



TECH 3707 - Advanced Mixed Reality

Mideterm Project

Interactive AR

Due Next Week! (10/26)



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!

What is Due?

ZIP archive of your project folder **INCLUDING** the
.git folder

Email [a link](#) to ivaylo.getov@woodbury.edu by **9:00am**
on Friday 10/26

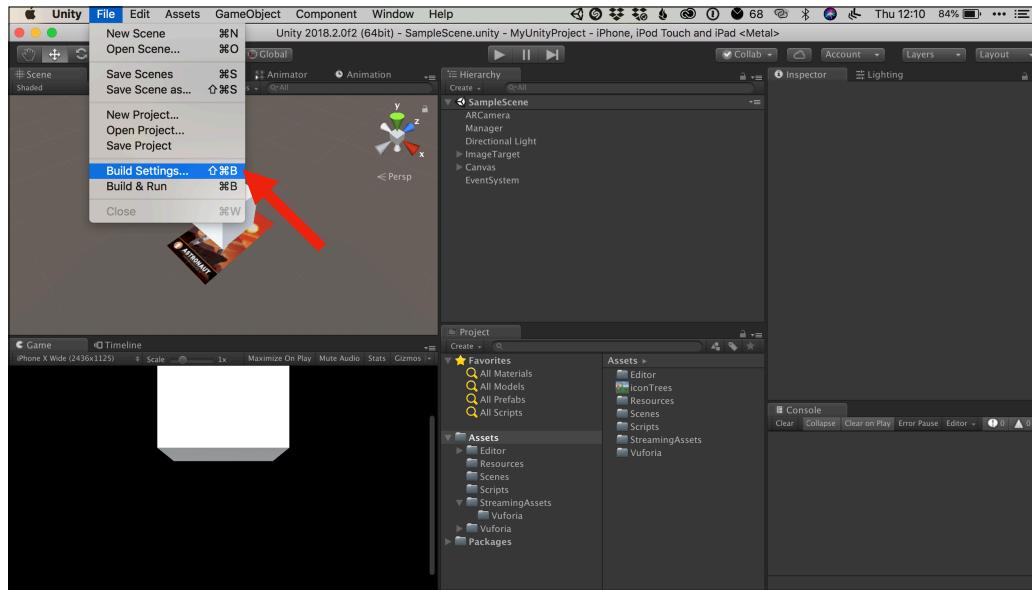
Built app to iPad (To be done in class on 10/26)

Do NOT send the .zip file as an attachment. Use Google Drive / Dropbox / WeTransfer to send your project archive link.

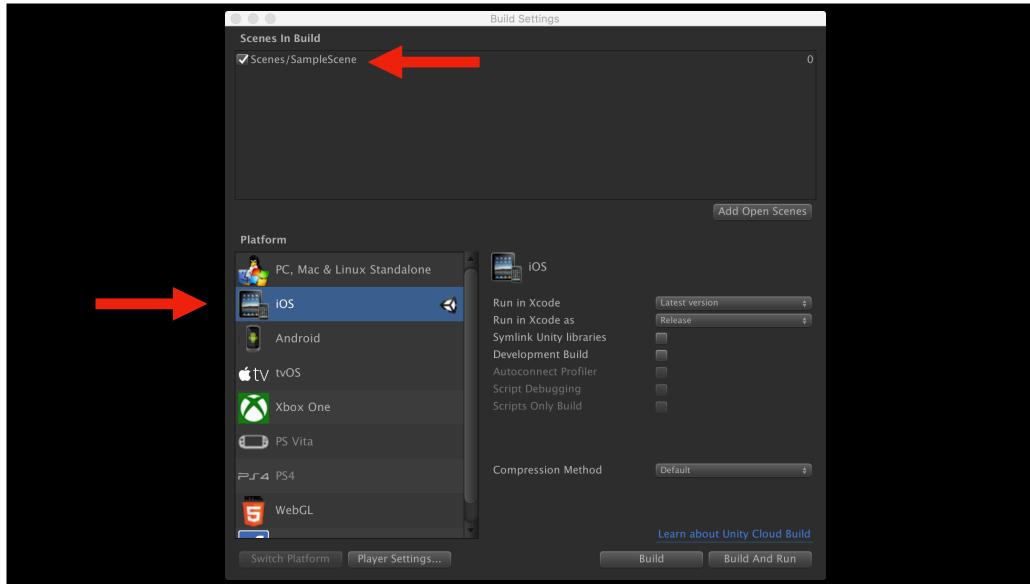


Preparing Unity Project for Building to Mobile

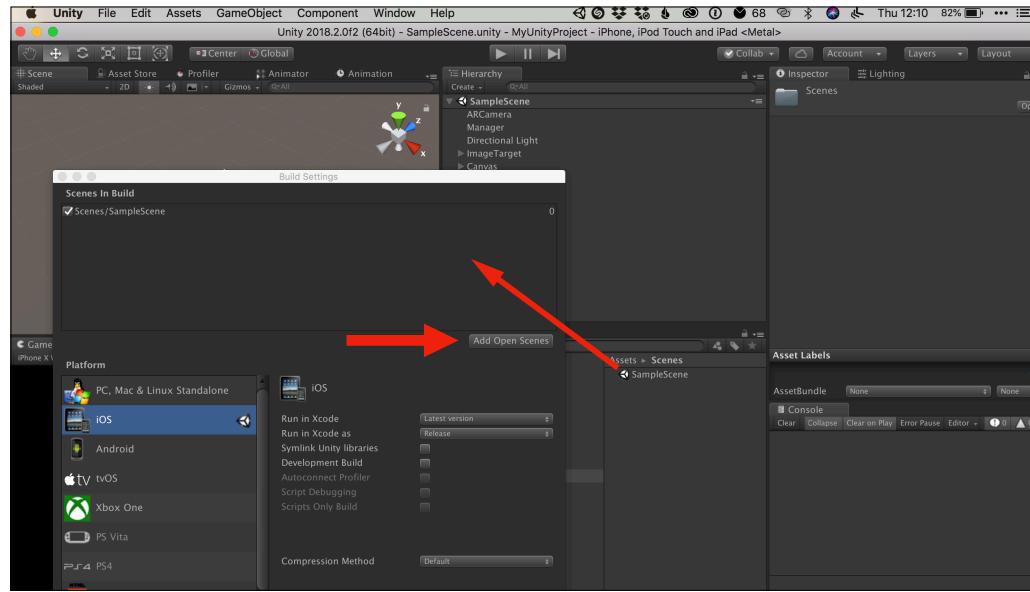
Do NOT send the .zip file as an attachment. Use Google Drive / Dropbox / WeTransfer to send your project archive link.



