

# Assignment 1

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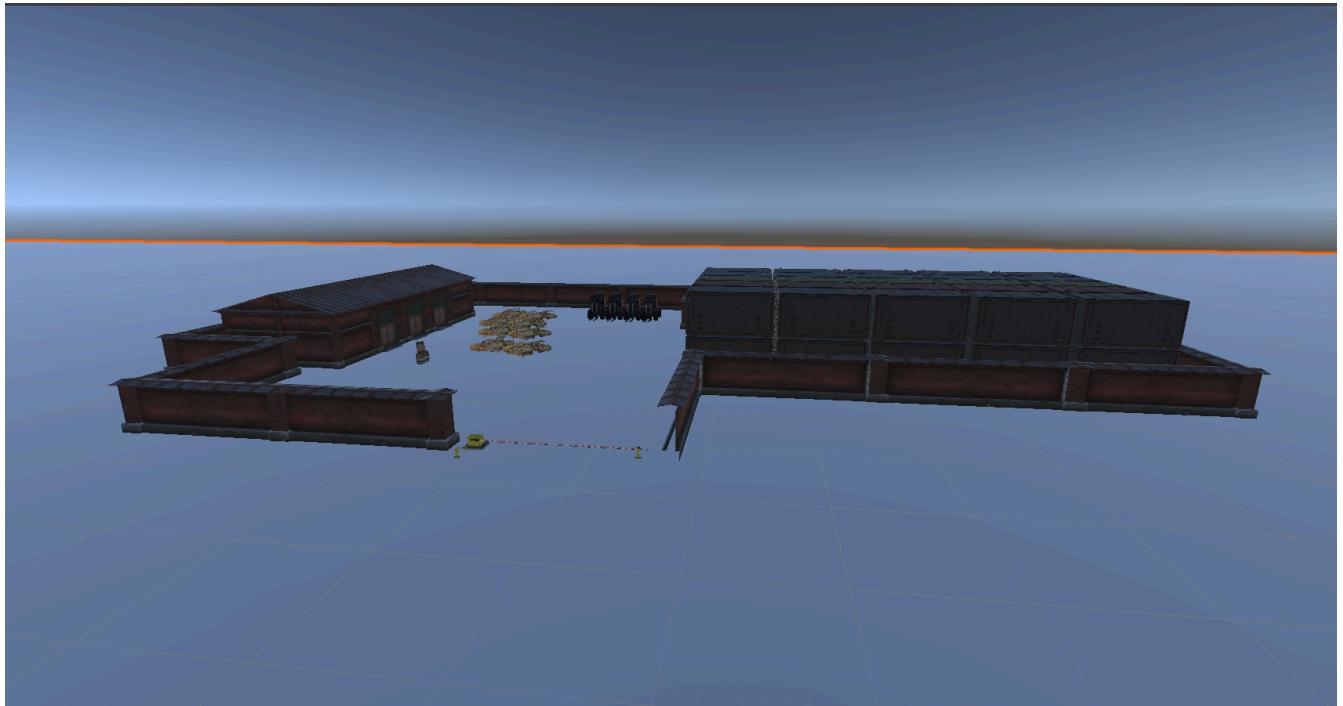
24/2/2024

