rubik Reference Manual

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Contents

Chapter 1

rubik Compound Index

1.1 rubik Compound List

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

Chapter 2

rubik Class Documentation

2.1 RoundedCube Class Reference

Models a cube with rounded edges.

`#include <RoundedCube.h>`

Public Types

- enum axis { **Xaxis**, **Yaxis**, **Zaxis** }

  The x-, y-, and z-axis.

Public Methods

- RoundedCube (float s_length=0.8, float r_width=0.1, int r_steps=2)

  Constructs a cube with rounded edges.

- void render ()

  Draws the cube.

- void rotate (axis a, bool direction)

  Rotates the cube 90 degrees.

Public Attributes

- bool draw_normals

  Should normals be drawn? This should only be set to `true`*, if you're debugging.*

2.1.1 Detailed Description

Models a cube with rounded edges.

The cube will be made up of six squares with rounded edges in-between. The sides will be red, green, blue, orange, yellow, and white just as the original Rubik's Cube. They will only reflect little of the specular light that shines on them, but they will reflect all the diffuse light.

The rounded edges will be black, but will have more intense highlights than the sides. This gives a nice effect when the cube rotates in front of a light.

2.1.2 Constructor & Destructor Documentation

2.1.2.1 RoundedCube::RoundedCube (float *s_length* = 0.8, float *r_width* = 0.1, int *r_steps* = 2)

Constructs a cube with rounded edges.

Parameters:

s_length the length of the sides. This is only the length of the squares. To get the total width/height/depth of the cube, you'll have to add two times *r_width* as well.

r_width the width of the roundings.

r_steps the number of steps used to do the rounded edges. The edges will consist of *r_steps* rectangles - the larger the number, the finer the edge.

2.1.3 Member Function Documentation

2.1.3.1 void RoundedCube::render ()

Draws the cube.

The cube will be drawn centered around (0, 0).

2.1.3.2 void RoundedCube::rotate (axis *a*, bool *direction*)

Rotates the cube 90 degrees.

The cube will rotate by changing the color of the sides.

Parameters:

a the axis to rotate around. The axis are local to the cube.

direction if direction is `true`, then the cube will be rotated clockwise, otherwise it will be rotated counter-clockwise.

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

- RoundedCube.h
- RoundedCube.cpp

2.2 RubiksCube Class Reference

A Rubik's Cube.

`#include <RubiksCube.h>`

Public Methods

- RubiksCube ()
  The constructor.
- ~RubiksCube ()
  Destructs the 27 cubes.
- void render ()
  Renders the cubes.
- void rotateX (unsigned int block, int degrees)
  Rotates the designated block around the x-axis.
- void rotateY (unsigned int block, int degrees)
  Rotates the designated block around the y-axis.
- void rotateZ (unsigned int block, int degrees)
  Rotates the designated block around the z-axis.

2.2.1 Detailed Description

A Rubik's Cube.

This class manages the 27 cubes that make up a Rubik's Cube.

2.2.2 Constructor & Destructor Documentation

2.2.2.1 RubiksCube::RubiksCube ()

The constructor.

Memory will be allocated for the 27 cubes.

2.2.3 Member Function Documentation

2.2.3.1 void RubiksCube::render ()

Renders the cubes.

This will make the necessary calls to OpenGL to render the 27 cubes. You shouldn't call render() between calls to glBegin() ... glEnd().

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

- RubiksCube.h
- RubiksCube.cpp

Index