RenderMan 22

Kevin Barwick

Terminology

Maya rollout = Renderman Lobe

- Lobes consist of:
  - input material
  - Diffuse
  - Primary specular
  - Rough Specular
  - Clear coat
  - Specular Clearcoat Globals
  - Iridescence
  - Fuzz
  - Single Scatter
  - Subsurface scatter
  - Glow (not efficient for your workflow)
  - Glass

Material Lobes

Diffuse Lobe

Gain is the Visibility of your Diffuse color. No gain means the material absorbs all light and is therefore black.

Color is where your diffuse texture, or assigned color is located. Simply clicking on the checkbox next to color allows you to plug in an external texture. When using an external texture you want to use a PxrTexture node to house your Texture file. This helps with color management corrections and allows renderman to efficiently read your file. Check the “linearize” option in your PxrTexture node when your file’s color is washed out in renders.

When uploading a texture make sure you save it out as a TEX file. This is rendermans texture filetype

Roughness acts as transition between a powdery surface and a regular smoother surface. (I don’t notice the “powdery” claim but there is a noticable difference between the shadows and your diffuse color.)

Primary & Rough Specularity

Specularity within Maya Native Materials have a straightforward way of manipulation. Your specular color is where you'd plug in your specular maps. Your specular rolloff is the radius of the specularity, and your eccentricity is the how reflective your surface is.

RenderMan combines and rearranges a few of these attributes. Two of your main Specular Lobes, Primary and Rough, will act as the substitute for Maya Native Material Specular shading network.

Primary specular acts as your go to plugin for your specular maps. Both Face color and Edge color have respective checker boxes that allow for independent specular maps. Eccentricity is now called roughness. You'll notice all forms of specularity (Primary, Rough, Clear coat, Glass) all have a roughness control. Specular Roll Off is now combined into the value of your specular map. What this means is the you'll have to alter the value of your specular map to match the intensity of your desired material. Fret not though because that's where a PxrRemap comes into play.

The main difference between primary and rough is the initial roughness level. This meter can be manipulated so both become fairly interchangeable.

Clear Coat

Clear coat simulates a transparent lacquer coat over your diffuse texture. It is a specific form of specularity for selective uses. Common uses include, polished lacquered wood, car paint, sclera, etc. During Serpendipity we used this as a cheat. Clear coat is a poor man's glass. Glass is costly, when rendering, and can sometimes be substituted for clear coat for faster render times.

Fuzz

Great for imitating the fuzz, powder, and fabric on the 90-degree faces.

Use sparingly with diffuse and specular to imitate clothes.

Single Scatter & Subsurface

utilized for translucent materials. Skin, food, marble

Glass

imitates glass

Linear Workflow

COMING SOON

Material Lobes

https://rmanwiki.pixar.com/display/REN/PxrSurface

all types of Texture maps.

https://www.yankomotion.com/textures

ID color baking

https://www.youtube.com/watch?v=sh2l2jPJKac

tmake for mipmapping

https://rmanwiki.pixar.com/display/REN/txmake#txmake-Mipmapping

Lights

https://community.renderman.pixar.com/article/99/library-of-ies-lights.html?l=r

Renderman 20 notes

https://renderman.pixar.com/resources/RenderMan_20/home.html