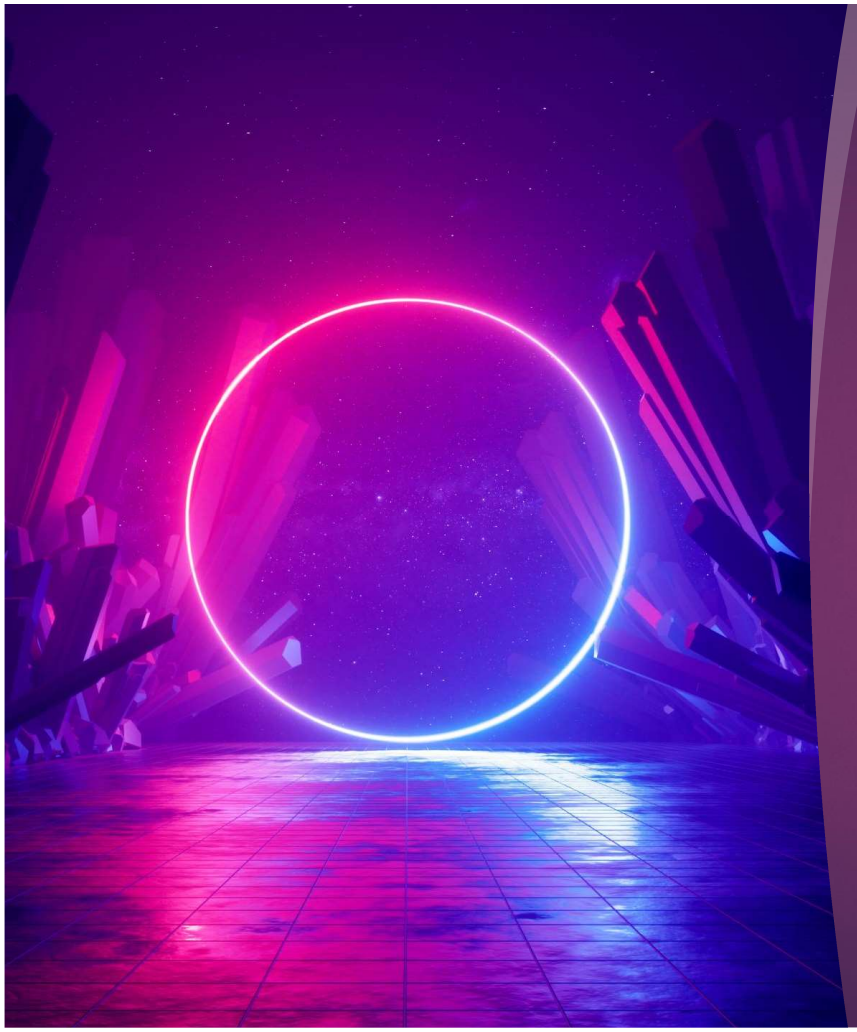

Team Unity
TOGETHER WE CAN ACCOMPLISH GREAT THINGS

BY:

