

Step One: Get Unity Preview Play to work Android Pixel 6 //Yeah it works, but it's best to build and run on phone.

Google

Pixel 6

Supports multiple GPU texture resolutions - 1080p, 720p, 480p
Supports Depth API

Google Play Services for AR installed on phone

General Concepts:

<https://developers.google.com/ar/develop/fundamentals>

Guide to follow:

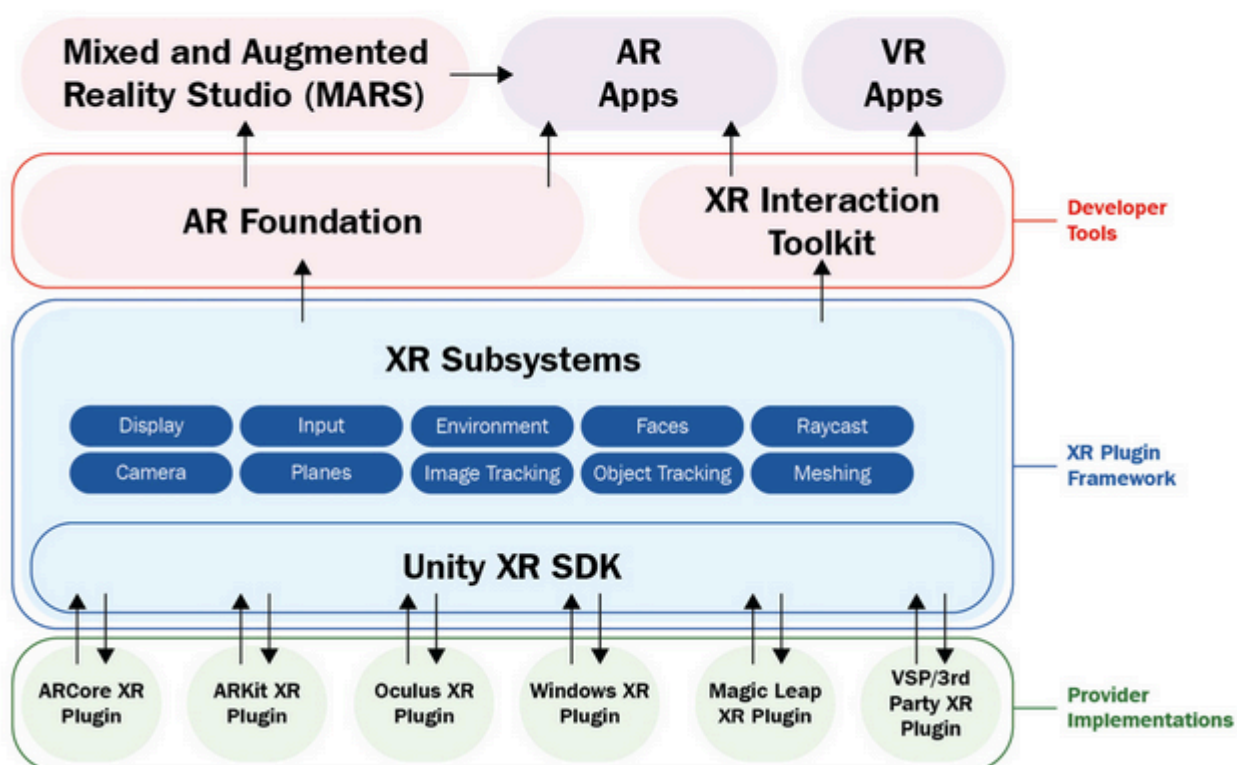
https://learning.oreilly.com/library/view/augmented-reality-with/9781838982591/B15145_01_Final_SB_epub.xhtml#_idParaDest-18

Can't use play mode directly:

Information – Using Play Mode in AR Projects

In most Unity projects, you can press the **Play** button (in the main toolbar) to go into *play mode* and run your scene in the Editor, running on your desktop rather than on the device. This is not so simple with an augmented reality scene since it requires an onboarding phase, where the software scans the environment for physical world features and then uses the physical device sensors for positional tracking. There are several solutions to facilitate your iterative developer workflow, all of which we will discuss in [Chapter 3, Improving the Developer Workflow](#).

