Virtual Reality (VR) = an interactive computer-generated experience taking place within a fully simulated environment. You generally cannot see the real world when you use a VR device, such as the Oculus Rift or HTC Vive headsets.

Augmented Reality (AR) = an interactive experience that “augments” the real world with computer-generated information, such as by overlaying virtual objects on the real world environment. For example, the Pokemon GO app is considered an AR app. Some definitions differentiate between AR and Mixed Reality (MR), but for the purposes of this guide, we will just use AR.

HoloLens = an AR headset developed by Microsoft

Unity = a game engine (software development environment designed for building video games) that can be used to create VR/AR applications

Asset = a representation of any item that can be used in your Unity project. You can import files into your project and turn them into assets (such as 3D meshes or textures), while other types of assets are created solely in Unity. You can view all of your project’s assets in the Project Window.

Scene = an asset representing an environment in a Unity app. For example, if you made a game with many levels, each level would be a different scene. Each scene contains a number of GameObjects, which can be viewed in the Hierarchy Window.

Model = a 3D mesh asset. You can add a simple one to your scene in Unity by going to GameObject > 3D Object > Cube. You can also import your own models, whether they are a 3D scan of a real object, a 3D CAD model you made, or one you found online. Common file types to import into Unity are .obj and .fbx.

Material = an asset that defines how a surface should be rendered. This includes properties such as color, roughness, how metallic an object is, etc. Materials can be applied onto models. If have a cube in your Unity scene and want to change its color, you will need to edit its material.

Texture = a 2D image asset that can be used in a material. For example, if you want a cube in your scene to look like wood grain instead of just be one color, you can set the cube’s material’s color to a wood grain texture you imported. Textures can be imported from .pngs, .jpegs, .tifs, etc.

GameObject = the fundamental object in Unity that represents any object into your scene. The GameObjects in a scene can be found in the Hierarchy Window. GameObjects are really
containers for Components, which are what actually control the properties and functionality of an object. For example, if you create a cube in your scene, you create a GameObject called “cube.” When you select this cube and view it in the Inspector, you will see it contains many components such as a Transform (controlling position, rotation, and scale), a mesh filter, a box collider, and mesh renderer.

**Prefab** = an asset that represents a template of a GameObject. Say you make a cube with lots of interesting components: it’s got a unique material, some fancy scripts, and so on. If you want to have many copies of this cube GameObject, perhaps in multiple scenes, it would be annoying to recreate this fancy cube GameObject every time. Instead, you can make a prefab from this GameObject, which creates an asset that’s now in your Project Window. You can now add that prefab asset to any scene you want.

**Visual Studio** = an integrated development environment (IDE) by Microsoft. It is used to develop computer programs, as well as websites, web apps, web services, and mobile apps. Unity allows users to write C# scripts for their apps in Visual Studio.

**Vuforia** = an AR software development kit (SDK) for that allows for the creation of augmented reality applications. It uses computer vision technology to recognize and track planar images (Image Targets) and real life 3D objects (model targets) in real time, relative to the user’s position and perspective.

**Image Target** = an image that Vuforia can detect and track (like a QR code, but it can be any image). Once a Vuforia app detects such an image (using the device’s camera), it begins tracking its position and can place computer-generated objects on top of the real life image.

**Model Target** = a 3D object that Vuforia can detect and track. To make a model target, you need the 3D model data of the object (such as a 3D scan of a real life object, or a 3D CAD model).