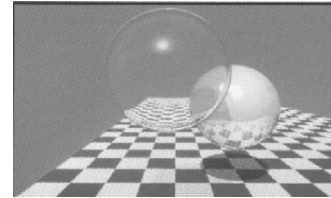


So You Want to Write a Ray Tracer

Checkpoint 4 – Procedural Shading

Ray Tracing Assignment

- Goal is to reproduce the following



Whitted, 1980

Ray Tracing Assignment

- Seven checkpoints
 1. Setting the Scene
 2. Camera Modeling
 3. Basic Shading
 4. Procedural Shading
 5. Recursive Ray Tracing – Reflection
 6. Recursive Ray Tracing – Transmission
 7. Tone Reproduction

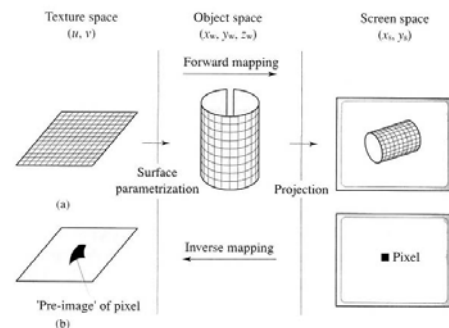
Ray Tracing Assignment

- Seven checkpoints
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Procedural Shading

- Use procedural texture to create a checkerboard floor
 - On floor intersection
 - Rather than using Phong model
 - Compute color based on checkerboard

Texture Mapping

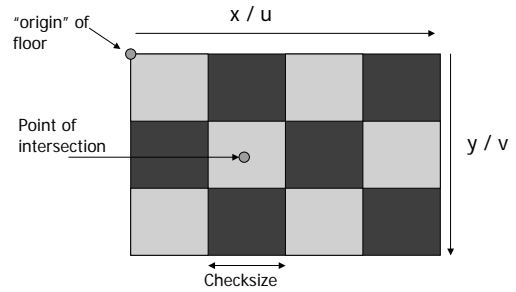


Watt

Texture Mapping

- At intersection point of floor
 - Must obtain the “texture coordinates” to map to u,v on texture.
 - Use these u,v , values as a means to determine color.

Procedural Shading



Procedural Shading

- Algorithm
 - Given text coordinates (u,v) for point of intersection
 - Find row and col in which intersection point lies

Row	Col	color
Even	Even	Red
Even	Odd	Yellow
Odd	Even	Yellow
Odd	Odd	Red

Procedural Shading

- Due date:
 - Must be posted to Web site by Midnight October 18th
 - Note: that is Monday NOT Wednesday .
 - Recall:
 - 10% penalty per day
 - Having trouble?
 - Let me know EARLY.
- Questions?