



TECH 3707 - Advanced Mixed Reality



vuforia®

Today we'll be talking about the Vuforia Augmented Reality framework in Unity...



...and using git to track changes.

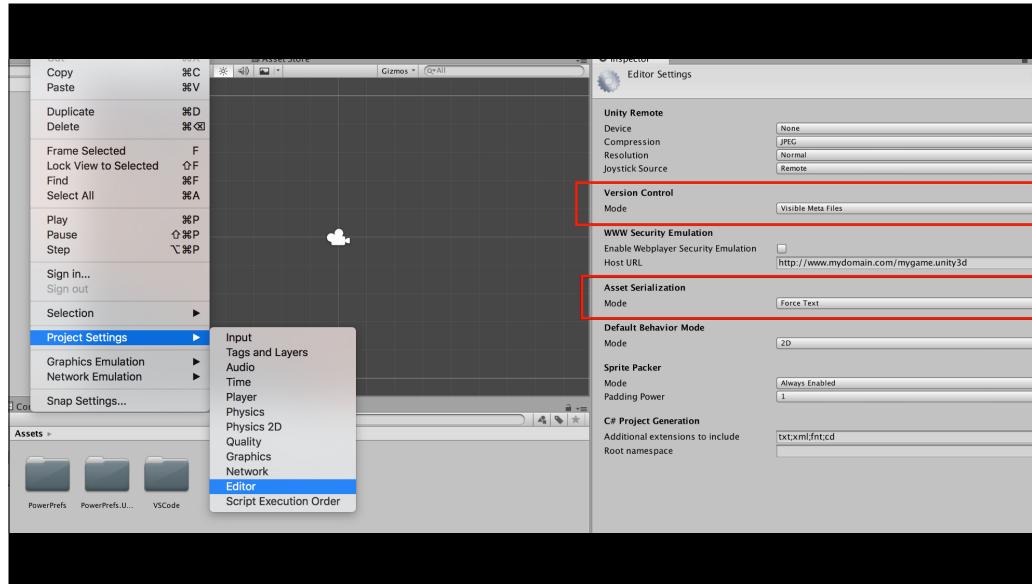
Setting up Unity for Git

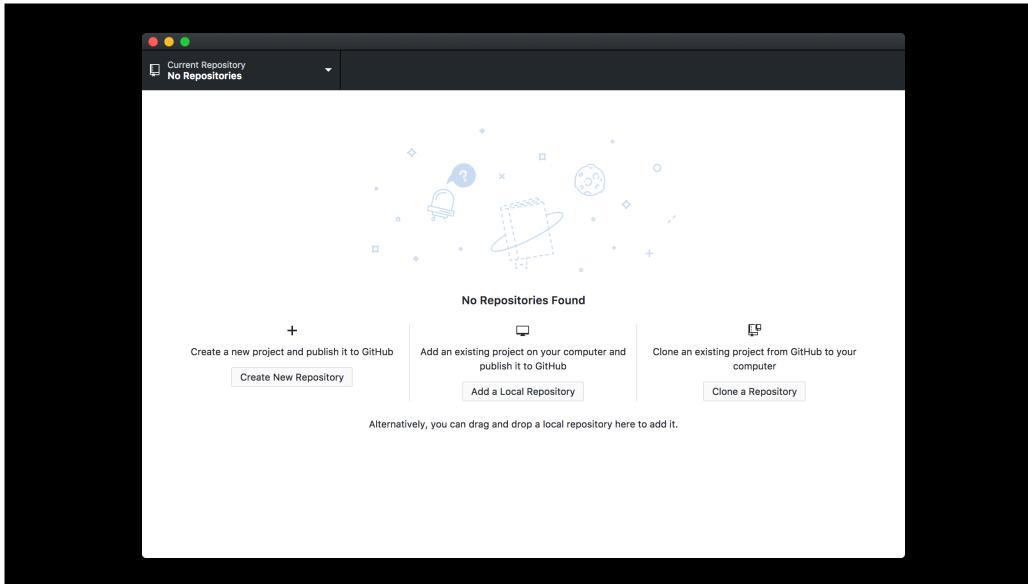
You only have to do this once and it is set for all projects.

Edit > Project Settings > Editor

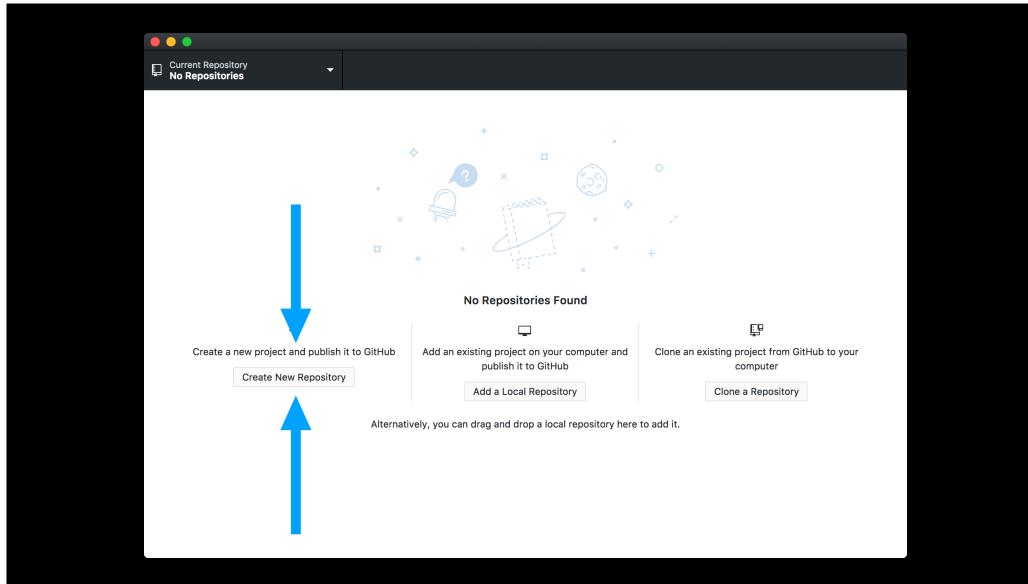
Version Control Mode set to:
“Visible Meta Files”

