

My Project

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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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Sqaure	14
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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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FiredBullet	11
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Chapter 3

File Index

3.1 File List

Here is a list of all files with brief descriptions:

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Chapter 4

Class Documentation

4.1 Circle Class Reference

```
#include <drawtools.h>
```

Inheritance diagram for Circle:

Collaboration diagram for Circle:

Public Member Functions

- **Circle** (const **PointF** &position, const **Color** &color, float radius, int segments)
- void **draw** () const override
- void **print** () const override

4.1.1 Constructor & Destructor Documentation

4.1.1.1 **Circle::Circle** (const **PointF** & *position*, const **Color** & *color*, float *radius*, int *segments*)

4.1.2 Member Function Documentation

4.1.2.1 void **Circle::draw** () const [override],[virtual]

Implements **Drawable** (p. 9).

Here is the call graph for this function:

4.1.2.2 void **Circle::print** () const [override],[virtual]

Implements **Drawable** (p. 9).

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

- OpenGLSkeleton/**drawtools.h**
- OpenGLSkeleton/**drawtools.cpp**

4.2 Color Struct Reference

```
#include <drawtools.h>
```

Public Member Functions

- **Color** ()=default
- **Color** (float red, float green, float blue)
- float & **r** ()
- const float & **r** () const
- float & **g** ()
- const float & **g** () const
- float & **b** ()
- const float & **b** () const
- float & **operator[]** (int i)
- const float & **operator[]** (int i) const
- float * **data** ()
- const float * **data** () const

4.2.1 Constructor & Destructor Documentation

4.2.1.1 **Color::Color** () [default]

4.2.1.2 **Color::Color** (float *red*, float *green*, float *blue*) [inline]

4.2.2 Member Function Documentation

4.2.2.1 float& **Color::b** () [inline]

4.2.2.2 const float& **Color::b** () const [inline]

4.2.2.3 float* **Color::data** () [inline]

Here is the caller graph for this function:

4.2.2.4 const float* **Color::data** () const [inline]

4.2.2.5 float& **Color::g** () [inline]

4.2.2.6 const float& **Color::g** () const [inline]

4.2.2.7 float& **Color::operator[]** (int *i*) [inline]

4.2.2.8 const float& **Color::operator[]** (int *i*) const [inline]

4.2.2.9 float& **Color::r** () [inline]

4.2.2.10 const float& **Color::r** () const [inline]

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

- OpenGLSkeleton/**drawtools.h**

4.3 Drawable Class Reference

```
#include <drawlist.h>
```

Inheritance diagram for Drawable:

Public Member Functions

- **Drawable** ()=default
- **Drawable** (const std::string &name)
- virtual ~**Drawable** ()=default
- virtual void **draw** () const =0
- virtual void **print** () const =0
- const std::string & **name** () const

4.3.1 Constructor & Destructor Documentation

4.3.1.1 **Drawable::Drawable** () [default]

4.3.1.2 **Drawable::Drawable** (const std::string & name)

4.3.1.3 **virtual Drawable::~~Drawable** () [virtual],[default]

4.3.2 Member Function Documentation

4.3.2.1 **virtual void Drawable::draw** () const [pure virtual]

Implemented in **Text** (p. 16), **Sqaure** (p. 15), **Circle** (p. 7), **Line** (p. 12), and **Pixel** (p. 13).

4.3.2.2 **const std::string & Drawable::name** () const

4.3.2.3 **virtual void Drawable::print** () const [pure virtual]

Implemented in **Text** (p. 16), **Sqaure** (p. 15), **Circle** (p. 7), **Line** (p. 12), and **Pixel** (p. 13).

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

- OpenGLSkeleton/**drawlist.h**
- OpenGLSkeleton/**drawlist.cpp**

4.4 Enemy Class Reference

```
#include <Enemy.h>
```

Collaboration diagram for Enemy:

Public Member Functions

- **Enemy** (const **PointF** &begin, **PointF** current, float speed, int health)
- void **Health** (int i)
- virtual **PointF Move** (int i, int j)
- int **Update** (**PointF** current)
- **PointF Value** ()

Public Attributes

- **PointF _begin**
- **PointF _current**
- int **_health**
- int **_id**
- float **_speed**

4.4.1 Constructor & Destructor Documentation

4.4.1.1 **Enemy::Enemy** (const **PointF** & *begin*, **PointF** *current*, float *speed*, int *health*)

4.4.2 Member Function Documentation

4.4.2.1 void **Enemy::Health** (int *i*)

4.4.2.2 **PointF** **Enemy::Move** (int *i*, int *j*) [virtual]

Here is the call graph for this function:

Here is the caller graph for this function:

4.4.2.3 int **Enemy::Update** (**PointF** *current*)

4.4.2.4 **PointF** **Enemy::Value** ()

4.4.3 Member Data Documentation

4.4.3.1 **PointF** **Enemy::_begin**

4.4.3.2 **PointF** **Enemy::_current**

4.4.3.3 int **Enemy::_health**

4.4.3.4 int **Enemy::_id**

4.4.3.5 float **Enemy::_speed**

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

- OpenGLSkeleton/**Enemy.h**
- OpenGLSkeleton/**Enemy.cpp**

4.5 FiredBullet Class Reference

```
#include <FiredBullet.h>
```

Collaboration diagram for FiredBullet:

Public Member Functions

- **FiredBullet** (**PointF** destination, **PointF** begin, **PointF** current, int speed)
- **PointF** Move ()
- **PointF** Move2 ()
- void **Update** (**PointF** begin)
- void **Update2** (**PointF** begin)

Public Attributes

- **PointF** _begin
- **PointF** _destination
- **PointF** _current
- int _speed
- int _id

4.5.1 Constructor & Destructor Documentation

4.5.1.1 **FiredBullet::FiredBullet** (**PointF** destination, **PointF** begin, **PointF** current, int speed)

4.5.2 Member Function Documentation

4.5.2.1 **PointF** **FiredBullet::Move** ()

4.5.2.2 **PointF** **FiredBullet::Move2** ()

4.5.2.3 void **FiredBullet::Update** (**PointF** begin)

4.5.2.4 void **FiredBullet::Update2** (**PointF** begin)

4.5.3 Member Data Documentation

4.5.3.1 **PointF** **FiredBullet::_begin**

4.5.3.2 **PointF** **FiredBullet::_current**

4.5.3.3 **PointF** **FiredBullet::_destination**

4.5.3.4 int **FiredBullet::_id**

4.5.3.5 int **FiredBullet::_speed**

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

- OpenGLSkeleton/**FiredBullet.h**
- OpenGLSkeleton/**FiredBullet.cpp**

4.6 Line Class Reference

```
#include <drawtools.h>
```

Inheritance diagram for Line:

Collaboration diagram for Line:

Public Member Functions

- **Line** (const **PointF** &**begin**, const **PointF** &**end**, const **Color** &**color**, float **lineWidth**)
- const **PointF** & **begin** () const
- const **PointF** & **end** () const
- void **draw** () const override
- void **print** () const override

4.6.1 Constructor & Destructor Documentation

4.6.1.1 **Line::Line** (const **PointF** & *begin*, const **PointF** & *end*, const **Color** & *color*, float *lineWidth*)

Here is the call graph for this function:

4.6.2 Member Function Documentation

4.6.2.1 const **PointF** & **Line::begin** () const

4.6.2.2 void **Line::draw** () const [override],[virtual]

Implements **Drawable** (p. 9).

Here is the call graph for this function:

4.6.2.3 const **PointF** & **Line::end** () const

Here is the caller graph for this function:

4.6.2.4 void **Line::print** () const [override],[virtual]

Implements **Drawable** (p. 9).

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

- OpenGLSkeleton/**drawtools.h**
- OpenGLSkeleton/**drawtools.cpp**

4.7 Pixel Class Reference

```
#include <drawtools.h>
```

Inheritance diagram for Pixel:

Collaboration diagram for Pixel:

Public Member Functions

- **Pixel** (const **PointF** &position, const **Color** &color)
- void **draw** () const override
- void **print** () const override

4.7.1 Constructor & Destructor Documentation

4.7.1.1 **Pixel::Pixel** (const **PointF** & *position*, const **Color** & *color*)

4.7.2 Member Function Documentation

4.7.2.1 void **Pixel::draw** () const [override],[virtual]

Implements **Drawable** (p. 9).

Here is the call graph for this function:

4.7.2.2 void **Pixel::print** () const [override],[virtual]

Implements **Drawable** (p. 9).

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

- OpenGLSkeleton/**drawtools.h**
- OpenGLSkeleton/**drawtools.cpp**

4.8 Point< T > Class Template Reference

```
#include <drawtools.h>
```

Public Member Functions

- **Point** ()=default
- **Point** (const T &**x**, const T &**y**)
- T & **x** ()
- const T & **x** () const
- T & **y** ()
- const T & **y** () const
- T & **operator[]** (int i)
- const T & **operator[]** (int i) const
- T * **data** ()
- const T * **data** () const

4.8.1 Constructor & Destructor Documentation

4.8.1.1 `template<typename T> Point< T >::Point ()` [default]

4.8.1.2 `template<typename T> Point< T >::Point (const T & x, const T & y)` [inline]

4.8.2 Member Function Documentation

4.8.2.1 `template<typename T> T* Point< T >::data ()` [inline]

Here is the caller graph for this function:

4.8.2.2 `template<typename T> const T* Point< T >::data () const` [inline]

4.8.2.3 `template<typename T> T& Point< T >::operator[] (int i)` [inline]

4.8.2.4 `template<typename T> const T& Point< T >::operator[] (int i) const` [inline]

4.8.2.5 `template<typename T> T& Point< T >::x ()` [inline]

Here is the caller graph for this function:

4.8.2.6 `template<typename T> const T& Point< T >::x () const` [inline]

4.8.2.7 `template<typename T> T& Point< T >::y ()` [inline]

Here is the caller graph for this function:

4.8.2.8 `template<typename T> const T& Point< T >::y () const` [inline]

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

- OpenGLSkeleton/**drawtools.h**

4.9 Sqaure Class Reference

```
#include <drawtools.h>
```

Inheritance diagram for Sqaure:

Collaboration diagram for Sqaure:

Public Member Functions

- **Sqaure** (const **PointF** &begin, const **PointF** &end, const **PointF** &begin2, const **PointF** &end2, const **Color** &color)
- void **draw** () const override
- void **print** () const override

4.9.1 Constructor & Destructor Documentation

4.9.1.1 **Sqaure::Sqaure** (const **PointF** & *begin*, const **PointF** & *end*, const **PointF** & *begin2*, const **PointF** & *end2*, const **Color** & *color*)

4.9.2 Member Function Documentation

4.9.2.1 void **Sqaure::draw** () const [override],[virtual]

Implements **Drawable** (p. 9).

