Mechanics of Vertigo Void

This document outlines the core mechanics of Vertigo Void – movement and characters abilities as well as all the object types within the game.

Player Movement

The camera will always be positioned behind the player

When stood on solid ground, the player is able to:

- Walk forward (default key: W)

- Turn Left/Right (default keys: A/S)

- Turn around (default key: X)

- Jump – either forward on the spot (default key: space)

In addition to these basic movements, the unique mechanic in Vertigo Void pertains to walking on walls and over edges. The rules that are applied to "wall-walking" are defined below:
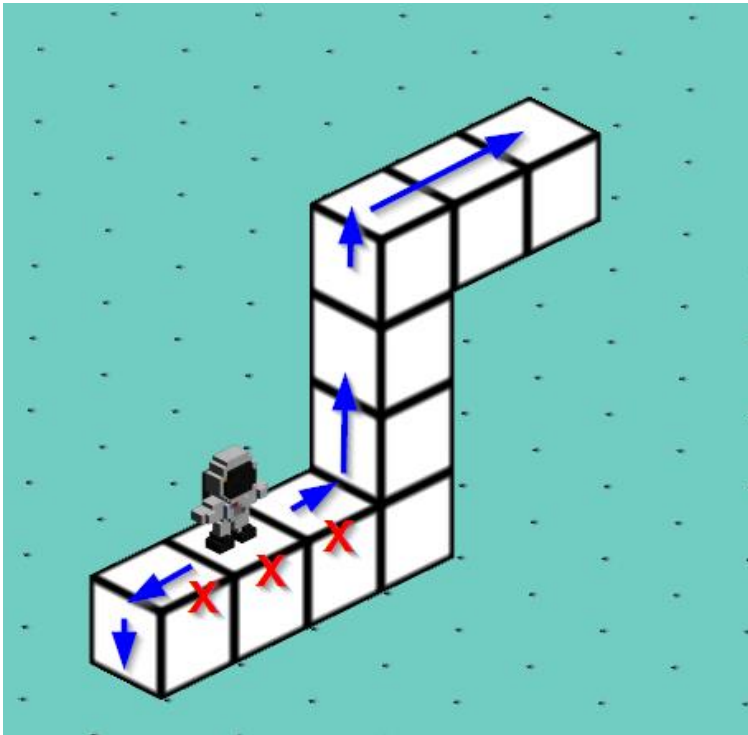
Rolling over edges
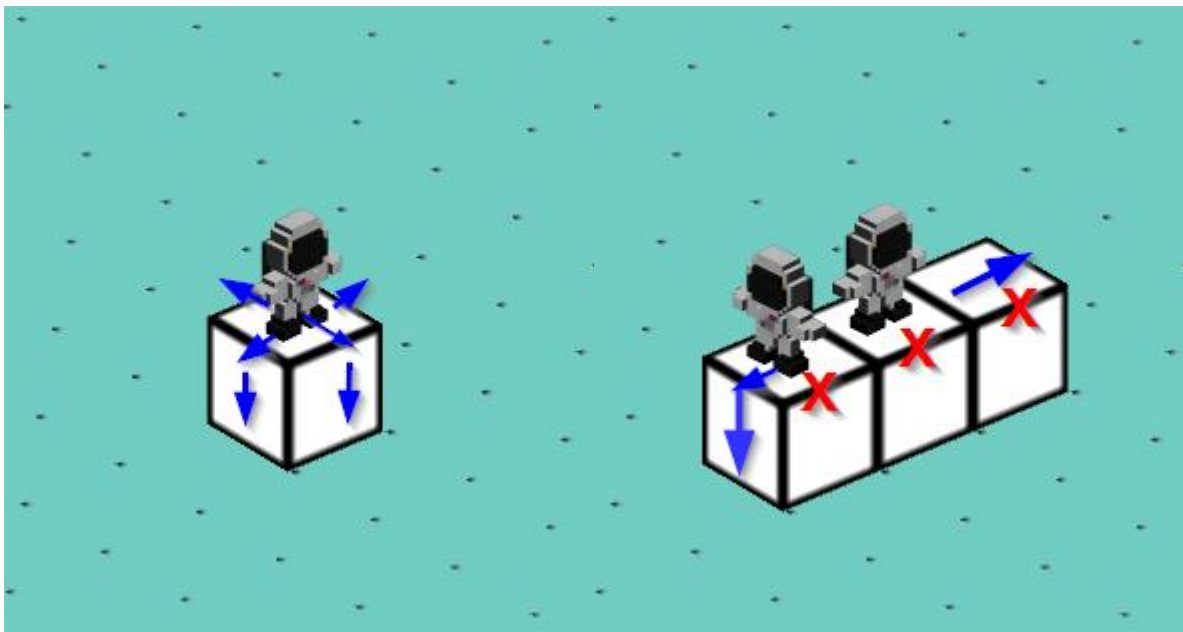
The player is able to roll/walk over an edge provided that edge does not have another block adjacent to it. As shown in the first image, none of the edges of the block are adjacent to another block therefore the player can walk over any of the edges.
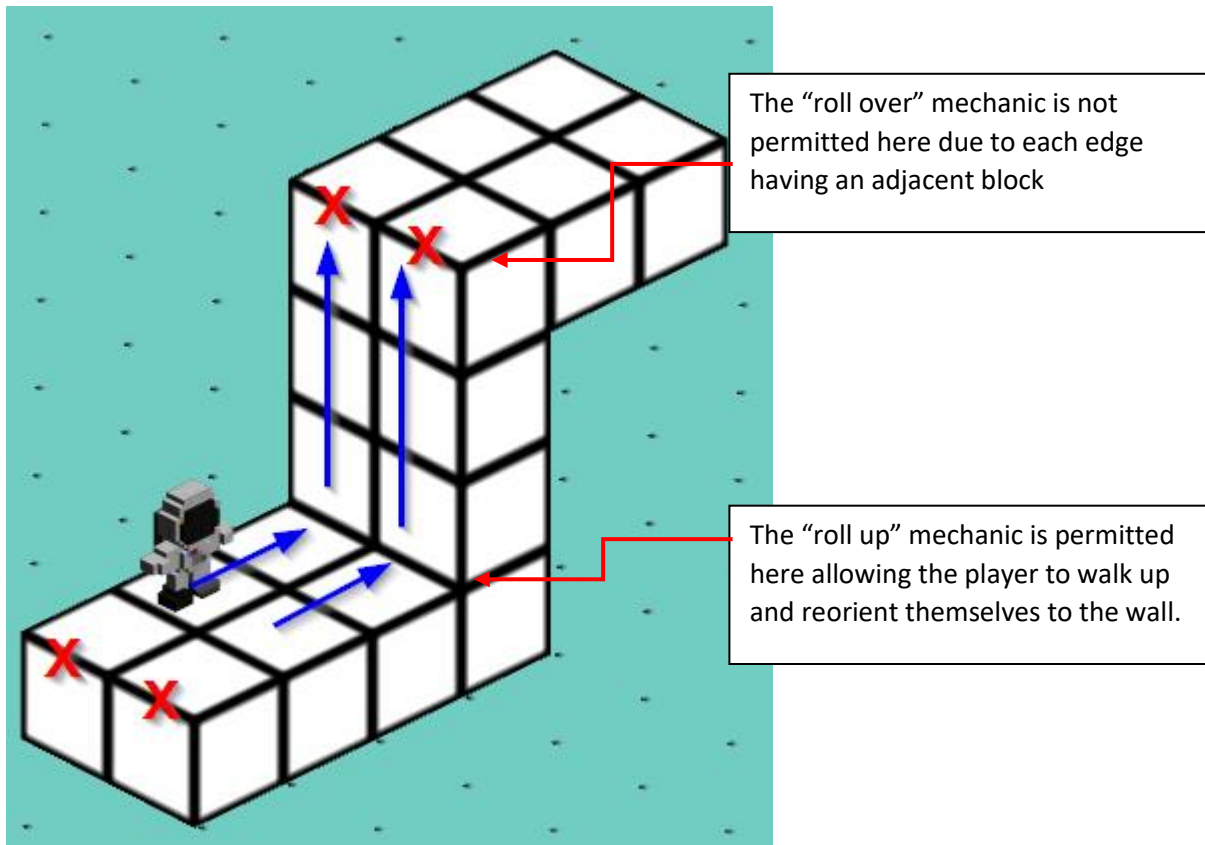
In the image on the right, the edges that the player is permitted to walk over are shown with blue arrows. The edges with the red crosses cannot be walked over by the player because there is another block adjacent to them.

