Comparing Global Illumination (GI) Renderers (using Blender)

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GI Renderers

- Radiance (http://radsite.lbl.gov/radiance/)
- Arnold (http://www.solidangle.com/)
- Cycles Render Engine
- Others: Maxwell, Indigo, Luxrender, V-Ray, mental ray, Octane Render, iray, Mantra, Povray, Yafaray, ...

http://www.janwalter.com/RadianceVsYouNamelt/radiance_vs_younameit.html
https://bitbucket.org/wahn/radiance_vs_younameit/wiki/Home
https://bitbucket.org/wahn/blender-add-ons/wiki/Home
Radiance
Why Radiance?

- Analysis and visualization of lighting in design.
- Results may be displayed as color images, numerical values and contour plots.
- Used by architects and engineers to predict illumination, visual quality and appearance of innovative design spaces, and by researchers to evaluate new lighting and daylighting technologies.
Simple Room
Arnold
Cafe Scene

- Blender Python Console:
- `bpy.ops.export_scene.ass(filepath = "/.../untitled.ass", opt_use_global_illum = True, ...)
- Use Anti-Aliasing settings for higher sampling
Emission vs. Point Lights

- **Naming convention** to export primitives (e.g. spheres, disks, cones, ...)
- **Customs properties** to change export behavior
**Longer render time with otherwise same settings**

- **BUT**
  - Less noise
  - Camera exposure had to be adjusted:
    - kick-e-3 ... scene1_arnold_point_lights.ass
Cycles Render Engine

Bedroom by Rui Teixeira on Blend Swap
Gallery Scene (Cycles)
Future Plans - Ideas

- **Unified exporter** (for several renderers)
- **Forum** to discuss different GI renderers
- More (public) test scenes
- Radiance exporter (not just an importer)?
- Arnold importer? E.g. Blender → Maya
- Shading languages? OSL?
- **Cooperation** with you guys ...
Links

• The Mill
  • http://themill.com
  • http://www.facebook.com/MillChannel
• Jan Walter
  • http://www.janwalter.com ...
  • .../RadianceVsYouNameIt/radiance_vs_younameit.html
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