Here is the call graph for this function:

4.9.2.2 void **Sqaure::print** () const [override],[virtual]

Implements **Drawable** (p. 9).

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

- OpenGLSkeleton/**drawtools.h**
- OpenGLSkeleton/**drawtools.cpp**

4.10 Text Class Reference

```
#include <drawtools.h>
```

Inheritance diagram for Text:

Collaboration diagram for Text:

Public Member Functions

- **Text** (const std::string &str)
- void **draw** () const override
- void **print** () const override

4.10.1 Constructor & Destructor Documentation

4.10.1.1 `Text::Text (const std::string & str)`

4.10.2 Member Function Documentation

4.10.2.1 `void Text::draw () const` `[override], [virtual]`

Implements **Drawable** (p. 9).

4.10.2.2 `void Text::print () const` `[override], [virtual]`

Implements **Drawable** (p. 9).

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

- OpenGLSkeleton/**drawtools.h**
- OpenGLSkeleton/**drawtools.cpp**

4.11 Turret Class Reference

```
#include <Turret.h>
```

Collaboration diagram for Turret:

Public Member Functions

- **Turret** (**PointF** position, **Color** color, int range, int health, int upgrade, int type)
- int **Aim** (int i)
- **PointF Position** ()

Public Attributes

- **PointF _position**
- int **_upgrade**
- int **_type**
- int **_range**
- int **_health**
- int **_bulletSpeed**
- int **_aiming** = 0

4.11.1 Constructor & Destructor Documentation

4.11.1.1 `Turret::Turret (PointF position, Color color, int range, int health, int upgrade, int type)`

4.11.2 Member Function Documentation

4.11.2.1 `int Turret::Aim (int i)`

4.11.2.2 `PointF Turret::Position ()`

4.11.3 Member Data Documentation

4.11.3.1 `int Turret::_aiming = 0`

4.11.3.2 `int Turret::_bulletSpeed`

4.11.3.3 `int Turret::_health`

4.11.3.4 `PointF Turret::_position`

4.11.3.5 `int Turret::_range`

4.11.3.6 `int Turret::_type`

4.11.3.7 `int Turret::_upgrade`

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

- OpenGLSkeleton/**Turret.h**
- OpenGLSkeleton/**Turret.cpp**

Chapter 5

File Documentation

5.1 OpenGLSkeleton/drawlist.cpp File Reference

```
#include "drawlist.h"
#include <algorithm>
#include <iterator>
Include dependency graph for drawlist.cpp:
```

Functions

- DrawList::iterator **findDrawable** (**DrawList** &list, const std::string &name)

5.1.1 Function Documentation

5.1.1.1 DrawList::iterator findDrawable (DrawList & *list*, const std::string & *name*)

5.2 OpenGLSkeleton/drawlist.h File Reference

```
#include <string>
#include <list>
Include dependency graph for drawlist.h: This graph shows which files directly or indirectly include this file:
```

Classes

- class **Drawable**

Typedefs

- using **DrawList** = std::list< **Drawable** * >

Functions

- DrawList::iterator **findDrawable** (**DrawList** &list, const std::string &name)

5.2.1 Typedef Documentation

5.2.1.1 using DrawList = std::list<Drawable*>

5.2.2 Function Documentation

5.2.2.1 DrawList::iterator findDrawable (DrawList & list, const std::string & name)

5.3 OpenGLSkeleton/drawtools.cpp File Reference

```
#include <iostream>
#include <iomanip>
#include "glut.h"
#include "drawtools.h"
#include <math.h>
```

Include dependency graph for drawtools.cpp:

Macros

- #define **_USE_MATH_DEFINES**

5.3.1 Macro Definition Documentation

5.3.1.1 #define _USE_MATH_DEFINES

5.4 OpenGLSkeleton/drawtools.h File Reference

```
#include <array>
#include "drawlist.h"
```

Include dependency graph for drawtools.h: This graph shows which files directly or indirectly include this file:

Classes

- class **Point**< T >
- struct **Color**
- class **Pixel**
- class **Line**
- class **Circle**
- class **Sqaure**
- class **Text**

Typedefs

- using **PointI** = **Point**< int >
- using **PointF** = **Point**< float >

5.4.1 Typedef Documentation

5.4.1.1 using **PointF** = **Point**<float>

5.4.1.2 using **PointI** = **Point**<int>

5.5 OpenGLSkeleton/Enemy.cpp File Reference

```
#include "Enemy.h"
#include <iostream>
Include dependency graph for Enemy.cpp:
```

Variables

- int **Count** = 1

5.5.1 Variable Documentation

5.5.1.1 int **Count** = 1

5.6 OpenGLSkeleton/Enemy.h File Reference

```
#include <array>
#include "drawtools.h"
Include dependency graph for Enemy.h: This graph shows which files directly or indirectly include this file:
```

Classes

- class **Enemy**

5.7 OpenGLSkeleton/FiredBullet.cpp File Reference

```
#include "FiredBullet.h"
#include <iostream>
#include <string>
Include dependency graph for FiredBullet.cpp:
```

Variables

- int **Count2** = 0

5.7.1 Variable Documentation

5.7.1.1 int Count2 = 0

5.8 OpenGLSkeleton/FiredBullet.h File Reference

```
#include "drawtools.h"
```

Include dependency graph for FiredBullet.h: This graph shows which files directly or indirectly include this file:

Classes

- class **FiredBullet**

Macros

- #define **FIREDBULLET_H**

5.8.1 Macro Definition Documentation

5.8.1.1 #define FIREDBULLET_H

5.9 OpenGLSkeleton/glut.h File Reference

```
#include <GL/gl.h>
```

```
#include <GL/glu.h>
```

Include dependency graph for glut.h: This graph shows which files directly or indirectly include this file:

Macros

- #define **APIENTRY**
- #define **GLUT_APIENTRY_DEFINED**
- #define **CALLBACK**
- #define **GLUTAPI** extern
- #define **GLUTCALLBACK**
- #define **GLUT_API_VERSION** 3
- #define **GLUT_XLIB_IMPLEMENTATION** 15
- #define **GLUT_RGB** 0
- #define **GLUT_RGBA** GLUT_RGB
- #define **GLUT_INDEX** 1
- #define **GLUT_SINGLE** 0
- #define **GLUT_DOUBLE** 2
- #define **GLUT_ACCUM** 4

- `#define GLUT_ALPHA 8`
- `#define GLUT_DEPTH 16`
- `#define GLUT_STENCIL 32`
- `#define GLUT_MULTISAMPLE 128`
- `#define GLUT_STEREO 256`
- `#define GLUT_LUMINANCE 512`
- `#define GLUT_LEFT_BUTTON 0`
- `#define GLUT_MIDDLE_BUTTON 1`
- `#define GLUT_RIGHT_BUTTON 2`
- `#define GLUT_WHEEL_UP 3`
- `#define GLUT_WHEEL_DOWN 4`
- `#define GLUT_XBUTTON1 5`
- `#define GLUT_XBUTTON2 6`
- `#define GLUT_DOWN 0`
- `#define GLUT_UP 1`
- `#define GLUT_KEY_F1 1`
- `#define GLUT_KEY_F2 2`
- `#define GLUT_KEY_F3 3`
- `#define GLUT_KEY_F4 4`
- `#define GLUT_KEY_F5 5`
- `#define GLUT_KEY_F6 6`
- `#define GLUT_KEY_F7 7`
- `#define GLUT_KEY_F8 8`
- `#define GLUT_KEY_F9 9`
- `#define GLUT_KEY_F10 10`
- `#define GLUT_KEY_F11 11`
- `#define GLUT_KEY_F12 12`
- `#define GLUT_KEY_LEFT 100`
- `#define GLUT_KEY_UP 101`
- `#define GLUT_KEY_RIGHT 102`
- `#define GLUT_KEY_DOWN 103`
- `#define GLUT_KEY_PAGE_UP 104`
- `#define GLUT_KEY_PAGE_DOWN 105`
- `#define GLUT_KEY_HOME 106`
- `#define GLUT_KEY_END 107`
- `#define GLUT_KEY_INSERT 108`
- `#define GLUT_LEFT 0`
- `#define GLUT_ENTERED 1`
- `#define GLUT_MENU_NOT_IN_USE 0`
- `#define GLUT_MENU_IN_USE 1`
- `#define GLUT_NOT_VISIBLE 0`
- `#define GLUT_VISIBLE 1`
- `#define GLUT_HIDDEN 0`
- `#define GLUT_FULLY_RETAINED 1`
- `#define GLUT_PARTIALLY_RETAINED 2`
- `#define GLUT_FULLY_COVERED 3`
- `#define GLUT_RED 0`
- `#define GLUT_GREEN 1`
- `#define GLUT_BLUE 2`
- `#define GLUT_STROKE_ROMAN (&glutStrokeRoman)`
- `#define GLUT_STROKE_MONO_ROMAN (&glutStrokeMonoRoman)`
- `#define GLUT_BITMAP_9_BY_15 (&glutBitmap9By15)`
- `#define GLUT_BITMAP_8_BY_13 (&glutBitmap8By13)`
- `#define GLUT_BITMAP_TIMES_ROMAN_10 (&glutBitmapTimesRoman10)`
- `#define GLUT_BITMAP_TIMES_ROMAN_24 (&glutBitmapTimesRoman24)`

