Phantom

Appendix A

Generated by Doxygen 1.8.3.1

Sun Feb 24 2013 12:27:44

Contents

Chapter 1

Hierarchical Index

1.1 Class Hierarchy

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

Chapter 2

Class Index

2.1 Class List

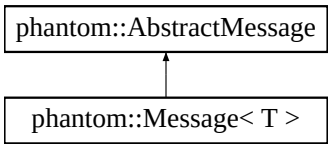
Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 3

Class Documentation

3.1 phantom::AbstractMessage Class Reference

Inheritance diagram for phantom::AbstractMessage:



Public Member Functions

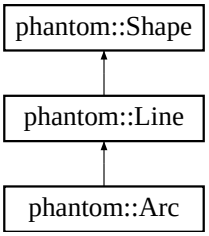
- **AbstractMessage** (std::string type)
- template<class T3 >
  T3 **getPayload** ()
- bool **isType** (const std::string &otherType)
- const std::string & **getType** ()

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/messaging/AbstractMessage.h

3.2 phantom::Arc Class Reference

Inheritance diagram for phantom::Arc:



Public Member Functions

- **Arc** (float x, float y, float radius, float start, float end)

Public Attributes

- float **radius**
- float **start**
- float **end**

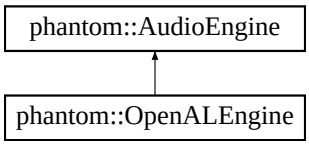
Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Arc.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Arc.cpp

3.3 phantom::AudioEngine Class Reference

Inheritance diagram for phantom::AudioEngine:



Public Member Functions

- **AudioEngine** (PhantomGame ∗game)
- virtual void createSound (SoundData ∗data)=0
- virtual void destroySound (SoundData ∗data)=0
- virtual unsigned int playSound (SoundData ∗data, const Vector3 &position)=0
- virtual void playMusic (SoundData ∗data)=0
- virtual void stopSound (unsigned int id)=0
- virtual void stopMusic (SoundData ∗data)=0
- virtual void setPosition (const Vector3 &position)=0

Protected Attributes

- PhantomGame ∗ **_game**

3.3.1 Member Function Documentation

3.3.1.1 virtual void phantom::AudioEngine::createSound (SoundData ∗ *data*) [pure virtual]

This function is called when the sound is not in the library yet.

Implemented in phantom::OpenALEngine.

3.3.1.2 virtual void phantom::AudioEngine::destroySound (SoundData ∗ *data*) [pure virtual]

This function is called once the sound is no longer needed.

Implemented in phantom::OpenALEngine.

3.3.1.3 virtual void phantom::AudioEngine::playMusic (SoundData * *data*) [pure virtual]

This function is called when you want to play an music file.

Implemented in phantom::OpenALEngine.

3.3.1.4 virtual unsigned int phantom::AudioEngine::playSound (SoundData * *data*, const Vector3 & *position*) [pure virtual]

This function is called when you want to play an sound file.

Parameters

position	The position unrelative to the listener.

Implemented in phantom::OpenALEngine.

3.3.1.5 virtual void phantom::AudioEngine::setPosition (const Vector3 & *position*) [pure virtual]

This function is called when you change the position of the listener.

Parameters

position	The position of the listener.

Implemented in phantom::OpenALEngine.

3.3.1.6 virtual void phantom::AudioEngine::stopMusic (SoundData * *data*) [pure virtual]

This function is called when you want to stop playing the music.

Implemented in phantom::OpenALEngine.

3.3.1.7 virtual void phantom::AudioEngine::stopSound (unsigned int *id*) [pure virtual]

This function is called when you want to stop a sound from playing.

Implemented in phantom::OpenALEngine.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/audio/AudioEngine.h

3.4 phantom::tree::BinaryNode Class Reference

Public Attributes

- int **key**
- void * **data**
- BinaryNode * **parent**
- BinaryNode * **left**
- BinaryNode * **right**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/tree/BinaryNode.h

3.5 phantom::tree::BinaryTree Class Reference

Public Member Functions

- void **push** (int key)
- BinaryNode * **find** (int key)
- void **erase** (int key)
- void **destroy** ()

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/tree/BinaryTree.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/tree/BinaryTree.cpp

3.6 phantom::Box3 Class Reference

Public Member Functions

- **Box3** (float x, float y, float width, float height)
- **Box3** (Vector3 origin, Vector3 size)
- bool **intersect** (const Box3 &other) const
- bool **intersect** (const Line2 &other) const
- bool **contains** (const Vector3 &other) const
- bool **contains** (const Vector3 *other) const
- Vector3 **getCenter** (void) const
- void **repair** (void)
- string **toString** (void)
- string **toString2** (void)

Public Attributes

- Vector3 **origin**
- Vector3 **size**

Friends

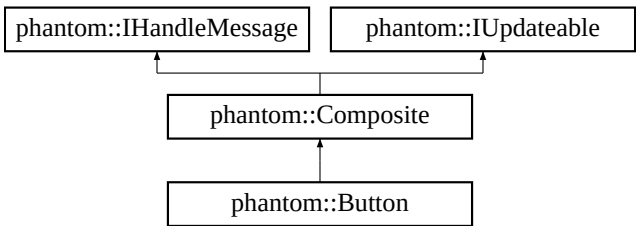
- ostream & **operator**<< (ostream &o, const Box3 &b)

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Box3.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Box3.cpp

3.7 phantom::Button Class Reference

Inheritance diagram for phantom::Button:



Public Member Functions

- **Button** (float x, float y, float width, float height)
- void onClick (MouseState *mousestate)
- string & text ()
- void setText (const std::string &text)
- virtual void paint ()
- virtual void update (const PhantomTime &time)

Public Attributes

- std::function< void()> **onClickFunction**

Additional Inherited Members

3.7.1 Member Function Documentation

3.7.1.1 void phantom::Button::onClick (MouseState * *mousestate*)

This function executes the onClickFunction.

Parameters

mousestate	The location of the mouse.

3.7.1.2 void phantom::Button::paint ( ) [virtual]

Paint gets executed before the label is printed on it. Override this function to create a skin for the button.

3.7.1.3 void phantom::Button::setText (const std::string & *text*)

Set the label of the button.

Parameters

text	The text you want to set on the button.

3.7.1.4 string & phantom::Button::text ( )

Returns a reference to the text.

Returns

Returns a reference to the text.

3.7.1.5 void phantom::Button::update (const PhantomTime & *time*) [virtual]

This function draws the button and checks if it's pressed.

Parameters

time	The time created by PhantomGame.

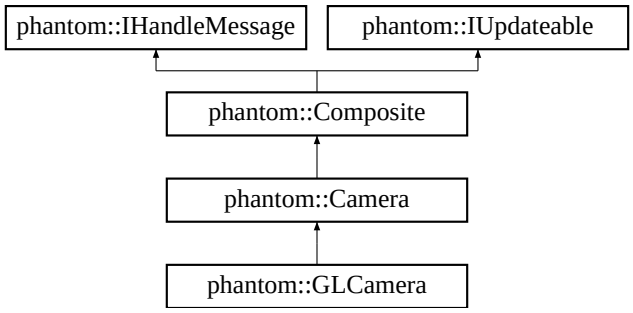
Reimplemented from phantom::Composite.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/guicomponents/Button.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/guicomponents/Button.cpp

3.8 phantom::Camera Class Reference

Inheritance diagram for phantom::Camera:



Public Member Functions

- **Camera** (int id)
- int getCameraID ()
- bool isActive ()
- Vector3 getWorldCoordinates (Vector3 viewCoordinate)
- Vector3 & getScreenSize ()
- Vector3 & getViewPort ()
- Vector3 & getRotation ()
- virtual void setScreenSize (Vector3 s)
- virtual void setViewPort (Vector3 vp)
- virtual void setRotation (Vector3 rot)
- virtual void setParams ()

Friends

- class **Driver**

Additional Inherited Members

3.8.1 Member Function Documentation

3.8.1.1 int phantom::Camera::getCameraID ( )

Returns

Returns the camera ID. This can be used to identify the camera.