Unity XR Tech Stack



TIP – DON'T MIX VR AND AR PLUGINS IN THE SAME PROJECT

You'll see that the **XR Plug-in Management** window lets you choose any combination of AR and VR plugins. In our projects, we're only interested in the AR ones. Generally, do not include both AR and VR plugins in the same project as the build settings, player settings, camera rigs, and many other things can differ significantly between AR and VR projects. (Perhaps when you read this, there will be devices that support both modes in a single app, but I am not aware of any at this time.)

AR Core Capabilities

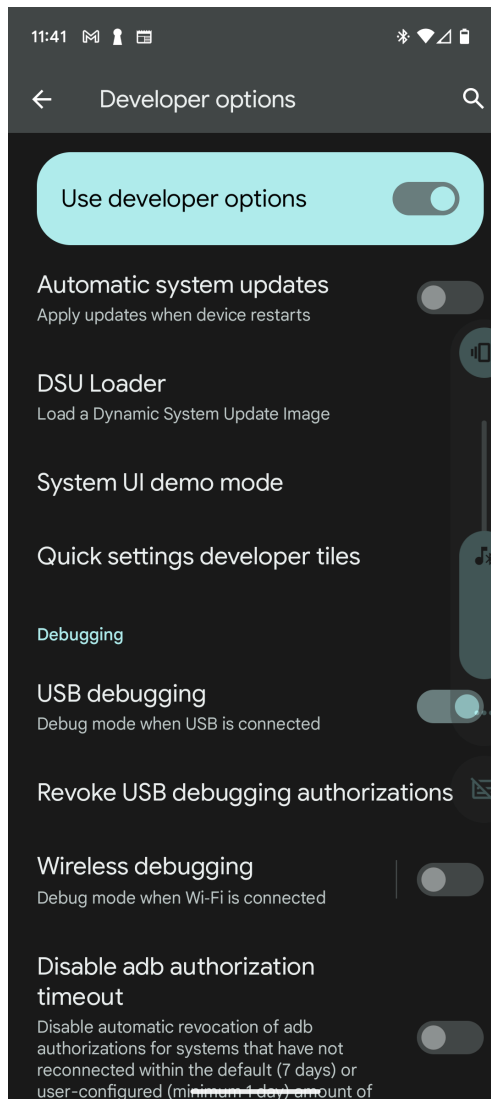
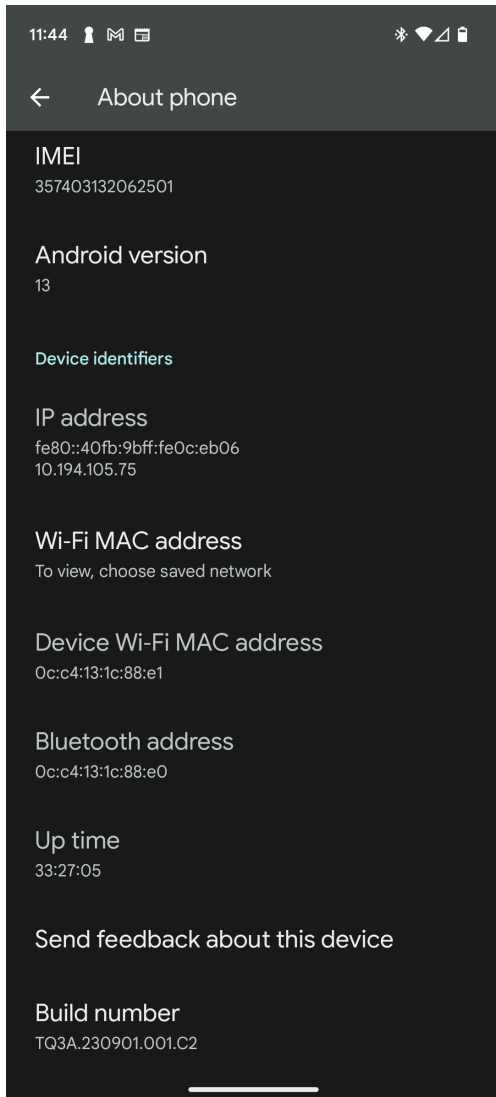
AR Foundation Feature	ARCore	ARKit	Magic Leap	HoloLens
Device tracking	yes	yes	yes	yes
Plane tracking	yes	yes	yes	
Point clouds	yes	yes		
Anchors	yes	yes	yes	yes
Light estimation	yes	yes		
Environment probes	yes	yes		
Face tracking	yes	yes		
2D Image tracking	yes	yes	yes	
3D Object tracking		yes		
Meshing		yes	yes	yes
2D & 3D body tracking		yes		
Collaborative participants		yes		
Human segmentation		yes		
Raycast	yes	yes	yes	
Pass-through video	yes	yes		
Session management	yes	yes	yes	yes
Occlusion	yes	yes		

Install AR Foundation in Package Manager

Install Input System

You're a Developer Harry

USB Debugging: The next step is to enable USB debugging on your Android device (phone or tablet). Open the device's Settings > About window and find the Build Number item. (Depending on the brand, you may need to drill down another level or find the Build Number item in a slightly different location.) The next thing you must do I think is very funny – perform a magical incantation by clicking the Build Number item seven times! Then, magically, a Developer Options menu option will appear. Select that and enable USB Debugging.