- **#define GLUT_BITMAP_HELVETICA_10** (&glutBitmapHelvetica10)
- **#define GLUT_BITMAP_HELVETICA_12** (&glutBitmapHelvetica12)
- **#define GLUT_BITMAP_HELVETICA_18** (&glutBitmapHelvetica18)
- **#define GLUT_WINDOW_X** ((GLenum) 100)
- **#define GLUT_WINDOW_Y** ((GLenum) 101)
- **#define GLUT_WINDOW_WIDTH** ((GLenum) 102)
- **#define GLUT_WINDOW_HEIGHT** ((GLenum) 103)
- **#define GLUT_WINDOW_BUFFER_SIZE** ((GLenum) 104)
- **#define GLUT_WINDOW_STENCIL_SIZE** ((GLenum) 105)
- **#define GLUT_WINDOW_DEPTH_SIZE** ((GLenum) 106)
- **#define GLUT_WINDOW_RED_SIZE** ((GLenum) 107)
- **#define GLUT_WINDOW_GREEN_SIZE** ((GLenum) 108)
- **#define GLUT_WINDOW_BLUE_SIZE** ((GLenum) 109)
- **#define GLUT_WINDOW_ALPHA_SIZE** ((GLenum) 110)
- **#define GLUT_WINDOW_ACCUM_RED_SIZE** ((GLenum) 111)
- **#define GLUT_WINDOW_ACCUM_GREEN_SIZE** ((GLenum) 112)
- **#define GLUT_WINDOW_ACCUM_BLUE_SIZE** ((GLenum) 113)
- **#define GLUT_WINDOW_ACCUM_ALPHA_SIZE** ((GLenum) 114)
- **#define GLUT_WINDOW_DOUBLEBUFFER** ((GLenum) 115)
- **#define GLUT_WINDOW_RGBA** ((GLenum) 116)
- **#define GLUT_WINDOW_PARENT** ((GLenum) 117)
- **#define GLUT_WINDOW_NUM_CHILDREN** ((GLenum) 118)
- **#define GLUT_WINDOW_COLORMAP_SIZE** ((GLenum) 119)
- **#define GLUT_WINDOW_NUM_SAMPLES** ((GLenum) 120)
- **#define GLUT_WINDOW_STEREO** ((GLenum) 121)
- **#define GLUT_WINDOW_CURSOR** ((GLenum) 122)
- **#define GLUT_SCREEN_WIDTH** ((GLenum) 200)
- **#define GLUT_SCREEN_HEIGHT** ((GLenum) 201)
- **#define GLUT_SCREEN_WIDTH_MM** ((GLenum) 202)
- **#define GLUT_SCREEN_HEIGHT_MM** ((GLenum) 203)
- **#define GLUT_MENU_NUM_ITEMS** ((GLenum) 300)
- **#define GLUT_DISPLAY_MODE_POSSIBLE** ((GLenum) 400)
- **#define GLUT_INIT_WINDOW_X** ((GLenum) 500)
- **#define GLUT_INIT_WINDOW_Y** ((GLenum) 501)
- **#define GLUT_INIT_WINDOW_WIDTH** ((GLenum) 502)
- **#define GLUT_INIT_WINDOW_HEIGHT** ((GLenum) 503)
- **#define GLUT_INIT_DISPLAY_MODE** ((GLenum) 504)
- **#define GLUT_ELAPSED_TIME** ((GLenum) 700)
- **#define GLUT_WINDOW_FORMAT_ID** ((GLenum) 123)
- **#define GLUT_HAS_KEYBOARD** ((GLenum) 600)
- **#define GLUT_HAS_MOUSE** ((GLenum) 601)
- **#define GLUT_HAS_SPACEBALL** ((GLenum) 602)
- **#define GLUT_HAS_DIAL_AND_BUTTON_BOX** ((GLenum) 603)
- **#define GLUT_HAS_TABLET** ((GLenum) 604)
- **#define GLUT_NUM_MOUSE_BUTTONS** ((GLenum) 605)
- **#define GLUT_NUM_SPACEBALL_BUTTONS** ((GLenum) 606)
- **#define GLUT_NUM_BUTTON_BOX_BUTTONS** ((GLenum) 607)
- **#define GLUT_NUM_DIALS** ((GLenum) 608)
- **#define GLUT_NUM_TABLET_BUTTONS** ((GLenum) 609)
- **#define GLUT_DEVICE_IGNORE_KEY_REPEAT** ((GLenum) 610)
- **#define GLUT_DEVICE_KEY_REPEAT** ((GLenum) 611)
- **#define GLUT_HAS_JOYSTICK** ((GLenum) 612)
- **#define GLUT_OWNS_JOYSTICK** ((GLenum) 613)
- **#define GLUT_JOYSTICK_BUTTONS** ((GLenum) 614)
- **#define GLUT_JOYSTICK_AXES** ((GLenum) 615)

- `#define GLUT_JOYSTICK_POLL_RATE ((GLenum) 616)`
- `#define GLUT_OVERLAY_POSSIBLE ((GLenum) 800)`
- `#define GLUT_LAYER_IN_USE ((GLenum) 801)`
- `#define GLUT_HAS_OVERLAY ((GLenum) 802)`
- `#define GLUT_TRANSPARENT_INDEX ((GLenum) 803)`
- `#define GLUT_NORMAL_DAMAGED ((GLenum) 804)`
- `#define GLUT_OVERLAY_DAMAGED ((GLenum) 805)`
- `#define GLUT_VIDEO_RESIZE_POSSIBLE ((GLenum) 900)`
- `#define GLUT_VIDEO_RESIZE_IN_USE ((GLenum) 901)`
- `#define GLUT_VIDEO_RESIZE_X_DELTA ((GLenum) 902)`
- `#define GLUT_VIDEO_RESIZE_Y_DELTA ((GLenum) 903)`
- `#define GLUT_VIDEO_RESIZE_WIDTH_DELTA ((GLenum) 904)`
- `#define GLUT_VIDEO_RESIZE_HEIGHT_DELTA ((GLenum) 905)`
- `#define GLUT_VIDEO_RESIZE_X ((GLenum) 906)`
- `#define GLUT_VIDEO_RESIZE_Y ((GLenum) 907)`
- `#define GLUT_VIDEO_RESIZE_WIDTH ((GLenum) 908)`
- `#define GLUT_VIDEO_RESIZE_HEIGHT ((GLenum) 909)`
- `#define GLUT_NORMAL ((GLenum) 0)`
- `#define GLUT_OVERLAY ((GLenum) 1)`
- `#define GLUT_ACTIVE_SHIFT 1`
- `#define GLUT_ACTIVE_CTRL 2`
- `#define GLUT_ACTIVE_ALT 4`
- `#define GLUT_CURSOR_RIGHT_ARROW 0`
- `#define GLUT_CURSOR_LEFT_ARROW 1`
- `#define GLUT_CURSOR_INFO 2`
- `#define GLUT_CURSOR_DESTROY 3`
- `#define GLUT_CURSOR_HELP 4`
- `#define GLUT_CURSOR_CYCLE 5`
- `#define GLUT_CURSOR_SPRAY 6`
- `#define GLUT_CURSOR_WAIT 7`
- `#define GLUT_CURSOR_TEXT 8`
- `#define GLUT_CURSOR_CROSSHAIR 9`
- `#define GLUT_CURSOR_UP_DOWN 10`
- `#define GLUT_CURSOR_LEFT_RIGHT 11`
- `#define GLUT_CURSOR_TOP_SIDE 12`
- `#define GLUT_CURSOR_BOTTOM_SIDE 13`
- `#define GLUT_CURSOR_LEFT_SIDE 14`
- `#define GLUT_CURSOR_RIGHT_SIDE 15`
- `#define GLUT_CURSOR_TOP_LEFT_CORNER 16`
- `#define GLUT_CURSOR_TOP_RIGHT_CORNER 17`
- `#define GLUT_CURSOR_BOTTOM_RIGHT_CORNER 18`
- `#define GLUT_CURSOR_BOTTOM_LEFT_CORNER 19`
- `#define GLUT_CURSOR_INHERIT 100`
- `#define GLUT_CURSOR_NONE 101`
- `#define GLUT_CURSOR_FULL_CROSSHAIR 102`
- `#define GLUT_KEY_REPEAT_OFF 0`
- `#define GLUT_KEY_REPEAT_ON 1`
- `#define GLUT_KEY_REPEAT_DEFAULT 2`
- `#define GLUT_JOYSTICK_BUTTON_A 1`
- `#define GLUT_JOYSTICK_BUTTON_B 2`
- `#define GLUT_JOYSTICK_BUTTON_C 4`
- `#define GLUT_JOYSTICK_BUTTON_D 8`
- `#define GLUT_GAME_MODE_ACTIVE ((GLenum) 0)`
- `#define GLUT_GAME_MODE_POSSIBLE ((GLenum) 1)`
- `#define GLUT_GAME_MODE_WIDTH ((GLenum) 2)`

- `#define GLUT_GAME_MODE_HEIGHT ((GLenum) 3)`
- `#define GLUT_GAME_MODE_PIXEL_DEPTH ((GLenum) 4)`
- `#define GLUT_GAME_MODE_REFRESH_RATE ((GLenum) 5)`
- `#define GLUT_GAME_MODE_DISPLAY_CHANGED ((GLenum) 6)`

