Candera Engine 3D

Texture Level of Detail Parameters

The Texture class now supports setting a level of detail bias (offset or base level) as well as a lower and upper limit for the level of detail value. These are new parameters available in OpenGL ES 3.0 or higher, which allow control over which mipmap levels are sampled. The parameters are set through the RenderDevice class.

MSAA Offscreen Render Targets

Framebuffer objects now support setting the MsaaSamples property. If the device supports OpenGL ES 3.0 or higher, setting the property to anything larger than 1 will enable multisample anti-aliasing with the given number of samples for that framebuffer object.

NPOT Textures

NPOT (Non-Power-Of-Two) Textures are supported with OpenGL ES 3.0 API.

Vertex Geometry Modifier

VertexGeometry objects can be modified using the new class VertexGeometryModifier in conjuction with a VertexAccessor.

Occlusion Culling Camera Render Strategy

On OpenGL ES 3.0 platforms this camera render strategy uses hardware occlusion culling to improve performance. It only reaches its full potential when objects have been sorted front to back and occluded objects consist of lots of vertices, have expensive shaders, or both.

Render Order Performance Improvements

Nodes that are to be added to the default render order bins - Opaque and Transparent - are now added to these bins directly without expensive string comparisons in the Find function. The Find function was also modified to check the references of the default bin names before the string compares are done. Additionally a copy constructor was implemented for the RenderOrderBin class, allowing improvement of the copy constructor of RenderOrder.

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