# NC゚VAロUARK <br> +- $-\quad$ THE METAVERSE COMPANY - 

## LDD

The Labyrinth

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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



## Metrics

| Metric | Size | Metric | Size |
| :--- | :--- | :--- | :--- |
| Opening (small, <br> vertical) | $2 \times 2$ (voxels) | Opening <br> (Small,Round, Voxel) | $13 \times 13$ (voxels) |
| Opening (small, <br> horizontal) | $4 \times 8$ (voxels) | Door (Hatch, Square, <br> Element) | $6 \times 6$ (voxels) |
| Opening (standard) | $8 \times 15$ (voxels) | Door (Hatch, Square, <br> Element) | $6 \times 6$ (voxels) |
| Door (standard, <br> element) | $11 \times 12$ (voxels) | Hallway | $12 \times 15$ |
| Opening (large, <br> reward room) | $24 \times 38$ (voxels) | $28 \times 56$ (voxels) | Jump Height (w/ <br> basic jetpack height) |
| Opening (huge, <br> exterior) | 11 vertical (voxels) |  |  |
| Opening (Huge, <br> Round, Portal) | $40 \times 40$ (voxels) | Gravity Swap <br> Distance | 10 meters |

## Puzzle Mechanics

## Airlock

Description

Requirements:

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.
Programming Board / lua, Multiple types of Logic Gates (OR, AND), lights, Screen Units, Delays,more visual feedback fx like alarm lights


## Single Button Door

Requirements:
Player presses a single button, and the output object is activated. Each of the buttons have the same effect, regardless of where they are interacted with. .

A Button and/or a Switch, a Door and an optional reset input

SINGLE SWITCH DOOR.

- Toggle open/close


SINGLE BUTTON DOOR.

- Stays open


DOOR.


## Elevator Puzzle (Horizontal)

Description

Requirements:

The player must use the correct elevators to progress. There are duds that will take the player to the wrong location.

Many elevators
only one elevator leads to the OTHERSIDE


## Elevator Puzzle (Vertical)

Description

Requirements:
The player must use the correct elevators to progress. The rest are duds that will take the player to the wrong location.

Many elevators


## Gate Trap

## Description

Requirements:

A mechanism to redirect the player with cruel trickery.
A Button and/or a Switch, a Door and an optional reset input

## GATE TRAP <br> AND DEALING WITH ZERO-G AREAS


-Two XS-GATES ARE DISGUISED AS THE FLOOR.
(1). XS BUTTON that opens the door.
(2). S BUTTON on a pedestal. TRAP!
The gates open and

- Forcefields pops on and off from the highest to the lowest to force gravity on the player, dragging him down until the gates close.
- The player must now go along an alterative path.


## 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.. (Door)

MULTIPLE BUTTONS DOOR


## Detection Zone Door

## Description

Requirements:
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.

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


The DOOR opens as the player approaches And closes / locks behind her.

## Puzzle Set / Reset

## Description

Requirements:

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.

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

## GLOBAL"RESET SWITCHES" BUTION that communicates to all the different constructs

 $\longleftarrow$ SET A SECRET CHANNEL rmb / set emit/rec.channgl $\rightarrow$ "ResetButton42" (c. WIFI TECHNOLOGY•)

RECEIVER
SWITCH RESET SETUP.


## Held Button

| Description | Holding the activate button will keep an element active even if <br> the player has travelled a distance. |
| :--- | :--- |
| This allows for some tricky switches to be created. Must be done <br> with a button due to how its input operates. |  |
| Should be avoided as a mechanic, as it is exploiting an input <br> limitation, rather than being an in-game puzzle. |  |
| Requirements: | Button, Interactable Element |

## HELD-BUTTON DOOR.

- The player must hold the INTERACT
key as she/he steps through the door.



## Pressure Switch

Description

Requirements:

A Pressure Plate detects player presence and sends a signal to the connected Element.

Pressure Plate, Interactable Element

## Schematic

## Laser Forms A Path

Using lasers, we guide the players attention to specific places and give visual feedback. It has no functional purpose beyond acting as visual feedback.