3.8.1.2 Vector3 & phantom::Camera::getRotation ( )

Returns

Returns the camera's rotation.

3.8.1.3 Vector3 & phantom::Camera::getScreenSize ( )

Returns

Returns the screen size.

3.8.1.4 Vector3 & phantom::Camera::getViewPort ( )

Returns

Returns the camera's viewport.

3.8.1.5 Vector3 phantom::Camera::getWorldCoordinates (Vector3 *viewCoordinate*)

Returns

Returns the world coordinate.

Parameters

viewCoordinate	Position on the screen.

3.8.1.6 bool phantom::Camera::isActive ( )

Returns

Returns true if the camera is running.

3.8.1.7 void phantom::Camera::setParams ( ) [virtual]

Function called by the renderer for setting the display properties.

Reimplemented in phantom::GLCamera.

3.8.1.8 void phantom::Camera::setRotation (Vector3 *rot*) [virtual]

Set the camera rotation.

Parameters

rot	The camera rotation.

3.8.1.9 void phantom::Camera::setScreenSize (Vector3 *s*) [virtual]

Sets the screen size.

Parameters

s	The new screen size.

3.8.1.10 void phantom::Camera::setViewPort (Vector3 *vp*) [virtual]

Set the view port.

Parameters

vp	The new view port.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Camera.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Camera.cpp

3.9 phantom::FreeTypeFont::char_info_t Struct Reference

Public Attributes

- int **x**
- int **y**
- int **width**
- int **height**
- int **left**
- int **top**
- int **advance**
- int **row**
- TexCoord **uv** [4]
- Vertice **vertice** [4]
- unsigned int * **bitmap**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/FreeTypeFont.h

3.10 phantom::CollisionData Struct Reference

Public Attributes

- bool **wasHandled**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/CollisionData.h

3.11 phantom::Color Struct Reference

Public Member Functions

- **Color** (unsigned char r, unsigned char g, unsigned char b)
- **Color** (unsigned char r, unsigned char g, unsigned char b, unsigned char a)

Public Attributes

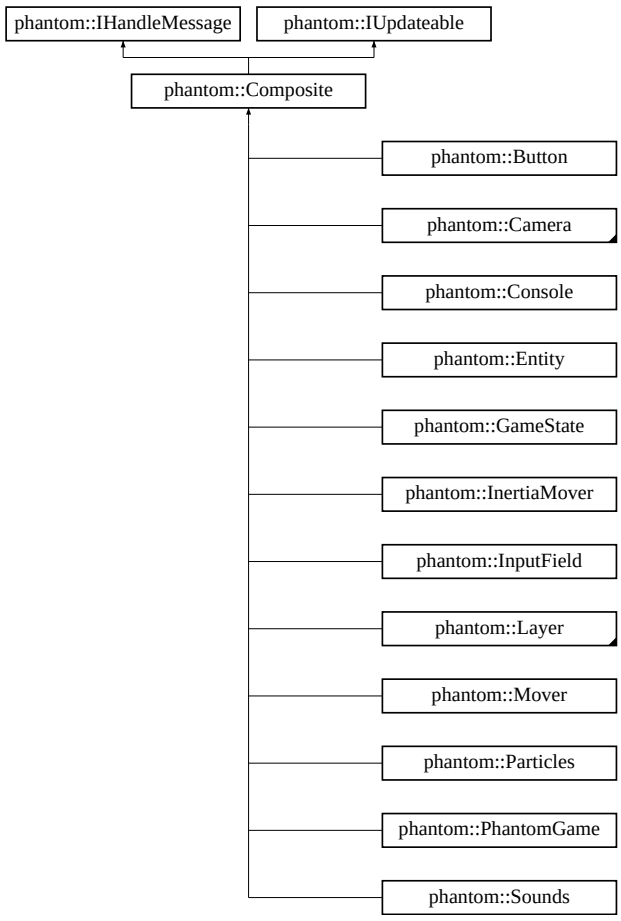
- unsigned char **r**
- unsigned char **g**
- unsigned char **b**
- unsigned char **a**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/Color.h

3.12 phantom::Composite Class Reference

Inheritance diagram for phantom::Composite:



Public Member Functions

- virtual void **onParentChange** (Composite ∗parent)
- virtual void **onAnsestorChanged** ()
- virtual void **onLayerChanged** (Layer ∗layer)
- Composite ∗ **getParent** ()
- PhantomGame ∗ **getPhantomGame** (void)
- template<class T >
  T **getGame** (void)
- virtual void **addComponent** (Composite ∗component)
- std::vector< Composite ∗ > & **getComponents** ()
- virtual void **removeComponent** (Composite ∗who)
- virtual void **destroyComponent** (Composite ∗who)
- virtual void **destroy** (void)
- virtual void **removeFromParent** (void)
- template<class T >
  T ∗ **findAnsestor** ()
- template<class T >
  T ∗ **getComponentByType** (int nth)
- bool **isDestroyed** ()
- virtual MessageState **handleMessage** (AbstractMessage ∗message)
- virtual void **update** (const PhantomTime &time)
- Graphics & **getGraphics** ()
- virtual bool **canCollideWith** (Composite ∗other)
- virtual void **onCollision** (Composite ∗other, CollisionData &collisionData)
- Box3 & **getBoundingBox** ()
- void **setBoundingBox** (const Box3 &boundingBox)
- const Vector3 & **getPosition** ()
- virtual void **setPosition** (Vector3 position)
- virtual void **setX** (float x)
- virtual void **setY** (float y)
- virtual void **addPosition** (const Vector3 &add)
- virtual void **removePosition** (const Vector3 &subtract)
- virtual void **setDirection** (Vector3 direction)
- const string & **getType** () const
- bool **isType** (const string &type) const
- bool **isType** (const Composite &other) const
- bool **isType** (const Composite ∗other) const
- string **toString** (void)
- Layer ∗ **getLayer** ()

Public Attributes

- bool **isStatic**

Protected Member Functions

- void **setType** (const string &type)
- Driver ∗ **getDriver** (void)

Protected Attributes

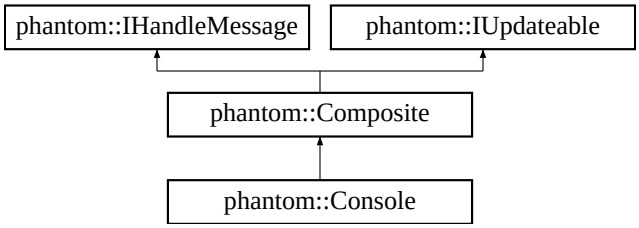
- Vector3 **_position**
- Vector3 **_direction**
- Box3 **_boundingBox**
- Layer * **_layer**
- Composite * **_parent**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Composite.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Composite.cpp

3.13 phantom::Console Class Reference

Inheritance diagram for phantom::Console:



Public Member Functions

- void addLog (string log)
- virtual void update (const PhantomTime &time)

Static Public Member Functions

- static void log (string log)
- static void log (stringstream log)
- static void mapCommand (string name, function< void(string args)> function)
- template<class mType >
  static void log (Message< mType > log)

Additional Inherited Members

3.13.1 Member Function Documentation

3.13.1.1 void phantom::Console::addLog (string *log*)

Add a log message to the console.

