BatGen

Batch file generator for manual distributed rendering in Maya

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WHAT IS *BATGEN*?

BatGen allows you to create a list of shots for rendering. A shot is defined by a Maya scene, a frame range (start and end frame), renderer, and camera for the shot. *BatGen* also allows you to set appropriate file system information about each shot individually, including the prefixes for the rendered frames and destination folder, allowing for easier organization and identification of frames.

It then generates a user specified number of Windows batch (.bat) files, which can then be run on multiple machines. Basically, these batch files are short scripts that when double clicked will dispatch the Maya command line renderer to render your scenes and dump the frames in the appropriate location. If your shot queue totals *f* frames, and you split it over *n* machines, each batch file will handle *f*/*n* frames. By using *BatGen*, you can manually split up renders without having to have a networked render farm setup. You also gain system resources by rendering without the Maya GUI loaded, and avoid having the write tedious batch files by hand.

WORKFLOW TIPS

There are few ways to think about using *BatGen*. First, it is important to note that it eventually generates batch files that use the Maya command line renderer to render your frames. The Maya command line renderer allows you specify many of the things you can choose in Maya's render globals about resolution, frame format, and the like – we are only providing it with a very small subset of possible options for frame ranges and cameras. You could write your own batch files or modify the ones generated by *BatGen* to provide more options, though there is a different suggested workflow. **If you set the render globals in your Maya scene to the anti-aliasing, raytracing, file format and resolution settings you desire for your final frames, and save the scene, the render globals will save with the scene. These are the settings the command line renderer will use when running the command invoked by the batch files.**

A suggested next step is to decide on all your shots and frame ranges, renders, destinations, and scenes. Then, use this information to create a shot queue and save it out in the *BatGen* shot list format. You'll be able to load this queue up later and split up your entire animation over various numbers of machines for re-rendering. Alternatively, you could use *BatGen* to distribute single scenes, or perform short jobs. It splits frames and functions the same way over multiple scenes and shots as it does on one. So, don't worry about it – use it however you like.

Once you've generated batch files, it might make sense to put them in one networked directory, log into several nodes, double click one batch file per node, and lock the node during rendering. You can then

remotely monitor your progress by monitoring the output directory for frames with an SSH client, or simply check on the progress in the Windows terminal that launches when you run the batch file.

Note that **help tool tips** are available for all important UI elements in the *BatGen* interface. Hover over relevant items for a moment and a tip describing its purpose will appear.

THE INTERFACE

Shot Creation

The shot creation section of the interface allows you to define your shots and add them to the shot queue.

Start Frame: First frame to render in the shot. This is inclusive, so this frame will be rendered.

End Frame: Last frame to render in the shot, also inclusive.

Camera Name: Exact, case sensitive name of the camera to render the shot from. This camera must exist in the Maya scene, and is a required attribute for a shot.

Frame Prefix: This prefix will be added before the file name of each frame. It can be useful if you are outputting all frames to one directory and want to avoid overwriting preexisting frames.

Select Scene: Browse to select the Maya file containing the shot.

Select Destination: Browse to select the save location for your frames.

Auto-Increment Start Frame: If checked when adding a shot, the start frame value will become the old end frame value plus 1. This offers a speedup if you are entering shots which cover consecutive frame ranges.

Shot Queue

The shot queue is the list of shot that will be distributed among the batch files. Double clicking a shot will allow you to edit its details, and double clicking on a particular field will cause the shot edit window to start such that the clicked field has focus. Pressing the delete key will remove a shot from the queue.

Save Queue**:** Save this Shot Queue as a *BatGen* Shot List for loading later.

Load Queue: Load a preexisting *BatGen* Shot List into the Shot Queue.

New Queue: Clear the current Shot Queue and start from scratch.

Batch Generation

The batch generation section of the interface allows you to configure the details of how many batch files will be output and their output location.

# of Machines: How many batch files to generate. This cannot be greater than the total number of frames in your shot, though *BatGen* will warn you about this. If you are rendering *f* frames and are generating *n* batch files, each will render *f*/*n* frames.

Maya Batch Renderer Location: The location of the command line renderer for the version of Maya you wish to render with. This is located in the install directory for Maya, and at the time of this writing (and for the last few versions) is called "Render.exe". It is likely located in the *bin* directory of the Maya install directory, probably in a path similar to:
INSTALLDRIVE:\Program Files\Autodesk\Maya8.5\bin\Render.exe

Batch File Destination**:** Browse to select the location to save the batch files.

Pause Shell After Jobs: By default, the Windows command terminal showing the status of each frame of your renderer will close when it is completed. It can be good to have it pause where completed so that it won't close and you can review the render output messages for errors and diagnostics. Checking this box will keep the terminal open after rendering completes.

Generate Files: Clicking here will error check your settings and, if all is well, prompt you to enter a prefix for your batch files. They will output named in the format *[prefix]_m#.bat*.