VRDC

The Reality of Developing HoloLens Games

Ralph Barbagallo
Founder, FLARB LLC

EtherWars

Getting Started

- HoloLens
- Windows 10 PC
- Unity3D 5.5 beta (or 5.4 HTP)
- Holographic Academy

HoloToolkit-Unity

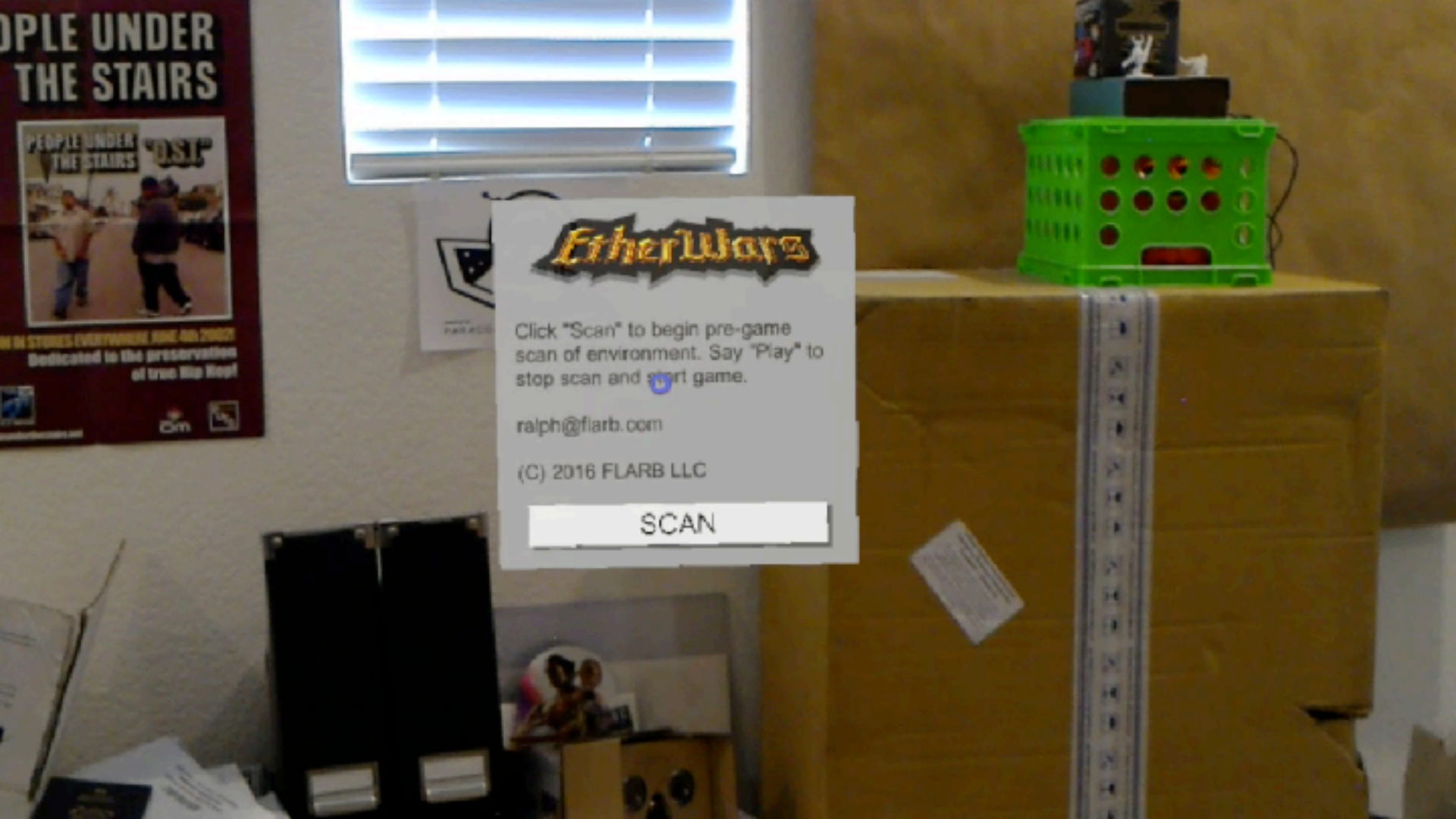
This is effectively part of the existing HoloToolkit, but this is the
The HoloToolkit is a collection of scripts and components intend
targeting Windows Holographic.