A Laser Emitter connected by wire to an Interactable Element
 LASER TRAILS

- Shows the path to the activated element

A The laser emitters must-be reset before entering the zone to chain properly.

## RESETING LASER TRAIL'S EMMITTERS

SET A DETECTION ZONE IN A FUNNELED PART BEFORE ENTERING THE ROOM

The lasers will flash \& reset as the player gets through the Detection Zone.
D. 2


## Laser Door

## Description

Requirements:

Using lasers, a laser receiver is hit. This triggers an interactable element to activate.

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.

A separate core, with a gravity aligned to a different side than the parent construct.

## See Gravity Swapping chapter

## Delayed Switch

Description

Requirements:


## 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

Requirements:

A multiple-button puzzle, requiring the player to press the correct sequence of buttons to complete it.

Programming Board, Several Buttons, OR operators, AND operators, Interactive Elements (Doors, Forcefields, etc)

## Schematic

## Blocked Path

## Description

Requirements:
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.

Bloted


## Jumping/Platforming Puzzle

| Description | The player is required to use jumping or jetpack to progress <br> through the section. |
| :--- | :--- |
| Requirements: | The jump button |

## Gravity Swapping



CONSTRUCT'S GRAVITY ZONE
Players are influenced by a construct gravity When he/she stands within 10 meters ABOVE (relative to that construct) any of its voxels.



GRAVITY SWAP.

- Not sure what defines the dominance, and is not constant.


FIXING BAD SWAPPING
By moving voxels from one construct to another.


## Labyrinth Entrance Beats

## 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.

Player reaches the area and explores it in their own way, being led by the architecture towards the main door.

NA

E1 Labyrinth Gate


## Schematic Image

| Description: | A massive doorway blocked by a huge forcefield. Emissive <br> voxels enhance visibility on the otherwise dark cube. |
| :--- | :--- |
| To the right of the door, a 'Chalice' stands. Suspended <br> above it is a sign that informs the explorer to enter the <br> elevator within the Chalice via a riddle. |  |
| Inside the Chalice is an elevator that leads to the E2 |  |
| Entrance Maze. |  |

## E2 Entrance Maze

| Description: | Dark and cramped hallways with little light save for that cast <br> by arrows that chart the Golden Path through the maze. <br> Paths are not only on one plane, making players check <br> floors and ceilings for means of progress. |
| :--- | :--- |
| Progression: | The player will need to find their way in the dark, most lilkey <br> by using their flashlight, through oppressive passages. <br> Verticality is a factor. |
| Through following the provided arrows created from <br> emissive voxels, players should be able to determine the <br> correct path with little issue. |  |
| Once they follow the golden path to completion they will |  |
| deactivate the forcefield blocking E1 Labyrinth Gate. |  |

## Interior

## E3 Main Entrance



## Description:

## Progression:

A large room lit by judicious use of emissive voxels. A cavernous ceiling height gives a grand sense of scale to the room itself. The walls are greebled with little details.

Straight ahead, a Screen Unit with another riddle is set into the floor. Another huge door, behind it, is blocked by lasers and a force field.

Beyond that, shining gold textures and huge vertical portals tease the user.

To the left, a dais with an elevator on it, and a large diamond shape pointing to it. To the right, the same but with a triangle shape.

The player must now use their own agency to determine their path. They can select the elevator on the left or right as they wish.
\(\left.\begin{array}{|l|l}If they choose the Left elevator they will begin in F0 Lobby. <br>
If they select the Right elevator they will begin in G1 <br>

Passages.\end{array}\right\}\)| If both sides of the Labyrinth are completed they can access |
| :--- |
| E4 Rewards Room. |

## E4 Elevation Shaft



## Description:

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 <br> patterns of gold. Up a ramp, a hatch hides a button. This <br> button opens a set of large doors covering the final gold <br> portal that leads to the reward dispensers. |
| :--- | :--- |
| Progression: | At first glance this room is straightforward until the player <br> has to reach the ceiling portal. Attempts to do this will quickly <br> reveal that players are turned weightless on the way, and <br> can use a lack of gravity to float into the final room. |
| Once there, if the player has completed both (F) and (G) <br> mazes, the final treasure room access switch will be <br> revealed. |  |
| To leave the maze after this the player will need to float |  |
| upwards into E4 Upper Chamber. |  |

