In this package for example scenes used models from free assets: 1. Viking Village https://assetstore.unity.com/detail/essentials/tutorial-projects/vikingvillage-29140 2. OLD HOUSE - https://assetstore.unity.com/detail/3d/characters/oldhouse-68364 3. Autumn Mountai https://assetstore.unity.com/detail/3d/environments/landscapes/autumnmountain-52251 _____ ______ Thank You for downloading this tool, I'm hope it will be useful for You. I'm strongly recommend You to watch this tutorial video : https://www.youtube.com/watch?v=bclJ pG2qxA&t=27s If You have any questions You can freely contact me via e-mail : andreorsk@yandex.ru Advanced Culling System consists of 3 modules : 1.Chunks Master 2.Static Culling 3. Dynamic Culling _____ -----Some Preparation-----First of all, you need to prepare your project. The Advanced Culling System works with new Unity features, such as the C # Jobs System and Burst Compiler. You need to open the Package Manager and download these packages : 1.Burst Compiler. 2.Collections. 3.Mathematics. Enable Burst compile.

The last thing you need to do is make sure you have an empty slot for the layers in Tag Manager.

When the tool started a new layer will be added there.

Done! You can now import the Advanced Culling System

-----Chunks Master-----

If the least a small part of the object gets into the camera view, then the whole object will be rendered.

If you have a very large object on the scene,

it is sometimes useful to split this object into small ones.

To open tool You need to go to the tab "Tools/AdvancedCullingSystem/ChunksMaster".

Use buttons to add objects into Chunks Master.

ChunksMaster automatically split objects into small peace. In "MaxTriangles" field,

you specify how to max triangles count will contain in a single piece.

If you change the value of «MaxTriangles» you need to press «Apply» to preview changes.

In "SaveFolder" field, you specify the path where the created meshes will be stored.

To preview how your objects will be split click «ShowCreatedChunks».

Once you have set all parameters click the «Split» button.

Be careful!!!

Chunks Master should only be used on objects with a large number of polygons.

To see at the visual difference in work before and after applying Chunks Master,

use the FrustumCullingVisualization script. Use this script only to view the changes.

FrustumCullingVisualization does not affect performance.

-----Static Culling-----

Attention!!!

This tool only works with static objects.

To start this tool, you need to go to the "Tools/AdvancedCullingSystem/Static Culling" tab.

You can set cameras in "Cameras" tab or do it later with Static Culling API.

In "Renderers" tab, you must set the objects to be culled. Attention, you can't add any objects in runtime to this list.

In "Areas" tab you need to set areas where your cameras will be located. This can be set automatically, or manually. The smaller the area, the less time it takes to bake.

"JobsPerObject" represent the accuracy of scene computing. Greater value takes more time for baking.

If you use the «FastBake» option, the scene will bake faster, but the visibility of objects will be calculated less accuracy. In some cases, it is possible that the object that should be visible will be hidden.

Every time your camera moves to a new cell, visible objects will be updated.

API :

To call Static Culling methods, use the static property StaticCulling.Instance in namespace «AdvancedCullingSystem.StaticCullingCore».

You can call these methods :

StaticCulling.Instance.Disable() - to disable StaticCulling StaticCulling.Instance.Enable() - to activate StaticCulling StaticCulling.Instance.AddCamera(Camera) - to add new camera in list StaticCulling.Instance.RemoveCamera(Camera) - to delete camera from list.

To start this tool, you need to go to the «Tools/AdvancedCullingSystem/Dynamic Culling» tab.

Setting up Dynamic Culling is very simple.

You can set cameras on "Cameras" tab or do it later with Dynamic Culling API.

A "JobsPerFrame" value sets how accurately the visibility of objects will be computed in every frame.

If this value is too small, situations may happen when the object that should be visible at the moment is hidden.

At the same time, a too high value can lead to a drop in FPS.

A value of "ObjectsLifetime" sets how long invisible objects will be rendered.

I do not recommend setting this value lower than 1.5.

In "Renderers" tab you need to add which objects should be culled. You can specify them now or add them later via scripts. For example, if objects instanced during the gameplay.

API :

As with Static Culling, to call Dynamic Culling methods to use the DynamicCulling.Instance

in namespace "AdvancedCullingSystem.DynamicCullingCore" static property.

You can use these methods :

DynamicCulling.Instance.Enable() - to enable DynamicCulling
DynamicCulling.Instance.Disable() - to disable DynamicCulling

DynamicCulling.Instance.AddCamera(Camera) - to add camera in culling list DynamicCulling.Instance.RemoveCamera(Camera) - to remove camera from culling list

 $\label{ling:members} \mbox{DynamicCulling.Instance.AddObjectForCulling(MeshRenderer) - to add new object in culling list \\$

 $\label{ling:max_prop} \mbox{DynamicCulling.Instance.RemoveObjectForCulling(MeshRenderer) - to remove object from culling list \\$

DynamicCulling.Instance.SetJobsPerFrameCount(int) - change JobsPerFrame
value via script

DynamicCulling.Instance.SetObjectsLifetime(float) - set ObjectsLifetime
value via script
