

NY Magic Leap Meetup

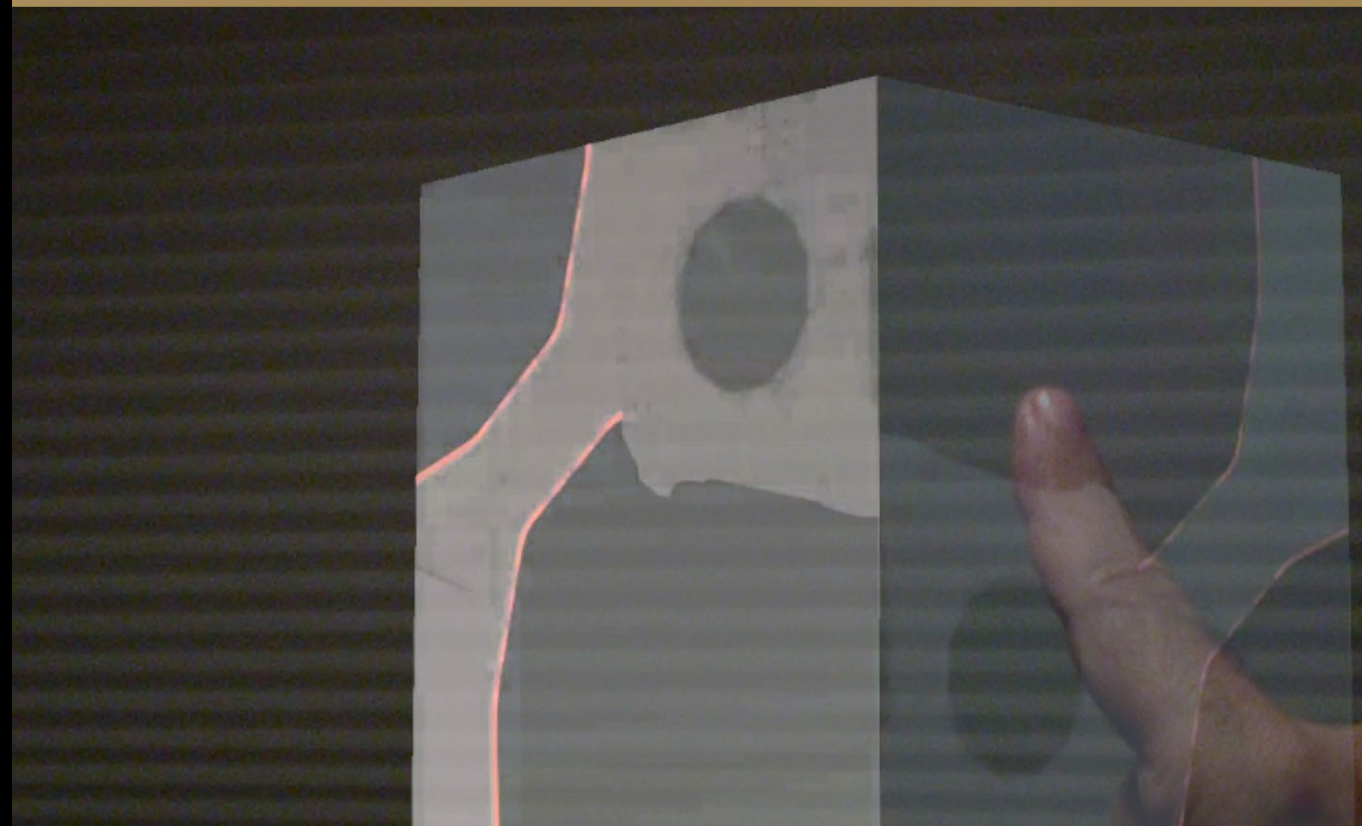


Building 3D Interfaces with Magic Leap

July 24, 2019

Magic Leap 3D Interfaces

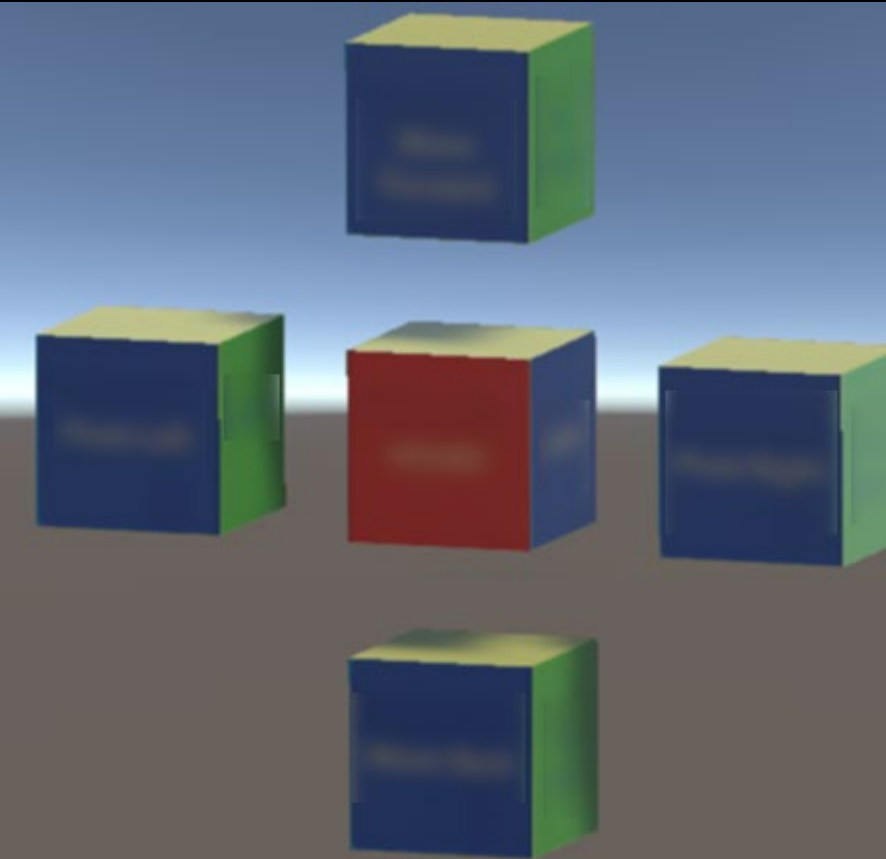
Touch Gesture Interaction