Asset Serialization Mode set to:
“Force Text”



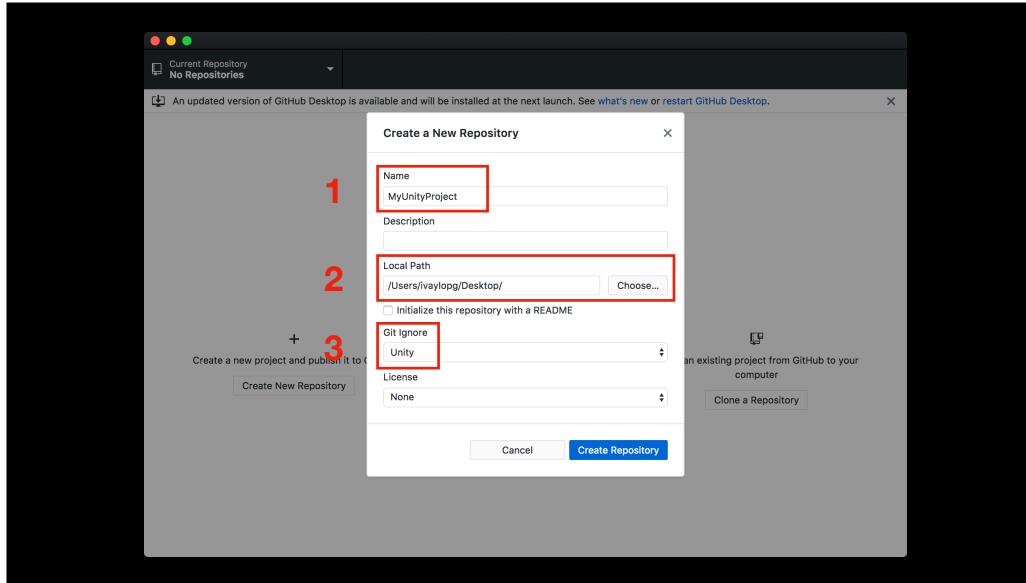


Download Github Desktop at <https://desktop.github.com/> and log in with your github account

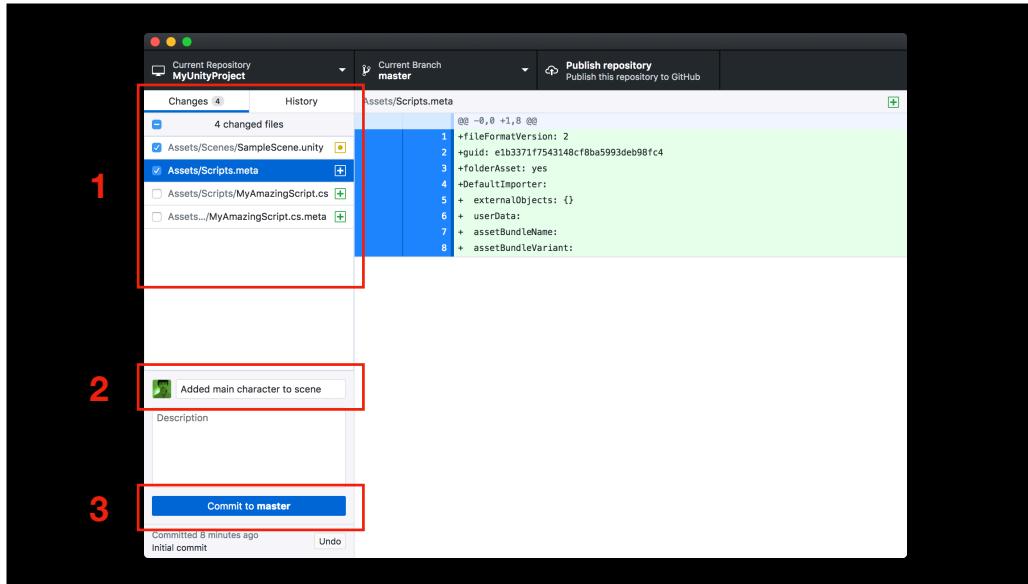


If you don't have any existing repositories, you should see the window above.

Otherwise go to “**File > New Repository**”



1. Call the new repository **THE EXACT SAME NAME** as the unity project you'd like to setup.
2. Set the path to the directory **above** where your Unity project is (i.e. the folder containing your Unity project folder, *not* the project folder itself)
3. Select **Unity** under Git Ignore



1. As you make changes to your Unity project, they will show up here.
Use the check-boxes to select which current changes to add to the next “commit” (a.k.a. the next entry in your git history).
2. Enter a short message here that summarizes your changes. If you want to go into more detail, you can use the optional description below.
3. Don’t forget to press commit!

