

LDD The Labyrinth

Table of Contents

| Table of Contents | 1 |
|------------------------------|----|
| Purpose | 4 |
| Uses and Application | 4 |
| Layouts/ Room Types | 5 |
| Metrics | 7 |
| Puzzle Mechanics | 8 |
| Airlock | 8 |
| Single Button Door | 9 |
| Elevator Puzzle (Horizontal) | 10 |
| Elevator Puzzle (Vertical) | 11 |
| Gate Trap | 12 |
| Two-Button Door | 12 |
| Detection Zone Door | 14 |
| Puzzle Set / Reset | 15 |
| Held Button | 16 |
| Pressure Switch | 16 |
| Laser Forms A Path | 17 |
| Laser Door | 18 |
| Gravity Swap | 19 |
| Delayed Switch | 19 |
| Timed Switch | 20 |
| Multi-Input Switch Door | 20 |
| Blocked Path | 21 |
| Jumping Puzzle | 22 |
| Gravity Swapping | 23 |
| Labyrinth Entrance Beats | 27 |
| Exterior | 27 |
| E0 Labyrinth Exterior | 27 |
| E1 Labyrinth Gate | 28 |
| E2 Entrance Maze | 29 |
| Interior | 30 |
| E3 Main Entrance | 30 |
| E4 Elevation Shaft | 32 |
| E4 Upper Chamber | 34 |
| E4 White Room | 35 |
| E4 Elevator Puzzle | 36 |
| E4 Hallways | 37 |

| E4 Vertical Passage | 37 |
|---|----|
| E4 Elevator Puzzle (Horizontal) | 40 |
| E4 Maze | 41 |
| E4 Shattered Room | 42 |
| E4 Black Hole Room | 44 |
| E4 Four Doors | 45 |
| E4 Platforming Puzzle | 46 |
| E4 Tube-maze Puzzle & Horizontal Zero-G Shaft | 48 |
| E4 Others | 49 |
| E4 Final Passage | 50 |
| E4 Treasure Room | 51 |
| Labyrinth Interior 1 - Breakdown /Beat Chart | 53 |
| Floor 1 (G1) | 53 |
| G1 Passages | 53 |
| Floor 2 (G2) | 54 |
| G2 Passages | 54 |
| Floor 3 (G3) | 54 |
| G3 Passages | 54 |
| Floor 4 (G4) | 55 |
| G4 Passage | 55 |
| G4 Black Room | 56 |
| Floor 5 (G5) | 58 |
| G5 Light Maze | 58 |
| Floor 6 | 59 |
| G6 Passages | 59 |
| G6 Passages - L1 | 61 |
| G6 Passages - L2 | 63 |
| G6 Passages - R1 | 65 |
| G6 Passages - R2 | 66 |
| G6 Passages - R3 | 67 |
| G6 Sword Lobby | 69 |
| G6 Sword Room | 70 |
| Labyrinth Interior 2 - Breakdown / Beat Chart | 71 |
| Entrance (F0) | 72 |
| F0 Lobby | 72 |
| Floor 1 (F1) | 73 |
| F1 U-Passage | 74 |
| F1 Puzzle Room | 76 |
| F1 Vertical Passage | 78 |
| F1 Airlock | 79 |

| Floor 2 (F2) | 81 |
|-------------------------|----|
| F2 L-Passages | 81 |
| F2 Gravity Shaft | 82 |
| F2 Ramp | 82 |
| Floor 3 (F3) | 83 |
| F3 Tunnels | 83 |
| F3 Switch Room | 84 |
| Floor 4 (F4) | 85 |
| F4 Red Hall | 85 |
| F4 Reverse Gravity Room | 86 |
| F4 Teleporter Room | 86 |
| Floor 5 (F5) | 87 |
| F5 Field Maze 1 | 87 |
| F5 Field Maze 2 | 88 |
| Floor 6 (F6) | 90 |
| F6 Dark Passage | 90 |
| F6 Light Passage | 92 |
| References | 93 |
| Challenges / Problems | 98 |
| Glossary | 99 |

Purpose

A challenge task for players, the Labyrinth will test minds and players knowledge of the game mechanics of Dual Universe.

Composed of various arrangements of voxel rooms, the Labyrinth is designed to disorient players through use of light, shadow, misdirection and puzzle elements. Reaching the end successfully will provide the player with ample reward.

This is to be used as a standalone element linked with other Treasure Hunt events. As a whole, the labyrinth is Intended to take approximately 45 minutes to complete.

Uses and Application

As an exercise this structure is extremely valuable: A prototype for the various ways game mechanics and content can be leveraged to create compelling gameplay for the community.

Through logic gates, elements, programming boards, movement, physics and building mechanics there is a great amount we can achieve: confusing passages, interesting applications of lighting and shadows, changing gravity to disorient players, create switch puzzles, platforming sections and much more.

Layouts/ Room Types

There are numerous room configurations that can be used in the labyrinth. Many are based on existing preconfigured voxel room shapes to reduce development time. However, some rooms have their own unique presence to facilitate set pieces and points of interest.

These set pieces are not listed here, and instead will be detailed in the Beats section of this document.

| Layout / Room Type | Description | Image |
|--------------------|---------------------------------------|-------|
| Horizontal Passage | A passage going back/forward | |
| Vertical Passage | A passage going up/down | |
| U Passage | A passage comprised of two L passages | |

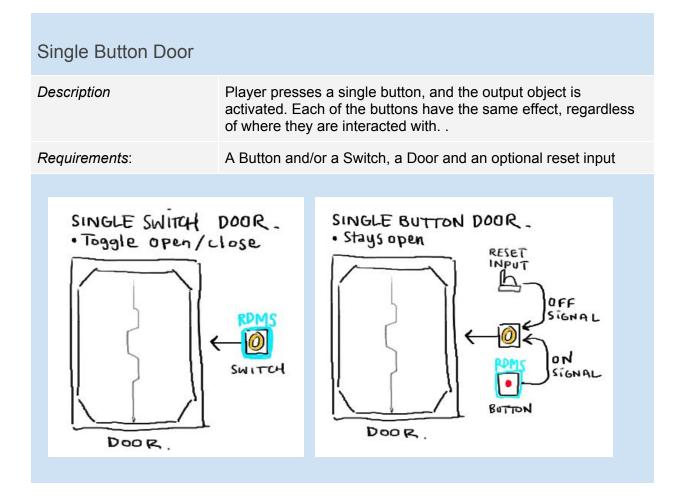
| L Passage | A junction where two passages meet | |
|--------------|---|--|
| T Passage | A junction connecting 3 passages | |
| X Passage | A junction connecting 4 passages | |
| Lobby | A main entrance area | |
| 3 Entry Ramp | Entrance from 3 possible directions. Two on one side (top/bottom) and one on the other (top) | PATH PATH PATH PATH PATH PATH PATH |
| Puzzle Room | A large room with 3 cylinders in the center, with a 3-button puzzle the player must solve. | |
| Room | 32x32 Room. These can have 1, 2, 3 or 4 doors as required. | |
| | | |

Metrics

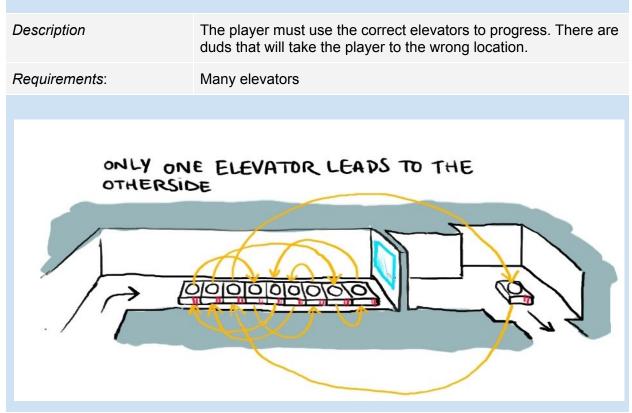
| Metric | Size | Metric | Size |
|----------------------------------|----------------|--|----------------------|
| Opening (small, vertical) | 2x2 (voxels) | Opening (Small,Round, Voxel) | 13x13 (voxels) |
| Opening (small, horizontal) | 4x8 (voxels) | Door (Hatch, Square, Element) | 6x6 (voxels) |
| Opening (standard) | 8x15 (voxels) | Door (Hatch, Square, Element) | 6x6 (voxels) |
| Door (standard, element) | 11x12 (voxels) | | |
| Opening (large, reward room) | 24x38 (voxels) | Hallway | 12x15 |
| Opening (huge, exterior) | 28x56 (voxels) | Jump Height (w/ basic jetpack height) | 11 vertical (voxels) |
| Opening (Huge, Round, Portal) | 40x40 (voxels) | Gravity Swap Distance | 10 meters |

Puzzle Mechanics

| Airlock | |
|---|--|
| Description | Multiple inputs (buttons) interact with the same complex device. |
| | State 1: Outer doors open, inner doors sealed. State 2: Inner doors open, outer doors sealed. |
| Requirements: | Programming Board / lua, Multiple types of Logic Gates (OR, AND), lights, Screen Units, Delays,more visual feedback fx like alarm lights |
| THERE MUST BE A SPECIAL SEQUENCE ON EACH SIDE, SO WE CAN ALWAYS SEE THE SECOND DOR OPEN, AND THE STATE OF EVERY DOD MUST BE SET ON EVERY BUTTON PUSH. THIS IS A TRICKY CONTRAPTION YET QUITE IMPRESSING TO THE PLAYER UNTE IMPRESSING TO THE PLAYER | R JUJ ON OF Delay |



Elevator Puzzle (Horizontal)



Elevator Puzzle (Vertical)

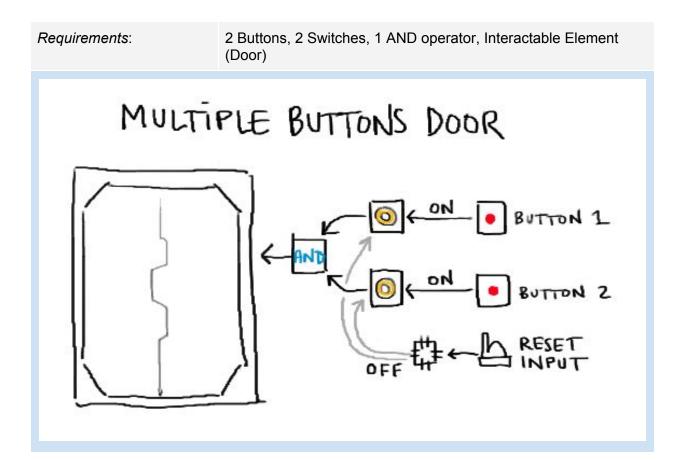
| Description | The player must use the correct elevators to progress. The rest are duds that will take the player to the wrong location. |
|---------------|---|
| Requirements: | Many elevators |
| | ALL OTHER INKS ARE MESSED: UP. |

Gate Trap

| Description | A mechanism to redirect the player with cruel trickery |
|---------------|--|
| Requirements: | A Button and/or a Switch, a Door and an optional reset input |



| Two-Button Door | |
|-----------------|---|
| Description | If player has activated both Switches, the door opens. Otherwise, it remains closed. This is utilized to ensure both sides of the labyrinth are completed before allowing the player to go beyond that door/ forcefield |



Detection Zone Door

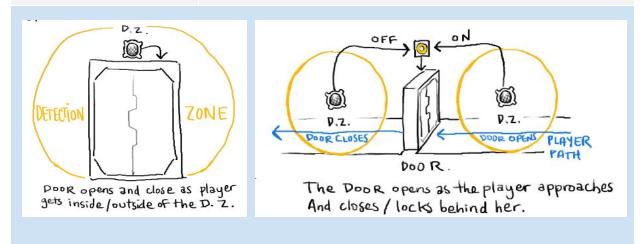
Detection Zone senses when a player is nearby, and either opens or closes a door or activates an element.

Using a NOT gate will make the element behave in the reverse of its usual function. A door, closed by default, would instead be open by default when connected to a NOT.

Requirements:

Description

1 Detection Zone, 1 Interactable Element, 1 NOT operator(for force fields)



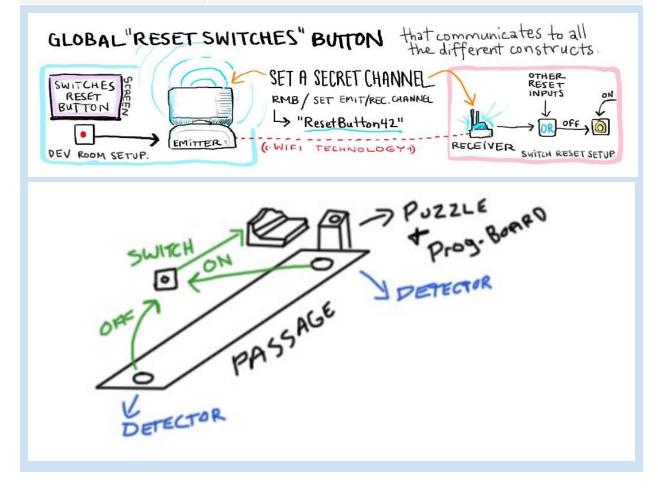
Puzzle Set / Reset Description Detector determine Description Detector determine Programming Bo Programming Bo

Detector determines when player is nearby and sends a signal to the Switches ON state. This will then activate a connected Programming Board.