Walking up walls

The player is able to roll/walk up a block that is immediately in front of them. There are no restrictions on walking up a wall in this fashion.

Example of walking "up" an edge and attempting to walk "over" another

The "roll over" mechanic is not permitted here due to each edge having an adjacent block

The "roll up" mechanic is permitted here allowing the player to walk up and reorient themselves to the wall.

Vertigo Void Objects

The following pages outline all of the objects required for Vertigo Void's core and extended gameplay mechanics.

Astronaut

The astronaut is the player character – a cute little voxel character who moves through the game levels in a comical fashion.

Regular Block

Regular blocks have no special properties, they can be both stood upon and walked/rolled over with no risk to the player.

Bounce Block

Bounce Blocks have three special properties:

-If the player jumps upon them using a forward jump the player will be bounced forward again automatically. They will also retain their current momentum ie: if the player is launched a greater distance via a turntable, the bounce block will also bounce them an equal distance.

-If the player jumps upon them while stationary, the player will be flipped upside down, shifting their centre of gravity – a crucial mechanic for many levels.

- If the player jumps face on toward a Bounce Block they will be repelled back to the location they jumped from.
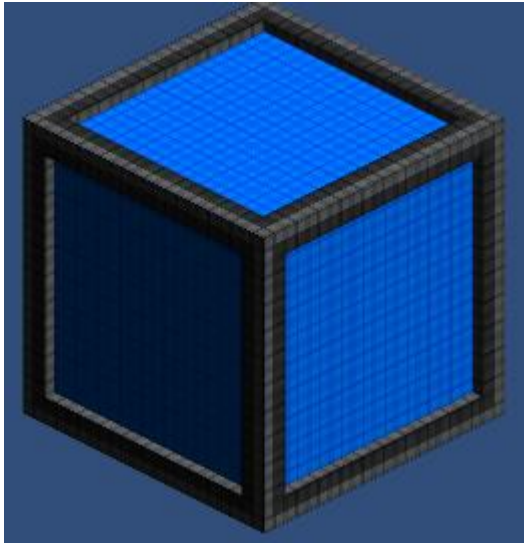
Sticky Block

Sticky Blocks have two special properties:

-If the player is stood on a sticky block they cannot jump

-If the player jumps toward a stick block they will be "caught" and reoriented so they are standing on the surface they touched on the sticky block.

Holo Block

Holo Blocks deteriorate over time, going through 5 stages of transformation before fully degenerating.

-When the Holo Block is fully deteriorated, their collision object is disabled, meaning the player will fall through the empty block framework and the block can no longer be used for platforming.

-Holo Blocks should be used to provoke panic and kneejerk reactions from players in puzzle setups.
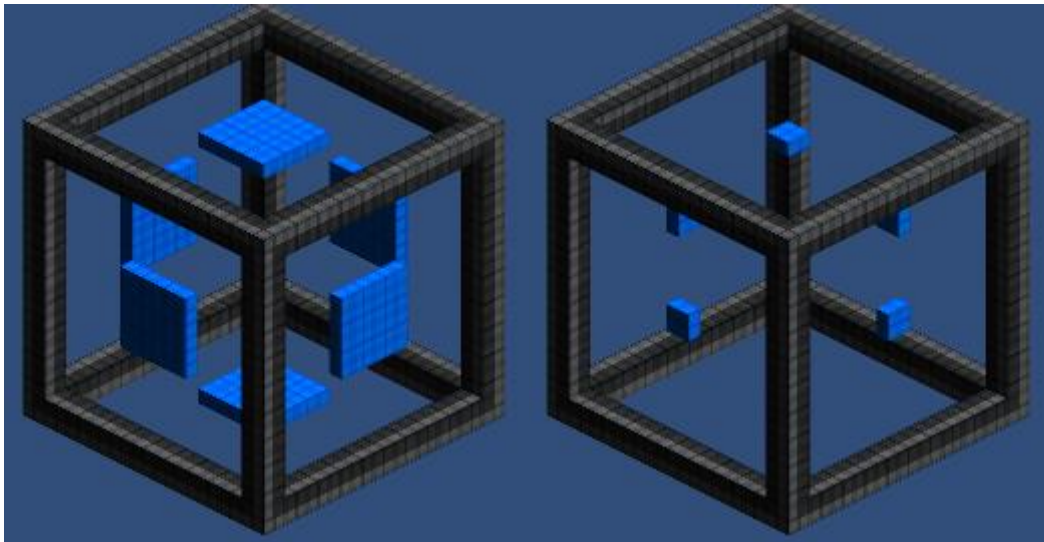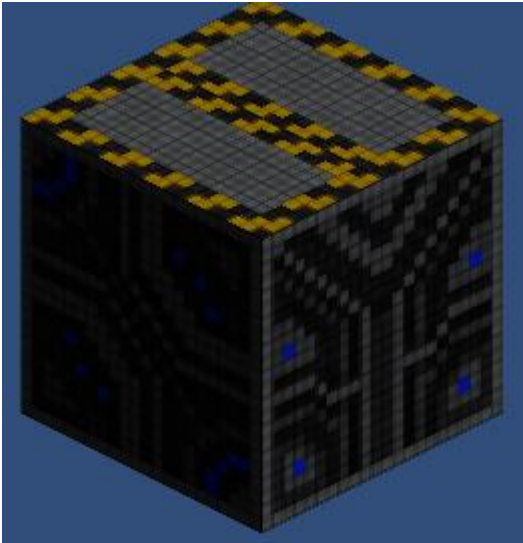