All of this is using Unity 2022.3.10f1

Package Manager

+

▼

 Packages: Unity Registry

Sort: Name (asc)

Filters

Clear Filters

All Services

▼ Features

2D

8 packages

3D Characters and Animation

4 packages

3D World Building

4 packages

AR

5 packages

Cinematic Studio

6 packages

Engineering

7 packages

Gameplay and Storytelling

3 packages

Mobile

3 packages

VR

2 packages

▼ Packages

2D Animation

9.0.4

2D Aseprite Importer

1.0.1

2D Pixel Perfect

5.0.3

2D PSD Importer

8.0.2

2D Sprite

1.0.0

2D SpriteShape

9.0.2

2D Tilemap Editor

1.0.0

Last update Oct 5, 22:11

AR

Release

Remove

From Unity Registry by Unity Technologies Inc.

com.unity.feature.ar

QuickStart

Description Packages Included

AR Foundation

Apple ARKit XR Plugin

Google ARCore XR Pl...

Magic Leap XR Plugin

OpenXR Plugin

AR Foundation

Go to package view

Version 5.0.7

A collection of Subsystems as well as MonoBehaviours and C# utilities for working with the Subsystems.

Includes:

▪ Definitions of Subsystems

▪ GameObject menu items for creating an AR setup

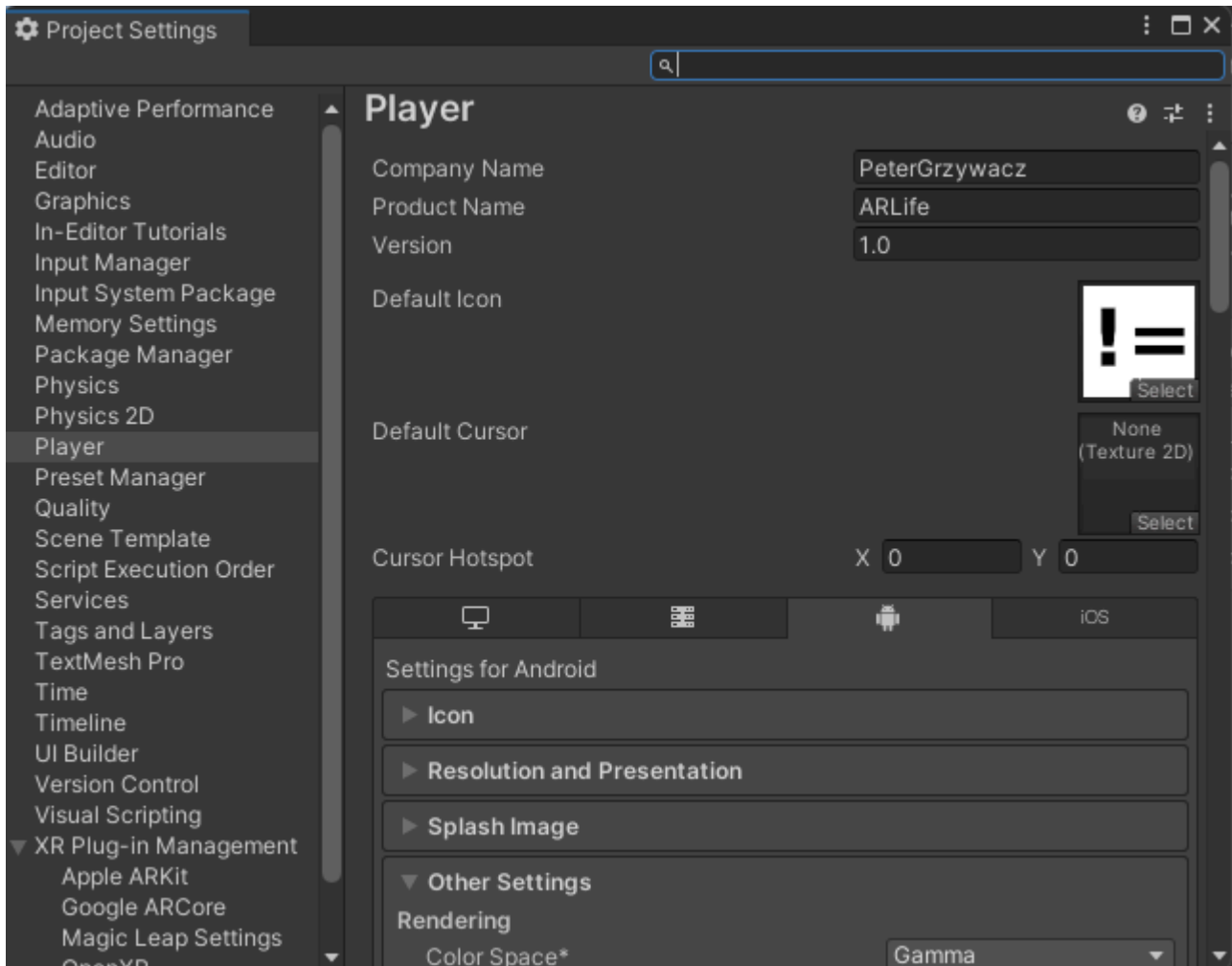
▪ MonoBehaviours that control AR session lifecycle and create GameObjects from detected, real-world trackable features