Using Git

GitHub is not Git!

- You can use Git entirely on your local computer.
- GitHub is a place where you can share/store/backup your repositories.

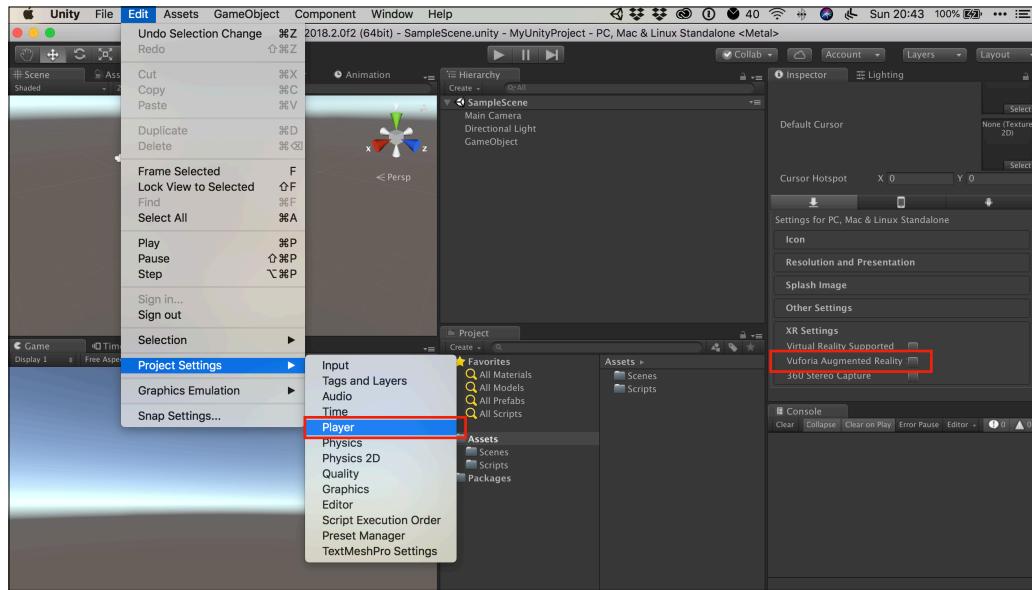
Commit often. The benefits of git are lost if you just do a few massive commits that each contain tons of changes.



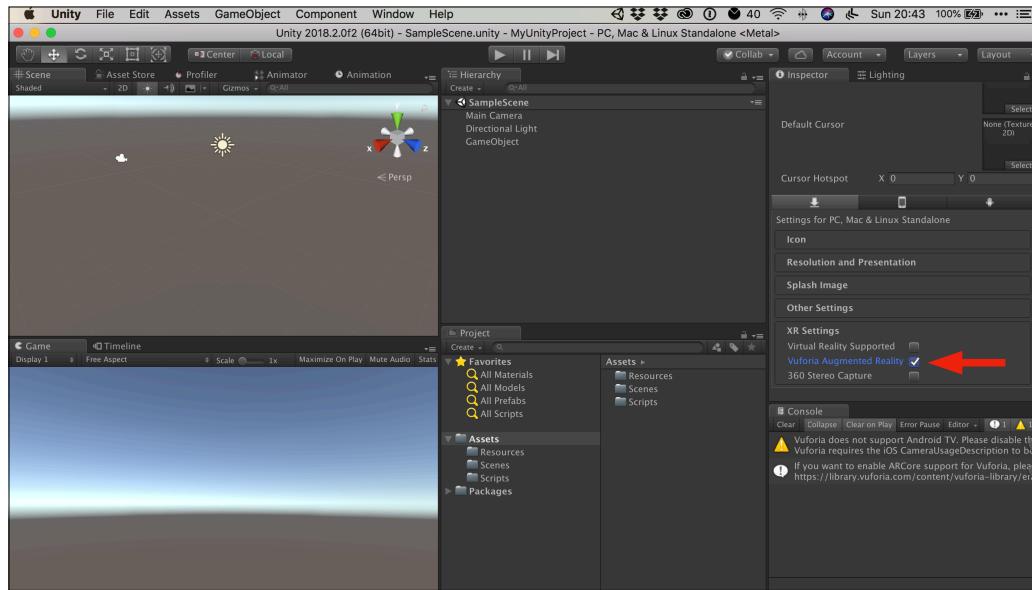
vuforia™

Since 2017.X, Vuforia is built into Unity!

