

The Human Condition

Skills module: Unity AR

Instructor: Hanjun Kim

Software: Unity + Visual Studio

unity packages: post processing, AR Foundation, ARCore

The Human Condition is a collection of simulation augmented reality experiences. 'People Watchin'' is trying to create different personality types for NPCs. These different personality types interact differently with each other. Cake Boss simulator uses AR cake design to give users a chance to step into the world of a cake boss. The Hair Cut Simulator similarly gives the user a chance to be a barber to a digital NPC. The home page of the app has animations controlled by scripts changing rotation, y.pos, and color

GAMES

People Watchin

animations -

c# development -

UI -

Cake Boss Sim

c# development -

UI -

Hair cut sim

animations -

c# development -

UI -

TOOLS

- Mixamo

- chatGPT

- Hanjun Kim tutorials

- the Noun Project

- chatGPT

- Hanjun Kim tutorials

- the Noun Project

- Mixamo

- chatGPT

- Hanjun Kim tutorials

- the Noun Project

THE HUMAN
CONDITION

PEOPLE WATCHIN

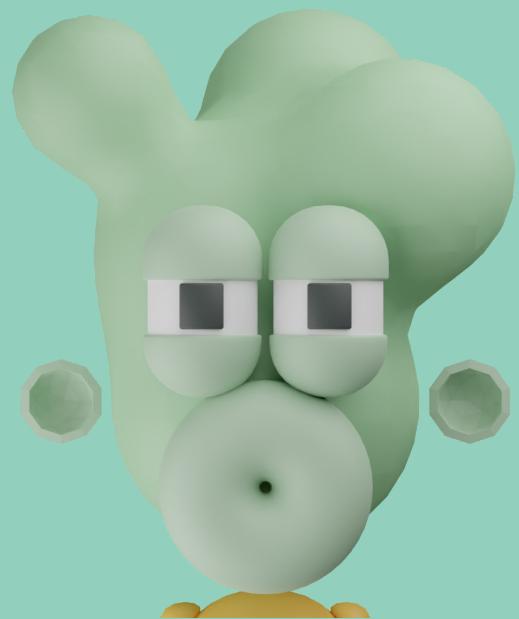
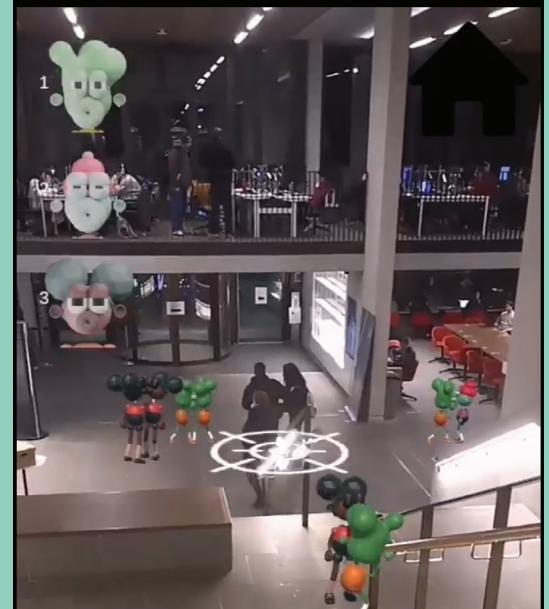
CAKE BOSS SIMULATOR

