

AR Fundamentals in Unity

COURSE OVERVIEW



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Tools Required



Built into Unity

Fast

Ease of development

Video of AR



Overview of Terms



Terms used:

- Phone = any AR device
- AR Scene = collection of digital objects
- Backplate = live video feed
- 3D Asset = any digital object that is overlaid on the Backplate



AR Device Cycle



Camera live feed

Device processor

Determines depth

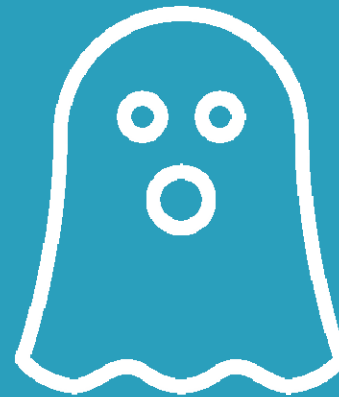
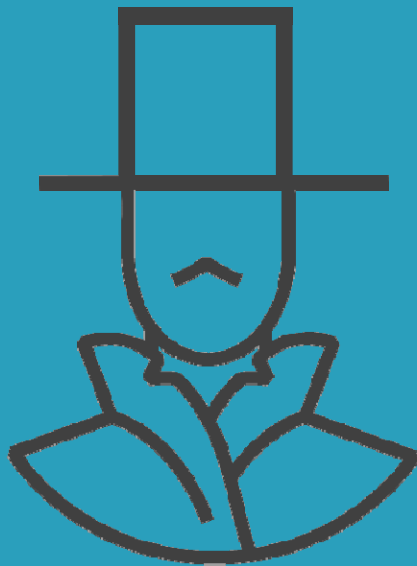
Overlays 3D asset

- Repeats for each frame



Early Augmented Reality

Really Really Early



Pepper Ghost



Early Augmented Reality

Really Really Early



Realism

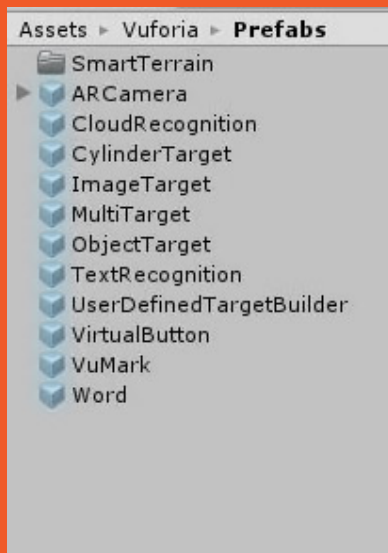
Lighting

Shadows

Textures

Movement





Vuforia Pre-Fab

- Target Images
- Logos
- Target Objects
- Words and Phrases



UFO FOOTAGE

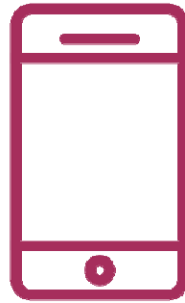


AR Techniques



Targets

Images and objects



Sensors

Gyroscope and GPS



3D Sensors

Determines depth through pattern projection.



AR Techniques



Images and objects used to determine depth.

Size information must be provided so software can match placement.



Gyroscope and GPS determine placement and location.

Limited to devices that have gyroscopes.



A Kinect camera on your phone.

Determines placement based on infrared pattern distortions.



Next



Download and install software

Create user account



M1 Clip 2



Software and Licensing



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Tools

AR TOOLKIT 6

EasyAR



Tools Required



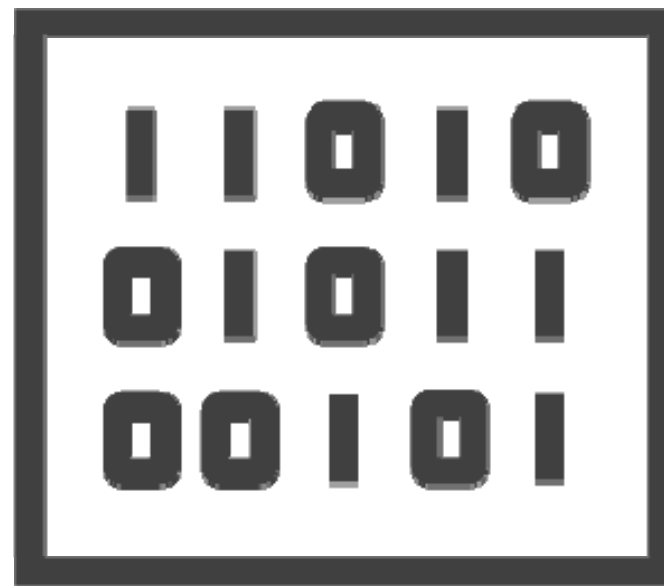
Video of
Pluralsight

Basic knowledge of Unity

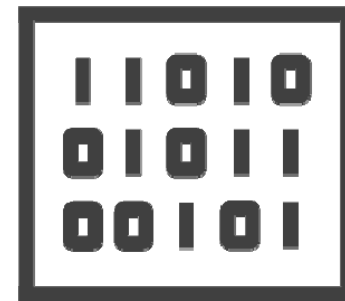
- Interface
- Prefab
- Translation
- Materials
- Lighting



How much coding?



