**Overall Vision**

The planet is being sucked dry by its last nation, Imperalis. Given the message to “save humanity”, the player embarks into a post-apocalyptic world to find the truth. To face the dangers that lie ahead, the player is equipped with a weapon that fires using energy collected from sunlight or geothermal vents.

**Target Audience**

Any aged 16-20; Accessible for all with options for more challenging play

**Platform**

PC (Keyboard & Mouse)

**Genre**

Action-adventure platformer

**Core Gameplay**

**Core Mechanics:** The player is to explore Imperalis by running and jumping. Obtaining certain items will allow them to double-jump, dash, and cling to walls. The player can gather energy from various sources to shoot bullets: damaging enemies, destroying debris, or even powering certain objects. The player can experience the lore by talking to NPCs, reading item descriptions, or simply just interacting with the world.

**Goals:** Initially, the player is given the goal of “saving humanity”. If the player has at least 50% Data, this will change to “save the world”. This gives the player a vague sense of purpose while allowing them to decide how they will achieve it. This results in three possible endings:

* **Save Humanity:** This ending requires the player to join the Emperor. The player will be sent into the Dreg Heap to capture the remaining Errats, fulfilling one of Project Exodus’ criterias: to leave no humans behind. With every Errat converted into Nadirs, the Emperor now has complete control over the remainder of mankind.
* **Return to the Past:** This ending requires the player to defect from the Emperor. After defeating the Emperor, the player can choose to shut down Voyager Prime and, with it, all of Imperalis and the Machina. This ceases the environmentally destructive Project Exodus and, if the Frozen Sanctuary was accessed, frees the Nadir. The planet can begin its steady recovery, with humanity being potentially freed. The future rests in their hands now.
* **End the Cycle:** This ending requires the player to defect from the Emperor and have 100% Data (collected throughout the game in secret locations). After the defeating the Emperor, the player can choose to blow up Voyager Prime, killing the rest of humanity. Without the influence of humanity, the planet is guaranteed to recover though very slowly.

**Challenges:** To achieve any of these endings, the player must defeat bosses. In order to get to the bosses, the player may have to explore an area, solve puzzles, and defeat minor enemies. Getting hit by enemies or hazards will reduce the player’s health, killing the player if their health reaches 0. This will result in the player returning to the last repair station they interacted with. (**needs change**)