Drone controlled using
Magic Leap Hand Gestures

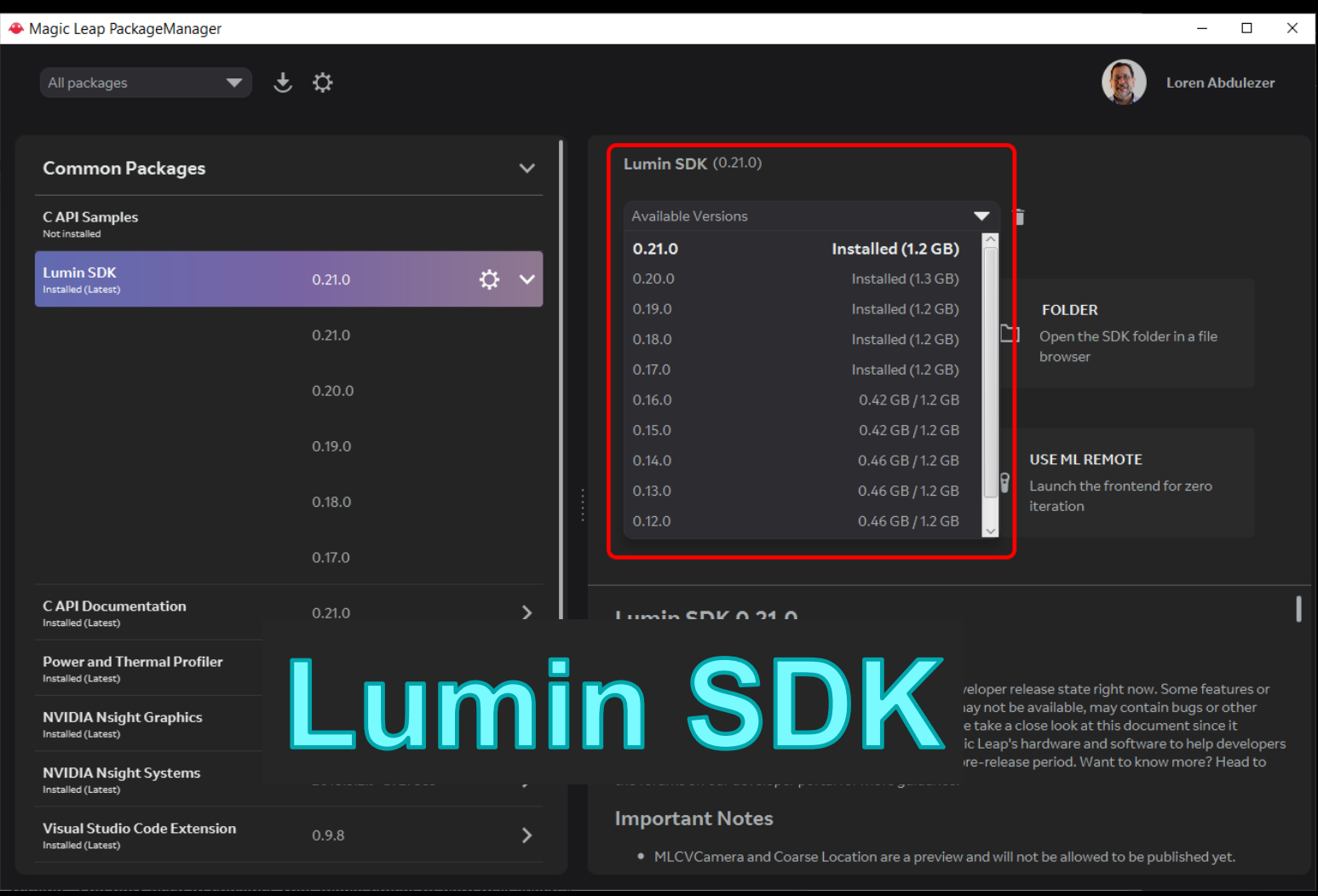
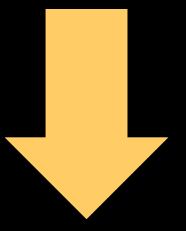
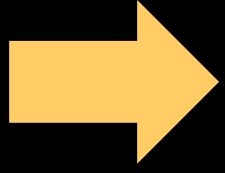
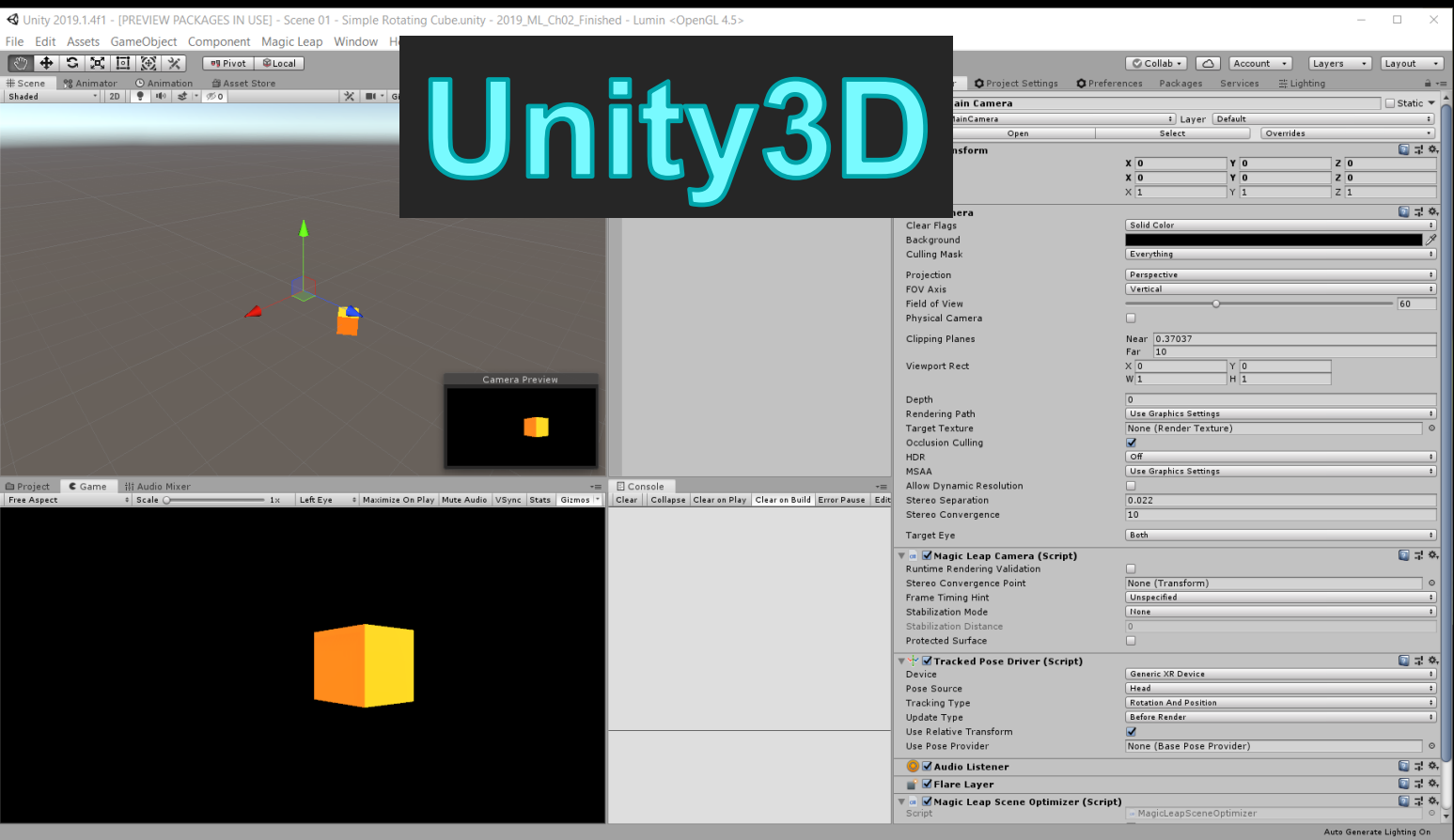