Parameters

log	The message in string format.

3.13.1.2 void phantom::Console::log (string *log*) [static]

Add a log message to the console.

Parameters

log	The message in string format.

3.13.1.3 void phantom::Console::log (stringstream *log*) [static]

Add a log message to the console.

Parameters

log	The message in stringstream format.

3.13.1.4 template<class mType > static void phantom::Console::log (Message< mType > *log*) [inline], [static]

An easy way to log the phantom Message class.

Parameters

log	The message you want to send to the logger.

3.13.1.5 void phantom::Console::mapCommand (string *name,* function< void(string args)> *function*) [static]

Add a console command to the console.

Parameters

name	The name of the command you have to call.
function	The function that gets executed once the command is called.

3.13.1.6 void phantom::Console::update (const PhantomTime & *time*) [virtual]

This function is called every loop automaticly since the console is a Composite that's added to the PhantomGame.

Parameters

time	PhantomTime generated by PhantomGame.

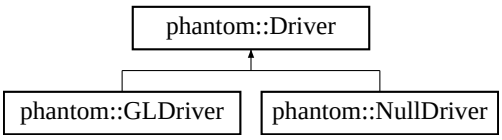
Reimplemented from phantom::Composite.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Console.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Console.cpp

3.14 phantom::Driver Class Reference

Inheritance diagram for phantom::Driver:



Public Member Functions

- **Driver** (PhantomGame ∗game)
- virtual void setWindowTitle (string title)
- virtual void onUpdate (PhantomTime time)
- virtual void onRender ()
- virtual Camera ∗ createCamera ()=0
- vector< Camera ∗ > ∗ getActiveCameras ()
- void enableCamera (Camera ∗cam)
- void disableCamera (Camera ∗cam)
- Input ∗ getInput ()
- Renderer ∗ getRenderer ()
- Sounds ∗ getAudio ()
- AudioEngine ∗ getAudioEngine ()
- FreeTypeLibrary ∗ getFontLibrary ()

Protected Member Functions

- void **addCamToList** (Camera ∗cam)

Protected Attributes

- Renderer ∗ **_renderer**
- AudioEngine ∗ **_audioEngine**
- Sounds ∗ **_audio**
- FreeTypeLibrary ∗ **_fontLibrary**
- Input ∗ **_input**
- vector< Camera ∗ > **_cameras**
- vector< Camera ∗ > **_activeCameras**
- KeyboardListener ∗ **_keyboard**
- PhantomGame ∗ **_game**

3.14.1 Member Function Documentation

3.14.1.1 virtual Camera∗ phantom::Driver::createCamera ( ) [pure virtual]

Creates a camera.

Implemented in phantom::GLDriver, and phantom::NullDriver.

3.14.1.2 void phantom::Driver::disableCamera (Camera ∗ *cam*)

Disables a camera.

3.14.1.3 void phantom::Driver::enableCamera (Camera ∗ *cam*)

Enables a camera.

3.14.1.4 vector< Camera * > * phantom::Driver::getActiveCameras ( )

Returns

Returns a list of active cameras.

3.14.1.5 Sounds * phantom::Driver::getAudio ( )

Returns

Returns the sounds class. Used for playing sounds and music.

3.14.1.6 AudioEngine * phantom::Driver::getAudioEngine ( )

Returns

Returns the audio engine.

3.14.1.7 FreeTypeLibrary * phantom::Driver::getFontLibrary ( )

Returns

Returns the TTF font library.

3.14.1.8 Input * phantom::Driver::getInput ( )

Returns

Returns the input handler.

3.14.1.9 Renderer * phantom::Driver::getRenderer ( )

Returns

Returns the renderer.

3.14.1.10 void phantom::Driver::onRender ( ) [virtual]

Gets called from PhantomGame to initiate the rendering.

Reimplemented in phantom::NullDriver.

3.14.1.11 void phantom::Driver::onUpdate (PhantomTime *time*) [virtual]

Gets called from PhantomGame to initiate the driver update loop.

Parameters

time	The time generated by PhantomGame.

Reimplemented in phantom::NullDriver.

3.14.1.12 void phantom::Driver::setWindowTitle (string *title*) [virtual]

Change the window title of the game.

Parameters

title	The new title to set.

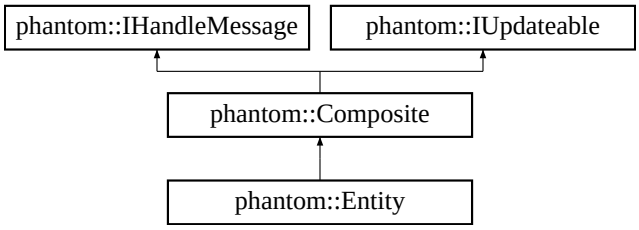
Reimplemented in phantom::GLDriver.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Driver.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Driver.cpp

3.15 phantom::Entity Class Reference

Inheritance diagram for phantom::Entity:



Public Member Functions

- virtual void addComponent (Composite ∗component)
- float distanceTo (Entity ∗gob)
- float distanceToSq (Entity ∗gob)
- Vector3 directionTo (Entity ∗gob)

Public Attributes

- unsigned **solidState**
- unsigned **solidType**
- InertiaMover ∗ **inertia**

Protected Attributes

- Mover ∗ **mover**

Additional Inherited Members

3.15.1 Member Function Documentation

3.15.1.1 void phantom::Entity::addComponent (**Composite** ∗ *component*) [virtual]

All components that get added to the Entity component are checked if they are of the Mover or InertiaMover type. They can only exist once for every class.

Parameters

component	The component you want to add.

Reimplemented from phantom::Composite.

3.15.1.2 Vector3 phantom::Entity::directionTo (Entity * *gob*)

Get the normalized direction vector to another entity.

Returns

Returns the direction vector to another entity.

Parameters

gob	The entity you want calculate the direction to.

3.15.1.3 float phantom::Entity::distanceTo (Entity * *gob*)

Calculate the distance to another entity. Please consider using distanceToSq, since it's faster.

Returns

Returns the distance to another entity.

Parameters

gob	The entity you want to measure the distance to.

3.15.1.4 float phantom::Entity::distanceToSq (Entity * *gob*)

Calculate the distance to another entity squared. This is faster than distanceTo, because it's not calling the heavy sqrt function.

Returns

Returns the distance squared to the other entity.

