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***Space Lab Alien Observation/Escape***

Version 1.1

|  |  |
| --- | --- |
| Designer: | Nicholas Carter |
| Document Date: | 9/28/21 |
| Intended Level Delivery Date: | 10/5/21 |

**Document Revisions Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Description** | **Requestor** | **Date** |
| 1.0 | Initial Document | Obsidian World Builder Test | 9/29/21 |
| 1.1 | Final Additions & Alterations | Obsidian World Builder Test | 10/5/21 |

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\*Some items from Tables & Figures were omitted due to lack of time.

Level Design Document

# Level Information

## Quick Summary

***Space Lab Alien Observation/Escape*** is a original single player cooperative level intended for an ***Outer Worlds 2*** Side quest experience. Gameplay includes traversal elements (walking, jumping), and the ability to shoot (to replicate the experience of an Outer Worlds FPS experience.

**Backstory**A person wearing a garment

Description automatically generated with medium confidence

**Pre:**

A retired Scientist (as seen in the Outer Worlds series), *Lileen* had recently grown concerned and worried about her friend *Tallen*, a fellow human scientist who’d been working with a renounced mad Scientist named *Dolan Miers (he)*. It was said that he’d last been experimenting on a very dangerous project and Lileen decided to step down from the project as well as retire as a scientist for her safety. Lileen’s more naïve friend Tallen, however didn’t see the danger initially.*.*

**A picture containing text, book, map

Description automatically generated**

**Occurrence:**

A Mad *Scientist(s) named Dolan Miers was using humans test subjects and splicing their DNA with Mantisaur blood for research development advances in a larger experiment*. He had a team of individuals, as well as scientists named Tallen (quest enemy) and Lileen (NPC). They were originally his team assistants. Lileen stepped down eventually due to the immorality and that she had already lingering suspicions that the previous scientists on the project had been sedated and used for experimentation and DNA splicing by Dolan without consent. Due to the pressures from mad scientist Dolan, on Tallen, he gave in and agreed to receive DNA splicing and experimentation. Dolan Miers had made what he thought to be the “*perfect serum*” for homeostasis with Mantisaur and human blood (As most test subjects unfortunately **DON’T** survive operation/experimentation or suffer defects from mutations).

The cross contamination of Mantisaur DNA and the serum caused an unforeseeable scene of events at the observation lab, and the Mantisaur Human Hybrid (Tallen), arose, and killed the operating mad Scientist(s) Dolan. This encounter with the monster caused an explosion of nearby energy nodes in the lab, and chaos ensued. The Mantisaur Human Hybrid destroyed the lab, and even knocked over some pods that would eventually free more mutated versions of Mantisaur Human Hybrid Monsters. Tallen fled the lab in hopes to repopulate, and A person wearing a garment

Description automatically generated with medium confidencekill anything in its way as he terrorizes *Terra-2*. The enemy in the quest would be one of the Alien Creatures, Tallen that very closely resembles an evolved humanoid Mantisaur or a ***4-legged Predator.*** Perhaps Dolan did achieve homeostasis with this serum, his work lives out in the world.

**Quest Objectives:**

Lileen ultimately sends the player to the lab location as she hadn’t heard from Tallen in days/weeks, and grew worried. I’d imagine once arriving at the location Lileen suggested, and investigating the scene, the player will be tasked to find and kill the evolving Mantisaur male clone to satisfy the mission conditions.

Perhaps it’s a fetch/kill quest*:*

1. The player can be tasked with also returning an identifiable item (maybe a locket) of the deceased Scientist, Tallen to Lileen (NPC) that initiated the quest to explain the passing of her former scientist partner.
2. Or **b)** the player can return and inform Lileen that Dolan Miers is dead, the lab is wrecked, and embark on a side quest where if the player comes across the Mantisaur Human Hybrids, they can kill them. They’ll be tasked with killing 4 total that roam certain areas of Terra-2, and perhaps they scale in difficulty after killing each one.
3. Or, perhaps the player can arrive at the lab and fight 3 already existing Mantisaur monsters that were knocked out of there pods, and fight Tallen, later in the next side quest series on a Hunt for the Mantisaur Human Hyrbid Clone.