HAIR CUT SIMULATOR

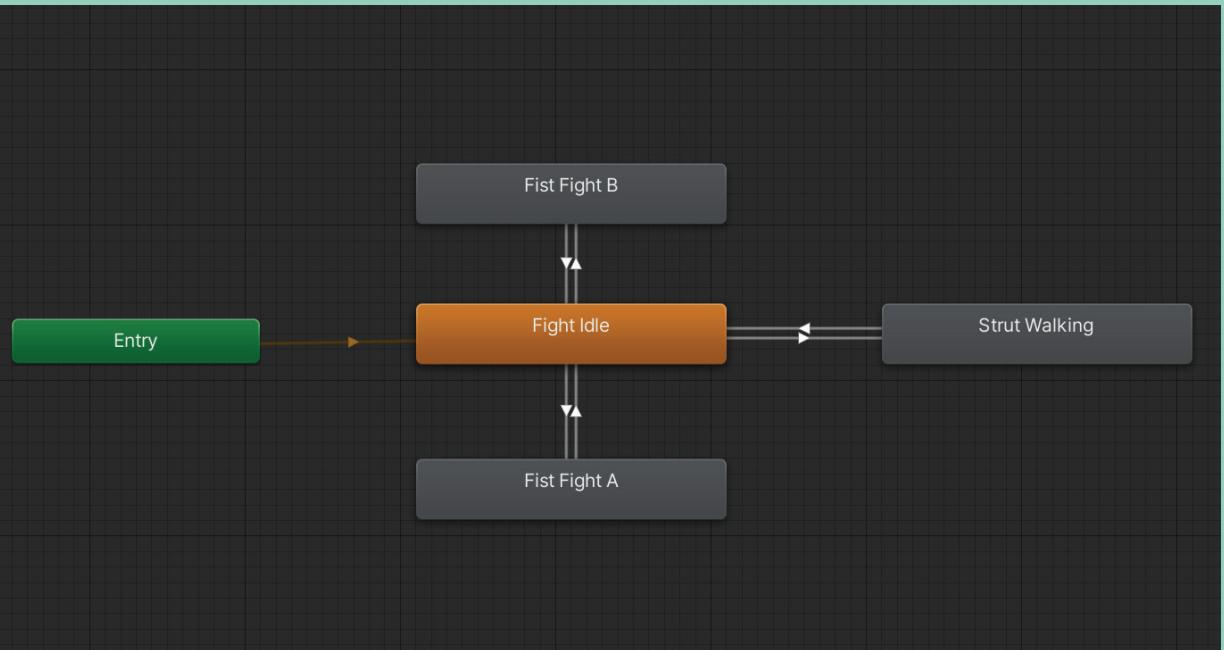
RCG SKILL CLASS
CARL BARRETT

People Watchin'

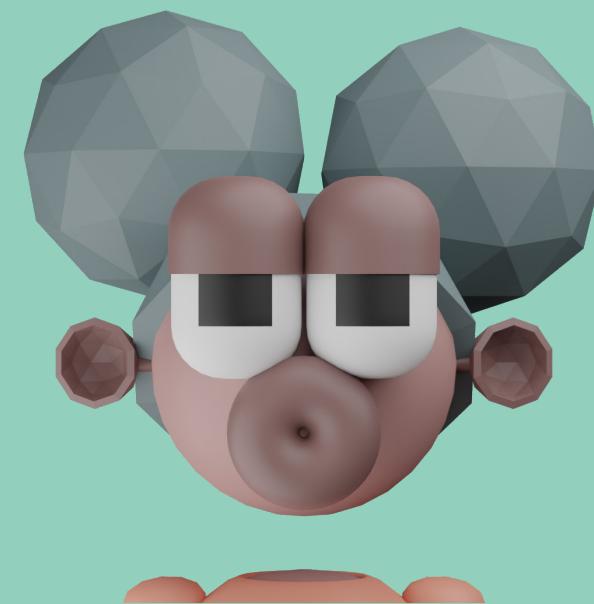
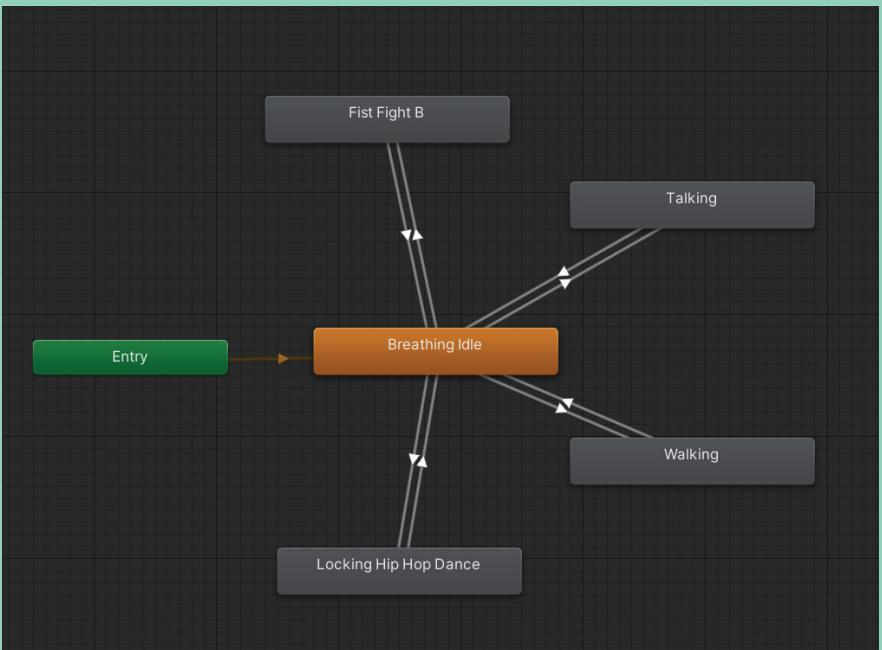
People Watchin' uses three similar scripts to control the NPCs based on the personality type. The three types are mean, nice, and neutral. If more than one NPC gets placed in an environment, they will approach each other and switch to the respective walk state by a float parameter named speed. They walk towards the closest object on the layer NPC, and their direction updates at a frequency so they can adjust accordingly to new NPCs. Once they meet each other depending on the tag, nice, mean, or neutral, an animation state is triggered to define the animated interaction. The Mean NPC always tries to fight regardless of who it collides with. The nice NPC will cower in fear if meeting a mean NPC, and dance if meeting a neutral or nice NPC. The neutral NPC will fight with mean NPCs, dance with nice NPCs, and talk calmly to other neutral NPCs. These interactions are triggered in the parameters of the animator for each prefab NPC happening anytime two NPCs are within interaction distance.



