Revit Rendering: Local and in the cloud
Presenting Today:

Scott Burke  Team Manager, IMAGINIT Technologies

Recovering Architect

Associates in Engineering (Structural and MEP), Bachelors of Architecture

8 Years direct industry experience

11 Years working with BIM Technologies

22 years working with Architectural, Engineering and Construction companies
Introductions:

IMAGINiT Technologies

Largest staff of technical experts in the industry

42 locations, 350+ people across North America

Building
Civil Engineering
Architecture
Geospatial
Manufacturing
Media & Entertainment

A RAND Worldwide Company, leveraging proven methodologies
Revit Rendering: Overall General Tips

General Tips:

Design Visualization in Revit:

• Model must be a complete render properly

• Light sources will only render properly if model is a closed space that has:
  o Floors
  o Walls
  o Windows
  o Doors
  o Roofs

• Materials and textures should be applied to all objects

• You can render any 3D views of the building model.
Revit Rendering: Overall General Tips

General Tips:

Section Box and Rendering Times:

• In complex views, you can reduce the rendering times by enabling the section box in the view. Only objects that fall within the section box will be rendered, including daylight portals or artificial lights.

Daylight Portals:

• Daylight Portals only work for interior views set to "Sun only", or "Interior: Sun + Artificial". When checked active under the "Render Quality Settings" dialog they will improve the quality of light that shines through glazing objects.
General Tips:

Light Fixture not Illuminating Scene:

- Edit the family and check for geometry blocking the light source definition
  - Check any ceiling or object geometry potentially blocking the light source definition in the project
  - Verify “Lighting”, “Scheme”, contains “Artificial”
  - Verify “Lighting”, “Artificial Lights” are not un-checked or set to 0 for “Dimming

Populate the image with real life objects:

- Things like furniture, plants, a grassy site, a car and the occasional person will go very far to make the rendering more life like
Revit Rendering: Overall General Tips

General Tips:

Run draft renderings before your final rendering:

- Select the draft resolution and spend a minute making sure things are coming out right before you commit to the long render.
- You can also render a small region of the image first to make sure materials look right before the full render as well.

Select the right resolution for the job:

- Generally the difference between medium and high is nearly imperceptible, but the difference in time is significant
- Unless you're doing large format presentation boards that will be looked at very closely, you can get reasonable quality for e-mailed .jpgs in a fraction of the time.
There are basically three routes to use:

**Mental Ray Render:**
Best Quality, 10 Minutes rendering time

**Ray Trace Visual Style:**
10 Minutes rendering time

**Cloud Render:**
Best Quality, 1 minute rendering time
*(option of Concurrent rendering)*
**Revit Rendering: Mental Ray Render**

**Rendering in Revit: Mental Ray**

**PRO:** High Quality Renders

**CON:** Takes a long time to render

Mental ray allows you to define render settings in the Rendering dialog such as:

- Quality Level
- Exposure settings
- setting the background to Sky or Image
Rendering in Revit: Ray Tracing

**PRO:** Interactive

**CON:** Less control over render settings

The Ray Trace Visual Style is an interactive rendering environment.

- Any 3D view in Revit can be assigned the Ray Trace style.
- Ray tracing simulates the path that light rays take as they bounce around and off surfaces, just as light does in the real world.
- These settings are similar to the settings in the Revit Rendering dialog, but no advanced options available.
**Autodesk 360: Cloud Rendering**

**PRO:** Fast! Can do Multi-Views at same time!

**CON:** Less control over render settings

Revit is that it can take an extremely long time to render and the PC performing the render cannot be used for other production work.

- Rendering information from the model is sent to the Autodesk 360 Cloud service directly from Revit Model
- Rendering is performed in the Cloud and does not use the resources of your local computer.
- This functionality is one of the services that are provided to customers that have an Autodesk Subscription.
- On average, a rendered image that takes Revit an hour to render will typically take less than 5 minutes on the Cloud.
Once your Revit model is ready to render, simply go to View > Render in Cloud to access Cloud rendering in Revit 2013 and 2014.

Enter your Autodesk Account ID and Password.

Then, you set the rendering settings that you require. These settings are very similar to the settings in the Revit Rendering dialog.

*One thing to keep in mind is that the rendered images from the Cloud do not use mental ray as the rendering engine, so a Cloud rendered image will look slightly different than the same scene rendered locally in Revit itself.

When the render is complete, you will be notified in Revit and you will be sent an email.
Revit Rendering: Autodesk 360 Cloud Rendering

**Autodesk 360:** Cloud Credits

**What are cloud credits?**
Cloud credits are the unit of measurement required to perform certain tasks, such as creating a rendering or running a simulation, in Autodesk ® 360.

<table>
<thead>
<tr>
<th>Image Size</th>
<th>Cloud Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 x 377 px</td>
<td>FREE</td>
</tr>
<tr>
<td>1000 x 754 px</td>
<td>FREE</td>
</tr>
<tr>
<td>1500 x 1131 px</td>
<td>1</td>
</tr>
<tr>
<td>3000 x 2263</td>
<td>4</td>
</tr>
<tr>
<td>4000 x 3018 px</td>
<td>6</td>
</tr>
</tbody>
</table>
Thank you for spending this time with us!

Contact Information:

Scott Burke | Building Solutions Team Manager
IMAGINiT Technologies

email: sburke@rand.com