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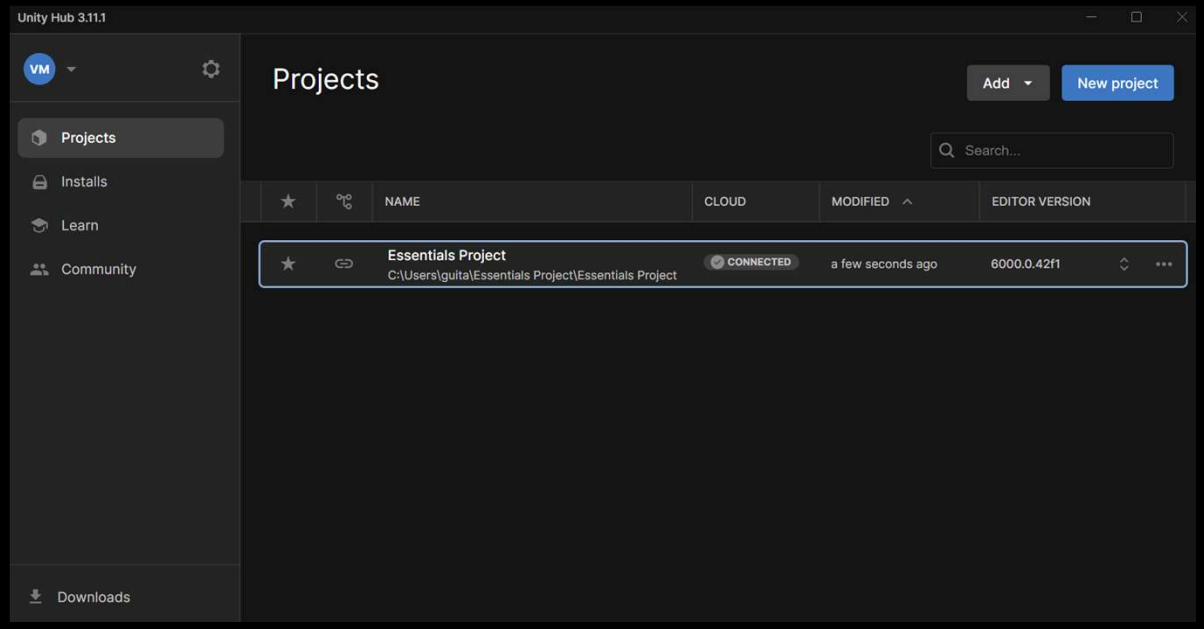
Agenda:

What is Unity?

3-D Space/Scene Creator

Game Implementation

Unity Engine



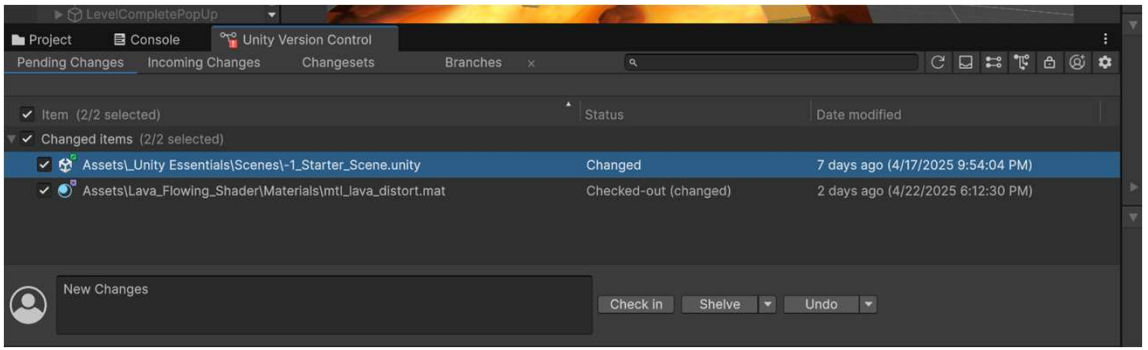
- Widely used game engine that allows developers to create 2D, 3D, and even virtual reality and augmented reality experiences.
- Supports multiple platforms like Windows, macOS, Android, iOS, and PlayStation.
- User-friendly, versatile engine with various tools for designing environments, rendering graphics, coding interactions, and optimizing performance.
- Allows for collaboration among designers. Designers can pull project from a clouded repository.

Dev Ops

- We had to:
  - Pay to increase number of seats and allow more members to get involved in the creative process.
  - The Unity Version Control, also included in Dev Ops, allows for us to manage changes to all new assets and scripts and revert to previously saved changes. The Unity Dashboard allows us to pull from a repository for further development on our projects.

Team Unite by Collaboration

- Unity Version Control –
  - It is built into the version control through plastic SCM, allowing teams to track changes, manage branches, and sync updates smoothly.
  - All changes are checked-in and commented on, like hash tagging # on java or python.