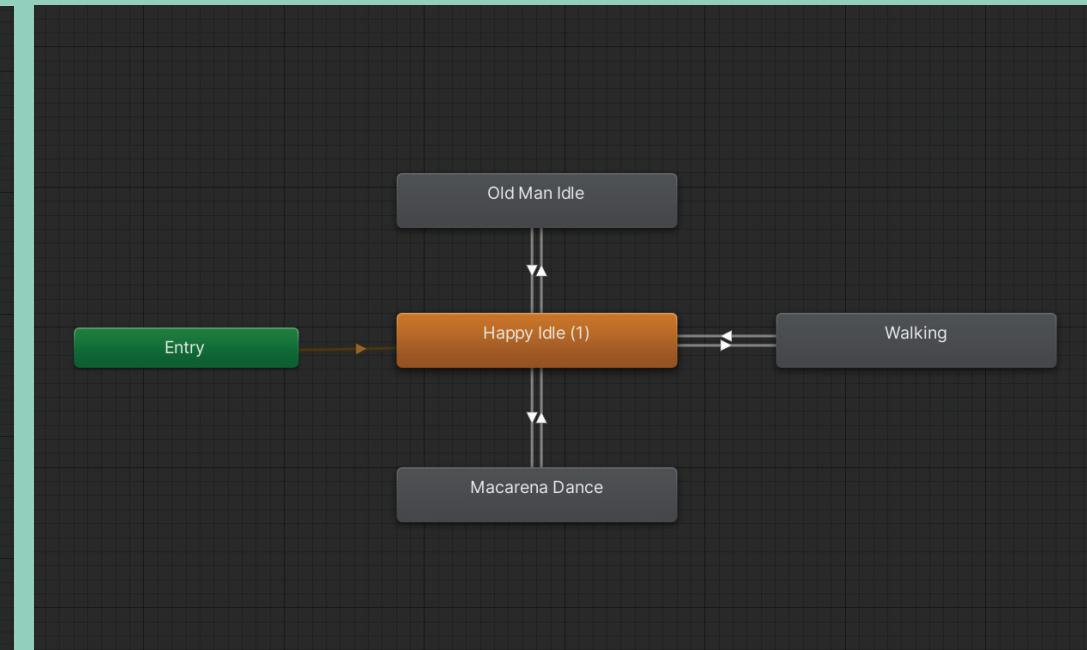
TAG MEAN



TAG NEUTRAL