E4 Upper Chamber


## Mechanics:

E4 White Room



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) <br> - 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. <br> 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 <br> - A simple button disables the forcefield and lasers. |
| E4 Vertical Passage |  |




E4 Elevator Puzzle (Horizontal)


## E4 Maze

$\left.\begin{array}{|l|l}\text { Description: } & \begin{array}{l}\text { A series of hallways lead to two potential portals, carved in } \\ \text { walls, downward into a series of extremely reflective metal } \\ \text { passages that must be navigated. }\end{array} \\ \hline \text { After the maze, the player finds themselves in another } \\ \text { button shaft overlooking E4 Vertical Passage and contains } \\ \text { an elevator. }\end{array}\right\}$


| Description: | This next area contains another overlooking glass wall, this <br> time shattered, leading to a 'button room', but the button is <br> broken. This leads the player to a series of tunnels. |
| :--- | :--- |
|  | A series of 3-Entry Ramps are connected here, with the first <br> leading to a broken passage.This connects to the top floor of <br> the E4 Vertical Passage. This room is full of smoke and <br> damage. The rest of the ramps lead downward to E4 Black <br> Hole Room. |
| It also connects to a secret passage with bright rainbow |  |
| accents. |  |

E4 Black Hole Room


General path of the Black Hole room.


Side view of room configuration.

## Description:

$\square$
Progression:

Mechanics:

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.

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.

## 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.


## E4 Four Doors


$\left.\begin{array}{l|l}\text { Description: } & \begin{array}{l}\text { A huge, well lit room with a massive, high-vaulted ceiling. } \\ \text { There is a ramp downwards leading to four doors, set behind } \\ \text { four pressure plates. }\end{array} \\ \hline \text { Beyond those, a series of dark tunnels sporadically lit by } \\ \text { emissive voxels, winding around until they all eventually } \\ \text { connect back into a singular path. }\end{array}\right\}$

- The player must use the pressure switches to activate the doors and select their route. They cannot backtrack.

E4 Platforming Puzzle


Description:
This area is dark and difficult to see within. The player can find themselves at different points within the room depending on what exit from E4 Four Rooms they took. Emissive


Doing so reveals an elevator. This elevator takes them to the
E4 Final Passage. 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 Tube-maze Puzzle \& Horizontal Zero-G Shaft



## Description:

## Progression:

## Mechanics:

When the player enters this room, he sees 4 human-sized holes in the wall and a locked door.

He must find a way to open the door inside one of these tunnels, until he finds a BUTTON.
Pressing it opens the door to E4 Horizontal shaft.

## Navigation

- 4 entrances lead to a small tube maze


## Button Door

- A button activates the landing gear to act as a platform.


## E4 Others



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

E4 Final Passage


## Description:

## Progression:

The player finds themselves in a near lightless section. There are dark walls and floors, but a shining trail of golden hued voxels lead the way into a passage.

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

 the HATCH will be exposing a BUTTON.
 THE SHUTTER DOOR

- Stack of 4 Layers of doors


NICE and Noisy! CIANK! !


## Description:

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.
$\left.\begin{array}{|l|l}\text { From there they simply need to ascend the gold pile, press } \\ \text { the button and proceed through revealed exit teleporter. This } \\ \text { will lead back to the E4 Rewards Room where the player } \\ \text { can, at last, open the final set of doors to access E4 }\end{array}\right\}$

## Labyrinth Interior 1 - Breakdown /Beat Chart

Floor 1 (G1)

## G1 Passages

| Description: | A series of passages and rooms connect across a maze. <br> Use of reflective materials is high, and several offshoot <br> rooms lead to dead ends and interesting topographical <br> features. These form interesting landmarks to help you <br> orient yourself. |
| :--- | :--- |
| One of the wrong paths leads to a 'secret' room. |  |

