Virtual Reality Lab 4

Augmented and Mixed Reality

In this lab we will introduce marker based AR and MR using Vuforia and Unity.

Task 1 (Basic AR)

Follow the instructions in the link below to complete the tutorial:
http://www.instructables.com/id/Lets-Make-an-Augmented-Reality-App-in-6-MINUTES-TR/

Task 2 (Roll-a-ball in AR with Physics)

Now we will create a Roll-a-Ball style AR game. First, follow these instructions to get the sphere have physics in AR:

1. Download the file and unzip: https://developer.vuforia.com/sites/default/files/Ball_Roll_Script.zip
2. Open your Roll-a-Ball project from Lab 1
3. Set up ImageTarget and ARCamera from Vuforia as in task 1 above
4. Make all the physical objects(Player, collectibles and planes) children of ImageTarget
5. Replace the DefaultTrackableEventHandler.cs file in Vuforia/Scripts with the one downloaded. Add the code “namespace Vuforia {” right after “using UnityEngine;”
6. Attach Player sphere to the DefaultTrackableEventHandler.cs script in ImageTarget
7. Set ARCamera’s World Center Mode to SPECIFIC_TARGET and World Center to None (Trackable Behaviour)
8. Run and adjust the mass of Player sphere’s Rigidbody to improve/speedup motion
9. Deploy to mobile device and test

Task 3 (Roll-a-Ball in Mixed Reality)

Vuforia 5.5+ has in-built support for Cardboard. To enable go to ARCamera’s Vuforia Configuration and under Digital Eyewear:

1. set Eyewear Type to Video See-Through
2. set Stereo Camera Config to Vuforia
3. set Viewer Type to Generic Cardboard