



CS451

Global Illumination

Methods

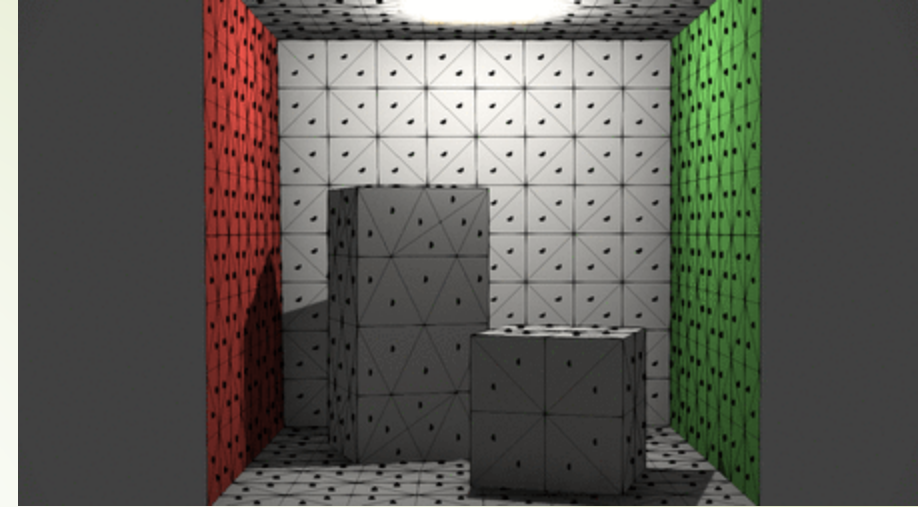
Jyh-Ming Lien

Department of Computer Science

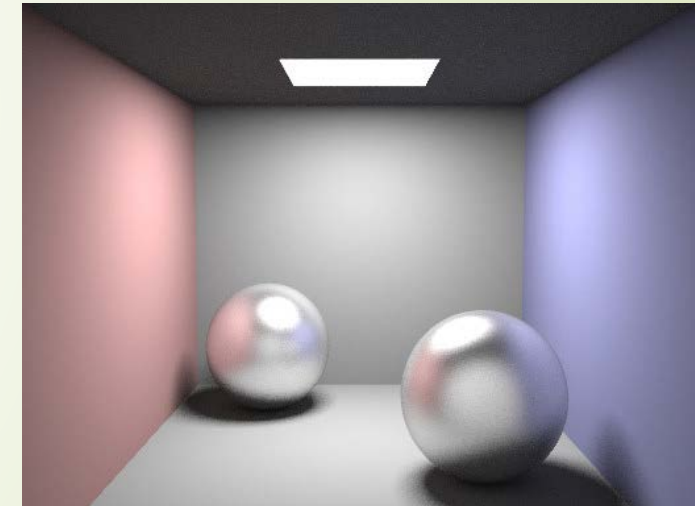
George Mason University

Global Methods

- ▶ Consider indirect lighting
- ▶ Radiosity
 - ▶ Originated from ideas of heat transfer
 - ▶ All energy in the system is preserved
 - ▶ Usually implemented with surface subdivision
- ▶ Monte Carlo path tracing
 - ▶ Use Monte Carlo method to integrate energy function
 - ▶ Many rays are required
- ▶ Photon mapping
 - ▶ Rays come out from light sources
 - ▶ Rays collected on images
 - ▶ Faster than path tracing
- ▶ ...



Radiosity



Path tracing



More on Energy of Light

➤ On the board.