Octane Sketchup Exporter

Installation

Extract the files from the **Octane_1022-02.zip** file into the **../Sketchup../Plugins/** folder, keeping the sub-folder structure for several of the files – see below.

*You must **'extract'** the files, keeping any sub-folders – so **do not** uncompress everything directly or open the archive, select and then drag+drop the files [unless you are sure what you are doing] - as doing it that way you could end up with files in the wrong relative relationships. On a PC you should use the 'extract' option in your zip application; on a Mac a double-click might not keep them in their sub-folders, so you should use right-click 'unarchiver' or 'stuffit_expander'…*

If you are unclear about where your '*Plugins'* folder might be then type [or copy+paste] this line into the *Window > Ruby Console*:

Sketchup.find_support_file("Plugins") + <enter>

Typically the PC path that is returned is:

C:/Program Files/Google/Google SketchUp 7/Plugins

Whilst typically the Mac path that is returned is:

Macintosh HD/Library/Application Support/Google Sketchup 7/SketchUp/Plugins

So there should be the following:

In the folder ../Plugins/

Octane_loader.rb	The file that loads the current script below.
win32ole.so	A file used by the PC version of the tool [since this does nothing on a Mac and could be discarded, on a Mac].
README.txt	This file can be discarded - it only explains the initial installation.

And in the folder ../Plugins/Octane/

Octane_1022.rb	The script that sets up the **Octane Render Sketchup Exporter** tool.
OctaneDialog.html	The file that is used to make the main web-dialog for that tool.
OctaneDialogStrap.png	The logo image used by the html file.
OctaneDialogBack.png	The background image used by the html file.
OctaneToolbar16x16.png	An image used for the **Octane Render** toolbar 'small' button.
OctaneToolbar24x24.png	An image used for the **Octane Render** toolbar 'large' button.
OctaneHelp.pdf	This Help file.

And in the folder ../Plugins/Octane/OctaneFolderBrowser/

folder_browser.html	A file used to make the special folder-browser dialog.
folder_browser.js	A file used with the special folder-browser dialog.
folder_browser.css	A file used with the special folder-browser dialog.
folder.png	The image used for the folder-icons in the special folder-browser dialog.
folderup.png	The image used for the folder-up-icon in the special folder-browser dialog.

And in the folder ../Plugins/Octane/OctaneSlider/

slider.js	A file that is used to make the main dialog's sliders.
slider_Bar.png	The image used for the slider's 'bar'.
slider_Btn.png	The image used for the slider's 'button'.

Usage

After installation and the restart of Sketchup you should have an additional menu item to run the tool

File > Octane Render…

There is also an **Octane Render** toolbar – by default it is not active – you can activate it from the matching *View > Toolbars* menu item [or Mac equivalent]. Clicking its button is the same as picking the main menu item.

There is also a 'right-click' context-menu - **Octane Render…** – it also works the same as the main menu item.

Alternatively you can also type ***octane*** into the Ruby Console…

The Dialog

[showing the default settings].

The first section is "**Project Configuration**".

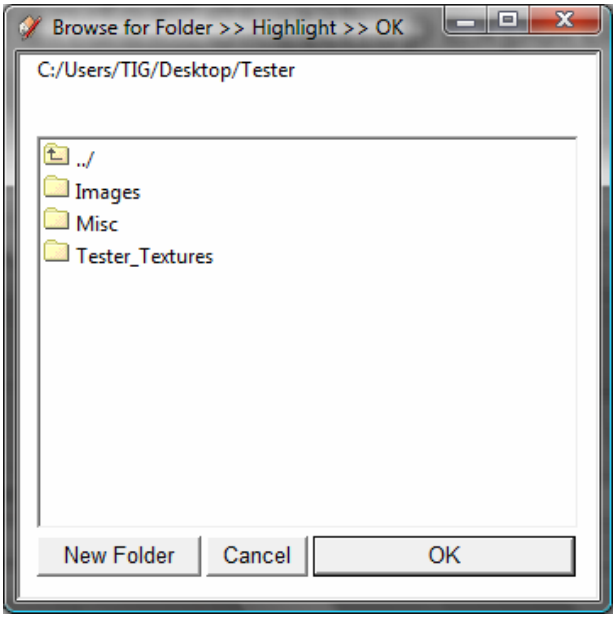
On the first run you will be pressed to choose an **Octane Render Binary** file – the application that the tool will use to process the render. It will be remembered with Sketchup for any future sessions.