Functions

- `void exit (int)`
- `GLUTAPI void APIENTRY glutInit (int *argc, char **argv)`
- `GLUTAPI void APIENTRY glutInitDisplayMode (unsigned int mode)`
- `GLUTAPI void APIENTRY glutInitDisplayString (const char *string)`
- `GLUTAPI void APIENTRY glutInitWindowPosition (int x, int y)`
- `GLUTAPI void APIENTRY glutInitWindowSize (int width, int height)`
- `GLUTAPI void APIENTRY glutMainLoop (void)`
- `GLUTAPI int APIENTRY glutCreateWindow (const char *title)`
- `GLUTAPI int APIENTRY glutCreateSubWindow (int win, int x, int y, int width, int height)`
- `GLUTAPI void APIENTRY glutDestroyWindow (int win)`
- `GLUTAPI void APIENTRY glutPostRedisplay (void)`
- `GLUTAPI void APIENTRY glutPostWindowRedisplay (int win)`
- `GLUTAPI void APIENTRY glutSwapBuffers (void)`
- `GLUTAPI int APIENTRY glutGetWindow (void)`
- `GLUTAPI void APIENTRY glutSetWindow (int win)`
- `GLUTAPI void APIENTRY glutSetWindowTitle (const char *title)`
- `GLUTAPI void APIENTRY glutSetIconTitle (const char *title)`
- `GLUTAPI void APIENTRY glutPositionWindow (int x, int y)`
- `GLUTAPI void APIENTRY glutReshapeWindow (int width, int height)`
- `GLUTAPI void APIENTRY glutPopWindow (void)`
- `GLUTAPI void APIENTRY glutPushWindow (void)`
- `GLUTAPI void APIENTRY glutIconifyWindow (void)`
- `GLUTAPI void APIENTRY glutShowWindow (void)`
- `GLUTAPI void APIENTRY glutHideWindow (void)`
- `GLUTAPI void APIENTRY glutFullScreen (void)`
- `GLUTAPI void APIENTRY glutSetCursor (int cursor)`
- `GLUTAPI void APIENTRY glutWarpPointer (int x, int y)`
- `GLUTAPI void APIENTRY glutEstablishOverlay (void)`
- `GLUTAPI void APIENTRY glutRemoveOverlay (void)`
- `GLUTAPI void APIENTRY glutUseLayer (GLenum layer)`
- `GLUTAPI void APIENTRY glutPostOverlayRedisplay (void)`
- `GLUTAPI void APIENTRY glutPostWindowOverlayRedisplay (int win)`
- `GLUTAPI void APIENTRY glutShowOverlay (void)`
- `GLUTAPI void APIENTRY glutHideOverlay (void)`
- `GLUTAPI int APIENTRY glutCreateMenu (void(GLUTCALLBACK *func)(int))`
- `GLUTAPI void APIENTRY glutDestroyMenu (int menu)`
- `GLUTAPI int APIENTRY glutGetMenu (void)`
- `GLUTAPI void APIENTRY glutSetMenu (int menu)`
- `GLUTAPI void APIENTRY glutAddMenuEntry (const char *label, int value)`
- `GLUTAPI void APIENTRY glutAddSubMenu (const char *label, int submenu)`
- `GLUTAPI void APIENTRY glutChangeToMenuEntry (int item, const char *label, int value)`
- `GLUTAPI void APIENTRY glutChangeToSubMenu (int item, const char *label, int submenu)`
- `GLUTAPI void APIENTRY glutRemoveMenuItem (int item)`
- `GLUTAPI void APIENTRY glutAttachMenu (int button)`
- `GLUTAPI void APIENTRY glutDetachMenu (int button)`
- `GLUTAPI void APIENTRY glutDisplayFunc (void(GLUTCALLBACK *func)(void))`
- `GLUTAPI void APIENTRY glutReshapeFunc (void(GLUTCALLBACK *func)(int width, int height))`

- **GLUTAPI** void **APIENTRY** **glutKeyboardFunc** (void(**GLUTCALLBACK** *func)(unsigned char key, int x, int y))
- **GLUTAPI** void **APIENTRY** **glutMouseFunc** (void(**GLUTCALLBACK** *func)(int button, int state, int x, int y))
- **GLUTAPI** void **APIENTRY** **glutMotionFunc** (void(**GLUTCALLBACK** *func)(int x, int y))
- **GLUTAPI** void **APIENTRY** **glutPassiveMotionFunc** (void(**GLUTCALLBACK** *func)(int x, int y))
- **GLUTAPI** void **APIENTRY** **glutEntryFunc** (void(**GLUTCALLBACK** *func)(int state))
- **GLUTAPI** void **APIENTRY** **glutVisibilityFunc** (void(**GLUTCALLBACK** *func)(int state))
- **GLUTAPI** void **APIENTRY** **glutIdleFunc** (void(**GLUTCALLBACK** *func)(void))
- **GLUTAPI** void **APIENTRY** **glutTimerFunc** (unsigned int millis, void(**GLUTCALLBACK** *func)(int value), int value)
- **GLUTAPI** void **APIENTRY** **glutMenuStateFunc** (void(**GLUTCALLBACK** *func)(int state))
- **GLUTAPI** void **APIENTRY** **glutSpecialFunc** (void(**GLUTCALLBACK** *func)(int key, int x, int y))
- **GLUTAPI** void **APIENTRY** **glutSpaceballMotionFunc** (void(**GLUTCALLBACK** *func)(int x, int y, int z))
- **GLUTAPI** void **APIENTRY** **glutSpaceballRotateFunc** (void(**GLUTCALLBACK** *func)(int x, int y, int z))
- **GLUTAPI** void **APIENTRY** **glutSpaceballButtonFunc** (void(**GLUTCALLBACK** *func)(int button, int state))
- **GLUTAPI** void **APIENTRY** **glutButtonBoxFunc** (void(**GLUTCALLBACK** *func)(int button, int state))
- **GLUTAPI** void **APIENTRY** **glutDialsFunc** (void(**GLUTCALLBACK** *func)(int dial, int value))
- **GLUTAPI** void **APIENTRY** **glutTabletMotionFunc** (void(**GLUTCALLBACK** *func)(int x, int y))
- **GLUTAPI** void **APIENTRY** **glutTabletButtonFunc** (void(**GLUTCALLBACK** *func)(int button, int state, int x, int y))
- **GLUTAPI** void **APIENTRY** **glutMenuStatusFunc** (void(**GLUTCALLBACK** *func)(int status, int x, int y))
- **GLUTAPI** void **APIENTRY** **glutOverlayDisplayFunc** (void(**GLUTCALLBACK** *func)(void))
- **GLUTAPI** void **APIENTRY** **glutWindowStatusFunc** (void(**GLUTCALLBACK** *func)(int state))
- **GLUTAPI** void **APIENTRY** **glutKeyboardUpFunc** (void(**GLUTCALLBACK** *func)(unsigned char key, int x, int y))
- **GLUTAPI** void **APIENTRY** **glutSpecialUpFunc** (void(**GLUTCALLBACK** *func)(int key, int x, int y))
- **GLUTAPI** void **APIENTRY** **glutJoystickFunc** (void(**GLUTCALLBACK** *func)(unsigned int buttonMask, int x, int y, int z), int pollInterval)
- **GLUTAPI** void **APIENTRY** **glutSetColor** (int, GLfloat red, GLfloat green, GLfloat blue)
- **GLUTAPI** GLfloat **APIENTRY** **glutGetColor** (int ndx, int component)
- **GLUTAPI** void **APIENTRY** **glutCopyColormap** (int win)
- **GLUTAPI** int **APIENTRY** **glutGet** (GLenum type)
- **GLUTAPI** int **APIENTRY** **glutDeviceGet** (GLenum type)
- **GLUTAPI** int **APIENTRY** **glutExtensionSupported** (const char *name)
- **GLUTAPI** int **APIENTRY** **glutGetModifiers** (void)
- **GLUTAPI** int **APIENTRY** **glutLayerGet** (GLenum type)
- **GLUTAPI** void **APIENTRY** **glutBitmapCharacter** (void *font, int character)
- **GLUTAPI** int **APIENTRY** **glutBitmapWidth** (void *font, int character)
- **GLUTAPI** void **APIENTRY** **glutStrokeCharacter** (void *font, int character)
- **GLUTAPI** int **APIENTRY** **glutStrokeWidth** (void *font, int character)
- **GLUTAPI** int **APIENTRY** **glutBitmapLength** (void *font, const unsigned char *string)
- **GLUTAPI** int **APIENTRY** **glutStrokeLength** (void *font, const unsigned char *string)
- **GLUTAPI** void **APIENTRY** **glutWireSphere** (GLdouble radius, GLint slices, GLint stacks)
- **GLUTAPI** void **APIENTRY** **glutSolidSphere** (GLdouble radius, GLint slices, GLint stacks)
- **GLUTAPI** void **APIENTRY** **glutWireCone** (GLdouble base, GLdouble height, GLint slices, GLint stacks)
- **GLUTAPI** void **APIENTRY** **glutSolidCone** (GLdouble base, GLdouble height, GLint slices, GLint stacks)
- **GLUTAPI** void **APIENTRY** **glutWireCube** (GLdouble size)
- **GLUTAPI** void **APIENTRY** **glutSolidCube** (GLdouble size)
- **GLUTAPI** void **APIENTRY** **glutWireTorus** (GLdouble innerRadius, GLdouble outerRadius, GLint sides, GLint rings)
- **GLUTAPI** void **APIENTRY** **glutSolidTorus** (GLdouble innerRadius, GLdouble outerRadius, GLint sides, GLint rings)
- **GLUTAPI** void **APIENTRY** **glutWireDodecahedron** (void)
- **GLUTAPI** void **APIENTRY** **glutSolidDodecahedron** (void)
- **GLUTAPI** void **APIENTRY** **glutWireTeapot** (GLdouble size)

- **GLUTAPI void APIENTRY glutSolidTeapot** (GLdouble size)
- **GLUTAPI void APIENTRY glutWireOctahedron** (void)
- **GLUTAPI void APIENTRY glutSolidOctahedron** (void)
- **GLUTAPI void APIENTRY glutWireTetrahedron** (void)
- **GLUTAPI void APIENTRY glutSolidTetrahedron** (void)
- **GLUTAPI void APIENTRY glutWireIcosahedron** (void)
- **GLUTAPI void APIENTRY glutSolidIcosahedron** (void)
- **GLUTAPI int APIENTRY glutVideoResizeGet** (GLenum param)
- **GLUTAPI void APIENTRY glutSetupVideoResizing** (void)
- **GLUTAPI void APIENTRY glutStopVideoResizing** (void)
- **GLUTAPI void APIENTRY glutVideoResize** (int x, int y, int width, int height)
- **GLUTAPI void APIENTRY glutVideoPan** (int x, int y, int width, int height)
- **GLUTAPI void APIENTRY glutReportErrors** (void)
- **GLUTAPI void APIENTRY glutIgnoreKeyRepeat** (int ignore)
- **GLUTAPI void APIENTRY glutSetKeyRepeat** (int repeatMode)
- **GLUTAPI void APIENTRY glutForceJoystickFunc** (void)
- **GLUTAPI void APIENTRY glutGameModeString** (const char *string)
- **GLUTAPI int APIENTRY glutEnterGameMode** (void)
- **GLUTAPI void APIENTRY glutLeaveGameMode** (void)
- **GLUTAPI int APIENTRY glutGameModeGet** (GLenum mode)

Variables

- **GLUTAPI void * glutStrokeRoman**
- **GLUTAPI void * glutStrokeMonoRoman**
- **GLUTAPI void * glutBitmap9By15**
- **GLUTAPI void * glutBitmap8By13**
- **GLUTAPI void * glutBitmapTimesRoman10**
- **GLUTAPI void * glutBitmapTimesRoman24**
- **GLUTAPI void * glutBitmapHelvetica10**
- **GLUTAPI void * glutBitmapHelvetica12**
- **GLUTAPI void * glutBitmapHelvetica18**

5.9.1 Macro Definition Documentation

5.9.1.1 **#define APIENTRY**

5.9.1.2 **#define CALLBACK**

5.9.1.3 **#define GLUT_ACCUM 4**

5.9.1.4 **#define GLUT_ACTIVE_ALT 4**

5.9.1.5 **#define GLUT_ACTIVE_CTRL 2**

5.9.1.6 **#define GLUT_ACTIVE_SHIFT 1**

5.9.1.7 **#define GLUT_ALPHA 8**

5.9.1.8 #define GLUT_API_VERSION 3

GLUT API revision history:

GLUT_API_VERSION is updated to reflect incompatible GLUT API changes (interface changes, semantic changes, deletions, or additions).