Floor 2 (G2)

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

Floor 3 (G3)

| G3 Passages |
| :--- |
| Locked hatch and blocking forcefield. |
| Description: |
| Another maze passage floor with a more conventional route. <br> Like the previous two floors, features are very similar from <br> place to place within the maze. <br> Several Screen Units are given a treatment to appear like <br> red force fields. A single Force Field prevents progress <br> without using the Hatch. |


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

G4 Black Room


The Black Room, with jumping puzzle platforms


Exit portal in the ceiling
\(\left.$$
\begin{array}{|l|l}\text { Description: } & \begin{array}{l}\text { A huge, nearly lightless room. Occasional presence of } \\
\text { emissive voxels, a stark red glow from Screen Units, and } \\
\text { reflective red metal voxels set as floating platforms in the } \\
\text { room. }\end{array}
$$ <br>
\hline At the opposite end of the room on the left is another <br>
triangular red passage leading to an elevator. In the ceiling <br>
is another door, exactly the same as the other two triangular <br>

passages.\end{array}\right\}\)| 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 |

## Floor 5 (G5)


(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 <br> highly reflective iron. Set in the floor and walls are reflective <br> red metal voxels that create accents. |
| :--- | :--- |
|  | Within the room itself are hundreds of small emissive voxels <br> that create an unusual maze that involves much trial and <br> error due to illusion. |
| Progression: | Navigating this successfully leads the player to the exit gate. <br> To use it the player must activate it via a Held Switch in the <br> floor. By holding the door button and then quickly tapping the <br> button on the revealed exit switch, the player unlocks the <br> 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

## G6 Passages




## Description:

Progression:

## Mechanics:

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.

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.

## Light/Shadow Play

- Reflection/refraction creates interesting illusory results.

```
G6 Passages - L1
```



BY PRESSING THE BUTON, THE LASERTRAIL IS IN'TTIATED. FOLLOW IT TO THE LOCKED DOOR, ONCE UNLOCKED, THE LASER TRAIL WILL HIT THE LAST RECEIVER, STARTING THEAIRLOCK CLANKING.
\(\left.$$
\begin{array}{|l|l}\text { Description: } & \begin{array}{l}\text { Taking the left path leads the character to a red passage } \\
\text { that opens "downward" into a reflective metal room. Within, } \\
\text { bright emissive voxels and reflective red voxels are arranged } \\
\text { in a solar-system like formation and linked by red lasers. }\end{array}
$$ <br>
A passage opens in the wall, leading a ways towards a <br>
locked door. Above it, a button to open it is recessed in the <br>

ceiling within an emissive voxel decoration.\end{array}\right\}\)| In the center of a room is a pedestal, upon which sits a |
| :--- |
| switch. |$\quad$| Activating the button set into the pedestal in the middle of |
| :--- |
| the room will set off a Laser that will guide the player |
| towards the door and into G6 Passages L2 |

## 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.


HOLD THE BUTION TO OPEN THE AIRLOCK COMPLETELY Quickly Press THE SECOND BUTION TO OPENTHE 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
$\left.\begin{array}{|l|l} & \begin{array}{l}\text { through which the player entered, and a second at the far } \\ \text { side. A switch is set into the ceiling as with the hallway prior. }\end{array} \\ & \text { A pedestal in front of the wall door hosts a second switch. } \\ \text { In a corner, an elevator is positioned to provide exit should a } \\ \text { player become stuck. }\end{array}\right\}$



|  | 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. <br> The exit will then open, leading the player to G6 Passages R3 |
| Mechanics: | Light/Shadow Play <br> - Reflection/refraction creates interesting illusory results. <br> Laser Forms a Path <br> - A laser path is created from the switch pedestal and into the next room. <br> Held Button <br> - To exit this room the player must hold the wall button down to reveal the exit door switch. <br> Laser Switch <br> - A laser must be emitted into the final pillar to complete this puzzle and access G6 Sword Room. |



|  | the laser in the previous passage). Behind it is a star-shaped <br> voxel decoration with a switch on it. |
| :--- | :--- |
| A pedestal near the exit door holds a button the player can <br> press. |  |
| On the floor near the entrance is an elevator that will return |  |
| the player back to G6 Passages. |  |




## 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.
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.

## Button Door

- Several doors within this series of passages are standard button interactors.