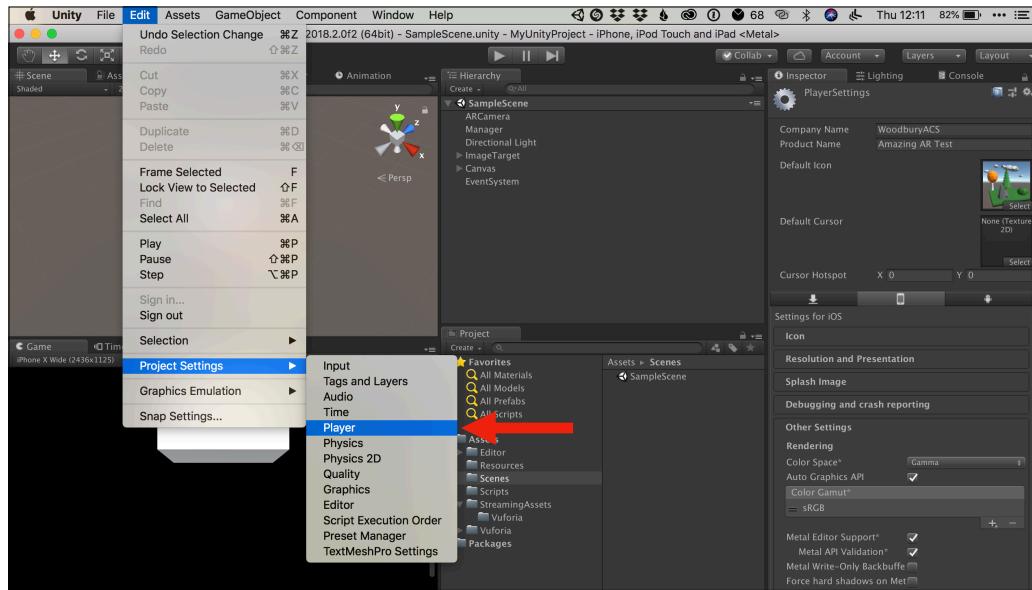
Open your project's Build Settings



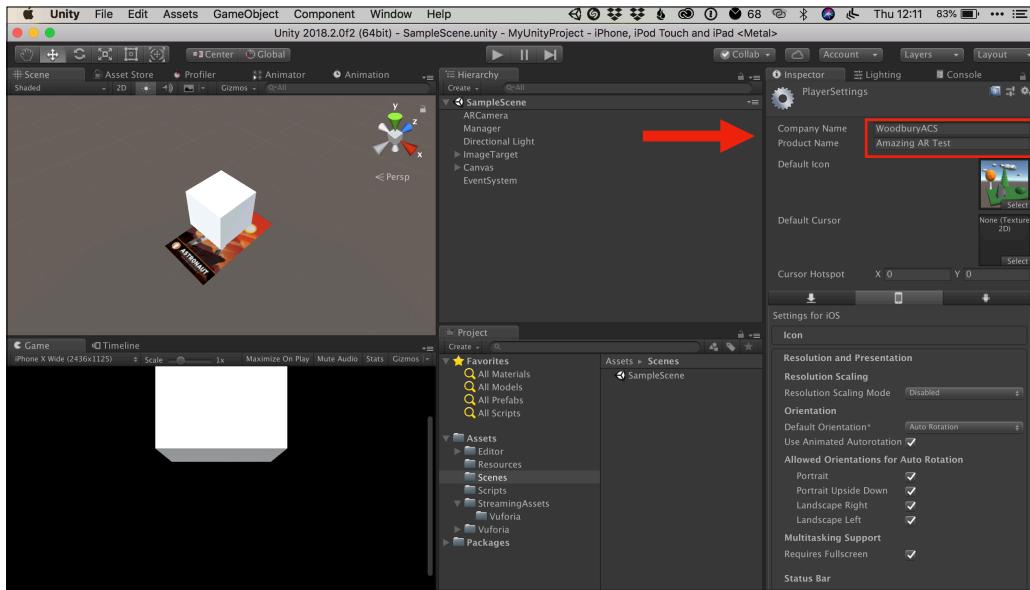
1. Make sure that your project **Platform** is set to **iOS** with all the default settings
2. Make sure that the scene(s) that you want to build are listed under **Scenes In Build**. Just because a scene is currently *open* does not mean that it is included in the build



To add your scene(s) to the build, you can either click on **Add Open Scenes** or drag scenes from your Assets folder to the window



