | 0.5 |
| **2.1.1** | Megaton Fist | Melee |  | 40 | 5 | 0.5 |
| **2.2.0** | Tactical Strike | Melee |  | 15 | 3.5 | 1 |
| **2.2.1** | Stunning Blow | Melee |  | 25 | 3.5 | 1.5 |
| **2.2.2** | Crippling Strike | Melee |  | 25 | 3.5 | 1 |
| **3.0.0** | Shield | Self |  |  | 6 | 2 |
| **3.1.0** | Stronger Shield | Self |  |  | 8 | 2 |
| **3.1.1** | Quick Shield | Self |  |  | 8 | 0.25 |
| **3.1.2** | Heavy Shield | Self |  |  | 12 | 4 |
| **3.2.0** | Blast Shield | Area of Effect |  | 30 | 8 | 3 |
| **3.2.1** | Shield Overload | Area of Effect |  | 60 | 10 | 4 |
| **3.2.2** | Shock Shield | Area of Effect |  | 30 | 6 | 4 |
| **4.0.0** | Stimpack | Self |  |  | 15 | 5 |
| **4.1.0** | Large Stimpack | Self |  |  | 15 | 5 |
| **4.1.1** | Adrenaline Pack | Self |  |  | 15 | 3 |
| **4.2.0** | Med Implant | Self |  |  | 30 | 5 |
| **4.2.1** | Berserker Implant | Self |  |  | 30 | 5 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Index | Effects | Effects Amounts | Effects Durations (Seconds) | Description |
| **1.0.0** |  |  |  |  |
| **1.1.0** |  |  |  |  |
| **1.1.1** |  |  |  |  |
| **1.1.2** | Silence |  | 0.5 |  |
| **1.2.0** |  |  |  |  |
| **1.2.1** | Damage over Time, Movement Slow | 20, 10% | 6 |  |
| **1.2.2** | Silence |  | 0.5 |  |
| **2.0.0** |  |  |  |  |
| **2.1.0** |  |  |  |  |
| **2.1.1** |  |  |  |  |
| **2.2.0** | Slow | 30% | 2 |  |
| **2.2.1** | Stun |  | 2 |  |
| **2.2.2** | Cooldown Slow, Cast Time Slow | 20%, 20% | 2 |  |
| **3.0.0** | Damage Reduction | 20% | 3 |  |
| **3.1.0** | Damage Reduction | 40% | 3 |  |
| **3.1.1** | Damage Reduction | 40% | 1 |  |
| **3.1.2** | Damage Reduction, Root | 80% | 6, 6 |  |
| **3.2.0** |  |  |  |  |
| **3.2.1** |  |  |  |  |
| **3.2.2** |  |  |  |  |
| **4.0.0** | Heal | 20% | 10 |  |
| **4.1.0** | Heal | 35% | 10 |  |
| **4.1.1** | Heal, Haste | 20%, 25% | 5 |  |
| **4.2.0** | Heal | 25% | 30 |  |
| **4.2.1** | Heal, Rage | 25%, 40% | 30, 5 |  |