## Labyrinth Interior 2 - Breakdown / Beat Chart

## GUIDMGPATIRNS

IDENTIFICATION of the Accesses and Switches

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



## Entrance (F0)

F0 Lobby


## Description:

## Progression:

Player enters F0 Lobby. Upon doing so they trigger an invisible sensor that resets this room to make certain the shield is reset between users.

In the center of the room is a Medium Screen Unit. It gives basic details about this section of the labyrinth.

To the right, a single door is blocked with a Medium Forcefield. Beyond it is a downward passageway in the floor that leads to F1 U-Passage.

In front of the screen is a small pedestal upon which is a Button. When pressed, the Force Field is disabled. This allows the player to enter the maze itself.

Player is given a chance to learn about the maze via the Screen Unit, and learns that pressing a button can turn off a force field.

From there they enter the passage, and begin the actual

|  | maze. |
| :--- | :--- |
| Mechanics: | Button Door <br> $-\quad$Activating the button will deactivate the forcefield, <br> allowing the player to enter F1 U-Passage. |

## Floor 1 (F1)



Floor 1 interior. Contains U-Passage, Puzzle Room, Airlock

F1 U-Passage


Description:

The player falls down a shaft from F0 Lobby approximately 10 meters to land on the floor of the maze below.

Looking straight down reveals a pane of glass, beyond which a passage can be seen with a completely different gravity field. If other players are present the illusion will be compelling.

Ahead of them is a stretch of passage they can explore that leads to the F1 Airlock. This is blocked by a Medium Forcefield. To deactivate it, they must enter the F1 Puzzle Room.

To the left of the starting position is a large room (F1 Puzzle Room) with a puzzle that deactivates the forcefield.

On the floor between the F1 Airlock and the F1 Puzzle
\(\left.\begin{array}{|l|l}Room are two passages in the floor. The first, blocked by a <br>
Small Force Field, leads to the next part of the maze. The <br>
second, also blocked by a Small Force Field, goes nowhere <br>

and is purely decorative.\end{array}\right\}\)| Estimated Play Time: 30s to 60s |
| :--- |

## F1 Puzzle Room

## COLORED SWITCHES PUZZLE



Description:

## Progression:

A large room with 3 cylinders in the center, and a large gate on the wall blocked by a Medium Force Field.

Hidden in plain sight in the entrance passage, on the floor are 3 configurations of screen-shaped voxels colored black, black, red. This is the solution to the puzzle.

Entering the room reveals a Hatch on a wall, and 2 Screen Units on each of the cylinders, each paired with a button. In front is another pedestal with a single button on it. On the floor beneath it is a Pressure Plate.

Estimated Play Time: 2 to 5 minutes
To complete the puzzle the player must take note of visual cues.

|  | Once they have pressed the Red screen button and the <br> other two switches remain inactive, and press the pedestal <br> Button, the Hatch on the wall opens to reveal a switch. This <br> switch will deactivate the Force Field to the F1 Airlock. |
| :--- | :--- |
| The Pressure Plate serves only to make sure the |  |
| programming board is activated/reset. |  |

F1 Vertical Passage


## Progression:

## Mechanics:

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.

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.

## 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



## Description:

## Progression:

The F1 Airlock is a series of 4 rooms connected to an exterior section of the Labyrinth. Each room contains a button, a door, and a screen. The final room contains a second button on its wall, overlooking the cube exterior via a window. There is a second window, visible from the entrance, that overlooks the interior of the cube.

Estimated Play Time: 1m
Once the player has passed the F1 Airlock they can then activate the button on the wall in the final room. This deactivates the forcefield blocking the Vertical Passage, granting access to Floor 2.

Activating the button will also turn on (with a short delay) laser emitters that guide the player back the way they came, visible through the window.

