

Programming HW 1

Task

- Open Unity, and load the project at the root of the given PHW folder.
- Open scene 'hw1'
- Configure the unity setting refer to TA's ARCore Tutorial
- All you need can be found in Asset/PHW1.

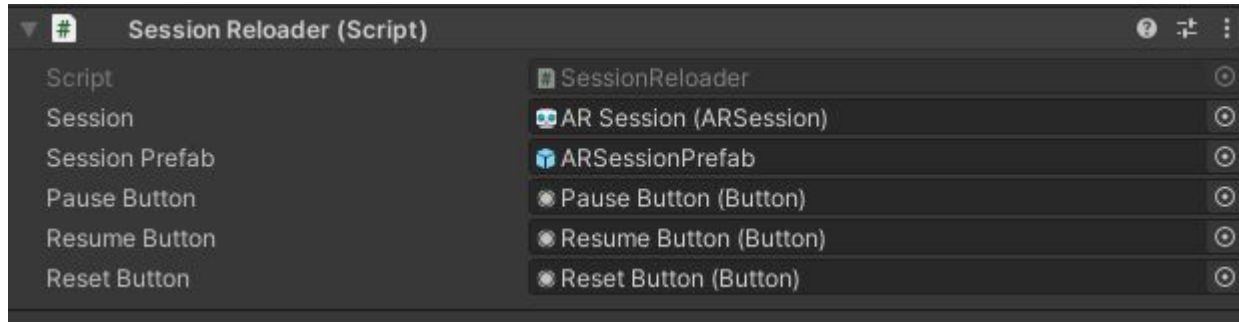
1. Add Buttons
 - a. Reset, Pause, Resume
 - b. Set proper functions of 'AR Session'
2. Create personal 'TargetObject' prefab
 - a. samples(sphere) are given.
3. Fill the update() function in 'hw1_skeleton.cs'

1. Add buttons

- Refer to 'Canvas' > 'Reload Button', create 3 more buttons to set UI
 - Required functions are already implemented in prefab 'AR Session'
 - You need to place proper functions in proper place
-
- Required buttons are as follows,
 - Reset Button
 - Destroy current session and establishes a new session with 'ARSession.Reset()'
 - Pause Button
 - Disable AR Session with 'ARSession.enabled'
 - Resume Button
 - Enable AR Session with 'ARSession.enabled'

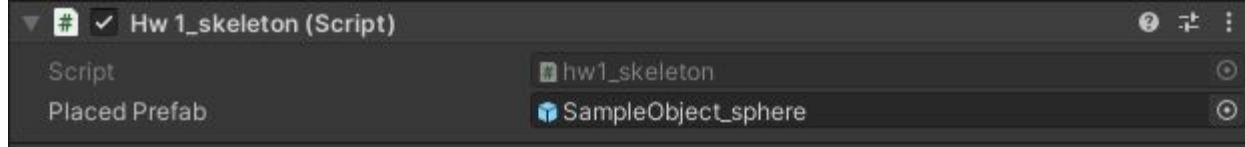
1. Add buttons

- In 'SessionReloader' inspector, place each button that you created like below,



2. Create personal 'TargetObject' prefab

- Create your own object prefab
- Free to choose shape, materials, ...
- In 'AR Session Origin' inspector, replace 'SampleObject_sphere' with your own object prefab



3. Fill the functions in 'hw1_skeleton.cs'

- In 'AR Session Origin' inspector, fill update() function of 'hw1_skeleton.cs'

```
void Update()
{
    if (!TryGetTouchPosition(out Vector2 touchPosition))
        return;

    //1. Fill the 'if' statement to check if the touched position hit a trackable object(plane) through raycast
    // [Function] m_RaycastManager.Raycast(...)
    // [Variable] touchPosition, s_Hits, TrackableType.PlaneWithinPolygon
    if ()
    {
        //2. If raycast hit a trackable object, find the closest hit.
        // [Tip] Raycast hits are sorted by distance, so the first one will be the closest hit.
        var hitPose =

        //3. If there is no spawnedObject, create new object with assigned prefab and the touched position
        // [Function] Instantiate(...)
        // [Variable] spawnedObject, m_PlacedPrefab, hitPose
        if (spawnedObject == null)
        {
        }
        //4. If spawnedObject exists, translate the spawnedObject to the touched position
        else
        {
        }
    }
}
```

Deliverables

1. Record the screen running the app on your device
2. While running the app, include features as below,
 - a. Detected plane
 - b. Button UI you created
 - c. Create your own object by tapping on the screen
 - d. Tap the other position to move the object



3. Submit video file and hw1_skeleton.cs as .zip file on KLMS

Due date : 9.20 11:59