▪ Scale handling

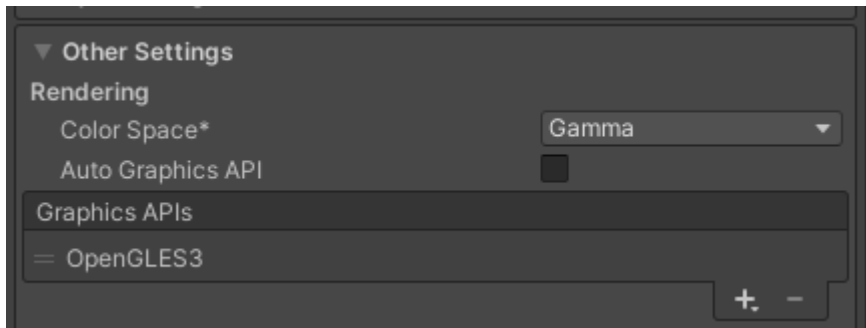
▪ Face tracking

Samples available at <https://github.com/Unity-Technologies/arfoundation-samples>

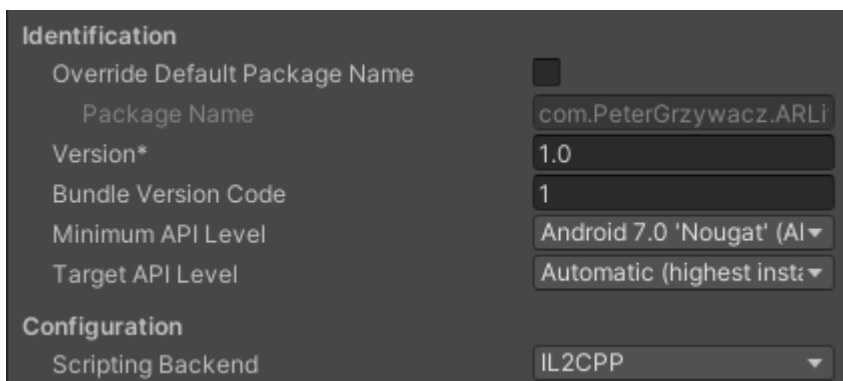
Make sure all AR packages, and XR plugins, and your IDE stuff are up to date.



Fill out company name, product name etc.

