NY Magic Leap Meetup

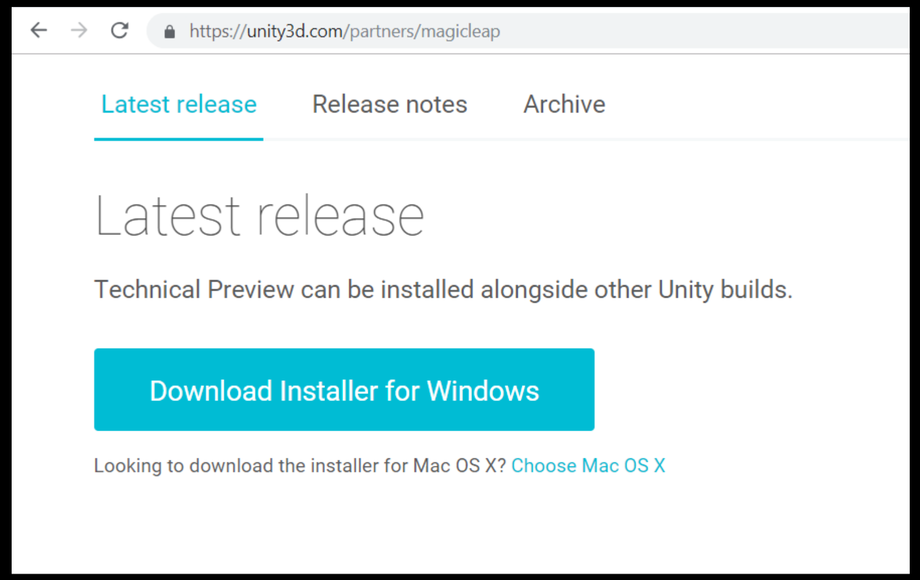
Development Practices on the Magic Leap

January 16, 2019

Magic Leap Environment

- Use specific Magic Leap Builds of Unity
- Install ML Package Manager
- Configure Magic Leap App in Unity
- Set up testing environment

Install special version of Unity



- Special build of Unity 2018.1.9 with Magic Leap Integration available from the Unity Partners page (https://unity3d.com/partners/magicleap)
- Magic Leap will be native in Unity 2019.1

Download SDK/Package Manager

- https://creator.magicleap.com/downloads/lumin-sdk/unity

https://unity3d.com/partners/magicleap

Get started with Magic Leap

Before embarking on your quest, let's get you set up.

1. To take the leap, download the SDK or get the Magic Leap one.
2. If you haven't already, we recommend downloading the latest release of Unity to use the Magic Leap Technical Preview. This can be installed alongside other builds.
3. Download the Lumin SDK from the Magic Leap Creator Portal.

The Magic Leap Technical Preview is built against Unity 2018.1. In addition to 2018.1 features, the Technical Preview includes a new build target for Magic Leap.

https://creator.magicleap.com/downloads/lumin-sdk/unity

Learn Discuss Download Publish Buy

Package Manager

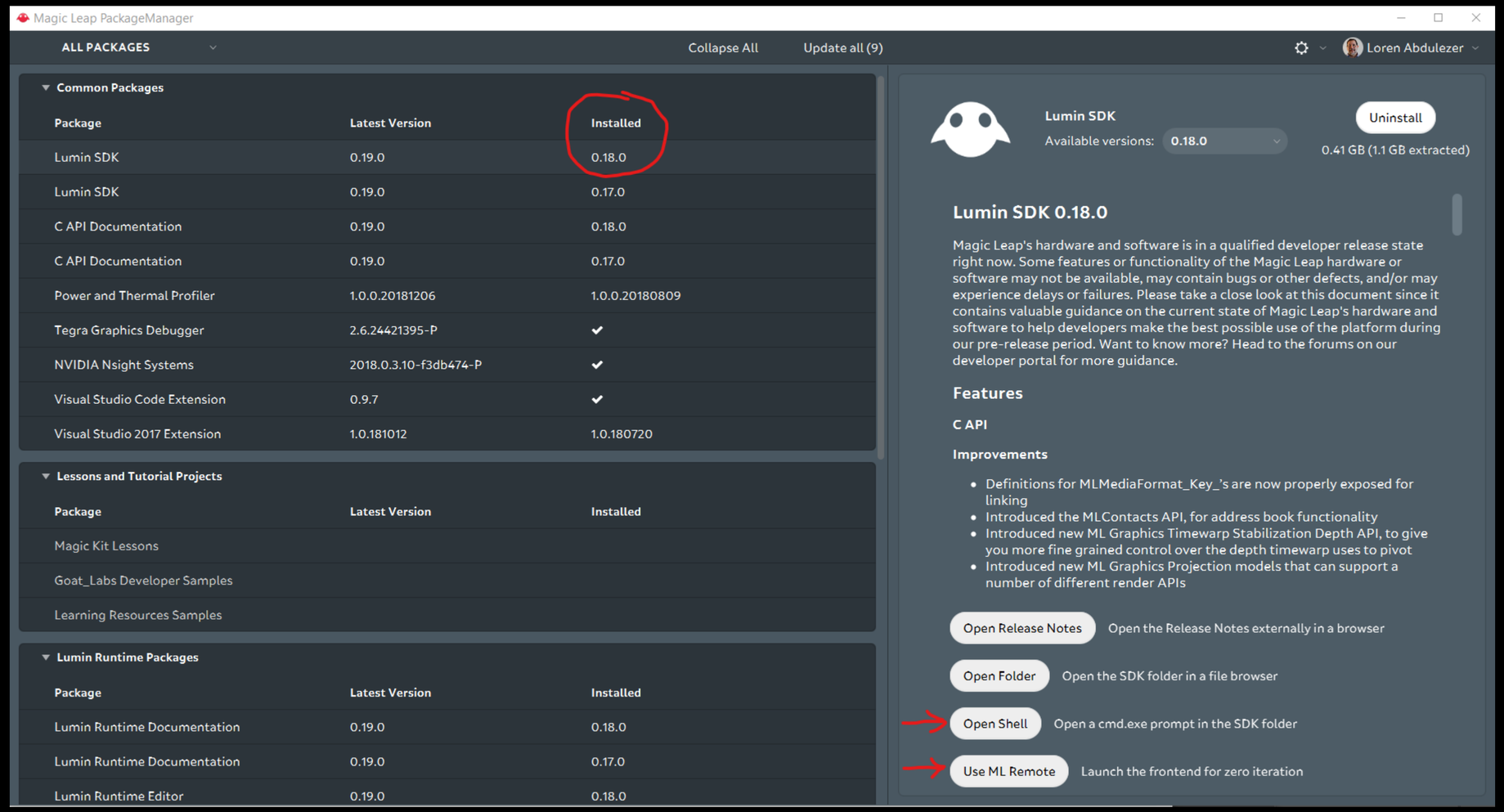
Download the Package Manager which will help you get access to, and manage, all the assets you need to build a Magic Leap experience