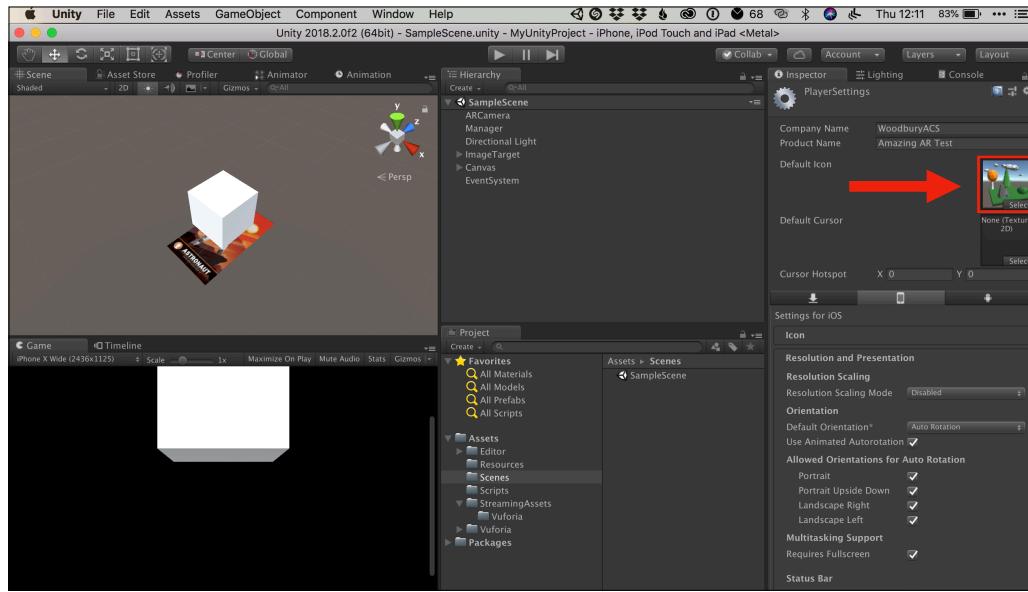
Open your Project's **Player Settings**



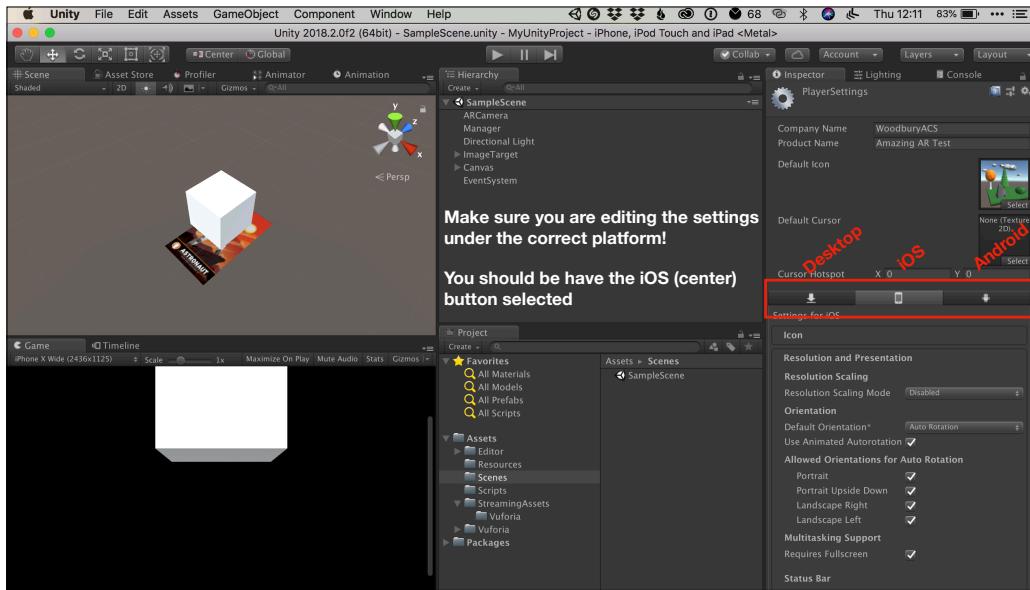
Change the **Company Name** and **Product Name** appropriately.

Company Name can be whatever you like.

Product Name will be the title that shows up under the app icon

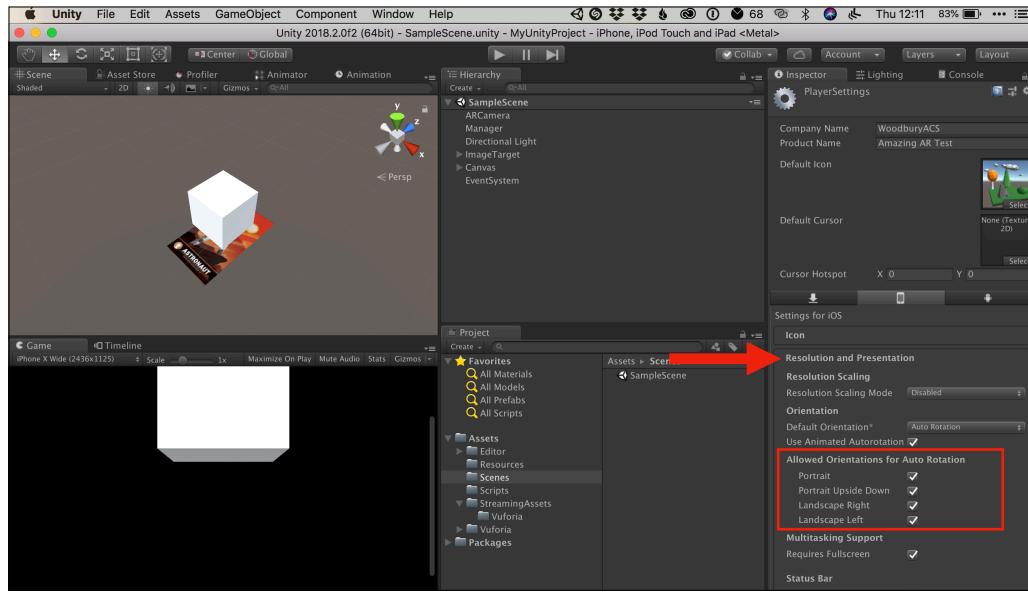


If you would like a custom icon, import a **square** image to your project assets and apply it here.

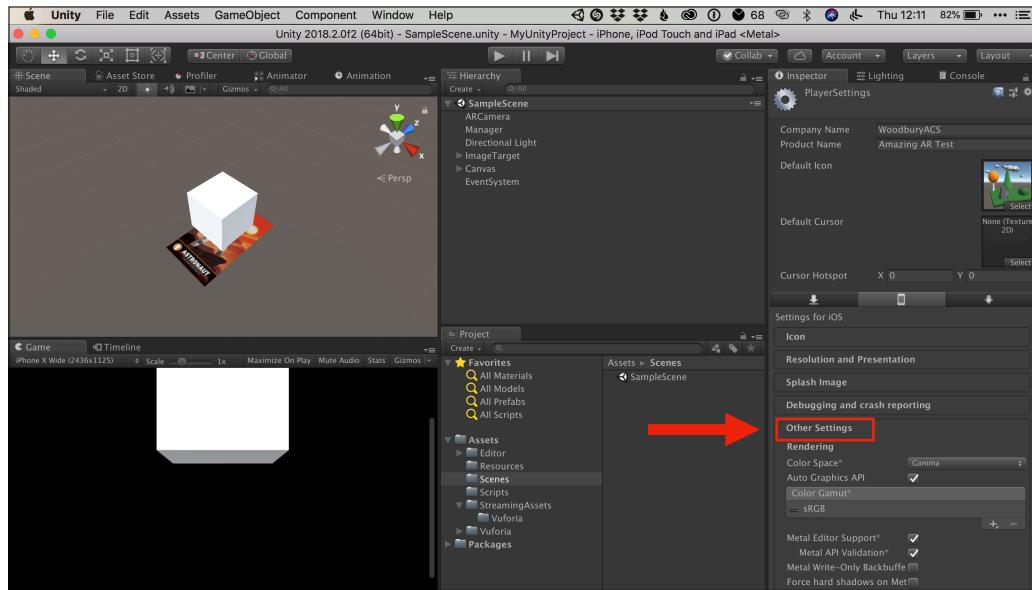


Make sure you are editing the settings under the correct platform!

