Learn How Adobe After Effects CS6 Takes Advantage of NVIDIA Optix Technology for 3D Ray Tracing

Colin Smith | Sr. Solutions Consultant

After Effects CS6 - the vision

- As a motion graphics artist, I need the ability to create and animate 3D text and shapes without leaving After Effects
- Text extrusion with bevels
- Shape extrusion with bevels
- Use existing Illustrator art
- Compatible with After Effects lights and cameras
- On-canvas model manipulation
- High quality antialiasing
- High quality motion blur
- Depth of field
- 3D Material options
  - Reflections, Refraction, Metal, Transparency, etc.

Shopping for a Ray Tracing Engine

- Adobe Photoshop 3D Engine
  - No motion blur
- NVIDIA Optix
  - CUDA optimized Ray-tracing framework
  - CPU fallback

21/2 D goes 3D

- On May 2012, Adobe released After Effects CS6
- “Advanced 3D” is now called “Classic 3D”
- New 3D is called “Ray-traced 3D”
  - Extruded and beveled text and shapes
  - Reflections
  - Refraction
  - Environment layers
  - Curved footage layers
- Not Rendered:
  - Blending Modes, Track Mattes, Layer Styles
  - Masks/Effects on continuously rasterized layers
  - Masks/Effects on 3D precomp

Performance

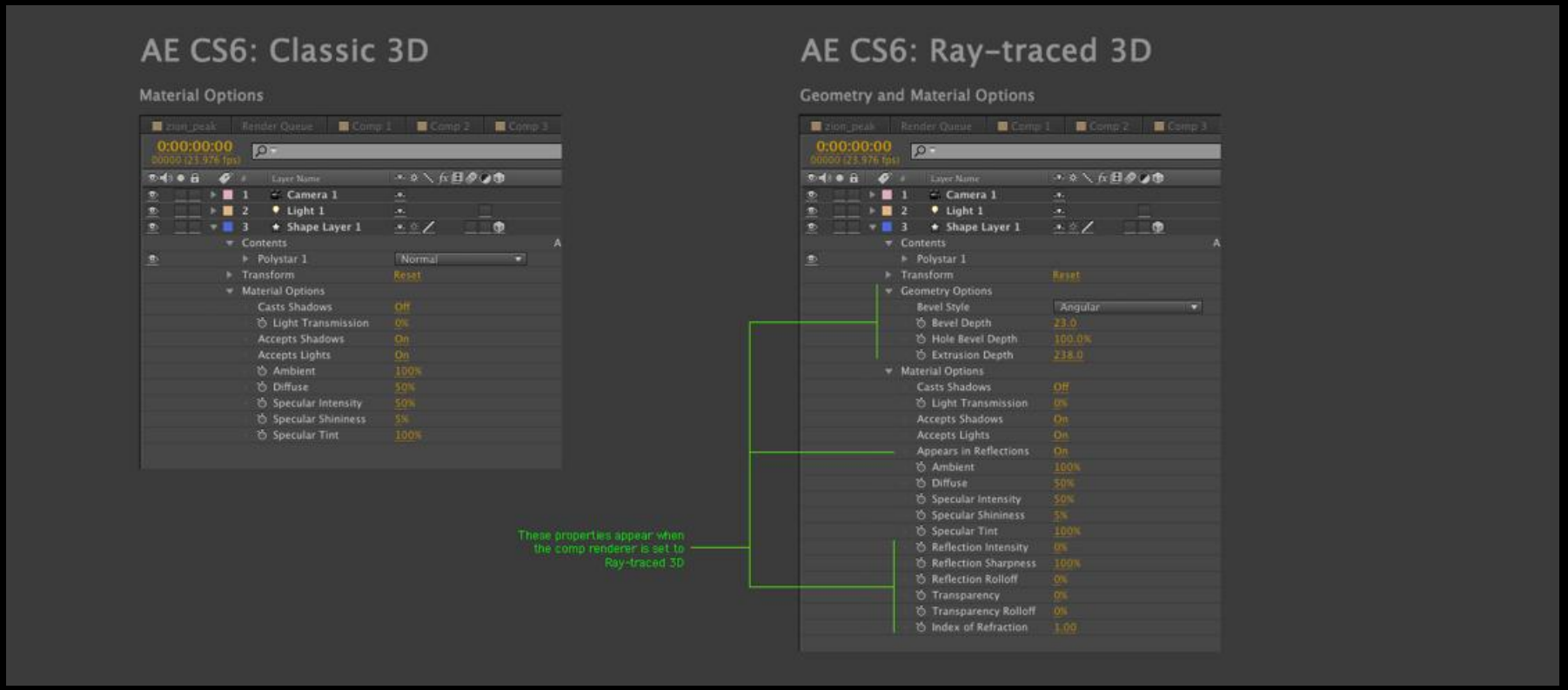
- NVIDIA GPU required for Optix
- CPU fallback
- Fast Draft - OpenGL
  - Graphics processing, not computational processing
  - No Ray-tracing features
- Adaptive Resolution
  - Drops resolution for interactivity (pixelated)
  - Release the mouse for full render