Optionally, the designer can place a detection zone at both an exit and entry point to force a full reset of a puzzle every time players enter and leave the region.

Requirements:

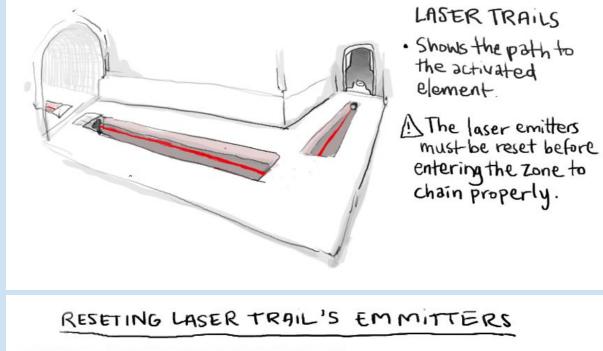
Programming Board, Detection Zone (1 or 2), Switch

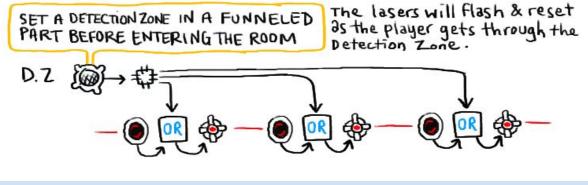


| Pressure Switch | |
|-----------------|---|
| Description | A Pressure Plate detects player presence and sends a signal to the connected Element. |
| Requirements: | Pressure Plate, Interactable Element |
| Schematic | |

Laser Forms A Path

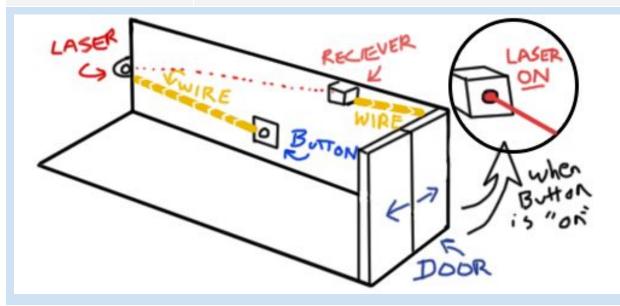
| Description | Using lasers, we guide the players attention to specific places and give visual feedback. It has no functional purpose beyond acting as visual feedback. |
|---------------|--|
| Requirements: | A Laser Emitter connected by wire to an Interactable Element |





Laser Door

| Description | Using lasers, a laser receiver is hit. This triggers an interactable element to activate. |
|---------------|---|
| Requirements: | A Laser Emitter connected by wire to an Interactable Element, and a Laser Reciever connected by wire to another Interactable Element. |



| Gravity Swap | |
|---------------|--|
| Description | Some rooms contain entirely different gravity wells, which plays with player perception and creates innovative solutions. This can involve completely different directions becoming "up" or "down", or traversing through an area with no gravity at all. |
| Requirements: | A separate core, with a gravity aligned to a different side than the parent construct. |
| | See Gravity Swapping chapter |

| Delayed Switch | |
|-------------------|--|
| Description | The player has a limited time to complete whatever is expected in the area. This is not necessarily part of a puzzle, but could be something like reaching a door in 10 seconds. |
| | When the timer has elapsed the delay will send the signal to the Element. |
| Requirements: | Button, Delay Gate, Interactable Element |
| BUTTON CIRCUIT | Delay ELEMENT (S) D - D |

Timed Switch

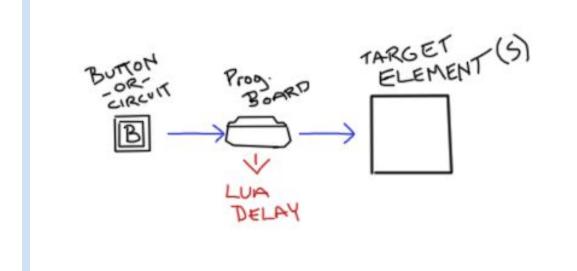
Description

The player has a limited time to complete a given puzzle/area. Failure resets the puzzle. This requires a programming board.

This could be something as simple as solving a puzzle and reaching a target within 10 minutes. Complexity depends entirely on the custom LUA used.

Requirements:

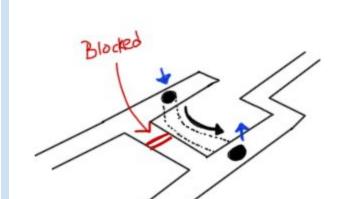
Programming Board, Button, Interactable Element

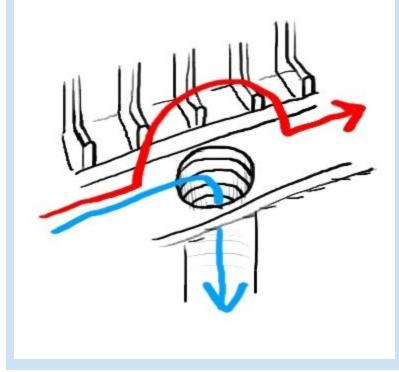


Multi-Input Switch Door

| Description | A multiple-button puzzle, requiring the player to press the correct sequence of buttons to complete it. |
|---------------|---|
| Requirements: | Programming Board, Several Buttons, OR operators, AND operators, Interactive Elements (Doors, Forcefields, etc) |
| Schematic | |

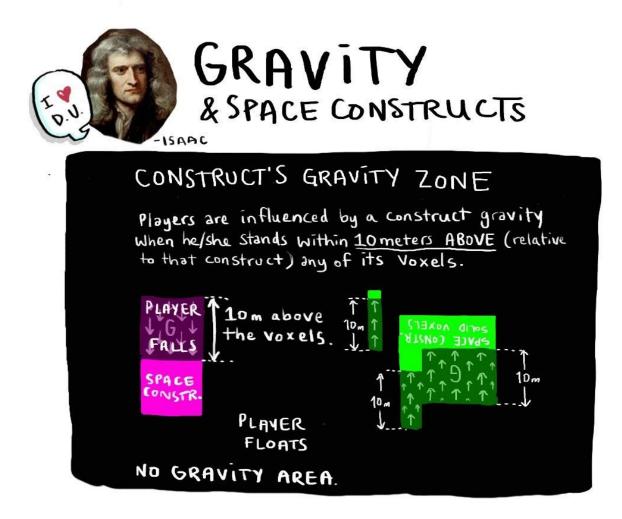
Blocked Path Description Prevents the players progress by blocking access, either with voxels or an element. The player can see the opposite side, but cannot get there without discovering the golden path. Requirements: Varies, based on how the player is blocked.





| Jumping/Platforming Puzzle | |
|----------------------------|---|
| Description | The player is required to use jumping or jetpack to progress through the section. |
| Requirements: | The jump button |

Gravity Swapping





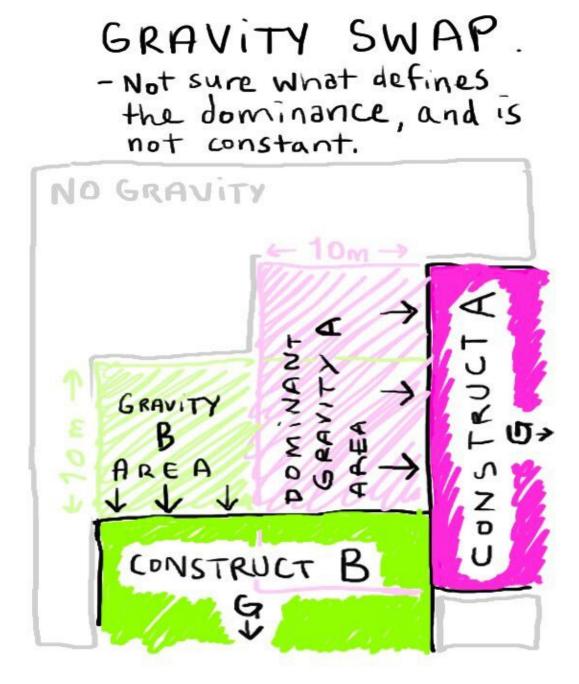
When a player approach 2 construct from above, she will reorientate and fall toward the ground as soon as she gets close Within 10 meters above the surface.

• Exiting the zone > Zero G

BLUE ARROW : WAY UP.

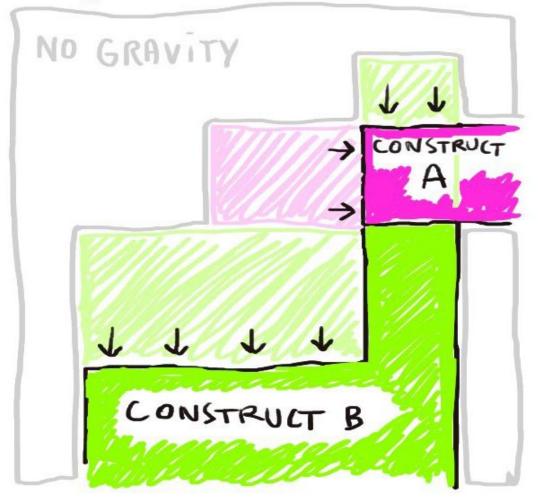
ITS ORIENTATION DEFINES THE MAPPING OF THE GRAVITY ON ALL THE CONSTRUCT.

> Move it and it will change the gravity of the construct.



FIXING BAD SWAPPING

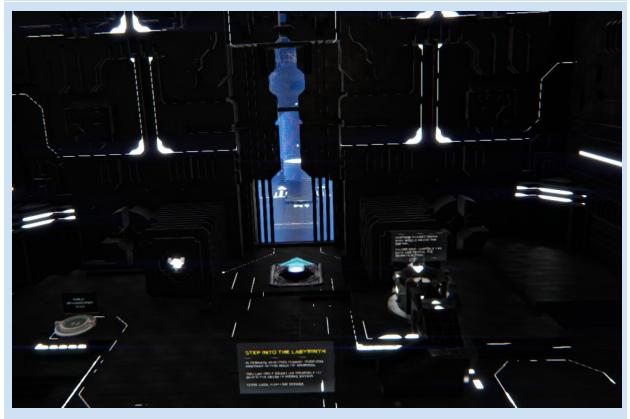
By moving voxels from one construct to another.



Labyrinth Entrance Beats

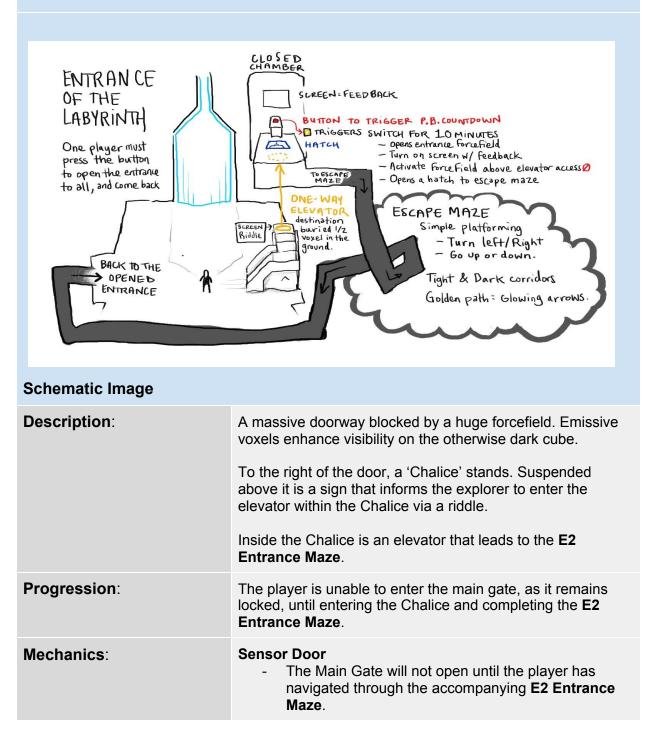
Exterior

E0 Labyrinth Exterior



| Description: | A massive space-based structure covered in greebles and details, and accented with emissive voxels. The structure is imposing, and should captivate most users on first glimpse. As the players draw near, key features become clear, especially the mammoth main doorway. Approaching the door reveals a room behind it. This door is the E1 Labyrinth Gate . |
|--------------|---|
| Progression: | Player reaches the area and explores it in their own way, being led by the architecture towards the main door. |
| Mechanics: | NA |

