Wesley Reyes & Ryan Carey
2/8/2022
LM #7 Final Writeup

Goals for this learning module:

For this learning module, Wesley and Ryan wanted to go back into a subject they had both worked on previously, but expand upon it further, and worked on augmented reality game development within Unity. They played around with a few ideas that came to mind, such as making a guided map of the hallways for the school where a user could input a destination they were hoping to get to, and a guided arrow would lead them to the destination within the building. They then got the idea of creating a Pokemon Go type game called Streaks Go by Mr. Detrick, and wanted to see if they could make a similar game. The plan was to make this game as an introduction for freshmen during orientation.

Accomplishments and Problems:

At the very beginning of this learning module, Wesley and Ryan actually experienced many early victories in what they were attempting to accomplish. When they had started out, they simply wanted to try and get an Android phone to connect to Ryan's laptop to be able to export Unity projects onto it, and sure enough, with a little bit of research, they figured it out and got the Unity Android Remote to function and accept Unity AR projects. They then decided to take things a small step further and create a simple, quick AR app that would simply place down random blank capsules whenever and wherever we tapped on the screen. To do so, they had to follow a tutorial that showed them how to create an automatic grid that could then hold the capsules. It took a day, and a lot more research, but sure enough, they had the tap collision set using ray tracking and simple prefab work. They then worked on getting a card face to be detected using Vuforia, an add on available for Unity AR development, and then become covered with a new card face we choose, turning the Queen of Hearts into the King of Spades. This

worked quickly and easily as well. With this idea, they took Mr. Detrick's room sign and did the same thing, but instead, they had text appear displaying classes offered in that room, as well as the teacher in it. This alone could be handy for new students, but they decided to go deeper. Afterwards, they wanted to find a way to be able to tap or collect “Streaks” that would appear in front of the room sign, and they scoured for a while but could not find a reasonable solution in the time they had. They tried to add a crosshair to the center of the game screen that, when passing over the streak, would theoretically increase the score. However, this didn’t work since the image over the sign didn’t load properly.

Learned:

Although both partners had worked on AR development in the past, this learning module felt like a new challenge with its own set of rules that they had to learn and follow. Once more Wesley was introduced to Vuforia, although he had worked with the program very briefly in the past, he didn’t know too much about everything it had to offer, such as built in object and image detection which the two used a lot. They learned how to overlay images on top of one another, so that they could superimpose objects, images, and text, such as the information displayed when viewing a room sign. They also learned that Ray Tracking for AR is a LOT more difficult than they had originally planned for, so they had to find clever workarounds, such as using a crosshair for an AR game.

Future Learning Modules:

For anyone that wishes to continue this learning module or create one that is similar but their own, it is recommended that you start at the very basics and learn how to use Vuforia’s offered tools such as image and object detection, since it makes for interesting games and apps and is very easy and essential to use. To avoid pitfalls that Ryan and wesley found, it is

recommended that you do a deeper dive into Ray Tracking for AR, since when they finally got around to figuring it out, there was not enough time.

Summary:

Overall throughout the learning module, Wesley and Ryan had a lot of fun working with AR development and working with Unity once more. It was a very fun module that had many quick successes which really helped bolster their spirits for the experience. Doing something simple in Unity, especially since both partners had a LOT of experience in the program, really made things transition smoother and made the whole process that much easier.