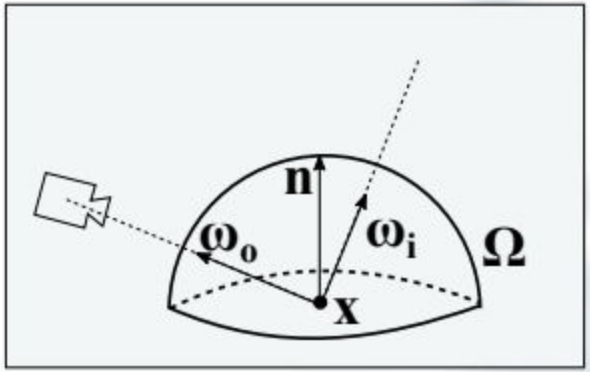
INFORMÁTICA GRÁFICA

Path tracer + Photon mapping

Jaime Bielsa, 819033

Carlos Mayo, 799083

PATH TRACER

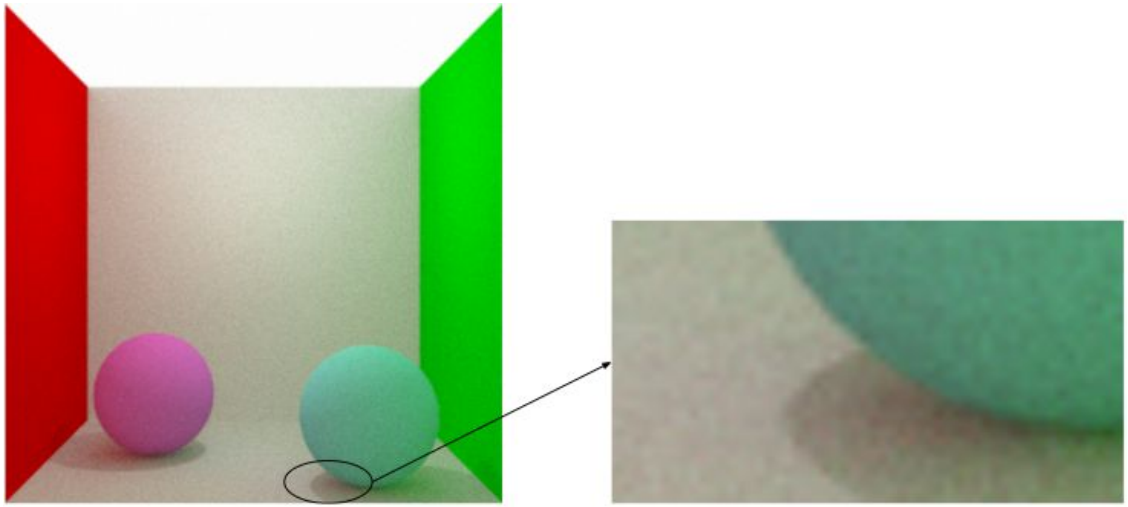


$$L_o(\mathbf{x}, \omega_o) = L_e(\mathbf{x}, \omega_o) + \int_\Omega L_i(\mathbf{x}, \omega_i) f_r(\mathbf{x}, \omega_i, \omega_o) |\mathbf{n} \cdot \omega_i| d\omega_i$$