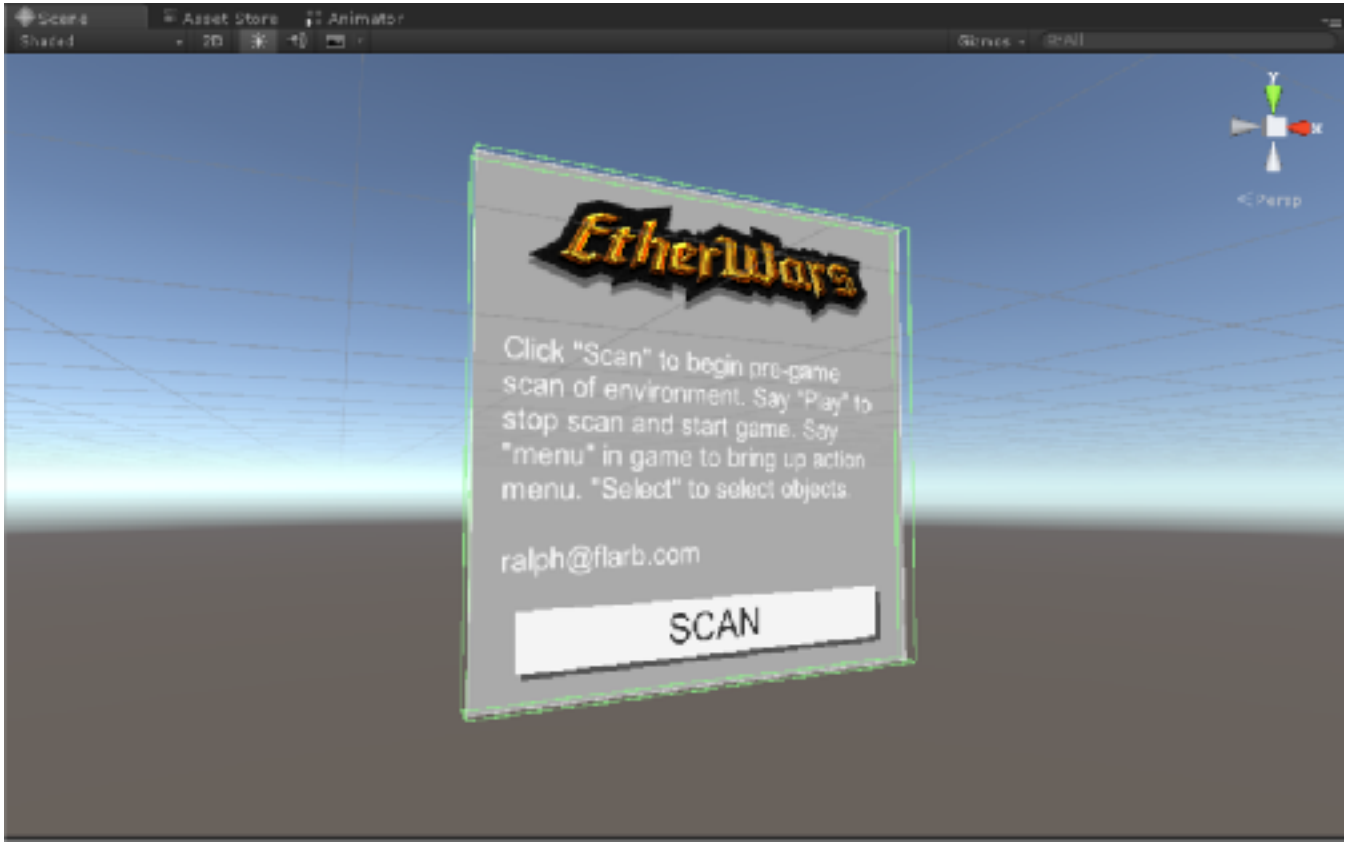
HoloToolkit contains the following feature areas:

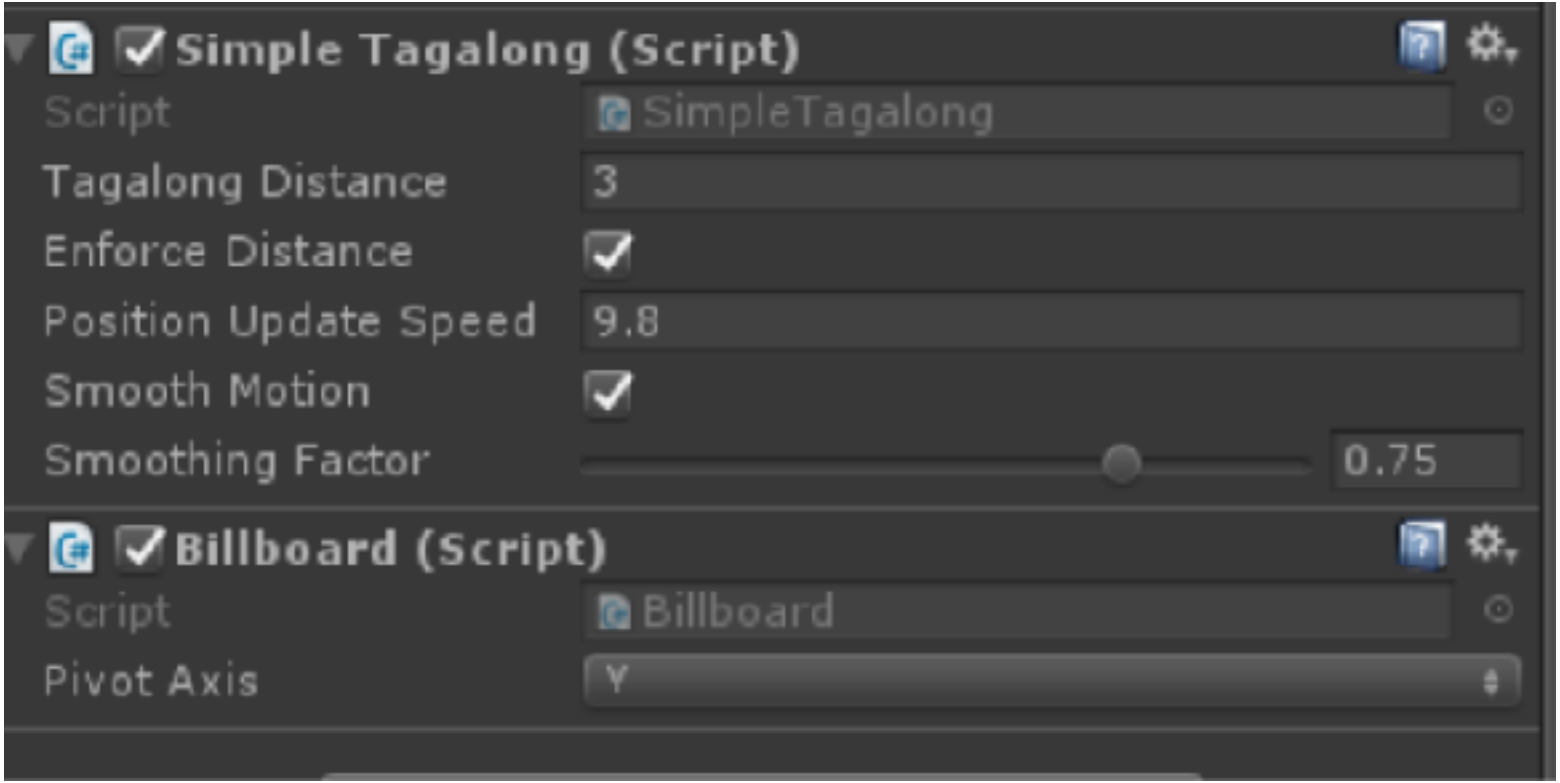
1. Input
2. Sharing
3. Spatial Mapping
4. Spatial Sound
5. Utilities
6. Build