On a PC it should be the **octane.exe**, on a Mac it should be the **octane.app.**

Should the specified Octane binary file become unavailable between sessions you will be prompted to select an alternative.

After the initial set up you can change to another Octane application by clicking the *Browse* button.

The **Project Path** initially defaults to the current model's folder – you can change this by clicking the *Browse* button at any time. This special folder-browser will open [it should start in the current Project Folder]. Highlight the desired folder and press OK: the current folder path is displayed along the top of the dialog, to navigate up double-click the topmost 'folder-up' icon [../], to navigate down into any folder double-click on its icon. You can add a 'New Folder' into the current folder by clicking the button – the new folder will be made and then temporarily shown at the top of the list of folders so that you may find it easily, useful in longer lists.



The **Project Name** initially defaults to the model's name, with any spaces replaced with an underscore: *my_model.skp* gives *my_model* for the Octane *my_model.ocs* file], you can type in another name if required; if the .ocs file doesn't exist then it will be made if you run the rendering parts of the tool. Alternatively, you can click on *Use Existing Project* button to find an existing .ocs file… then *both* the **Project Path** *and* the **Project Name** will be changed to suit that selection. Note that a previously made .ocs will be 'relinked' and will not update existing materials' textures etc – so with major changes it is best to start a new .ocs or rename the old one.

The dialog also shows the model's units settings – **Native Unit Size** – this is non-editable and is for information only [and to keep consistency with other exporters' UIs] - all dimensions used *within* the tool are automatically set to the units required by **Octane** – i.e. **'meters'**.

To the right of this is a **Help** button that opens this file [**OctaneHelp.pdf**] - if it is found in the ../Plugins/Octane/ folder.

These settings are remembered during the session and if you save the model when you close it, then they are remembered with the model.

The second section - "**Export Configuration"** - lets you choose what settings to use with the export [if any].

Film

Resolution Initially disabled, if enabled you can change the following:

Width The image width, defaults to the screen width.

Height The image height, defaults to the screen height.

Percentage The standards are *100%, 75%, 50%* and *25%* which are applied to the current width and height settings.
The other drop-down option is *Reset* with reverts to the model's screen width and height.

Camera

Export Camera Initially enabled, you can change the following settings:

Active Camera This defaults to *from <Current View>.*
Other in the drop-down options [if there are Scenes tabs available] are *from <Current Scene>* and then every available *'Camera'* from the '*Scenes*', listed in their current order [it includes all Scenes – even those that are excluded from an animation]. If you select one of these 'scene' options then the model will adjust automatically to that Scene tab – remember that this might also affect the 'visible geometry' as there can be different hidden and layer states with each Scene; and only 'visible geometry' is exported to the OBJ/MTL etc. Note that if this *Export Camera* option is enabled *and* **Render Animation** is invoked then this selected Camera will be ignored and each animation frame's Scene's Camera is used instead [*see below*].

Lens Aperture Radius Initially disabled, default=1, you can type in any value between 0 and 1 – e.g. 0.25, or use the slider to change the value. When typing a value the slider will update to the new value when you press enter or the text input box loses focus.

Focal Depth (m) Initially disabled, default=5, you can type in any value > 0, or use the slider for values up to 100, if a value > 100 is desired then type in that value – the slider will stop at the maximum extent (100). When typing a value the slider will update to the new value when you press enter or the text input box loses focus.

Motion Blur Initially disabled, default=*Next,* choose *Next/Previous* – to blur between scenes in animations.
If the **Active Camera**=*from <Current View>* then **Motion Blur** is inoperable in the **Render Frame** mode as it has no 'next/previous scene.
If there is no '*next'* scene then the first scene is used, if there is no '*previous'* scene then the last scene is used.
Note that if this option is enabled *and* **Render Animation** is invoked then the camera for the Scene next or previous to the animation frame's Scene will be used in each frame, if it is available.

Daylight Environment

Export Sun Direction Light Source Initially disabled, you can choose the following setting:
This defaults to *Sun from <Current View>.*
Other options in the drop-down are *Sun from <Current Scene>* and then any available '*Sun'* from the '*Scenes*', listed in their order.
Note that if this option is enabled *and* **Render Animation** is invoked then in each animation frame that Scene's Sun will be used instead.