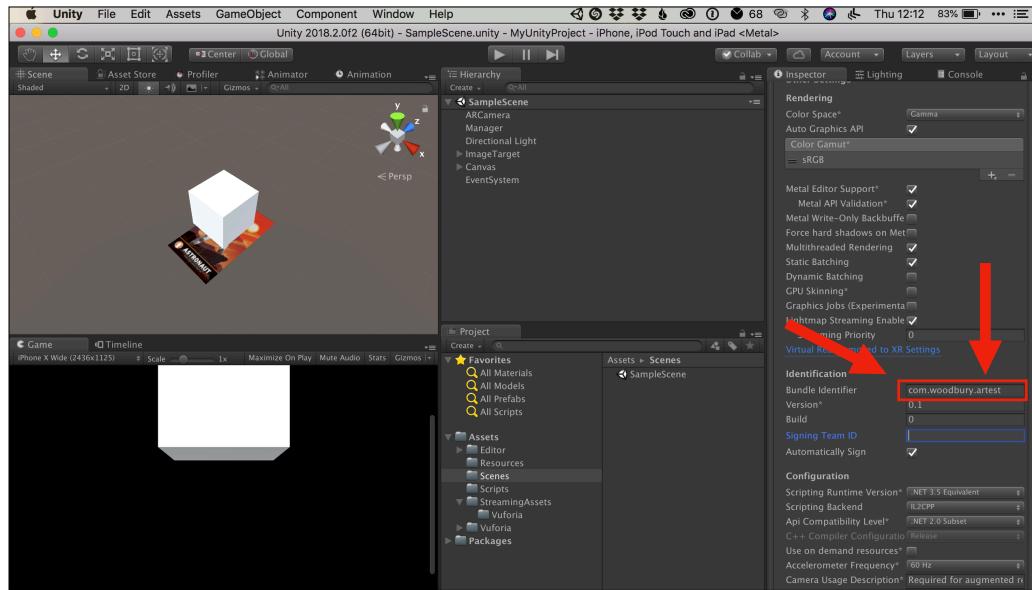
You should be have the iOS (center) button selected



Under the **Resolution and Presentation** heading, you can choose which orientations are supported for your app (for example, if you want only *Landscape* to be possible, uncheck the *Portrait* options)



All of the important settings required for a successful build are conveniently hidden in the **Other Settings** heading.

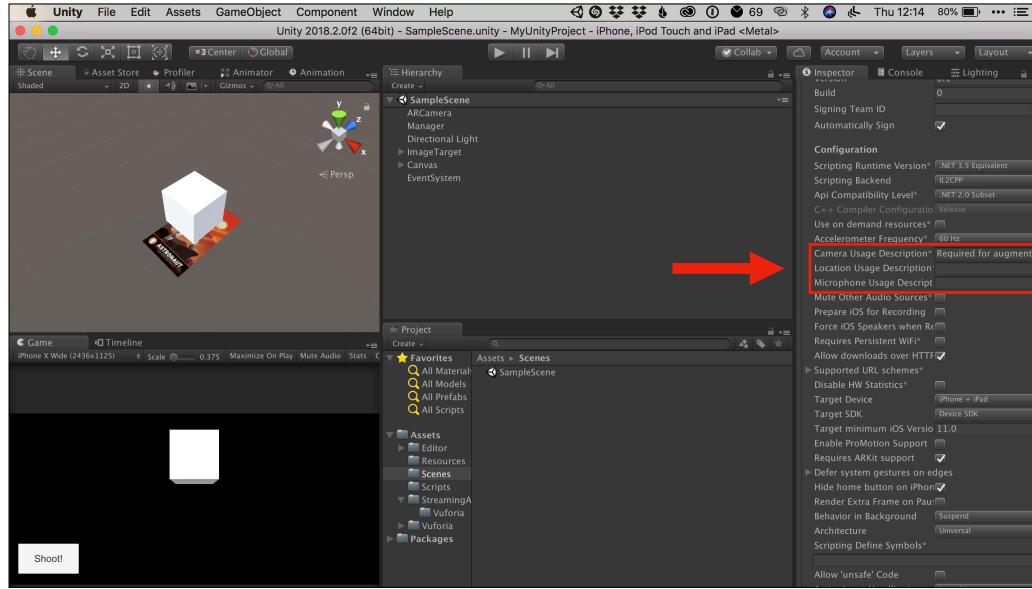


VERY IMPORTANT

Set a unique *bundle identifier* for your project. If you keep the default value here, it will overwrite any project that also was built with the default.

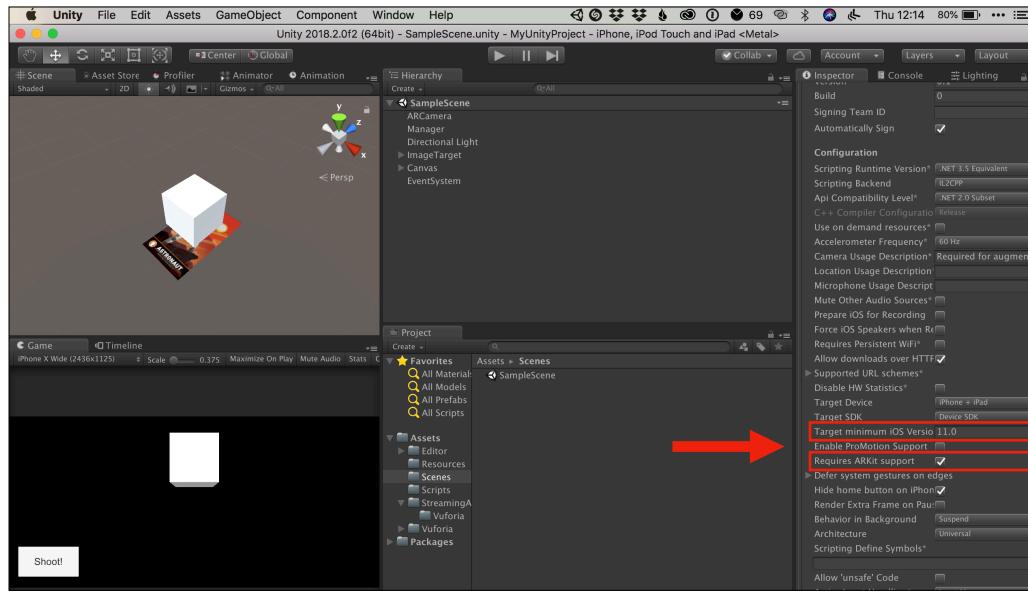
Bundle IDs are in the reverse domain name format:

com.<companyname>.<projectname>



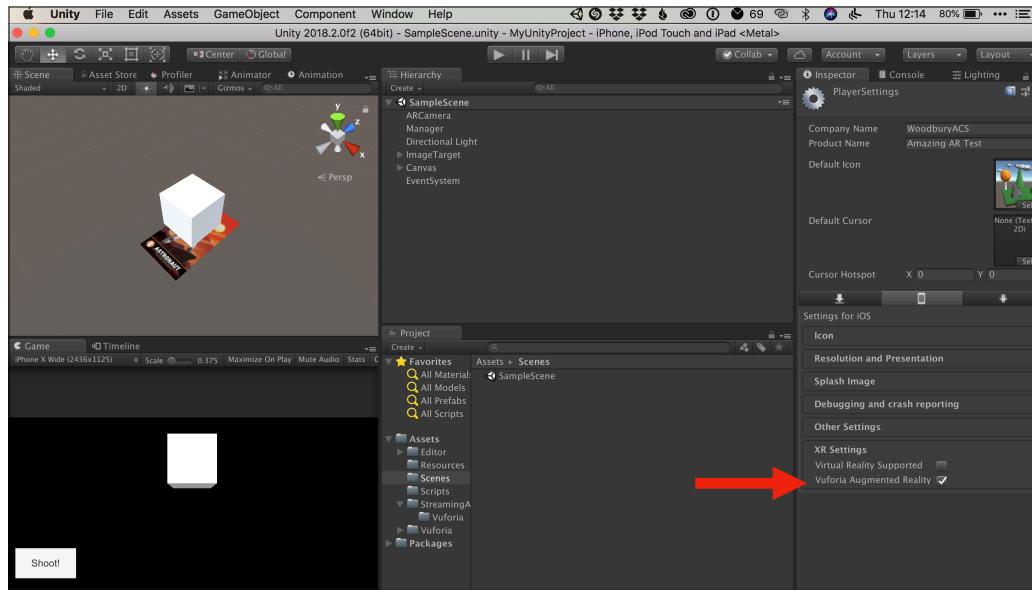
iOS builds are required to provide short explanations (that will be shown to the user) if your app uses **The Camera, Microphone, or Location Services**.

Vuforia should have already filled-in the *Camera Usage Description*, however you are welcome to change it. If your app uses the Microphone or Location Services, you must enter a description in the other two fields as well.



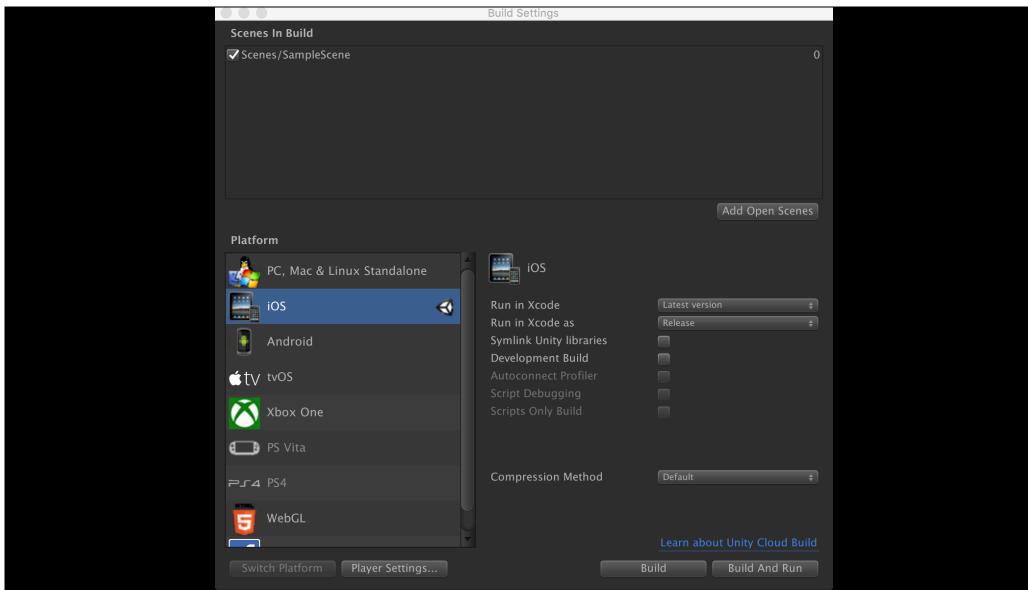
Set **Target minimum iOS Version** to **11.0**. This is the minimum required for ARKit

make sure that **Requires ARKit Support** is **enabled**

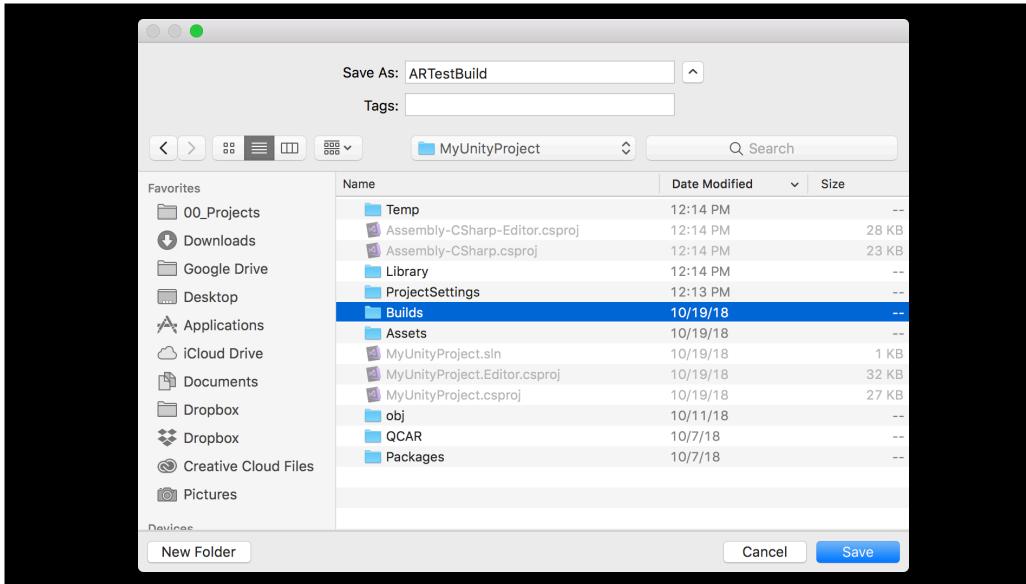


Finally, under the **XR Settings** heading, make sure that **Vuforia Augmented Reality** is enabled.