**Components:**

* **Stats:**
  + **Health:** How much damage the player can take before dying.
  + **Energy:** Used to fire bullets.
  + **Data:** The percentage of the Ego series the player has harvested.
    - **Harvest Locations:**
      * **Dreg Heap:** Injection Point, Rotten Depths
      * **Sunset Garden:** Upper Disposal Area, Garden Heights
      * **Twilight Town:** Far Station, Dark Alley
      * **Midnight Bay:** 1
      * **Institute of Technology:** 1
      * **Grey Palace:** 1
* **Permanent Modifications:** Permanent upgrades. Which route they can be obtained on is labeled via the first letter of the route.
  + **Energy:**
    - **Solar Panel [S][R][E]:** Generates energy while the player is under **Beaming Light**. Obtained at the start of the game.
    - **Battery [S][R][E]:** Determines the player’s max energy capacity. Obtained at the start of the game.
      * **Extra Battery [R][E]:** Increases the player’s max energy capacity. There are three in total. Obtained after completing **Sunset Garden** and from **Twilight Town** or **Midnight Bay**.
    - **Geothermal Extractor [R][E]:** Generates energy while the player is above a **Heat Vent**. Obtained from **Sunset Garden.**
    - **Heartless Generator [R][E]:** Converts 1 health into 3 energy OR 5 energy into 1 health on use. Quick toggle for conversion change. Obtained from **Dreg Heap**.
  + **Mobility:**
    - **Booster Rocket [R][E]:** Allows the player to perform a horizontal dash. Dash is on a 3 second cooldown. Crafted from the first **Hyper Scrap**.
    - **Climbing Claws [R][E]:** Allows the player to cling to walls, resetting the player’s ability to jump (ex. jump > double > cling > jump > double). Crafted from the second **Hyper Scrap**.
    - **Booster Rocket MK2 [R][E]:** Allows the player to perform a second jump while midair (ex. jump > double or fall > double). Crafted from the third **Hyper Scrap**.
  + **Miscellaneous:**
    - **Special Plating [R][E]:** Increases the player’s max health. There are two in total. Obtained from **Sunset Garden** and on the return trip to the **IT**.
    - **Energy Cannon [S][R][E]:** Used to shoot. Obtained at the start of the game.
    - **Navigational Module [R][E]:** Shows the map of Imperalis and the player’s current location, with areas the player already visited being visible. Obtained from **Dreg Heap**.
* **Reactors:** Changes offensive capabilities. Only one can equipped at a time. The player can only swap reactors at repair stations. Which route they can be obtained on will be labeled via the first letter of the route.
  + **Basic Reactor [S][R][E]:** 1 (+1 per boss defeated) damage. 1 energy/shot. Starting item.
  + **Gentle Reactor [S]:** 0 damage. 1 energy/shot. Used to capture the Errat alive. Cannot be removed once equipped. Obtained from **Grey Palace**.
  + **Lost Reactor [R][E]:** 0 (+1 per 10% Data) damage. 2 energy/shot. Obtained from **Dreg Heap**.
  + **Unstable Reactor [S][R][E]:** 10 damage. 1 energy/shot. Any damage taken will result in death (**Heartless** **Generator’s** health-energy conversion does not count). Obtained at the start of the game**.**
* **Interactable Objects:** Background objects that the player can interact with
  + **Repair Station:** Fully restores health and energy. Sets new spawn point. Allows player to swap their reactors. Respawns all enemies on use.
  + **Connecter:** 
    - **Active:** Takes player to another area when interacted with. Usually located in the background.
    - **Passive:** Takes player to another area when passed through. Usually located at the edges of an area.
  + **Destructible Block:** Shoot to destroy. Reveals useful or secret things.
  + **Beaming Light:** Light from above. Standing in it builds up **Energy.**
  + **Heat Vent:** Be it from the bottom of the ocean or in the steaming depths of steel, this is a prime source of energy. Standing above one with **Geothermal** **Extractor** builds up **Energy**.
* **Obstacles:** 
  + **Enemies:**
    - **Patrol Machina:**
      * **Behavior:** Travels back and forth between two fixed points. Deals contact damage.
      * **Stats:** 4 hp, 1 dmg / 8 hp, 2 dmg
      * **Location(s):** Institute of Technology, Sunset Garden, Twilight Town, Midnight Bay, Grey Palace, Frozen Sanctuary
      * **Sprite:**        
    - **Pursuit Machina:**
      * **Behavior:** Travels back and forth between two fixed points. If player comes into view, it will chase the player. It will stop at walls and de-aggro if stopped for too long. Deals contact damage.
      * **Stats:** 3 hp, 2 dmg /
      * **Location(s):** Sunset Garden, Grey Palace
      * **Sprite:** 
    - **Aerial Machina:**
      * **Behavior:** Can be either stationary or moving in a fixed pattern in the air. Will shoot at the player, dealing 1 dmg. Deals contact damage.
      * **Stats:** 6 hp, 2 dmg /
      * **Location(s):** Twilight Town, Grey Palace
      * **Sprite:** 
    - **Aquatic Machina:**
      * **Behavior:** Travels between two fixed points in water. If player is in range, it surfaces. If the player is in range or is on top, it submerges. If the player is not on top of its body, it will shot 3 bullets (30 degrees from each other) at the player. Deals contact damage and its body is treated as a floor. When submerged, it is invulnerable.
      * **Stats:** 6 hp, 2 dmg
      * **Location(s):** Midnight Bay, Grey Palace
      * **Sprite:**
    - **Turret Machina:**
      * **Behavior:** Continuously fires in a fixed direction with fixed projectile speed and shot speed. Deals no contact damage.
      * **Stats:**
      * **Location(s):** Institute of Technology, Grey Palace
      * **Sprite:**
  + **Hazards:**
    - **Toxic Sludge:**
      * **Behavior:** Deals contact damage.
      * **Stats:** 3 dmg
      * **Location(s):** Dreg Heap
      * **Sprite:**  
    - **Molten Metal:**
      * **Behavior:** Deals contact damage.
      * **Stats:** 5 dmg
      * **Location(s):** Sunset Garden
      * **Sprite:** 
    - **Crusher:**
      * **Behavior:** Travels back and forth between two fixed points. Deals contact damage on the sides perpendicular to its movement.
      * **Stats:** 2 dmg
      * **Location(s):** Sunset Garden
      * **Sprite:** 
  + **Bosses:**
    - **Overseer Machina:**
      * **Behavior:** Consists of three segments: top and bottom are treated as walls while the center segment is capable of dealing and receiving damage. Only two segments are on the screen at a time. The fight will open with a random attack, besides Scorched Earth.
        + **Mobility:**