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# Zones

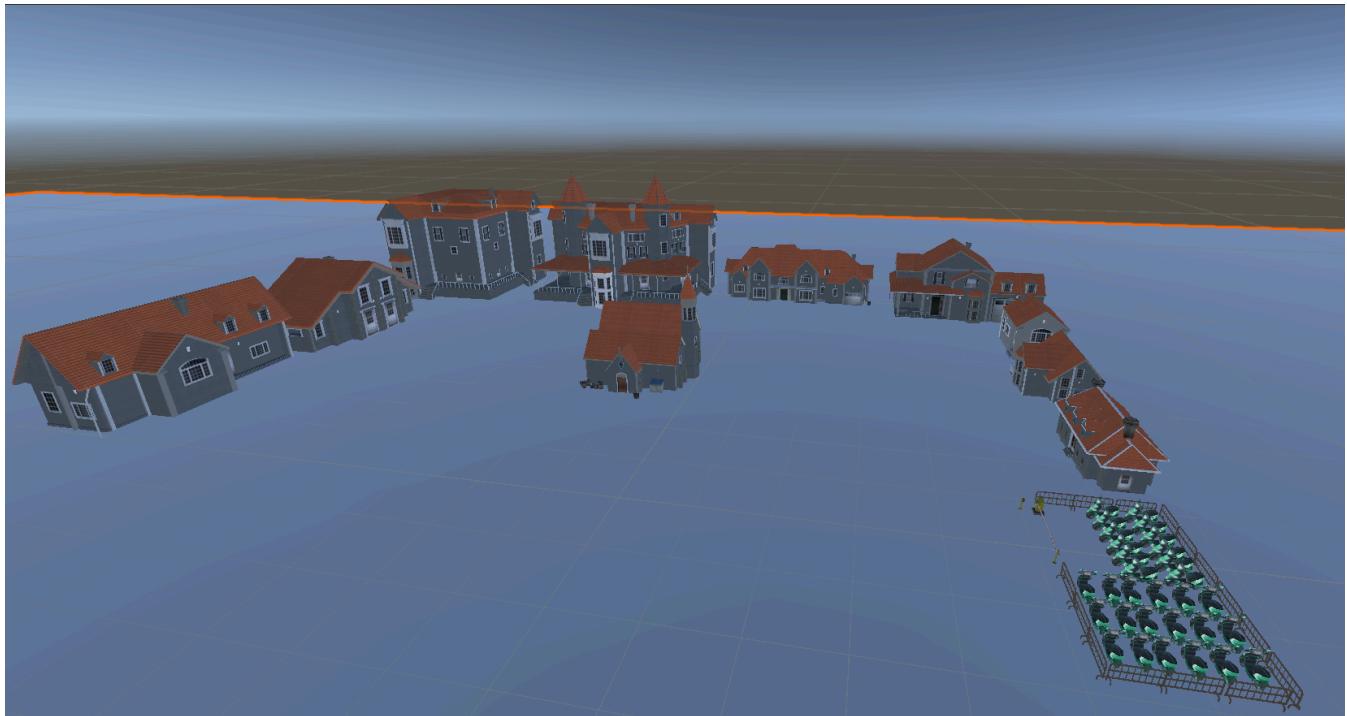
This section covers the multiple zones in the scene. The idea behind the zones was to display different architectural styles for cities, towns, villages, etc.

## Zone 1



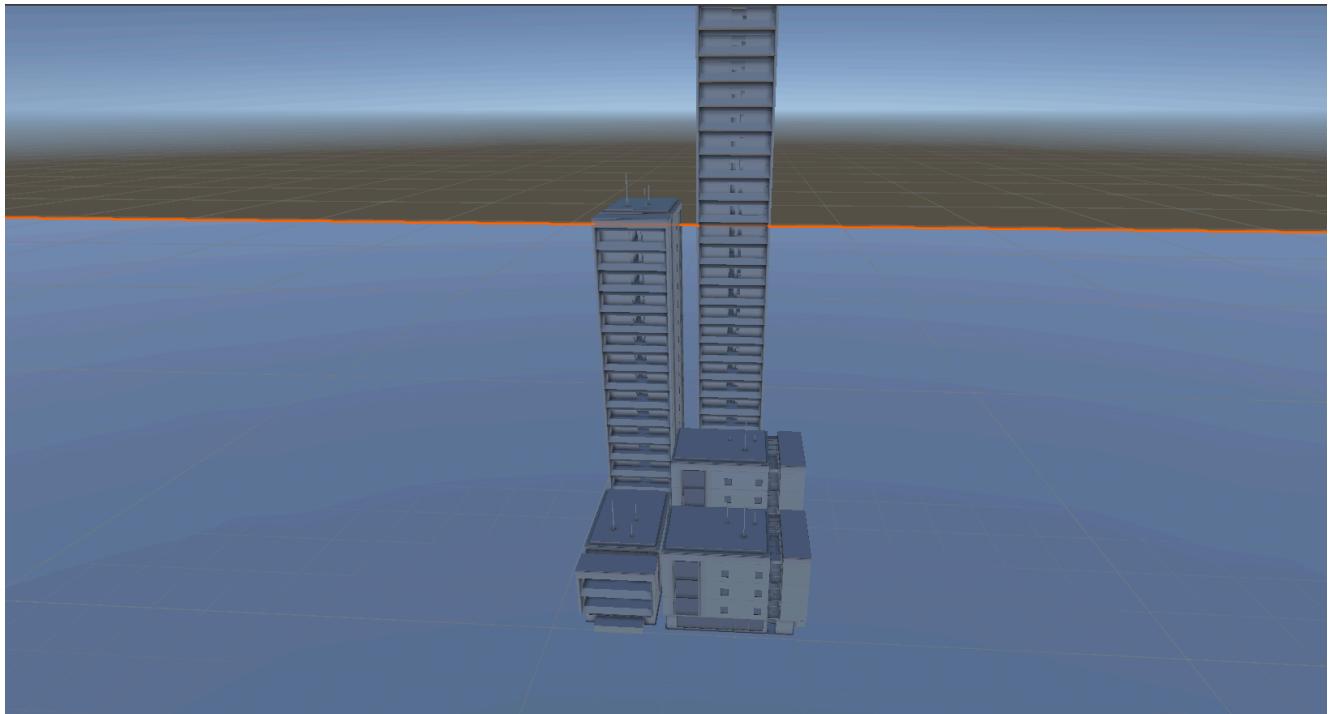
This zone is designed to be a warehouse area with multiple containers, rusted cars, forklifts, and barrels. This zone contains 3 objects with LOD applied to them, the barrels in the zone.