Magic Mover Interface

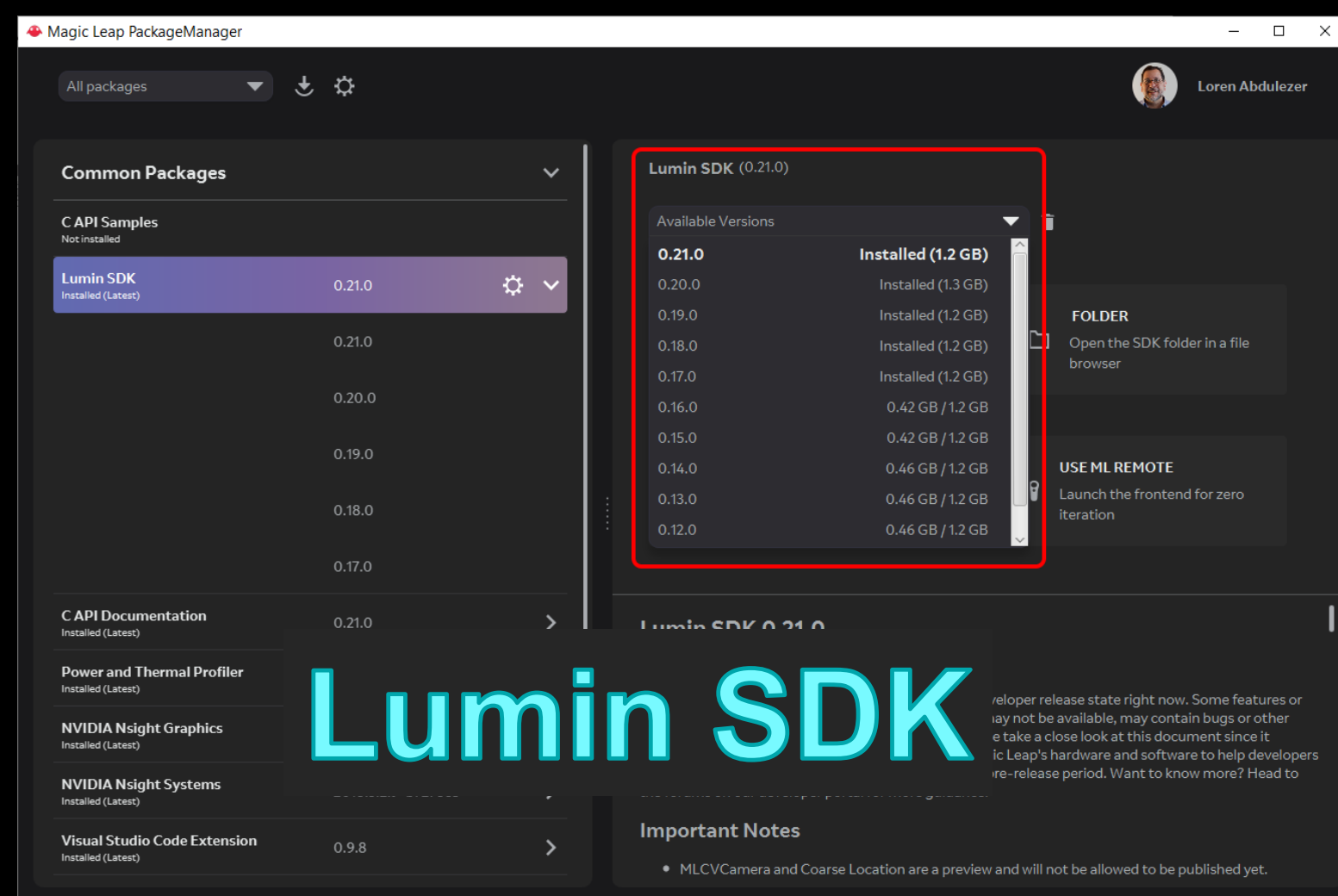
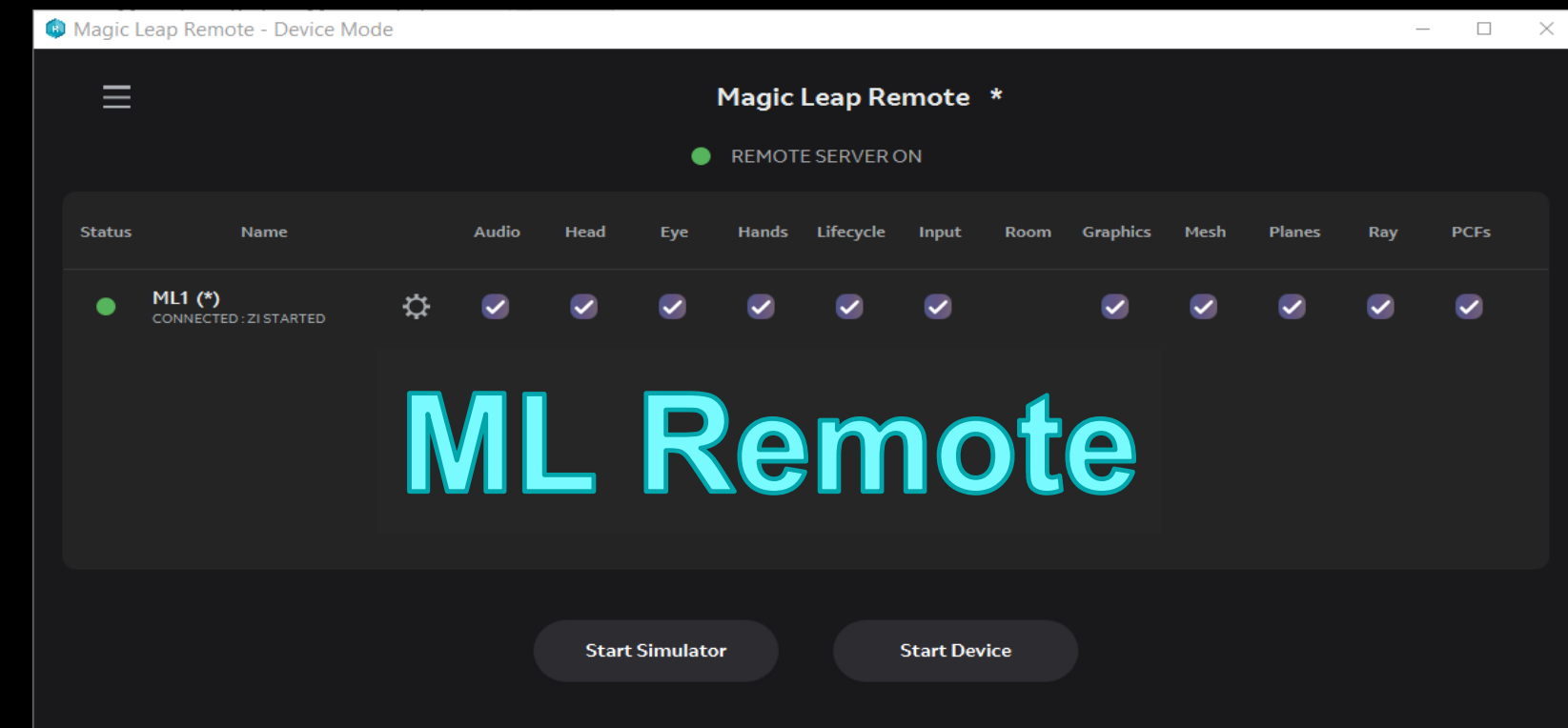