PATH TRACER

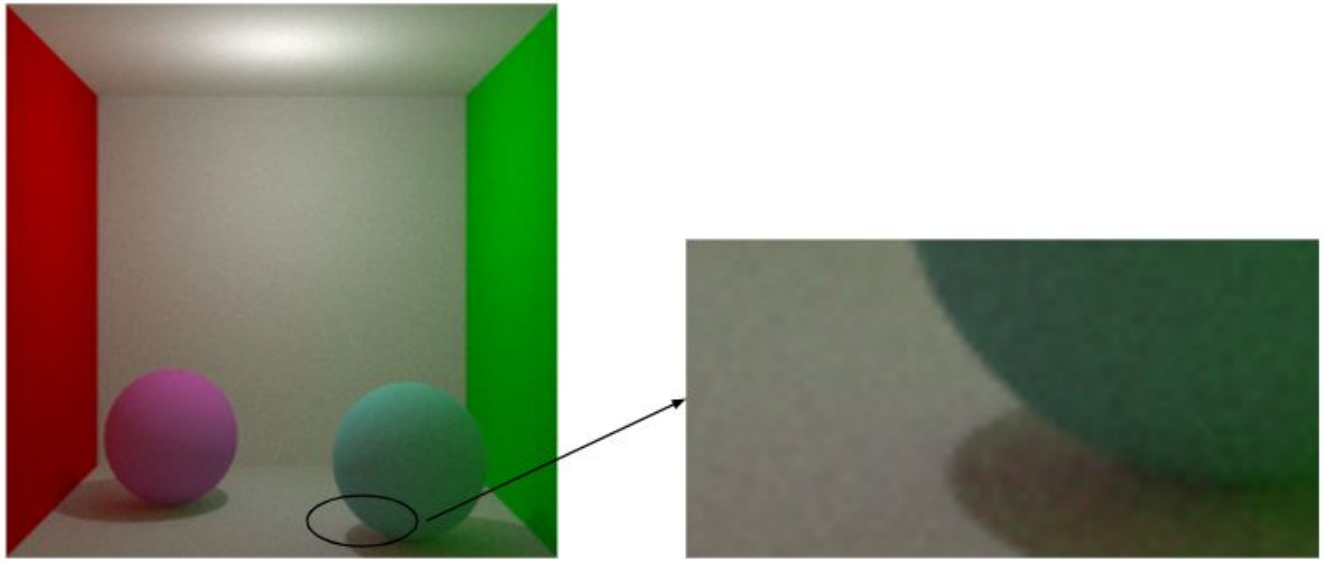
Efectos de iluminación

- Sombras suaves



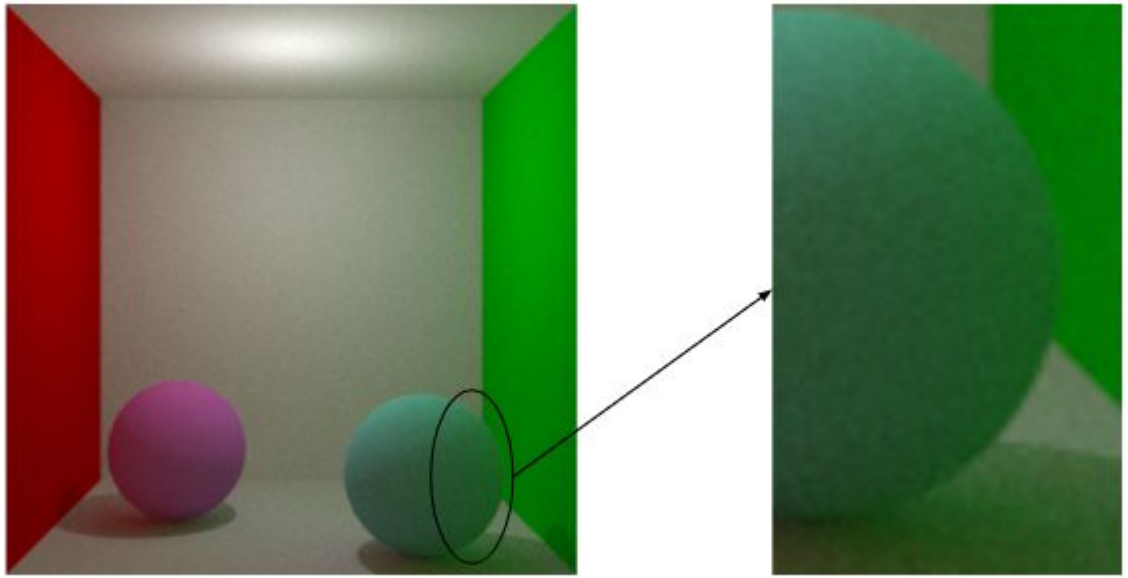
PATH TRACER

- Sombras duras