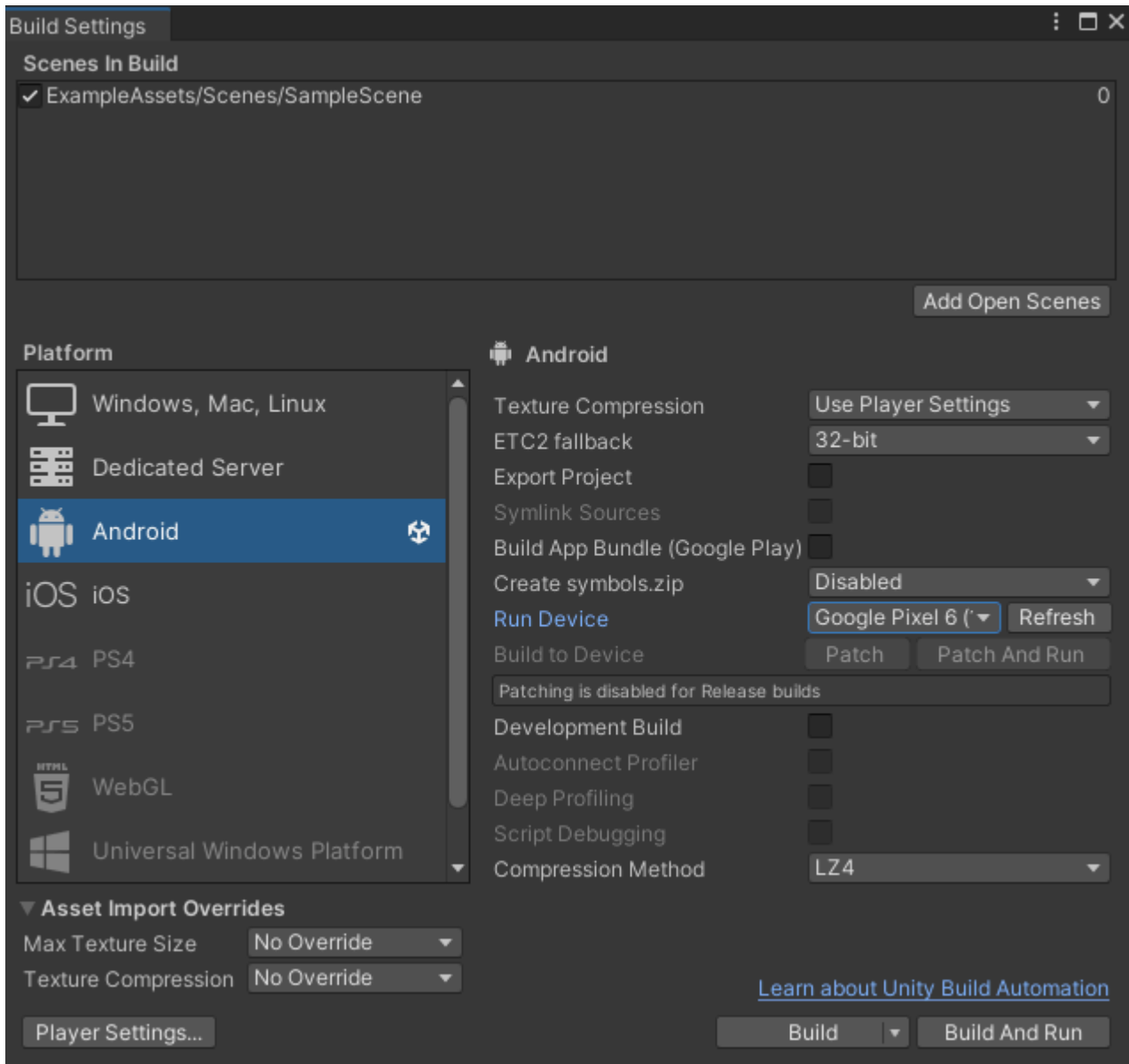


Remove Vulkan and OpenGL ES2



Do not override default if info given above. API 24 for API Level
Scripting Backend is IL2CPP