**Gear Shift:** Shifts the boss up or down every 15 seconds so that the center segment is at the top or bottom of the screen. After shifting, a random attack will be performed after 1.5 seconds (1 second in Phase 2).

* + - * + **Attacks:**

**Ramping Fire:** Fires 10 consecutive bullets, dealing 1 dmg each. Fire rate increases after each bullet fired.

**Exploding Shot:** Fires a large bullet towards the player, dealing 4. When it hits the player or the outer box, it will split into 8 bullets traveling away from the epicenter in a circular pattern, dealing 1 dmg each.

**Scorched Earth:** After a 2-second warning, molten metal comes up and covers the ground. 8 seconds later, it goes back under the ground.

* + - * + **Special:**

**Charge Beam:** Charges for 5 seconds then unleashes a beam that is the segment’s height and the screen length in size, dealing 8 dmg. After its first usage, Phase 2 will begin.

* + - * **Stats:** 50 hp, 2 dmg
      * **Location(s):** Sunset Garden
      * **Sprite:**   
    - **Containment Machina:**
      * **Behavior:** Will chase after the player and is capable of moving freely through the air. Moves faster when the player is too far away. Deals contact damage.
        + **Mobility:**

**Blink:** Teleports some distance in front of where the player is moving. If the player isn’t move, teleport above the player. If the player is dashing, don’t teleport.

* + - * + **Attacks:**

**Crash:** Stops for 1 second (left eye flashing) then moves quickly towards the player in a straight line. Stops after hitting the player or the outer box. Rests for 2 seconds (1 second in phase 2) after stopping. Contact damage is doubled during this attack.

**Explosion:** Releases three waves of bullets, spread out in a circular pattern and traveling away from its center. There is 0.5 seconds between each wave and each bullet deals 2 damage. After the third wave, rest for 2 seconds (1 second in phase 2).

* + - * + **Special:**

**Berserk:** Stops for 1 second (right eye flashing) then begins. Perform a pseudo-Crash, but stopping only after hitting the outer box to perform a 1-wave Explosion. Repeat the Crash-Explosion combo two more times. Rest for 3 seconds after. Will only be used when under 60 hp (phase 2 threshhold).

* + - * **Stats:** 180 hp, 5 dmg
      * **Location(s):** Twilight Town
      * **Sprite:** 
        + 
        + 
    - **Subnautical Machina:**
      * **Behavior:** While underwater, it gains defense. Deals contact damage.
        + **Mobility:**

**Dive/Surface:** Every 10 seconds, the boss will dive or resurface.

* + - * + **Attacks:**

**Spread Shot:** Fires 3 bullets in a cone spread. If above water, a fourth larger bullet will follow after.

**Torpedo:** Fires projectiles that home in onto the player which can be destroyed by the player’s bullets. If above water, 2 will be fired. If below, 4 will be fired.

* + - * + **Special:**

**Downpour:** Projectiles fall from the sky for 10 seconds.

* + - * **Stats:**
      * **Location(s):** Midnight Bay
      * **Sprite:**
    - **The Emperor:**
      * **Behavior:** Chains three attacks then rests for 2 seconds. While attacking, he gains defense. Deals contact damage.
        + **Mobility:**

**Dash:** Moves rapidly towards the player, continuing until reaching the edge of the screen.

While in Desperation Mode, 4 projectiles will orbit the boss during the duration of the dash.