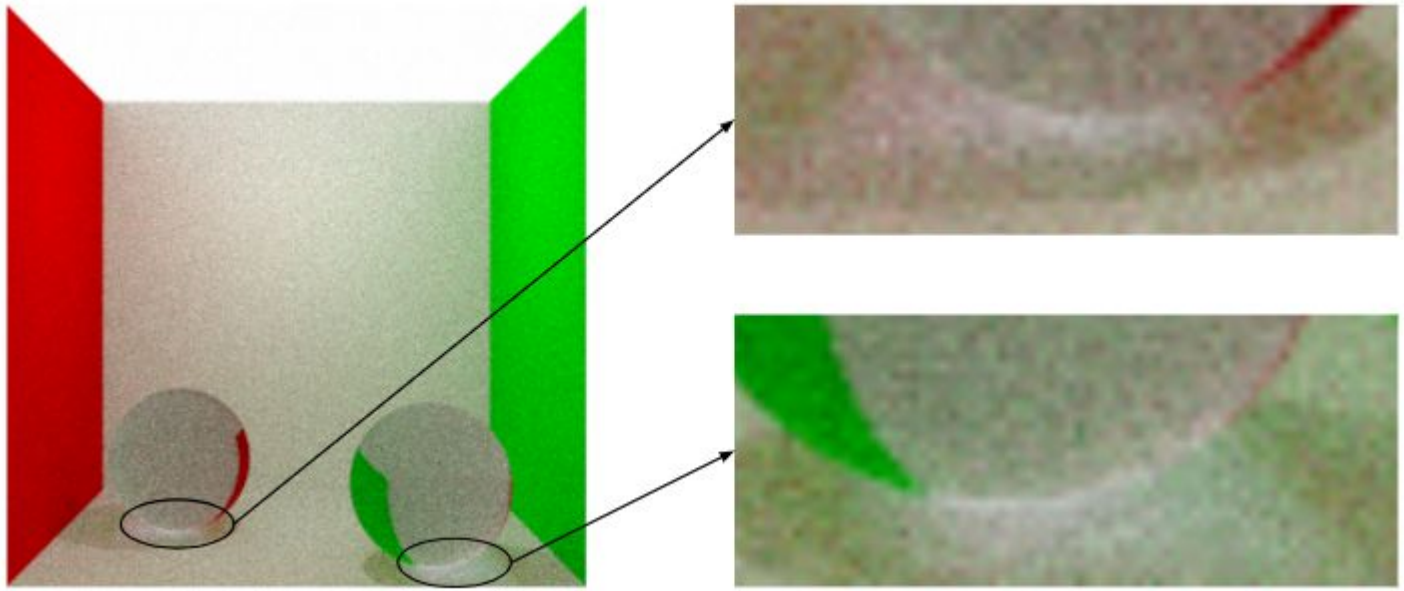
PATH TRACER

- Color bleeding

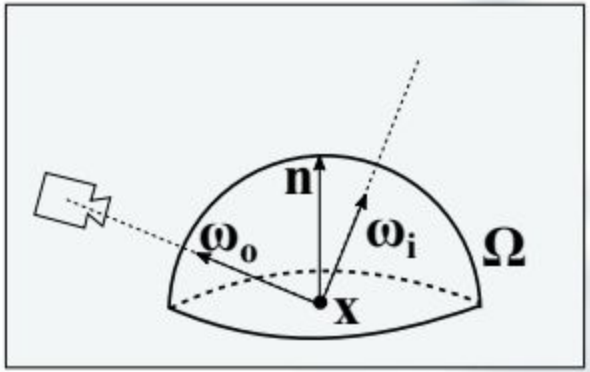


PATH TRACER

- Cáusticas



PHOTON MAPPING

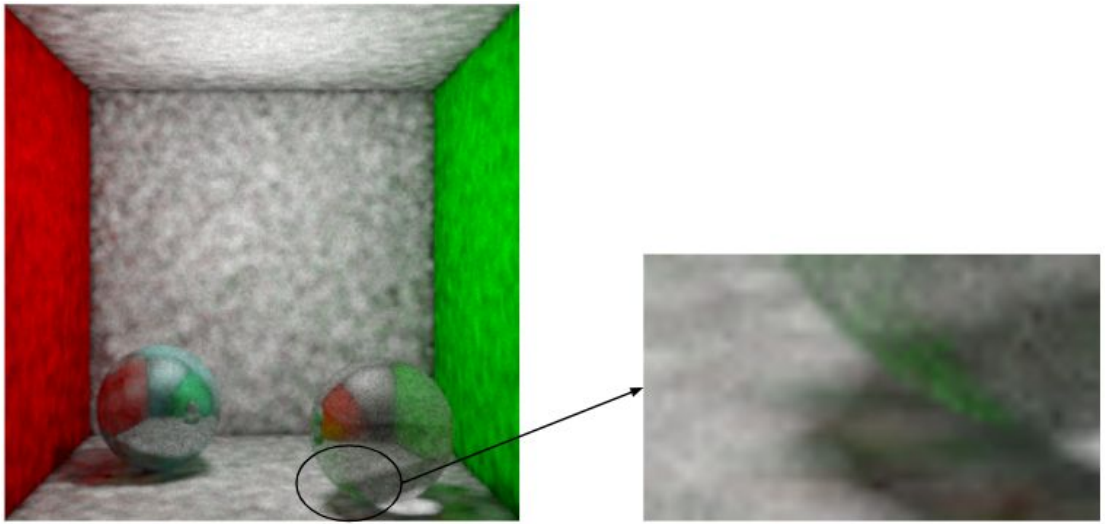


$$L_o(\mathbf{x}, \omega_o) = L_e(\mathbf{x}, \omega_o) + \int_\Omega L_i(\mathbf{x}, \omega_i) f_r(\mathbf{x}, \omega_i, \omega_o) |\mathbf{n} \cdot \omega_i| d\omega_i$$