## Zone 2

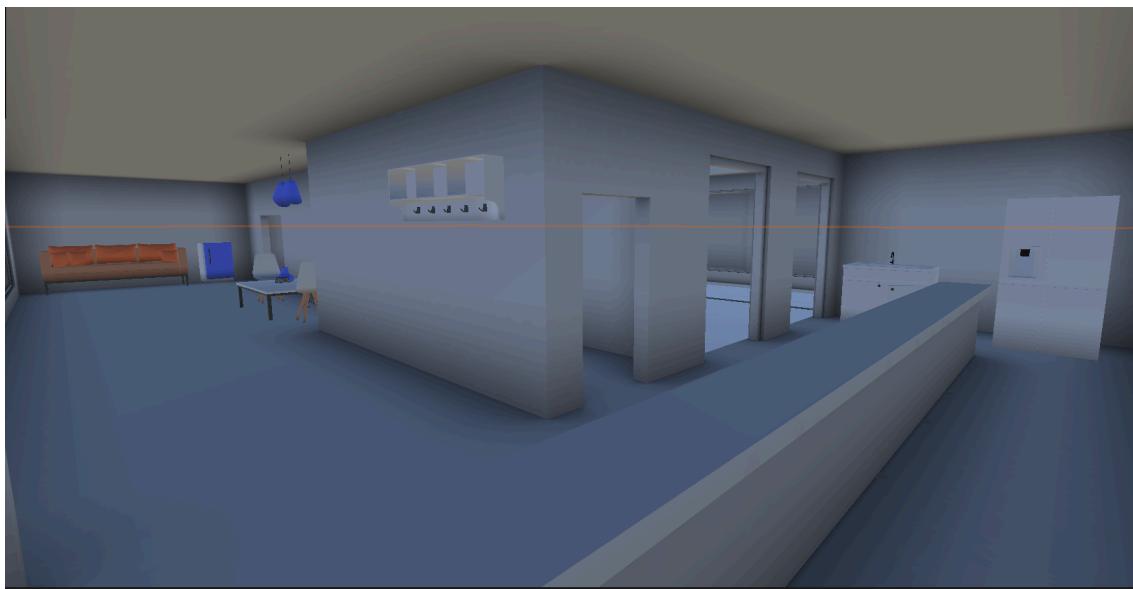


This zone is designed to be a suburban area with different houses, a church, and a shared garage area for the residents' scooters. Scattered around the zone are treasure chests and barrels.