Invisible Block
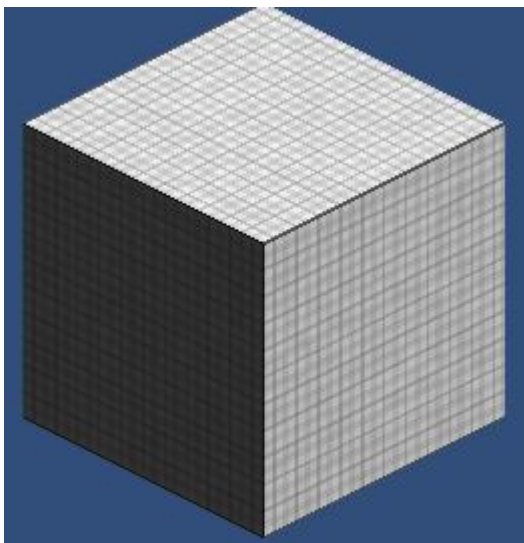
Invisible Blocks are invisible to the player unless the player comes within a short distance from the block.

-The alpha value of the material scales from 0 to 1 based on the player's distance from the object – the closer they are, the easier it is to see the Invisible Block

Exit Block

Exit Blocks are the goal of all levels. The player must reach the opened hatch and enter it to finish the level.

-All Exit Blocks start the level in a closed state. The player must locate all the buttons in the level in order to unlock the Exit Block and complete the level.

-A particle trail emits from the Exit Block when it is unlocked to help draw attention to the level exit and make it a little easier to locate.

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Transporter Networks
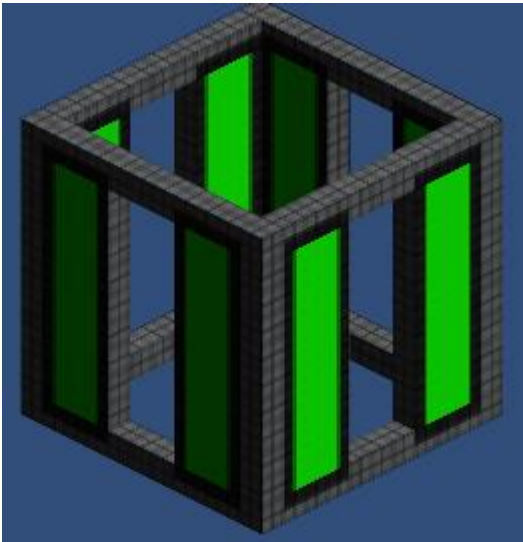
Transporter Networks are a series of linked nodes with an entry/exit point on either end. They propel the player quickly through the transport tube and deposit them out the other end.

-The player's rotation/orientation is retained throughout their journey in the transporter network, meaning they won't necessarily have a safe landing on the other end.