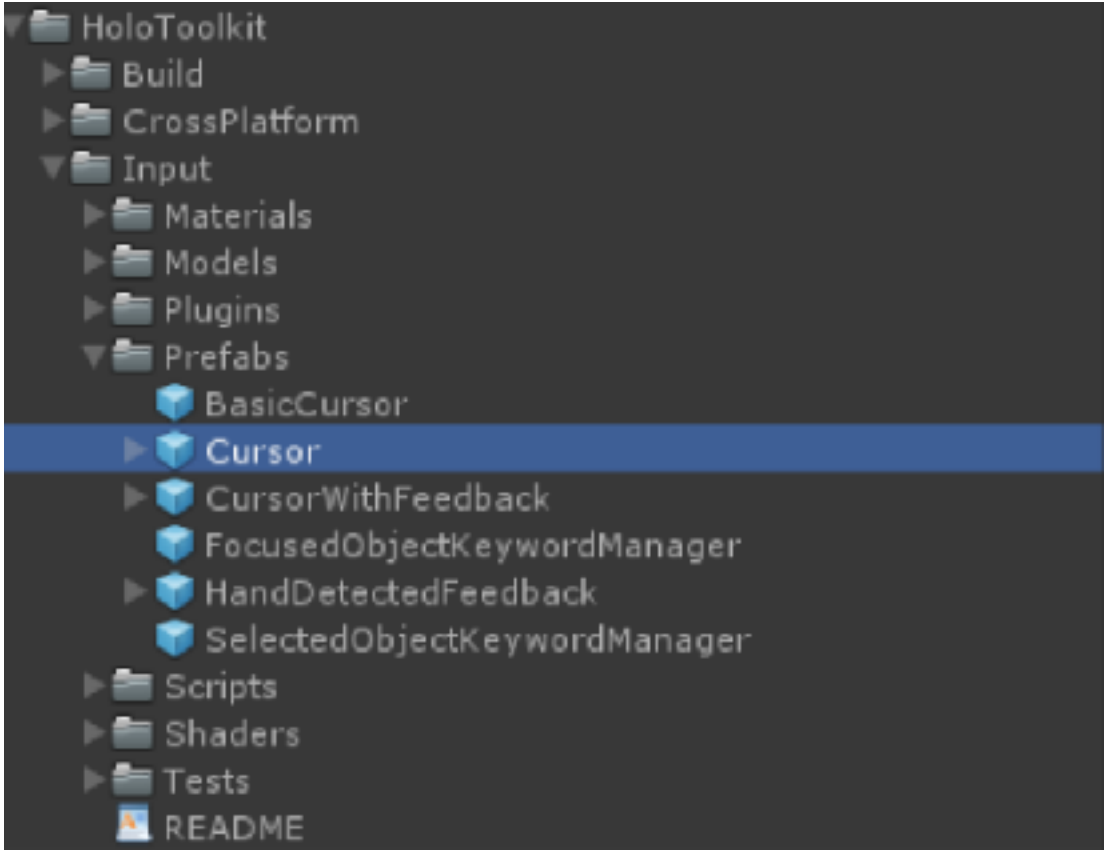
- Available on Github
- Constantly updated
- Start project with it