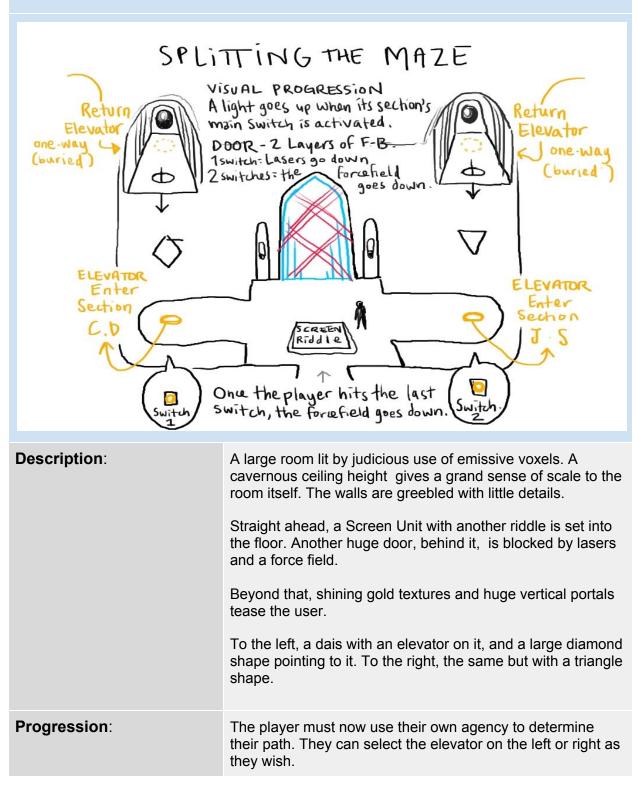
E1 Labyrinth Gate



| E2 Entrance Maze | |
|------------------|---|
| Description: | Dark and cramped hallways with little light save for that cast by arrows that chart the Golden Path through the maze. Paths are not only on one plane, making players check floors and ceilings for means of progress. |
| Progression: | The player will need to find their way in the dark, most lilkey by using their flashlight, through oppressive passages. Verticality is a factor. Through following the provided arrows created from emissive voxels, players should be able to determine the correct path with little issue. Once they follow the golden path to completion they will deactivate the forcefield blocking E1 Labyrinth Gate. |
| Mechanics: | Light / Shadow Play Darkness makes using the flashlight here an essential part of progression. Sensor Door Passing through this section will trigger a sensor that opens the E1 Labyrinth Gate. |

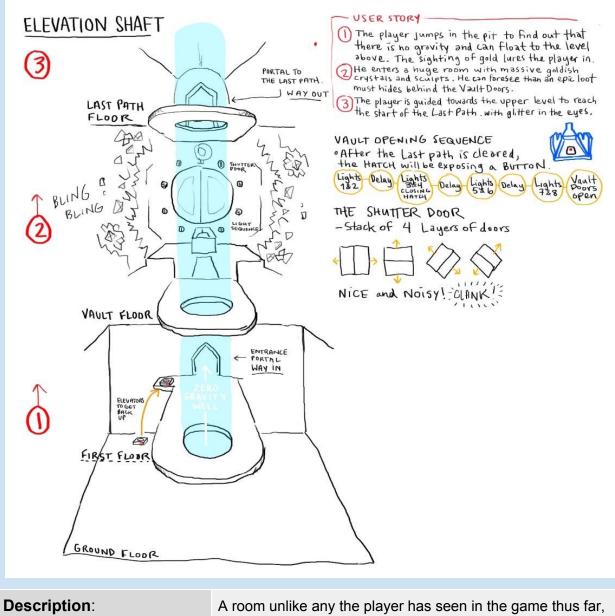
Interior

E3 Main Entrance



| | If they choose the Left elevator they will begin in F0 Lobby . If they select the Right elevator they will begin in G1 Passages . If both sides of the Labyrinth are completed they can access E4 Rewards Room . |
|------------|---|
| Mechanics: | Light / Shadow Play Light is used to create maximum visual impact of voxels and elements. Two-Button Door The player must complete both of the main Labyrinth mazes to unlock E4 Rewards Room. |

E4 Elevation Shaft



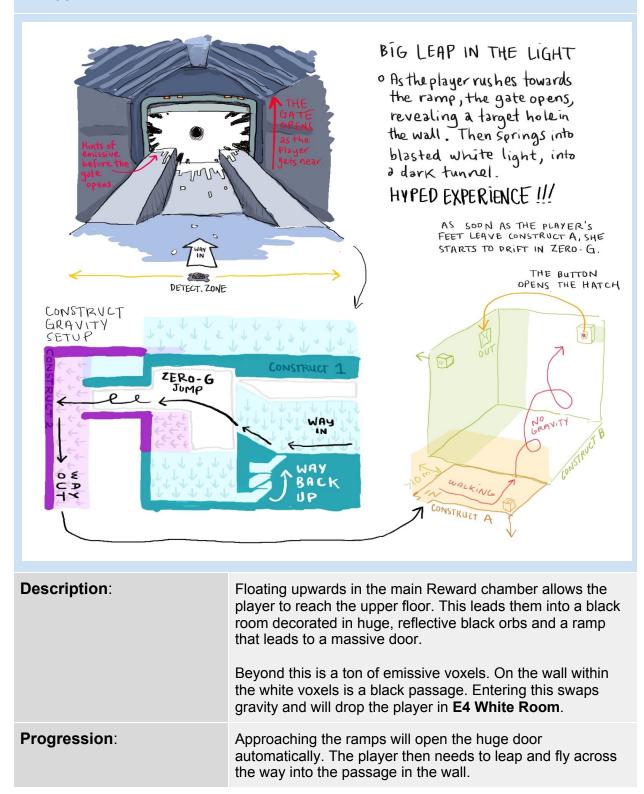
A room unlike any the player has seen in the game thus far, this massive chamber is multi-floored and created from black and gold voxels, with silver highlights.

The floor and ceiling of the main floor of this chamber have large portals of gold voxels the player can enter.

Downward is a star-scape created from voxels. An elevator is placed there to move the player back up to the main level if they become stuck.

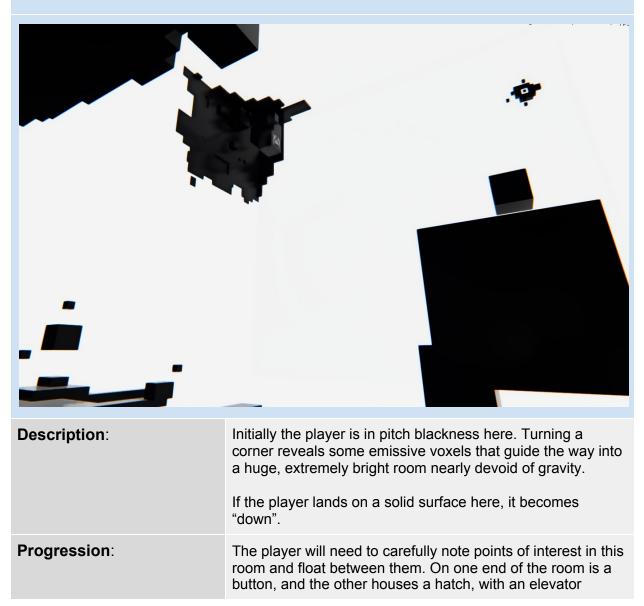
| | The upper floor is coated in shining, crazily geometric patterns of gold. Up a ramp, a hatch hides a button. This button opens a set of large doors covering the final gold portal that leads to the reward dispensers. |
|--------------|---|
| Progression: | At first glance this room is straightforward until the player has to reach the ceiling portal. Attempts to do this will quickly reveal that players are turned weightless on the way, and can use a lack of gravity to float into the final room. Once there, if the player has completed both (F) and (G) mazes, the final treasure room access switch will be revealed. To leave the maze after this the player will need to float upwards into E4 Upper Chamber. |
| Mechanics: | Gravity Swap The player uses zero-G to access the top floor of this room. Two-Button Door The player must complete both of the main Labyrinth mazes to unlock the treasure door hatch. Button Door Hidden behind the hatch, a button to open the final door. |

E4 Upper Chamber

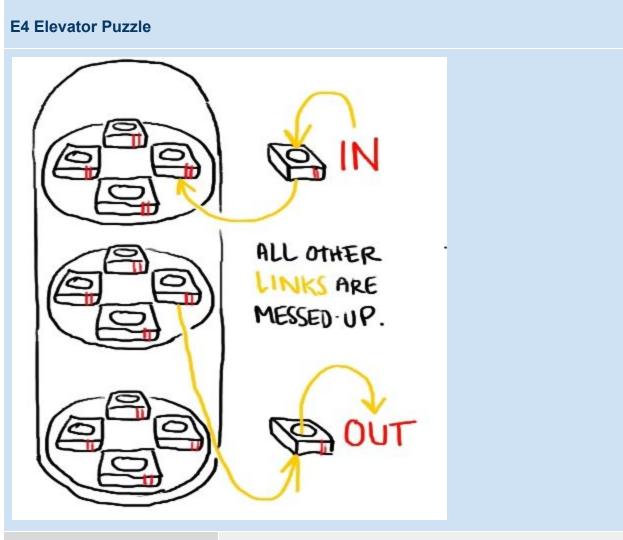


| Mechanics: | Light/Shadow Play This entire sequence of chambers relies on light and darkness to accomplish its puzzles. Gravity Swap The player uses zero-G to access the top floor of this room, and swaps gravity when reaching the end of the chamber. Detection Zone Door The huge door at the end of the chamber opens when the player trips a sensor. |
|------------|---|
| | when the player trips a sensor. |

E4 White Room



| | behind it. Pressing the button will open the hatch. The elevator it hides leads to E4 Elevator Puzzle . |
|------------|--|
| Mechanics: | Light/Shadow Play This entire sequence of chambers relies on light and darkness to create a unique look. Gravity Swap The player must float around in the chamber to access the button, and then land to gain access to the hatch. Button Door Pressing the button opens the hatch. |



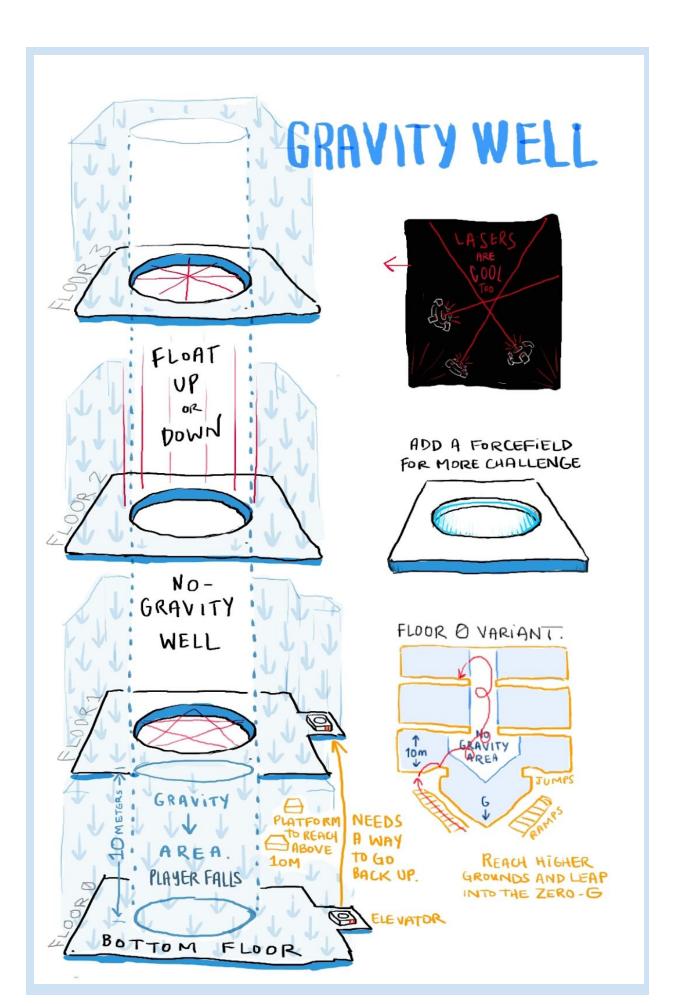
Description:

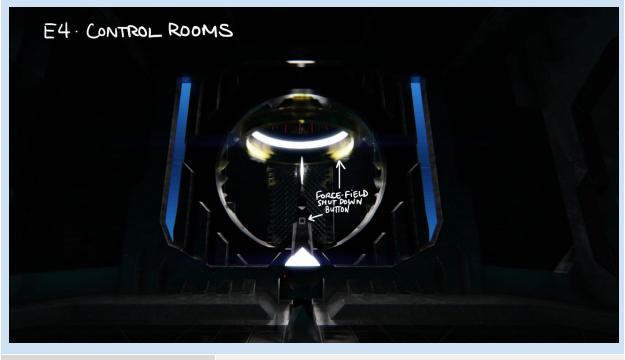
The player finds themselves in a narrow shaft with four elevators within it (across 3 floors). There is little else of

| | note. |
|--------------|--|
| Progression: | The player will need to determine the correct order in which to take the elevators to complete the puzzle. This will lead them to E4 Hallways . |
| Mechanics: | Elevator Puzzle (Vertical) The player needs to find the right route through the elevators to exit this room. |

| E4 Hallways | |
|--------------|--|
| | |
| Description: | To the right is a large dark chamber with a huge Gold Portal circled by lasers, and a closed forcefield on the ceiling. |
| | Ahead, a curving corridor that leads to a room with a button, and a glass wall overlooking the Gold Portal chamber. |
| Progression: | The player must simply take the path to the button and press it. This will disable the lasers and shields in the Gold Portal room, allowing them access. The player then needs to float upwards to E4 Vertical Passage . |
| Mechanics: | Button Door A simple button disables the forcefield and lasers. |