PHOTON MAPPING

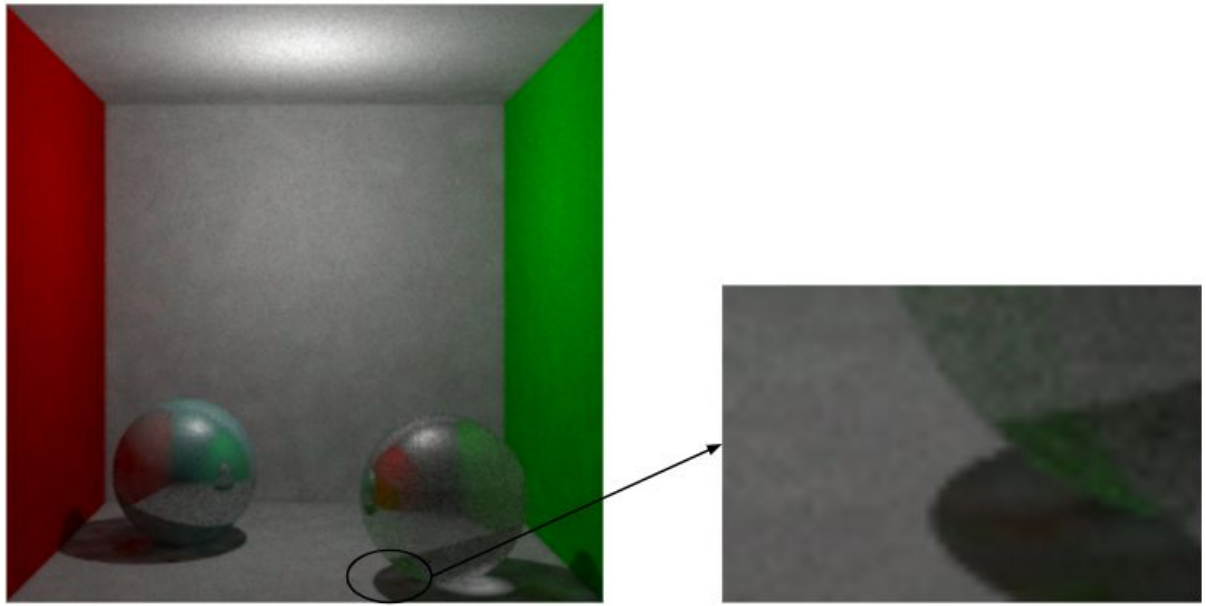
Efectos de iluminación

- Sombras suaves



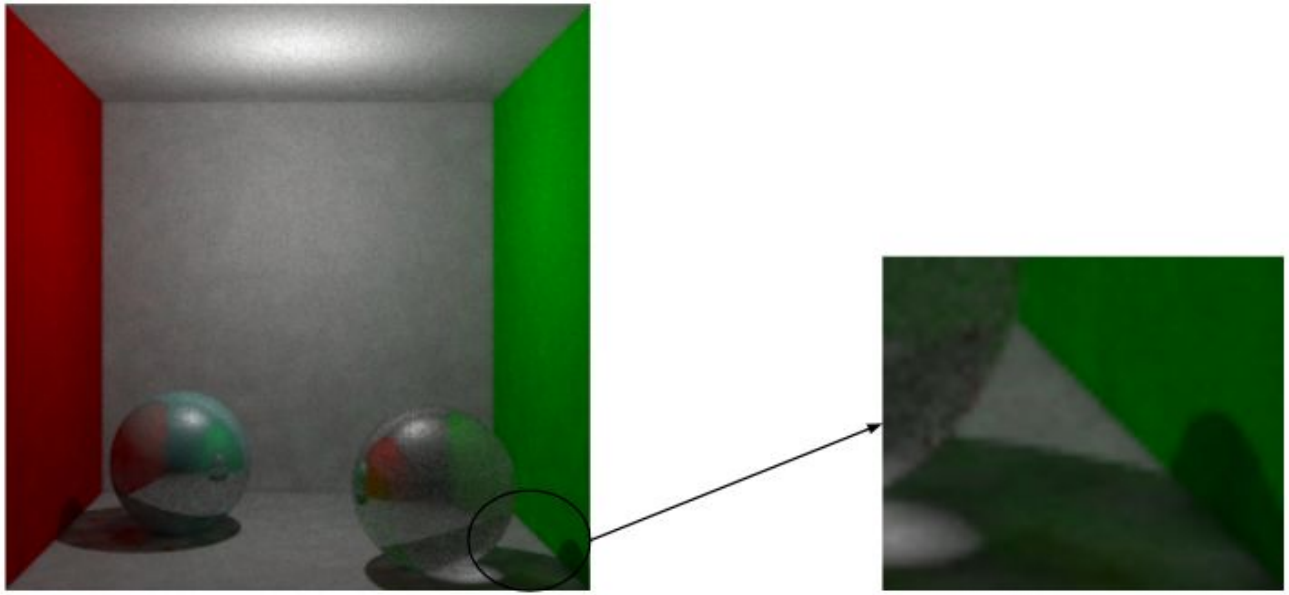
PHOTON MAPPING

- Sombras duras



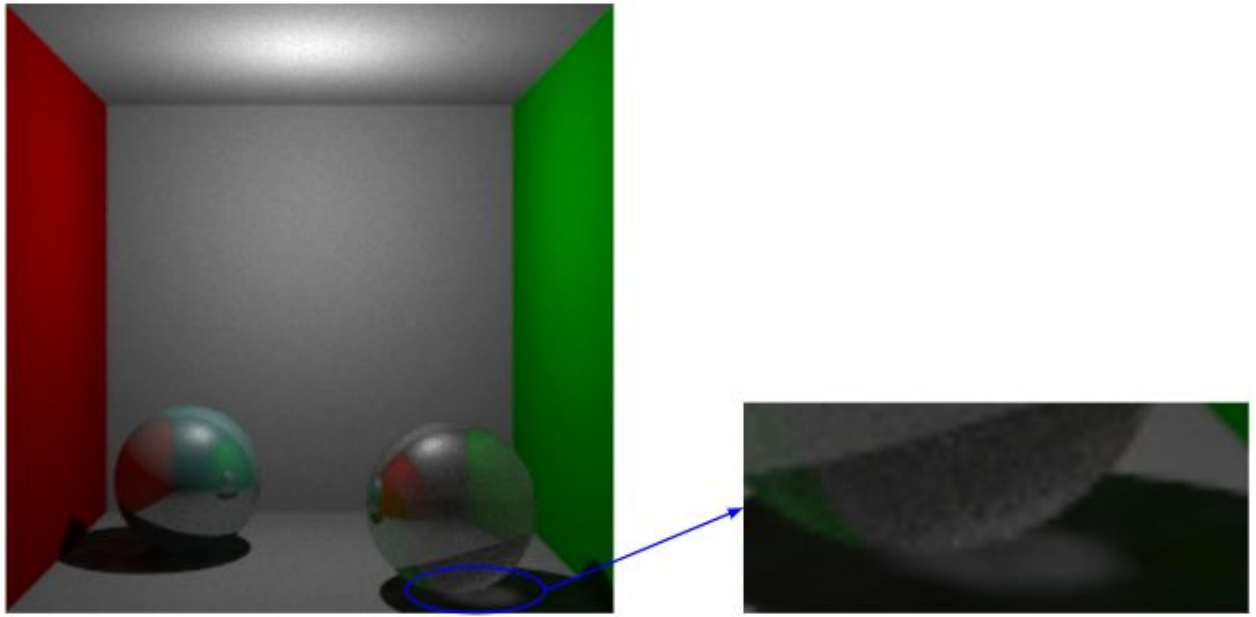
PHOTON MAPPING

- Color bleeding

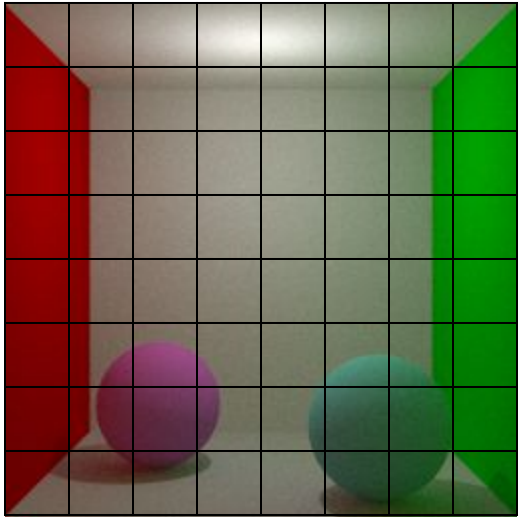


PHOTON MAPPING

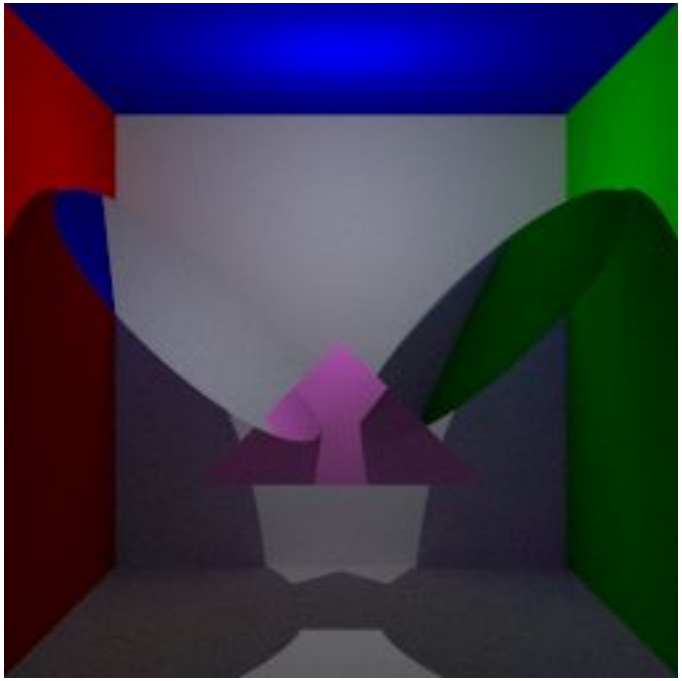
- Cáusticas

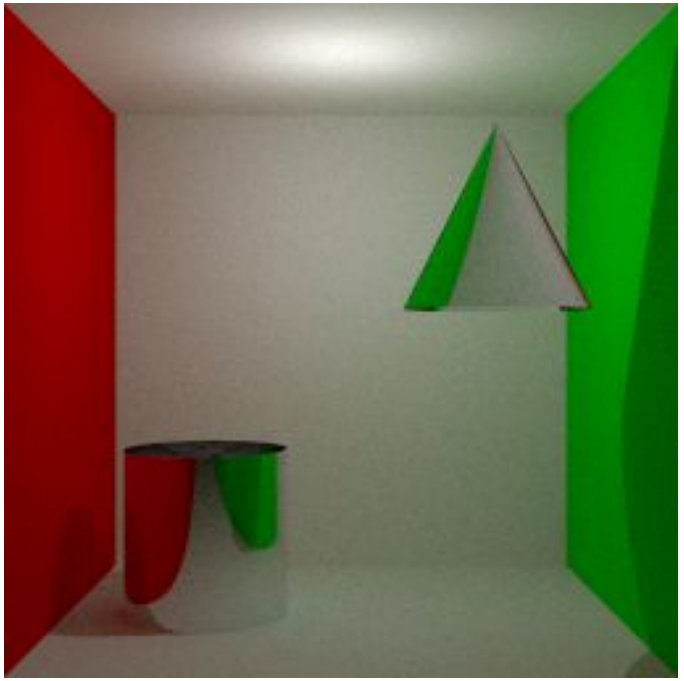


PARALELIZACIÓN



MÁS FIGURAS





FORMATO OBJX

```
rpp 64
th 16
ph 100000
rad 0.05
p 0 0 -3.5          // Punto[0]
d -1 0 0            // Dirección[0]