You're ready to build!



Go back to **Build Settings** and click on **Build**



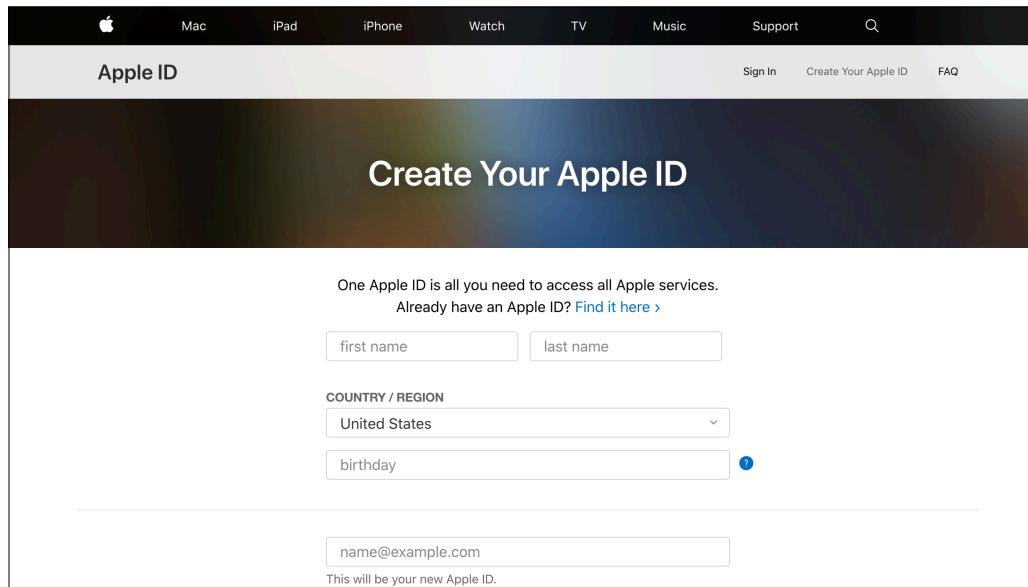
If it doesn't exist already, create a **Builds** folder at the same level as your **Assets** folder to save your build.

Click **Save** and Unity will create an Xcode project ready to build to iOS!



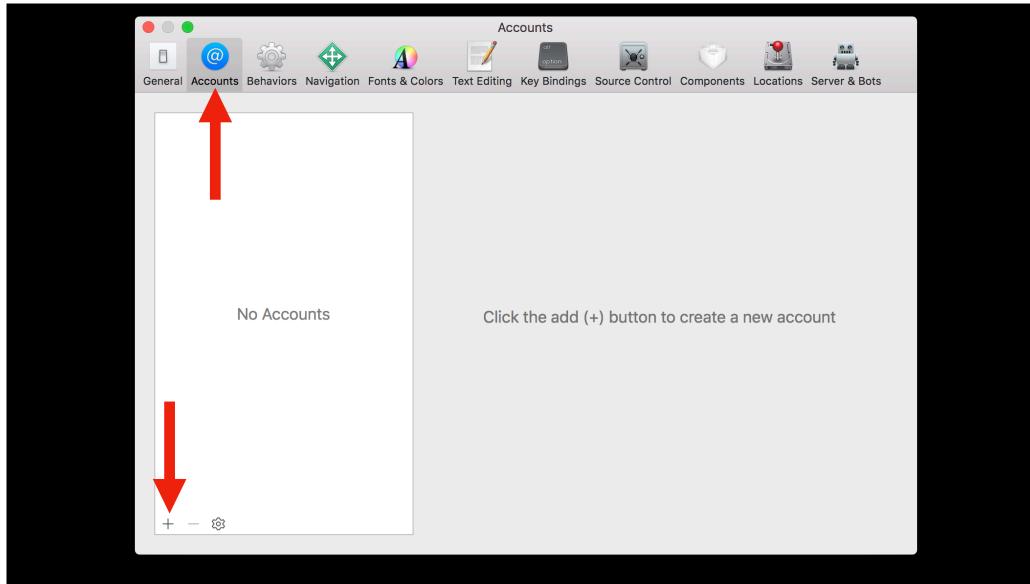
Up until now you will have been able to follow along on both macOS or Windows.

To build to an actual iOS device, you need to work on a Mac from this point on. The first 6 iMacs along the window wall are good to go for building.



If you do not already have an Apple ID, you will need to create one. This is because iOS apps must be *Cryptographically Signed* with a unique developer account.

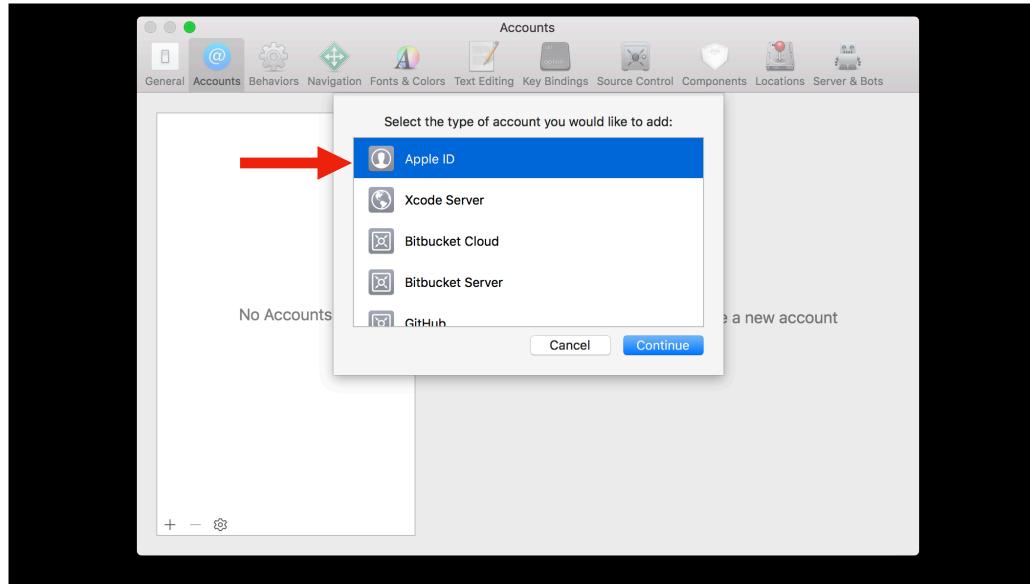
Go to <https://appleid.apple.com> If you need to create an Apple ID.



