CENG462 FINAL JAM SOLO REPORT

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Cinemachine was among the topics covered in the CENG462 course. Cinemachine is a modular camera tool suite for Unity that provides AAA game quality controls for each camera in your project. It's a simple plugin that make it possible to add functionality to existing cameras or create new ones with amazing behaviors. Cinemachine allows it to blend any camera to any other camera in a seamless gameplay-to-cut scene-and-back transition [1].

I worked on the Cinemachine operations for this project. To begin, I conducted extensive research to gain a better understanding of Cinemachine. My primary research resource was Unity Documentation. I also watched additional video content to better understand the Cinemachine concept and camera blending.

There are two virtual Cinemachine cameras in this project. One of these cameras, which has a smaller camera size, is a running camera. The purpose of the running camera is to get a closer shot of the player while it is running. The lens ortho size of a running camera is 4. The running camera follows the player throughout the scene. The second camera, similarly, follows the player in the scene. This second camera is known as the idle camera. The idle camera defines the player's default camera size when it is idle. The lens ortho size of idle camera is bigger than running camera and it's 5.

When the player runs or stands still, the camera mode changes. As a result, there should be a camera blend operation. This operation makes use of the state-driven camera. When an animation target changes states, the Cinemachine State-Driven Camera component activates a child Virtual Camera [2]. The running and idle cameras are the children of state driven camera. When the animator's state changes, the state driven camera selects the corresponding camera among its children. The transition operation is held by a CinemachineSwitcher script where the program checks whether the player runs or stand still. Finally, a boundary component for the camera ensures that the camera only captures the scene and not the unnecessary space. This boundary component is a polygon collider 2d and its isTrigger is active. The state driven camera gets boundary component as a 2D confiner.
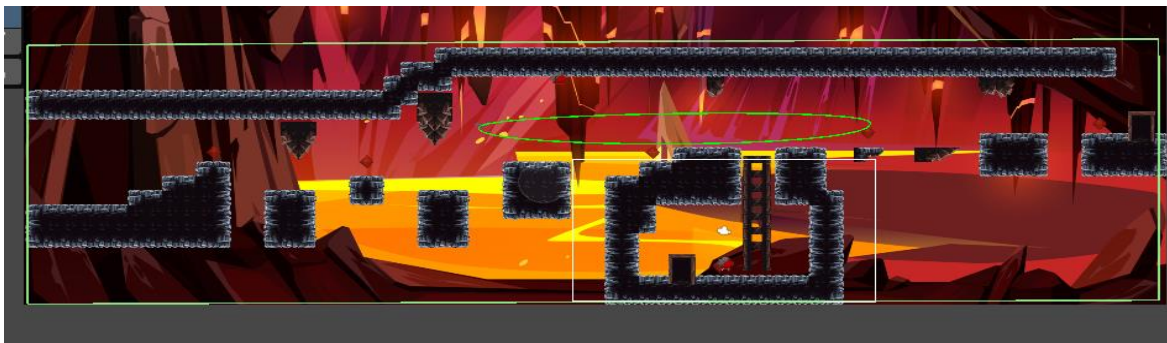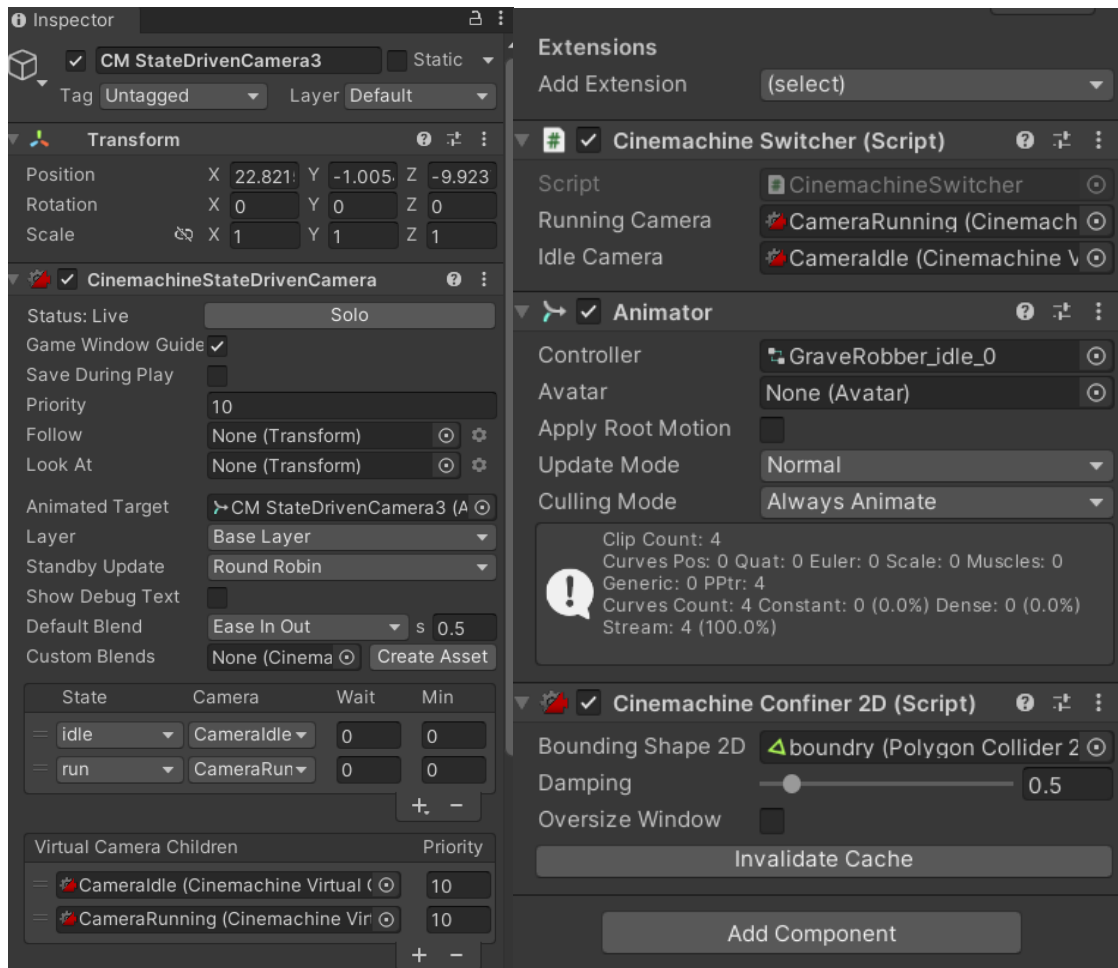

Figure 1 The boundary that wraps the scene

Figure 2 The inspector of StateDrivenCamera

REFERENCES

[1] *About Cinemachine | Package Manager UI website. (n.d.). Unity. Retrieved June 18, 2022,*

from https://docs.unity3d.com/Packages/com.unity.cinemachine@2.1/manual/index.html

[2] *Cinemachine state-driven camera: Cinemachine: 2.8.6. Cinemachine | 2.8.6. (n.d.). Retrieved June 18, 2022, from https://docs.unity3d.com/Packages/com.unity.cinemachine@2.8/manual/CinemachineState DrivenCamera.html*