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INTRO/PRES

Mti is a scripted exporter for Maya, to Indigo RT and Indigo Renderer standalone applications.

You are kindly invited to contribute by your questions, requests, constructive critics and bug reports likewise in the Maya forum:
<http://www.indigorenderer.com/forum/viewforum.php?f=11>

CREDITS:

ndr: use former scripts headers and change them by the way (ie clean that mess).
Not sure how a MtI script header should look like.
GPL ?

BASIC MAYA ENTRIES

Polygonal geometries
All products of Maya resulting in polygons can be exported
nurbs are converted to polys.

Maya Software shading (networks)
Unsupported and third-party material nodes are converted to the indigoShader node type.

FEATURES

It features HyperShade nodes used for materials descriptions.
Other Maya nodes may have to be used specifically.
Maya procedural textures and utilities are supported (baked), most of them.

UPDATING INDIGO

MtI will be updated in order to work with the latest Indigo betas, and MtI version number will match with the Indigo beta. It is fair to try the most recent Indigo beta version with the latest MtI version.

INSTALLING MTI

- 0- Install latest Indigo stable
 - separate package available on the indigo "News and Announcements" Forum
<http://www.indigorenderer.com/forum/viewforum.php?f=1>
- 1- Extract the MtI archive content anywhere on disk.
- 2- Start Maya. If Maya was started already, make sure that the indigoPlugin is not used in the current scene.
- 3- Open the Script Editor (Window > General Editors > Script Editor)
- 4- Source the file "mti_Installation.mel" you just copied on disk (Script Editor > File > Source Script...)
- 5- At this stage MtI should be installed.
- 6- Restart Maya and seek for the Indigo shelf.
- 7- Upon request: browse to the Indigo application to locate it.

! Do not alter the zip files structure once copied on disk !
! for an automated install, it is mandatory to source "mti_Installation.mel" by browsing to it or Maya will not be able to locate the subsequent files !
! You must go through that procedure with each Maya version you intent to run MtI with
! If you experienced an error during installation, please report it !

Notes:

- advanced users can install all files manually to their discretion.
- You can delete the extracted files after successfull installation(s)

THE INDIGO SHELF:

THE INDIGO MENU:

Assign IGM to selected...

Will open a browsing window for you to point to an IGM file (unpacked Indigo material). It will be linked in Maya through a new material that will be applied to the selected geometries, or it will simply be added to the Maya scene if nothing was selected.

Make material XML:

Generate the XML material definition and expose it into the notes of the material node, for a manual edition of the content of the IGS scene definition from within Maya.

Note the presence of a commented tag starting the notes, wich is absolutely mandatory to proceed to the export of the notes into the IGS scene definition:

```
<!-- mti_UseCommentAsXML -->
```

Altering any character between, and including the "<" and "L" signs of that tag will prevent the notes insertion into the scene definition. The material will be exported as per it's current parameters instead.

The Indigo Editor would expose this content.

Purge selected meshes from disk

Given a selection of polygonal geometries, erase their OBJ+MTL counterpart from disk. This will mark the selected geometries as "new" and will force their rewriting when the option "only new" (geometries) is checked on (in the MtI Options window, "Exporter" tab).

Create Node:

The three Indigo utilities.

Add MtI Attributes to:

Pointless mass tagging.

Renderer Path:

Meant as the "paths" window, it is currently dumbed down to the Renderer Path Window.

Force initialization:

If your MtI blew a fuse.

Access advanced settings:

Selects the scriptNode holding all scene-specific extra-attributes relevant to Indigo. Even those unused sometimes.

Export:

And render, by default.

THE INDIGO EDITOR: Maya as seen by MtI

The indigo editor is the centric editing asset of MtI. It is also designed to provide support to the user under certain scenari, and generally to ease editing toward Indigo.

It has two basic modes of functioning: interactive and static (aka frozen). The mode by default is interactive, it can be changed to frozen from the [editor menu] described below.

When frozen two buttons are added to the editor window:

- redraw: redraws the current UI for the edited object. Might be used, for instance, after a texture was dropped into one of the editor slots.
- load: update the editor UI to the current selection.

A third mode for the Indigo Editor is the error report mode:

In error report mode, the editor is automatically frozen. A message is displayed with one or more buttons beneath, depending on the available options. Clicking a button restores the editor to it's previous dynamic state, wether frozen or interactive.

Editor menus:

- Window

- Freeze

Indigo Editor: Puts the Indigo Editor into a static (frozen) state.

Attribute Editor: Freezing the AE is equivalent to unchecking it's

"Auto Load Selected Attributes" option.

- Presets:

The common Maya presets system. Specifically recommended in use with Indigo nodes (indigoSpectrum, indigoMedium, indigoText. See the [SHADING NODES] section.) This menu will not show if the editor target is inadequate (a transform, notably).

- Export

Name and nav bars:

Right below the Indigo Editor menu are two text lines. The top one is displaying the name of the current Editor target. The one below is listing the nodes connected.

It is important to know that each of these bars has its own marking menu. They provide a mean to quickly navigate between meshes, shaders and parameters. Hold the right mouse button in order to pop the marking menus up.