Download for Windows

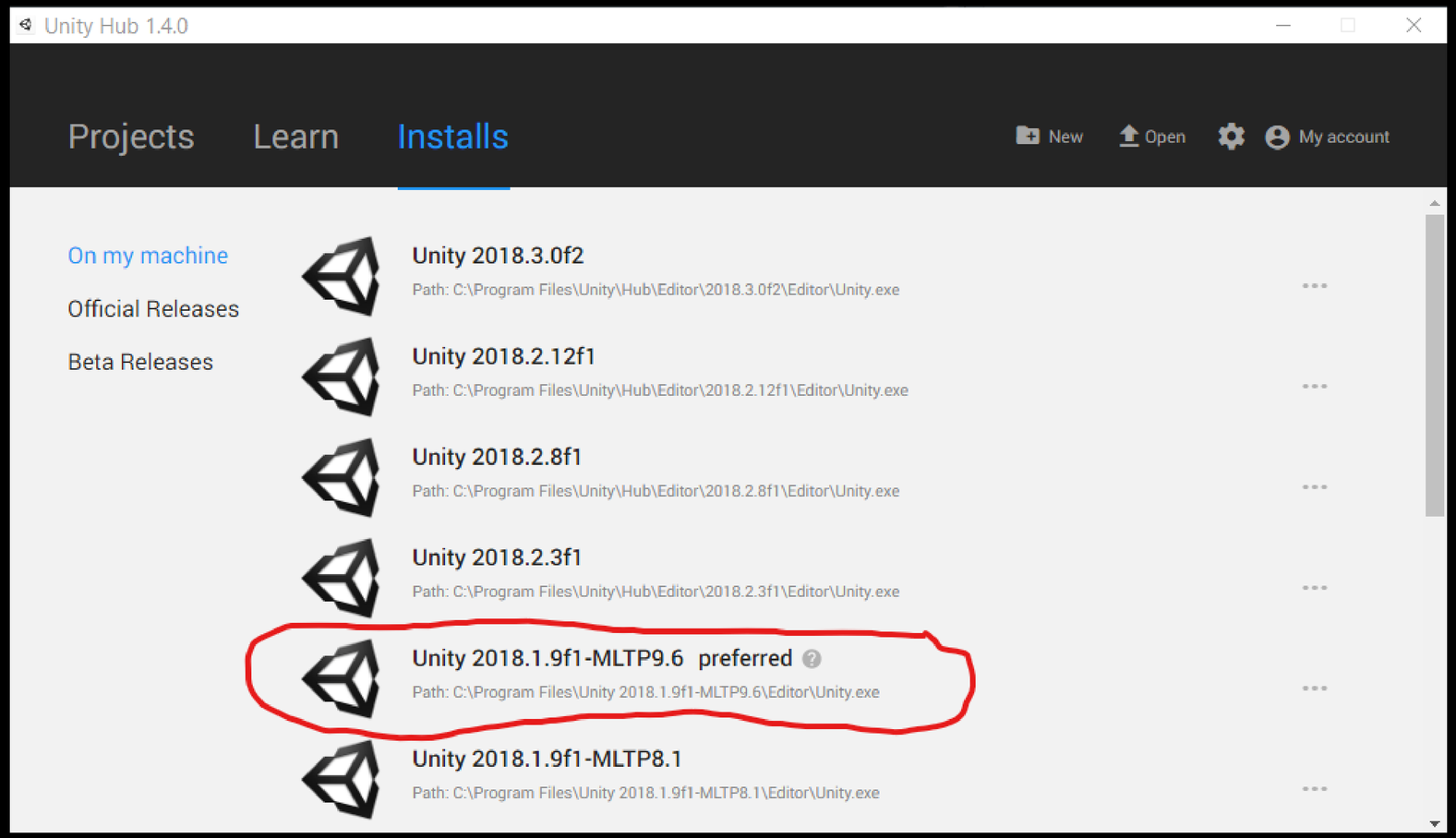
Download for Mac

Magic Leap Creator Portal Care Center Identity Shop Careers Stories

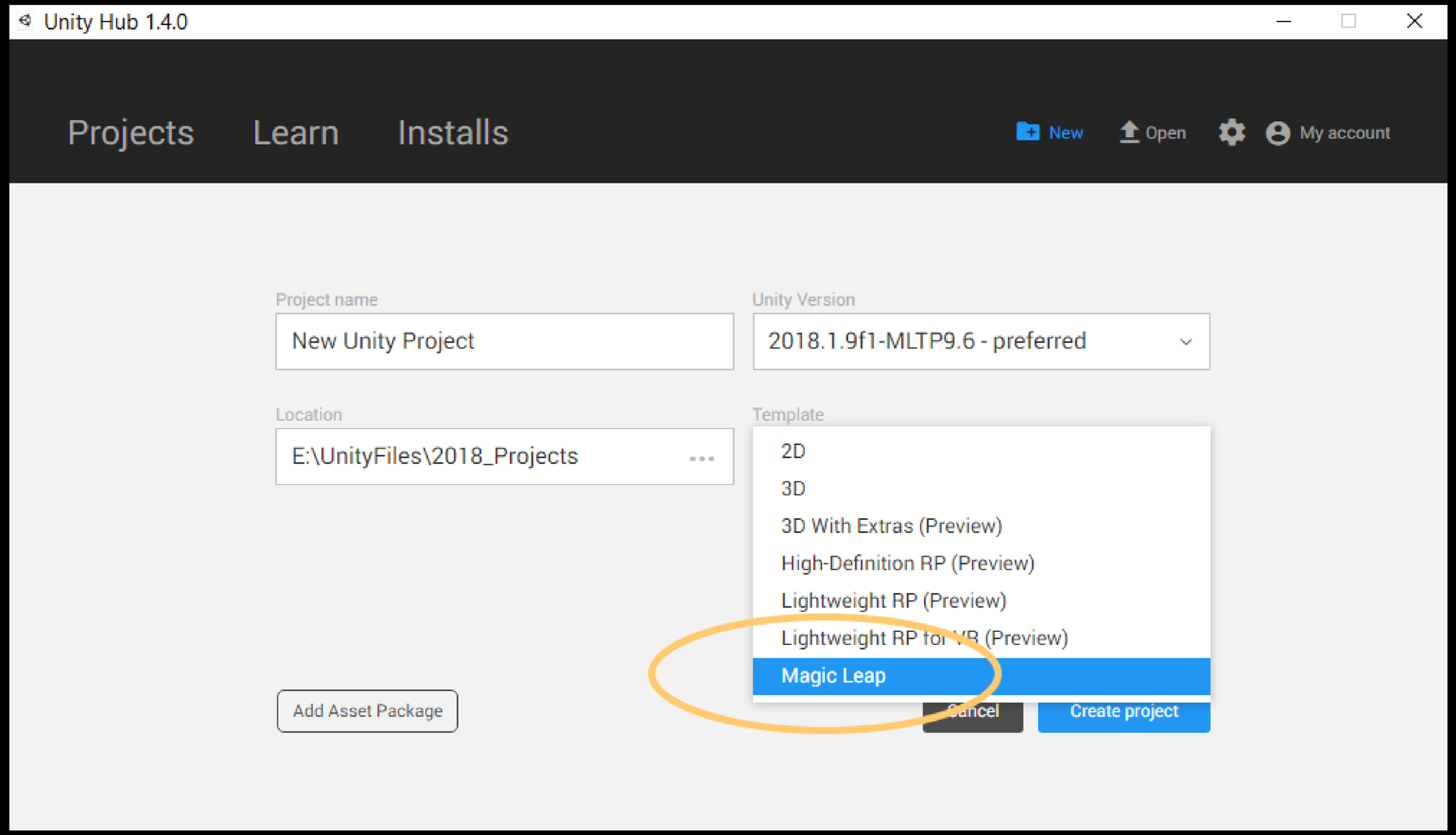
Magic Leap Package Manager



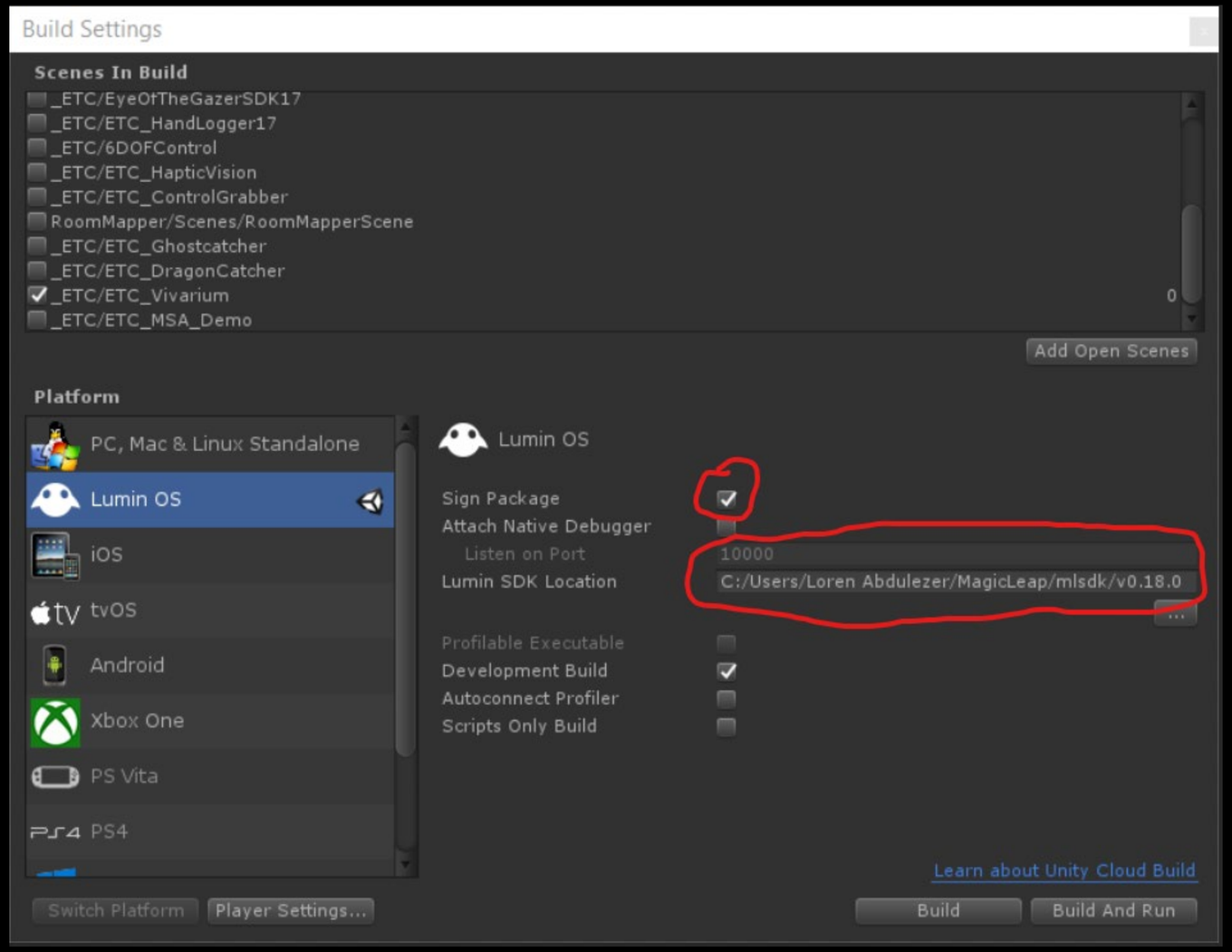
Set Unity Install for ML Builds



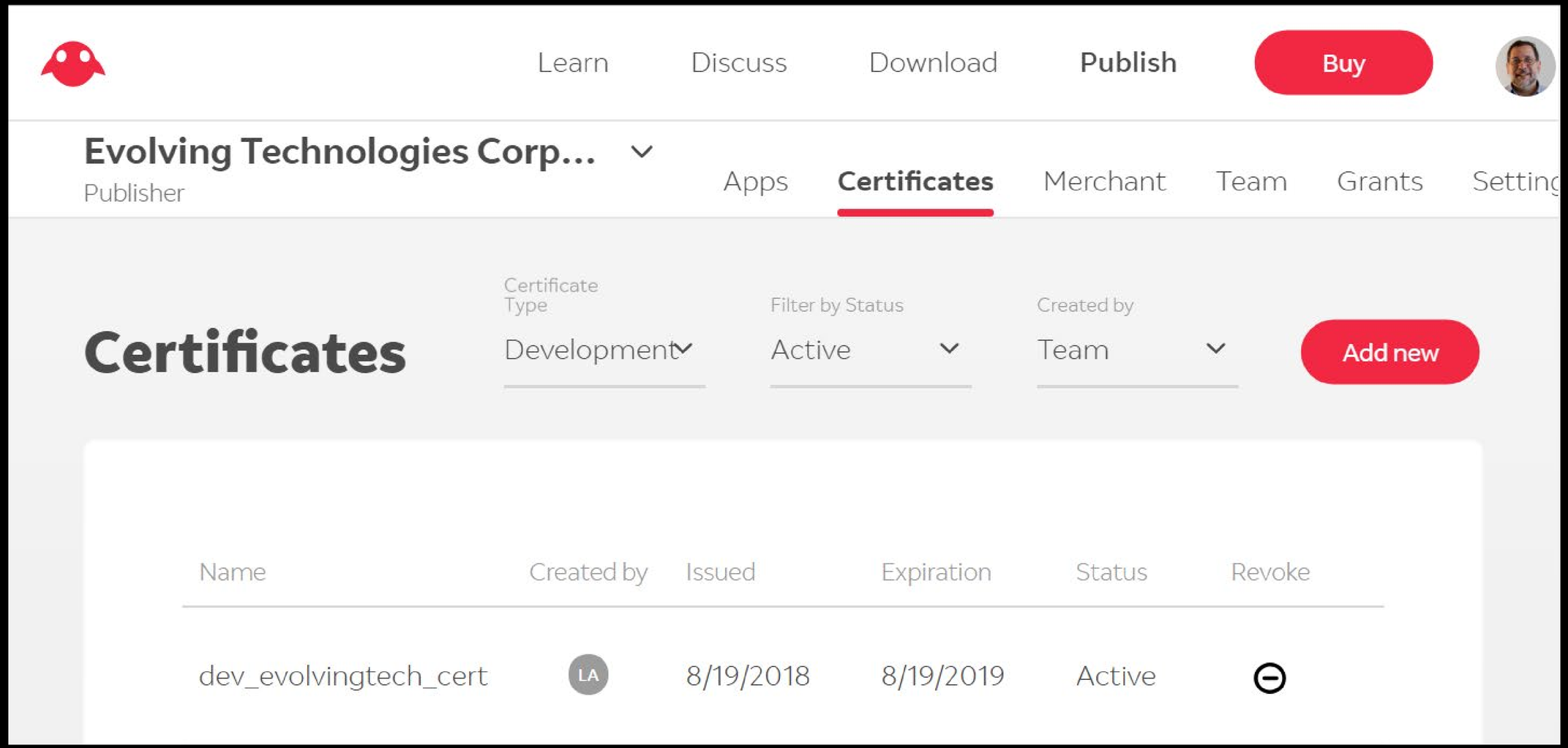
Assign Magic Leap Template



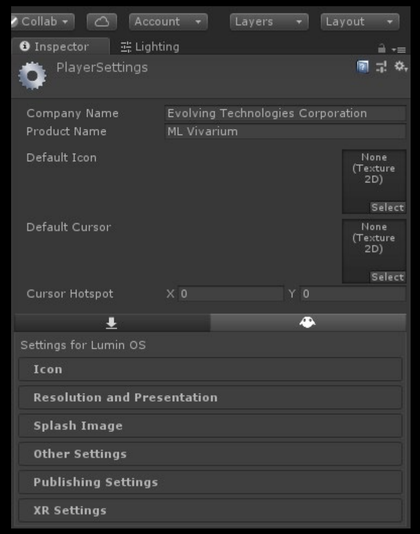
Set SDK Location in Build Settings

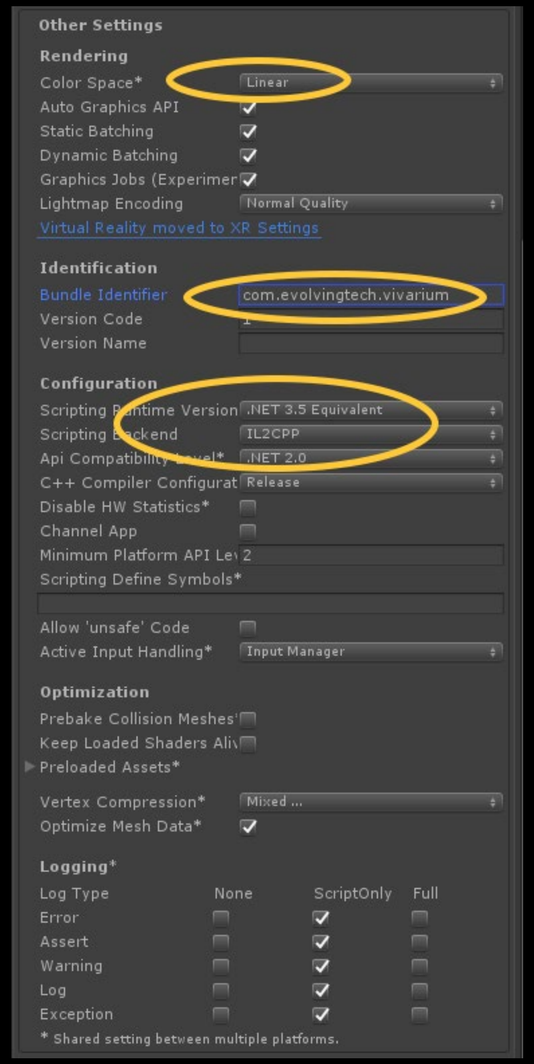


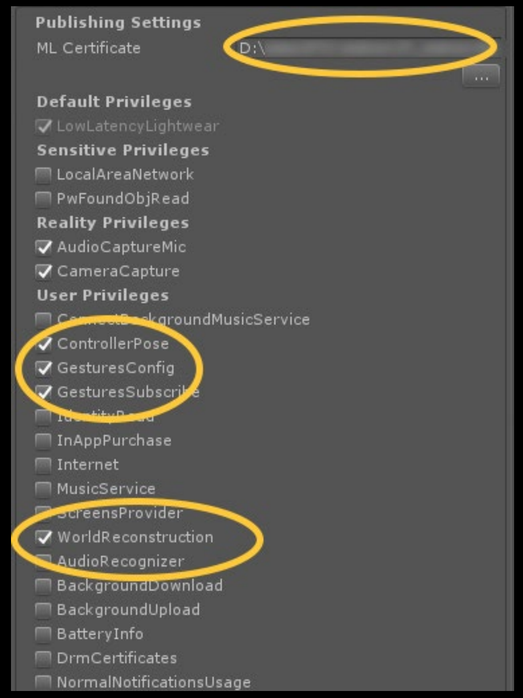
Add Developer Certificate

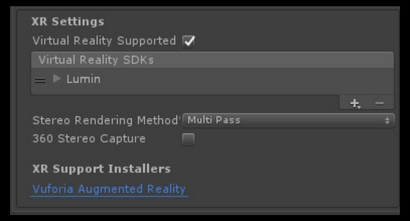


Unity Player Settings

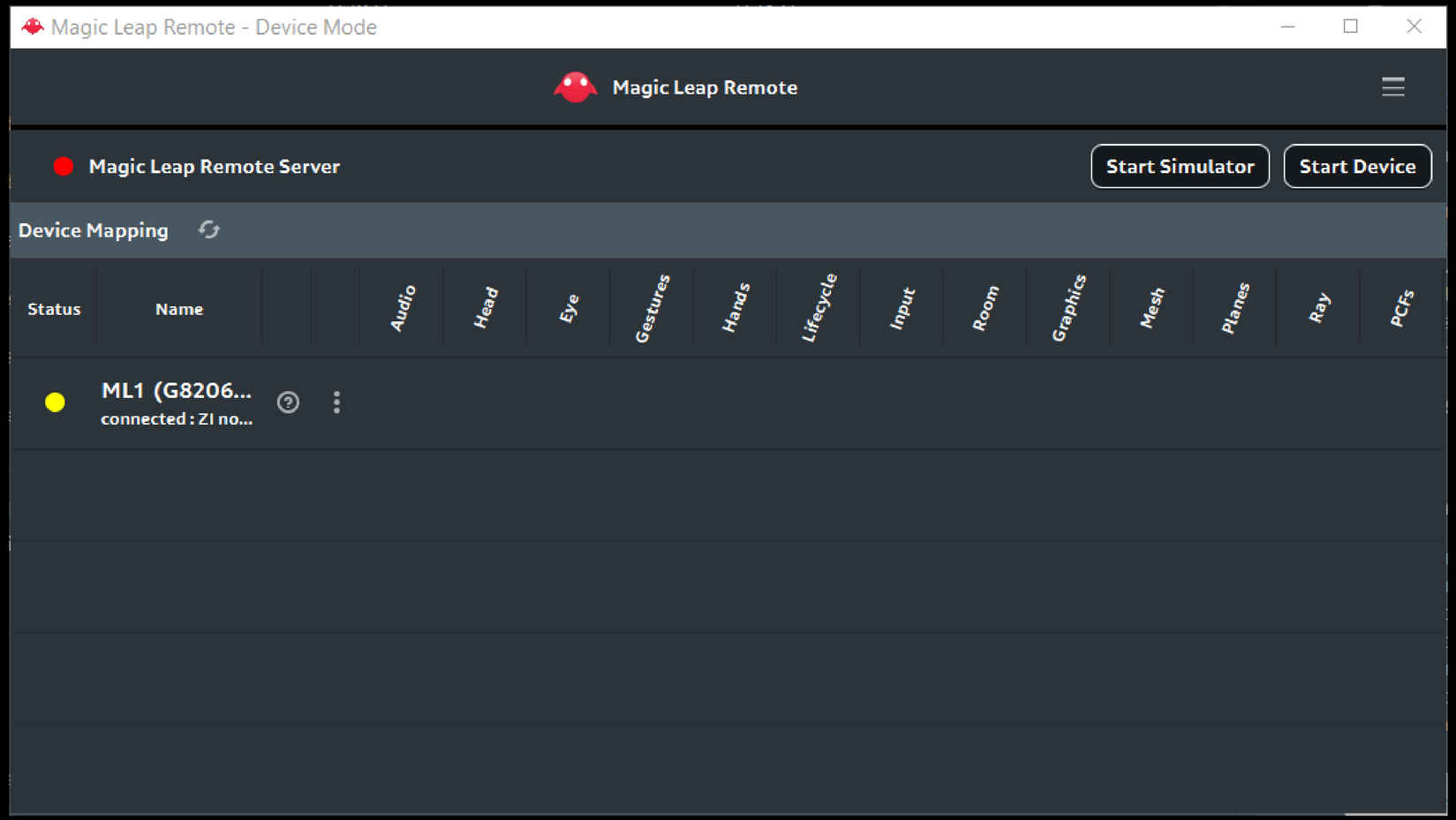




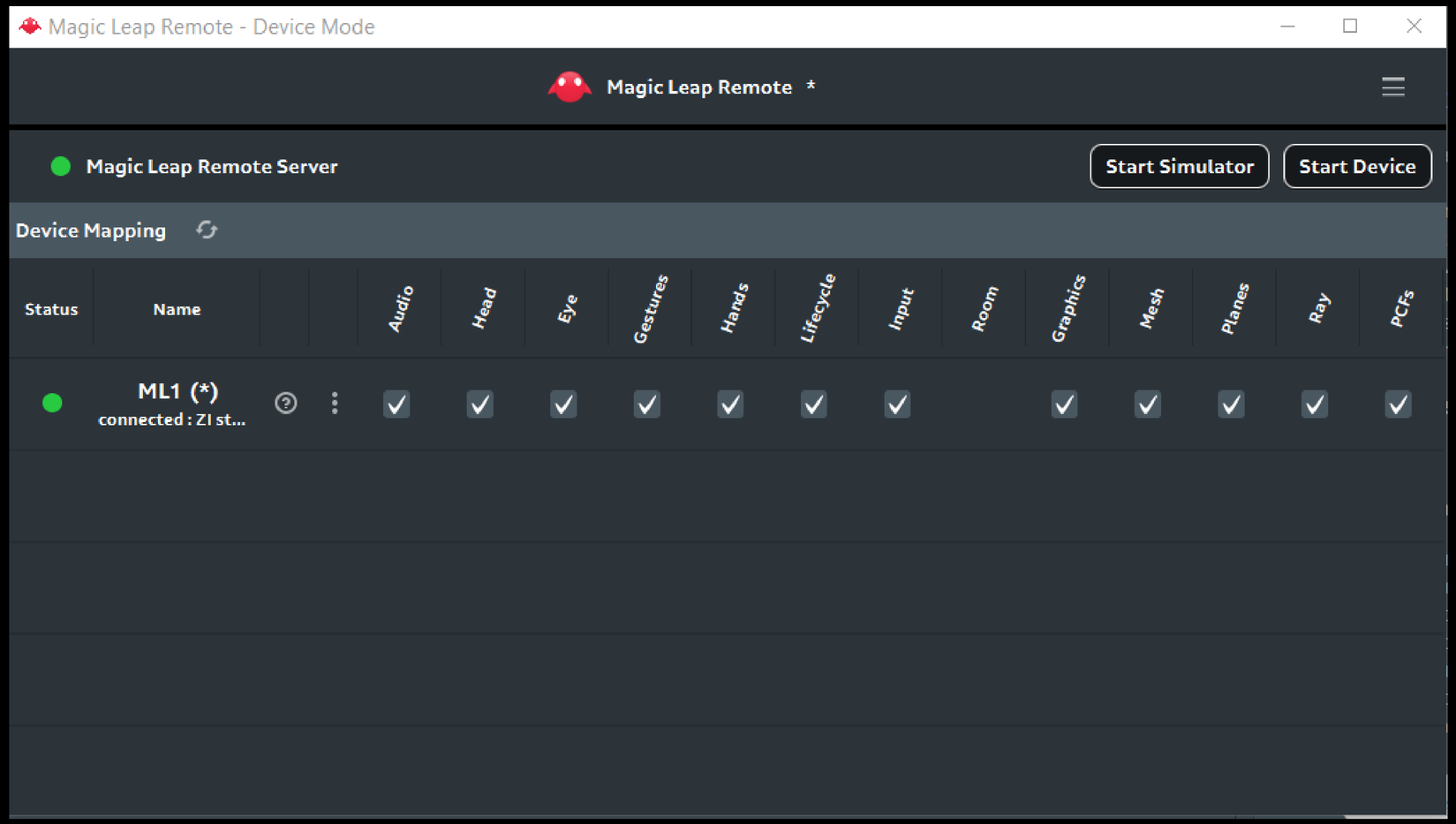




Launch ML Remote



Launch ML Remote



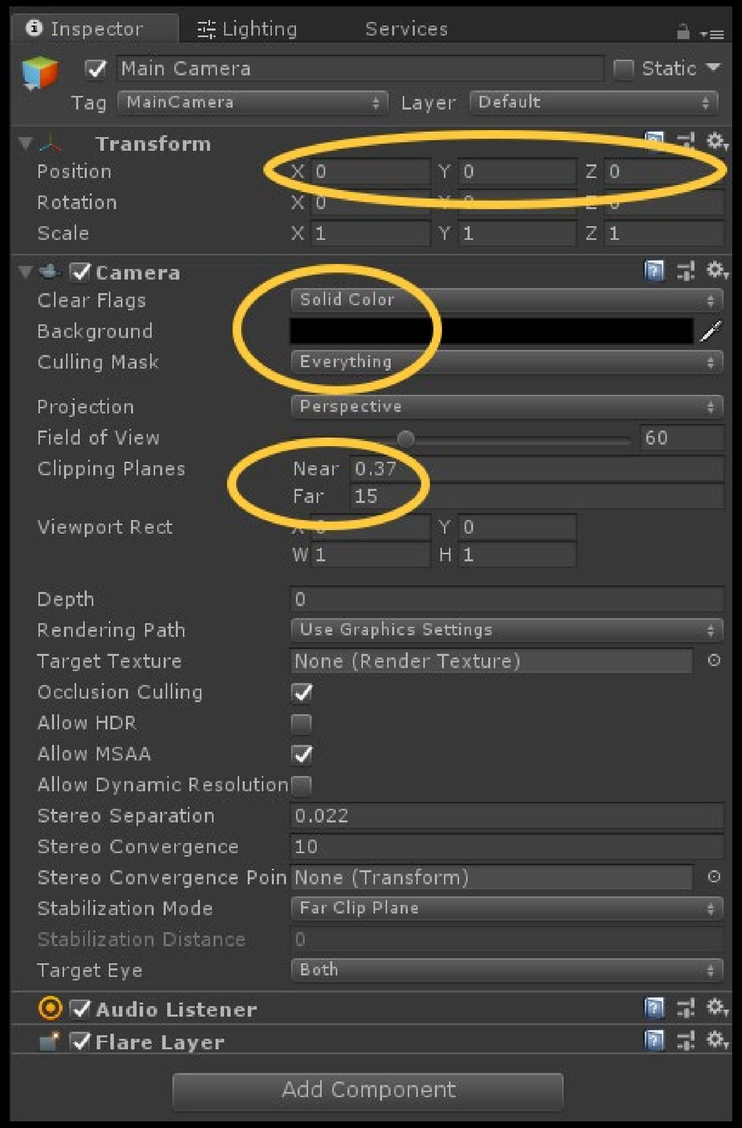
MLDB Utility

C:\Windows\system32\cmd.exe

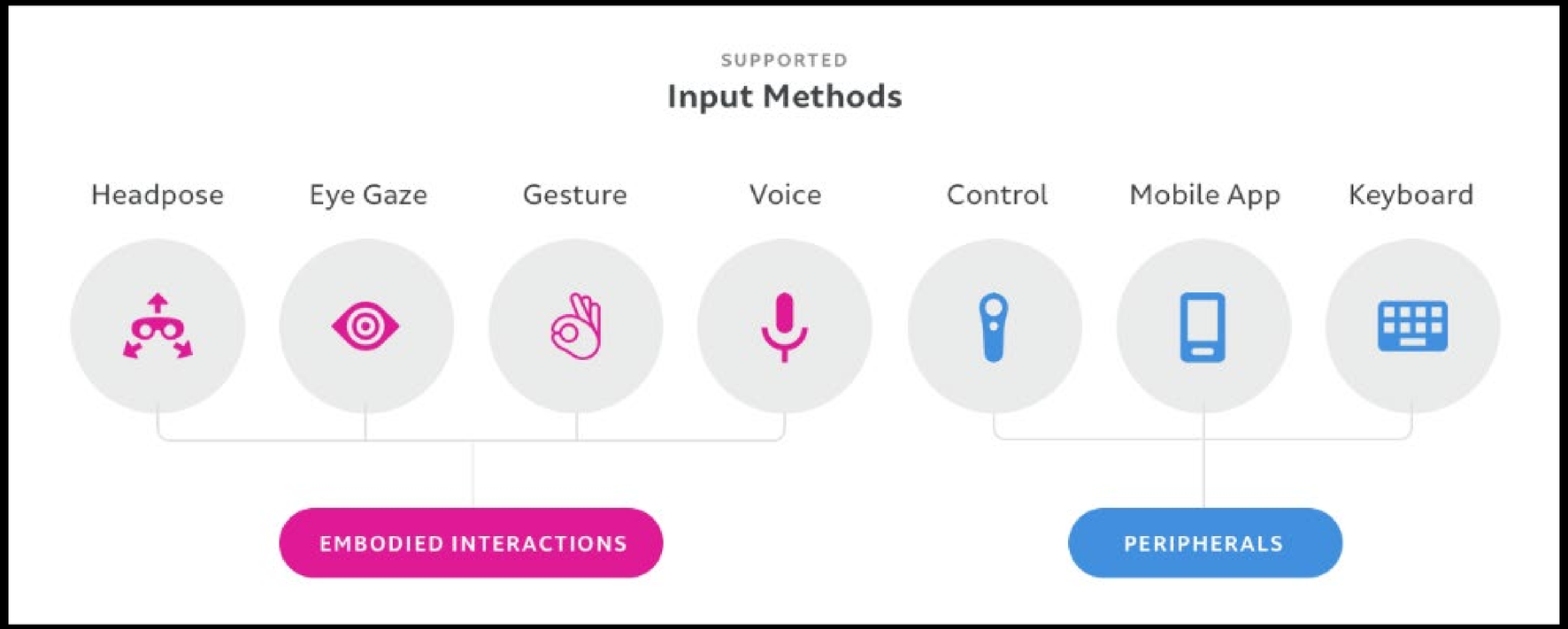
```
