Interactive Rendering in Maya

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Starting IPR

Interactive Preview Rendering can be started by clicking the IPR button in the RenderMan shelf.

The usual methods in Maya for starting IPR also work. The only difference is that the button in the RenderMan shelf always switches to RenderMan before starting a render.

The IPR button offers a menu with some convenient options for starting up with a particular camera or resolution.

- Stop - Ends the interactive session
- Flush Texture Cache - If you've altered textures and want to see the changes, flush the cache to update them in the session
- Camera - Specify the camera to render from (if not from the last active viewport)
- Resolution - Specify the resolution (test percentages, etc.)

Stopping IPR

When IPR is running, it can be stopped from the popup menu of the shelf button.

There is also a cancel button in "It" that works to stop IPR.

Viewport Rendering

Performance consideration: The viewport rendering renders to the resolution of the window in your monitor. Example, a 4k capable monitor at native resolution will trigger a render with matching resolution even if your render settings say to render at a lower setting. If you're not accustomed to rendering your screens resolution setting, this can be...surprising.

The Viewport has a button in the top left corner for starting/stopping IPR, creating a crop window, quickly changing to the PxrVizualizer Integrator, restarting (for changes that do not trigger an update), or taking a snapshot.
The crop window tool can be sized/re-sized by drawing on the window or selecting the corners. Mouse dragging from the center moves the window and clicking outside the window negates it by setting it to the viewport size.

The **PxrVisualizer** Integrator is great for quickly navigating scenes, once deselected it returns to the previously chosen integrator.
IPR Threads

In the threads section of the RenderMan Preferences, the Rendering Threads setting is used for both Preview and IPR renders. The default value of -2 means that all but two CPUs will be used for rendering. It's advised to leave at least one thread to allow for interactivity in Maya while rendering is underway. Zero threads means all processors will be used for rendering. You can also choose a specific number.

IPR Display

In the RenderMan section of Maya's Preferences Window, you can choose whether IPR should use Image Tool (It) or Maya's Render View.

Select Object or Material from Render

When running IPR in "It", objects or their materials can easily be selected from the render. Click on one of these icons in "It" to activate object or material picking. Then click in the render. The corresponding object or material will become selected in Maya.

Hidden Objects

When rendering to IPR, templated nodes are pruned from export but hidden objects are not (in case you wish to unhide them interactively). During a batch render, both hidden and templated nodes are pruned from export.
The preference called "Prune Invisible Nodes" which applies during IPR can be found in the RenderMan Preferences. By default, during IPR invisible nodes are not pruned, to allow for easily changing visibility interactively. You can find this in Preferences > RenderMan > IPR

**Crop Rendering in It**

To crop render in "It" during IPR, click on the crop button.

Draw a crop region in the "It" window. Then hit the 'r' key to trigger an IPR update. After hitting the 'r' key, pixels will only update inside the crop window.

**Remove or Resize Crop Window**

Click inside the crop window in "It" to make it editable. An 'x' appears in the upper right corner of the crop window when it is editable. Drag on any of the edges to resize. Or click on the 'x' in the upper right corner to remove the crop window. Click outside the crop window to make it non-editable again.

If you resize or remove the crop window, hit the 'r' key again to signal that IPR should start using the region.
Crop Rendering in Render View

To crop render in Render View, simply click and drag in the image to draw a crop region. IPR will immediately update with the new region. To draw a new region, click and drag again. The crop region can be removed by just clicking once in the image.

Rendering Selected Objects

To prevent objects from being exported, you may select the objects and place them into a Maya Display Layer. Then switch this layer to Template. The objects that are members will not be exported. Otherwise, objects are exported regardless of visibility so that during IPR rendering you can quickly make objects visible/invisible without having to re-export or restart the render.

You may also render selected objects by choosing the option from the Maya Render View, Windows > Rendering Editors > Render View > Render > Render Selected Objects Only, or by toggling a mel shelf button using this mel command: switchSelectObj;

Alternatively you can specify on and off buttons using: optionVar -iv "renderViewRenderSelectedObj" 0; Where 0 is off and 1 is on.