## Level Map(s)

### Science Lab Top-Down Overview - add & replace images later

A picture containing text

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**1**

**8**

*Beautiful Corner – Inaccessible area*

**5**A person wearing a garment

Description automatically generated with medium confidence

**6**

**7**

**4**

**3**

**2**

\**With more time, I would have liked to develop more versions of this map, especially a finalized digital one.*

Figure 1: Lab Top-Down Overview

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Map Label | Event Description | Detail Information | Approx. Difficulty (1-10) | Approx. Time | Wow? |
| 1 | **Player Start** | Player will begin the level at end of a smaller hallway corner (in front of the entrance door). Player can see a window before them and will be enticed to approach it. Player will then realize instantly that they are in a Science Research Lab of some sorts.  *Occurrence:* The player immediately notices the lights are red and that an emergency occurred, or some form of Lockdown. | 0 | 0:00 | Y |
| 2 | **Science Lab Hallway** | After approaching the window that the player can view, they will then make a left turn and see a more brightly lit room behind a wall just before them that they can also view through a mirror and enter eventually. From the view, the player can observe that an observation on a test subject is in the works. What could they be working on?  *Occurrence:* The player will notice lights are out and emergency lights are on, some pipes are on the ground as well from sort of damage. |  |  | N |
| 3 | **Observation Split Hallway** | After seeing the research room from the hall, the player can approach the entrance of the room, or they can choose to proceed forward to what appears to be a more dimly lit hallway that goes into another room.  What could be in there? (Perhaps leave traces of sampling here)  *Occurrence:* The cargo and data kept in the barrels in the hall have been destroyed, something/one certainly went on a rampage inside of this facility. | 0 |  | Y |
| 4 | **Observation Research Room** | Once the player arrive in this location (the most compelling), they’ll be able to search the room for history details to further understand what the place is or get any further details on the story of the environment. Props like: Observation table, desk, tools, tables etc. will be available and hi-tech props to sell the idea this space is a Sci-Fi Lab. From this room, the player can make the choice to enter one two more rooms, and eventually a third room.  *Occurrence:* This room is where the Tallen and several other scientist(s) or subjects have been experimented on by Dolan Miers. There’s an AI Hologram that talks to the player that can maybe inform them of what occurred through some sarcastic tone. |  |  | Y |
| 5 | **Cold Hallway (Clone Pods)** | Room where human clone test subjects/samples are held in a cloning pod for preservation and research data for later experimentation.  *Occurrence:* After the Mantisaur Hybrid went rampant, he destroy the cold hallway and even displaced some of the pods from there stations, thus allowing them to get free after his departure from the label (set up for more narrative within the quest(s)). |  |  | Y |
| 6 | **Research Lab Entry** | This room is where data samples are taken and recorded. And scientific tests are ran for data entry for the scientist  *Occurrence:* Players will enter here through the wires in the hallway and stumble across the door of a dead end. This room was previously locked, but the Beast opened it with force. |  |  | Y |
| 7 | **Research Lab** | This room is where data samples are taken and recorded. And scientific tests are ran for data entry for the scientist  *Occurrence:* The Monster stormed the lab, tossed around several objects and even knocked down the closed door that precedes the *Cold Hallway* | 0 | 0:00 | N |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Map Label | Event Description | Detail Information | Approx. Difficulty (1-10) | Approx. Time | Wow? |
| 8 | **Back Hallway** | It’s not depicted on the Map, but the player can access the back hallway of the Research Lab by simply making a left at the beginning of the game. It’ll send them up a stairwell into the Research Lab  *Occurrence:* After the Mantisaur-Man ran wild in the lab, he escaped out of the back window. The player will notice one wall mesh is missing for that purpose. The entry way to the Lab will be blocked off but can be accessed via the Observation Room. | 0 | 0:00 | N |

### Science Lab (Full No Legend)

A picture containing text

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Back hallway

Window

*Beautiful Corner – Inaccessible area*

Window

Corridor

Corridor

Corridor

Cold Room

Research Lab

Observation Room

## Objective(s)

* Players will traverse through a Science Lab (of two variations), and will be able to view the space and investigate the occurrence of an event.A picture containing outdoor, ground

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  + Players can traverse the lab through hallways and various corridors/rooms
* Actual Gameplay Objectives
  + *Outer Worlds side quest* style level, intended designed for
    - *As a designer* I wanted to create an environment that has a consistent, and engaging story of an occurrence of an event in an already established space.

## Intended Gameplay Highlights

* **Single player cooperative FPS gameplay**
* Intended Playable Characters: RPG Created human from Outer Worlds series
  + *A*
* Intended to be a *Side Quest* within the Outer Worlds series lore.
* Inaccessible areas will be blocked off Static mesh models provided in the assets, no BSP (unless it’s a blocking volume).
* **Rooms:** traversal elements
  + **Corridor/Halls:**This geometry will be used to traverse between rooms in the Lab
  + **Observation (Room #1):**Main area of interest (largest room)
  + **Research Lab (Room #2):**Second largest room that tells some test subject lore. (has desk, cabinets, clip boards, items to collect samples and data
  + **Cold Hallway (Room #3):**Smallest room in the Lab. Should have fog and imply chilly-ness

Design Intentions

Cold Room Fog

* Observation Lab will be elevated and have stairs
* Surrounding rooms will wrap around the Observation Lab and curve back to it.
* Cooling Room has chilling lingering fog that creates creepy, suspicious moment (Blocking Volume) – **didn’t get to add because Exponential Height Fog is movable**
* Cover will be created from a mixture of already previously arranged props and destruction from the occurrence.
* Crates of various scales will be used for cover, and will be sprinkled through the halls + Research lab
* Vents will be on the floor in altered version
* Hall Windows ??