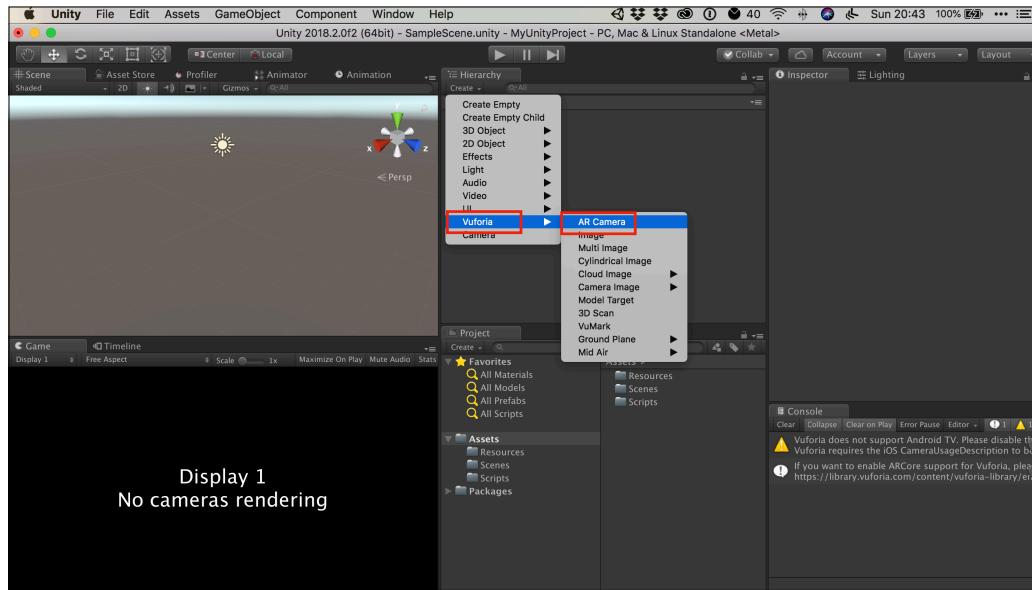
Make sure that you install Unity with the
Vuforia Augmented Reality Support component
enabled



Enable **Vuforia Augmented Reality** under the XR tab of Player Settings

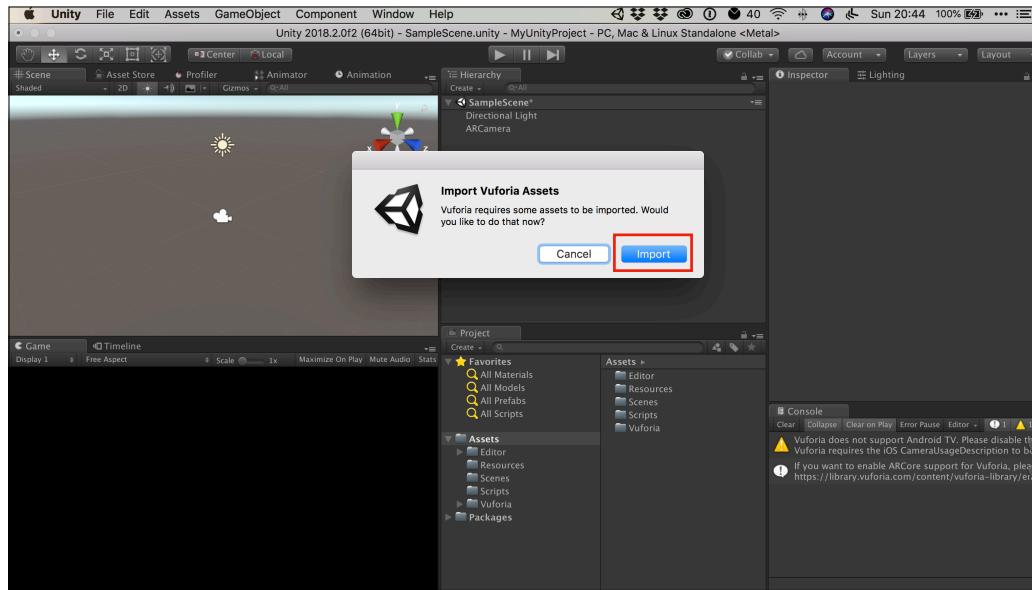


Enable **Vuforia Augmented Reality** under the XR tab of Player Settings



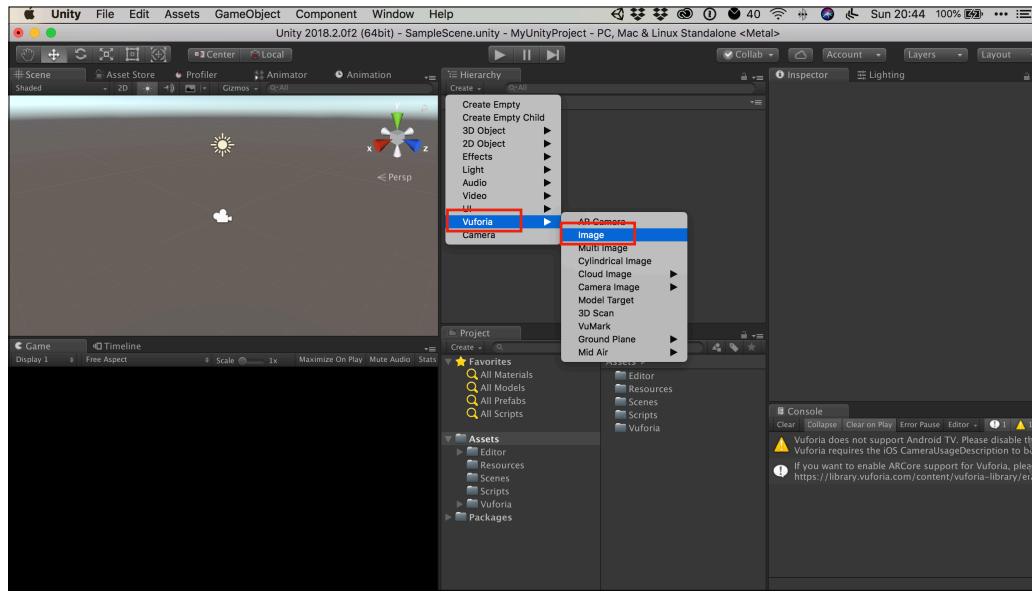
Delete the default camera and add an **AR Camera** in your scene