GLUT_API_VERSION=1 First public release of GLUT. 11/29/94

GLUT_API_VERSION=2 Added support for OpenGL/GLX multisampling, extension. Supports new input devices like tablet, dial and button box, and Spaceball. Easy to query OpenGL extensions.

GLUT_API_VERSION=3 glutMenuStatus added.

GLUT_API_VERSION=4 glutInitDisplayString, glutWarpPointer, glutBitmapLength, glutStrokeLength, glut↵ WindowStatusFunc, dynamic video resize subAPI, glutPostWindowRedisplay, glutKeyboardUpFunc, glutSpecial↵ UpFunc, glutIgnoreKeyRepeat, glutSetKeyRepeat, glutJoystickFunc, glutForceJoystickFunc (NOT FINALIZED!).

5.9.1.9 #define GLUT_APIENTRY_DEFINED

5.9.1.10 #define GLUT_BITMAP_8_BY_13 (&glutBitmap8By13)

5.9.1.11 #define GLUT_BITMAP_9_BY_15 (&glutBitmap9By15)

5.9.1.12 #define GLUT_BITMAP_HELVETICA_10 (&glutBitmapHelvetica10)

5.9.1.13 #define GLUT_BITMAP_HELVETICA_12 (&glutBitmapHelvetica12)

5.9.1.14 #define GLUT_BITMAP_HELVETICA_18 (&glutBitmapHelvetica18)

5.9.1.15 #define GLUT_BITMAP_TIMES_ROMAN_10 (&glutBitmapTimesRoman10)

5.9.1.16 #define GLUT_BITMAP_TIMES_ROMAN_24 (&glutBitmapTimesRoman24)

5.9.1.17 #define GLUT_BLUE 2

5.9.1.18 #define GLUT_CURSOR_BOTTOM_LEFT_CORNER 19

5.9.1.19 #define GLUT_CURSOR_BOTTOM_RIGHT_CORNER 18

5.9.1.20 #define GLUT_CURSOR_BOTTOM_SIDE 13

5.9.1.21 #define GLUT_CURSOR_CROSSHAIR 9

5.9.1.22 #define GLUT_CURSOR_CYCLE 5

5.9.1.23 #define GLUT_CURSOR_DESTROY 3

5.9.1.24 `#define GLUT_CURSOR_FULL_CROSSHAIR 102`

5.9.1.25 `#define GLUT_CURSOR_HELP 4`

5.9.1.26 `#define GLUT_CURSOR_INFO 2`

5.9.1.27 `#define GLUT_CURSOR_INHERIT 100`

5.9.1.28 `#define GLUT_CURSOR_LEFT_ARROW 1`

5.9.1.29 `#define GLUT_CURSOR_LEFT_RIGHT 11`

5.9.1.30 `#define GLUT_CURSOR_LEFT_SIDE 14`

5.9.1.31 `#define GLUT_CURSOR_NONE 101`

5.9.1.32 `#define GLUT_CURSOR_RIGHT_ARROW 0`

5.9.1.33 `#define GLUT_CURSOR_RIGHT_SIDE 15`

5.9.1.34 `#define GLUT_CURSOR_SPRAY 6`

5.9.1.35 `#define GLUT_CURSOR_TEXT 8`

5.9.1.36 `#define GLUT_CURSOR_TOP_LEFT_CORNER 16`

5.9.1.37 `#define GLUT_CURSOR_TOP_RIGHT_CORNER 17`

5.9.1.38 `#define GLUT_CURSOR_TOP_SIDE 12`

5.9.1.39 `#define GLUT_CURSOR_UP_DOWN 10`

5.9.1.40 `#define GLUT_CURSOR_WAIT 7`

5.9.1.41 `#define GLUT_DEPTH 16`

5.9.1.42 `#define GLUT_DEVICE_IGNORE_KEY_REPEAT ((GLenum) 610)`

5.9.1.43 `#define GLUT_DEVICE_KEY_REPEAT ((GLenum) 611)`

5.9.1.44 `#define GLUT_DISPLAY_MODE_POSSIBLE ((GLenum) 400)`

5.9.1.45 `#define GLUT_DOUBLE 2`

5.9.1.46 `#define GLUT_DOWN 0`

- 5.9.1.47 `#define GLUT_ELAPSED_TIME ((GLenum) 700)`
- 5.9.1.48 `#define GLUT_ENTERED 1`
- 5.9.1.49 `#define GLUT_FULLY_COVERED 3`
- 5.9.1.50 `#define GLUT_FULLY_RETAINED 1`
- 5.9.1.51 `#define GLUT_GAME_MODE_ACTIVE ((GLenum) 0)`
- 5.9.1.52 `#define GLUT_GAME_MODE_DISPLAY_CHANGED ((GLenum) 6)`
- 5.9.1.53 `#define GLUT_GAME_MODE_HEIGHT ((GLenum) 3)`
- 5.9.1.54 `#define GLUT_GAME_MODE_PIXEL_DEPTH ((GLenum) 4)`
- 5.9.1.55 `#define GLUT_GAME_MODE_POSSIBLE ((GLenum) 1)`
- 5.9.1.56 `#define GLUT_GAME_MODE_REFRESH_RATE ((GLenum) 5)`
- 5.9.1.57 `#define GLUT_GAME_MODE_WIDTH ((GLenum) 2)`
- 5.9.1.58 `#define GLUT_GREEN 1`
- 5.9.1.59 `#define GLUT_HAS_DIAL_AND_BUTTON_BOX ((GLenum) 603)`
- 5.9.1.60 `#define GLUT_HAS_JOYSTICK ((GLenum) 612)`
- 5.9.1.61 `#define GLUT_HAS_KEYBOARD ((GLenum) 600)`
- 5.9.1.62 `#define GLUT_HAS_MOUSE ((GLenum) 601)`
- 5.9.1.63 `#define GLUT_HAS_OVERLAY ((GLenum) 802)`
- 5.9.1.64 `#define GLUT_HAS_SPACEBALL ((GLenum) 602)`
- 5.9.1.65 `#define GLUT_HAS_TABLET ((GLenum) 604)`
- 5.9.1.66 `#define GLUT_HIDDEN 0`
- 5.9.1.67 `#define GLUT_INDEX 1`
- 5.9.1.68 `#define GLUT_INIT_DISPLAY_MODE ((GLenum) 504)`
- 5.9.1.69 `#define GLUT_INIT_WINDOW_HEIGHT ((GLenum) 503)`

5.9.1.70 `#define GLUT_INIT_WINDOW_WIDTH ((GLenum) 502)`

5.9.1.71 `#define GLUT_INIT_WINDOW_X ((GLenum) 500)`

5.9.1.72 `#define GLUT_INIT_WINDOW_Y ((GLenum) 501)`

5.9.1.73 `#define GLUT_JOYSTICK_AXES ((GLenum) 615)`

5.9.1.74 `#define GLUT_JOYSTICK_BUTTON_A 1`

5.9.1.75 `#define GLUT_JOYSTICK_BUTTON_B 2`

5.9.1.76 `#define GLUT_JOYSTICK_BUTTON_C 4`

5.9.1.77 `#define GLUT_JOYSTICK_BUTTON_D 8`

5.9.1.78 `#define GLUT_JOYSTICK_BUTTONS ((GLenum) 614)`

5.9.1.79 `#define GLUT_JOYSTICK_POLL_RATE ((GLenum) 616)`

5.9.1.80 `#define GLUT_KEY_DOWN 103`

5.9.1.81 `#define GLUT_KEY_END 107`

5.9.1.82 `#define GLUT_KEY_F1 1`

5.9.1.83 `#define GLUT_KEY_F10 10`

5.9.1.84 `#define GLUT_KEY_F11 11`

5.9.1.85 `#define GLUT_KEY_F12 12`

5.9.1.86 `#define GLUT_KEY_F2 2`

5.9.1.87 `#define GLUT_KEY_F3 3`

5.9.1.88 `#define GLUT_KEY_F4 4`

5.9.1.89 `#define GLUT_KEY_F5 5`

5.9.1.90 `#define GLUT_KEY_F6 6`

5.9.1.91 `#define GLUT_KEY_F7 7`

5.9.1.92 `#define GLUT_KEY_F8 8`

- 5.9.1.93 `#define GLUT_KEY_F9 9`
- 5.9.1.94 `#define GLUT_KEY_HOME 106`
- 5.9.1.95 `#define GLUT_KEY_INSERT 108`
- 5.9.1.96 `#define GLUT_KEY_LEFT 100`
- 5.9.1.97 `#define GLUT_KEY_PAGE_DOWN 105`
- 5.9.1.98 `#define GLUT_KEY_PAGE_UP 104`
- 5.9.1.99 `#define GLUT_KEY_REPEAT_DEFAULT 2`
- 5.9.1.100 `#define GLUT_KEY_REPEAT_OFF 0`
- 5.9.1.101 `#define GLUT_KEY_REPEAT_ON 1`
- 5.9.1.102 `#define GLUT_KEY_RIGHT 102`
- 5.9.1.103 `#define GLUT_KEY_UP 101`
- 5.9.1.104 `#define GLUT_LAYER_IN_USE ((GLenum) 801)`
- 5.9.1.105 `#define GLUT_LEFT 0`
- 5.9.1.106 `#define GLUT_LEFT_BUTTON 0`
- 5.9.1.107 `#define GLUT_LUMINANCE 512`
- 5.9.1.108 `#define GLUT_MENU_IN_USE 1`
- 5.9.1.109 `#define GLUT_MENU_NOT_IN_USE 0`
- 5.9.1.110 `#define GLUT_MENU_NUM_ITEMS ((GLenum) 300)`
- 5.9.1.111 `#define GLUT_MIDDLE_BUTTON 1`
- 5.9.1.112 `#define GLUT_MULTISAMPLE 128`
- 5.9.1.113 `#define GLUT_NORMAL ((GLenum) 0)`
- 5.9.1.114 `#define GLUT_NORMAL_DAMAGED ((GLenum) 804)`
- 5.9.1.115 `#define GLUT_NOT_VISIBLE 0`