How much coding?

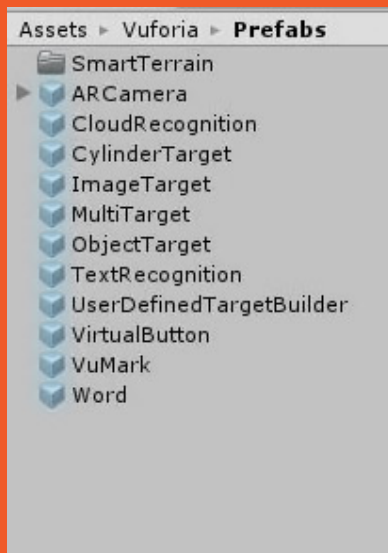


Just a little



Developing in Unity
Could be on a Mac
Could be on Android
But Unity is the
Development Platform





Vuforia Pre-Fab

- Contains all the tools needed
- Import it into your Unity Project once



Android and iOS



APK



APP



Android and iOS



Android and iOS



Android and iOS



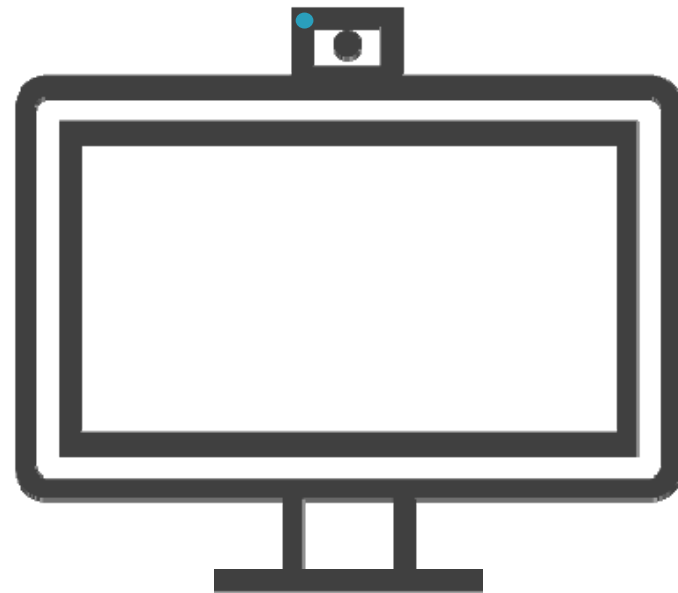
Android and iOS



Web Camera

Will mimic the
devices camera

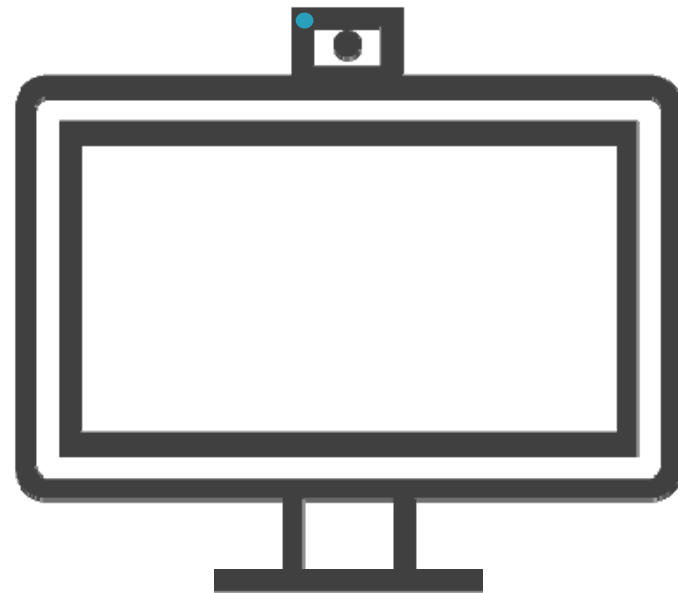
Will not mimic a
gyroscope



Web Camera

Will mimic the
devices camera

Will not mimic a
gyroscope



Next



Build our first AR project “Fishes”