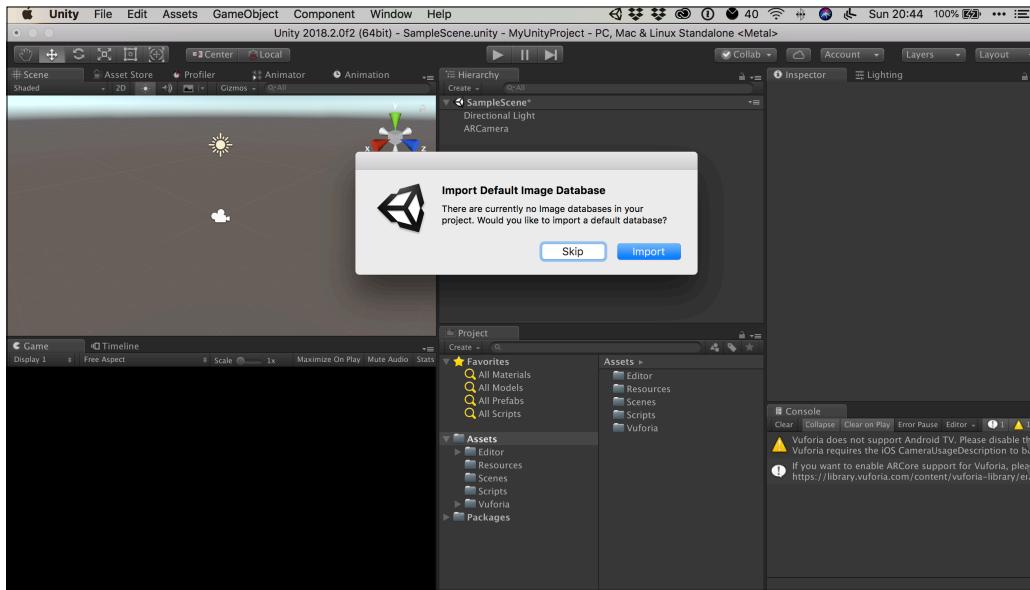
The game view should turn solid black.



Agree to the prompt asking you to import more assets in order to let Vuforia work

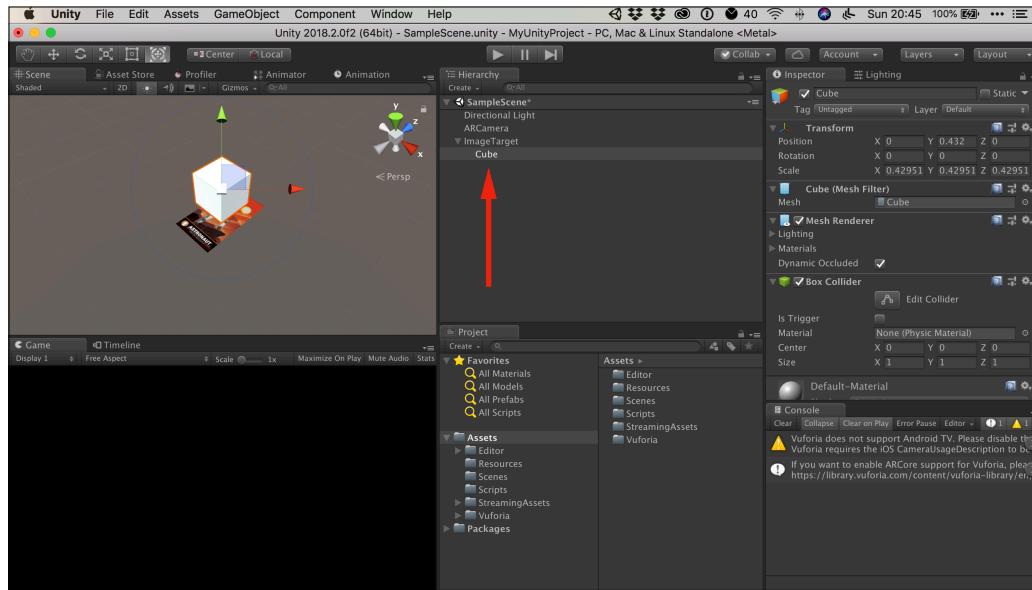
(By default Unity doesn't import these assets so it can keep app-sizes smaller for projects that don't use AR)





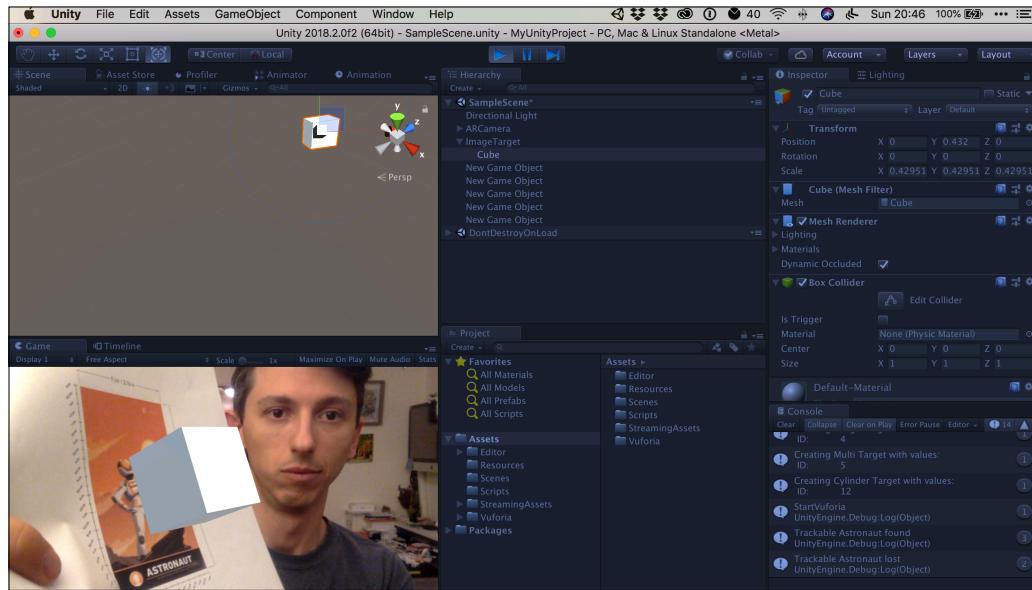
Agree to the prompt asking you to import the test image database.