## Development Schedule

|  |  |
| --- | --- |
| Milestone | Date |
| LDD | * 9/29/-9/30 |
| Modular Blockout | * 9/30-10/1 |
| Placeholder Asset Placement | * 10/1-10/2 |
| Lighting Pass 1  Aesthetic Pass 1 | * 10/2-10/3 |
| Occurrence Aesthetics Pass 2  Lighting Pass 2  Refinement | * 10/3-10/4 * 10/3-10/4 * 10/4-10/5 |
| RTM | * 10/5/21 |

***Milestone Definitions:***

**LDD:** Document done with all level details and map materials needed to begin level production.

**Modular Blockout**: Static meshes only using modular kit. No BSP.

**Placeholder Asset Placement:** placement of props and environmental cultivation of space shall take place.

**Lighting & Aesthetic Pass1:** All spaces need to be naturally lit by something, somewhere. In the duplicate version, various lights will be off, and emergency lights will be on instead.

**Occurrence Aesthetics Pass2:** Knock props over, add in debris, and alter lighting/mood for lab space.

**Aesthetic Refinement:** Tighten up any loose ends on meshes that don’t align with story and overall visual quality of the level.

**RTM:** Take screenshots, package necessary documents and send work to Design Team before EOD (6pm).

## Key Theme References

### Science Lab Visual Reference 1

A picture containing indoor, building, empty

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### 

### Lab Visual Reference 2

A picture containing text, indoor

Description automatically generated

### Science Lab Visual Reference 3

## A picture containing indoor, floor, kitchen Description automatically generated

A person lying on a bed

Description automatically generated with low confidence

Figure 6: Contact Sheet for Science Lab (inspired by The Predator 2018 film)

## Science Lab Alien Observation/Escape Technical Requirements

|  |  |  |
| --- | --- | --- |
| Description | Type | Priority |
| Modular Blockout | Design | High |
| Placeholder Asset Placement | Design | High |
| Lighting & Aesthetic Pass | Design | High |
| Occurrence Aesthetics Pass | Level Art | High |
| SFX Editing & Alteration?? | Design/Level Art | Low |
| ~~Rotating Clone Pod Mesh (can’t do because is a movable mesh)~~ | Scripting/Design | Medium |
| ~~Box Trigger for Fog~~ | Scripting/Design | High |

## Assets

Combined assets from the *Modular Sci-fi Pack 1, 2 & Abandoned Apartment* Asset packs*.*

[Modular Sci-fi Season 2 Starter Bundle in Environments - UE Marketplace (unrealengine.com)](https://www.unrealengine.com/marketplace/en-US/product/modular-scifi-season-2-starter-bundle)

Create beautiful sci-fi environments for your project with your own personal touch. Customize up to 4 individually masked areas per mesh, and tweak PBR and color values to your liking.

**What Is Included**

* Modular Sci-fi: Engineer Hallways
* Modular Sci-fi: Engineer Props
* Modular Sci-fi: Engineer Interiors
* Exclusive example environment demonstrating how to utilize all packs cohesively.
* Example maps from each individual pack

Technical Details

Texture Size: Textures range from 64x64 to 4096x4096

Collision: Custom Collision

Tri Count: Assets range from 2 to 23,478 Tris.

Number of Meshes: 194

Number of Materials and Material Instances: 29 Materials, 265 Material Instances

Number of Textures: 407

Number of Blueprints: 4

Supported Development Platforms: Windows

Supported Target Build Platforms: Windows

[Modular Sci-fi Season 1 Starter Bundle in Environments - UE Marketplace (unrealengine.com)](https://www.unrealengine.com/marketplace/en-US/product/modular-scifi-season-1-starter-bundle?sessionInvalidated=true)

**Create beautiful sci-fi environments for your project with your own personal touch. Customize up to 4 individually masked areas per mesh, and tweak PBR and color values to your liking.**

**What Is Included:**

* Modular Sci-fi: Hallways
* Modular Sci-fi: Interiors
* Modular Sci-fi: Props I
* Modular Sci-fi: Materials & Decals
* Modular Sci-fi: Command Center
* Nature Materials: Ice
* All expansion updates from Hallways & Interiors
* Exclusive example environment set in an arctic climate demonstrating how to utilize all packs cohesively.
* Example maps from each individual pack

Some UE4 example content used for demonstration purposes. Content is not reflected in technical details.

### Technical Details

Texture Size (please list textures for each resolution): Textures range from 64x64 to 4096x4096

Collision: Custom Collision

Tri Count: Assets range from 8 - 36,156 Tris.