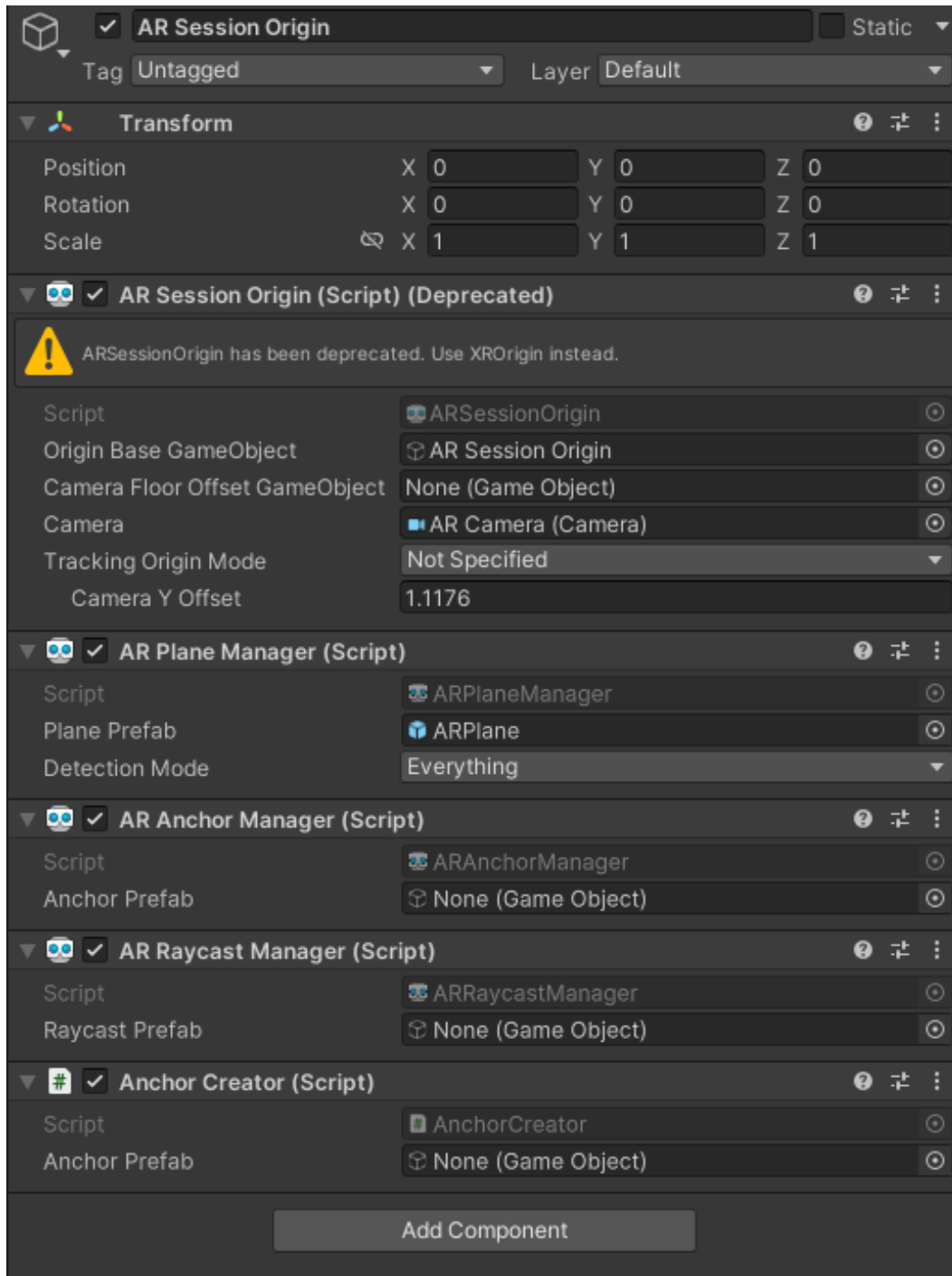
Have fun adding getting phone to hook up in developer mode... it's moody



It worked! #STEP ONE CLEAR

Step Two: Add objects that are anchored by 2D images

All of these scripts are super important... AR origin is deprecated... wtf...



Here is the code that creates the dictionary of images and objects and activates them on screen:

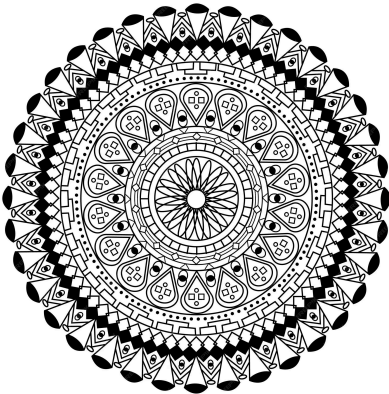
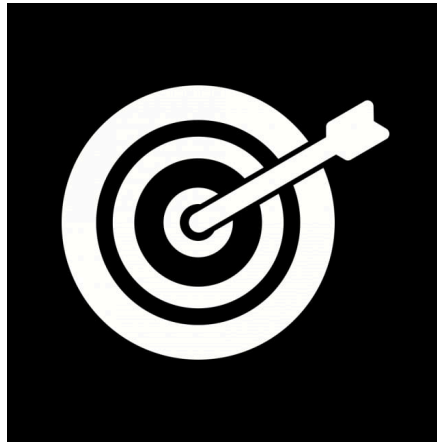
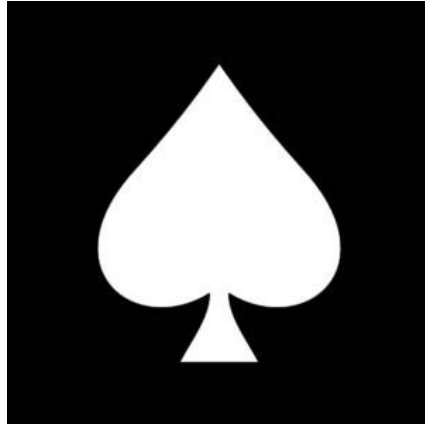
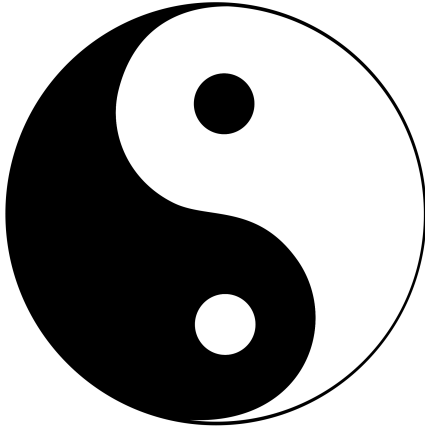
<https://pastebin.com/03r7rmEF>

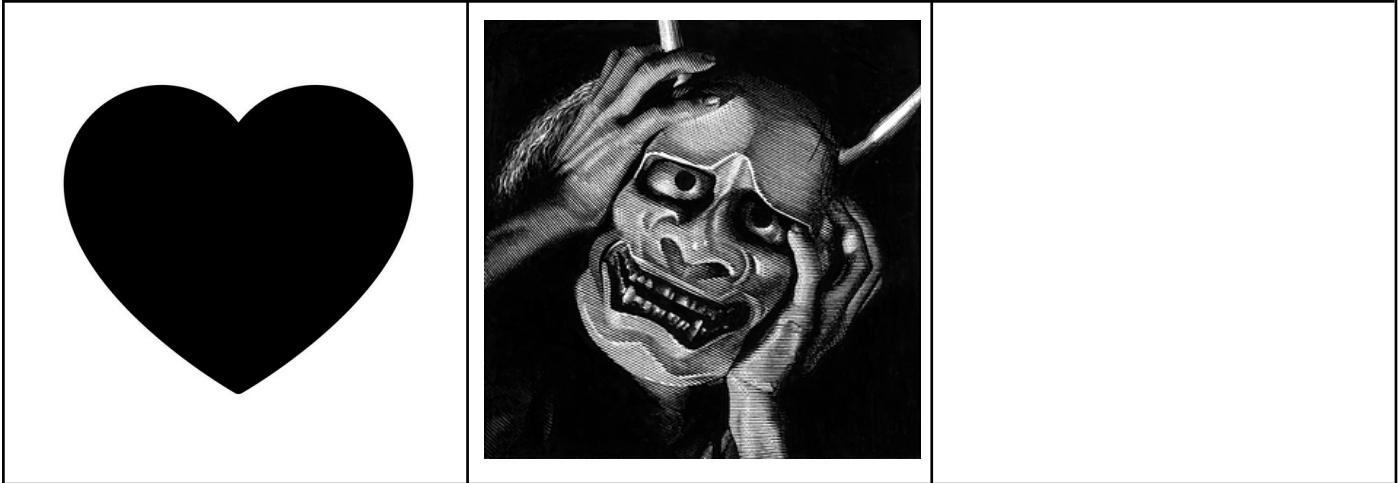
The code is taken from this video:

<https://www.youtube.com/watch?v=gpaq5bAjya8>


The code still works very well. I will back engineer it to figure out how it works