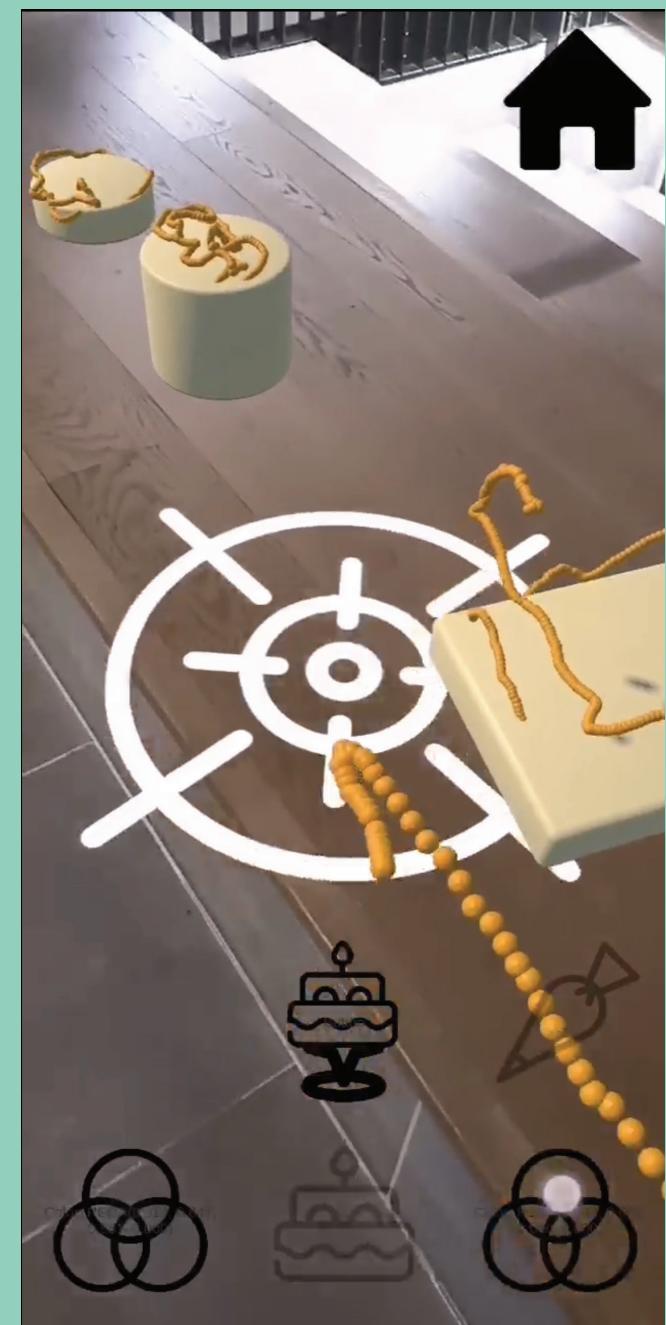
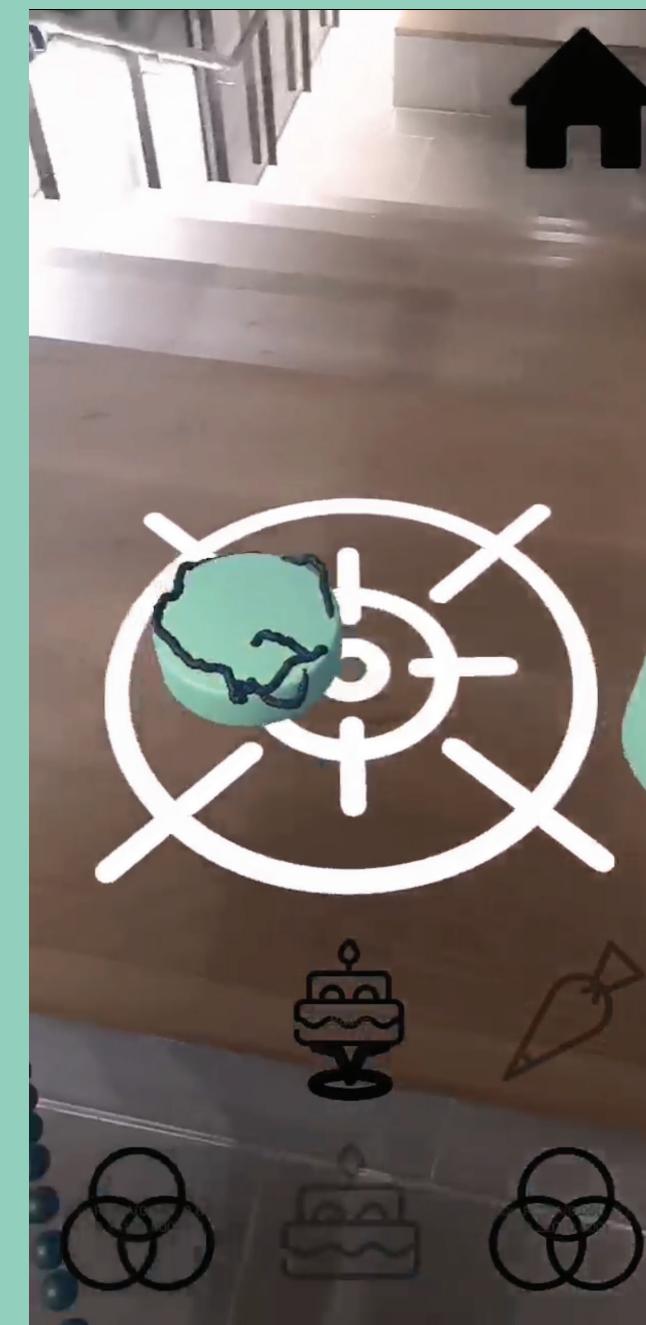