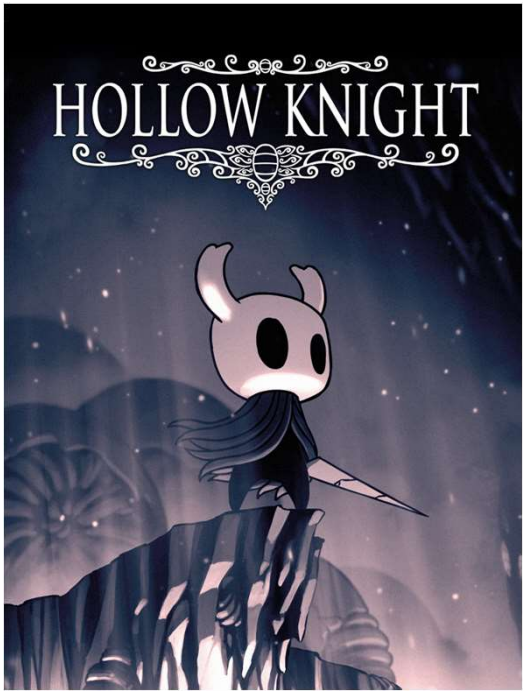


Use Cases

Unity Engine can be used for more than just game development. Other uses include, but are not limited to:

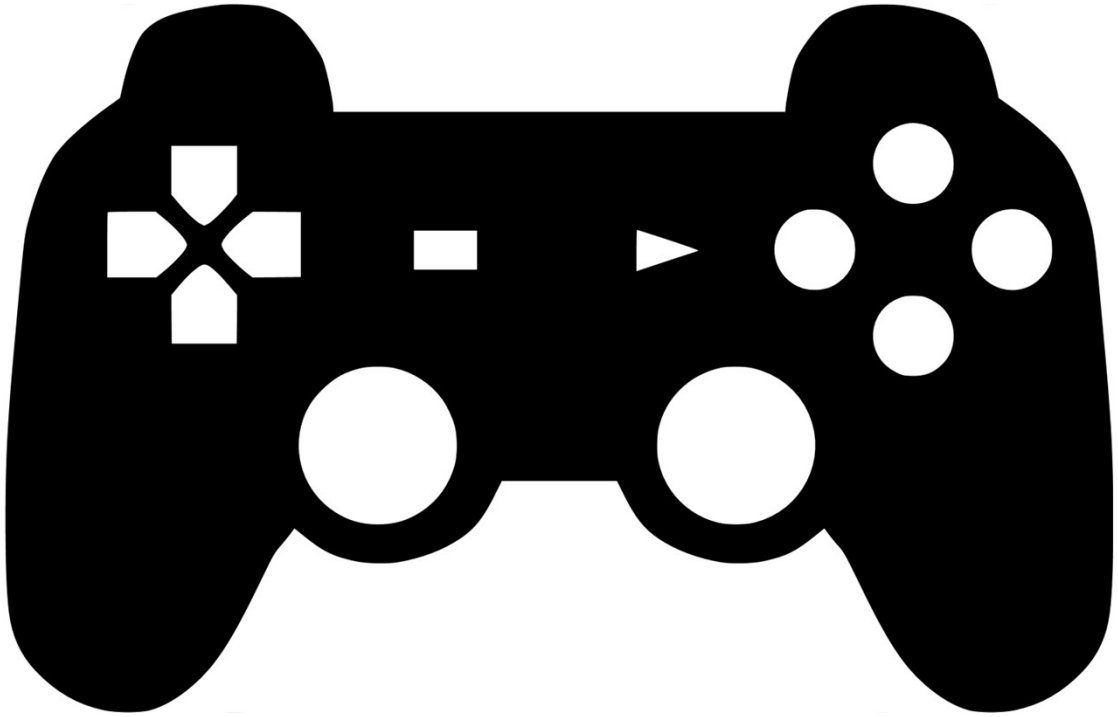
- Film production
- Architectural visualization
- Automotive design
- Other interactive applications

Games Made With Unity



Companies that utilize Unity:

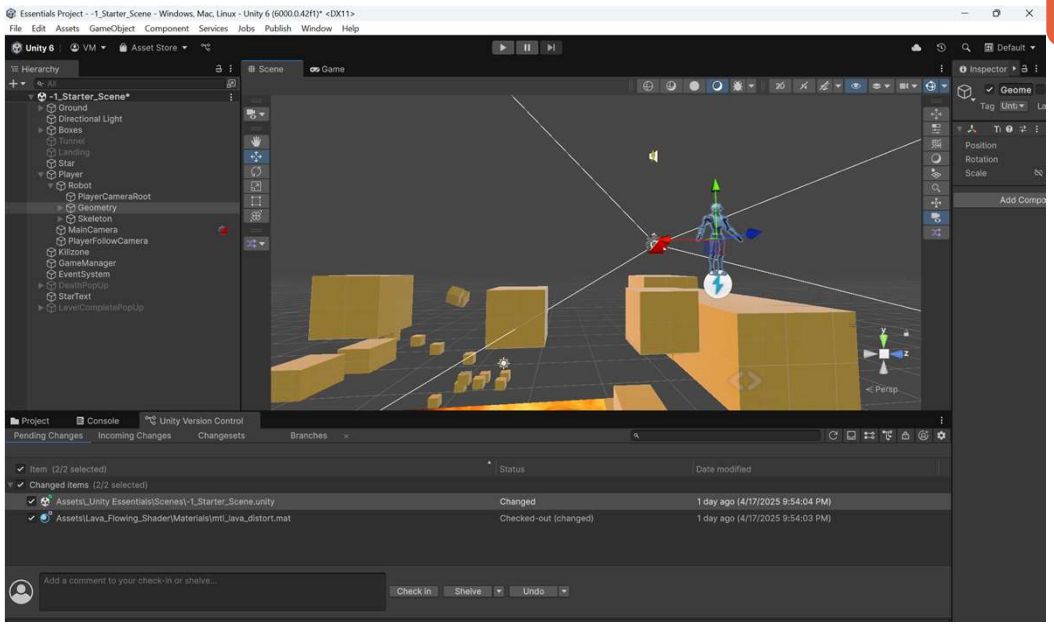
- Argentics
- Cubix
- Gameloft
- Insomniac Games
- Ubisoft
- Zynga



3D Space/ Scene Creator

3-D Platformer

Objective

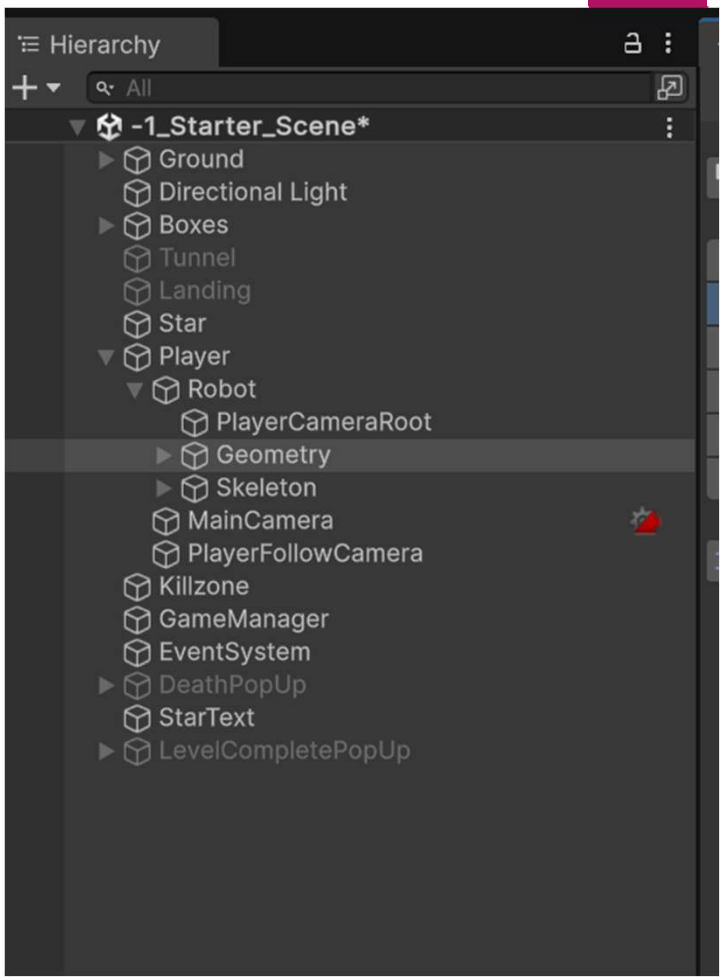


- We take a robot and move him through 3-D space that has the player pick their desired path. The objective is to reach a destination containing an animated star without falling into to a lava field.
- Robot must travel through a few obstacles to reach the destination including animated and moving 3-D objects.