* + - * + **Attacks:**

**Alternating Fire:** Fires 4 bullets in rapid succession towards the player. Rests for 0.5 seconds. Fires 5 bullets in a cone spread. Rests for 0.5 seconds then repeats 2 more times.

While in Desperation Mode, the rapids are reduced to 2 bullets and the spreads are reduced to 3, however the rest periods are reduced to 0.25 seconds and the number of iterations is increased to 7.

**Energy Cannon:** Fires a large bullet towards the player. Rests for 2 seconds. After hitting the player or the environment, 8 bullets in an omnidirectional spread will fly from off-screen towards the collision area. These bullets pass through the environment and will only disappear after reaching the collision area.

While in Desperation Mode, fires 2 additional large bullets in a cone spread. Each will spawn the 8 omnidirectional bullets on collision.

**Return Shot:** During the rest period of any attack, the boss fire a projectile towards the player, returning to the boss after traveling a fixed distance.

While in Desperation Mode, the number of projectiles thrown during rest periods is increased to 3 and are fired in a cone spread.

* + - * + **Special:**

**Desperation:** Screen-length vertical beams, starting from the boss, travel across the screen in both horizontal directions. The beams travel top-to-bottom and can be blocked by the environment. On use, the boss enters Desperation Mode. Can only be used once.

**Struggle:** While in Desperation Mode, screen-length vertical beams, starting from the left and right screen bounds, travel towards the boss. The beams behave like those in Desperation.

* + - * **Stats:**
      * **Location(s):** Grey Palace
      * **Sprite:**
  + **Other:**
    - **Errat:**
      * **Behavior:** Does not move or deal damage. Can be talked to but capturing it requires having the **Gentle Reactor** equipped.
      * **Location(s):** Dreg Heap
      * **Sprite:** 
    - **Conveyor Belt:**
      * **Behavior:** Moves the player in a certain direction.
      * **Location(s):** Sunset Garden
      * **Sprite:** 

--Ideas below--

* + **The Institute:**
    - **Return:**
      * **Electrical Line [H]:** Switches on/off after a fixed amount of time. While on, it deals contact damage and drains energy.
        + **DMG:** ?, **Drain:** ?

**Twilight Town:**

* + - **Anti-Ego Device[H]:** Can be disarmed after being shot 3 times. Deals contact damage then disappears.
      * **DMG:** ?
  + **Midnight Bay:**
    - **Sea Mine [H]:** Can be triggered by projectiles or other sea mines. Explodes on contact.
      * **DMG:** ?
  + **Grey Palace:**
    - **Sawblade [H]:** Either stationary or moving along a fixed path. Deals contact damage.
      * **DMG:** ?

**Controls:**

* [a-key] hold: move left
* [a-key] double-release: dash left
* [d-key] hold: move right
* [d-key] double-release: dash right
* [w-key] press: interact with NPC or background objects (ex. repair stations, connecters)
* [s-key] press: use **Heartless Generato**r
* [f-key] press: switch **Heartless Generator** conversion
* [space-bar] press: jump / double jump if already in the air
* [tab-key] press: bring up / close the menu
* [mouse] move: move cursor
* [mouse-left] press: shoot

**User Experience:**

* **Starting:** The player begins the game with the **Basic Reactor** and will be prompted to press the [tab] button. This opens the controls section of the main menu, allowing the player to become familiar with the controls. In the main menu, the text “Save humanity” will appear just below the buttons to access the inventory. The player is physically barred from exiting the starting area if they have not picked up the **Solar Panel**, **Battery**, and **Energy Cannon**.
* **UI:** In the top left of the screen, the player will be able to view their health and energy. IThe cursor is replaced by a red reticle which shows the direction of the player’s next shot. Pressing the [tab] button will bring up the main menu. From here, the player can access their inventory, the world map, and the controls.
* **Structure:** While the overall layout of the world is quite linear, the individual levels are structured with a main path and optional sections. These sections may be accessible by destroying a tile, solving a puzzle, or having the right mobility upgrades. Or they may just be hidden behind objects closer to camera, being accessed by simply moving through. The player moves from one area to another by walking through passive connectors or interacting with active connectors.
* **Map:**
  + 
    - **Yellow:** Endings
    - **Cyan:** The player can complete these areas in any order
  + 
    - **Blue:** Only accessible with all three mobility upgrades
    - **Red:** One way

