

raytracer

0.1.0

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# Chapter 1

## Hierarchical Index

### 1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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## Chapter 2

# Class Index

### 2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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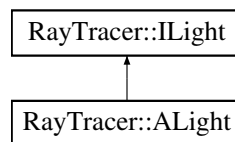


## Chapter 3

# Class Documentation

### 3.1 RayTracer::ALight Class Reference

Inheritance diagram for RayTracer::ALight:



#### Public Member Functions

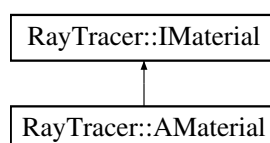
- void **setType** (const LightType &type) override
- LightType **getType** () const override
- [Position](#) **getPosition** () const override
- RGBColor **getColor** () const override

The documentation for this class was generated from the following file:

- App/include/RayTracer/Abstraction/ALight.hpp

### 3.2 RayTracer::AMaterial Class Reference

Inheritance diagram for RayTracer::AMaterial:



## Public Member Functions

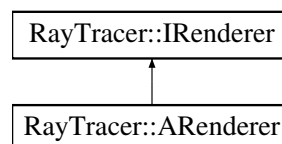
- void **setType** (const MaterialType &type) override
- void **setColor** (const Color\_t &color) override
- void **setReflectivity** (const uint8\_t &reflectivity) override
- void **setTransparency** (const uint8\_t &transparency) override
- MaterialType **getType** () const override
- Color\_t **getColor** () const override
- uint8\_t **getReflectivity** () const override
- uint8\_t **getTransparency** () const override

The documentation for this class was generated from the following file:

- App/include/RayTracer/Abstraction/AMaterial.hpp

## 3.3 RayTracer::ARenderer Class Reference

Inheritance diagram for RayTracer::ARenderer:



## Public Member Functions

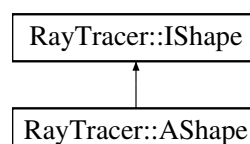
- void **setType** (const RendererType &rendererType) override
- void **setResolution** (const std::pair< uint16\_t, uint16\_t > &resolution) override
- void **setName** (const std::string &name) override
- RendererType **getType** () const override
- std::pair< uint16\_t, uint16\_t > **getResolution** () const override
- std::string **getName** () const override

The documentation for this class was generated from the following file:

- App/include/RayTracer/Abstraction/ARenderer.hpp

## 3.4 RayTracer::AShape Class Reference

Inheritance diagram for RayTracer::AShape:



## Public Member Functions

- void **setType** (const ShapeType &type) override
- void **setRadius** (float radius) override
- ShapeType **getType** () const override
- RGBColor **getColor** () const override
- [Position](#) **getPosition** () const override
- float **getRadius** () const override

The documentation for this class was generated from the following file:

- App/include/RayTracer/Abstraction/AShape.hpp

## 3.5 RayTracer::Camera Class Reference

### Public Member Functions

- void **setFov** (uint16\_t fov)
- uint16\_t **getFov** () const
- [Position](#) **getPosition** () const

The documentation for this class was generated from the following file:

- App/include/RayTracer/Scene/Camera.hpp

## 3.6 RayTracer::Core Class Reference

### Classes

- class [CoreException](#)

### Static Public Member Functions

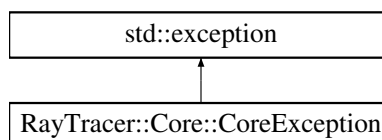
- static void **runRayTracer** (const [Scene](#) &scene)

The documentation for this class was generated from the following file:

- App/include/RayTracer/Core.hpp

## 3.7 RayTracer::Core::CoreException Class Reference

Inheritance diagram for RayTracer::Core::CoreException:



## Public Member Functions

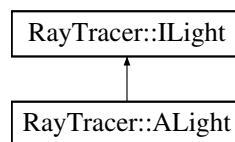
- **CoreException** (std::string msg)
- **CoreException** (const [CoreException](#) &)=delete
- [CoreException](#) & **operator=** (const [CoreException](#) &)=delete
- **CoreException** (const [CoreException](#) &&)=delete
- [CoreException](#) & **operator=** (const [CoreException](#) &&)=delete
- const char \* **what** () const noexcept override