Parameters

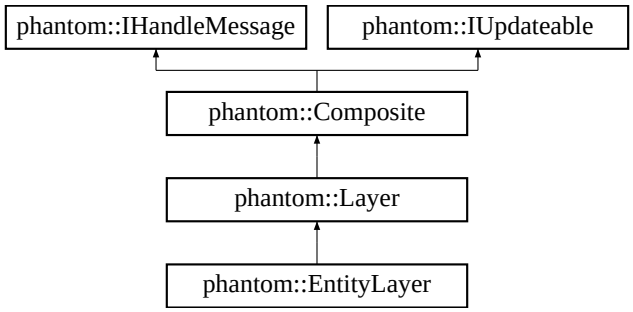
gob	The entity you want to measure the distance squared to.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Entity.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Entity.cpp

3.16 phantom::EntityLayer Class Reference

Inheritance diagram for phantom::EntityLayer:



Public Member Functions

- virtual void **update** (const PhantomTime &time)
- virtual void **addComponent** (Composite ∗component)

Protected Member Functions

- bool **calculateCollision** (Entity ∗a, Entity ∗b)

Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/layer/EntityLayer.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/layer/EntityLayer.cpp

3.17 phantom::FreeTypeFont::font_info_t Struct Reference

Public Attributes

- int **maxHeight**
- std::vector
  < FreeTypeFont::char_info_t > **characters**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/FreeTypeFont.h

3.18 phantom::FreeTypeFont Class Reference

Classes

- struct char_info_t
- struct font_info_t

Public Attributes

- font_info_t **info**
- ImageCacheItem * **texture**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/FreeTypeFont.h

3.19 phantom::FreeTypeLibrary Class Reference

Public Member Functions

- **FreeTypeLibrary** (Renderer *renderer)
- FreeTypeFont * getFont (Text *txt)

Public Attributes

- FT_Library **lib**

3.19.1 Member Function Documentation

3.19.1.1 FreeTypeFont * phantom::FreeTypeLibrary::getFont (Text * *txt*)

Try getting the font. If it's not available, it will get added.

Returns

Returns the font.

Parameters

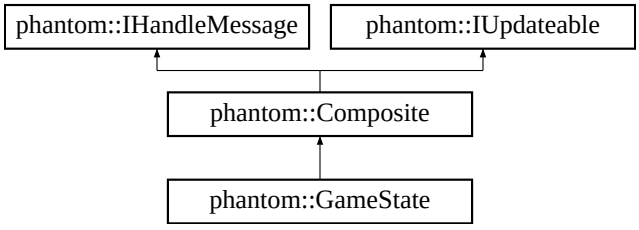
txt	The text shape you want to get the font from.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/FreeTypeLibrary.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/FreeTypeLibrary.cpp

3.20 phantom::GameState Class Reference

Inheritance diagram for phantom::GameState:



Public Attributes

- bool **doUpdate**
- bool **doRender**

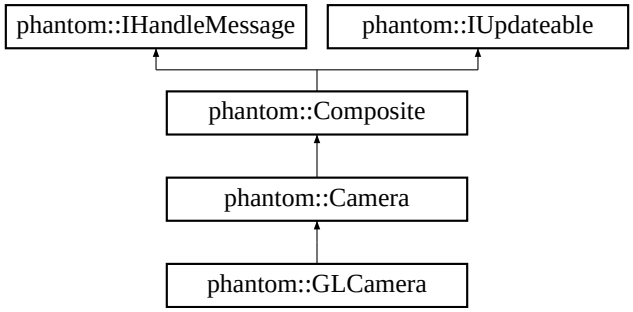
Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/GameState.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/GameState.cpp

3.21 phantom::GLCamera Class Reference

Inheritance diagram for phantom::GLCamera:



Public Member Functions

- **GLCamera** (int id)
- virtual void setParams ()

Additional Inherited Members

3.21.1 Member Function Documentation

3.21.1.1 void phantom::GLCamera::setParams ( ) [virtual]

Function called by the renderer for setting the display properties.

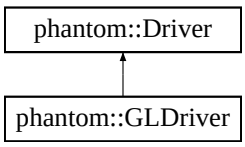
Reimplemented from phantom::Camera.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/opengl/GLCamera.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/opengl/GLCamera.cpp

3.22 phantom::GLDriver Class Reference

Inheritance diagram for phantom::GLDriver:



Public Member Functions

- **GLDriver** (PhantomGame *game)
- virtual void setWindowTitle (string title)
- virtual Camera * createCamera (void)

Additional Inherited Members

3.22.1 Member Function Documentation

3.22.1.1 Camera * phantom::GLDriver::createCamera (void) [virtual]

Creates a camera.

Implements phantom::Driver.

3.22.1.2 void phantom::GLDriver::setWindowTitle (string *title*) [virtual]

Change the window title of the game.

Parameters

title	The new title to set.

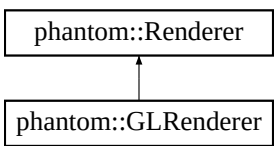
Reimplemented from phantom::Driver.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/opengl/GLDriver.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/opengl/GLDriver.cpp

3.23 phantom::GLRenderer Class Reference

Inheritance diagram for phantom::GLRenderer:



Public Member Functions

- **GLRenderer** (PhantomGame *game)
- virtual void renderLoop ()
- virtual void buildShape (Shape *shape)

- virtual void destroyShape (Shape *shape)
- virtual void addTexture (ImageCacheItem *item, bool isText=false)
- virtual void removeTexture (ImageCacheItem *item)

Additional Inherited Members

3.23.1 Member Function Documentation

3.23.1.1 void phantom::GLRenderer::addTexture (ImageCacheItem * *item*, bool *isText* = false) [virtual]

This gets called when a texture has to be added to the graphics pipeline.

Parameters

item	The imache cache item that has to be created.
isText	The fonts are converted to images as well. Set this to true to have an optimization for font rendering.

Implements phantom::Renderer.

3.23.1.2 void phantom::GLRenderer::buildShape (Shape * *shape*) [virtual]

This gets called by the Graphics class. This makes it possible to build VBO's for example.

Parameters

shape	The shape you want to build.

Implements phantom::Renderer.

3.23.1.3 void phantom::GLRenderer::destroyShape (Shape * *shape*) [virtual]

This gets called by the Graphics class. This makes it possible to destroy VBO's for example.

Parameters

shape	The shape you want to destroy.

Implements phantom::Renderer.

3.23.1.4 void phantom::GLRenderer::removeTexture (ImageCacheItem * *item*) [virtual]

This gets called when the texture has to be removed from the graphics pipeline.

Parameters

item	The item you want to remove from the cache.

Implements phantom::Renderer.

3.23.1.5 void phantom::GLRenderer::renderLoop ( ) [virtual]

This is called every loop by the Driver class.

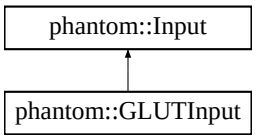
Implements phantom::Renderer.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/opengl/GLRenderer.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/opengl/GLRenderer.cpp

3.24 phantom::GLUTInput Class Reference

Inheritance diagram for phantom::GLUTInput:



Public Member Functions

- **GLUTInput** (PhantomGame ∗game)

Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/GLUTInput.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/GLUTInput.cpp

3.25 phantom::Graphics Class Reference

Public Member Functions

- **Graphics** (phantom::Composite ∗parent)
- Graphics & clear ()
- Graphics & beginPath ()
- Graphics & fill ()
- Graphics & stroke ()
- Graphics & setFillStyle (Color color)
- Graphics & setLineStyle (Color color)
- Graphics & line (const float &startX, const float &startY, const float &endX, const float &endY)
- Graphics & line (const Line2 &line)
- Graphics & line (const Vector3 &start, const Vector3 &end)
- Graphics & rect (float x, float y, float width, float height, bool isFilled=true, float thickness=3.0f)
- Graphics & rect (const Box3 &box, bool isFilled=true, float thickness=3.0f)
- Graphics & arc (float x, float y, float radius, float start, float end)
- Graphics & image (const string &filelocation, float x, float y, float width, float height)
- Graphics & text (float x, float y, unsigned int size, const string &fontlocation, const string &text)
- Graphics & rotate (float angle)
- Graphics & lineTo (float x, float y)
- Graphics & moveTo (float x, float y)
- float getRotation ()

Friends

- class **GLRenderer**

3.25.1 Member Function Documentation

3.25.1.1 Graphics & phantom::Graphics::arc (float *x,* float *y,* float *radius,* float *start,* float *end*)

Draw an arc.