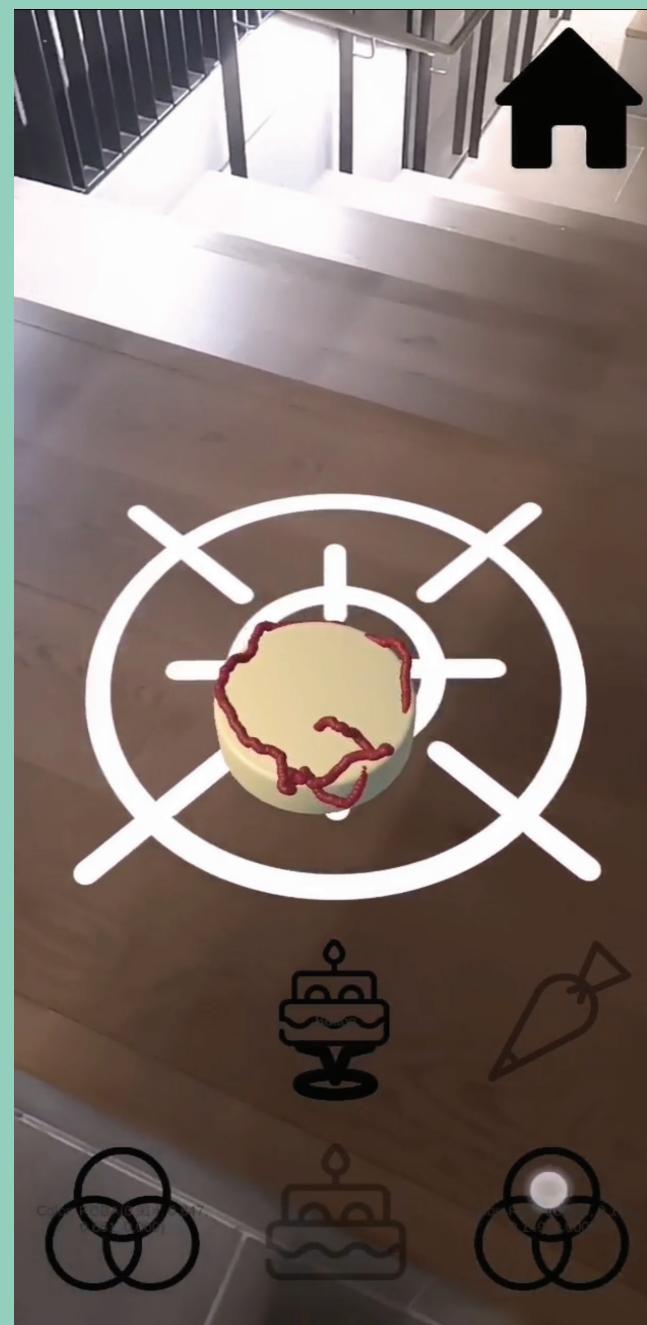
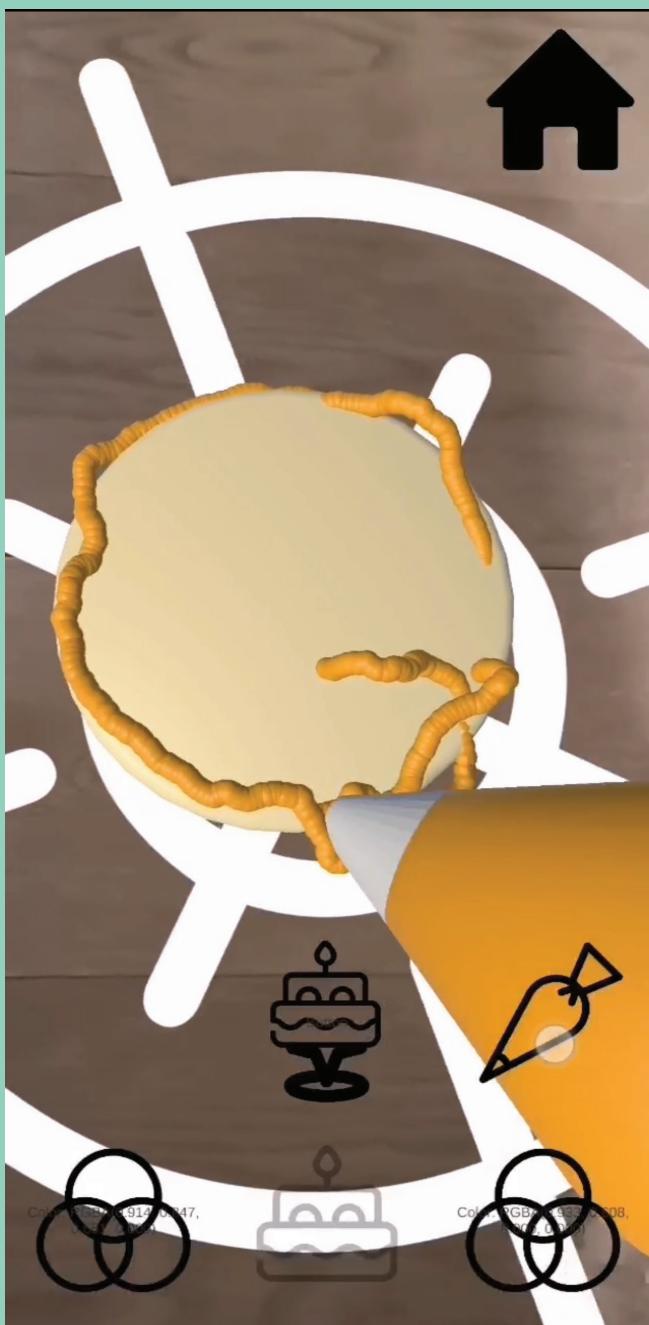