Failed pictures



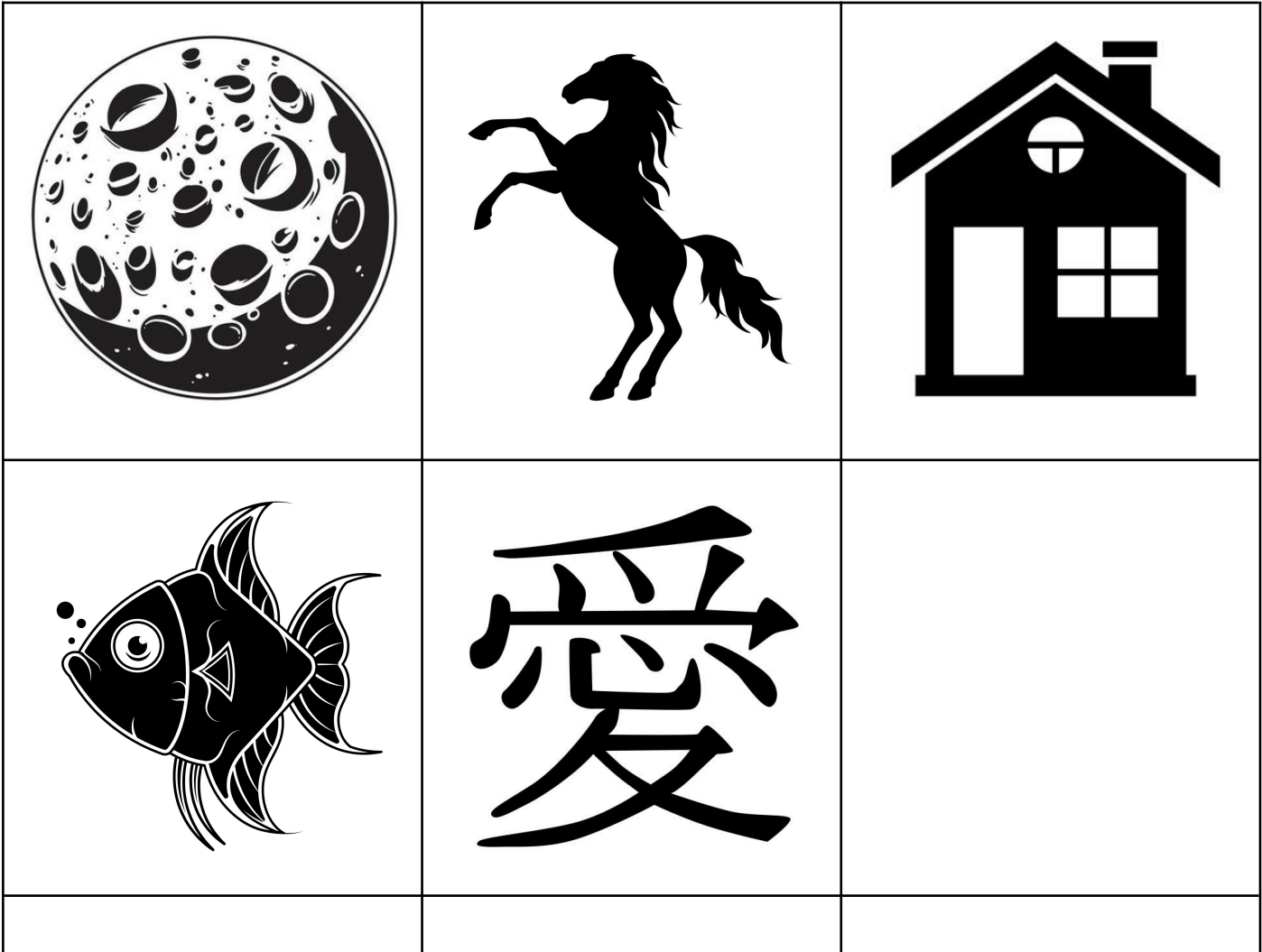


.BuildDatabaseFailedException: arcoring failed with exit code 1 and stderr:
C:.....cf9263f4a33146e68fda506a3d226dff\02847eaab1404aa493555a4646fa5baf.png: Failed to get
enough keypoints from target image.
Failed to add some of the images to database.

 [14:31:59] Error building Player: BuildDatabaseFailedException: arcoring failed with exit code 1 and stderr:
C:\Users\winds\AppData\Local\Temp\cf9263f4a33146e68fda506a3d226dff\02847eaab1404aa493555a4646fa5baf.png: Failed to get enough keypoints from target image. 1

Pictures that it failed to recognize had symmetry, large dark areas and ornateness. Anomalies: fry pan and thumbs up

Succeeded Objects



Objects surrounded by white, asymmetric, complex (having at least 7 parts) but not ornate.

Maybe color helps it out more. Will give it a shot later.

Step Three: Add Student A and B Partition

Step Four: Make File Exportable

It kind of already does this, but how to add it to my website so people can download it?

Step Five: Create Success and Fail States

Step Six: Networking? (FUCK networking)-- just port out to apple. People are in the same room.

Step Seven: Playtesting and Feedback