

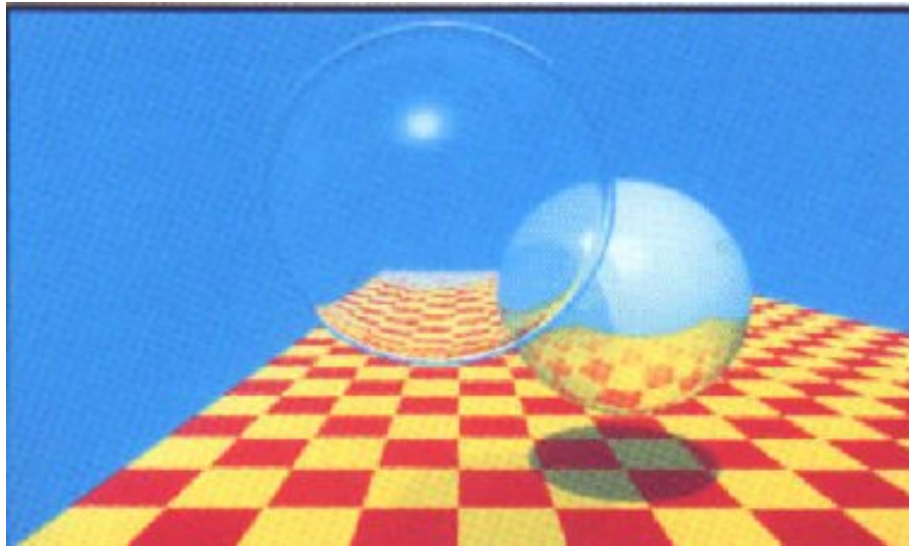
---

# GI Framework

## BASIC 1 – Setting the Scene

# Ray Tracing Assignment

- Goal is to reproduce the following



Whitted, 1980

---

# Ray Tracing Assignment

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

---

# Ray Tracing Assignment

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

---

# Setting the Scene

- This scene has 3 objects:
    - 2 spheres
    - 1 floor
  - In addition,
    - 1 point light source
  - Finally,
    - Rendered from a given viewpoint.
-

# Setting the Scene

- Checkpoint #1:
  - Reproduce the geometry of the scene
  - Use the API / Renderer of your choice
  - Goal:
    - Obtain locations / orientations / attributes of objects in scene
    - Obtain position / parameters of light source
    - Obtain position / parameters of camera
      - PLEASE DO NOT PLACE CAMERA AT THE ORIGIN

---

# Setting the Scene

- Deliverables:
    - Rendering / screenshot of rendering
    - Scene parameters
      - Spheres: size, location
      - Floor: size, location
      - Light Source: location
      - Camera: Position / lookat
-

# Setting the Scene

## ■ Helpful hints:

- Do not worry too much about object “shading”
  - Make spheres and floor a solid color.
  - Ignore reflection / transparency of objects.
  - No need to implement checkerboard on floor...yet.
- Goal is to obtain positions / parameter previously listed.
  - Save these
  - You'll need them for the remainder of the checkpoints.



---

# Setting the scene

- No bonuses for 1st checkpoint

---

# Setting the Scene

- Submission process:
    - E-mail me URL of Web site
    - On Web site include:
      - Team members (if in a team)
      - Rendering / screen shot of rendering
      - Discovered scene values
-

---

# Setting the Scene

- Due date:
    - Email should be sent by Friday, Jan 24<sup>th</sup> @ 11:59pm
  
  - Recall:
    - NO LATE SUBMISSIONS.
  - Having trouble?
    - Let me know EARLY.
  
  - Questions?
-