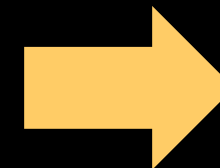
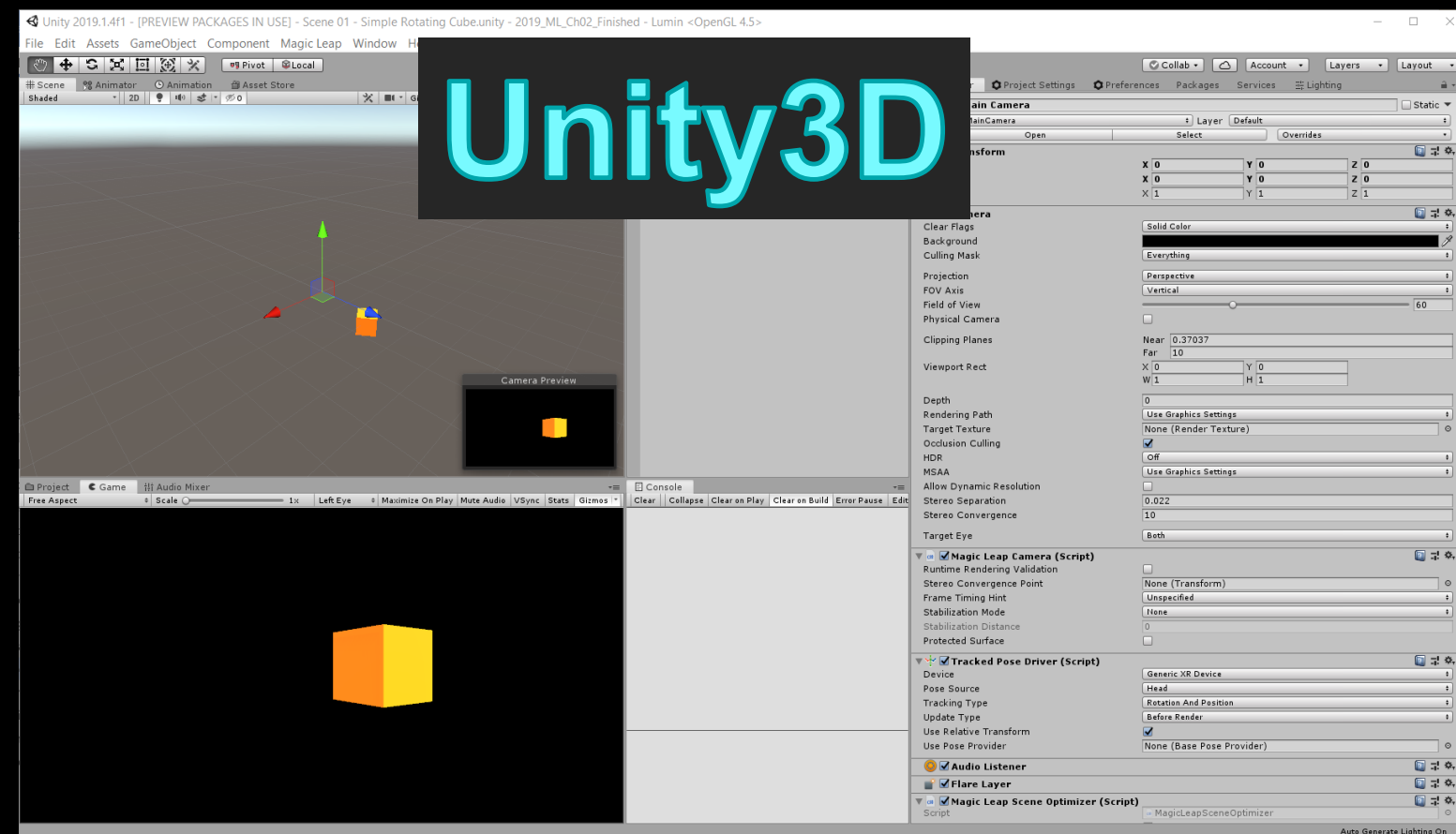