(You won't need to do this when you start using your own image markers)



Nest any GameObject *inside* the Vuforia Image Target object.

Any objects nested under the image target become associated with that marker



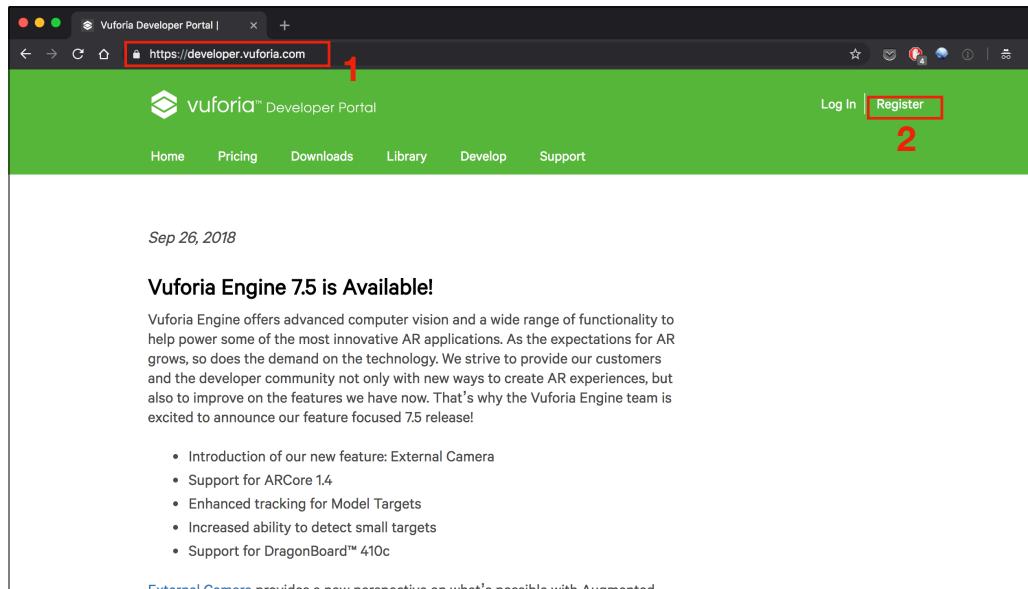
That's it!

If you have a webcam, you can test inside the Unity editor too!

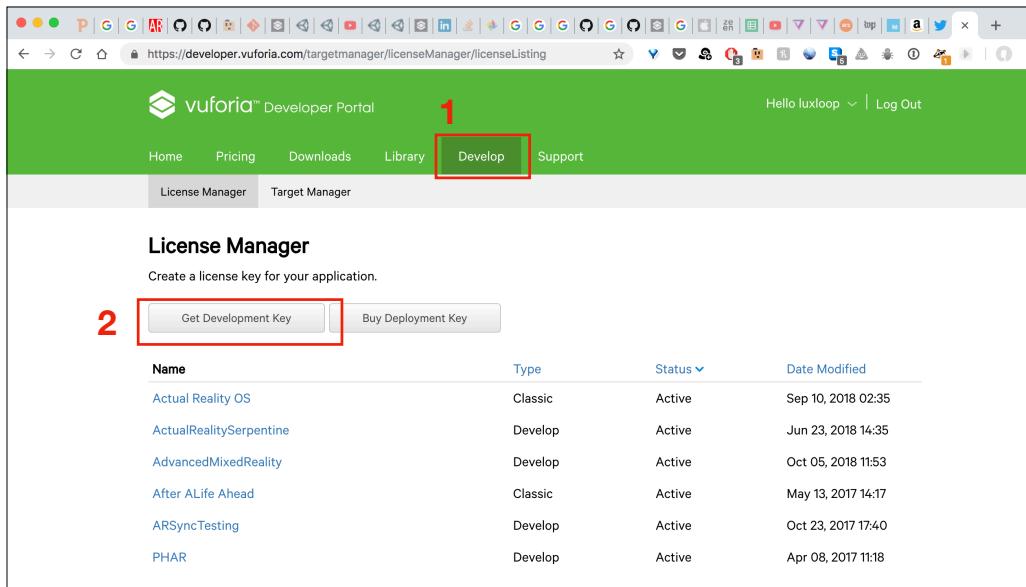
That's It!