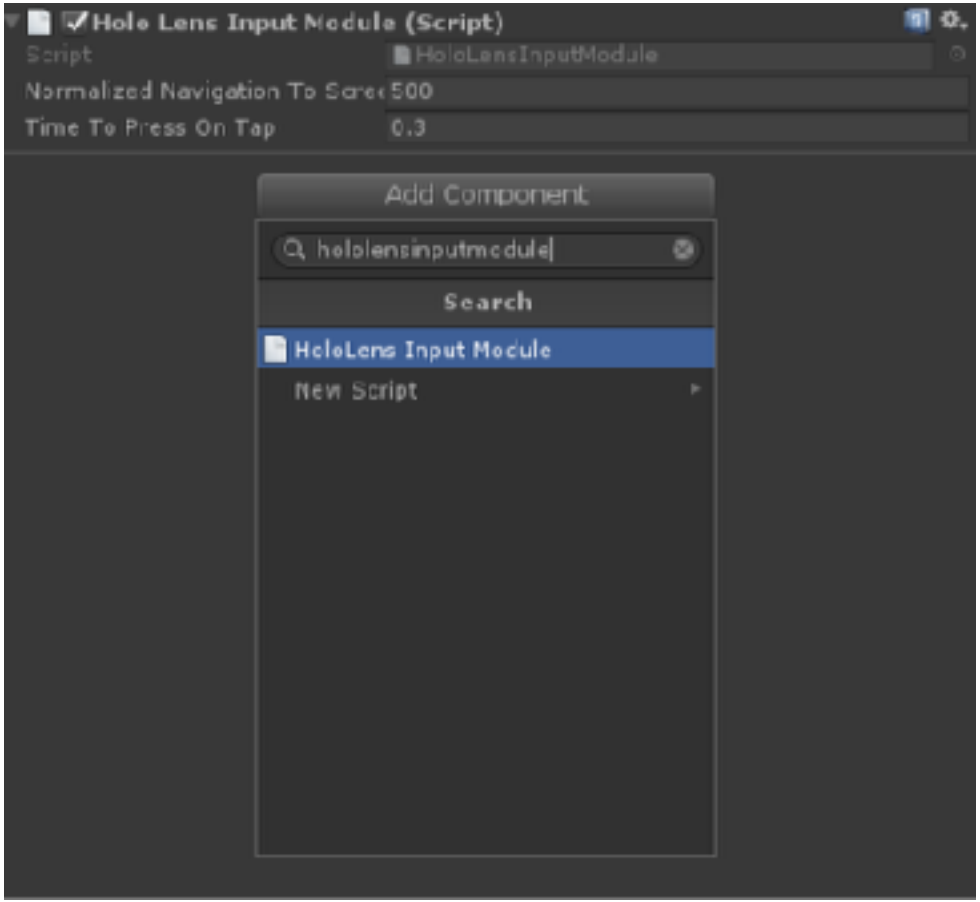
Interface


EtherWars
Click "Scan" to begin pre-game scan of environment. Say "Play" to stop scan and start game.
ralph@flarb.com
(C) 2016 FLARB LLC
SCAN


Scene
Asset Store
Animator
Shaded
2D
Persp
EtherWars
Click "Scan" to begin pre-game scan of environment. Say "Play" to stop scan and start game. Say "menu" in game to bring up action menu. "Select" to select objects.
ralph@flarb.com
SCAN


Simple Tagalong (Script)
Script
SimpleTagalong
Tagalong Distance
3
Enforce Distance
Position Update Speed
9.8
Smooth Motion
Smoothing Factor
0.75
Billboard (Script)
Script
Billboard
Pivot Axis
Y