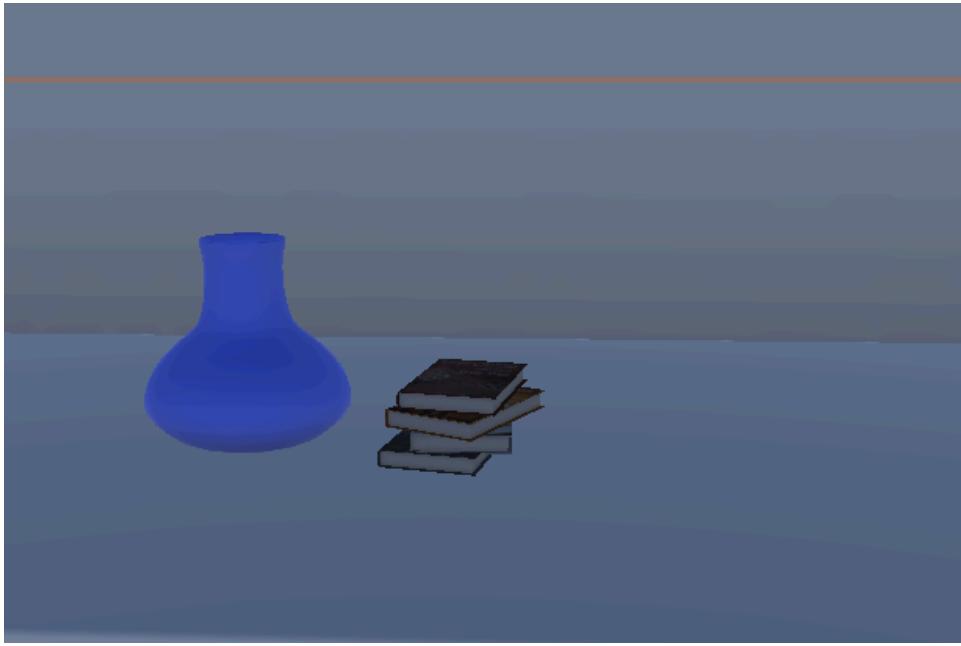
## Zone 3



Zone 3 is an urban residential area with different buildings resembling those of cities. This zone consists of one building with a furnished interior.



