ANNOUNCEMENTS

● Homework 1: Whack-A-Mutant Released
  ○ Due April 18th @ 11:59PM
  ○ START EARLY
● Waiting for the Dept. to distribute VR Headsets
AGENDA

- Introduction to Unity
- Key Terms & User Interface
- Getting Started with HW 1
- Resources
Why Unity?

- **Unity** is currently the standard game engine for VR (though not the only one)
- Making games from scratch is **hard**. Renderers, physics, shaders...
- Game engines let developers focus on content rather than backend systems
- **Pros** for using Unity:
  - Most VR support & collaborations with VR developers
  - Built-in native VR dev tools, very easy to get started
Unity-Based Games

- Hearthstone
- Pokémon GO
- Overcooked! 2
- Firewatch
- Superhot
KEY TERMS & USER INTERFACE
Create a new project with Unity 2020.3.1f1

Templates

- 2D
- 3D
- High Definition RP
- Universal Render Pipeline
- FPS Microgame
- Karting Microgame
- 2D Platformer Microgame
- HD Sample Auto Showroom
- Mobile 2D
- Mobile 3D
- LEGO® Microgame
- AR

Settings

Project Name *

Homework 1

Location *

/Users/framiers/Documents/Documents - Su...
Key Term: Assets

- Assets are any resources you’re using to create your project
- Your “Assets” folder contains all of these resources
- Includes models, scenes, scripts, materials, textures, sound, etc.
- It’s a good idea to always keep your assets organized in folders
- There are tons of assets available online and in Unity!
Key Term: Scenes

- Single level/environment of the game
- Saved as .unity files, and appear as Unity icons in assets
- Save, save, save, save your scenes
- Multiple scenes within a single game
Key Term: GameObjects

- A GameObject is anything that exists inside your scene
- All GameObjects consist of Components
- Components are what give a GameObject it's properties and behaviour
  - C# Scripts
  - Material & Shaders
  - Textures
- GameObjects always appear in the Hierarchy
- Components appear in the Inspector, when a GameObject is selected
Key Term: GameObjects

- Creating GameObject: GameObject -> 3D Object
- Choose & create shape, or import existing 3D meshes
- Shape should now show up in the Hierarchy
- The Scene View is a developer’s view of the game
- Freely navigate and change objects
- Not bound by the game’s camera perspective
- Unrelated to what user sees
Game View

- The Game View is the player’s view of the game
- Determined by in-game camera
- What the actual player will see!
- Can be set to specific resolutions
Hot Keys

- Navigating in Scene View
  - **Zoom in/out**: Mouse Wheel
  - **Look around**: Right click and hold mouse
  - **Focus on Object**: Shift + F
  - **Move around**: Arrow Keys / Hold down right mouse button and use WASDQE

- Transform GameObjects (select object from hierarchy first)
  - **Scale**: R
  - **Translate**: W
  - **Rotate**: E
Transformations

W: Translate
E: Rotation
R: Scaling
GETTING STARTED

HOMEWORK 1
Import Coronavirus Model

- Use the fbx model linked on Campuswire
- Create a new material from Assets menu
- Choose “Particles/Standard Surface” as the shader
- Select the newly created material in the object Inspector, under “Mesh Renderer”
Create Backdrop

- Create a thin box
- Take photo and import to Unity
- Drag the photo to the box
Create C# Script

- Dynamically modify GameObjects
- Implement game logic
- Create via the Asset Menu
  (Asset -> Create -> C# Script)
- Attach the script to GameObject
  Inspector -> Add Component ->
  Search for newly created script

```csharp
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class CursorBehavior : MonoBehaviour
{
    // Start is called before the first frame update
    void Start()
    {
    }

    // Update is called once per frame
    void Update()
    {
        Debug.Log("Hello World!");
    }
}
```
Example

Time Left: 30

Mutants Whacked: 0
Resources

Triton XR Unity Google Drive
https://drive.google.com/drive/folders/0B0TPLmj3665IYXI5ZjFEOXq1Q3M

Triton XR Unity Learning Guide:
https://docs.google.com/document/d/14h0Z3jqhLpOdtBAIcml5S5TLEMXbA6P5QtxvBApwU/edit

Unity Scripting API:
https://docs.unity3d.com/ScriptReference/

Google :)

QUESTIONS?