C:\Users\Loren Abdulezer\MagicLeap\mlsdk\v0.18.0>mldb devices
List of devices attached
G8206M002148    device

C:\Users\Loren Abdulezer\MagicLeap\mlsdk\v0.18.0>mldb packages
Package                                  Name                 Version      Debug Components
com.cheddar.live                         Cheddar              1            false Universe:.cheddar.universe
com.dotty.meshing                        DottyMesh            90           false Fullscreen:.fullscreen
com.evolvingtech.aivn                    A.I.V.N              1            false Fullscreen:.fullscreen
com.evolvingtech.aivnmvpiam              AIVN_MVP             14           false Fullscreen:.fullscreen
com.evolvingtech.basicmeshing            Basic Meshing        1            false Fullscreen:.fullscreen
com.evolvingtech.etcdragoncatcher        Dragon Catcher       1            true  Fullscreen:.fullscreen
com.evolvingtech.etcghostcatcher         Ghost Catcher        1            true  Fullscreen:.fullscreen
com.evolvingtech.etchcontrolgrabber      Ctrl Grabber         1            true  Fullscreen:.fullscreen
com.evolvingtech.etcroommapper           MapToBegin           1            true  Fullscreen:.fullscreen
com.evolvingtech.etcvivarium             Vivarium             1            true  Fullscreen:.fullscreen
com.evolvingtech.eyeofthegazer17         EyeGazer17           1            true  Fullscreen:.fullscreen
com.evolvingtech.handlogger              Hand Tracker         1            true  Fullscreen:.fullscreen
com.evolvingtech.handlogger17            Hand Gestures 17     1            true  Fullscreen:.fullscreen
com.evolvingtech.imagetracker            Image Tracker        1            true  Fullscreen:.fullscreen
com.evolvingtech.magicleaptest.mlheadlock ETC Showcase         1            false Fullscreen:.fullscreen