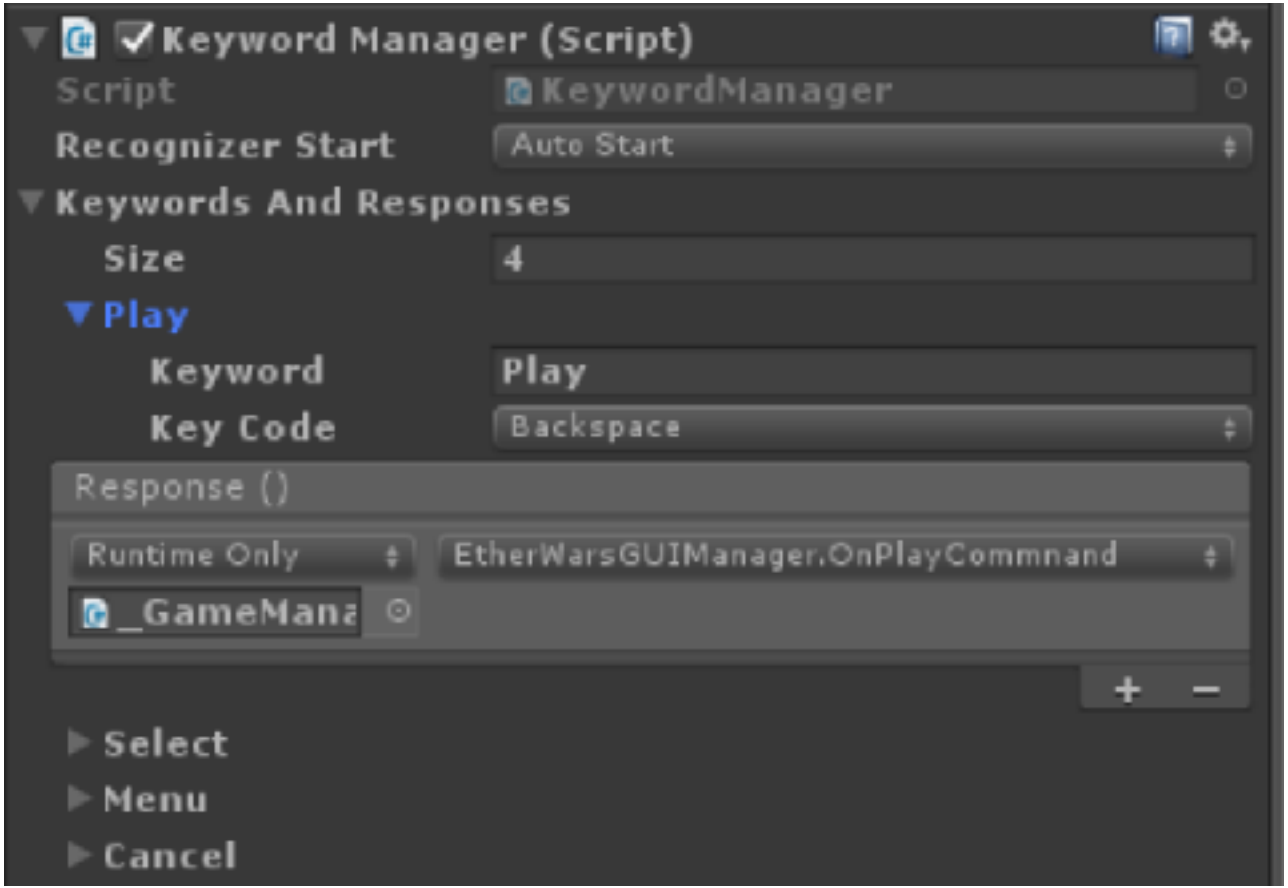

HoloToolkit
Build
CrossPlatform
Input
Materials
Models
Plugins
Prefabs
BasicCursor
Cursor
CursorWithFeedback
FocusedObjectKeywordManager
HandDetectedFeedback
SelectedObjectKeywordManager
Scripts
Shaders
Tests
README


Hole Lens Input Module (Script)
Script
HoloLensInputModule
Normalized Navigation To Scre
500
Time To Press On Tap
0.3
Add Component
hololensinputmodule
Search
HoloLens Input Module
New Script