E4 Vertical Passage



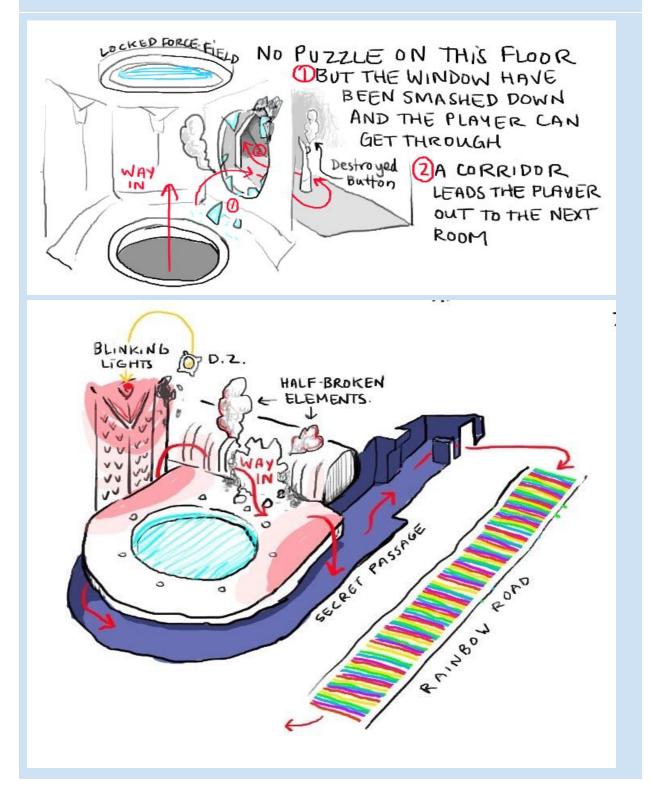


| Description: | This passage extends both upwards and downwards. It contains gravity in different sections, creating different directional considerations within. Upwards, lasers guide the player. To the next floor, and additional floors are visible, blocked by forcefields. Downwards, blackness awaits. |
|--------------|---|
| Progression: | The lower section is a trap, with only a hole to get stuck in, and a dark room to fly back out of. Above, the route the player needs. Their goal here is to fly upwards to the next chamber. The first excitable floor leads to E4 Elevator Maze (Horizontal). |
| Mechanics: | Gravity Swap - The player floats between varied gravity within this chamber. |

| E4 Elevator Puzzle (Horizontal) | |
|---|---|
| ONLY ONE ELEVATOR LEADS TO THE OTHERSIDE | |
| Description: | A simple hallway decorated with emissive voxels and reflective steel voxels. Plenty of light makes seeing the elevators quite simple. The end of the tunnel houses a window, through which the destination elevator can be seen. |
| Progression: | The goal of the player is simple: Choose the correct teleporter. This will take the player to a series of hallways that will lead them back to another window overlooking E4 Vertical Passage . Here, another buttons waits for them. Pressing this button unlocks the next floor in the E4 Vertical Passage . The player must then return to it, and float to the next floor. This takes them to E4 Passage . |
| Mechanics: | Elevator Puzzle (Horizontal) The player floats between varied gravity within this chamber. Button Door A simple button deactivates the force field blocking the next floor. |

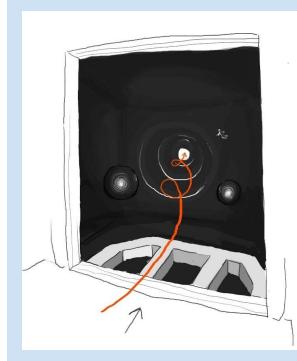
| E4 Maze | |
|--------------|--|
| Description: | A series of hallways lead to two potential portals, carved in walls, downward into a series of extremely reflective metal passages that must be navigated. |
| | After the maze, the player finds themselves in another button shaft overlooking E4 Vertical Passage and contains an elevator. |
| Progression: | The player must traverse this reflective maze and find the elevator out. This will be made easier without their flashlight active due to the nature of the materials used in the tunnel. |
| | Taking the elevator out will lead to another room overlooking E4 Vertical Passage , and another button to unlock the next floor. The player must then proceed through the elevator in the floor. They will then need to wind through a few passages and again float upwards to the next floor in the E4 Vertical Passage . |
| Mechanics: | Light/Shadow Play This tunnel is almost blindingly bright, making orientation in the corridors difficult. Button Door A simple button deactivates the force field blocking the next floor. |

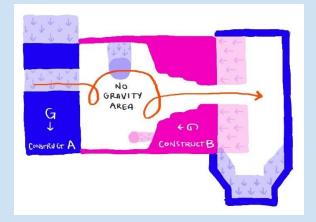
E4 Shattered Room



| Description: | This next area contains another overlooking glass wall, this time shattered, leading to a 'button room', but the button is broken. This leads the player to a series of tunnels. A series of 3-Entry Ramps are connected here, with the first leading to a broken passage. This connects to the top floor of the E4 Vertical Passage. This room is full of smoke and damage. The rest of the ramps lead downward to E4 Black Hole Room. It also connects to a secret passage with bright rainbow accents. |
|--------------|---|
| Progression: | The player must simply walk down the ramps into the dark room at the bottom, and cross the E4 Black Hole Room . They are otherwise free to explore the floor as they wish. Should the player locate the secret passage, the Rainbow passage will lead to the E4 Four Doors room . |
| Mechanics: | Light/Shadow Play Light and Shadow create interesting patterns. |

E4 Black Hole Room



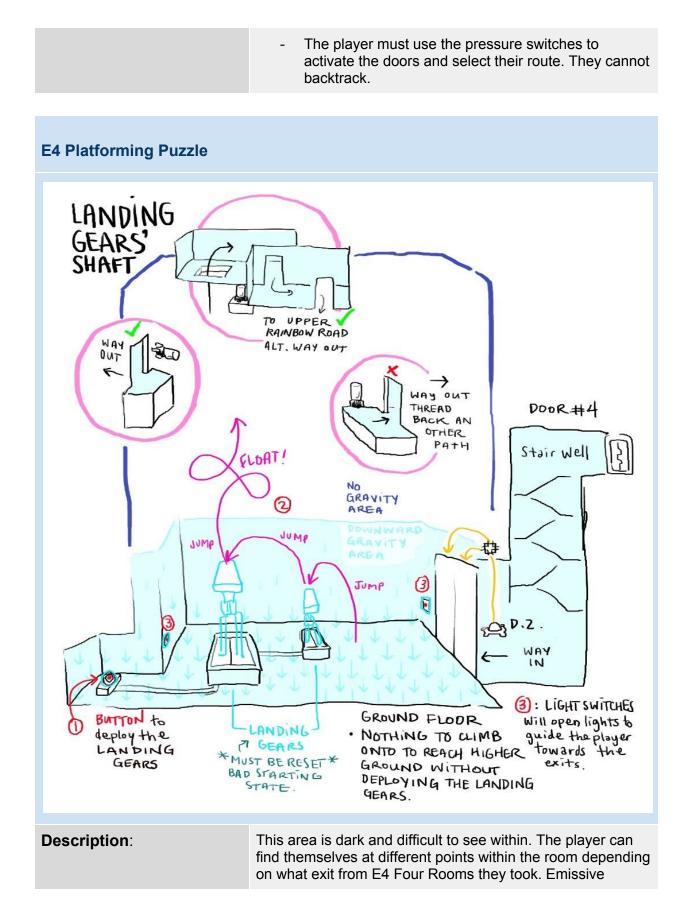


General path of the Black Hole room.

Side view of room configuration.

| Description: | This weightless room is nearly featureless, save for a large passage cut into the wall that emits some light to create a visible landmark. Otherwise, the surfaces almost absorb the flashlight. |
|--------------|--|
| Progression: | The goal here is simple: float to the passage exit in the weightless room. Passing through leads to E4 Four Doors . The trick here is to use the spheres in the room to align with their gravity on landing, should the player have issues otherwise floating. |
| Mechanics: | Light/Shadow Play This tunnel is extremely dark, almost overriding any and all light cast within. Gravity Swap Weightlessness forces players to float to the exit. |

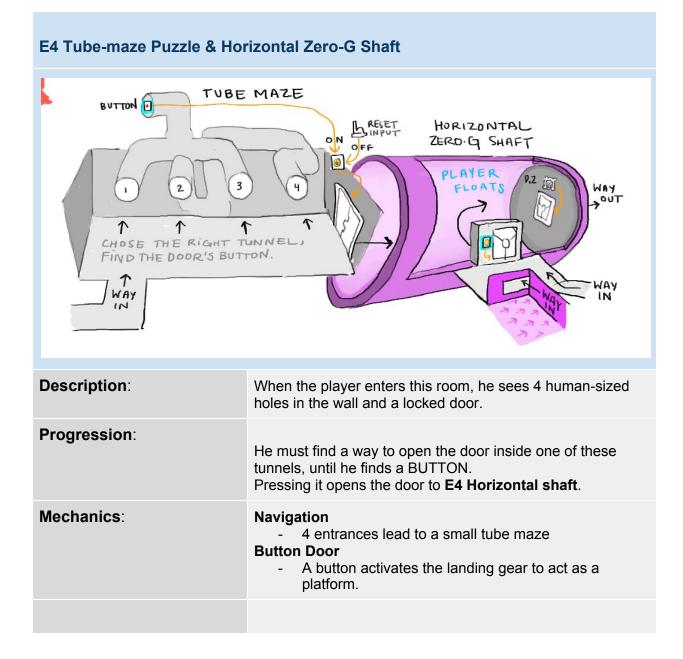
| THE 4 DODRS | ROOM The player must go through one of these Once a pressure plate is activated, the door remains open for 4 sec. and closes, so there is no backtracking allowed. Every door leads to different rooms, but the paths are threaded togheter. |
|--------------|---|
| Description: | A huge, well lit room with a massive, high-vaulted ceiling. There is a ramp downwards leading to four doors, set behind four pressure plates. |
| | Beyond those, a series of dark tunnels sporadically lit by emissive voxels, winding around until they all eventually connect back into a singular path. |
| Progression: | The player must step on a pressure plate and choose a path. All are correct, as all the tunnels connect back together. |
| | One route leads to several tunnels, another to a Gate Trap room, and the rest into a vertical shaft. All are connected to the E4 Platforming Puzzle . |
| Mechanics: | Pressure Switch |



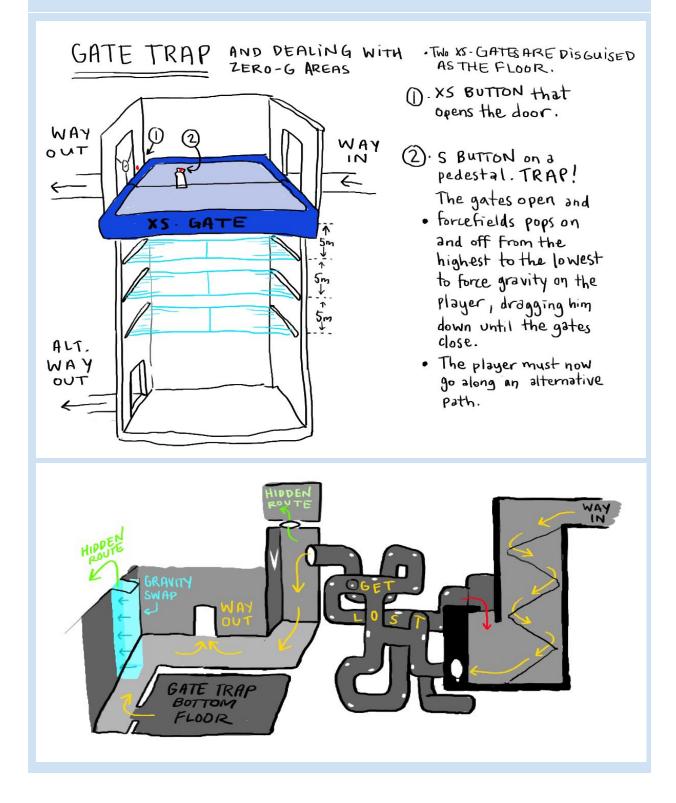
voxels, lights and random outcroppings of dark voxels form the base of the room. At the bottom, a button connected to landing gear acts as a means to engage a platform the player can jump on to reach the Zero-G section at the top of the room. There are several passages in or near the ceiling that provide egress from the room. Progression: The goal here is simple enough, but will take the player a while to accomplish: ascend this section vertically, using jumping combined with their jetpack and locate the correct exit door. Using the Zero-G sections is integral to accomplishing this. Once they locate the path, they will need to navigate through some dark tunnels. Eventually, they will emerge into a black-tile passage with a golden wall. Set into this wall, a door the player can open with a button. 0