3D Interface controlled by Eye Tracking

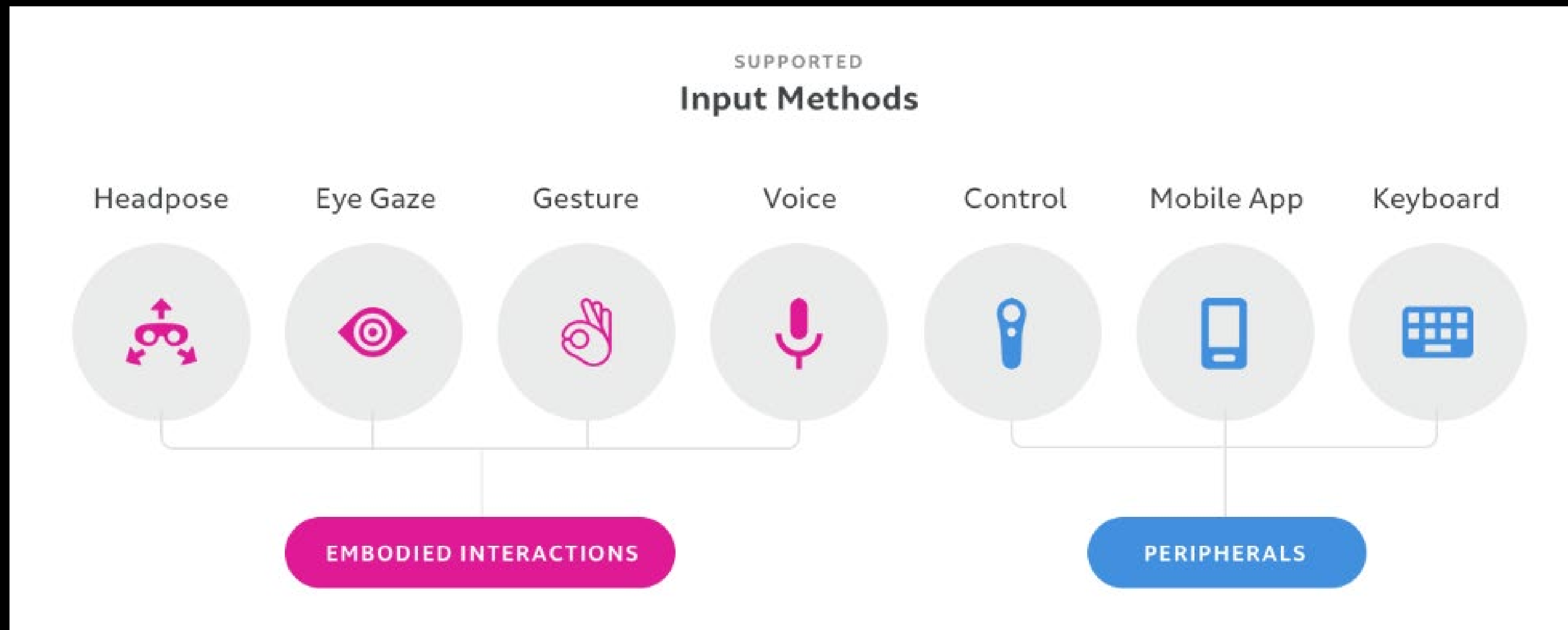
Magic Leap Deployment



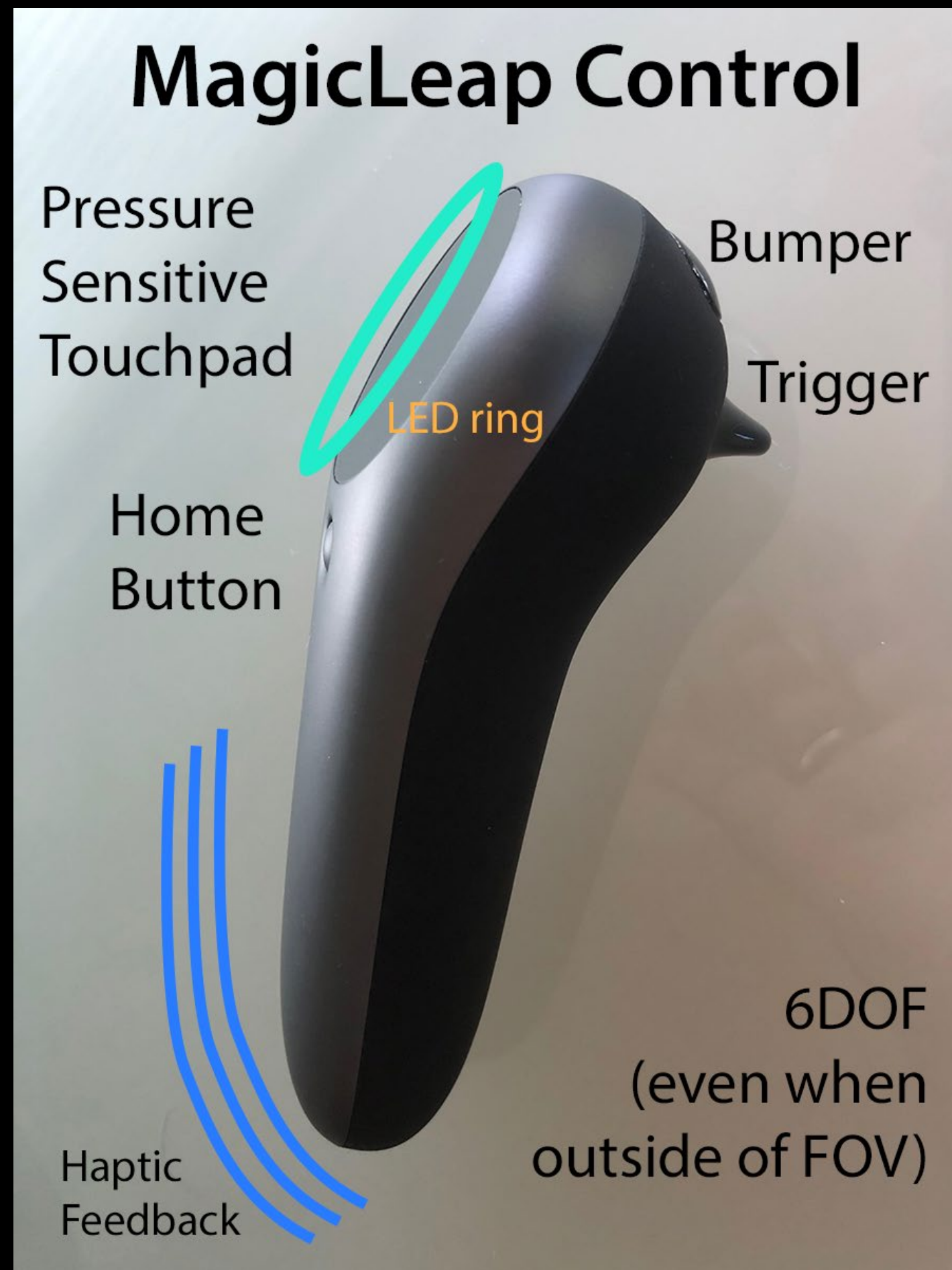
Magic Leap Zero Iteration



ML Input



Magic Leap Control



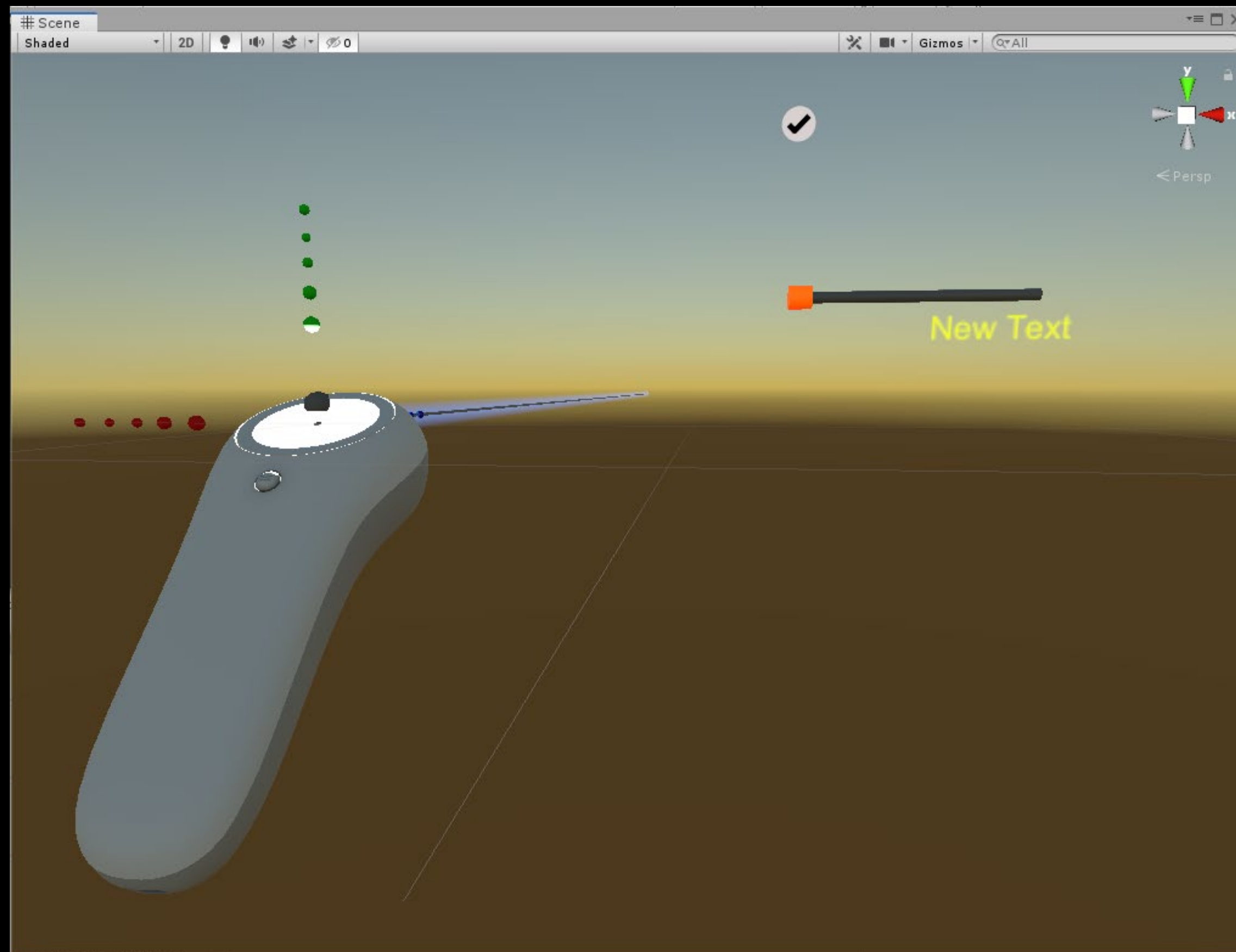
Controller.cs

```
MLInputController _controller;  
bool _homeButtonUp;
```

```
void Start() {  
    MLInput.Start();  
    _controller = MLInput.GetController(MLInput.Hand.Left);  
    MLInput.OnControllerButtonUp += OnButtonUp;}  
  
void OnDestroy() {  
    MLInput.OnControllerButtonUp -= OnButtonUp;  
    MLInput.Stop(); }
```

```
void OnButtonUp(byte controller_id, MLInputControllerButton button) {  
    if (button == MLInputControllerButton.HomeTap) {  
        _homeButtonUp = true;}  
}
```