5.9.1.116 `#define GLUT_NUM_BUTTON_BOX_BUTTONS ((GLenum) 607)`

5.9.1.117 `#define GLUT_NUM_DIALS ((GLenum) 608)`

5.9.1.118 `#define GLUT_NUM_MOUSE_BUTTONS ((GLenum) 605)`

5.9.1.119 `#define GLUT_NUM_SPACEBALL_BUTTONS ((GLenum) 606)`

5.9.1.120 `#define GLUT_NUM_TABLET_BUTTONS ((GLenum) 609)`

5.9.1.121 `#define GLUT_OVERLAY ((GLenum) 1)`

5.9.1.122 `#define GLUT_OVERLAY_DAMAGED ((GLenum) 805)`

5.9.1.123 `#define GLUT_OVERLAY_POSSIBLE ((GLenum) 800)`

5.9.1.124 `#define GLUT_OWNS_JOYSTICK ((GLenum) 613)`

5.9.1.125 `#define GLUT_PARTIALLY_RETAINED 2`

5.9.1.126 `#define GLUT_RED 0`

5.9.1.127 `#define GLUT_RGB 0`

5.9.1.128 `#define GLUT_RGBA GLUT_RGB`

5.9.1.129 `#define GLUT_RIGHT_BUTTON 2`

5.9.1.130 `#define GLUT_SCREEN_HEIGHT ((GLenum) 201)`

5.9.1.131 `#define GLUT_SCREEN_HEIGHT_MM ((GLenum) 203)`

5.9.1.132 `#define GLUT_SCREEN_WIDTH ((GLenum) 200)`

5.9.1.133 `#define GLUT_SCREEN_WIDTH_MM ((GLenum) 202)`

5.9.1.134 `#define GLUT_SINGLE 0`

5.9.1.135 `#define GLUT_STENCIL 32`

5.9.1.136 `#define GLUT_STEREO 256`

5.9.1.137 `#define GLUT_STROKE_MONO_ROMAN (&glutStrokeMonoRoman)`

5.9.1.138 `#define GLUT_STROKE_ROMAN (&glutStrokeRoman)`

- 5.9.1.139 `#define GLUT_TRANSPARENT_INDEX ((GLenum) 803)`
- 5.9.1.140 `#define GLUT_UP 1`
- 5.9.1.141 `#define GLUT_VIDEO_RESIZE_HEIGHT ((GLenum) 909)`
- 5.9.1.142 `#define GLUT_VIDEO_RESIZE_HEIGHT_DELTA ((GLenum) 905)`
- 5.9.1.143 `#define GLUT_VIDEO_RESIZE_IN_USE ((GLenum) 901)`
- 5.9.1.144 `#define GLUT_VIDEO_RESIZE_POSSIBLE ((GLenum) 900)`
- 5.9.1.145 `#define GLUT_VIDEO_RESIZE_WIDTH ((GLenum) 908)`
- 5.9.1.146 `#define GLUT_VIDEO_RESIZE_WIDTH_DELTA ((GLenum) 904)`
- 5.9.1.147 `#define GLUT_VIDEO_RESIZE_X ((GLenum) 906)`
- 5.9.1.148 `#define GLUT_VIDEO_RESIZE_X_DELTA ((GLenum) 902)`
- 5.9.1.149 `#define GLUT_VIDEO_RESIZE_Y ((GLenum) 907)`
- 5.9.1.150 `#define GLUT_VIDEO_RESIZE_Y_DELTA ((GLenum) 903)`
- 5.9.1.151 `#define GLUT_VISIBLE 1`
- 5.9.1.152 `#define GLUT_WHEEL_DOWN 4`
- 5.9.1.153 `#define GLUT_WHEEL_UP 3`
- 5.9.1.154 `#define GLUT_WINDOW_ACCUM_ALPHA_SIZE ((GLenum) 114)`
- 5.9.1.155 `#define GLUT_WINDOW_ACCUM_BLUE_SIZE ((GLenum) 113)`
- 5.9.1.156 `#define GLUT_WINDOW_ACCUM_GREEN_SIZE ((GLenum) 112)`
- 5.9.1.157 `#define GLUT_WINDOW_ACCUM_RED_SIZE ((GLenum) 111)`
- 5.9.1.158 `#define GLUT_WINDOW_ALPHA_SIZE ((GLenum) 110)`
- 5.9.1.159 `#define GLUT_WINDOW_BLUE_SIZE ((GLenum) 109)`
- 5.9.1.160 `#define GLUT_WINDOW_BUFFER_SIZE ((GLenum) 104)`
- 5.9.1.161 `#define GLUT_WINDOW_COLORMAP_SIZE ((GLenum) 119)`

5.9.1.162 `#define GLUT_WINDOW_CURSOR ((GLenum) 122)`

5.9.1.163 `#define GLUT_WINDOW_DEPTH_SIZE ((GLenum) 106)`

5.9.1.164 `#define GLUT_WINDOW_DOUBLEBUFFER ((GLenum) 115)`

5.9.1.165 `#define GLUT_WINDOW_FORMAT_ID ((GLenum) 123)`

5.9.1.166 `#define GLUT_WINDOW_GREEN_SIZE ((GLenum) 108)`

5.9.1.167 `#define GLUT_WINDOW_HEIGHT ((GLenum) 103)`

5.9.1.168 `#define GLUT_WINDOW_NUM_CHILDREN ((GLenum) 118)`

5.9.1.169 `#define GLUT_WINDOW_NUM_SAMPLES ((GLenum) 120)`

5.9.1.170 `#define GLUT_WINDOW_PARENT ((GLenum) 117)`

5.9.1.171 `#define GLUT_WINDOW_RED_SIZE ((GLenum) 107)`

5.9.1.172 `#define GLUT_WINDOW_RGBA ((GLenum) 116)`

5.9.1.173 `#define GLUT_WINDOW_STENCIL_SIZE ((GLenum) 105)`

5.9.1.174 `#define GLUT_WINDOW_STEREO ((GLenum) 121)`

5.9.1.175 `#define GLUT_WINDOW_WIDTH ((GLenum) 102)`

5.9.1.176 `#define GLUT_WINDOW_X ((GLenum) 100)`

5.9.1.177 `#define GLUT_WINDOW_Y ((GLenum) 101)`

5.9.1.178 `#define GLUT_XBUTTON1 5`

5.9.1.179 `#define GLUT_XBUTTON2 6`

5.9.1.180 `#define GLUT_XLIB_IMPLEMENTATION 15`

GLUT implementation revision history:

GLUT_XLIB_IMPLEMENTATION is updated to reflect both GLUT API revisions and implementation revisions (ie, bug fixes).

GLUT_XLIB_IMPLEMENTATION=1 mjk's first public release of GLUT Xlib-based implementation. 11/29/94

GLUT_XLIB_IMPLEMENTATION=2 mjk's second public release of GLUT Xlib-based implementation providing G↔LUT version 2 interfaces.

GLUT_XLIB_IMPLEMENTATION=3 mjk's GLUT 2.2 images. 4/17/95
 GLUT_XLIB_IMPLEMENTATION=4 mjk's GLUT 2.3 images. 6/?/95
 GLUT_XLIB_IMPLEMENTATION=5 mjk's GLUT 3.0 images. 10/?/95
 GLUT_XLIB_IMPLEMENTATION=7 mjk's GLUT 3.1+ with glutWarpPoitner. 7/24/96
 GLUT_XLIB_IMPLEMENTATION=8 mjk's GLUT 3.1+ with glutWarpPoitner and video resize. 1/3/97
 GLUT_XLIB_IMPLEMENTATION=9 mjk's GLUT 3.4 release with early GLUT 4 routines.
 GLUT_XLIB_IMPLEMENTATION=11 Mesa 2.5's GLUT 3.6 release.
 GLUT_XLIB_IMPLEMENTATION=12 mjk's GLUT 3.6 release with early GLUT 4 routines + signal handling.
 GLUT_XLIB_IMPLEMENTATION=13 mjk's GLUT 3.7 beta with GameGLUT support.
 GLUT_XLIB_IMPLEMENTATION=14 mjk's GLUT 3.7 beta with f90gl friend interface.
 GLUT_XLIB_IMPLEMENTATION=15 mjk's GLUT 3.7 beta sync'ed with Mesa <GL/glut.h>

5.9.1.181 `#define GLUTAPI extern`

5.9.1.182 `#define GLUTCALLBACK`

5.9.2 Function Documentation

5.9.2.1 `void exit (int)`

5.9.2.2 `GLUTAPI void APIENTRY glutAddMenuEntry (const char * label, int value)`

5.9.2.3 `GLUTAPI void APIENTRY glutAddSubMenu (const char * label, int submenu)`

5.9.2.4 `GLUTAPI void APIENTRY glutAttachMenu (int button)`

5.9.2.5 `GLUTAPI void APIENTRY glutBitmapCharacter (void * font, int character)`

5.9.2.6 `GLUTAPI int APIENTRY glutBitmapLength (void * font, const unsigned char * string)`

5.9.2.7 `GLUTAPI int APIENTRY glutBitmapWidth (void * font, int character)`

5.9.2.8 `GLUTAPI void APIENTRY glutButtonBoxFunc (void(GLUTCALLBACK *func)(int button, int state))`

5.9.2.9 `GLUTAPI void APIENTRY glutChangeToMenuEntry (int item, const char * label, int value)`