GPU Devices

Specify GPU Devices Initially disabled, you can choose the following settings
Default is 0 – choose from 0, 1, 2, 3 as the GPU[s] to use:
*NOTE: these settings can currently cause Octane to hang on startup if enabled AND any number is checked 0-3 at all.****
Temporary Solution: try it, and if it hangs then next time don't try to specify the GPU using these settings…

The third section - "**Export" -** lets you choose the type of render - ***either***

Frame

Export OBJ/MTL Only — Click this button to export the current model as OBJ/MTL to the path defined earlier [and if appropriate, any Textures are put into a sub-folder with the same name + _*Texture*s [which is made if it doesn't exist]. The OBJ file is set to ***Octane's*** required units 'meters', has triangulated faces etc… All Geometry, Groups, Components and Images [that are not 'hidden' or on non-visible layers] are exported, as separate triangulated faces, with their materials or textures. Note that UV-mappng of textures [position/scae/rotate/etc] within the SKP is supported, but if you have 'skewed' a texture that cannot be transferred into the OBJ/MTL format – so in that rare case, before running this tool, in the SKP right-click the affected face and select 'Make Unique Material' – a new 'cloned' textured-material will be made with the image having a built-in distortion to suit [unfortunately this is not (yet) available as an automated method through the current SUp API, but it could be added to this tool after an appropriate update to the API].

or

Render Frame — Click this button to export the OBJ/MTL as described above, and then automatically open ***Octane***.
A new OCS is made if it doesn't exist.
A minimized cmd window called *Render Cmd* opens to activate the OCS; it remains open whilst the OCS itself is open – on a PC this cmd window can be closed at any time, and it will finally close with the OCS anyway.
Octane starts to render the OCS using the various export settings you have selected – the s/px is automatically set to the standard maximum *[16000]* which you are unlikely to want to exceed; note that you can pause or stop the rendering at any stage and/or change other settings in the OCS manually.

or

Animation

Image Output — This defaults to the **Project Path** that you have set above, with *img00001.png* added as the first image-name – you can enter an alternative name or path. Alternatively to change the folder you can click the *Browse* button, and a special folder-browser will open - see the Project Path example above. Highlight the desired folder and press OK: the current folder path is displayed along the top of the dialog, to navigate up double-click the topmost 'folder-up' icon [../], to navigate down into any folder double-click on its icon. You can add a 'New Folder' into the current folder by clicking the button – the new folder will be made and then temporarily shown at the top of the list of folders so that you may find it easily, useful in longer lists.
Again the image-name configuration will default to *img00001.png* which you can then adjust as desired. You can type in any image-name here, after the folder separator (\ or /); but remember that it must have a 'numerical' ending so it can be incremented (like *anim9009.png*) and it must also have a ***.png*** suffix. The output images in the animation sequence will all be saved into this *Image Output* folder; their names will increment based on the image-name format you have given – e.g. *img00001.png, img00002.png, img00003.png etc*

Start/End Frames — These are listed in pull-downs from all of the available Scenes [Cameras], but only those Scenes marked in the Sketchup 'Scene Manager' to be 'included in animation' – i.e. without enclosing (…) in their tab label…
If there none or only one available Scene tab then these drop-downs and 'Step' are disabled, as are the 'Pixel Samples' options and the 'Render Animation' button.

Start Frame — Defaults to the first Scene, it can be any of the available Scenes except the last one.

End Frame

Defaults to the Scene after the Start Frame's Scene [typically the second Scene], it can be any Scene later than the Start Frame's Scene.

Step

Defaults to '1', the available Steps are listed in a pull-down determined from the Start/End Frames selected.

Pixel Samples

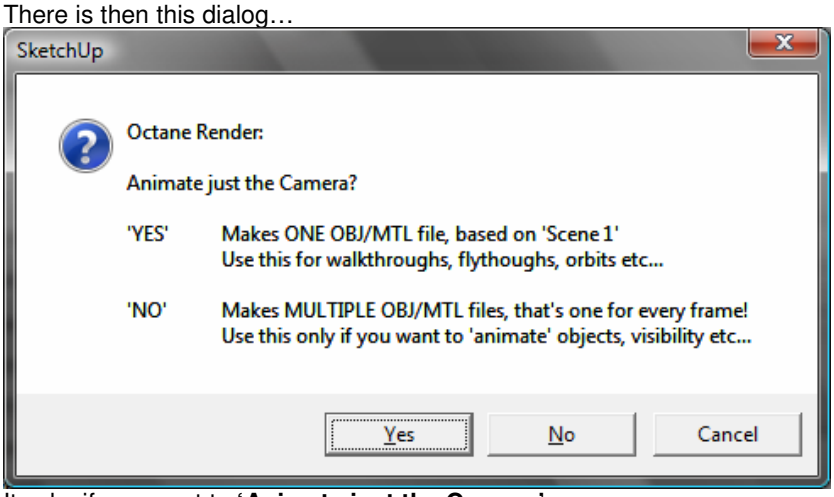
Defaults to *Medium (256 s/px),* choose from various setting, or type in a Custom value in the box to the right – it must be at >= 1; *but* 8 is small – use these low settings for quick testing of animation frame-sets !