**Visual Style**

2D, simplistic pixel art (similar to VVVVVV), post-apocalyptic techno world

**Characters and Story**

Characters [C], Events [E], Groups [G], Locations [L]

* **Imperalis [L]:** To most, it is the last remaining refuge for humans after the Great Destruction. But only the Doctor and Emperor know of its true purpose. It serves as a launch complex for Voyager Prime.
  + **Zenith [G]:** The top brass of Imperalis consisting of its two founders.
    - **The Emperor [C]:** A member of the Ego series. The Doctor gave it the directive to “save humanity”, making it unable to defect. Through its interpretation of this directive, the Emperor has been instilled with an unwavering desire to prevent the extinction of humanity. It is directly connected to Voyager Prime, allowing it to control the Azimuth and Machina. Because of this, however, it cannot leave the Grey Palace. It is Imperalis’ supreme leader, following the Doctor’s retirement.
    - **The Doctor [C]:** An avid researcher in the realm of robotics, artificial intelligence, and cognitive science. He created the Machina for the purpose of completing Project Exodus. Because the defection of most of the Ego series, he restricted the self-awareness of the following Machina lines. He dreamed of immortality through the transfer of human consciousness into a mechanical body. After years of research, he soon came to realize that there would be no one skilled enough to successfully complete the procedure on him within his lifetime. Near the end of his life, he put himself in cryostasis within the Frozen Sanctuary, awaiting the day his dream would come true.
  + **Azimuth [G]:** Humans who have the ability to contribute to Project Exodus. In order to maximize productivity and prevent them from becoming Errats, they have been chipped. When their skills are no longer needed, they are turned into Nadirs.
  + **Nadir [G]:** Humans under cryostasis in the Frozen Sanctuary. The Zenith consider them unnecessary in the current Imperalis. They consist of those who do not have the ability to contribute meaningfully to Project Exodus.
  + **Errat [G]:** Considered “errors” in the Zenith’s plan as they are capable of independent thought. They can be easily identified by the Machina since they aren’t chipped. The only organized group of Errats resides in the Dreg Heap. **Obey the Throne** requires their indoctrination.
  + **Machina [G]:** The machine residents of Imperalis, built by the Doctor and commanded by the Emperor. The Machina help facilitate the construction, maintenance, and security of Imperalis. The Machina serve as the enemies throughout the game.
    - **Ego (Series) [G]:** The first line of Machinas to be built. Having self-conscience, they were intended to help the Doctor following the Great Destruction, being candidates for joining the Zenith. Instead, all but two left to explore what’s left of the world. Through their exploration, they were able collect information on the Great Destruction and Project Exodus. Having exhausted their energy reserves, they burrowed themselves all over Imperalis. Harvesting their memory drives, the player will learn of the self-harming nature of humanity and will have access to a new ending.
      * **Ego [C]:** The player-controlled character. Being the last to awake in the Ego series, they’ve been chipped and given the directive to “save humanity”. While the Doctor intended this to lead the player towards assisting the Emperor’s in their shared goal, the player is free to choose how they play.
  + **The Institute of Technology (IT) [L]:** Imperalis’ center for research. It serves as the service structure for Voyager Prime and is the only way to get onto Voyager Prime from the rest of Imperalis. Though the Doctor is no longer around, the Azimuth and Machina still utilize this space.
  + **Voyager Prime [L]:** The largest space craft ever made. It serves as the vessel for humanity to survive in while they search for a new habitable planet. It has several nuclear reactors for stable energy generation in space, in addition to its vast supply of fossil fuels. It could be seen as the modern Noah’s Ark.
    - **Grey Palace [L]:** The portion of Voyager Prime jutting out from the ground. The Emperor commands the Machina and Azimuth from its peak.
    - **Frozen Sanctuary [L]:** What’s left of humanity is put in a cryostasis here. Wildlife required to restart civilization is also cryogenically stored here. Though locked by a high-security gate, with at least 70% Data, the player can bypass it.
  + **Sunset Garden:** The Machina are recycled here when they can no longer function adequately. It also serves a recycling plant for any other resource including metals, plastics, and water. Any substance that cannot be reused or recycled is dumped into the Dreg Heap.
  + **Twilight Town [L]:** The Azimuth and Machina can’t work indefinitely without maintenance. This place serves to repair and recharge the inhabitants of Imperalis though it is crawling with security Machina.
  + **Midnight Bay [L]:** A massive oil platform the size of a city. It roams the seas, searching for a reservoir of oil and extracting it for Imperalis. During the events of the game, the platform has moved close to Imperalis, allowing the player to access it.
  + **Dreg Heap [L]:** Existing beneath Imperalis, it serves as a haven for the Errat as the Machina (except those from the Ego series) cannot function in this frigid and dusty environment. The Errat living here must wear a special full-body suit to survive. Imperalis dumps its waste here, making the place full of danger and treasure.
* **The Great Destruction [E]:** A series of events, including a global war, which served to end the old world. From the ashes of the old world, Imperalis rose to shelter the survivors. The specifics of the Great Destruction are widely unknown.
* **Project Exodus [E]:** After the Great Destruction, the world was left ravaged and decrepit. The Doctor built the Ego series to help him find a solution. The Emperor believed that the planet could not be restored and that the best course of action would be for humanity to leave for a new home. The remains of mankind would be gathered through the founding of Imperalis, with those who can (Azimuth) working on the project and those who can’t (or won’t) frozen and stored within the vessel. This was to ensure maximum productivity-to-resource use. Only the Zenith know of this project in full detail.