Doing so reveals an elevator. This elevator takes them to the **E4 Final Passage**.

| Mechanics: | Gravity Swap Navigating this area requires vertically ascending tricky, dark sections. |
|------------|---|
| | Button Door |
| | A button activates the landing gear to act as a |
| | platform. |
| | Detection Zone Door |
| | - The ground floor door opens by approaching it. |

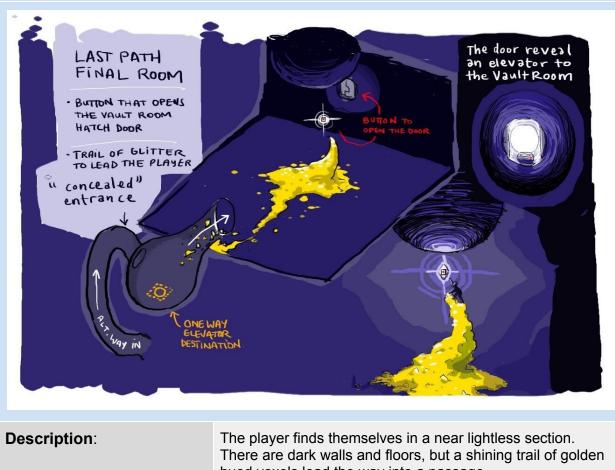


E4 Others



| Description: | Depending on which door is taken by the player in E3 Four Doors Puzzle, their experience will vary. |
|--------------|---|
| Progression: | See diagrams. |
| Mechanics: | |

E4 Final Passage



| | hued voxels lead the way into a passage. |
|--------------|---|
| Progression: | The player need only follow the golden voxels through a short series of tunnels. They will emerge in the end within the final chamber. |
| | From there they simply need to ascend the gold pile, press the button and proceed through revealed exit teleporter. This will lead back to the E4 Rewards Room where the player can, at last, open the final set of doors to access E4 |

Treasure Room.

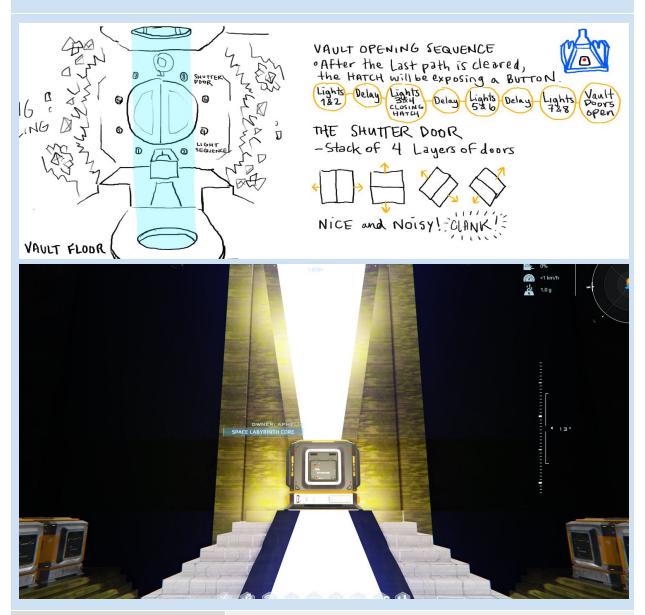
Mechanics:

Button Door

_

Opens the exit teleporter room

E4 Treasure Room



Description:

Progression:

The final room. It contains several Dispensers, and one central dispenser set on a ramped pedestal in the center.

The player need only follow the golden voxels through a short series of tunnels. They will emerge in the end within the final chamber.

| | From there they simply need to ascend the gold pile, press the button and proceed through revealed exit teleporter. This will lead back to the E4 Rewards Room where the player can, at last, open the final set of doors to access E4 Treasure Room . |
|------------|---|
| Mechanics: | Delay Button Pressing the final button opens the last set of doors. This is on a timer, with the player hearing each of the layered doors open in sequence. |

Labyrinth Interior 1 - Breakdown /Beat Chart

Floor 1 (G1)

| G1 Passages | |
|--------------|--|
| Description: | A series of passages and rooms connect across a maze. |
| | Use of reflective materials is high, and several offshoot rooms lead to dead ends and interesting topographical features. These form interesting landmarks to help you orient yourself. |
| | One of the wrong paths leads to a 'secret' room. |
| Progression: | Player must wander this starting area until they locate the Three-Entry Ramps leading them upwards to the next floor, G2 Passages . |
| | There are numerous points where the player can get turned around here. |
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. |

Floor 2 (G2)

| G2 Passages | |
|--------------|--|
| Description: | Much like the first floor, the second floor is little more than a simple maze designed to disorient the player through light, shadow and direction. Physical likeness between floors is essentially unchanged. |
| Progression: | The player wanders this floors passages until they locate a active Forcefield leading up via another Three-Entry Ramp. Locating the button (located in the neighboring passage) will disable the forcefield and allow access to G3 Passages . |
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. Button Door Activates and deactivates the Force Field blocking G3 Passages. |

Floor 3 (G3)

G3 Passages



Locked hatch and blocking forcefield.



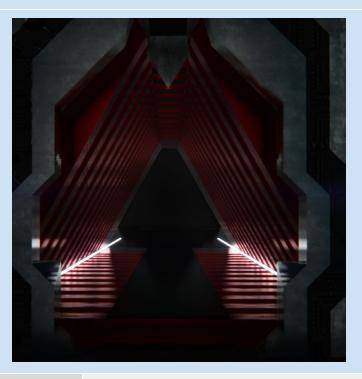
Using Screen Units to create forcefields

Description:Another maze passage floor with a more conventional route.
Like the previous two floors, features are very similar from
place to place within the maze.Several Screen Units are given a treatment to appear like
red force fields. A single Force Field prevents progress
without using the Hatch.

| Progression: | The player wanders these passages as before, searching for a way forward. There is only one viable means of forward momentum in this case : an underground chamber. Through it, the player can reach the opposite side of an otherwise static forcefield. This allows the player to move forward and locate an elevator that leads to the G4 Passages . Taking the wrong way leads them to a "trap" elevator that, if taken, will relocate them to a spot earlier in the maze. |
|--------------|--|
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. Button Door Activates and deactivates the Hatch blocking the route to the G4 Passage. |

Floor 4 (G4)

G4 Passage

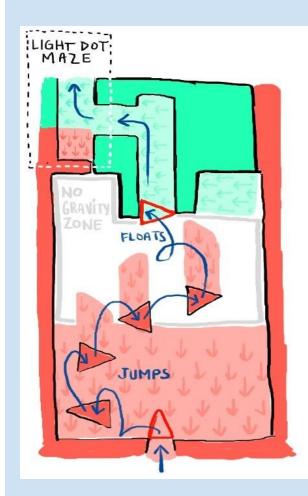


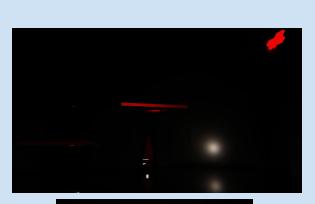
Description:

The player starts this floor in a Red Passage that differs drastically from previous sections. This provides an immediate visual landmark.

| | Following this unusual triangular passage takes them to a huge , black room. |
|--------------|---|
| Progression: | The player can either go forward into the G4 Black Room , or back down the elevator. |
| Mechanics: | NA |

G4 Black Room







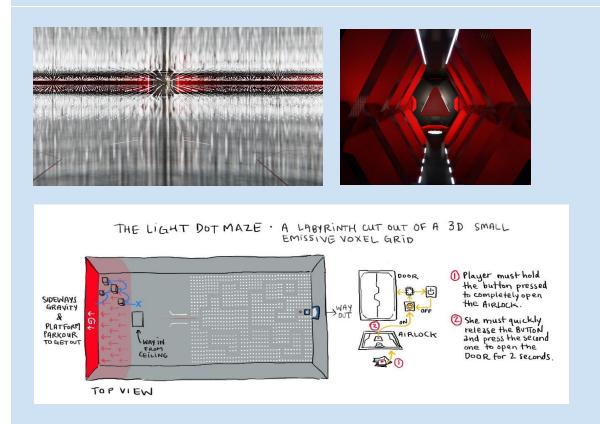
The Black Room, with jumping puzzle platforms

Exit portal in the ceiling

| Description: | A huge, nearly lightless room. Occasional presence of emissive voxels, a stark red glow from Screen Units, and reflective red metal voxels set as floating platforms in the room. At the opposite end of the room on the left is another triangular red passage leading to an elevator. In the ceiling |
|--------------|---|
| | is another door, exactly the same as the other two triangular passages. |
| Progression: | To escape this room the player can do two different things: Jump on the floating voxel platforms one at a time, and then from the topmost platform use their jetpack to enter a zero-gravity field to fly to the exit door OR Use the elevator at the opposite end of the room, which warps the player to the top of the room. From there, they can jetpack across and then up into the ceiling passage. Either route to that passage will bring them to a passage leading to G5 Light Maze. |
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. Jumping Puzzle The player will need to jump and fly between platforms to complete this section. Gravity Swap The top half of this room operates in a different gravity field than the bottom half. This is not apparent until the player flys upward. |

Floor 5 (G5)

G5 Light Maze

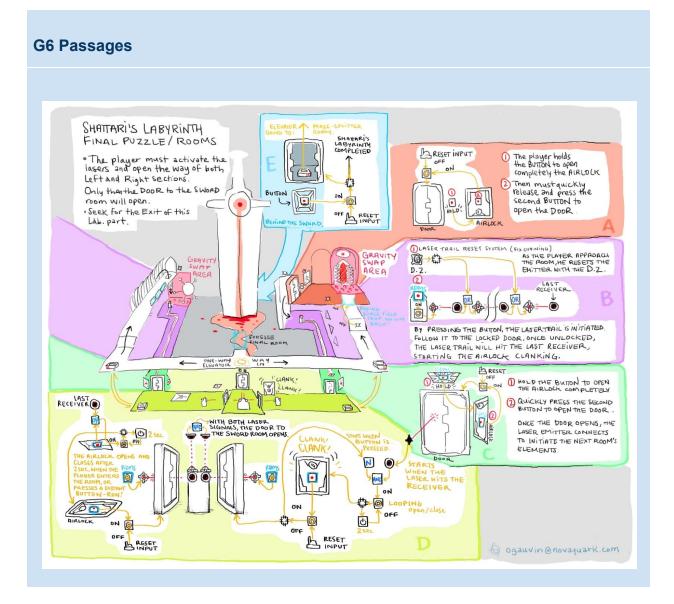


(clockwise, left to right): The Light Maze , Exit passage to G6, top down view & logic.

| Description: | The player enters Floor 5 into a massive room composed of highly reflective iron. Set in the floor and walls are reflective red metal voxels that create accents. Within the room itself are hundreds of small emissive voxels that create an unusual maze that involves much trial and error due to illusion. |
|--------------|---|
| Progression: | Navigating this successfully leads the player to the exit gate. To use it the player must activate it via a Held Switch in the floor. By holding the door button and then quickly tapping the button on the revealed exit switch, the player unlocks the way forward, leading them to G6 Passages . |

| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. Held Button |
|------------|---|
| | Exiting this room requires holding down a button, moving, and then clicking a separate button before a door closes. |

Floor 6



| RESET INPUT | The player holds the Button to open completely the AIRLOLK Then must quickly release and press the second Button to open the DooR. |
|--------------|--|
| Description: | The player enters a bright, silvery room accented in reflective red voxels. Ahead of them is an enormous chamber, blocked by a pane of glass. Beyond the glass is a huge sword composed of voxels, and some clever use of |

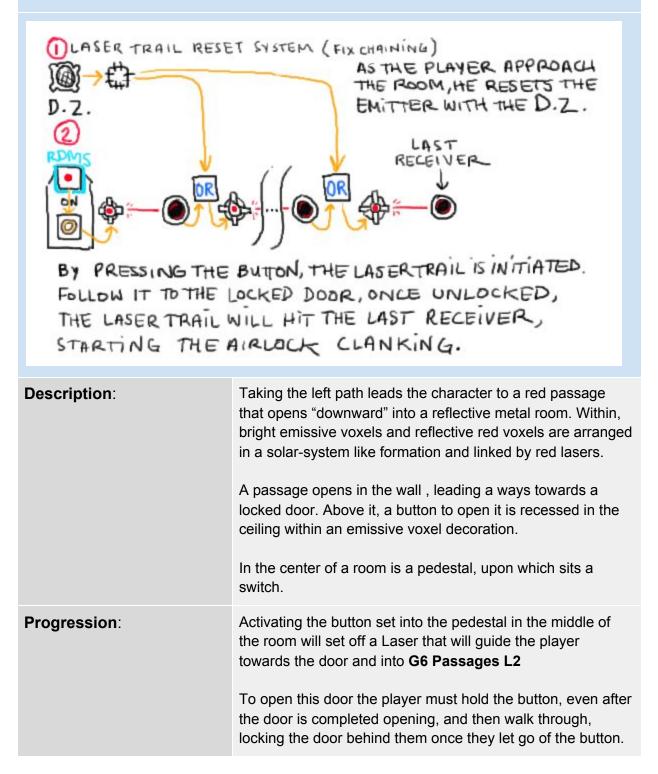
| emissive voxels. The player cannot yet access this room. |
|---|
| To the right and left are passages. Both passages are essential to progress. They glow red from light and |
| reflection. Both directions contain an elevator to transport |

them to the upper and lower floors of the puzzle chambers.