5.9.2.10 `GLUTAPI void APIENTRY glutChangeToSubMenu (int item, const char * label, int submenu)`

5.9.2.11 `GLUTAPI void APIENTRY glutCopyColormap (int win)`

5.9.2.12 `GLUTAPI int APIENTRY glutCreateMenu (void(GLUTCALLBACK *func)(int))`

5.9.2.13 `GLUTAPI int APIENTRY glutCreateSubWindow (int win, int x, int y, int width, int height)`

5.9.2.14 `GLUTAPI int APIENTRY glutCreateWindow (const char * title)`

Here is the caller graph for this function:

- 5.9.2.15 **GLUTAPI void APIENTRY** glutDestroyMenu (int *menu*)
- 5.9.2.16 **GLUTAPI void APIENTRY** glutDestroyWindow (int *win*)
- 5.9.2.17 **GLUTAPI void APIENTRY** glutDetachMenu (int *button*)
- 5.9.2.18 **GLUTAPI int APIENTRY** glutDeviceGet (GLenum *type*)
- 5.9.2.19 **GLUTAPI void APIENTRY** glutDialsFunc (void(GLUTCALLBACK *func)(int dial, int value))
- 5.9.2.20 **GLUTAPI void APIENTRY** glutDisplayFunc (void(GLUTCALLBACK *func)(void))

Here is the caller graph for this function:

- 5.9.2.21 **GLUTAPI int APIENTRY** glutEnterGameMode (void)
- 5.9.2.22 **GLUTAPI void APIENTRY** glutEntryFunc (void(GLUTCALLBACK *func)(int state))
- 5.9.2.23 **GLUTAPI void APIENTRY** glutEstablishOverlay (void)
- 5.9.2.24 **GLUTAPI int APIENTRY** glutExtensionSupported (const char * *name*)
- 5.9.2.25 **GLUTAPI void APIENTRY** glutForceJoystickFunc (void)
- 5.9.2.26 **GLUTAPI void APIENTRY** glutFullScreen (void)
- 5.9.2.27 **GLUTAPI int APIENTRY** glutGameModeGet (GLenum *mode*)
- 5.9.2.28 **GLUTAPI void APIENTRY** glutGameModeString (const char * *string*)
- 5.9.2.29 **GLUTAPI int APIENTRY** glutGet (GLenum *type*)
- 5.9.2.30 **GLUTAPI GLfloat APIENTRY** glutGetColor (int *ndx*, int *component*)
- 5.9.2.31 **GLUTAPI int APIENTRY** glutGetMenu (void)
- 5.9.2.32 **GLUTAPI int APIENTRY** glutGetModifiers (void)
- 5.9.2.33 **GLUTAPI int APIENTRY** glutGetWindow (void)
- 5.9.2.34 **GLUTAPI void APIENTRY** glutHideOverlay (void)
- 5.9.2.35 **GLUTAPI void APIENTRY** glutHideWindow (void)
- 5.9.2.36 **GLUTAPI void APIENTRY** glutIconifyWindow (void)
- 5.9.2.37 **GLUTAPI void APIENTRY** glutIdleFunc (void(GLUTCALLBACK *func)(void))
- 5.9.2.38 **GLUTAPI void APIENTRY** glutIgnoreKeyRepeat (int *ignore*)
- 5.9.2.39 **GLUTAPI void APIENTRY** glutInit (int * *argcp*, char ** *argv*)

Here is the caller graph for this function:

5.9.2.40 **GLUTAPI void APIENTRY** glutInitDisplayMode (unsigned int *mode*)

Here is the caller graph for this function:

5.9.2.41 **GLUTAPI void APIENTRY** glutInitDisplayString (const char * *string*)

5.9.2.42 **GLUTAPI void APIENTRY** glutInitWindowPosition (int *x*, int *y*)

Here is the caller graph for this function:

5.9.2.43 **GLUTAPI void APIENTRY** glutInitWindowSize (int *width*, int *height*)

Here is the caller graph for this function:

5.9.2.44 **GLUTAPI void APIENTRY** glutJoystickFunc (void(GLUTCALLBACK *func)(unsigned int buttonMask, int *x*, int *y*, int *z*) , int *pollInterval*)

5.9.2.45 **GLUTAPI void APIENTRY** glutKeyboardFunc (void(GLUTCALLBACK *func)(unsigned char *key*, int *x*, int *y*))

Here is the caller graph for this function:

5.9.2.46 **GLUTAPI void APIENTRY** glutKeyboardUpFunc (void(GLUTCALLBACK *func)(unsigned char *key*, int *x*, int *y*))

5.9.2.47 **GLUTAPI int APIENTRY** glutLayerGet (GLenum *type*)

5.9.2.48 **GLUTAPI void APIENTRY** glutLeaveGameMode (void)

5.9.2.49 **GLUTAPI void APIENTRY** glutMainLoop (void)

Here is the caller graph for this function:

5.9.2.50 **GLUTAPI void APIENTRY** glutMenuStateFunc (void(GLUTCALLBACK *func)(int *state*))

5.9.2.51 **GLUTAPI void APIENTRY** glutMenuStatusFunc (void(GLUTCALLBACK *func)(int *status*, int *x*, int *y*))

5.9.2.52 **GLUTAPI void APIENTRY** glutMotionFunc (void(GLUTCALLBACK *func)(int *x*, int *y*))

5.9.2.53 **GLUTAPI void APIENTRY** glutMouseFunc (void(GLUTCALLBACK *func)(int *button*, int *state*, int *x*, int *y*))

5.9.2.54 **GLUTAPI void APIENTRY** glutOverlayDisplayFunc (void(GLUTCALLBACK *func)(void))

5.9.2.55 **GLUTAPI void APIENTRY** glutPassiveMotionFunc (void(GLUTCALLBACK *func)(int *x*, int *y*))

5.9.2.56 **GLUTAPI void APIENTRY** glutPopWindow (void)

5.9.2.57 **GLUTAPI void APIENTRY** glutPositionWindow (int *x*, int *y*)

5.9.2.58 **GLUTAPI void APIENTRY** glutPostOverlayRedisplay (void)

5.9.2.59 **GLUTAPI void APIENTRY** glutPostRedisplay (void)

Here is the caller graph for this function:

5.9.2.60 **GLUTAPI void APIENTRY** glutPostWindowOverlayRedisplay (*int win*)

5.9.2.61 **GLUTAPI void APIENTRY** glutPostWindowRedisplay (*int win*)

5.9.2.62 **GLUTAPI void APIENTRY** glutPushWindow (*void*)

5.9.2.63 **GLUTAPI void APIENTRY** glutRemoveMenuItem (*int item*)

5.9.2.64 **GLUTAPI void APIENTRY** glutRemoveOverlay (*void*)

5.9.2.65 **GLUTAPI void APIENTRY** glutReportErrors (*void*)

5.9.2.66 **GLUTAPI void APIENTRY** glutReshapeFunc (*void(GLUTCALLBACK *func)(int width, int height)*)

Here is the caller graph for this function:

5.9.2.67 **GLUTAPI void APIENTRY** glutReshapeWindow (*int width, int height*)

5.9.2.68 **GLUTAPI void APIENTRY** glutSetColor (*int* , *GLfloat red, GLfloat green, GLfloat blue*)

5.9.2.69 **GLUTAPI void APIENTRY** glutSetCursor (*int cursor*)

5.9.2.70 **GLUTAPI void APIENTRY** glutSetIconTitle (*const char * title*)

5.9.2.71 **GLUTAPI void APIENTRY** glutSetKeyRepeat (*int repeatMode*)

5.9.2.72 **GLUTAPI void APIENTRY** glutSetMenu (*int menu*)

5.9.2.73 **GLUTAPI void APIENTRY** glutSetupVideoResizing (*void*)

5.9.2.74 **GLUTAPI void APIENTRY** glutSetWindow (*int win*)

5.9.2.75 **GLUTAPI void APIENTRY** glutSetWindowTitle (*const char * title*)

5.9.2.76 **GLUTAPI void APIENTRY** glutShowOverlay (*void*)

5.9.2.77 **GLUTAPI void APIENTRY** glutShowWindow (*void*)

5.9.2.78 **GLUTAPI void APIENTRY** glutSolidCone (*GLdouble base, GLdouble height, GLint slices, GLint stacks*)

5.9.2.79 **GLUTAPI void APIENTRY** glutSolidCube (*GLdouble size*)

5.9.2.80 **GLUTAPI void APIENTRY** glutSolidDodecahedron (*void*)

5.9.2.81 **GLUTAPI void APIENTRY** glutSolidIcosahedron (*void*)

- 5.9.2.82 **GLUTAPI void APIENTRY** glutSolidOctahedron (void)
- 5.9.2.83 **GLUTAPI void APIENTRY** glutSolidSphere (GLdouble *radius*, GLint *slices*, GLint *stacks*)
- 5.9.2.84 **GLUTAPI void APIENTRY** glutSolidTeapot (GLdouble *size*)
- 5.9.2.85 **GLUTAPI void APIENTRY** glutSolidTetrahedron (void)
- 5.9.2.86 **GLUTAPI void APIENTRY** glutSolidTorus (GLdouble *innerRadius*, GLdouble *outerRadius*, GLint *sides*, GLint *rings*)
- 5.9.2.87 **GLUTAPI void APIENTRY** glutSpaceballButtonFunc (void(GLUTCALLBACK *func)(int button, int state))
- 5.9.2.88 **GLUTAPI void APIENTRY** glutSpaceballMotionFunc (void(GLUTCALLBACK *func)(int x, int y, int z))
- 5.9.2.89 **GLUTAPI void APIENTRY** glutSpaceballRotateFunc (void(GLUTCALLBACK *func)(int x, int y, int z))
- 5.9.2.90 **GLUTAPI void APIENTRY** glutSpecialFunc (void(GLUTCALLBACK *func)(int key, int x, int y))
- 5.9.2.91 **GLUTAPI void APIENTRY** glutSpecialUpFunc (void(GLUTCALLBACK *func)(int key, int x, int y))
- 5.9.2.92 **GLUTAPI void APIENTRY** glutStopVideoResizing (void)
- 5.9.2.93 **GLUTAPI void APIENTRY** glutStrokeCharacter (void * *font*, int *character*)
- 5.9.2.94 **GLUTAPI int APIENTRY** glutStrokeLength (void * *font*, const unsigned char * *string*)
- 5.9.2.95 **GLUTAPI int APIENTRY** glutStrokeWidth (void * *font*, int *character*)
- 5.9.2.96 **GLUTAPI void APIENTRY** glutSwapBuffers (void)

