Lighting, part 2

CSE167: Computer Graphics

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Triangle Rendering

- The main stages in the *traditional graphics pipeline* are:
  - Transform
  - Lighting
  - Clipping / Culling
  - Scan Conversion
  - Pixel Rendering

Lighting

- Lighting is an area of the graphics pipeline that has seen no limits to its complexity and continues to promote active research
- Many advanced lighting techniques *very* complex and require massive computational and memory resources
- New algorithms continue to be developed to optimize various pieces within these different areas
- The complexity of lighting within the context of photoreal rendering completely dwarfs the other areas of the graphics pipeline to the point where it can almost be said that rendering is 99% lighting
- The requirements of photoreal lighting have caused radical modifications to the rendering process to that point that modern high quality rendering has very little resemblance to the processes that we've studies so far
- For one thing, so far, we've talked about rendering triangle-by-triangle, whereas photoreal rendering is generally done pixel-by-pixel, but we will look at these techniques in more detail in a later lecture