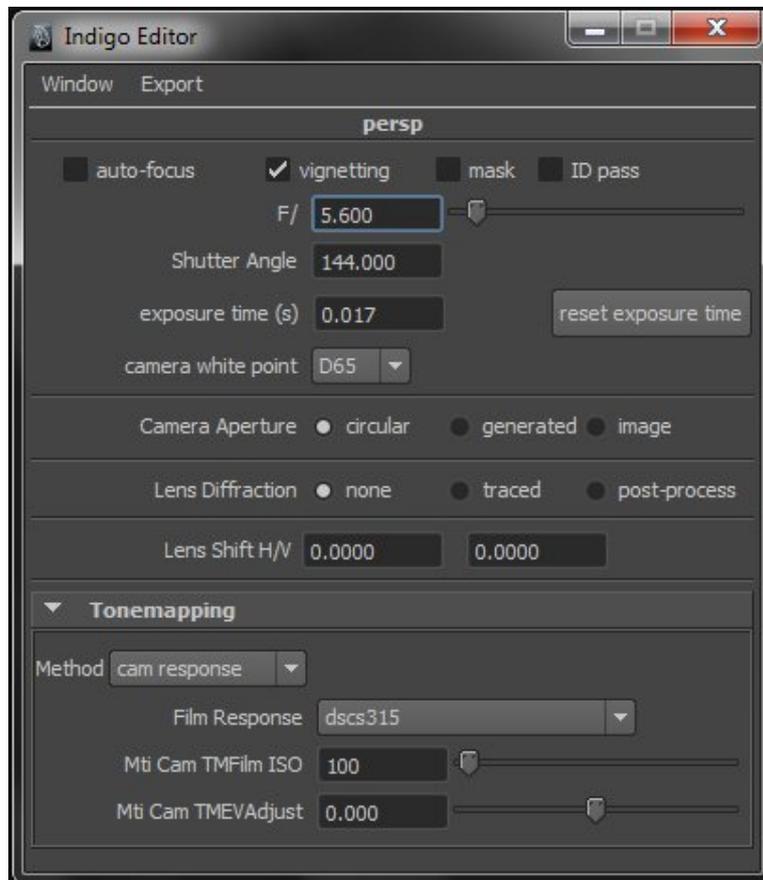
CAMERA:

The following Maya attributes will affect the Indigo camera:

Angle of View

Focal Length

Film Gate (Presets, custom Horizontal Camera Aperture)



auto-focus: When on, the focus is set onto the first surface met at the center of the image (default). When off, the center of interest of the camera is used.

vignetting:

mask:

ID pass: huh this. IIRC you should use a bidirectional tracing method, not PT. Or, the other way around :)

F/#: f-stop. Determines the iris aperture for perspective cameras.

ENVIRONMENTS

SHADING NODES

The nodes below are supported by MtI, and give access to the related Indigo features:

lambert:

diffuse:

Your lambertian shader.

Oren-Nayar:

a variant of the diffuse material with a parametric smoothness.

diffuse transmitter (aka fastSSS):

Ideal lambertian transmitter material. Light is scattered forward only (through).

Meant to be added to another material type for back-scattering by 'blending', in which case both blended materials should share the same albedo (grants the additional material with translucence, see the layeredShader section. NB: blend nodes do not relate with blending materials for Indigo).

Works best on single sheets (lampshades, curtains).

Supports a medium definition

optional, however when used the mesh must be confined into a closed volume. See the indigoMedium section.

phong:

Phong

Himself.

metallic

with specular color in place of IOR

nkData

captured metals and alloys data.

Be aware that all data files shipping are not metals, and those which are not are also not supported by Indigo. Licensing required data integrity I assume.

indigoShader*:

all of the above, plus the null material which is also covered by the layeredShader below, and:

Specular

Glossy transparent

layeredShader:

The blend material in Indigo.

Compositing flag: "layered Shaders" exclusively.

Connecting no material means 'null' material.

Connecting one single material grants it transparency. It must still be the layeredShader applied though.

You can not chain layeredShaders, all dependent materials must be stacked into the final and one layered shader applied to the surface. Bottom of the stack on your right (need image).

indigoSpectrum*:

accepted by a wide range of materials attributes (aka shading parameters), and for many purposes:

albedo, medium absorption, sss, phase function, light emission, blend parameter... the Indigo basic parameters.

Note that the blackbody gain is ignored in most situations, unless if the material is used as background or with the default emission scale (W/m²).

indigoMedium*:

indigoText*:

* plugin nodes

ANIMATION:

see Settings window

OUTPUTS (the typical Indigo scene)

You have currently little options to customize output paths upfront, some more can be accessed in the Attribute Editor by selecting the advanced options item from the MtI menu. Not all will be used though (wip).The outputs produced are currently relative to the Maya project directory.

Typically, an Indigo scene is composed of the following elements:

[scene name].igs:

the Indigo scene description, XML-based. Including essentially the environment(s), camera, materials descriptions and (external - OBJ) meshes referencing and transformations.

objs/[current frame number]:

the OBJ files. Whatever the scene and by default, one subfolder per frame and per project. This path can however be edited on a scene basis, either relatively to the project or as an absolute path.

Additionally, baked procedural textures will be placed in the location specified by the 'sourceImages' file rule of the current project (absolute or relative). If no path is set, the project directory will be used.

KNOWN LIMITATIONS:

- fluidTextures are not supported
- shading switches are currently ignored.
- plugin nodes produce no color output in viewports, or nearly.

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