Each has a hallway that wraps around the Sword room, leading to separate puzzles.

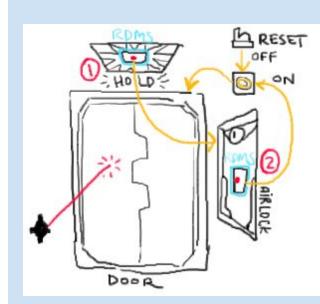
| Progression: | The player gets agency here to choose a route to complete first. They will need to complete both sides to continue. |
|--------------|---|
| | Once both of the Laser Doors are activated, the exit will open, allowing the player into the G6 Sword Room . |
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. |

G6 Passages - L1



| Mechanics: | Light/Shadow Play |
|------------|--|
| | Reflection/refraction creates interesting illusory |
| | results. |
| | Gravity Swap |
| | Gravity in this section swaps based on location. |
| | Laser Forms a Path |
| | A laser path is created from the central pedestal. |
| | Held Button |
| | Completing the core puzzles in this section requires |
| | holding a button, travelling, and then using another |
| | button before the first has disabled. |

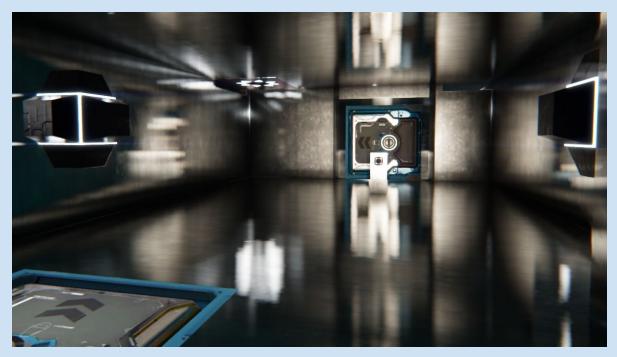
G6 Passages - L2



HOLD THE BUTTON TO OPEN THE AIRLOCK COMPLETELY

QUICKLY PRESS THE SECOND BUTTON TO OPEN THE DOOR .

ONCE THE DOOR OPENS, THE LASER EMITTER CONNECTS TO INITIATE THE NEXT ROOM'S ELEMENTS.

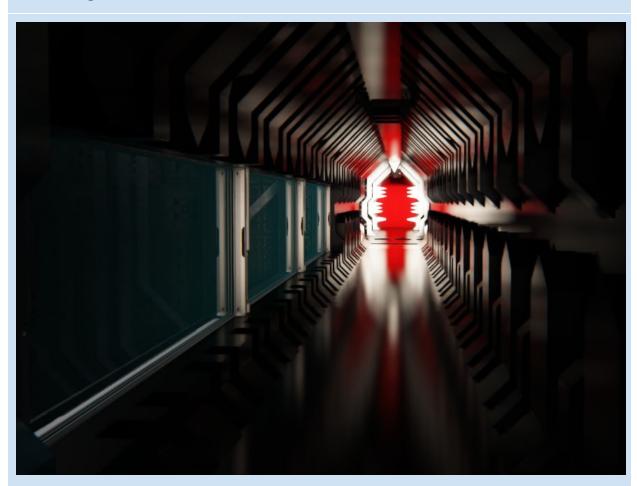


Description:

A reflective metal room decorated with emissive glowing voxel cubes. On the floor, one door. On the walls, one door

| | through which the player entered, and a second at the far side. A switch is set into the ceiling as with the hallway prior. A pedestal in front of the wall door hosts a second switch. |
|--------------|---|
| | In a corner, an elevator is positioned to provide exit should a player become stuck. |
| Progression: | As the entrance door locks, the player starts off trapped within. |
| | To exit, they will need to access the Delay Button on the ceiling. This will open the Hatch in the floor for a brief moment. This reveals a switch. Pressing this switch will open the exit door. |
| | In front of the exit, the pedestal button must also be pressed. This will fire a laser into the next room and activate one half of the G6 Exit . |
| | The player must then take the elevator back to G6 Passages . |
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. Gravity Swap Gravity in this section swaps based on location. Laser Switch A laser path is required to trigger the switch in the final room. Laser Forms a Path A laser path is created from the central pedestal. Delay Button Hitting the button in the ceiling triggers a slight delay: enough time to run to the door in the floor and click the switch within it. |

G6 Passages - R1



| Description: | The right path leads down a hallway and into an enclosed room. The floor is decorated with voxel holes that guide a laser through them and up the wall. Set into the wall is a glowing red landmark. There are 2 doors on one side of the room. One has a large red arrow above it. Between them, a single button is placed on the wall. |
|--------------|---|
| Progression: | The player must activate the button between the doors by holding it down. This will open the door with the large red arrow over it and reveal a switch behind it. |

| | The exit will then open, leading the player to G6 Passages R2 |
|------------|---|
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. Laser Forms a Path A laser path is created from the previous room into this one, along the floor and up the wall Held Button To exit this room the player must hold the wall button down to reveal the exit door switch. |

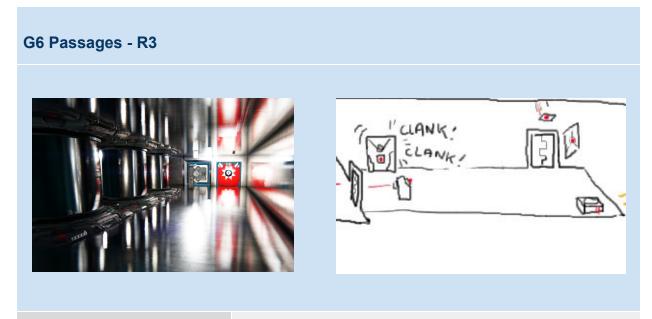
G6 Passages - R2



Description:

The player enters a huge red room with different gravity. On the walls and floating around the room are emissive voxels, and these all reflect to create interesting images on walls and ceiling.

| | In the center of the room, a pedestal waits with a switch on it. |
|--------------|---|
| Progression: | Pressing the button on the pedestal will create a laser leading the player to the next door. There, the player presses a switch to open the door. This will activate a laser that is sent to a receiver on the wall. The exit will then open, leading the player to G6 Passages R3 |
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. Laser Forms a Path A laser path is created from the switch pedestal and into the next room. Held Button To exit this room the player must hold the wall button down to reveal the exit door switch. Laser Switch A laser must be emitted into the final pillar to complete this puzzle and access G6 Sword Room. |

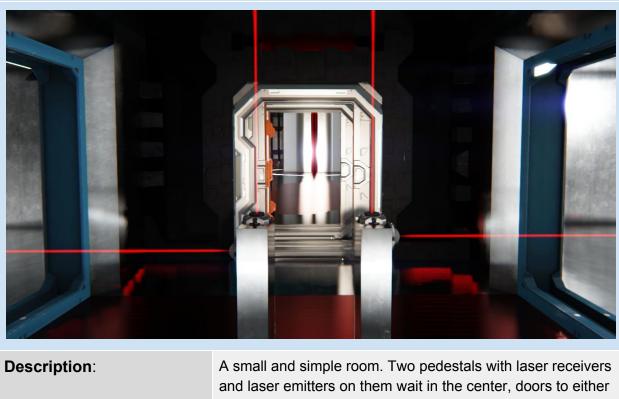


Description:

A highly reflective room with 3 canisters/containers on the left. At the opposite end from the entrance are 2 doors. One is continually opening and closing on a broken delay (from

| | the laser in the previous passage). Behind it is a star-shaped voxel decoration with a switch on it.A pedestal near the exit door holds a button the player can press.On the floor near the entrance is an elevator that will return |
|--------------|---|
| Progression: | the player back to G6 Passages. The player must approach the button revealed by the timed door and press it. Once this is done, the laser keeping it openi deactivates and the exit door opens. The player then needs to press the switch on the pedestal. This will activate a laser that will fire into the receiver in the room beyond. The exit will then open, leading the player into G6 Sword Lobby. |
| Mechanics: | Light/Shadow Play Reflection/refraction creates interesting illusory results. Laser Forms a Path A laser path is created from the switch pedestal and into the next room. Timed Button A door in the wall opens and closes on a timer. Button Switch A standard button type opens the exit door for this chamber. Laser Switch A laser must be emitted into the final pillar to complete this puzzle and access G6 Sword Room. |

G6 Sword Lobby



| Description. | and laser emitters on them wait in the center, doors to either side. A door in the middle of the room leads in to G6 Sword Room . |
|--------------|---|
| Progression: | To open the door the player must activate the lasers in the G6 Passages (L and R). |
| | Opening the door provides access to G6 Sword Room . |
| Mechanics: | Two-Button Switch + Laser Switch The player must complete the G6 Passages L and G6 Passages R puzzles to open this door. |

G6 Sword Room

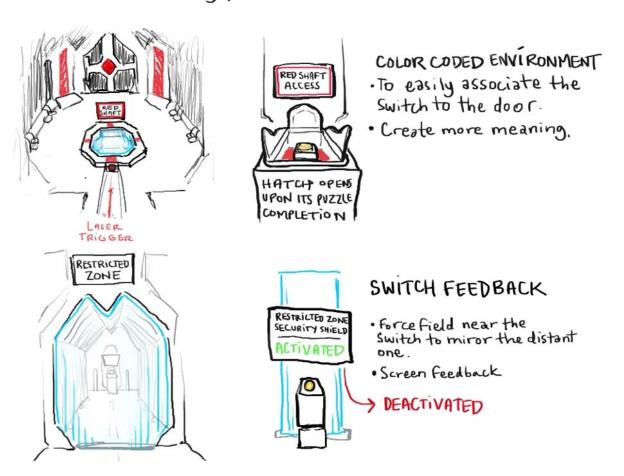
| | Image: selection of the se |
|--------------|---|
| Description: | This is the final room. In the center, a gigantic voxel sword stands as a very memorable monolith. This is the Hero piece of the Labyrinth. |
| | Behind the sword is a button and a door. |
| Progression: | The player can enjoy this room at their own pace and simply look around and take in the scenery. At the back of this room, a button unlocks the exit door, which leads back to the E1 Main Entrance . |
| Mechanics: | Button Door Several doors within this series of passages are standard button interactors. |

Labyrinth Interior 2 - Breakdown / Beat Chart



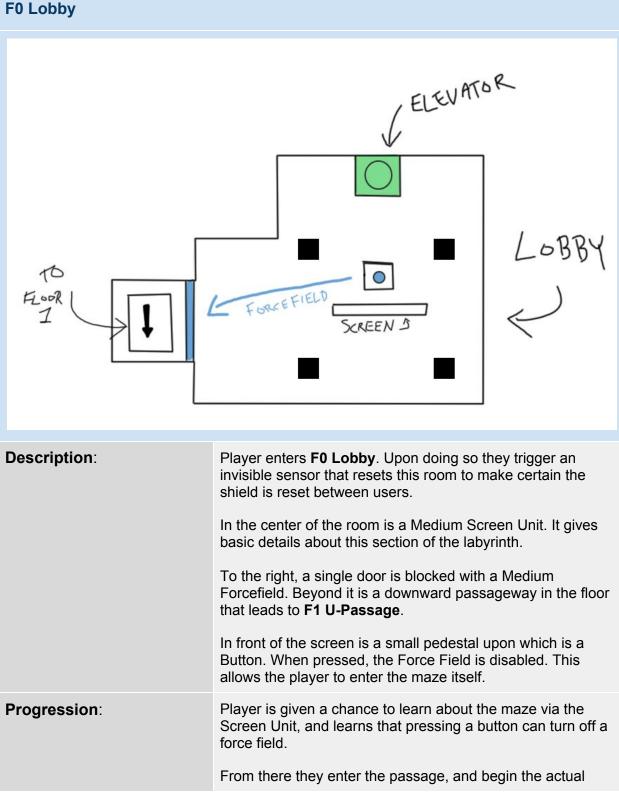
IDENTIFICATION of the Accesses and Switches

· Adds meaning to the player's adventure while reducing possible confusion .