Interacting with UI Elements



- Sliders
 - Can readily resize and reorient slider
- Buttons
- Toggle switches

Toggle Buttons



- System Icons:
- Eliminate individual draw calls by using one Atlas
- Enable haptic feedback and sound

General Hand Gestures

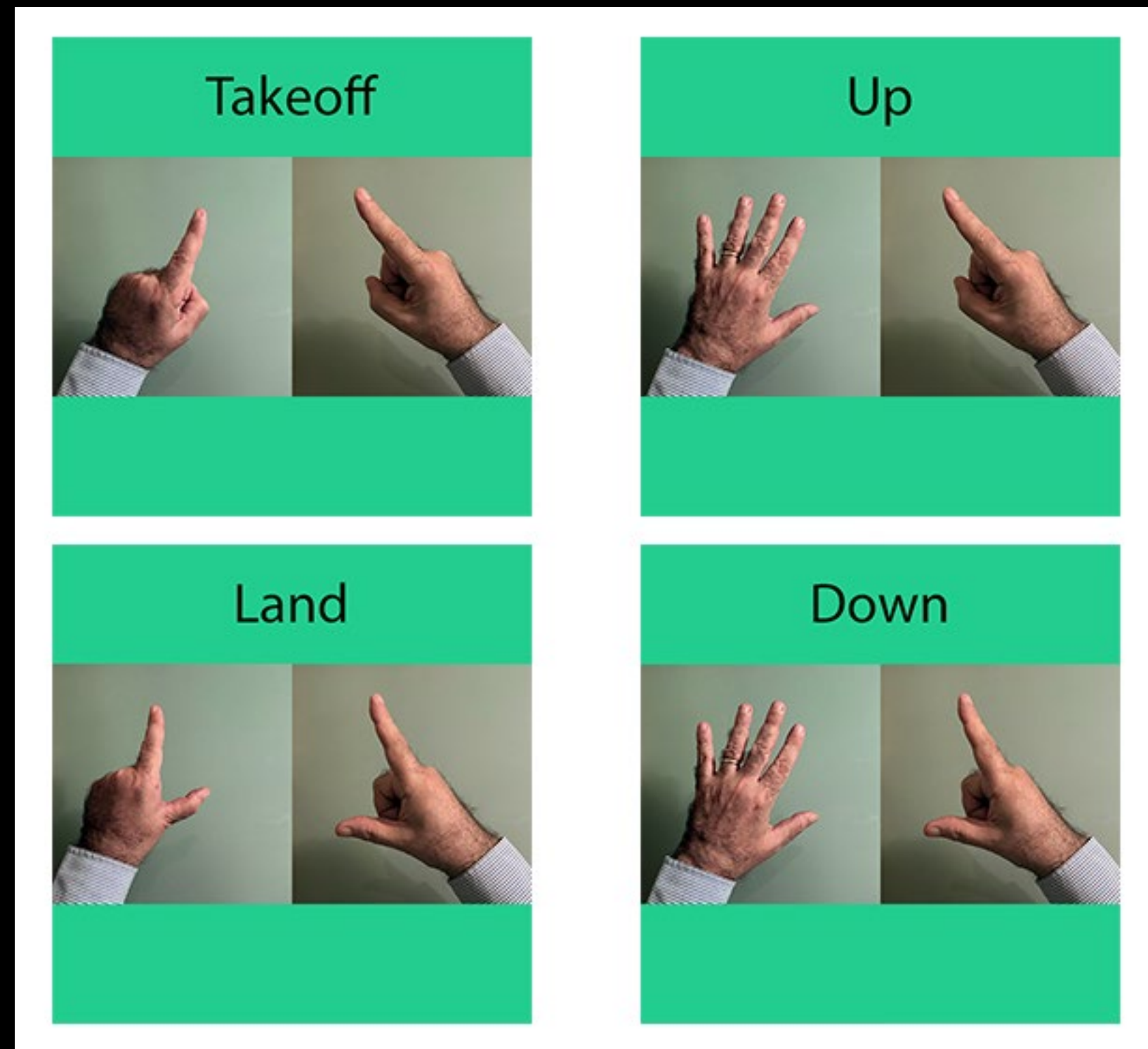


- Collection of standard hand gestures
- Left/Right Hand recognition
- Confidence metrics

