IT 4001: Virtual Reality

Assignment 6: World Space UI

Task 1: Try out different world space UI

In VR lab, try out world space UI covered in class -Visor, Reticle, Windshield, Game Element, and Info Bubble UI

Task 2: (50pts) Reticle Cursor Resizing

In the class example, we set the canvas Rect Transform component Pos X, Pos Y, Pos Z to (0, 0, 1). Since **Pos Z** is set to 1.0, the reticle floats in front of you at a one meter distance. If another object is between you and the reticle, the reticle will be occluded. Also, if you look at something much farther away, you'll refocus your eyes and have trouble viewing the cursor at the same time. To compensate for these issues, we can ray cast and move the cursor to the actual distance of the object that you're looking at, resizing the cursor accordingly so that it appears to stay the same size.

For this task, first write a script that uses ray cast and repositions the reticle onto the object that the ray collides with. To do this:

Add a new script -***CursorPositioner.cs*** to **ReticleCursor** game object in the scene view.

Use *hit.distance* to replace the reticle's fixed local z position.
Hint: *transform.localPosition = new Vector3(0, 0, hit.distance);*

Next, you can resize the reticle based on its distance. A simple scaling factor should work.

Task 3: (50pts) The Info Bubble

Follow the class instructions, and set up the info bubble in the scene.

Modify script *LookMoveTo.cs* to show the current WalkTarget X, Z position. You can use the same method as the ScoreBoard in the game element UI section (see class notes).

You will soon find out that the info bubble doesn't always face you when you look at it. To fix this issue, you need to let the info bubble canvas face you (main camera) all the time. You may need the following methods to achieve that.

Transform.LookAt – let the info bubble face the camera
https://docs.unity3d.com/ScriptReference/Transform.LookAt.html

Transform.Find – Finds a child by name and returns it
https://docs.unity3d.com/ScriptReference/Transform.Find.html

GameObject.GetComponent - Returns the component of Type type if the game object has one attached, null if it doesn't.
https://docs.unity3d.com/ScriptReference/GameObject.GetComponent.html

To complete this task, the info bubble not only needs to have a X/Z coordinate display, but also needs to be facing the main camera at all time.

Turn in your completed project (zipped folder) on Canvas, and demo to the TA/Instructor