Living Room/Kitchen Area

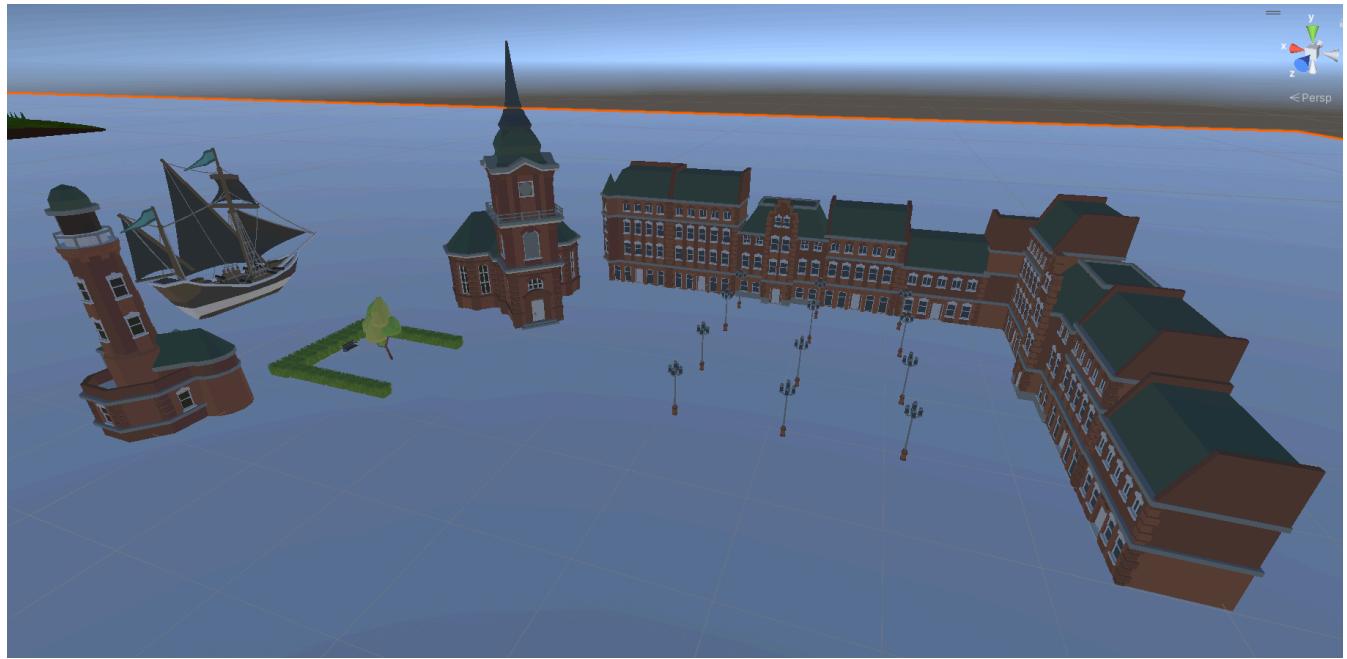


Stack of books



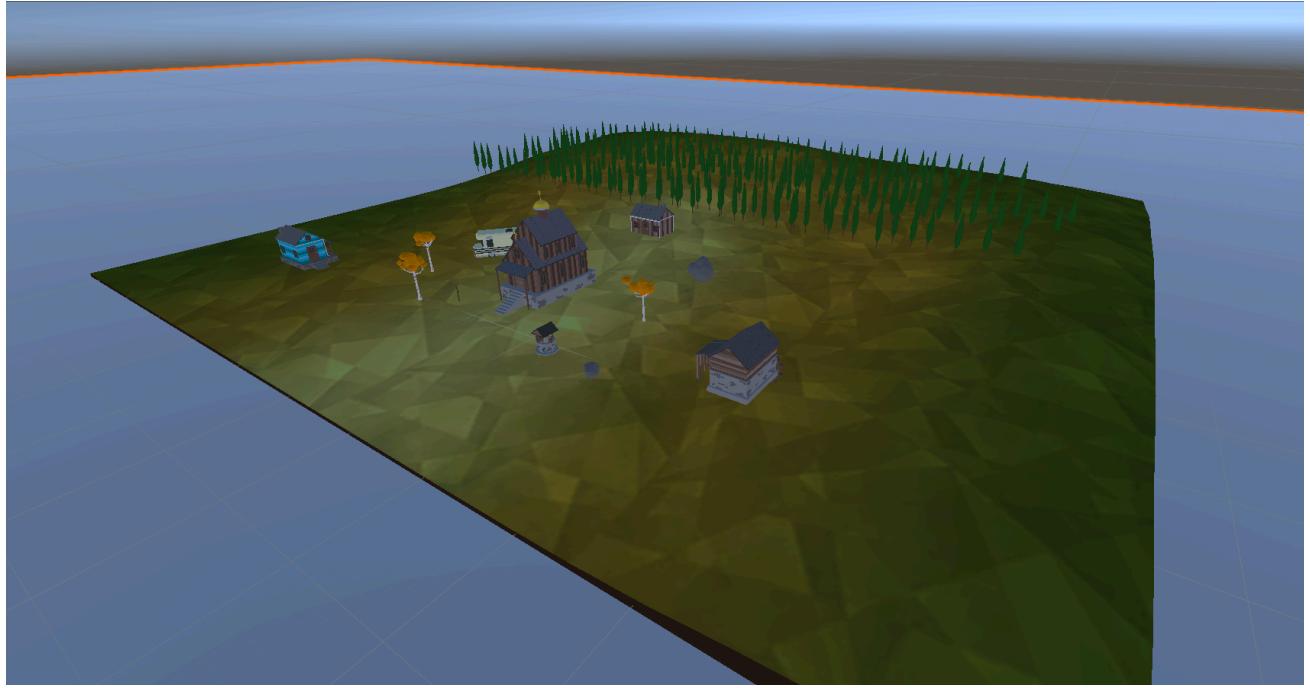
Bedroom Area

## Zone 4



Zone 4 is a seaside town with a church, lighthouse, park, boat, and multiple houses styled with brick architecture.