What didn’t make it?

- Texture maps, UVs
- Image projections
- Revolves
- Spheres
- Lofts
- And the big one...
  - No import of models!

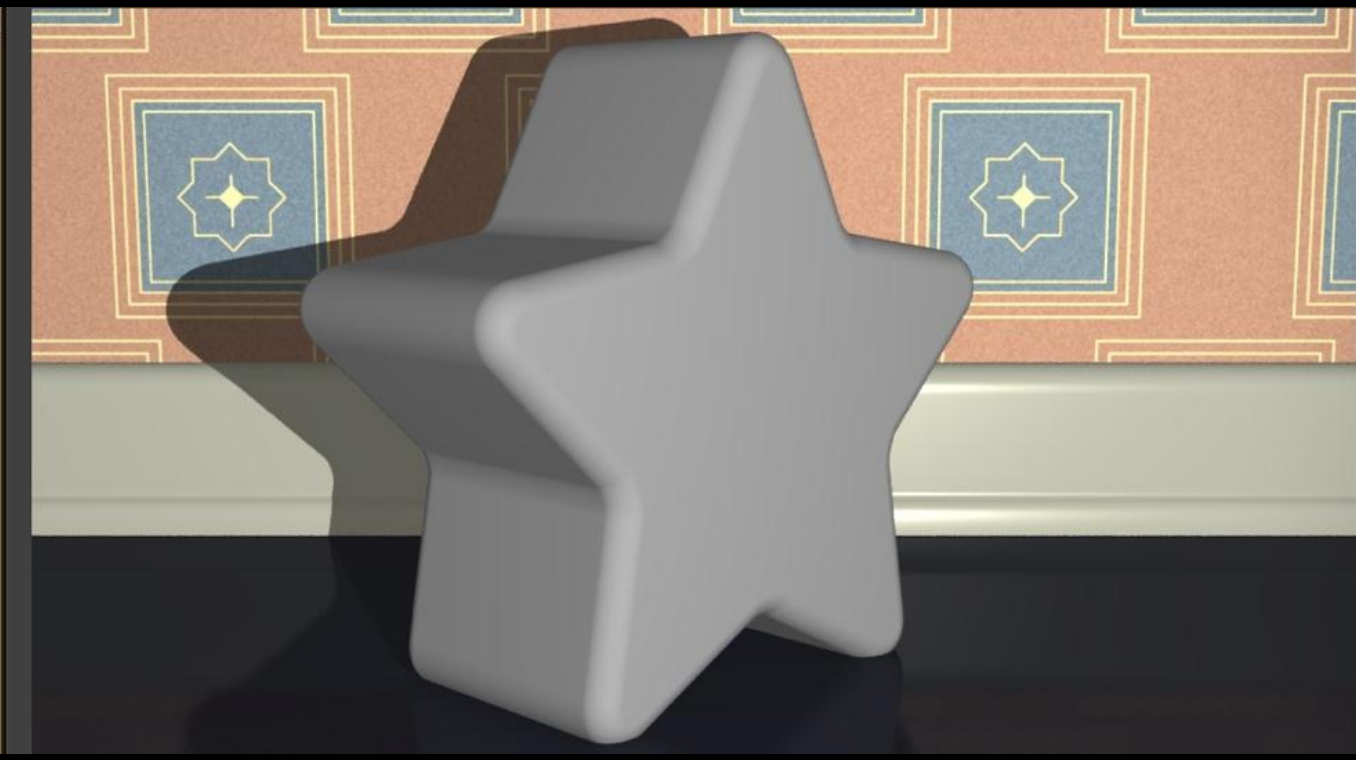
Where are the controls?