##### Class 2 - Marksman

The gunslinger utilizes abilities with weak crowd control to keep at a distance, allowing the player to kite away from enemies while simultaneously dealing damage.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index | Name | Type | Range | Damage | Cooldown | Cast Time |
| **1.0.0** | Blaster Shot | Ranged | 2 | 15 | 2 sec | 1 sec |
| **1.1.0** | Quick Shot | Ranged | 2 | 15 | 2 sec | 0.5 sec |
| **1.1.1** | Charged Shot | Ranged | 3 | 25 | 3 sec | 1 sec |
| **1.1.2** | Barrage Shot | Ranged | 2 | 15 | 2 sec | 0.5 sec |
| **1.2.0** | Piercing Shot | Area of Effect |  | 20 | 2 | 1.75 sec |
| **1.2.1** | Resonant Shot | Area of Effect |  | 30 | 3 | 1.75 |
| **1.2.2** | Scatter Shot | Area of Effect |  | 30 | 3 | 2.25 |
| **2.0.0** | Smoke Grenade | Area of Effect |  | 5 | 4 | 1 |
| **2.1.0** | Shrapnel Grenade | Area of Effect |  | 20 | 5 | 1.5 |
| **2.1.1** | Blast Grenade | Area of Effect |  | 50 | 6 | 2 |
| **2.2.0** | Shock Grenade | Area of Effect |  | 10 | 5 | 1.5 |
| **2.2.1** | Shock Field | Area of Effect over Time |  | 30 | 6 | 2 |
| **2.2.2** | Blast Grenade | Area of Effect |  | 50 | 6 | 2 |
| **3.0.0** | Bandage | Self |  | 0 | 20 | 1 |
| **3.1.0** | Extra Hefty Bandage | Self |  | 0 | 20 | 1 |
| **3.1.1** | Super Bandage | Self |  |  | 20 | 1 |
| **3.1.2** | Quick Bandage | Self |  |  | 20 | 0.25 |
| **4.0.0** | Weapon Bash | Melee |  | 20 | 6 | 1 |
| **4.1.0** | Heavy Weapon Bash | Melee |  | 25 | 8 | 1.5 |
| **4.1.1** | Body Slam | Melee |  | 35 | 10 | 2 |
| **4.2.0** | Knife Slash | Melee |  | 25 | 8 | 1 |
| **4.2.1** | LASERRR Knife Slash | Melee |  | 35 | 10 | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Index | Effects | Effects Amounts | Effects Durations | Description |
| **1.0.0** |  |  |  |  |
| **1.1.0** |  |  |  |  |
| **1.1.1** |  |  |  |  |
| **1.1.2** |  |  |  |  |
| **1.2.0** |  |  |  |  |
| **1.2.1** | Silence |  | 2 sec |  |
| **1.2.2** | Movement Slow | 30% | 0.5 sec |  |
| **2.0.0** | Movement Slow | 30% | 1.5 sec |  |
| **2.1.0** | Movement Slow | 50% | 1.5 sec |  |
| **2.1.1** | Stun |  | 1.5 sec |  |
| **2.2.0** | Movement Slow, Cast Time Slow | 50%, 20% | 1.5 sec |  |
| **2.2.1** | Silence, Movement Slow | N/A, 50% | 1.5 sec |  |
| **2.2.2** | Stun |  | 1.5 sec |  |
| **3.0.0** | Heal | 15% | 1 sec |  |
| **3.1.0** | Heal | 25% | 1 sec |  |
| **3.1.1** | Heal | 40% | 1.5 sec |  |
| **3.1.2** | Heal | 25% | 0.5 sec |  |
| **4.0.0** |  |  |  |  |
| **4.1.0** |  |  |  |  |
| **4.1.1** | Stun |  | 0.5 sec |  |
| **4.2.0** |  |  |  |  |
| **4.2.1** |  |  |  |  |

**The Following Classes will be designed and implemented if time allows during the development process.**

##### Class 3 - Tank (Stretch goal)

##### Class 4 - Mage (Stretch goal)

#### Enemies

##### AI

The enemies in Hydrus will all use the same utility-based AI. A manager will iterate through all enemy entities and decide the best action each iteration. Iterations will occur on a constant global timer.

The manager will perform an analysis for each enemy entity. This analysis will consider each available action and assign a value to the action. After all available actions have had a value assigned to them, the manager will randomly choose one of the two top actions.

Variables that will influence an actions value:

* Entity’s health
* Player character’s health
* Ability attributes
  + Damage
  + Range
  + Cooldown
  + Cast time
* Player character casts
* Current effects

##### Actions

The enemies will have access to multiple actions. The AI will decide which action to take at any given time. Actions possible by enemy entities are:

* Do nothing
* Move forward
* Move backward
* Turn left (Counter-clockwise)
* Turn right (Clockwise)
* Any ability that is not on cooldown

##### Biodome Enemies

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Enemy Name | Ability Name | Type | Range | Damage | Cooldown | Cast Time |
| Phammaxia | Devour | Melee |  | 10 | 2 | 2 |
| -- | Poison Sludge | Area of Effect over Time |  | 20 | 6 | 3 |
| -- | Assassinate | Melee |  | 50 | 15 | 5 |
| -- | Stun | Melee |  | 5 | 8 | 2 |
| Flower Spider | Poison Bite | Melee |  | 0 | 2 | 1 |
| -- | Webbing | Area of Effect over Time |  | 5 | 3 | 2 |
| Trilobite Beetle | Tackle | Melee |  | 10 | 2 | 0.5 |
| -- | Harden | Self |  |  | 4 | 1 |
| Alien Plant | Snare | Melee |  |  |  |  |
| -- | Bludgeon | Melee |  | 10 | 2 | 1 |
| Mind Control Insect | Haste | Range |  |  | 10 | 5 |
| -- | Mute | Range |  |  | 8 | 2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Enemy Name | Effects | Effects Amounts | Effects Durations (Seconds) | Description |
| Phammaxia |  |  |  |  |
| -- | Movement Slow | 60% | 5 |  |
| -- |  |  |  |  |
| -- | Stun |  | 4.75 |  |
| Flower Spider | Damage over Time | 10 | 5 |  |
| -- | Movement Slow | 35% | 5 |  |
| Trilobite Beetle |  |  |  |  |
| -- | Damage Reduction | 50% | 2 |  |
| Alien Plant |  |  |  |  |
| -- |  |  |  |  |
| Mind Control Insect | Haste | 30% | 4 |  |
| -- | Silence |  | 2 |  |