(We'll talk about adding our own marker
images next week)

Lastly, set up your Vuforia developer ID

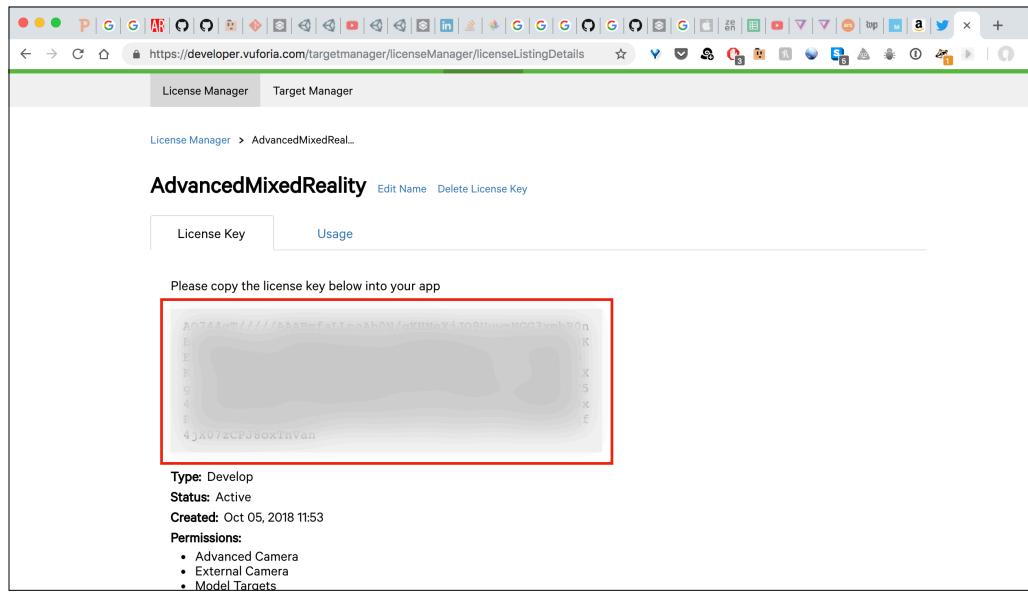


Go to developer.vuforia.com and click on **Register**

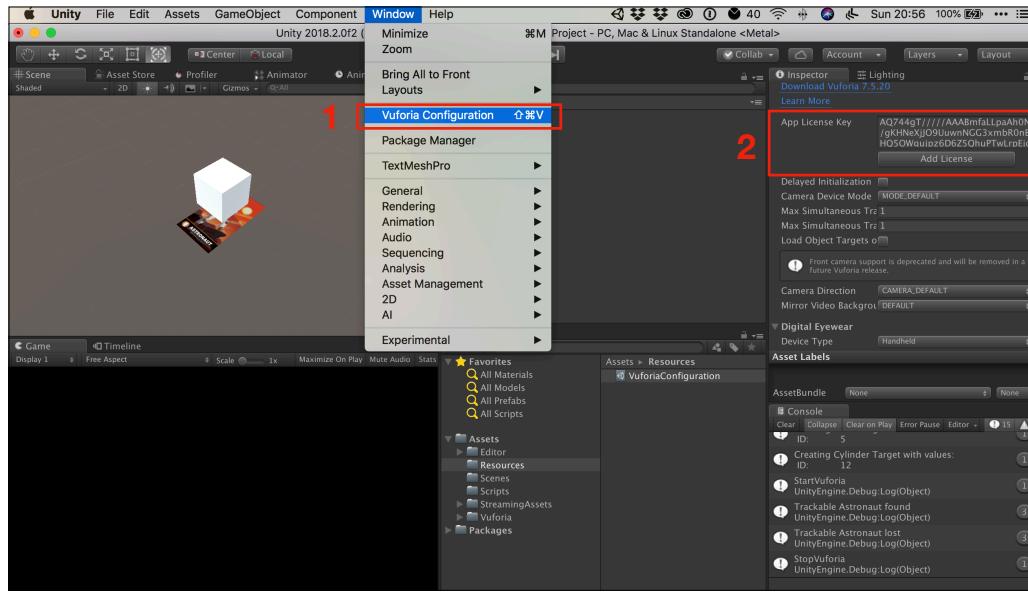


Once you have created your account go back to developer.vuforia.com and click on the “Develop” tab

Click on **Get Development Key** and complete the form



Once you have created a development key, open it in the License Manager and copy the long string there.



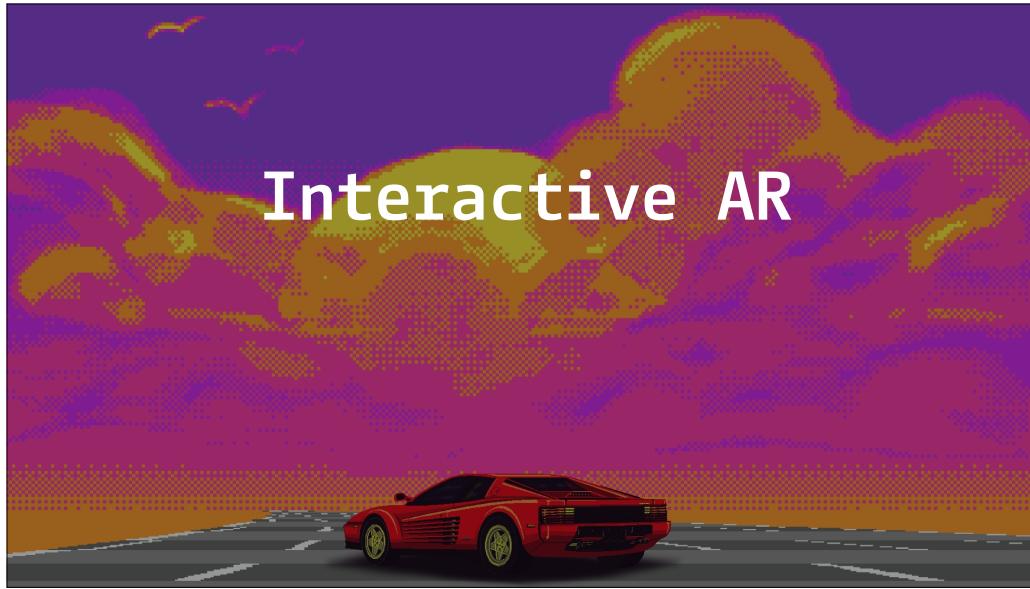
Back in Unity, go to **Window > Vuforia Configuration** to open the Vuforia Settings.

