# Assignment 2 — Explore Your World

## Part 1: Theory

### Exercise 2.1

1. **What do the nodes L, R, SL, SR in Figure 3a stand for? Note: Find help in Lecture 3 - Stereoscopic Viewing Setups.**
   - ➢ L = Left eye
   - ➢ R = Right eye
   - ➢ SL = Screen for left eye
   - ➢ SR = Screen for right eye

2. **Which nodes exist in both scene graphs and correspond to each other? Label corresponding nodes that exist in both scene graphs and discuss differences. Note: Not all nodes exist in both scene graphs.**

| HMD scene graph (HSG) | Unity scene graph (USG) | Discussion |
|---|---|---|
| W | Scene | Irritating naming difference because there's a World in the USG but it does not equate to W. |
| M | World | In the HSG, M is the root of the objects inside the world. The naming sucks again. |
| O (x3) | House, Floor, Vegetation | O stands for Object which abstractly relates to the concrete objects in the USG. |
| N | HMD User | Both N and HMD User track the transformation of the user relative to the world. |
| T | Camera Offset | I'm not entirely sure. T represents the tracking of the head, not the head itself. Similarly, the Camera Offset in the USG only represents the offset of the head. It seems to make sense they're equivalent given how the other nodes relate to each other. Deduction FTW! |
| H | Main Camera (/ Head Geometry) | H is the head itself. The USG equivalent is probably the Main Camera, but depending on its architecture, it may be the Head Geometry instead. Judging by its name, we assume the Head Geometry is less important and there not representing the H. |

| | | |
|---|---|---|
| - | Head Geometry | In the USG this is probably the parent of the eye nodes. Assuming H relates to the Main Camera, this node has no equivalent in the HSG. |
| - | Body Geometry | There is no equivalent of the body in the HSG, so this one is quite simple to answer. |
| - | Left Hand Controller | Same as with the Body Geometry. |
| - | Right Hand Controller | Same as with the other hand. |
| L | - | There's probably an equivalent inside the Head Geometry. But since we can't know that, we assume there's no equivalent node. |
| R | - | Same as with the other eye. |
| SL | - | Same as with the eye nodes. |
| SR | - | Same as with the eye nodes. |

3. Redraw the left scene graph (Fig. 3a) with the missing nodes from the Unity scene graph (Fig. 3b). Ignore the T node in your scene graph illustration.