Game Implementation

Hierarchy

- The hierarchy works similarly like photoshop, each asset that you import into the game will be listed in the hierarchy list. Each object in the list has its own inspector where you can add different components to that object, whether it is a moveable box, the players camera, an object that triggers a game over, or an animation once you touch an object.



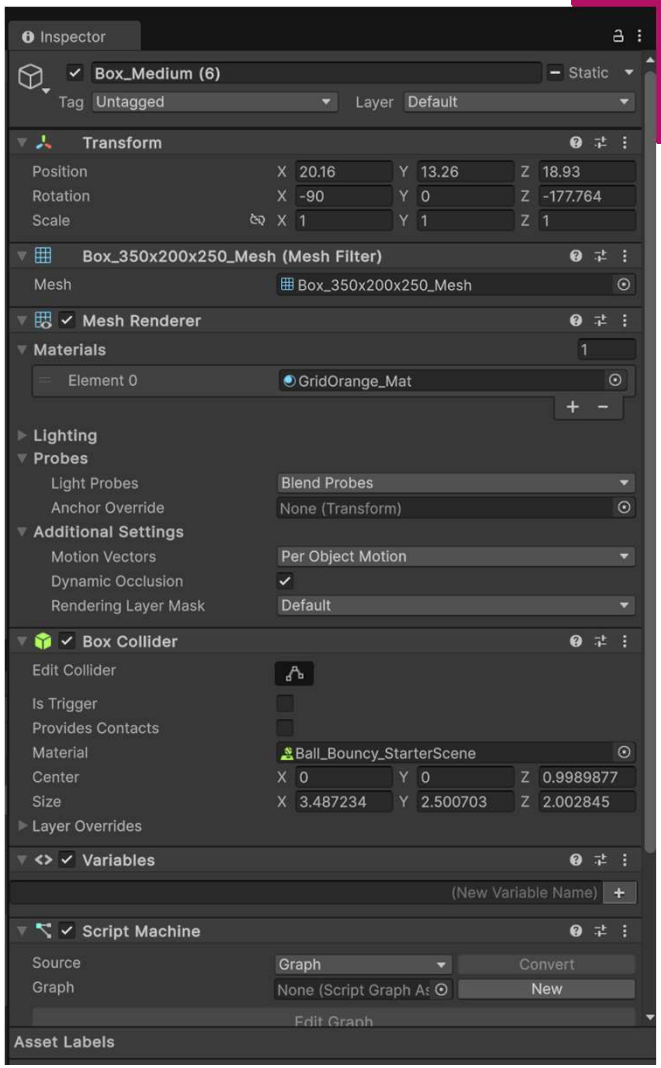
Game Implementation

Inspector

-Collider/Tag

- In Unity, colliders are components that define the shape of a game object for physical interactions like collisions and triggers. For, example when the robot encounters the star it will trigger a level completed prompt and game over window when it falls into the lava field.

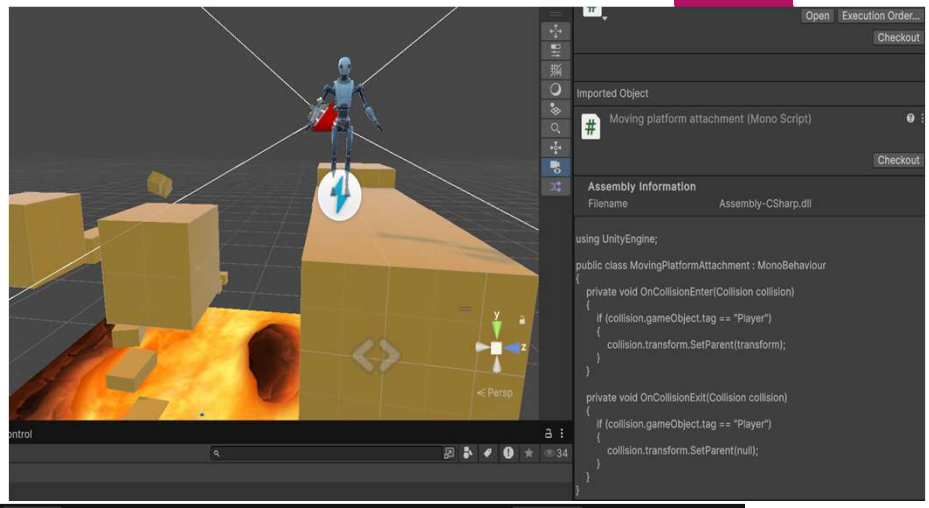
- Tags are labels you can assign to game objects so you can easily identify and group them in your scripts.