d 0 1 0             // Dirección[1]
d 0 0 3             // Dirección[2]
cam 0 0 1 2 256 256
p 0 0.5 0           // Punto[1]
c 0 0 0             // Color[0] -> Negro
c 0.99 0.99 0.99    // Color[1] -> Blanco
ls 1 1              // Fuente de luz
d 1 0 0             // Dirección[3]
d -1 0 0            // Dirección[4]
d 0 1 0             // Dirección[5]
d 0 -1 0            // Dirección[6]
d 0 0 -1            // Dirección[7]
p -0.5 -0.7 0.25    // Punto[2]
p 0.5 -0.7 -0.25    // Punto[3]
c 0.8 0 0           // Color[2] -> Rojo
c 0 0.8 0           // Color[3] -> Verde
c 0.8 0.8 0.8       // Color[4] -> Gris
c 0.2765 0.5 0.5    // Color[5]
c 0.5 0.5 0.5       // Color[6]
c 0.2 0.2 0.2       // Color[7]
c 0.81 0.17 0.71    // Color[8] -> Morado
c 0.11 0.41 0.375   // Color[9] -> Cian
c 0.4 0.4 0.4       // Color[10] -> Gris
a 2 0 0 0 0         // Pared roja
pl 0 3 1
a 3 0 0 0 0         // Pared verde
pl 1 4 1
a 4 0 0 0 0         // Resto paredes
pl 2 5 1
pl 4 7 1
pl 3 6 1
a 9 10 0 0 0        // Esf. izquierda
sp 5 2 0.3
a 0 10 10 0 1.5     // Esf. derecha
sp 6 3 0.3
```