Drone Flight using Hand Gestures



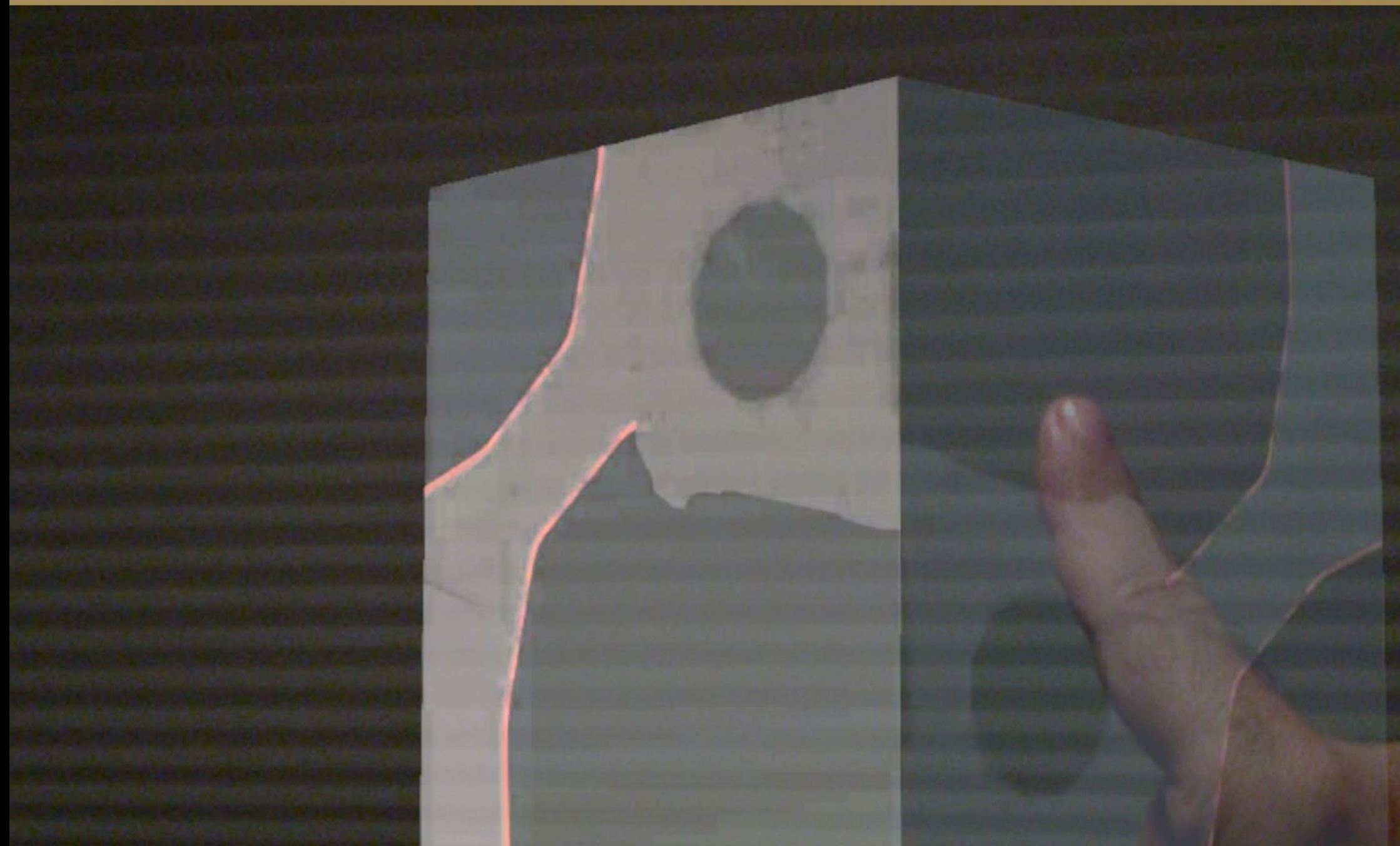
Drone Flight Lexicon



- 14 Basic Commands
- Two command types:
 - Discrete
 - Continuous
- Developed framework based on Gaze Activation

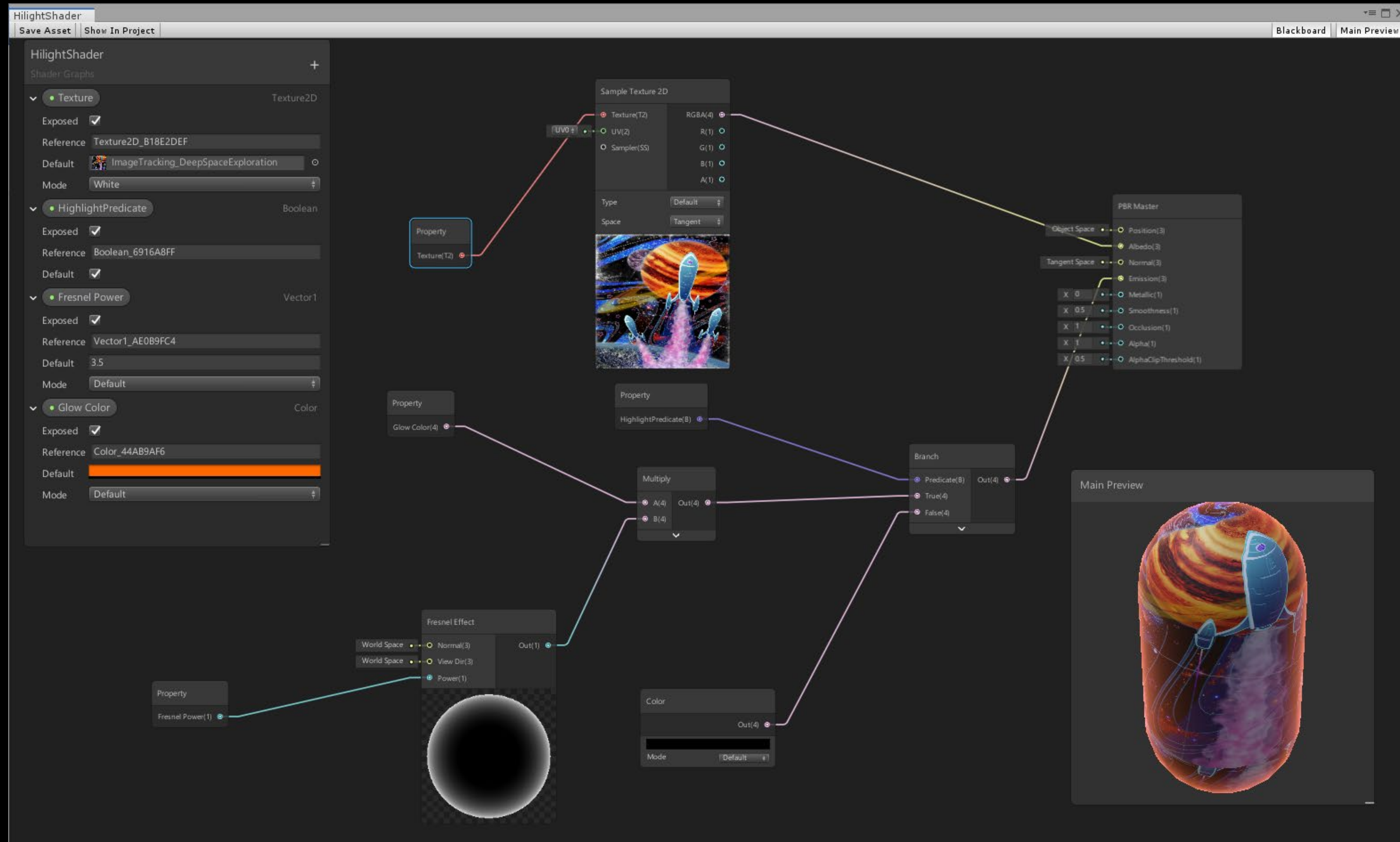
Interacting with Holograms

Touch Gesture Interaction



- Make active use of LWRP facilities in Unity
- Touch interaction
- Smoothing movement

Lightweight Render Pipeline Example



Magic Mover



- HOD: “Hands-On Display”
- Haptic feedback
- Pick and move objects with near effortless motion

Magic Mover Interface

Thank You!!

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