## Zone 5

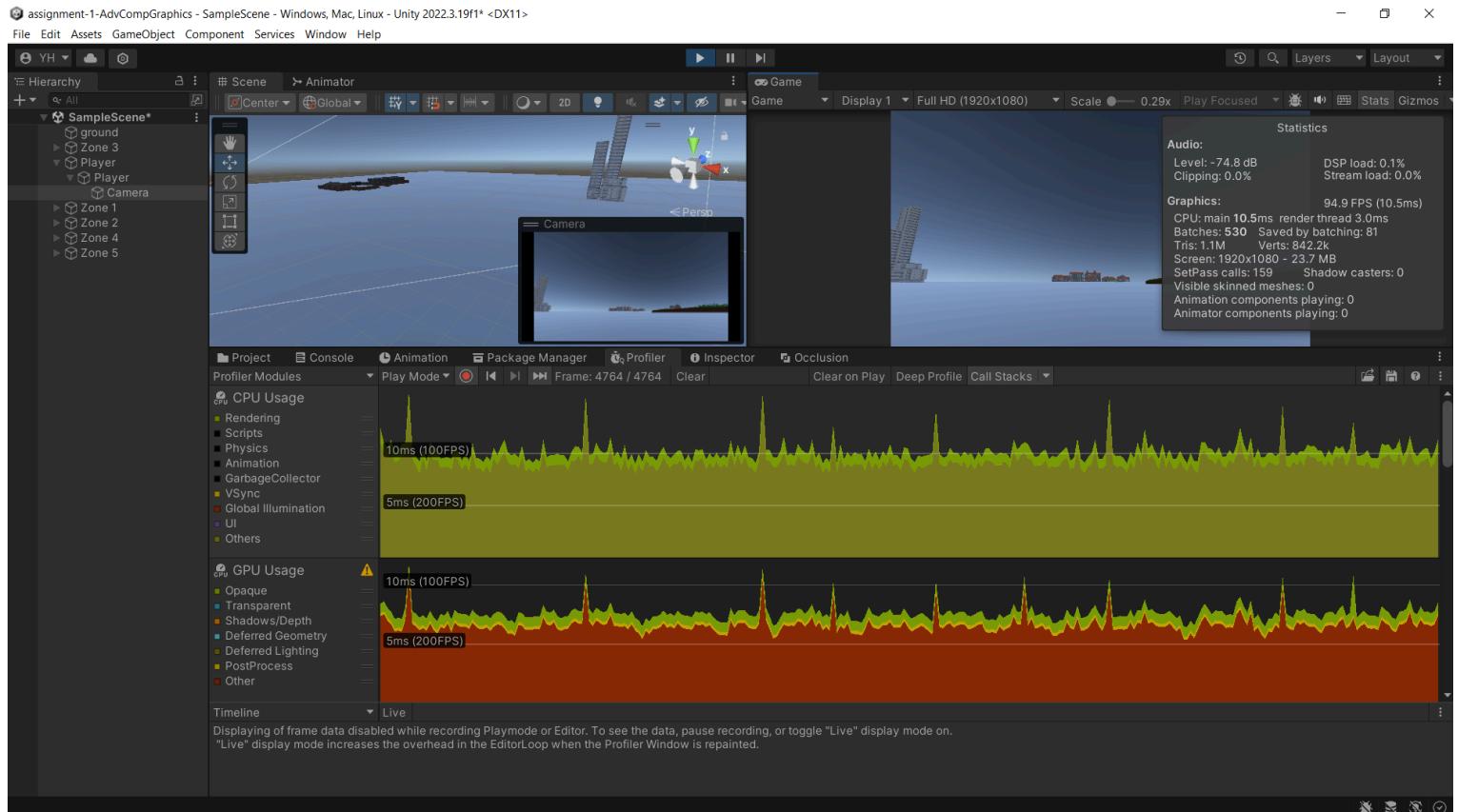


Zone 5 is a forest town with few houses, a camper van, a well, a church situated in the center, and multiple trees and rocks.