TAG NICE



Cake Boss Sim

Cake Boss has three main functions of user creative interaction tools. The first is placing different shapes of cake to create the base of the overall composition. Although, I must admit it rarely works, players are supposedly able to stack cakes on top of each other by layer masking both the ARplane and a layer called 'cake'. The second method of user tools is the piping bag. When the piping bag is toggled on, the piping bag spawns spheres at a short interval giving the appearance of extruding icing. The piping bag is a child of the AR camera so the user still must move their hand in the way they would have to physically. The third tool at their disposal is the color changing of both the cake and frosting. The color options adhere to the game's overall color palette.



Hair Cut Sim

'Hair Cut Simulator' is my most fun game thus far. It is relatively simple in its construction. The user first places the 'Client' in their AR environment. Once placed, a script spawns hair on the client's head all with the tag 'hair'. The razor, again attached to the handheld camera to mimic reality, has an animated tip and box collider tagged as 'razor'. The prefab hair has a script attached saying if it comes in contact with an object tagged razor, the hair's rigid body will be turned on, thus making it fall with gravity. Inversely, the razor is checking for collisions with objects tagged as hair. When the razor detects a collision, the razor sound is played for at least 3 seconds. Unlike reality, the user has the option to instantly regrow the hair on their client and start again.



Package Installation

- made on Unity version 2021.3.19
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- The following Packages should be installed from the Unity Registry: ARFoundation, ARCore, Text Mesh Pro, and Post Processing.
- import package: RC9_Skill_AR_22142542-CarlBarrett-UnityPackage
- Switch the Build Platform to Android in the Build settings
- in build settings, open player settings and change the following
 - uncheck AutoGraphics API and remove vulkan from Graphics APIs list
 - change the Minimum API to “Android 8.0 ‘Oreo’ (API level 26)”
 - change the target architecture to ARM x64
 - uncheck multithreaded rendering
 - check overide default package name and replace with com.unaccompaniedSQUID.TheHumanCondition2
 - change scripting backend to IL2CPP
 - in XR-Management check to box for AR-core
 - Change the Company name and product name in player settings
 - add the main menu, main game, HairCut, and cAKEBOSS scenes in that order in build setting