

**CSCI 5460 Virtual Reality**  
**2021 Spring**  
**Programming Assignment: Tap to Place Object**

**Due:** 23:59pm, Feb. 10, 2021

**Note:** In this assignment, you are required to build an Augmented Reality Unity Project. This assignment mainly involves the important basics you need to know to start building augmented reality APP for either iOS or Android with ARFoundation API. You need to submit a compressed file that includes all your unity project files and named “*Asg1#sid.zip*” (e.g. *Asg1#1155055731.zip*) through the blackboard system.

In this assignment, you need to track the scene captured by your device camera and place an image to indicate the plane that hit by the ray casted from the screen center. After that, you need to design a function that can place an object on the plane indicated by the placement indicator when you touch the screen.

A demo video you can reference to:

[https://drive.google.com/file/d/1lhg-IbLRyYTYEc7SouxBIRd\\_nT2NADXB/view?usp=sharing](https://drive.google.com/file/d/1lhg-IbLRyYTYEc7SouxBIRd_nT2NADXB/view?usp=sharing)

1. Deploy the unity project on your mobile device of iOS or Android.(5 marks)
2. Follow the course tutorial to create a plane object with a customized material texture. There are no limitations on the texture selection, you may draw it by yourself or download it from the internet. This plane with a texture is designed to be a placement indicator. (5 marks)



Fig. 1: Example of a customized Placement Indicator

3. Insert a function that detects the touch action on the screen and then places an object on the placement your indicator indicated. Furthermore, you need to import a customized prefab that you created or downloaded. Marks will be deducted if only placing a default object. (5 marks)

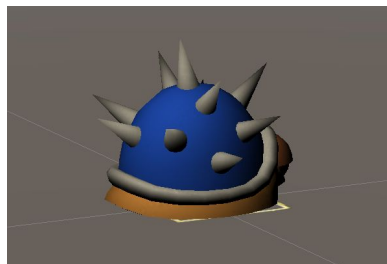


Fig. 2: Example of a customized Object (Download from Unity Asset Store)