Paste the License Key into the appropriate field.



Midterm Project

- You don't get any extra points for how complicated something is.
- Better to have something simple that works well than something complicated that breaks.
- Remember MVP - start small and increment from there.



Interactive AR

Midterm Project

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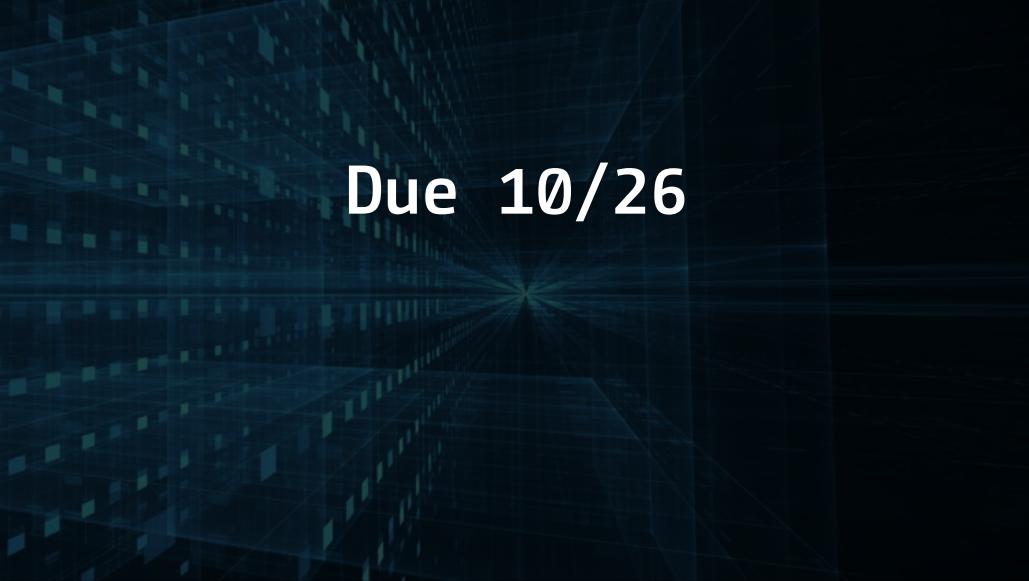
Augmented Reality scene that can fit inside a
1 x 1 x 1 meter volume

You must have one repeatable cause and effect

Knows when a marker has been detected

Running on ACS iPad Pro

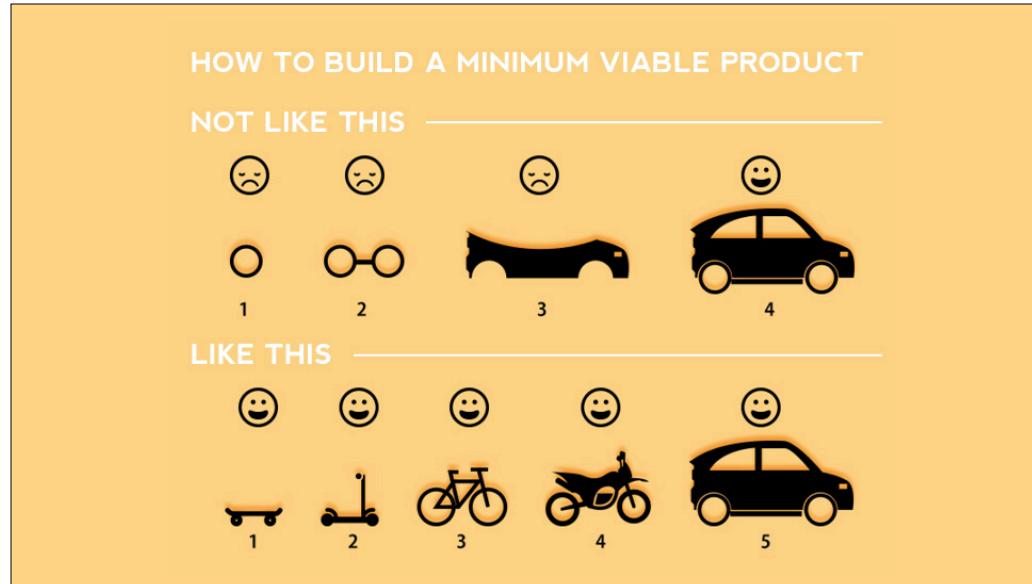
No content from the asset store!



Due 10/26



- Don't try to do too much. Focus on designing a simple but smooth user experience.



Remember MVP

Very quickly get to something usable that gets you “from point A to point B”



Thank you!