com.evolvingtech.measure                 Measure              1            false Fullscreen:.fullscreen
com.evolvingtech.staticpersistence       Static Persist       1            true  Fullscreen:.fullscreen
com.evox.relaycars                       RelayCars            1            false Fullscreen:.fullscreen
com.lowes.endlessaisle                   Showroom             1            false Fullscreen:.fullscreen
com.magicleap.abductor_unity             Abductor             3            false Fullscreen:.fullscreen
com.magicleap.dodge                      Dodge                1            false Fullscreen:.fullscreen
com.magicleap.glds0                      GLDS0                1            false Fullscreen:.fullscreen
com.magicleap.helio                      Helio                1            false Universe:.universe
com.magicleap.invaders                   DrGInvaders          4            false Fullscreen:.fullscreen
com.magicleap.musicwidget                Music                1            false Universe:.musicplayer
com.magicleap.screens.instructional      Instructional        10           false ScreensImmersive:.fullscreen
com.magicleap.wallpaper                  Wallpaper            16           false Screens:.universe
com.magicleap.whales                     Whales               16           false Screens:.universe
com.magicleap.zi_server                  ML Remote Zero Iteration Server 18          false Fullscreen:.fullscreen
com.magicleapstudios.create              Create               13           false Fullscreen:.fullscreen
com.magicleapstudios.tonandi             Tónandi              10           false Fullscreen:.fullscreen
com.nba.nbabeta                          NBA Beta             12           false ScreensImmersive:.fullscreen