# Profiler Testing

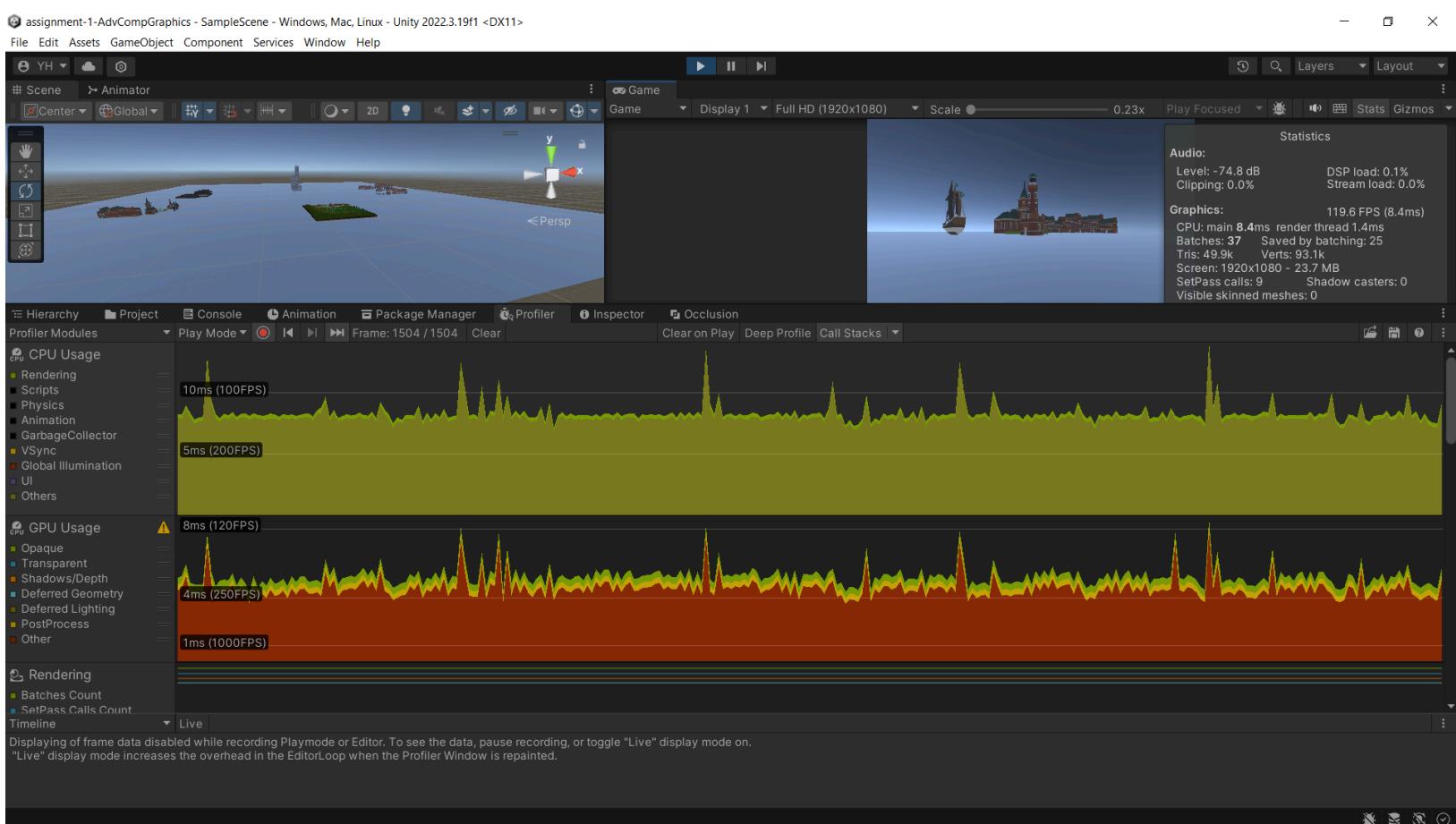
In this section, the performance of the scene is tested with and without occlusion culling.

## Without Occlusion Culling



In this screenshot, we can see a tri-count of 1.1M with 94.9 FPS. The lack of occlusion culling might not be very evident in the graphs, however, the spikes in rendering caused choppiness in the gameplay and a lack of smoothness

# With Occlusion Culling



With occlusion culling, we can see that the tri-count and frame rendering times went down since there were fewer objects to render each frame. The overall FPS here fluctuated between 110 and 120. While positioning the player in a location with 3 different zones in view, the performance was still better than that which lacks occlusion culling, with an FPS fluctuating between 100-110 FPS.