# QuickStart Unity VR

## What is VR

Pull 2 guys up front on the getting started experience. OR Start with VR meeting.

Do you want to experience it? Come on our booth.

* How many have VR experience
* How many have C# experience
* How many have 3D experience

We started with C# and XAML experience

## Safety

* Get in HMD in public space
* Guardian system
* Cyber sickness
* Health issues

## VR Hardware

* Tethered
* Oculus Quest / Vive Cosmos
* AR is airborn
* Mobile breakdown
* Displays, Matrices
* 2D vs 3D rendering
* 2D subpixel rendering
* 3D super sampling MSAA overdraw time wrap
* Waveguide audio
* Tracking cameras, 3DoF, 6DoF
* Controllers
* Hand tracking
* Sensor noise

We will build using rift as there is a missing link - the Oculus Link (Cable)

## Unity3D

* Installation guides, times
* Build once deploy everywhere
* Unity panels
* Assets single column layout
* Isometric vs Perspective camera view
* What is scene
* Serialization
* Play/Pause - Serialize/Deserialize
* GameObject/Transform/MonoBehaviour
* Transform - Vector3 pos, scale. Quaternion
* C# Scripts, Compiler
* Assets
* Package Manager (packages)
* Prefabs/Instantiate
* Camera/View matrix
* World transform mostly; local transform;
* 1 Unit is 1 meter
* Assigning serializable fields
* Event; UnityEvent;
* What is 3D object? Vertex, Polygon, Winding
* Vertex shader, Pixel shader
* Mesh Renderer/Filter
* UI geometry
* LERP vs SmoothDamp interpolation

## VR

* Enabling VR
* Play preview through the wire Rift
* Main camera, updated by tracking
* Quest Companion App
* ADB enable dialog
* Jitter
* Text rendering

## VR UI

* Depth perception
* Self-awareness, avatars
* Sense channel mixing, haptics

## Prepare

* The steps on sheet of the paper