Optimizing NorDark Digital Twin with Occlusion Culling and Static Batching

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# Adding Profiler Window

The Unity Profiler is a tool for analyzing and optimizing the performance of a project/game[[1]](#footnote-1). It provides detailed, real-time insights into various aspects of the project, i.e., NorDark Digital Twin (DT). It helps to identify and address performance bottlenecks effectively.

## Profiler Overview

**Navigating the profiler window.**

To open the Profiler, go to **Window > Analysis > Profiler** or use the keyboard shortcut Ctrl+7 (Command+7 on macOS) [[2]](#footnote-2),[[3]](#footnote-3). The previous version of NorDark DT in the play mode. Inspector🡪 Static-Nothing

A screenshot of a computer

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# Occlusion Culling

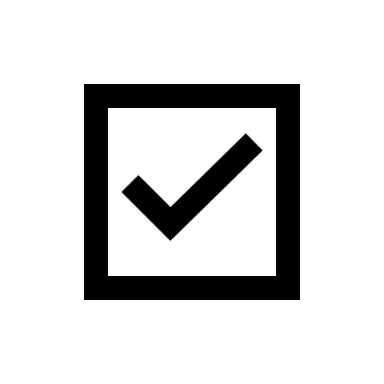
Occlusion Culling is a rendering optimization technique in Unity 3D that skips rendering objects that are completely obscured by other objects in the scene[[4]](#footnote-4). By enabling occlusion culling through the **Window > Rendering > Occlusion Culling** option, Unity calculates which objects are not visible from the camera's perspective. This reduces the rendering workload on the GPU, leading to significant performance improvements, especially in complex scenes typical of digital twins with dense urban environments or intricate architectural details.

## Profiler Analysis

Select Inspector🡪 Static-Occluder Static, Occludee Static.

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Setting Inspector 🡪 Static **ensures that the Unity considers these objects as unchanging during runtime**[[5]](#footnote-5)**. This allows Unity to precompute optimizations such as occlusion culling, baked lighting and navigation meshes more effectively.**

A screenshot of a computer

Description automatically generated

1. <https://docs.unity3d.com/Manual/Profiler.html> [↑](#footnote-ref-1)
2. <https://docs.unity3d.com/Manual/profiler-window-navigating.html> [↑](#footnote-ref-2)
3. <https://docs.unity3d.com/Manual/profiling-target-device.html> [↑](#footnote-ref-3)
4. <https://docs.unity3d.com/Manual/occlusion-culling-window.html> [↑](#footnote-ref-4)
5. <https://discussions.unity.com/t/static-objects/732293> [↑](#footnote-ref-5)