

Sprint 2 Plan | Trace.js

Completion date: 2/15/15 | Revision 0.0.1, 2/10/15

Goal

Building on a basic in-browser ray-caster, add lighting, shading, materials, and camera perspectives with associated UI functionality.

User Stories

- As a developer, I want a Sampler base-class so that I have an interface for which all Samplers adhere too. (5)
- As a developer, I want a Regular class that extends Sampler so that we can have regular sampling. (3)
- As a developer, I want a MultiJittered class that extends Sampler so that we can have Multi Jittered sampling. (3)
- As a user I want to be able to specify the sampler I use so that I have more options for image quality. (2)
- As a developer I want a Camera base-class so that I have an interface for which all Cameras adhere too. (3)
- As a developer, I want a Orthographic class that extends Camera so that I can view images orthographically. (3)
- As developer, I want a Pinhole class that extends Camera so that I can view images under perspective projection. (3)
- As a user, I want to be able to specify the viewing method so that I have options for how I view a scene. (2)
- As a developer, I want a BRDF base-class so that I have an interface for which all BRDFs adhere too. (5)
- As a developer, I want a Lambertian class that extends BRDF so that I can do lambertian reflection on a surface. (3)
- As a developer, I want a PerfectSpecular class that extends BRDF so that I can do perfect specular reflection on a surface. (3)
- As a developer, I want a GlossySpecular class that extends BRDF so that I can do glossy specular reflection on a surface. (3)
- As a user, I want to be able to specify the BRDF used on a surface so that I have more control over the reflection in the final image. (2)
- As a developer, I want a Light base-class so that I have an interface for which all Lights adhere. (5)
- As a developer, I want an Ambient class that extends Light so that we have ambient light in our scenes. (3)
- As a developer, I want a Directional light class that extends Light so that we have directional lights in our scenes. (3)
- As a developer, I want a PointLight class that extends Light so that we have point lights in our scene. (3)

- As a user, I want to be able to specify the type of light in our scene so that I have more options for how I view a scene. (2)
- As a developer, I want a Whitted class that extends Tracer so that we can implement whitted ray tracing. (3)
- As a developer, I want a PathTrace class that extends Tracer so that we can implement path tracing. (8)
- As a developer, I want a Material base-class so that I have an interface for which all materials adhere too. (5)
- As a developer, I want a Matte class that extends Material so that objects can have matte shading (e.g. pure diffuse). (3)
- As a developer, I want a Phong class that extends Material so that objects can have phong shading (e.g. ambient + diffuse + specular). (3)
- As a user, I want to be able to specify the type of surface objects in the scene have so that I have more options for how a scene is viewed. (2)

Team Roles

Chris Camargo: Tracer developer, web developer
 Steven Esser: Tracer developer, web developer
 Shahar Zimmerman: Tracer developer, web developer
 Katherine Barsaloux: Tracer developer
 John Haytko: Tracer developer

Initial task assignment

Chris Camargo: Sampler Class
 Steven Esser: Camera Class
 Shahar Zimmerman: Multijittered Class
 Katherine Barsaloux: BRDF Class
 John Haytko: Light Class

Scrum times

Mondays at 8pm and Fridays at 4pm