Returns

Returns this class for chaining.

Parameters

x	The X location relative to the component.
y	The Y location relative to the component.
radius	The size of the arc.
start	At how much degrees this arc must begin.
end	At how much degrees this arc must end.

3.25.1.2 Graphics & phantom::Graphics::beginPath ( )

Call this function when you want to begin drawing on the canvas.

Returns

Returns this class for chaining.

3.25.1.3 Graphics & phantom::Graphics::clear ( )

Call this function when you want to clear the canvas.

Returns

Returns this class for chaining.

3.25.1.4 Graphics & phantom::Graphics::fill (void)

Call this function when you are done drawing on the canvas.

Returns

Returns this class for chaining.

3.25.1.5 float phantom::Graphics::getRotation ( ) [inline]

Returns the current rotation of the graphics canvas.

Returns

Returns the current rotation of the graphics canvas.

3.25.1.6 Graphics & phantom::Graphics::image (const string & *filelocation,* float *x,* float *y,* float *width,* float *height*)

Draw an image.

Returns

Returns this class for chaining.

Parameters

filelocation	The file location relative to the working directory.
x	The X location relative to the component.
y	The Y location relative to the component.
width	The width of the image.
height	The height of the image.

3.25.1.7 Graphics & phantom::Graphics::line (const float & *startX,* const float & *startY,* const float & *endX,* const float & *endY*)

Draw a line.

Returns

Returns this class for chaining.

Parameters

startX	The X start location of the line.
startY	The Y start location of the line.
endX	The X end location of the line.
endY	The Y end location of the line.

3.25.1.8 Graphics & phantom::Graphics::line (const Line2 & *line*)

Draw a line.

Returns

Returns this class for chaining.

Parameters

line	Create a line using a Line2 class.

3.25.1.9 Graphics & phantom::Graphics::line (const Vector3 & *start,* const Vector3 & *end*)

Draw a line.

Returns

Returns this class for chaining.

Parameters

start	Start location of the line.
end	End location of the line.

3.25.1.10 Graphics & phantom::Graphics::lineTo (float *x*, float *y*)

Start a line drawing.

Returns

Returns this class for chaining.

Parameters

x	The X location relative to the component where you want to start the line.
y	The Y location relative to the component where you want to start the line.

3.25.1.11 Graphics & phantom::Graphics::moveTo (float *x*, float *y*)

Continue a line drawing.

Returns

Returns this class for chaining.

Parameters

x	The X location relative to the component where you want to go next with the line.
y	The Y location relative to the component where you want to go next with the line.

3.25.1.12 Graphics & phantom::Graphics::rect (float *x*, float *y*, float *width*, float *height*, bool *isFilled* = `true`, float *thickness* = `3.0f`)

Draw a rectangle.

Returns

Returns this class for chaining.

Parameters

x	The X location of the rectangle relative to the component.
y	The Y location of the rectangle relative to the component.
width	The width of the rectangle.
height	The height of the rectangle.
isFilled	True if the rectangle has to be filled.
thickness	If isFilled is false, you can set the linewidth here.

3.25.1.13 Graphics & phantom::Graphics::rect (const Box3 & *box*, bool *isFilled* = `true`, float *thickness* = `3.0f`)

Draw a rectangle.

Returns

Returns this class for chaining.

Parameters

box	The box it should draw.
height	The height of the rectangle.
isFilled	True if the rectangle has to be filled.
thickness	If isFilled is false, you can set the linewidth here.

3.25.1.14 Graphics & phantom::Graphics::rotate (float *angle*)

Rotate the graphic.

Returns

Returns this class for chaining.

Parameters

angle	The angle you want to rotate the canvas.

3.25.1.15 Graphics & phantom::Graphics::setFillStyle (Color *color*)

Change the fill color of the graphics object.

Returns

Returns this class for chaining.

Parameters

color	The color you want to use for the object.

3.25.1.16 Graphics & phantom::Graphics::setLineStyle (Color *color*)

Change the line color of the graphics object.

Returns

Returns this class for chaining.

Parameters

color	The color you want to use for the object.

3.25.1.17 Graphics & phantom::Graphics::stroke (void)

Call this function when you are done drawing on the canvas.

Returns

Returns this class for chaining.

3.25.1.18 Graphics & phantom::Graphics::text (float *x,* float *y,* unsigned int *size,* const string & *fontlocation,* const string & *text*)

Draw some text.

Returns

Returns this class for chaining.

Parameters

x	The X location relative to the component.
y	The Y location relative to the component.
size	The font size of the text.
fontlocation	The location of the font relative to the working directory.
text	The text you want to display.

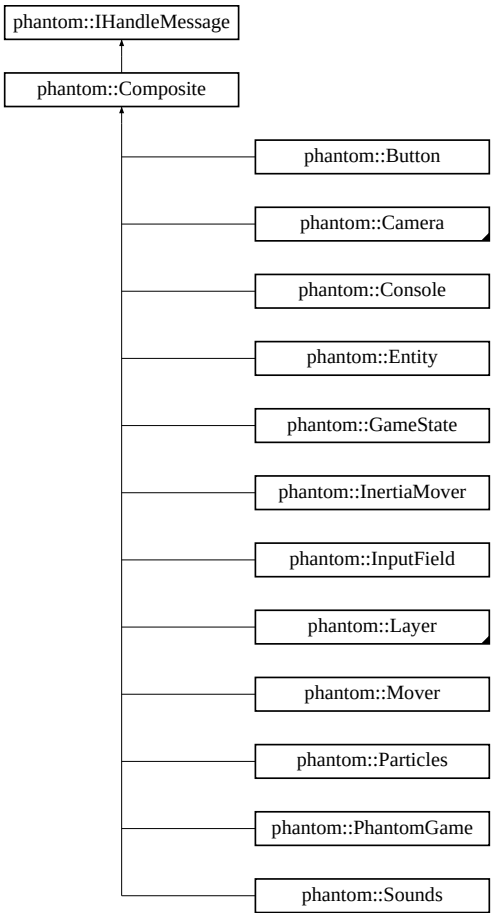
The documentation for this class was generated from the following files:

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/Graphics.h

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/Graphics.cpp

3.26 phantom::IHandleMessage Class Reference

Inheritance diagram for phantom::IHandleMessage:



Public Member Functions

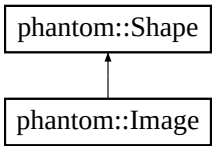
- virtual MessageState **handleMessage** (AbstractMessage *message)=0

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/messaging/IHandleMessage.h

3.27 phantom::Image Class Reference

Inheritance diagram for phantom::Image:



Public Member Functions

- **Image** (std::string filelocation, float x, float y, float width, float height)
- ImageCacheItem * getImage ()

Additional Inherited Members

3.27.1 Member Function Documentation

3.27.1.1 ImageCacheItem* phantom::Image::getImage ( ) [inline]

Returns the image associated with this shape.

Returns

Returns the image associated with this shape.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Image.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Image.cpp

3.28 phantom::ImageCache Class Reference

Public Member Functions

- void setRenderer (Renderer *renderer)
- bool isCached (const string filename)
- void insertIntoCache (const string filename, ImageCacheItem *item)
- ImageCacheItem * getFromCache (const string filename)
- void removeFromCache (const string filename)

Static Public Member Functions

- static ImageCache * **getInstance** ()

3.28.1 Member Function Documentation

3.28.1.1 ImageCacheItem * phantom::ImageCache::getFromCache (const string *filename*)

Get an image that's located in the cache.

