Deliverables / Marking Scheme (up to 100 Marks Max)

Each of the following steps should be recorded in a video and have a brief description for marks to be awarded.

**- [10 Marks] Implement a 3D world (such as a small office, sports stadium, gym, hospital). For this step you may either develop your own assets from scratch or use any free assets from the unity asset store.**

-10, has the world well designed

**- [5 Marks] Basic navigation to support free flying around your 3D world with arrow keys (or other combination of keys)**

-5, FPS controller can be in either FPS mode or flying mode.

**- [5 Marks] Design a 3D Printer Vending Machine 3D Object.**

-5, 3D printer designed

**- [5 Marks] Add a texture and labels to identify the 3D Printer Vending Machine (may use free online textures).**

-5, fully textured.

**- [5 Marks] Place two 3D printer vending machine into your 3D world – the user should now be able to navigate their way to your vending machine (Note this should use Prefabs).**

-5, prefabbed and placed in world

**- [5 Marks] Prevent the user from flying through the walls, floors and obstacles in your 3D world - including your vending machine and any other objects (Collisions).**

-5, collision enabled.

**- [15 Marks] Modify your vending machine to include a custom interface that can be operated by users with a mouse (consisting of buttons, display and other widgets). Buttons should be attached to the vending machine – although you might consider moving the main camera view during interactions.**

**o On/Off Button (State should be show with visual feedback)**

**o At least 4 x Pre-defined 3D buttons (allowing selection of the object to be printed) o Print Button**

**o Cancel Button**

**o Display (To provide feedback during operation of all buttons)**

-15, all buttons and display works.

**- [10 Marks] Include an animation of the vending machine printing the part. This should show the layers of the object forming during production.**

-3, spawned the object but not animating, tried writing shaders for this but didn’t have time to finish

**- [10 Marks] Additional UI interactions**

**o Ability to set the scale before printing**

**o Ability to set the colour before printing**

**o Ability to select from different textures before printing object**

-7, al working except the texture selection

**- [10 Marks] Include a “showcase” animation once your part is completed that employs lighting (one example would be similar to a vehicle turntable – although you can be creative here)**

-7, had the object spinning but didn’t get the lighting to work dynamically due to lack of time

**- [5 Marks] User is able to ‘pick-up’ the printed part, move and place anywhere in the room**

-5, user is able to pickup item using F key

**- [10 Marks] Your room and all objects have Physics working**

-10, all the physics are working

**- [5 Marks] Replicator Function – any object that is in the room can be picked up and replicated with a ‘copy’ button. Both objects can be removed and re-located within the room.**

-5, able to replicate using E key

**- [5 Marks] Additional items placed in room to suit your theme (You may use assets)**

-5, placed some trees and rocks

**- [10] Video to demonstrate each of the features of your system (Note: you must include a video of each feature) Note: This is compulsory.**

-10, 2 videos included

**- [5] Self assessment. Provide estimated marks for all the items listed in the marking scheme.**

-5, self assessment done.

**- [up to 20 Marks] Bonus for extra feature of your choice. You can be creative here and implement any extension to the system you see as an impressive feature.**

**OVERALL: 107**