##### Mechanical Bay Enemies

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Enemy Name | Ability Name | Type | Range | Damage | Cooldown | Cast Time |
| Missionary of Steel | Guns! | Ranged | 3 | 15 | 4 | 1.5 |
| -- | Rockets! | Area of Effect |  | 35 | 10 | 4 |
| -- | Something with a Silence | Ranged | 2 | 5 | 6 | 3 |
| -- | Stab | Over Time |  | 40 | 2 | 5 |
| Gardening Bot | Prune | Melee |  | 10 | 4 | 2 |
| -- | Pesticide | Area of Effect over Time |  | 10 |  |  |
| Medical Bot | Drill | Over Time |  | 20 | 3 | 2 |
| -- | Inhibitor | Melee |  |  | 4 | 4 |
| Security Bot | Shoot | Ranged |  | 15 | 4 | 0.75 |
| -- | Arrest | Melee |  |  | 6 | 4 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Enemy Name | Effects | Effects Amounts | Effects Durations (Seconds) | Description |
| Missionary of Steel | Movement Slow | 75% | 1 |  |
| -- |  |  |  |  |
| -- | Silence |  | 4 |  |
| -- |  |  | 10 |  |
| Gardening Bot |  |  |  |  |
| -- |  |  |  |  |
| Medical Bot |  |  | 2 |  |
| -- | Cooldown Slow, Cast Time Slow | 30%, 30% | 4, 4 |  |
| Security Bot |  |  |  |  |
| -- | Root |  | 4 |  |

##### Final Boss

##### 

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Enemy Name | Ability Name | Type | Range | Damage | Cooldown | Cast Time |
| Sanctus | Singularity | Area of Effect over Time |  | 20 | 8 | 4 |
| -- | Void Slash | Area of Effect |  | 30 | 4 | 3 |
| -- | Regenerate | Self |  |  | 10 | 4 |
| -- | Pierce | Melee |  | 10 | 3 | 3 |
| -- | Chaos Barrage | Area of Effect |  | 40 | 5 | 5 |
| -- | ALL ENDS |  |  | 9999 | Special | 15 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Enemy Name | Effects | Effects Amounts | Effects Durations (Seconds) | Description |
| Sanctus | N/A, Movement Slow, Cooldown Slow, Cast Time Slow | N/A, 50%, 50%, 50% | 5, 5, 5, 5 | Single tile target, black hole that deals damage and slows harshly. |
| -- |  |  |  | Entity lashes out at all entities in front of it. Line AoE in front of the entity, extends four tiles. |
| -- | Heal | 40% | 4 | Entity regenerates damaged tissues. Long cast time heal, easily interrupted. |
| -- | Stun |  | 2 | Entity lashes out with a stabbing blow, stunning the target. |
| -- |  |  |  | Targets random tiles around the map. |
| -- |  |  |  | Entity ends everything. |

## 

## Visual Art

### Overview

Hydrus will be using assets generated from both Mudbox and Maya, allowing for high detailed uv mapping, while maintaining lower poly models. Animations and skeletons will be made in Maya, then imported into Unity. Models will have polycounts varying based on utility: Enemy models will hover within 10-30 thousand polygons, unless clustered. Environment models will fall within 300-800 polygons. Substance Painter and Designer will be used for Texturing of all models. Particle effects will be generated within Unity for abilities and enemy attacks.

### Environment

Hydrus will be split into two different environments, a Biodome and a mechanical bay. These two environments will have some similarities to maintain the general aesthetic, but vary enough to indicate the changes. Each environment will have around 11 floor pieces, and 9 wall and ceiling pieces.

The Biodome will be based heavily off of Greenhousing, while drawing influence from alien plant designs.