Gestures

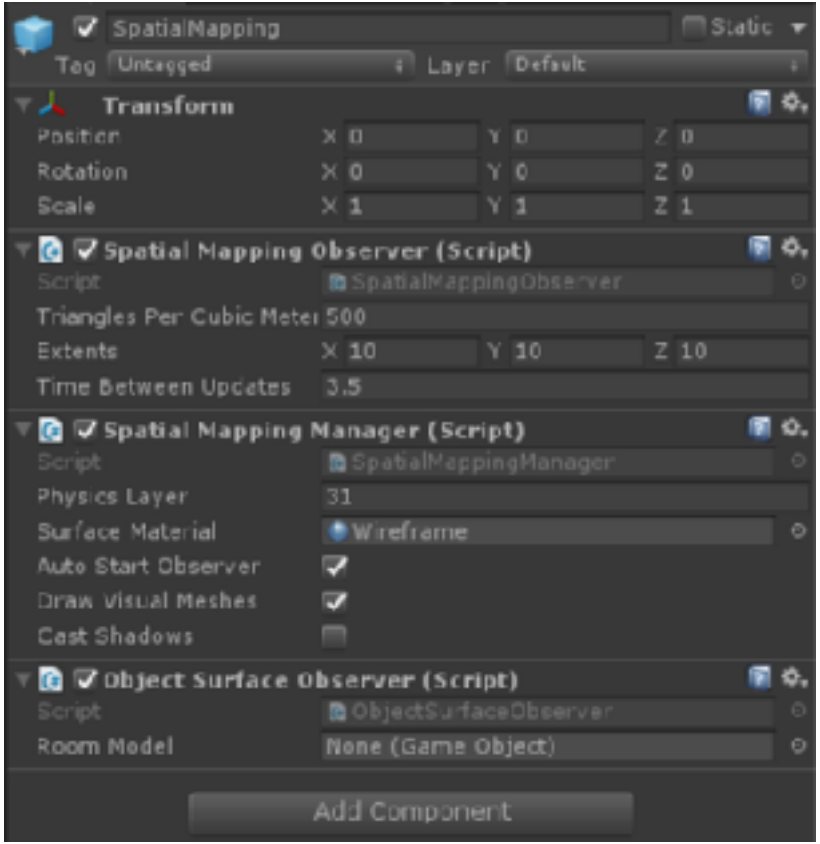
- Air Tap
- Ready
- Hold
- Drag

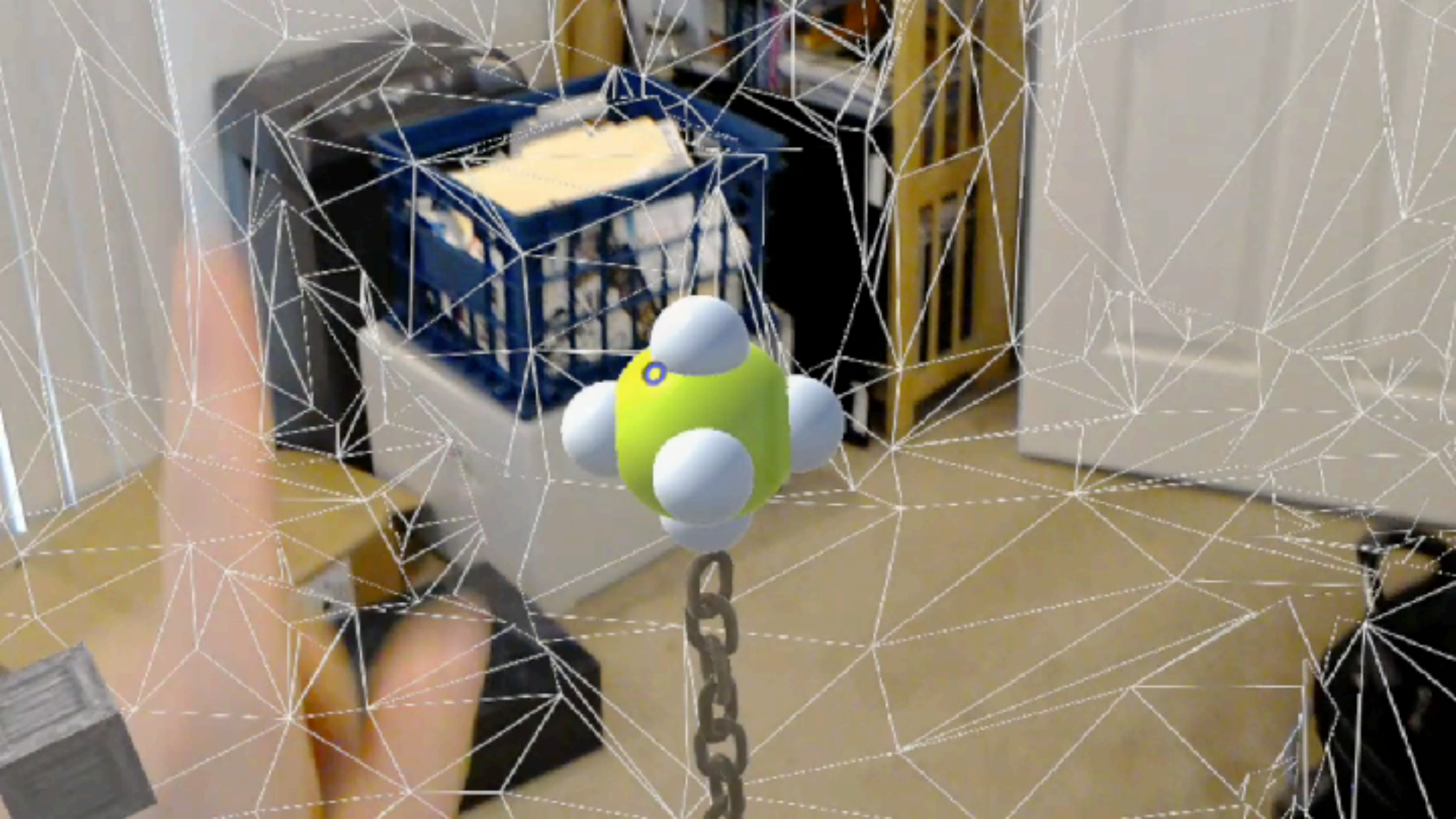
Voice


Keyword Manager (Script)
Script
KeywordManager
Recognizer Start
Auto Start
Keywords And Responses
Size
4
Play
Keyword
Play
Key Code
Backspace
Response ()
Runtime Only
EtherWarsGUIManager.OnPlayCommnand
_GameMana
Select
Menu
Cancel

