

# Ray Tracing

why?

- ↳ Shadows for free
- ↳ Caustics for free
- ↳ Reflections for free
- ↳ Subsurface Scattering for free
- ↳ It can be unbiased if we add Path Tracing

why not?

Slow.

## How to ray trace

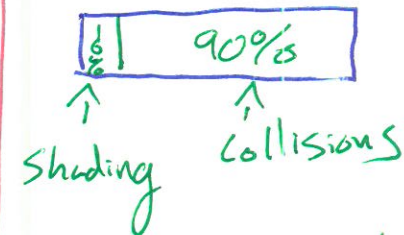
1. Surface representation
2. Camera representation
3. Light representation
4. "Shader" representation

1. Where to send rays
2. How to illuminate a surface  
↳ Additional rays
3. Where does a ray collide?

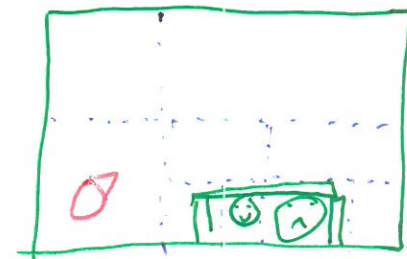
↳ Time killer

### Aside

How to speed up a ray  
Tracer.



With special  
Spatial data structures



Scene