-The transporter network can be of any size/direction

Tractor Beams
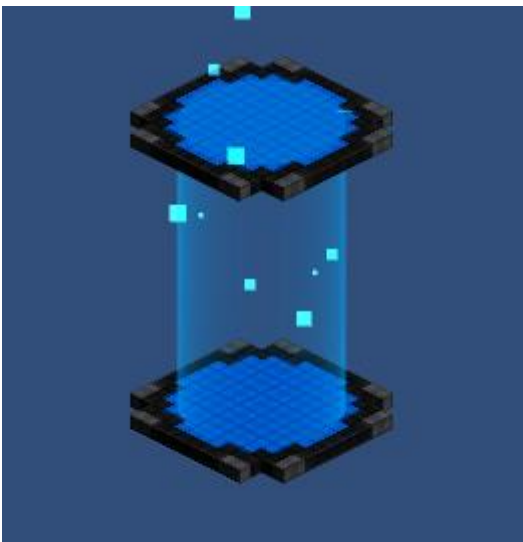
Tractor beams pull the player to the source of the beam.

-The trip is one-way only.

-The player can safely jump into any part of the tractor beam and will be caught and carried along.

-Particle effects should denote to the player which direction the beam will pull them in

Jet thruster

Jet thrusters instantly kill the player on contact and should be introduced to player as deadly traps via tutorial.
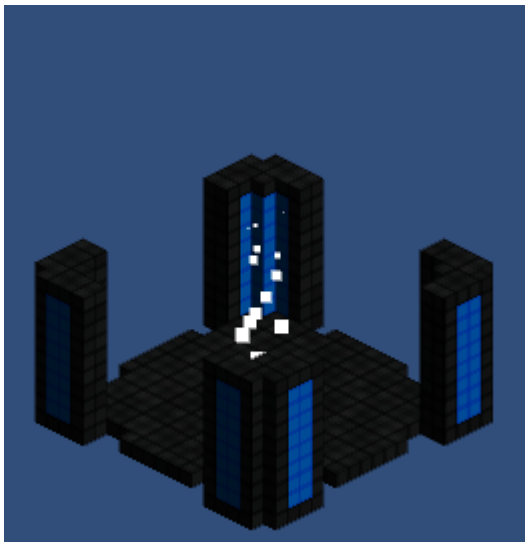
The flame can be jumped over, but the timing and positioning is demanding.

Thrusters come in two types:

-Constant: The flame on these thrusters never goes out, meaning the player must find another route or risk jumping over the flame.

-Timed: Thrusters with timers will emit flame for a period of time then go out. The process repeats endlessly.

Teleporter

Teleporters come in linked and colour-coded pairs. Stepping onto a teleporter will warp the player to its linked teleporter elsewhere in the level. Both teleporter pads can be used both ways an unlimited number of times.

Later puzzles should make use of the colour pairing in tandem with mirrored level visuals to test the player's memorisation skills.

Turntable

A turntable turns the player 90 degrees and flings them off with a double-length jump in that direction, allowing the player to jump further than usual and reach otherwise inaccessible areas.

The direction of the texture on the Turntable denotes the direction the player will be rotated when they step onto the Turntable. Simple tutorial levels should allow the player to make this visual<>gameplay connection themselves.

Bonus Items

Bonus items can be collected to increase the user's score and also unlock the "Perfect" rating for each level.