UI only shows up with Ray-tracing on



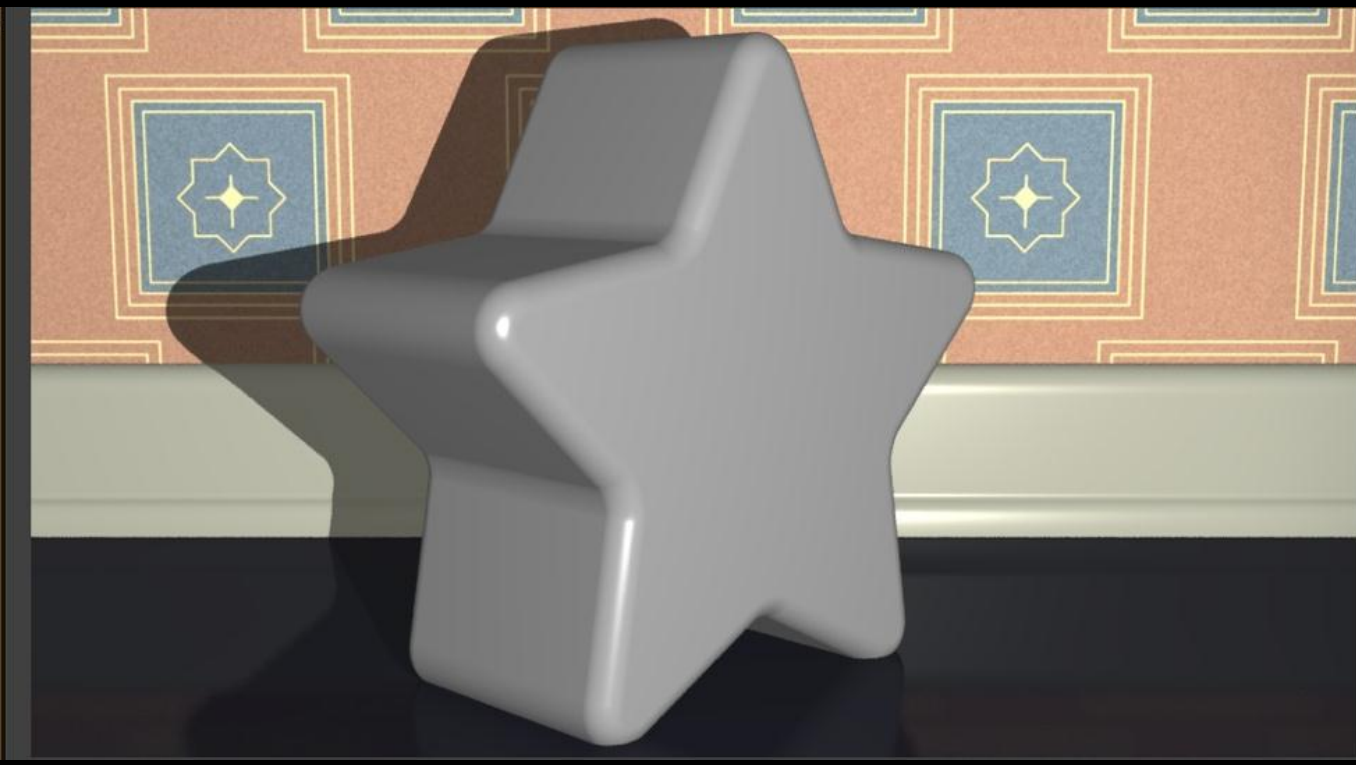
Rendered Examples

Flat



Rendered Examples

No reflection/refraction

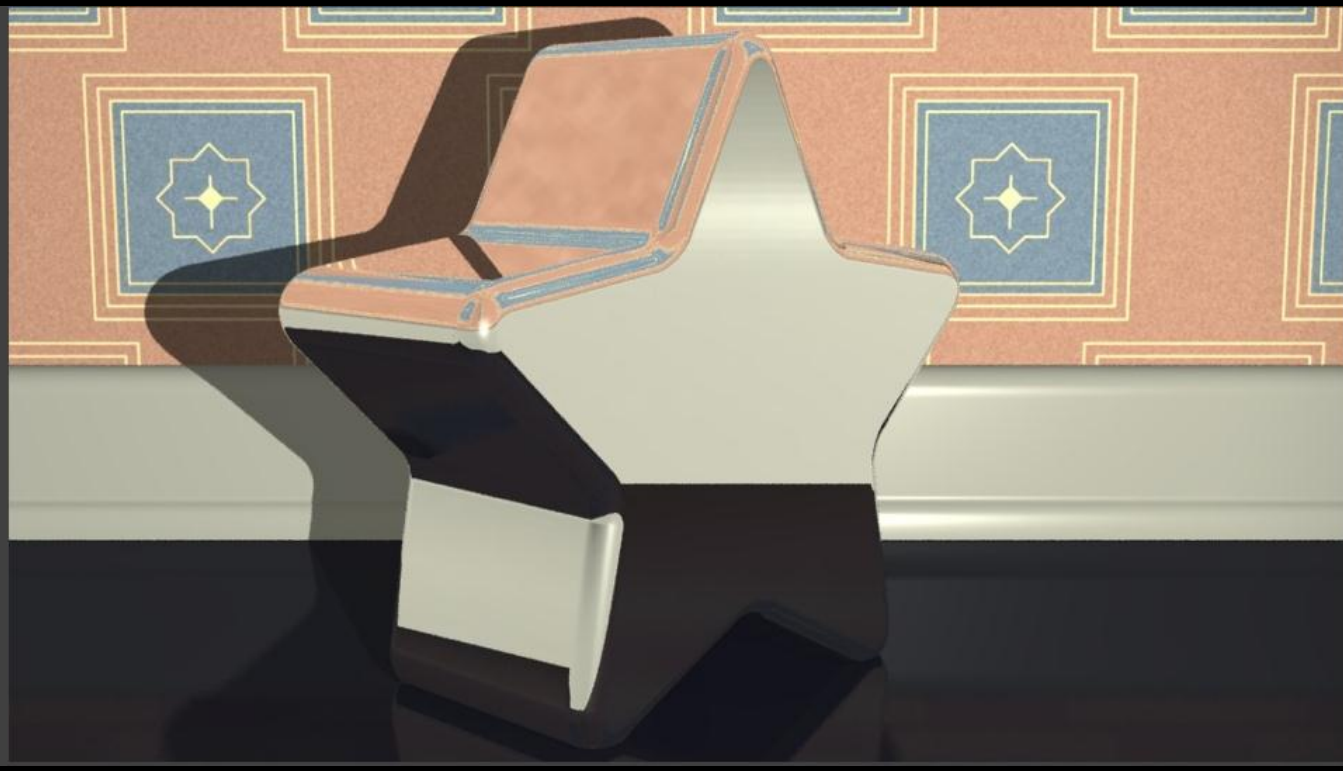


Rendered Examples