## 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

$\left.\begin{array}{|l|l}\hline \text { Description: } & \begin{array}{l}\text { The primary area of F2 is the L-Passages. In one wall is a } \\ \text { window overlooking the glass floor of F1, providing a unique } \\ \text { perspective into the different gravity between sections. } \\ \text { These passages lead to two places of note: the F2 Gravity } \\ \text { Shaft and the F2 Ramp. }\end{array} \\ \hline \text { F2 Gravity Shaft is blocked by a forcefield accessed via a } \\ \text { button in the F2 Ramp. Typically this route will only be } \\ \text { noticed on the return trip from F3. } \\ \text { Estimated Play Time: 2m }\end{array}\right\}$

## F2 Gravity Shaft

| Description: | A vertical shaft blocked by a forcefield. This leads the player <br> upwards. |
| :--- | :--- |
| Progression: | After disabling the forcefield via the button in F2 Ramp the <br> player can access this shaft and head 'up' towards F4. <br> Gravity will again change once they move ahead. |
| Mechanics: | Button Door <br> Gravity Shift |

## F2 Ramp

## Description:

## Progression:

## Mechanics:

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.

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.

## 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 <br> a simplistic "maze". The player cannot get lost here. |
| :--- | :--- |
| At the end of the passage is a Screen Unit marking this as a <br> Security Clearance area. It is in front of a Force Field that <br> blocks the way into the F3 Switch Room. |  |
| Estimated Play Time: 1m |  |



Returning to the F2 Ramp will reveal the Gravity Shaft Button to players that did not notice the passage on the way into F4.

## 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 <br> disabled (via F2 Gravity Shaft Button.) |
| :--- | :--- |
| There is a single button on the wall. Above it is a Screen <br> Unit that displays the purpose of the button. <br> Estimated Play Time: 1 m |  |
| Progression: | Activating the button in this room will disable the force field <br> blocking the F4 Teleporter Room. |
| Mechanics: | Button Door <br> Gravity Shift <br> $-\quad$ 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:

## Mechanics:

The player can simply pass through this passage as desired.

## 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 <br> they enter it. At that point their gravity swaps and they are on <br> the "ceiling". |
| :--- | :--- |
| A room with a wall dividing two halves, with a doorway <br> towards the left side. Beyond the wall is a hole in the <br> opposite wall that is blocked by a forcefield, a console with a <br> screen and button, and a room locked by a forcefield. |  |
| Estimated Play Time: 1m |  |

## F4 Teleporter Room

| Description: | Blocked by a forcefield initially. Once opened, the room can <br> be seen to be featureless, glossy black material with a <br> teleporter on the floor. |
| :--- | :--- |
| Progression: | Accessed by disabling the forcefield via F3 Switch Room <br> button. |
| Taking the teleporter within leads to F5 Field Maze. |  |
| Mechanics: | Button Door <br> $-\quad$The button here disables the force field that blocks <br> 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 $32 \times 32$ 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: 3 m |
| :--- | :--- |
| Progression: | To disable the force field barring the route to Field Maze 2 <br> the player must navigate a small sensor-based puzzle. |
|  | Doors in this section have Detection Zones that, when the <br> player is nearby, erect a forcefield wall that prevents them <br> progressing. This forces them to find another route. |
| Mechanics: | There are two switches to hit here: One to open a forcefield <br> that blocks the second half from access, and one that opens <br> the route to Field Maze 2. |
|  | Detection Zone Door <br> - <br> Most entryways in this section have sensors linked to <br> forcefields preventing progress unless the correct <br> route is chosen. |
| Button Door |  |
| - Players can press buttons in two places here to |  |
| activate the necessary switches to progress. |  |

## F5 Field Maze 2




## Button Door

- There are numerous fake-out buttons that activate forcefields serving no part in the actual solution to this puzzle.


## Floor 6 (F6)

## F6 Dark Passage



## Description:

## Progression:

## Mechanics:

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.

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.

## 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


## F6 Light Passage

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

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 $32 \times 32$ voxels in size, within the Labyrinth