Returns

Returns nullptr if nothing is found, else it returns the item.

Parameters

filename	The location relative to the working directory.

3.28.1.2 void phantom::ImageCache::insertIntoCache (const string *filename,* ImageCacheItem * *item*)

Insert an image into the cache.

filename The location of an image relative to the working directory. item The ImageCacheItem you want to add to the cache.

3.28.1.3 bool phantom::ImageCache::isCached (const string *filename*)

Returns true if the image is cached.

Returns

Returns true if the image is cached.

3.28.1.4 void phantom::ImageCache::removeFromCache (const string *filename*)

Remove an image from the cache.

Parameters

filename	The location of the image relative to the working directory.

3.28.1.5 void phantom::ImageCache::setRenderer (Renderer * *renderer*)

Sets the renderer for adding and removing textures.

Parameters

renderer	The renderer that's being used in the game.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/ImageCache.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/ImageCache.cpp

3.29 phantom::ImageCacheItem Class Reference

Public Attributes

- unsigned int **width**
- unsigned int **height**
- unsigned int **textureID**
- unsigned char * **imageData**
- unsigned char ** **row_pointers**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/ImageCache.h

3.30 phantom::ImageLoader Class Reference

Static Public Member Functions

- static ImageCacheItem * createPNG (const std::string filename)

3.30.1 Member Function Documentation

3.30.1.1 ImageCacheItem * phantom::ImageLoader::createPNG (const std::string *filename*) [static]

Load a PNG and store it in an ImageCacheItem

Returns

Returns the ImageCacheItem created.

Parameters

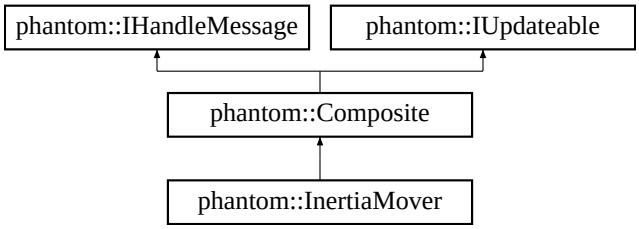
filename	The Location of the image relative to the working directory.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/ImageLoader.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/ImageLoader.cpp

3.31 phantom::InertiaMover Class Reference

Inheritance diagram for phantom::InertiaMover:



Public Member Functions

- void **addPulse** (Pulse pulse)
- void **clear** ()
- virtual void **update** (const PhantomTime &time)
- virtual MessageState **handleMessage** (AbstractMessage *message)
- const Vector3 & **getDirection** (void)
- const Vector3 & **getDominantDirection** (void)
- bool **isMoving** (void) const
- bool **isStopped** (void) const

Public Attributes

- Pulse **_dominant**

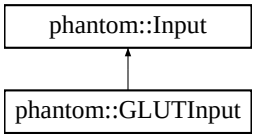
Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/InertiaMover.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/InertiaMover.cpp

3.32 phantom::Input Class Reference

Inheritance diagram for phantom::Input:



Public Member Functions

- **Input** (PhantomGame *game)
- virtual KeyboardState * getKeyboardState ()
- virtual MouseState * getMouseState ()

Protected Attributes

- PhantomGame * **_game**
- KeyboardState * **_keyboardState**
- MouseState * **_mouseState**

3.32.1 Member Function Documentation

3.32.1.1 virtual KeyboardState* phantom::Input::getKeyboardState ( ) [inline], [virtual]

Retrieve the current KeyboardState.

Returns

Returns the current keyboard state.

3.32.1.2 virtual MouseState* phantom::Input::getMouseState ( ) [inline], [virtual]

Retrieve the current MouseState.

Returns

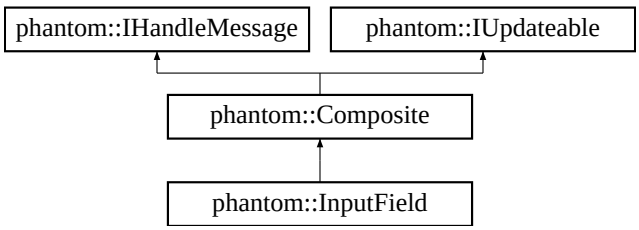
Returns the current MouseState.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/Input.h

3.33 phantom::InputField Class Reference

Inheritance diagram for phantom::InputField:



Public Member Functions

- **InputField** (float x, float y, float width, float height, phantom::Color color)
- virtual void onClick (MouseState *mousestate)
- virtual void onUnClicked (MouseState *mousestate)
- virtual void paint ()
- virtual void paintText ()
- virtual void update (const phantom::PhantomTime &time)
- void keyboard (KeyboardListener *keyboardListener)
- std::string & text ()
- void text (const std::string &value)

Additional Inherited Members

3.33.1 Member Function Documentation

3.33.1.1 void phantom::InputField::keyboard (KeyboardListener * *keyboardListener*) [inline]

Set the keyboard listener so keys can be fetched.

Parameters

keyboard-Listener	The keyboad listener.

3.33.1.2 void phantom::InputField::onClick (MouseState * *mousestate*) [virtual]

Gets called when clicked on the textfield.

Parameters

mousestate	The mousestate when pressed.

3.33.1.3 void phantom::InputField::onUnClicked (MouseState * *mousestate*) [virtual]

Gets called when clicked somewhere else.

Parameters

mousestate	The mousestate when clicked somewhere else.

3.33.1.4 void phantom::InputField::paint ( ) [virtual]

Override this function to draw your own background for the textfield.

3.33.1.5 void phantom::InputField::paintText ( ) [virtual]

Override this function to draw your own text for the textfield.

3.33.1.6 string & phantom::InputField::text ( )

Returns a reference to the current text in the textfield.

Returns

Returns the current text in the field.

3.33.1.7 void phantom::InputField::text (const std::string & *value*)

Set the text to new value.

Parameters

value	The new value for the textfield.

3.33.1.8 void phantom::InputField::update (const **phantom::PhantomTime** & *time*) [virtual]

This function calls the paint and paintText function. Also listens for keypresses.

Parameters

time	The time created by PhantomGame.

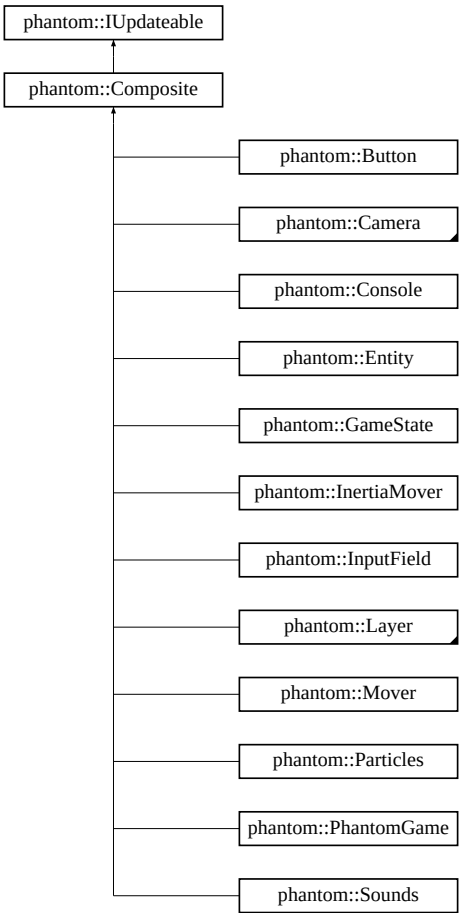
Reimplemented from phantom::Composite.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/guicomponents/InputField.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/guicomponents/InputField.cpp

3.34 phantom::IUpdateable Class Reference

Inheritance diagram for phantom::IUpdateable:



Public Member Functions

- virtual void **update** (const phantom::PhantomTime &time)=0

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/IUpdateable.h

3.35 phantom::KeyboardListener Class Reference

Public Member Functions

- **KeyboardListener** (Driver *driver, PhantomGame *game)
- void **update** ()
- bool isLocked ()

Static Public Member Functions

- static KeyboardState * lock (Composite *keycomp)
- static void unlock (Composite *keycomp)

3.35.1 Member Function Documentation

3.35.1.1 bool phantom::KeyboardListener::isLocked ( ) [inline]

Returns if the listener is locked.