Specular intensity + Reflection

Rendered Examples

Specular intensity + Reflection + Refraction



Rendered Examples

Transparency with Index of Refraction of 1.00

Rendered Examples

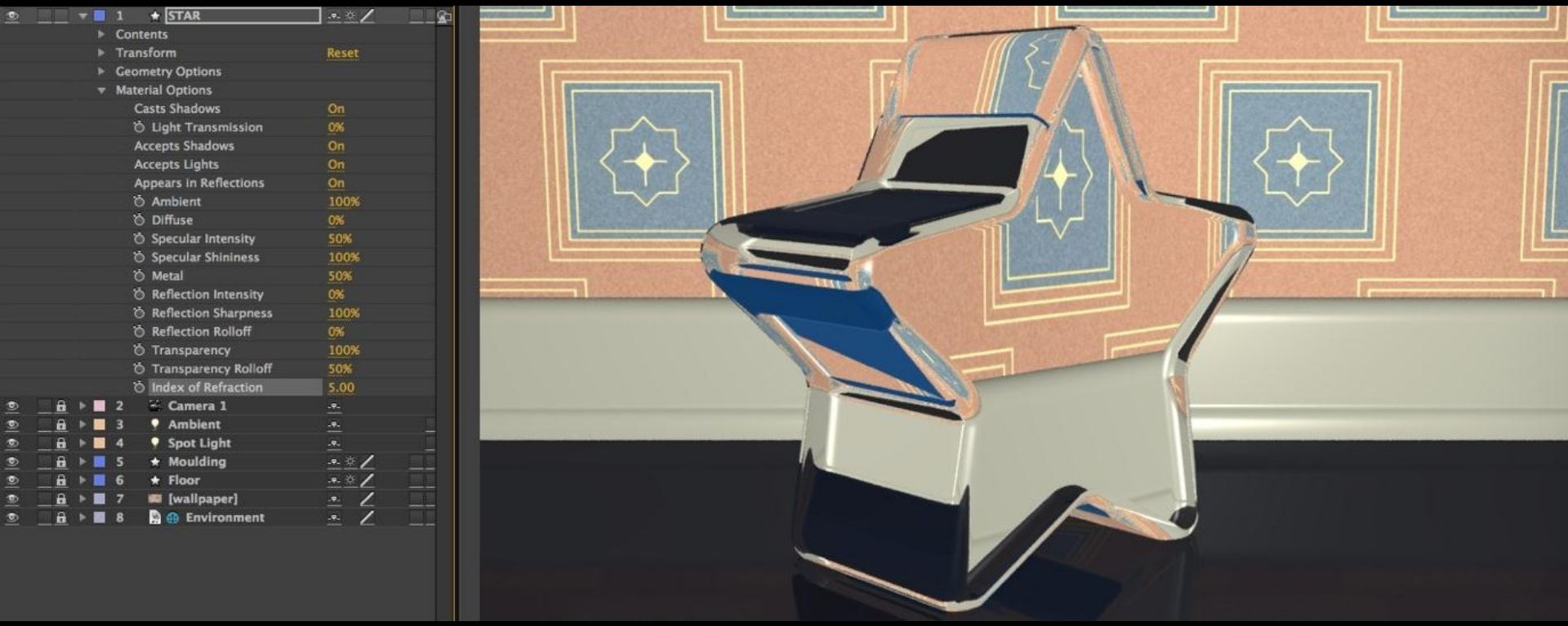
Transparency with Index of Refraction of 2.00

Rendered Examples

Transparency with Index of Refraction of 3.00

Rendered Examples

Transparency with Index of Refraction of 5.00




Adobe