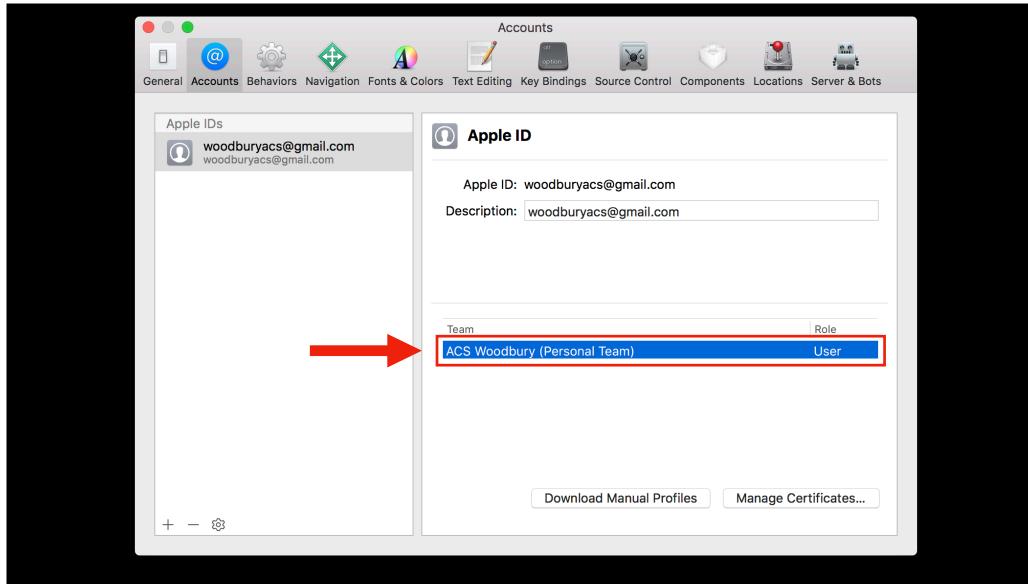
Open Xcode. It will either open with a small welcome window or **no window at all**, but you will see “**Xcode**” in the menu bar.

From the Xcode menu, select **Preferences**

Click on **Accounts** and then click on the **+** to add an account.

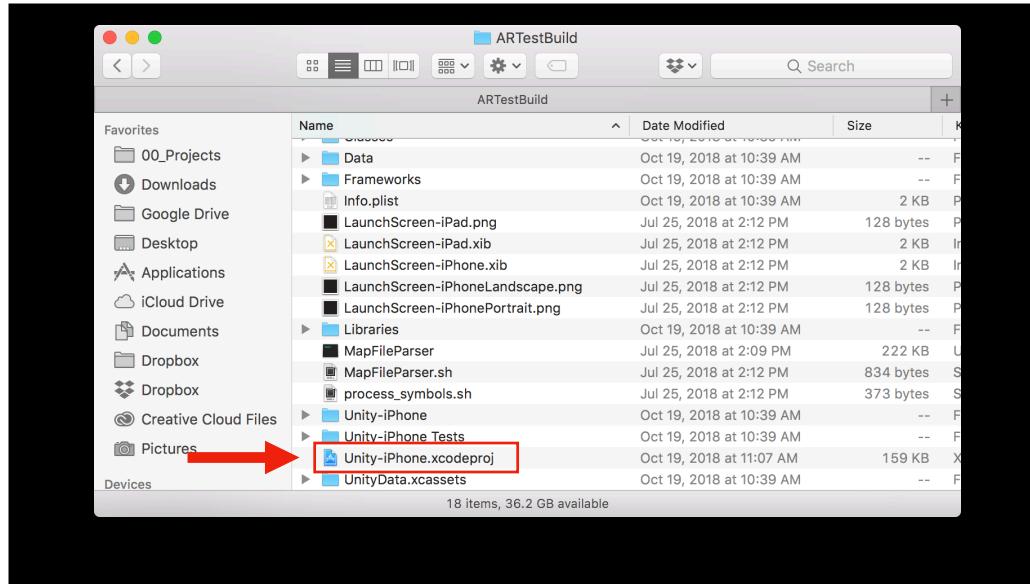


Under **Type**, select **Apple ID** and click **Continue**

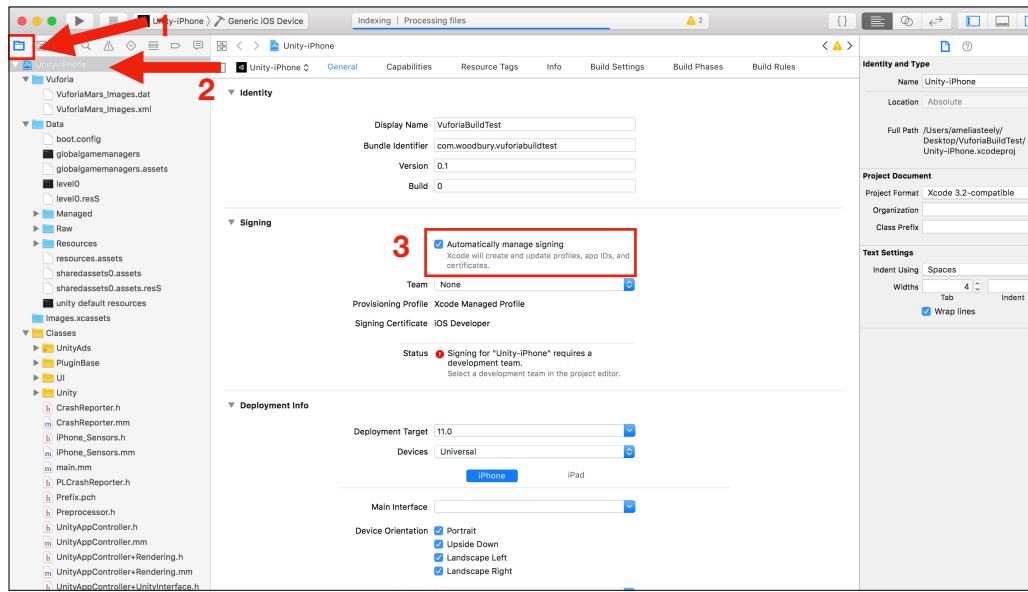


Once you enter your login info, you should see your user name added as a **Personal Team**.

This will let you develop and install apps locally. To push apps to the App Store, you would need to register as a developer and pay an annual fee.



