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1 Introduction

Runtime LOD System creates LOD's of objects at startup. To guarantee best performance caching system used to group meshes.

You can easily set the system using layers and tags. It creates the desired amount of LOD's at the run time for you with very low FPS impact.

You can even create LOD's of new instantiated objects at runtime. You can do this by automatically allowing Runtime LOD System handle this for you or you can implement with your own code.



2 Technical Information and General Overview

2.1 Information About Context :

Due to their simplicity triangle meshes are used to represent surfaces in many applications. Since the number of triangles often goes beyond the capabilities of computer graphics hardware, a large variety of mesh simplification algorithms has been proposed in the last years.

In this product , it has been targeted performance of general purpose mesh reduction algorithms. The driving idea is to understand mesh reduction algorithms as a software extension to make more complex meshes accessible with limited hardware resources like mobile devices or gaining performance to more things simultaneously.

Presenting a mesh decimation scheme that fulfills these design goals and which has already been evaluated by several user from different application areas. We apply this algorithm to typical meshes to demonstrate its performance.

3 FAQ

- Does this system handle gameobjects instantiated at runtime?

Not in first version. Next release will have this feature.

- Is there any caching mechanism for each mesh? Is caching an optional feature?

No ,Runtime LOD effectively uses caching.

- Is there pooling in this system?

Yes ,Runtime LOD effectively uses pooling.

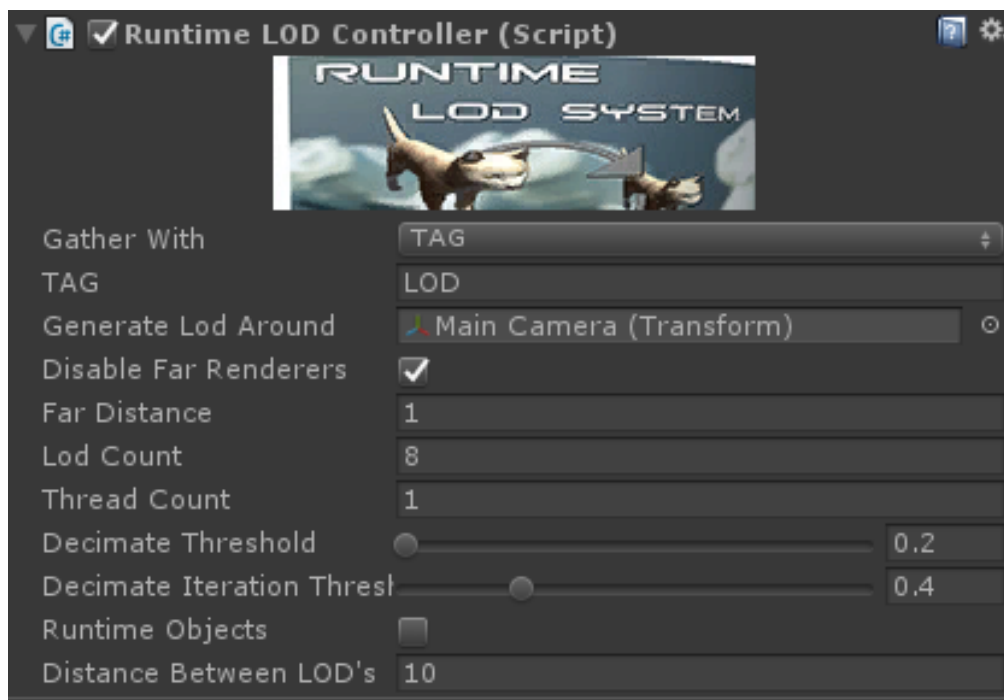
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- What is the maximum thread count for Runtime LOD?

You can set as many as you can. Thread count should be proportional to distinct meshes in scene.

4 Properties of the custom editor

Runtime LOD has a simple and easy to use custom editor. You can set the parameters and can find out the best matching combination for you.

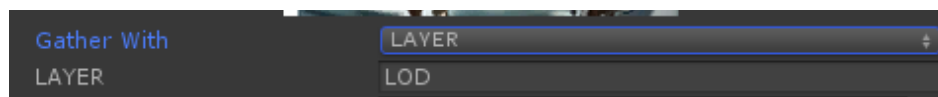


4.1 Gather With :

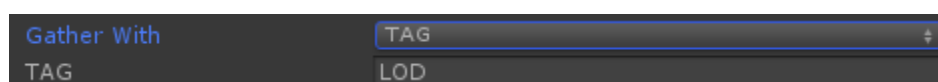
You can gather meshes in scene using tags and layers or you can use the system with all existing meshes.

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If Layer is selected don't forget to change the "LAYER" field.



If Tag is selected don't forget to change the 'TAG field.



4.2 Generate Lod Around

You need to assign your camera. This is actually the center of the Lod System.

4.3 LOD Count:

LOD Count stands for allowed number of LOD's .

4.4 Thread Count:

You can set thread count as many as you want. 4 threads will be easily handling 12 different meshes in scene.

4.5 Decimate Threshold:

This is strength of decimation in each LOD's. Needs to be lower values.

4.6 Decimate Iteration Threshold:

Defines how hard difference between LOD's.

4.7 Distance Between LODS:

The distance between LOD layers. Meshes far away from this distance will be switched to different lods.

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5 TIPS & TRICKS

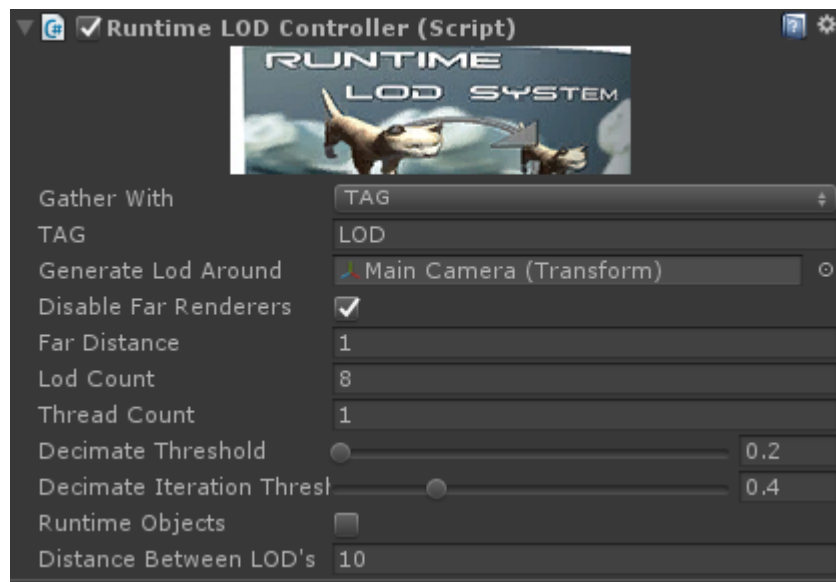
5.1 Scenarios which create worst case for performance:

If you are experiencing fps drops you need get rid of this combination or subsets of this combination.

Try to play around the values of the following properties. You may have :

- ➔ Distance is LOW.
- ➔ Thread Count is LOW.
- ➔ Distance Between LOD's LOW.

Please check the below image which uses the maximum hardware resources which is considered as bad practice.



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6 Setup

RuntimeLOD is a very easy to use tool. You just need to drag and drop RuntimeLODController prefab to your scene or you can attach RuntimeLODController to your game object.

Runtime Objects is an easy to use feature, but in terms of memory consumption and CPU usage, it doesn't have a good memory footprint because of frequent invocation of LINQ and Unity GameObject class.