Here is the caller graph for this function:

- 5.9.2.97 **GLUTAPI void APIENTRY** glutTabletButtonFunc (void(GLUTCALLBACK *func)(int button, int state, int x, int y))
- 5.9.2.98 **GLUTAPI void APIENTRY** glutTabletMotionFunc (void(GLUTCALLBACK *func)(int x, int y))
- 5.9.2.99 **GLUTAPI void APIENTRY** glutTimerFunc (unsigned int *millis*, void(GLUTCALLBACK *func)(int value) , int *value*)

Here is the caller graph for this function:

- 5.9.2.100 GLUTAPI void APIENTRY glutUseLayer (GLenum *layer*)
- 5.9.2.101 GLUTAPI void APIENTRY glutVideoPan (int *x*, int *y*, int *width*, int *height*)
- 5.9.2.102 GLUTAPI void APIENTRY glutVideoResize (int *x*, int *y*, int *width*, int *height*)
- 5.9.2.103 GLUTAPI int APIENTRY glutVideoResizeGet (GLenum *param*)
- 5.9.2.104 GLUTAPI void APIENTRY glutVisibilityFunc (void(GLUTCALLBACK *func)(int state))
- 5.9.2.105 GLUTAPI void APIENTRY glutWarpPointer (int *x*, int *y*)
- 5.9.2.106 GLUTAPI void APIENTRY glutWindowStatusFunc (void(GLUTCALLBACK *func)(int state))
- 5.9.2.107 GLUTAPI void APIENTRY glutWireCone (GLdouble *base*, GLdouble *height*, GLint *slices*, GLint *stacks*)
- 5.9.2.108 GLUTAPI void APIENTRY glutWireCube (GLdouble *size*)
- 5.9.2.109 GLUTAPI void APIENTRY glutWireDodecahedron (void)
- 5.9.2.110 GLUTAPI void APIENTRY glutWireIcosahedron (void)
- 5.9.2.111 GLUTAPI void APIENTRY glutWireOctahedron (void)
- 5.9.2.112 GLUTAPI void APIENTRY glutWireSphere (GLdouble *radius*, GLint *slices*, GLint *stacks*)
- 5.9.2.113 GLUTAPI void APIENTRY glutWireTeapot (GLdouble *size*)
- 5.9.2.114 GLUTAPI void APIENTRY glutWireTetrahedron (void)
- 5.9.2.115 GLUTAPI void APIENTRY glutWireTorus (GLdouble *innerRadius*, GLdouble *outerRadius*, GLint *sides*, GLint *rings*)

5.9.3 Variable Documentation

- 5.9.3.1 GLUTAPI void* glutBitmap8By13
- 5.9.3.2 GLUTAPI void* glutBitmap9By15
- 5.9.3.3 GLUTAPI void* glutBitmapHelvetica10
- 5.9.3.4 GLUTAPI void* glutBitmapHelvetica12
- 5.9.3.5 GLUTAPI void* glutBitmapHelvetica18

5.9.3.6 GLUTAPI void* glutBitmapTimesRoman10

5.9.3.7 GLUTAPI void* glutBitmapTimesRoman24

5.9.3.8 GLUTAPI void* glutStrokeMonoRoman

5.9.3.9 GLUTAPI void* glutStrokeRoman

5.10 OpenGLSkeleton/main.cpp File Reference

```
#include <iostream>
#include <string>
#include "glut.h"
#include <list>
#include <math.h>
#include <vector>
#include "main.h"
#include "drawtools.h"
#include "Enemy.h"
#include "Turret.h"
#include "FiredBullet.h"
#include <fstream>
Include dependency graph for main.cpp:
```

Macros

- `#define _USE_MATH_DEFINES`

Functions

- void **init** ()
- void **readFile** (string filename)
- void **raster** ()
- void **path** ()
- void **makeEnemy** ()
- void **drawEnemy** ()
- void **drawBullets** (PointF posEnemy, int j)
- void **makeTurret** (float x, float y)
- void **drawTurret** ()
- void **drawBullet** ()
- void **idle** (int value)
- void **reshape** (int w, int h)
- void **display** ()
- void **keyfunc** (unsigned char key, int x, int y)
- int **main** (int argc, char *argv[])

Variables

- std::string **keytext**
- **DrawList** drawList
- string **filename** = "test"
- int **PlayerHealth** = 100
- int **PlayerScore** = 0
- string **MapName**
- const int **mapSizex** = 100
- const int **mapSizey** = 100
- char **Map** [mapSizex][mapSizey]
- vector< **Enemy** * > **enenemyvector**
- vector< **Turret** * > **turretvector**
- vector< **FiredBullet** * > **bulletvector**
- int **start** = 0

5.10.1 Macro Definition Documentation

5.10.1.1 #define _USE_MATH_DEFINES

5.10.2 Function Documentation

5.10.2.1 void display ()

Here is the call graph for this function:

Here is the caller graph for this function:

5.10.2.2 void drawBullet ()

Here is the caller graph for this function:

5.10.2.3 void drawBullets (PointF posEnemy, int j)

Here is the caller graph for this function:

5.10.2.4 void drawEnemy ()

Here is the call graph for this function:

Here is the caller graph for this function:

5.10.2.5 void drawTurret ()

Here is the caller graph for this function:

5.10.2.6 void idle (int *value*)

Here is the call graph for this function:

Here is the caller graph for this function:

5.10.2.7 void init ()

Here is the call graph for this function:

Here is the caller graph for this function:

5.10.2.8 void keyfunc (unsigned char *key*, int *x*, int *y*)

Here is the call graph for this function:

Here is the caller graph for this function:

5.10.2.9 int main (int *argc*, char * *argv*[])

Here is the call graph for this function:

5.10.2.10 void makeEnemy ()

Here is the caller graph for this function:

5.10.2.11 void makeTurret (float *x*, float *y*)

Here is the caller graph for this function:

5.10.2.12 void path ()

Here is the caller graph for this function:

5.10.2.13 void raster ()

Here is the call graph for this function:

Here is the caller graph for this function:

5.10.2.14 void readFile (string *filename*)

Here is the caller graph for this function:

5.10.2.15 `void reshape (int w, int h)`

Here is the call graph for this function:

Here is the caller graph for this function:

5.10.3 Variable Documentation

5.10.3.1 `vector<FiredBullet*> bulletvector`

5.10.3.2 `DrawList drawList`

5.10.3.3 `vector<Enemy*> enemyvector`

5.10.3.4 `string filename = "test"`

5.10.3.5 `std::string keytext`

5.10.3.6 `char Map[mapSizex][mapSizey]`

5.10.3.7 `string MapName`

5.10.3.8 `const int mapSizex = 100`

5.10.3.9 `const int mapSizey = 100`

5.10.3.10 `int PlayerHealth = 100`

5.10.3.11 `int PlayerScore = 0`

5.10.3.12 `int start = 0`

5.10.3.13 `vector<Turret*> turretvector`

5.11 OpenGLSkeleton/main.h File Reference

```
#include "glut.h"
#include "drawtools.h"
```

Include dependency graph for main.h: This graph shows which files directly or indirectly include this file:

Functions

- int **main** (int argc, char *argv[])
- void **init** ()
- void **reshape** (int w, int h)
- void **display** ()
- void **keyfunc** (unsigned char key, int x, int y)
- void **makeEnemy** ()
- void **makeTurret** (float x, float y)
- void **drawEnemy** ()
- void **drawTurret** ()
- void **raster** ()
- void **drawBullets** (**PointF** posEnemy, int i)
- void **drawBullet** (**PointF** posEnemy, int i)
- void **path** ()

Variables

- const int **windowWidth** = 1024
- const int **windowHeight** = 768
- const char * **windowTitle** = "Final Task: Tower Defense by Martyn van Dijke"

5.11.1 Function Documentation

5.11.1.1 void display ()

Here is the call graph for this function:

Here is the caller graph for this function:

5.11.1.2 void drawBullet (**PointF** posEnemy, int i)

5.11.1.3 void drawBullets (**PointF** posEnemy, int i)

Here is the caller graph for this function:

5.11.1.4 void drawEnemy ()

Here is the call graph for this function:

Here is the caller graph for this function:

5.11.1.5 void drawTurret ()

Here is the caller graph for this function:

5.11.1.6 void init ()

Here is the call graph for this function:

Here is the caller graph for this function:

5.11.1.7 void keyfunc (unsigned char *key*, int *x*, int *y*)

Here is the call graph for this function:

Here is the caller graph for this function:

5.11.1.8 int main (int *argc*, char * *argv*[])

Here is the call graph for this function:

5.11.1.9 void makeEnemy ()

Here is the caller graph for this function:

5.11.1.10 void makeTurret (float *x*, float *y*)

Here is the caller graph for this function:

5.11.1.11 void path ()

Here is the caller graph for this function:

5.11.1.12 void raster ()

Here is the call graph for this function:

Here is the caller graph for this function:

5.11.1.13 void reshape (int *w*, int *h*)

Here is the call graph for this function:

Here is the caller graph for this function:

5.11.2 Variable Documentation

5.11.2.1 `const int windowHeight = 768`

5.11.2.2 `const char* windowTitle = "Final Task: Tower Defense by Martyn van Dijke"`

5.11.2.3 `const int windowWidth = 1024`

5.12 OpenGLSkeleton/resource.h File Reference

Macros

- `#define IDI_ICON1 101`

5.12.1 Macro Definition Documentation

5.12.1.1 `#define IDI_ICON1 101`

5.13 OpenGLSkeleton/Turret.cpp File Reference

```
#include "Turret.h"
```

Include dependency graph for Turret.cpp:

5.14 OpenGLSkeleton/Turret.h File Reference

```
#include <array>
```

```
#include "drawtools.h"
```

Include dependency graph for Turret.h: This graph shows which files directly or indirectly include this file:

Classes

- class **Turret**

5.15 OpenGLSkeleton/zooi.cpp File Reference

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