

ReadMe

The main unity scene is in the `Scenes` directory and is named **Main**.

Interaction Techinques

Main Menu

To select a level, press and hold the touchpad button. A raycast will shoot forward out of the controller. Hover over the level you want to play and press the trigger button.

Commands

The aim of the game is the use commands in the 3D grid to make a drone complete certain tasks. The commands are as follows:

Action Commands

- **Move Forward:** moves the drone forward (drone will constantly fly forward until a move up/move down command)
- **Move Up:** move the drone upward (drone will constantly fly up until a move forward/move down command)
- **Move Down:** move the drone downward (drone will constantly fly down until a move forward/move up command)
- **Turn Right:** turns the drone right
- **Turn Left:** turns the drone left
- **Grab:** If there is a box below the drone, it grabs it
- **Drop:** If the drone is holding a box, it drops it

Conditional Commands

These will check for a condition before executing an action command that is placed inside it


- **If Box Red:** Executes the command inside if the current held box is red
- **If Box Green:** Executes the command inside if the current held box is green
- **If Box Blue:** Executes the command inside if the current held box is blue
- **If Button Below:** Executes the command inside if there is a button directly below the drone

Loop Commands

- **Mark Start:** Stores the drone's position and direction so that it can be teleported here later
- **i=0:** Set i to 0
- **i<0:** Executes the command inside if i is 0

- **i++:** Increment i by 1
- **Go to Start:** Teleports the drone to the last Mark Start command that the drone executed

Command Virtual Hand/Toolbelt

In the level, a virtual toolbelt surrounds the user. This toolbelt has the commands that can be picked up and placed in the grid. To pick up a command, place the controller on the command and hold the trigger button. To place the command, move the held command to the desired spot and release the trigger. Commands already placed in the grid can also be moved. To delete a command, either place it out of bounds or in the green trash can on the toolbelt. You can cycle between action and conditional commands by touching the  symbol above the trash can and pressing the trigger button. The grid is not editable unless execution is stopped.

5-Button Touchpad

In order to control playback, we have implemented a 5-button touchpad control.

- **Play/Pause (center button):** execution will play or pause
- **Stop (left button):** execution will stop and the grid will become editable
- **Step (right button):** execution plays for a single move before pausing, useful for debugging
- **Faster (up button):** drone speed increases
- **Slower (down button):** drone speed decreases

Informing the User

We communicate information to the user (task description, errors, etc.) through a floating window in the level. The window will always face the user regardless of where they are in the level.

Quitting

To quit a level, the home (menu) button must be pressed twice quickly.