The mechanical bay will be highly industrial, through the use of piping, padding, and more angular shapes.

### Enemy Models

Much like the environments, enemies will be divided into the two environments. Biodome enemies will be more flora/fauna based with some insectoids. The mechanical bay enemies will be much more robotic. Each environment will have 3 distinct enemy models, and a boss for said environments. Outside of the two environments, there will be a final boss model that is a slight accumulation of the two other bosses. Listed are the desired assets:

##### Biodome:

* Mantid Boss (Phammaxia)
* Flower spider - Based on the flower mimic spider
* Trilobite Beetle
* Alien Plant - Based on Devil’s finger fungus
* Insect w/ cordyceps fungus

##### Mechanical Bay

* Domed robot (The Missionary of Steel)
* Gardening Robot - with scissors
* Medical bot - uncanny valley or plague doc
* Security bot - militaristic based

### 2d Art

2d art assets will be required for ability icons. As each class will have 4 abilities, and each ability can be morphed up to 3 times, there will be quite a few icons, though changed in each ability morph will be slight so as to not take up too much time. Status effects will also be designed and shown on the HUD.

### 

### References

Below will be where we draw reference for our art assets. An art bible will be created that further expands on these references and where we dive further into the styling of the game.

## 

## 

## User Interface

### Menus

All menus will be implemented with a minimal, sci-fi visual aesthetic.

Upon starting the game, the player will be met with a main menu. From this main menu, the player will have access to multiple control buttons.

Controls on the main menu will include:

* **Start Game** - This navigates to a class selection menu to allow the player to select one of the available classes.
* **Continue** - This continues the current playthrough of the game. If there is no saved playthrough, this option will be disabled.
* **Settings** - This navigates to a settings menu.
* **Quit** - This exits the game.

The class selection menu will display all available classes and each of their ability details. After selecting and confirming a class, the player will be sent into the main hub area and will begin the game.

The settings menu will include multiple tabs for different categories of settings. The tabs will include:

* **Graphics** - This tab will include controls that affect the game’s graphics. Some examples may include resolution, texture quality, ambient occlusion, anti-aliasing, etc.
* **Sound** - This tab will include controls that affect the volume of the game’s various sounds. Sounds will be separated into categories such as master, music, and FX.
* **Gameplay** - This tab will include controls that affect the game’s gameplay. This will include a maximum health handicap and general difficulty.
* **Controls** - This tab controls that affect key bindings.

### HUD

The game will include a heads-up display (HUD). The HUD will be minimal, showing only necessary information. Player information that will be displayed on the HUD include:

* Player health points
* Player abilities
* Player ability cooldowns
* Player ability cast progress
* Current number of cores
* Direction (Compass)

Enemy information will be limited to the enemy entity directly in front of the player. Enemy information that will be displayed on the HUD include:

* Enemy name
* Enemy health
* Enemy ability cast progress

0.3

??/??

15/100

N

0.3

Enemy Name

**2.5**

##### Map

The player will also have the ability to view an overlay map of the area that the player has explored so far. While viewing the map, the player will be unable to take other actions, so must decide carefully when to check their position. Each time an area is entered, the map will be blank except the room the player begins in. As the player explores the area, the map will be updated to reflect what the player has explored so far.

##### Minimap

A small minimap will be present in the corner of the player’s heads up display that displays the nearby area. Cells will be highlighted to indicated being targeted by player or enemy abilities, to allow the player better awareness of their surroundings. Entity positions will also be displayed in the minimap.

## 

## Sound Design

Due to the lack of a sound designer on the team, most sound in the game will be royalty-free samples collected from third-party resources.

### Music

Music will be created specifically for the game and/or gathered from free online resources. The resources the music will be gathered from is currently to be determined.

Background music will be included in:

* Title Screen
* Hub Area
* Biodome Area
* Biodome Boss Fight
* Mechanical Bay Area
* Mechanical Bay Boss Fight
* Final Boss Pre-Fight
* Final Boss Fight

### Sound Effects

#### In-Game Sound Effects

Sound effects for in-game actions will be required. Entity abilities, movement, item use, and entity ambience will all require sound effects.

In-game sound effects will be gathered from free online resources. The resources the in-game sound effects will be gathered from is currently to be determined.

#### Menu Sound Effects

Sound effects for menu interactions will be necessary. Interactions such as control clicks, control hovers, and menu transitions will be implemented.

Menu sound effects will be gathered from free online resources. The resources the menu sound effects will be gathered from is currently to be determined.