Render Animation

Note that previously you must have rendered a single frame to set up the Project OCS's default OBJ file before using this option – otherwise you will get an error message and will need to abort the animation [see below].

Click this button to start the processing of the frame-set specified.
Note that the selected Scenes' Cameras, Motion-Blur and Light-Source are used if the respective Export Configuration options are 'checked' - their Frame Render specific Scene/Light-Source settings are ignored for the animation – these are taken from each frame's scene-tab settings.
Other 'checked' configurations will also be used, e.g. *'Focal Depth'*.

There is then this dialog…



It asks if you want to '**Animate just the Camera**'…

The default reply is **Yes** and this will make one OBJ/MTL file based on the settings of the first frame's Scene tab [using that tab's hidden/layer states etc]. The series of images that are then made animate the camera for a walkthrough, fly-round or orbit as the scenes will determine – the 'visible geometry' in every frame is fixed by the first frame's Scene tab's settings. This is the standard and quickest option as only one OBJ/MTL is made.

If you answer **No** you opt for animating the camera **and** the 'visible geometry' in each individual frame's Scene tab: because each tab can have different hidden/layer states [as with 3rd party *Animation* plugins] or have even 'observers' to move/modify objects between scenes [as with the 3rd party plugin *SketchyPhysics*] a separate OBJ/MTL file is then necessary for *every* frame. This can extend the processing time dramatically, so this option is **not** recommended ***unless*** you really want to 'animated objects' within the animation's image set. If this option *is* selected then the tool will make an OBJ/MTL file for every frame before starting to render them [these files are temporary and are deleted when the tool's main dialog is closed]. If you close this dialog or select **Cancel** nothing is processed and the main dialog reverts for your next choice...

As the animation sequence is processed the main button's title changes to say '*Rendering Animation, Please Wait…"*, and it is then disabled [PC] during the OBJ/MTL creation and subsequent image rendering.
When the image processing starts a minimized cmd window called *Animation Cmd* opens in the Taskbar/Dock area and that opens the OCS – once for each frame in the animation – it remains open whilst **Octane** is processing the whole animation sequence.

To abort the image rendering iteration part way through you can close this '*cmd*' window early [the Command-line prompt also reminds you of this]: when aborted the OCS will complete the current frame's render and then stop without processing any further frames in the set. On the completion of the set of images [or its early cancellation], the dialog's button becomes re-enabled and its title reverts to *'Render Animation'* and it can be used again...

General

All of the current settings are remembered during the session whenever the tool is restarted, and if you save the model, then the settings are remembered with the model and are reused when the model is reopened and the tool is activated. Certain 'volatile' settings [like Scene names] will be reused *if* they are still available [e.g. you haven't deleted that Scene in the meantime], otherwise they will 'default' again.

The temporary cmd/command files and the 'anim' OBJ/MTL files are automatically deleted whenever the tool is closed; however, the main OBJ/MTL files are always retained as they are needed by the Project's OCS.

Version:

[full]
1022.
01 20100804 First issue.
02 20100805 Toolbar icon paths made more robust.

Known Issues:***

The non-transfer of any new materials' transparency on a re-linked render/_anim etc needs to be advised on further by RS. It seems preset in Octane and unrelated to the exporter's files themselves [obj/mtl] which do contain the new materials with all of their values correctly set. Clearly you don't want to overwrite any values of materials that were previously loaded, and which you might have subsequently changed in Octane itself: but on a re-link surely any *newly added* materials that Octane finds should be used with their initial setting taken from the mtl-file– and not 'defaulted' as seems to occur now?? RS need to comment…

Currently using the GPU settings can sometimes cause Octane to 'freeze' on startup if enabled AND any number is checked 0-3 at all, or you specify more GPUs than you have. Temporary Solution: try it, and if it hangs next time don't try to specify the GPU using these settings – perhaps some CUDA settings ? RS need to comment…

If you have an early version OS on your PC – e.g. XP - please upgrade your Internet-Explorer to at least v7 – v8 recommended – as earlier versions of IE can create java-script issues when run with Sketchup's API based web-dialogs… With the first 'full' release both PC and MAC versions should now work exactly the same.

Feedback welcome…

TIG