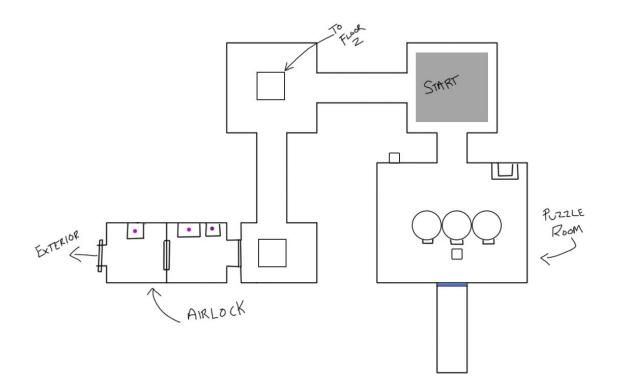
Entrance (F0)





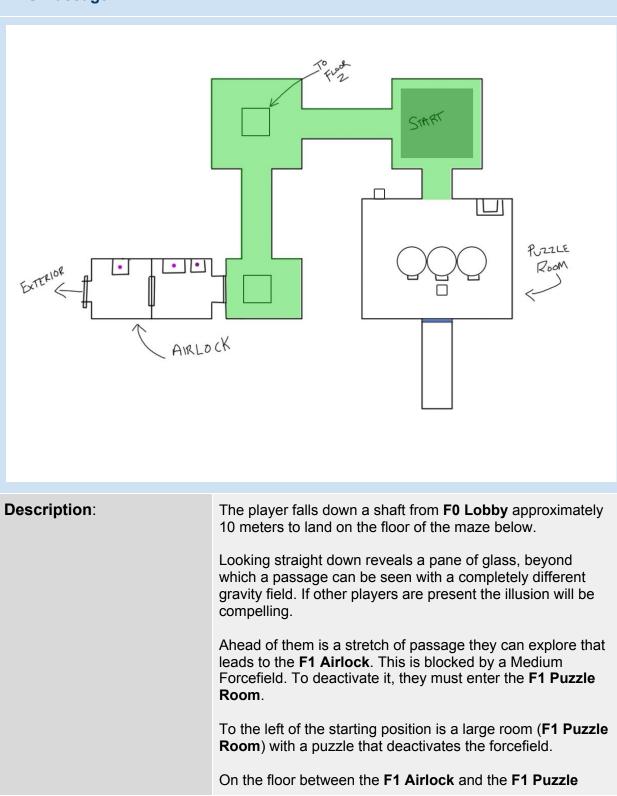
| | maze. |
|------------|---|
| Mechanics: | Button Door Activating the button will deactivate the forcefield, allowing the player to enter F1 U-Passage. |

Floor 1 (**F1**)



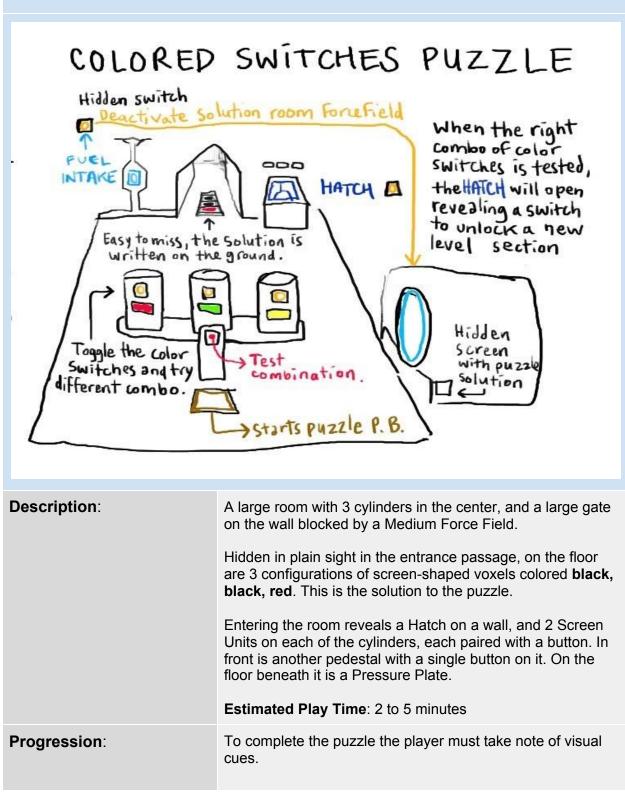


F1 U-Passage



| | Room are two passages in the floor. The first, blocked by a Small Force Field, leads to the next part of the maze. The second, also blocked by a Small Force Field, goes nowhere and is purely decorative.Estimated Play Time: 30s to 60s |
|--------------|--|
| Progression: | Player is given a chance to explore in a contained area. They should quickly realize that the only way forward is via the F1 Puzzle Room , since the route to the Airlock is still blocked by a forcefield. |
| Mechanics: | Puzzle Set / Reset Hidden Detection Zone: resets the Airlock Programming Board Hidden Detection Zone: resets Puzzle Room Programming Board |

F1 Puzzle Room

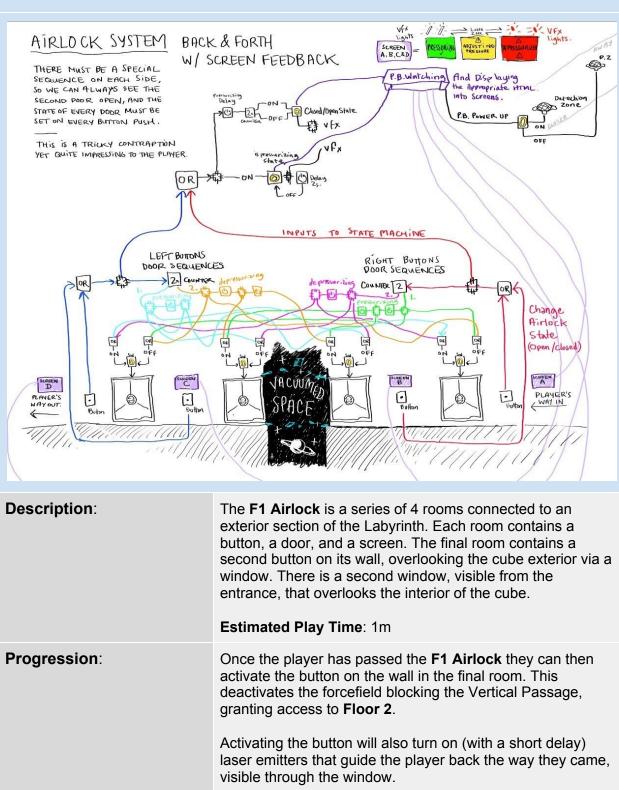


| | Once they have pressed the Red screen button and the other two switches remain inactive, and press the pedestal Button, the Hatch on the wall opens to reveal a switch. This switch will deactivate the Force Field to the F1 Airlock . |
|------------|--|
| | The Pressure Plate serves only to make sure the programming board is activated/reset. |
| | Activating incorrect switches will open a small Fuel Intake on a wall, beyond which is a Button. This Button deactivates the Forcefield behind the player, allowing them to access the passage beyond it where the solution is hidden on a Screen Unit. |
| Mechanics: | Puzzle Set / Reset Pressure Plate: resets the state of the programming board. Button Door Pressing either incorrect button activates a Fuel Intake, revealing a Button. This deactivates the force field blocking F1 Airlock. Revealed button deactivates forcefield over the gate in the wall. Entering this passage reveals the combination to the puzzle. Multi-Input Switch Door Pressing the button on the first cylinder, and then pressing the main button (while standing on the pressure plate) will open the Hatch to reveal the Force Field button. |

F1 Vertical Passage CHANGE Description: A simple room. In the floor is a forcefield that blocks access to a vertical passage leading downward to Floor 2. Buried in decorative voxels on the walls are color coded screens (red) to alert the player to its presence, and link thematically with the F1 Puzzle Room buttons. In the passage itself, at approximately the halfway point, gravity changes for the first time. Progression: Once the player has passed the **F1 Airlock** and activated the button in its F1 Switch Room, the forcefield will be deactivated. This provides access to Floor 2. Mechanics: **Button Door** Activating the button in the **F1 Switch Room** deactivates this door. Laser Forms a Path The F1 Switch Room turns on lasers that guide the player back towards this room... **Gravity Swap**

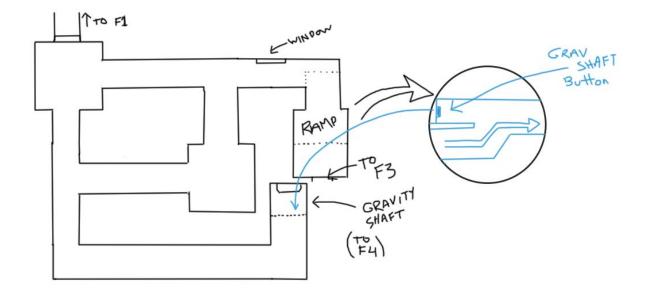
- Halfway down the **F1 Vertical Passage**, the player has their gravity adjusted.

F1 Airlock



| Mechanics: | Multi-Button Door Each of the primary buttons activate the same process with the F1 Airlock. The player cannot trap themselves outside. |
|------------|--|
| | Laser Forms a Path The Switch Room turns on lasers that guide the player back towards the F1 Vertical Passage. Vacuum The player is exposed to the vacuum of space. |

Floor 2 (**F2**)



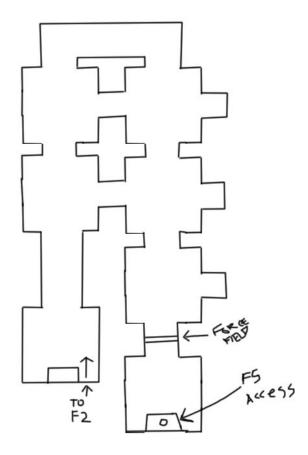
F2 interior. Contains 3x L-Passage, 1x Vertical Passage, 1x Ramp

| F2 L-Passages | |
|---------------|--|
| Description: | The primary area of F2 is the L-Passages. In one wall is a window overlooking the glass floor of F1, providing a unique perspective into the different gravity between sections. These passages lead to two places of note: the F2 Gravity Shaft and the F2 Ramp . |
| | F2 Gravity Shaft is blocked by a forcefield accessed via a button in the F2 Ramp . Typically this route will only be noticed on the return trip from F3 . Estimated Play Time : 2m |
| Progression: | Wandering the L-Passages eventually takes the player to either the F2 Gravity Shaft or the F2 Ramp . |
| | The F2 Gravity Shaft will take them to the F4 Reverse Room . |
| | The F2 Ramp will take them to the F3 Tunnels. |
| Mechanics: | Gravity Shift This floor exists on a different gravity well than F1 F3 exists in a different gravity well from F2 |

| F2 Gravity Shaft | |
|------------------|---|
| Description: | A vertical shaft blocked by a forcefield. This leads the player upwards. |
| Progression: | After disabling the forcefield via the button in F2 Ramp the player can access this shaft and head 'up' towards F4 . Gravity will again change once they move ahead. |
| Mechanics: | Button Door The forcefield is activated by a button in F2 Ramp. Gravity Shift This floor exists on a different gravity well than F4. |

| F2 Ramp | |
|--------------|---|
| Description: | What appears to be a simple ramp up to a new section ends up being somewhat more complex. |
| | As the player reaches the top of the ramp, in front of them is a vertical passage leading to F3 , while behdid them is a passage that houses the button to disable the F2 Gravity Shaft Forcefield. |
| Progression: | Continuing straight to the end of the ramp will again shift gravity and provide access to F3 . |
| | Pressing the button down the uppermost passage will deactivate the forcefield blocking F2 Gravity Shaft . |
| Mechanics: | Button Door The forcefield is activated by a button in F2 Ramp. Gravity Shift This floor exists on a different gravity well than F3. |

Floor 3 (**F3**)