com.resolutiongames.abfps.magicleap      Angry Birds FPS      1            false Fullscreen:.fullscreen
com.sennheiser.ambeolab                  AMBEO Lab            101          false Fullscreen:.fullscreen
com.wayfair.spaces                       Wayfair              2            false Fullscreen:.fullscreen

C:\Users\Loren Abdulezer\MagicLeap\mlsdk\v0.18.0>
```

Typical path:
c:\Users\ACCOUNT_NAME\MagicLeap\mlsdk\v0.##.0

Main Camera


Inspector
Lighting
Services
Main Camera
Static
Tag MainCamera
Layer Default
Transform
Position X 0 Y 0 Z 0
Rotation X 0
Scale X 1 Y 1 Z 1
Camera
Clear Flags Solid Color
Background
Culling Mask Everything
Projection Perspective
Field of View 60
Clipping Planes Near 0.37 Far 15
Viewport Rect Y 0 W 1 H 1
Depth 0
Rendering Path Use Graphics Settings
Target Texture None (Render Texture)
Occlusion Culling
Allow HDR
Allow MSAA
Allow Dynamic Resolution
Stereo Separation 0.022
Stereo Convergence 10
Stereo Convergence Poin None (Transform)
Stabilization Mode Far Clip Plane
Stabilization Distance 0
Target Eye Both
Audio Listener
Flare Layer
Add Component

ML Input


SUPPORTED
Input Methods
Headpose
Eye Gaze
Gesture
Voice
Control
Mobile App
Keyboard
EMBODIED INTERACTIONS
PERIPHERALS

Magic Leap Control

Controller.cs

```
MLInputController _controller;
bool _homeButtonUp;

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

void OnDestroy() { MLInput.Stop(); }

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

AppManager

AppManager.cs

```
void Start() { _controller = GetComponentInChildren<Controller>();
            MLInput.OnTriggerDown += HandleOnTriggerDown; }

void OnDestroy() { MLInput.OnTriggerDown -= HandleOnTriggerDown; }

void Update() {
    if (_controller._homeButtonUp) {
        _controller._homeButtonUp = false;

        // Perform the intended action here

        return;
    }
}
```