Returns

Returns true if the listener is locked.

3.35.1.2 KeyboardState * phantom::KeyboardListener::lock (Composite * *keycomp*) [static]

Locks the keyboard to a certain composite.

Returns

Returns the current keyboard state.

Parameters

keycomp	The component that owns the listener.

3.35.1.3 void phantom::KeyboardListener::unlock (Composite * *keycomp*) [static]

Unlocks the keyboard to other composites.

Parameters

keycom	The component that owns the listener.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/KeyboardListener.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/KeyboardListener.cpp

3.36 phantom::KeyboardState Class Reference

Public Member Functions

- void handleEvent (char id, char newValue)
- unsigned char * getBuffer ()
- bool isKeyDown (char id)
- bool isKeyUp (char id)
- std::vector< char > * changes ()
- std::vector< char > * changesUp ()

3.36.1 Member Function Documentation

3.36.1.1 std::vector< char > * phantom::KeyboardState::changes ( )

Returns all changes since the last update run.

Returns

Returns all the changes since the last update run.

3.36.1.2 std::vector< char > * phantom::KeyboardState::changesUp ( )

Returns all key release changes since the last update run.

Returns

Returns all key release changes since the last update run.

3.36.1.3 unsigned char * phantom::KeyboardState::getBuffer ( )

Returns the character buffer.

Returns

Returns the character buffer.

3.36.1.4 void phantom::KeyboardState::handleEvent (char *id*, char *newValue*)

Handles an keyboard event.

Parameters

id	The character id.
newValue	The new value associated with the key.

3.36.1.5 bool phantom::KeyboardState::isKeyDown (char *id*)

Returns true if the key is down.

Returns

Returns true if the key is down.

Parameters

id	The keycode of the button you want to check.

3.36.1.6 bool phantom::KeyboardState::isKeyUp (char *id*)

Returns true if the key is up.

Returns

Returns true if the key is up.

Parameters

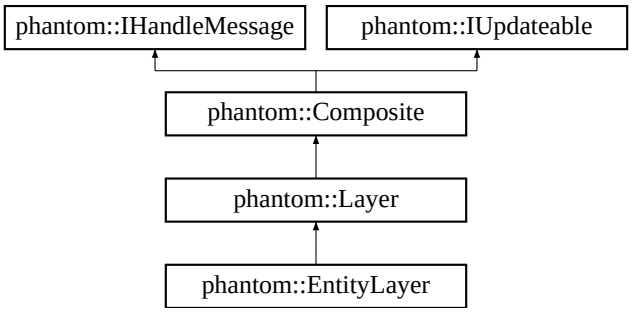
id	The keycode of the button you want to check.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/KeyboardState.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/KeyboardState.cpp

3.37 phantom::Layer Class Reference

Inheritance diagram for phantom::Layer:



Public Member Functions

- void **addComponent** (Composite ∗component)

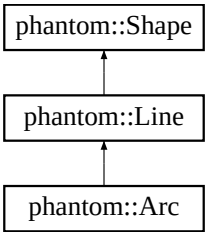
Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/layer/Layer.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/layer/Layer.cpp

3.38 phantom::Line Class Reference

Inheritance diagram for phantom::Line:



Public Member Functions

- **Line** (float x, float y, float toX, float toY)
- virtual void **drawLine** (float x, float y, float toX, float toY, float offsetX, float offsetY)

Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Line.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Line.cpp

3.39 phantom::Line2 Class Reference

Public Member Functions

- **Line2** (const float x1, const float y1, const float x2, const float y2)
- **Line2** (const Vector3 &a, const Vector3 &b)
- bool **operator==** (const Line2 &v) const
- bool **operator!=** (const Line2 &v) const
- Vector3 **getNormal** (void) const
- Vector3 **getDirection** (void) const
- Line2 **projectOnto** (const Vector3 &axis) const
- bool **intersects** (const Line2 &other) const
- Vector3 **intersection** (const Line2 &other) const
- std::string **toString** (void) const

Public Attributes

- Vector3 **a**
- Vector3 **b**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Line2.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Line2.cpp

3.40 phantom::Vector3::MapLessComparefunctor Struct Reference

Public Member Functions

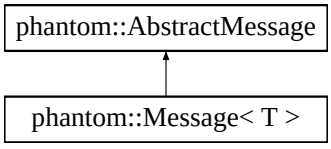
- bool **operator()** (const Vector3 &a, const Vector3 &b)

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Vector3.h

3.41 phantom::Message< T > Class Template Reference

Inheritance diagram for phantom::Message< T >:



Public Member Functions

- **Message** (std::string type)
- **Message** (std::string type, T data)
- T **getData** (void)

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/messaging/AbstractMessage.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/messaging/Message.h

3.42 phantom::MouseState Class Reference

Public Member Functions

- void handleEvent (Vector3 newValue)
- void handleEvent (char id, char newValue)
- Vector3 getPosition ()
- bool isButtonUp (unsigned char id)
- bool isButtonDown (unsigned char id)

3.42.1 Member Function Documentation

3.42.1.1 Vector3 phantom::MouseState::getPosition ( )

Returns the current position of the mouse.

Returns

Returns the current position of the mouse.

3.42.1.2 void phantom::MouseState::handleEvent (Vector3 *newValue*)

Handle mouse event when the position is changed.

Parameters

newValue	The new position of the mouse.

3.42.1.3 void phantom::MouseState::handleEvent (char *id*, char *newValue*)

Hande mouse event when the button state is changed.

Parameters

id	The identity of the button that has changed.
newValue	The new value it should get.

3.42.1.4 bool phantom::MouseState::isButtonDown (unsigned char *id*)

Returns true if the button is up.

Returns

Returns true if the button is up.

Parameters

id	The keycode of the button you want to check.

3.42.1.5 bool phantom::MouseState::isButtonUp (unsigned char *id*)

Returns true if the button is down.

Returns

Returns true if the button is down.

