** Virtual Reality**

**2018/2019 - Fall Semestre**

**MEIC-A / MEIC-T**

**Project 1 - Simple VR scene**

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| **Group #** | *13* |
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**Indicate software versions**

Unity 3D: Unity 2018.2.9f1 *e.g., Unity 2017.1.1f1*

GVR SDK for Unity: GoogleVRForUnity\_1.170.0.unitypackage

JDK: jdk 1.8.0\_111 *e.g., jdk 1.8.0\_111*

Target API level: *e.g., Level 24*

**Describe the main goal of this project and how the assigned tasks were performed. Always refer to (i) GameObjects and assets that were used; (ii) the scene graph; (iii) computer graphic techniques required to complete the tasks; and, if any, (iv) mention each encountered issue.** *(word count: between 350 to 450)*

The main goal of this project was to develop a simple VR application to get students acquainted with the Unity game engine.

The scene graph starts with a Sphere object which is used to project the 360º video.

Inside it we can find its children: Map and Terrain. Map is just an empty game object that acts as container for everything inside the play area. Terrain is the game object that contains the mountains created with Unity’s terrain tool.

Map is composed by a Maze, a Floor, a WarFireDragon, several Torches and a Player. The Maze contains the walls the create the maze itself. The WarFireDragon is the animated creature at the entrance of the maze. The Torches are free assets which recreate real torches and we placed several of them throughout the map, hanging on walls. The Player basically holds the camera used to render the scene and the necessary controllers from GoogleVR SDK.

To do task 2, we created a GameObject on the hierarchy containing a Terrain component. We extrude mountain shapes in a circle inside the plane created by the component. Since visual appeal is not really needed for this application, we decreased the map resolution to make editing faster and the app more lightweight.

To do task 3,

To do task 4, we tweaked the directional light that comes with each new scene, and for the flames, we used a free torch asset and replaced its flame particle system with a one of our own.

To do task 5,