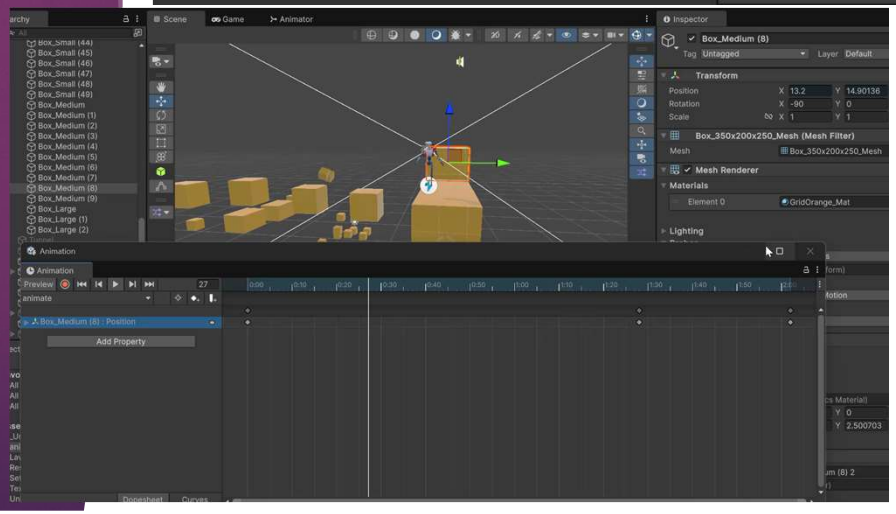


Game Implementation

Scripting is where the game's logic comes to life.

- Whether done in C#, Animator, or Script Machine, script writing allows for actions to be executed and control to be harnessed when the scene is being manipulated. The game can drive itself in sequence with mechanical components and animations. Scripts ca be added to assets and assigned to said objects.





Game Implementation

ScrollingUVs_Layers.cs

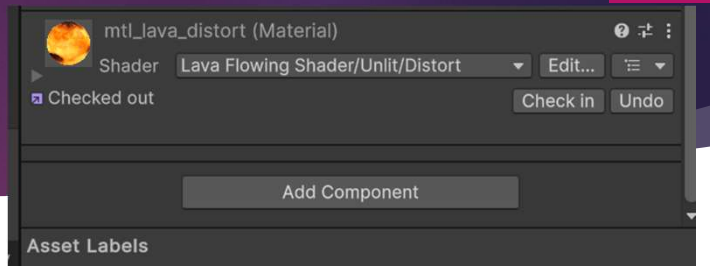
Miscellaneous Files — ScrollingUVs_Layers

```
using UnityEngine;
using System.Collections;

public class ScrollingUVs_Layers : MonoBehaviour
{
    //public int materialIndex = 0;
    public Vector2 uvAnimationRate = new Vector2( 1.0f, 0.0f );
    public string textureName = "_MainTex";

    Vector2 uvOffset = Vector2.zero;

    void LateUpdate()
    {
        uvOffset += ( uvAnimationRate * Time.deltaTime );
        if( GetComponent<Renderer>().enabled )
        {
            GetComponent<Renderer>().sharedMaterial.SetTextureOffset( textureName, uvOffset );
        }
    }
}
```



In this case we downloaded and applied a free lava texture to one of our hit boxes that will trigger the 'Game Over' screen. In this script it allowed us to play around with the animation of the lava flowing. We could increase, decrease, and even change the direction of the flow of lava.

RUN :

- The run sequence begins at the bottom of the track and requires ascension to the last animated box.
- I will now demonstrate free gameplay. The following portion shows the robot in a fixed part of the game to demonstrate the **game over** and **level completion** sequence from a stationary position.

Team Unity

- Thank You

-Vicente Marquez, Angel Contreras, Andrew Huerta Morales, Sherman Liang, Jessica Gonzalez