Number of Meshes: 283

Number of Materials and Material Instances: 44 Materials, 559 Material Instances

Number of Textures: 767

Supported Development Platforms: Windows

[Megascans Abandoned Apartment in Megascans - UE Marketplace (unrealengine.com)](https://www.unrealengine.com/marketplace/en-US/product/c26355353df843289701d632508d4fb0)

### Technical Details

Features:

* RTX
* Megascans
* Foliage
* Props
* Architecture
* PBR

Number of Unique Meshes: 205 Static Meshes

Collision: Yes, automatically generated.

Vertex Count: 8,248,168

LODs: Yes, auto LODs for merged meshes

Number of Materials and Material Instances:

Number of Textures: 512

Texture Resolutions: 1k/2k/4k

Supported Development Platforms:

Windows: Yes

Mac: No

*\*Various assets (mostly models) from these packs were used as well*

* <https://www.unrealengine.com/marketplace/en-US/product/city-park-environment-collection-lite>
* <https://www.unrealengine.com/marketplace/en-US/product/c26355353df843289701d632508d4fb0>

**Assets Intended Use:**

* **Modular Sci-fi Pack 1 –** Will be used for modular level blockouts and construction primarily. ***(Task #1)***
* **Modular Sci-fi Pack 2 –** Will be for props, additional textures, and environment development after occurrence. ***(Task #1 &2)***
* **Abandoned Apartment –** Will be used for props and textures to help tell narrative storytelling within the space. ***(Task #2)***
* **City Park** - Will be used for props and textures to help tell narrative storytelling within the space. ***(Task #2)***
* **Downtown** - Will be used for props and textures to help tell narrative storytelling within the space. ***(Task #2)***

# Potential Problems with Design

## Technical Issues:

* Due to the test limitations, I unfortunately could not implement the intended slowly rotating Cloning Pod. It is a movable mesh and requirements state that level must be constructed entirely of Static Mesh Actors
* Due to the test limitations, I unfortunately could not implement the intended exponential height fog that would appear when a player breached a box trigger. It is a movable mesh and requirements state that level must be constructed entirely of Static Mesh Actors
* Potential Texture Stream overload

## Wishlist

* Include information from *Task #3* to fill in this section
* Blood Decals
* Operation Table
* Functional Doors that can open and close when entered.
* Adde rotation on Cloning pod
* Added Height Fog in the Hallway to create sensation of cold temperatures

## Digital Sources

**Digital Maps Created Using***: Inkscape (not enough time)*

## Background Music: N/A

# References

* <https://www.unrealengine.com/marketplace/en-US/product/city-park-environment-collection-lite>
* <https://www.unrealengine.com/marketplace/en-US/product/c26355353df843289701d632508d4fb0>
* <https://www.unrealengine.com/marketplace/en-US/product/modular-scifi-season-1-starter-bundle>
* <https://www.unrealengine.com/marketplace/en-US/product/modular-scifi-season-2-starter-bundle>
* <https://www.google.com/search?q=mantisaur+outer+worlds&rlz=1C1CHBF_enUS810US810&sxsrf=AOaemvKiEzW1vu1WgJdQ8NFVAze-rW-gSQ:1633038903304&source=lnms&tbm=isch&sa=X&ved=2ahUKEwjU0vD916fzAhWHFVkFHWwIAOkQ_AUoAXoECAEQAw&biw=1536&bih=704&dpr=1.25#imgrc=-O4xD5X-oBX9CM>
* <https://www.google.com/search?q=mantisaur+outer+worlds&rlz=1C1CHBF_enUS810US810&sxsrf=AOaemvKiEzW1vu1WgJdQ8NFVAze-rW-gSQ:1633038903304&source=lnms&tbm=isch&sa=X&ved=2ahUKEwjU0vD916fzAhWHFVkFHWwIAOkQ_AUoAXoECAEQAw&biw=1536&bih=704&dpr=1.25#imgrc=8GFKVkU0rp9QnM>
* <https://www.google.com/search?q=cryogenic+room+fog+lab&tbm=isch&ved=2ahUKEwjXxd-o-KfzAhV2A50JHXUgCc0Q2-cCegQIABAA&oq=cryogenic+room+fog+lab&gs_lcp=CgNpbWcQAzoHCCMQ7wMQJzoECAAQQzoKCAAQsQMQgwEQQzoHCAAQsQMQQzoFCAAQgAQ6BggAEAoQGDoECAAQHlDvTVjOeWDYemgCcAB4AIABlQGIAa8TkgEFMTAuMTSYAQCgAQGqAQtnd3Mtd2l6LWltZ8ABAQ&sclient=img&ei=H1RWYZe6B_aG9PwP9cCk6Aw&bih=704&biw=1536&rlz=1C1CHBF_enUS810US810#imgrc=Btf2oH1fyBNEOM>