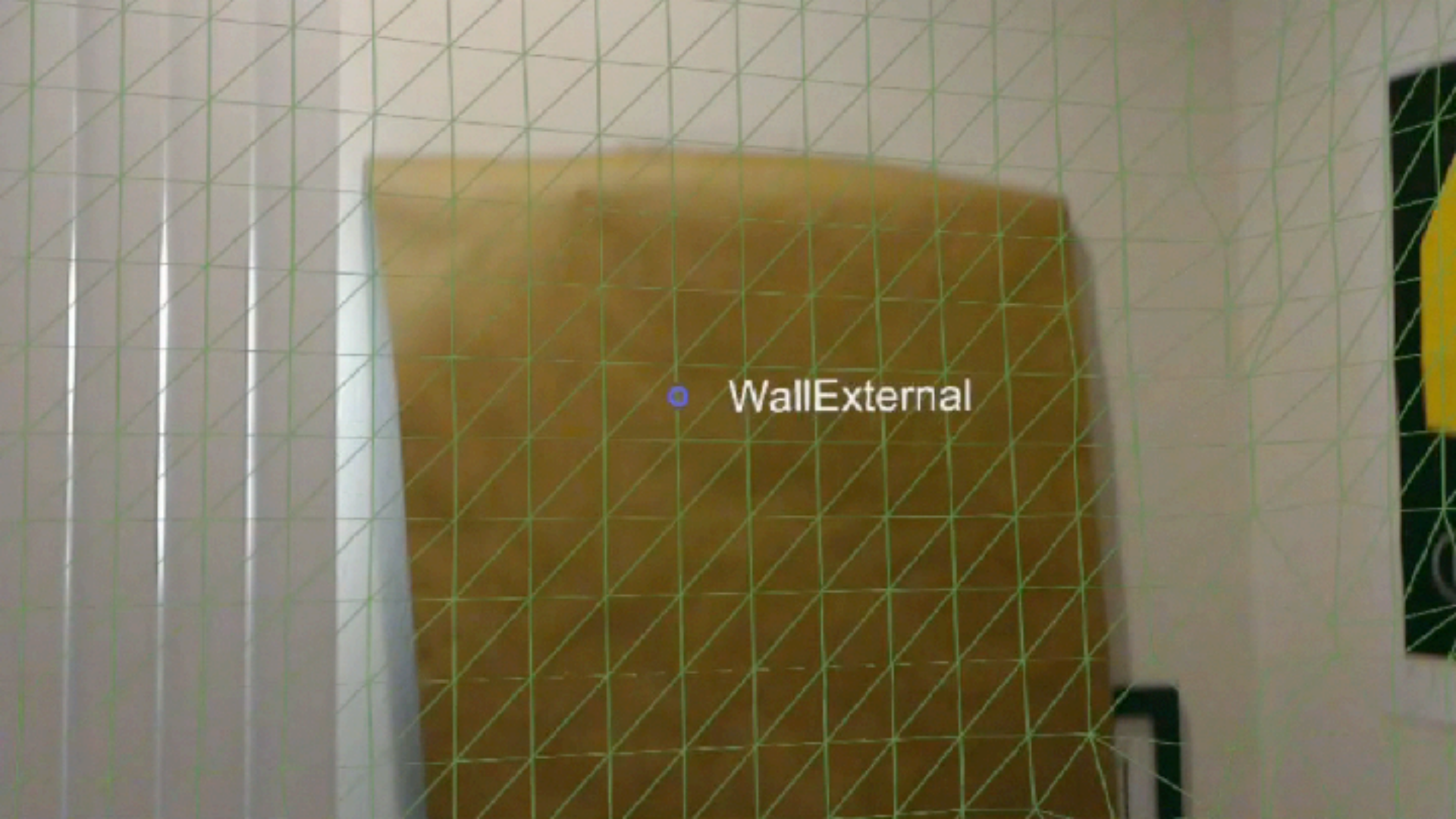
Spatial Mapping

EOPLE UNDER
THE STAIRS


SpatialMapping
Static
Tag Untagged
Layer Default
Transform
Position X 0 Y 0 Z 0
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1
Spatial Mapping Observer (Script)
Script SpatialMappingObserver
Triangles Per Cubic Meter 500
Extents X 10 Y 10 Z 10
Time Between Updates 3.5
Spatial Mapping Manager (Script)
Script SpatialMappingManager
Physics Layer 31
Surface Material Wireframe
Auto Start Observer
Draw Visual Meshes
Cast Shadows
Object Surface Observer (Script)
Script ObjectSurfaceObserver
Room Model None (Game Object)
Add Component



Spatial Understanding


WallExternal

Spatial Understanding

- More than just a mesh
- Categorizes surfaces (ceilings, walls, etc.)
- Search for shapes (objects) in scene
- Find spaces to place objects of arbitrary sizes

Persistence

Spatial Anchors

- Not one world coordinate system
- Anchors GameObject to part of real world
- Spatial Anchors adjust position over time
- Save/Load from Spatial Anchor Store

Shared Holograms

© NASA Jet Propulsion Laboratory / Youtube

Build and Deploy

Working Around Limitations

- FOV
- Battery life
- Mobile GPU / CPU performance issues
- Control constraints

It’s called **MIXED** Reality for a reason!

Thanks!

- www.flarb.com
- www.ralphbarbagallo.com
- @flarb