The Green Dot pickups provide a minimal boost to bonus points and should be used to subtly guide the player along a certain path in early levels/when new mechanics are introduced.
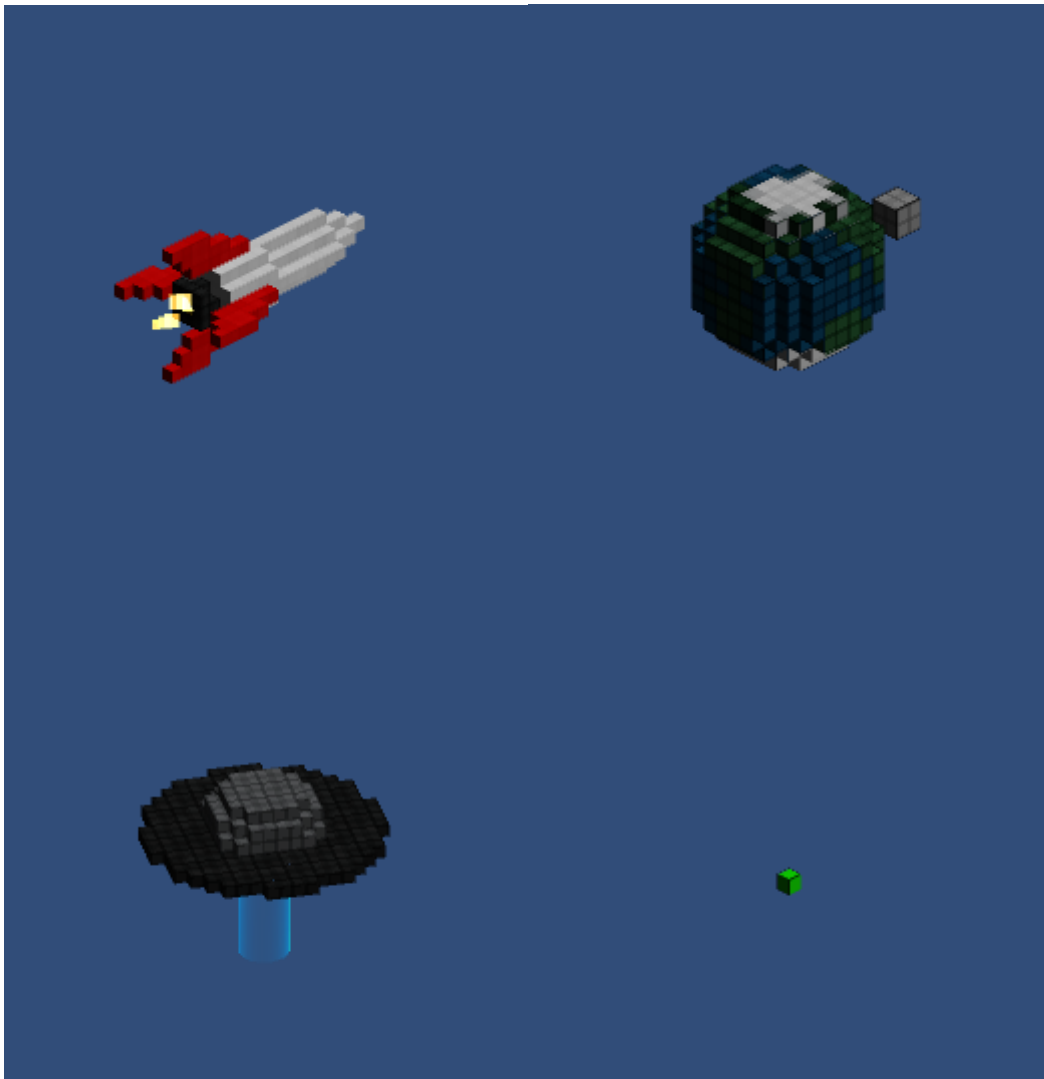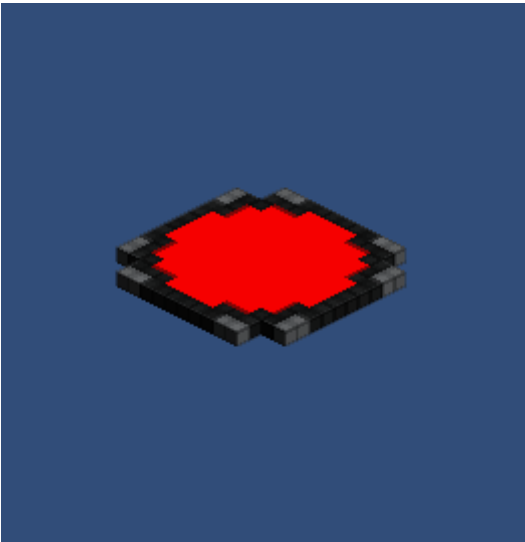
Tutorial Marker

Tutorial markers display tips and hints to the player on contact. They are primarily used to introduce new mechanics to the player.

Button

Each level has at least one button in it. In order to unlock the exit and complete the level, the player must locate and press all the buttons on a given level.

Buttons have 2 distinct states:

Red: Not yet activated

Green: Activated

Speed / Slow Capsule

Time capsules come in two varieties and are distinguishable by the speed at which they rotate.

-Speed Capsules make the level timer tick down faster (x1.5 speed). They are wholly negative pickup for players and should be avoided wherever possible.

-Slow Capsule make the level timer tick down slower (x0.5 speed) allowing the player more time to complete the level.

Picking up either capsule will replace the current effect, eg: if a speed capsule is in effect, collecting a slow capsule will set the timer to 0.5x the regular game speed. They overwrite each others effect, rather than cancelling it out.

Outdated – prototype render of all object types to establish visual style