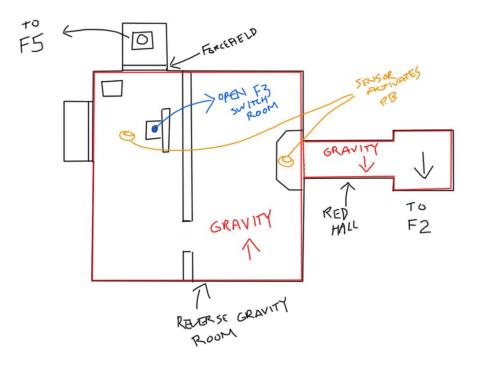
F3 interior. Contains 5x X-Passage, 1x Vertical Passage, 1x U-Passage, 2x Room

| F3 Tunnels | |
|--------------|--|
| Description: | Numerous small X-Rooms are connected together, providing a simplistic "maze". The player cannot get lost here. |
| | At the end of the passage is a Screen Unit marking this as a Security Clearance area. It is in front of a Force Field that blocks the way into the F3 Switch Room . |
| | Estimated Play Time: 1m |
| Progression: | To access the switch beyond the forcefield the player must travel to the F4 and activate the security console there. This involves them backtracking all the way to the F2 Gravity Shaft . |

| | Returning to the F2 Ramp will reveal the Gravity Shaft Button to players that did not notice the passage on the way into F4 . |
|------------|--|
| Mechanics: | Button Door The forcefield is activated by a button in F4. Gravity Shift This floor exists on a different gravity well than F2. |

| F3 Switch Room | |
|----------------|--|
| Description: | A simple room accessed once the Force Field blocking it is disabled (via F2 Gravity Shaft Button.) There is a single button on the wall. Above it is a Screen Unit that displays the purpose of the button. Estimated Play Time : 1m |
| Progression: | Activating the button in this room will disable the force field blocking the F4 Teleporter Room . |
| Mechanics: | Button Door The forcefield is activated by a button in F4. Gravity Shift This floor exists on a different gravity well than F2. |

Floor 4 (F4)



F4 interior. Contains 1x Horizontal Passage, 1x Vertical Passage, 1x Room

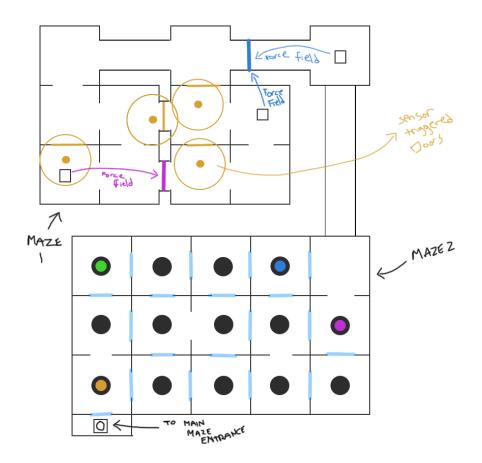
| F4 Red Hall | |
|--------------|---|
| Description: | A hallway connecting the Gravity Shaft with the F4 Reverse Gravity Room . It refracts light from red Alarm Lights to provide an obvious tell that this section is important, and to be cautious. |
| | At the end of the hallway, right before the F4 Reverse Gravity Room , a Screen Unit warns the player that gravity is about to change completely. |
| Progression: | The player can simply pass through this passage as desired. |
| Mechanics: | Gravity Shift - This floor has a completely different gravity setting |

| than the F4 Reverse Gravity Room. |
|-----------------------------------|
|-----------------------------------|

| F4 Reverse Gravity Room | |
|-------------------------|--|
| Description: | The player will first perceive this room upside-down, until they enter it. At that point their gravity swaps and they are on the "ceiling". A room with a wall dividing two halves, with a doorway towards the left side. Beyond the wall is a hole in the opposite wall that is blocked by a forcefield, a console with a screen and button, and a room locked by a forcefield. |
| | Estimated Play Time: 1m |
| Progression: | The player can use the button to disable the force field blocking access to F3 Switch Room . |
| | Ultimately they will return here to access the F4 Teleporter Room located behind the forcefield door after disabling the field via F3 Switch Room button. |
| Mechanics: | Gravity Shift - This floor has a completely different gravity setting than the F4 Reverse Gravity Room. |

| F4 Teleporter Room | | |
|--------------------|---|--|
| Description: | Blocked by a forcefield initially. Once opened, the room can be seen to be featureless, glossy black material with a teleporter on the floor. | |
| Progression: | Accessed by disabling the forcefield via F3 Switch Room button. Taking the teleporter within leads to F5 Field Maze . | |
| Mechanics: | Button Door The button here disables the force field that blocks access to the F3 Switch Room. | |

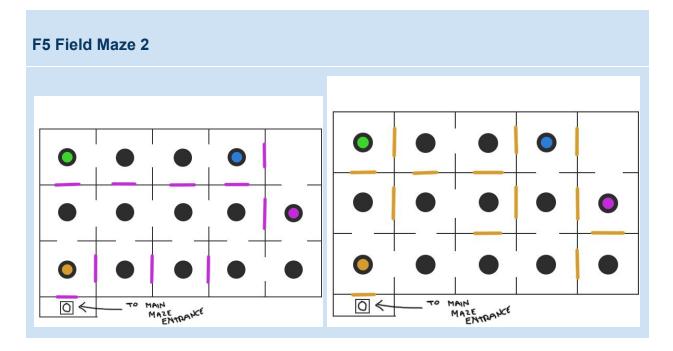
Floor 5 (**F5**)



F5 interior. Contains x24 Rooms, 4 Horizontal Passages, 18 buttons/switches, 29 Forcefields

| F5 Field Maze 1 | |
|-----------------|--|
| Description: | A connected group of small rooms greets the players entrance here, along with a Screen Unit that tells them where they are (Field Maze). |
| | Each room is 32x32 in size, with a sphere in the ceiling that casts light from above. The whole place is fairly well lit, reflecting light off of metallic surfaces. |
| | To the left is a Forcefield, and to the front and right are doorways, one a passage leading to another room and one immediately adjoining an identical room. |

| | Estimated Play Time: 3m |
|--------------|---|
| Progression: | To disable the force field barring the route to Field Maze 2 the player must navigate a small sensor-based puzzle. Doors in this section have Detection Zones that, when the player is nearby, erect a forcefield wall that prevents them progressing. This forces them to find another route. There are two switches to hit here: One to open a forcefield that blocks the second half from access, and one that opens the route to Field Maze 2 . |
| Mechanics: | Detection Zone Door Most entryways in this section have sensors linked to forcefields preventing progress unless the correct route is chosen. Button Door Players can press buttons in two places here to activate the necessary switches to progress. |



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| oth wit Mo At fin E3 | complicated web of 3x5 Rooms, each separated from the ner by 3 forcefield doors. Each Room contains a Pillar, thin which is a Button. The forcefields are activated. The far left side of the room, a black room waits beyond a al forcefield. An elevator waits to return the player to the 3 Main Entrance . |
|-------------------------------------|---|
| ES | timated Play Time: 5m to 15m |
| the | avigating this maze will take trial and error on the part of e player. Only 4 switches in this maze matter (marked in e schematics). |
| Inc | e player will traverse through this puzzle, hitting switches. correct buttons will create fake-out forcefields that are signed to misdirect the player. |
| giv sw | prrect entries will make a noticeable glow on the ceiling to ve a visual on their importance. Additionally, the correct vitches have emissive voxels within their pillars to make em more noticeable. |
| | ompleting the maze successfully will unlock the final refined that returns the player to F6 Dark Passage . |
| | Izzle Set / Reset Sensor: resets the state of the programming boards. Ilti-Button Door By following the correct sequence of button pushes, the forcefields will be activated/deactivated in sequence so the player can escape the maze. |

| forcefields serving no part in the actual solution to this puzzle. |
|--|
|--|

Floor 6 (**F6**)

| F6 Dark Passage | | | |
|---|---|--|--|
| DARK PASSAGE / LIGHT PASSAGE This is the last step of this labyrith section. | | | |
| Description: | A black tunnel with no direct light save for lasers that were activated by completing the previous sections. At the end of the black corridor, a large set of doors. Below the players position is another door, locked. Within this compartment is a button , and a hatch unlocked by it. When opened, the hatch reveals an elevator thalt leads back to E3 Main Entrance . | | |
| Progression: | The player must simply approach the large doors and they will open up to reveal the F6 Light Passage . They must head that way to open the locked door. | | |
| Mechanics: | Laser Forms a Path After completing F5 Field Maze 2, lasers appear here that lead to the opposite end of the chamber. Detection Zone Door When the player approaches the large doors they automatically open. Button Door When the player completes the F6 Light Passage | | |

they open this door, revealing the final switch.

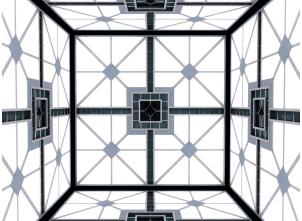
| F6 Light Passage | |
|------------------|--|
| Description: | A bright tunnel that reflects plenty of the illumination cast by player flashlight. At the end of the tunnel is a single button. |
| Progression: | Pressing the button in this tunnel opens the locked door in F6 Dark Passage . Taking the teleporter within leads to F5 Field Maze . |
| Mechanics: | Button Door The button here disables the force field that blocks access to the locked door in F6 Dark Passage |

References



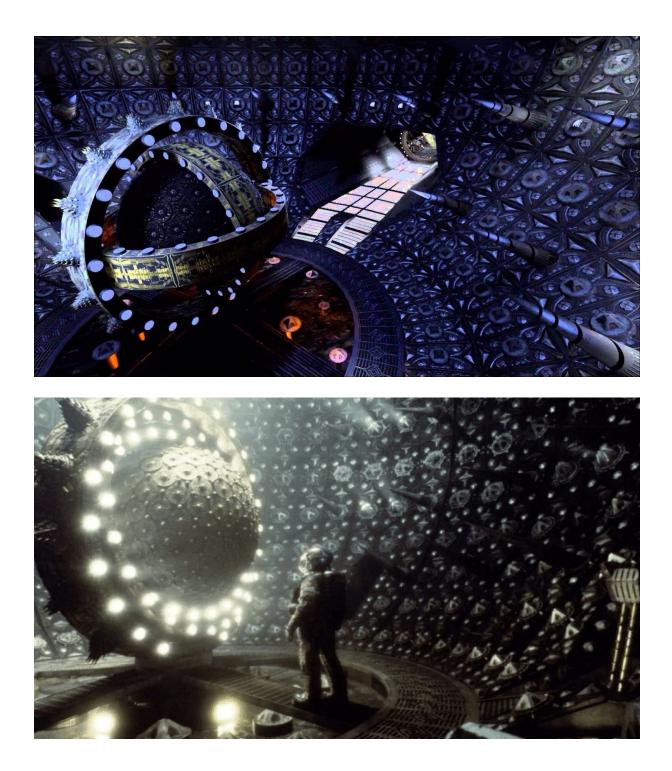




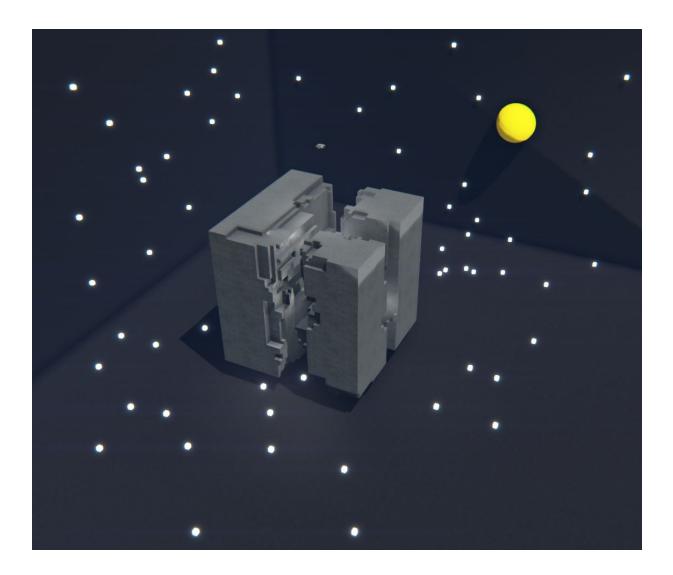












Challenges / Problems

Stable Gravity Swapping : While gravity swapping works it can be unreliable, with its constant shifting from time to time without any indications of why this is the case. This should be investigated to provide smooth, seamless transitions between gravity wells.

Keeping It Simple : The current maze is far, far too complicated for the average player. Playtime clocks in closer to 2 hours if there is any amount of stumbling on the part of the player.

This can lead to frustration with some of the more unusual elements of the labyrinth. Iteration required to improve the experience across the board.

Glossary

Door : A passage that must be opened by the player

Element : An object that can be placed or interacted with

Force Field: A multi-purpose element that can form a wall, door, floor or ceiling.

Held Button : A puzzle mechanic that requires the input to be held while the player continues motion to another point.

Labyrinth : A structure designed to trap or funnel visitors, composed of many tunnels and rooms.

Laser Emitter : When it receives a signal, emits a laser that can be visibly tracked. Can trigger a laser Receiver

Laser Receiver : Triggered by an emitted laser, sending a signal to any connected elements.

Passage: A tunnel the player is able to traverse.

Programming Board : An Element that allows custom lua scripting to be applied to connected Elements.

Puzzle : A challenge designed to test a players mind

T-Passage : Three tunnels joining at a single point

U-Passage : To L tunnels meeting at a single point

Window / Glass : A pane of glass the player is able to see through.

X-Passage : Four tunnels meeting at a single point

Room : a single small room, typically 32x32 voxels in size, within the Labyrinth