The documentation for this class was generated from the following file:

- App/include/RayTracer/Core.hpp

## 3.8 RayTracer::ILight Class Reference

Inheritance diagram for RayTracer::ILight:



## Public Member Functions

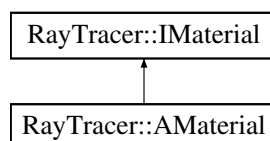
- virtual void **setType** (const LightType &type)=0
- virtual LightType **getType** () const =0
- virtual [Position](#) **getPosition** () const =0
- virtual RGBColor **getColor** () const =0

The documentation for this class was generated from the following file:

- App/include/RayTracer/Abstraction/ILight.hpp

## 3.9 RayTracer::IMaterial Class Reference

Inheritance diagram for RayTracer::IMaterial:



## Public Member Functions

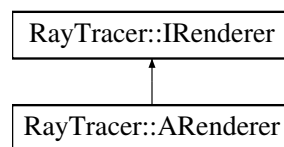
- virtual void **setType** (const MaterialType &type)=0
- virtual void **setColor** (const Color\_t &color)=0
- virtual void **setReflectivity** (const uint8\_t &reflectivity)=0
- virtual void **setTransparency** (const uint8\_t &transparency)=0
- virtual MaterialType **getType** () const =0
- virtual Color\_t **getColor** () const =0
- virtual uint8\_t **getReflectivity** () const =0
- virtual uint8\_t **getTransparency** () const =0

The documentation for this class was generated from the following file:

- App/include/RayTracer/Abstraction/IMaterial.hpp

## 3.10 RayTracer::IRenderer Class Reference

Inheritance diagram for RayTracer::IRenderer:



## Public Member Functions

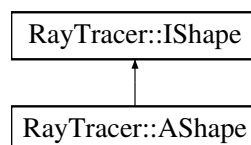
- virtual void **render** ()=0
- virtual void **setType** (const RendererType &rendererType)=0
- virtual void **setResolution** (const std::pair< uint16\_t, uint16\_t > &resolution)=0
- virtual void **setName** (const std::string &name)=0
- virtual RendererType **getType** () const =0
- virtual std::pair< uint16\_t, uint16\_t > **getResolution** () const =0
- virtual std::string **getName** () const =0

The documentation for this class was generated from the following file:

- App/include/RayTracer/Abstraction/IRenderer.hpp

## 3.11 RayTracer::IShape Class Reference

Inheritance diagram for RayTracer::IShape:



## Public Member Functions

- virtual void **setType** (const ShapeType &type)=0
- virtual void **setRadius** (float radius)=0
- virtual ShapeType **getType** () const =0
- virtual RGBColor **getColor** () const =0
- virtual [Position](#) **getPosition** () const =0
- virtual float **getRadius** () const =0

The documentation for this class was generated from the following file:

- App/include/RayTracer/Abstraction/IShape.hpp

## 3.12 RayTracer::MaterialsFactory Class Reference

### Static Public Member Functions

- static std::unique\_ptr< [AMaterial](#) > **createMaterials** (const MaterialType &type)

The documentation for this class was generated from the following file:

- App/include/RayTracer/Factory/MaterialsFactory.hpp

## 3.13 RayTracer::Parser Class Reference

### Classes

- class [ParserException](#)

### Static Public Member Functions

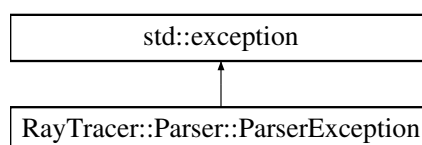
- static int **parseArgs** (const std::string &filePath)
- static std::unique\_ptr< [RayTracer::Scene](#) > **parseFile** (const std::string &filePath)
- static void **parseRenderer** (const libconfig::Setting &renderer, [Scene](#) &scene)

The documentation for this class was generated from the following file:

- App/include/RayTracer/Parser.hpp

## 3.14 RayTracer::Parser::ParserException Class Reference

Inheritance diagram for RayTracer::Parser::ParserException:



## Public Member Functions

- **ParserException** (std::string msg)
- **ParserException** (const [ParserException](#) &)=delete
- [ParserException](#) & **operator=** (const [ParserException](#) &)=delete
- **ParserException** (const [ParserException](#) &&)=delete
- [ParserException](#) & **operator=** (const [ParserException](#) &&)=delete
- const char \* **what** () const noexcept override

The documentation for this class was generated from the following file:

- App/include/RayTracer/Parser.hpp

## 3.15 RayTracer::PluginLoader Class Reference

### Static Public Member Functions

- template<typename T >  
static std::unique\_ptr< T > **loadPlugin** (const std::string &libraryPath)

The documentation for this class was generated from the following file:

- App/include/RayTracer/PluginLoader.hpp

## 3.16 RayTracer::Position Class Reference

### Public Member Functions

- **Position** (const int16\_t &x, const int16\_t &y, const int16\_t &z)
- void **setPosition** (const int16\_t &x, const int16\_t &y, const int16\_t &z)
- void **setPosition** (const Position\_t &position)
- void **setX** (const int16\_t &x)
- void **setY** (const int16\_t &y)
- void **setZ** (const int16\_t &z)
- int16\_t **getX** () const
- int16\_t **getY** () const
- int16\_t **getZ** () const
- Position\_t **getPosition** () const

The documentation for this class was generated from the following file:

- App/include/RayTracer/Position.hpp

### 3.17 RayTracer::RendererFactory Class Reference

#### Static Public Member Functions

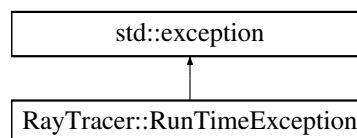
- static std::unique\_ptr< [ALight](#) > **createLights** (const LightType &type, const Position\_t &position)
- static std::unique\_ptr< [ARenderer](#) > **createRenderer** (const RendererType &type)

The documentation for this class was generated from the following files:

- App/include/RayTracer/Factory/LightsFactory.hpp
- App/include/RayTracer/Factory/RendererFactory.hpp

### 3.18 RayTracer::RunTimeException Class Reference

Inheritance diagram for RayTracer::RunTimeException:



#### Public Member Functions

- **RunTimeException** (std::string msg)
- **RunTimeException** (const [RunTimeException](#) &)=delete
- [RunTimeException](#) & **operator=** (const [RunTimeException](#) &)=delete
- **RunTimeException** (const [RunTimeException](#) &&)=delete
- [RunTimeException](#) & **operator=** (const [RunTimeException](#) &&)=delete
- const char \* **what** () const noexcept override

The documentation for this class was generated from the following file:

- App/include/RayTracer/Exceptions/RuntimeException.hpp

### 3.19 RayTracer::Scene Class Reference

#### Public Member Functions

- void **setName** (const std::string &name)
- void **setResolution** (std::pair< uint16\_t, uint16\_t > resolution)
- void **setCamera** (const [Camera](#) &camera)
- void **setRenderer** (const RendererType &rendererType)
- void **addShape** (std::unique\_ptr< [AShape](#) > shape)
- void **addLight** (std::unique\_ptr< [ALight](#) > light)
- std::pair< uint16\_t, uint16\_t > **getResolution** () const
- [Camera](#) **getCamera** () const
- const std::unique\_ptr< [ARenderer](#) > & **getRenderer** () const
- const std::vector< std::unique\_ptr< [AShape](#) > > & **getShapes** () const
- const std::vector< std::unique\_ptr< [ALight](#) > > & **getLights** () const

The documentation for this class was generated from the following file:

- App/include/RayTracer/Scene/Scene.hpp



## 3.20 RayTracer::ShapesFactory Class Reference

### Static Public Member Functions

- static std::unique\_ptr< [AShape](#) > **createShape** (const ShapeType &type, const Position\_t &position, const Color\_t &color)
- static std::unique\_ptr< [AShape](#) > **createShape** (const ShapeType &type, const Position\_t &position, const Color\_t &color, float radius)

The documentation for this class was generated from the following file:

- App/include/RayTracer/Factory/ShapesFactory.hpp



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