Notes

Short bursts of speed is a feature found only in Machina tasked with the capture of rogue humans and Machina. A notable example of which resides in the Twilight Town. Being an inferior copy, it requires time to re-engage.

As tool for exploration, this device is of little use for the inhabitants of Imperalis. But the Construction Machina's ability to create it implies that it could still be useful, but perhaps not now…

As a more lightweight model, it is able to re-engage on contact with solid ground. Flight is a feature exclusive to Aerial Machina which this tries to imitate.

A staple for most Machina, it serves a means to an end. Unlike the weapons of yore, no ammunition is required to operate it. However, a reactor is needed to concentrate the energy gathered from external sources into something powerful. Fortunately, all Machina are powered by an internal reactor.

Records of the old world have disappeared after the Great Destruction. The place that one need know about is the great Imperalis, humanity's last safe haven. Commonly used to track the location of the Machina, they can also be used for navigation by the Azimuth. After being seeped in sludge, this device is no longer connected to the network.

Mass can be converted into energy and energy into mass. Once a difficult task now trivialized by this tiny device. It finds more usage in the Machina whose mass can easily be replaced at repair stations. However, this conversion is limited since some energy is loss when converted into mass.

The Machina were not created for the sake of violence as seen by the lack of individual strength. After the Ego defection, however, the Emperor constructed three combat-specialized Machina to prevent a potential uprising. None have occurred, yet…

An external energy storage extension. They are fitted into the nodes of a Battery though most are already fully stocked. It is rare to find spares laying around.

From the moment they are created to the time of their disassemby, a Machina's components do not change. Modifications are unnecessary when they are built to successfully carry out their task. Only those who'd go rogue would even consider altering their inital design.

The standard model for the Machina. It provides just enough power to get the job done. This particular reactor has been specially designed by the Doctor to grow more powerful when overcoming great obstacles. Perhaps this is a privilege granted only to the [REDACTED].

A specialized by designed by the Emperor specifically for the capture of the Errat. Most Machina cannot operate in the the Dreg Heap, as the fine dust and frigid temperatures of this wretched place compromises their delicate circuitry. The Emperor cannot leave its station. That leaves only ones from the [REDACTED] to complete this important task.

Beneath the great nation of Imperalis lies that which should be forgotten about. Though most of it is utterly useless, one could find treasure in this dreary place. This reactor is proof of that. Somehow, it feels familiar. Inscribed on its exterior: \"Knowledge is power\".

An experimental reactor that should not be used in any practical situation. The last project of an old man who came to terms with his mortality. Containing a great deal of volatile substances, the slightest touch could cause it to explode.