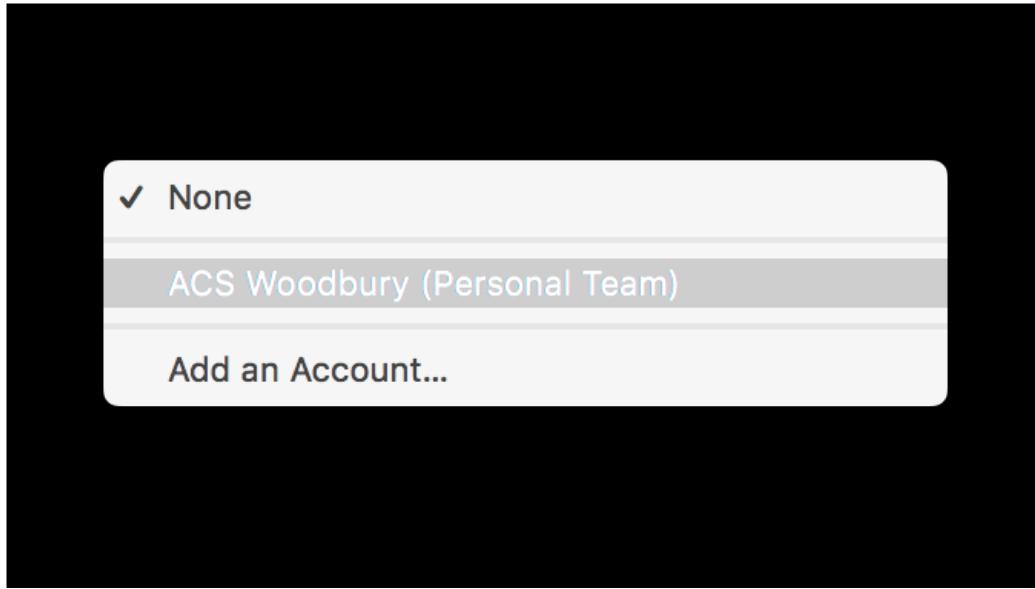
Open the **.xcodeproj** file that Unity created



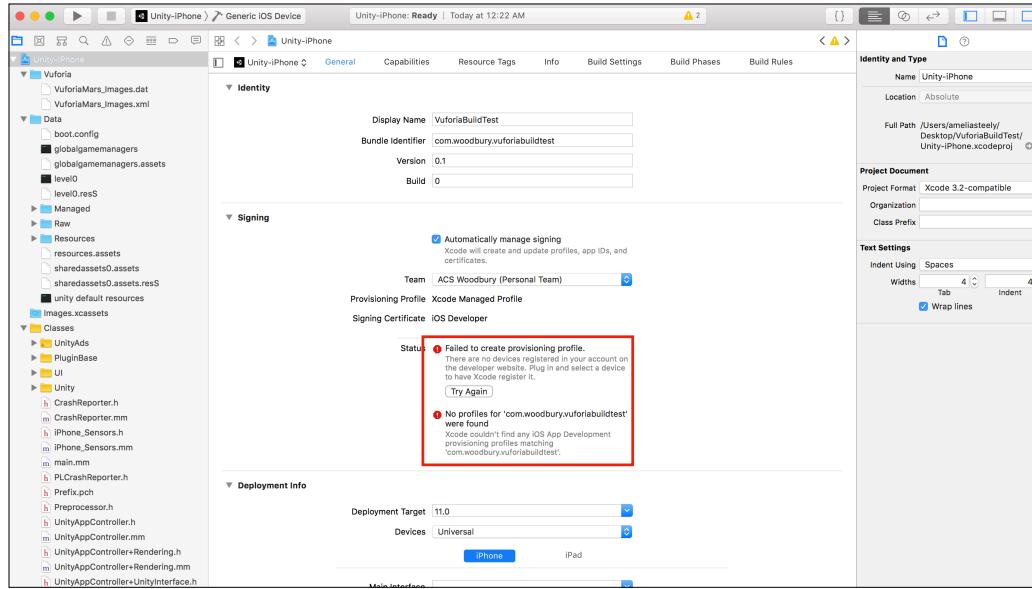
Click on the small folder icon in the upper-left

Click on the project file called **Unity-iPhone**

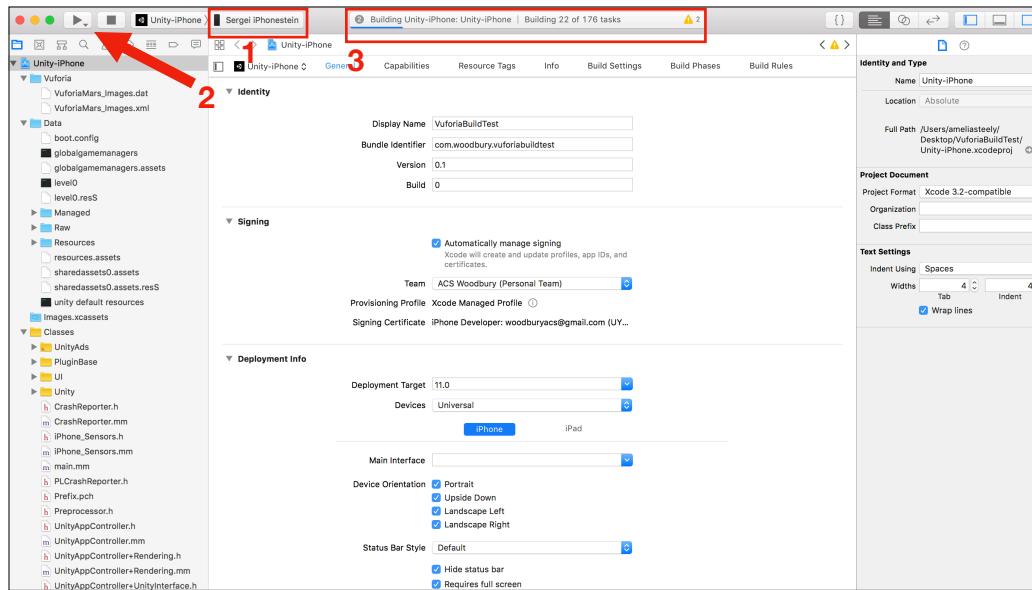
Click on **Automatically Manage Signing**



Under the **Team** menu, select the Apple ID (**Personal Team**) profile that you added earlier.



If you still get errors at this point, usually if this is the first time you are following these steps, you will need to plug in an iOS device to generate the signing certificates.



Time to build!

Make sure Xcode sees the connected device. If the device is not detected, box 1 above would say **Generic iOS Device**

Click on the **Play Icon** in the upper left hand corner

The status bar on top should show the **Build Progress**

Once your app is built, it will install and run on the connected device.



Thank you! Send me questions if you have them!