Parameters

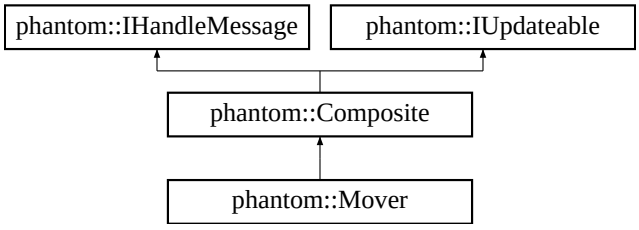
id	The keycode of the button you want to check.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/MouseState.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/input/MouseState.cpp

3.43 phantom::Mover Class Reference

Inheritance diagram for phantom::Mover:



Public Member Functions

- void **setMovementSpeed** (float value)
- void **moveTo** (Vector3 vector)
- void **moveTo** (const std::deque< Vector3 > vList)
- virtual void **update** (const PhantomTime &time)
- virtual void **onAnsestorChanged** ()
- void **stop** ()
- bool **isStopped** ()
- Vector3 **getTarget** ()
- void **pause** (double delay)
- bool **isPaused** ()

Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Mover.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Mover.cpp

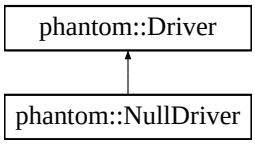
3.44 phantom::internal::NoPayload Struct Reference

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/messaging/Message.h

3.45 phantom::NullDriver Class Reference

Inheritance diagram for phantom::NullDriver:



Public Member Functions

- **NullDriver** (PhantomGame *game)
- void onUpdate (PhantomTime time)
- void onRender ()
- Camera * createCamera ()

Additional Inherited Members

3.45.1 Member Function Documentation

3.45.1.1 Camera* phantom::NullDriver::createCamera ( ) [inline], [virtual]

Creates a camera.

Implements phantom::Driver.

3.45.1.2 void phantom::NullDriver::onRender ( ) [inline], [virtual]

Gets called from PhantomGame to initiate the rendering.

Reimplemented from phantom::Driver.

3.45.1.3 void phantom::NullDriver::onUpdate (PhantomTime *time*) [inline], [virtual]

Gets called from PhantomGame to initiate the driver update loop.

Parameters

time	The time generated by PhantomGame.

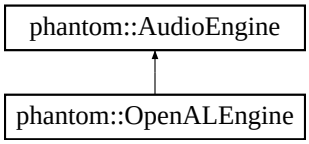
Reimplemented from phantom::Driver.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/null/NullDriver.h

3.46 phantom::OpenALEngine Class Reference

Inheritance diagram for phantom::OpenALEngine:



Public Member Functions

- **OpenALEngine** (PhantomGame *game)
- virtual void createSound (SoundData *data)
- virtual void destroySound (SoundData *data)
- virtual unsigned int playSound (SoundData *data, const Vector3 &position)
- virtual void playMusic (SoundData *data)
- virtual void stopSound (unsigned int id)
- virtual void stopMusic (SoundData *data)
- virtual void setPosition (const Vector3 &position)

Additional Inherited Members

3.46.1 Member Function Documentation

3.46.1.1 void phantom::OpenALEngine::createSound (SoundData * *data*) [virtual]

This function creates sounds.

Parameters

data	The sound you want to create.

Implements phantom::AudioEngine.

3.46.1.2 void phantom::OpenALEngine::destroySound (SoundData * *data*) [virtual]

This function destroys sounds.

Parameters

data	The sound you want to destroy.

Implements phantom::AudioEngine.

3.46.1.3 void phantom::OpenALEngine::playMusic (SoundData * *data*) [virtual]

This function plays music.

Parameters

data	The sound data of the music file.

Implements phantom::AudioEngine.

3.46.1.4 unsigned int phantom::OpenALEngine::playSound (SoundData * *data*, const Vector3 & *position*) [virtual]

This function plays a sound on a certain location. Be sure this sound is mono, else positioning won't work.

Returns

Returns the sound id.

Parameters

data	The sound data.
position	The position of the unit that's making noise.

Implements phantom::AudioEngine.

3.46.1.5 void phantom::OpenALEngine::setPosition (const Vector3 & *position*) [virtual]

Set the position of the listener. This usually is the location of the camera.

Parameters

position	The position of the listener.

Implements phantom::AudioEngine.

3.46.1.6 void phantom::OpenALEngine::stopMusic (SoundData * *data*) [virtual]

Stop playing the music using the sound data.

Parameters

data	The sound data.

Implements phantom::AudioEngine.

3.46.1.7 void phantom::OpenALEngine::stopSound (unsigned int *id*) [virtual]

Stop playing a sound using the sound id returned by play sound.

Parameters

id	The sound id.

Implements phantom::AudioEngine.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/openal/OpenALEngine.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/openal/OpenALEngine.cpp

3.47 phantom::Particle Struct Reference

Public Attributes

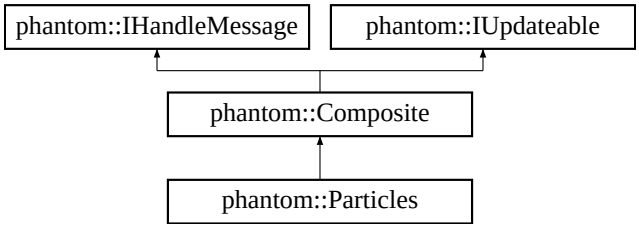
- Vector3 **position**
- Vector3 **velocity**
- Vector3 **acceleration**
- Vector3 **scale**
- Color **color**
- float **lifetime**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/particles/Particle.h

3.48 phantom::Particles Class Reference

Inheritance diagram for phantom::Particles:



Public Member Functions

- Particles (unsigned count=500, string texturename="", Color color=Colors::WHITE, float lifetime=1.5f, float totalLifetime=-1.0f, float speed=5.0f, Vector3 scale=Vector3(5.0f, 5.0f, 1.0f), Vector3 direction=Vector3(0.0f,-0.5f), float density=0.015f, unsigned randomness=200)
- void **update** (const phantom::PhantomTime &time)
- vector< Particle * > * getParticles ()

Public Attributes

- float **density**
- unsigned **randomness**
- float **randomnessHalf**
- unsigned **count**
- float **lifetime**
- float **currentLifetime**
- float **totalLifetime**
- float **speed**

- Vector3 **scale**
- Vector3 **direction**
- Color **color**
- ImageCacheItem * **texture**

Additional Inherited Members

3.48.1 Constructor & Destructor Documentation

3.48.1.1 phantom::Particles::Particles (unsigned *count* = `500`, string *texturename* = `""`, Color *color* = `Colors::WHITE`, float *lifetime* = `1.5f`, float *totalLifetime* = `-1.0f`, float *speed* = `5.0f`, Vector3 *scale* = Vector3`(5.0f, 5.0f, 1.0f)`, Vector3 *direction* = Vector3`(0.0f, -0.5f)`, float *density* = `0.015f`, unsigned *randomness* = `200`)

This large constructor has to be called to create particles.

Parameters

count	The ammount of particles to be active at most.
texturename	The image you want the particles to have.
color	The color you want the particles to have.
lifetime	The lifetime of each particle.
totalLifetime	The lifetime of all particles. -1.0f means there is no end of life.
speed	The movement speed of the particles.
scale	The scale of the particles.
direction	The direction the particles should move.
density	The spread of the particles.
randomness	How random the particles should act.

3.48.2 Member Function Documentation

3.48.2.1 vector<Particle*>* phantom::Particles::getParticles ( ) `[inline]`

Returns the particles that are currently active.

Returns

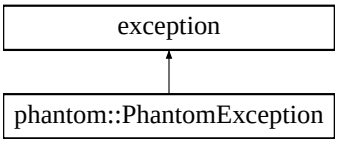
Returns the particles that are currently active.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/particles/Particles.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/particles/Particles.cpp

3.49 phantom::PhantomException Class Reference

Inheritance diagram for phantom::PhantomException:



Public Member Functions

- **PhantomException** (const string error)
- const char * what () const throw ()

3.49.1 Member Function Documentation

3.49.1.1 const char * phantom::PhantomException::what ( ) const throw ()

Should return more information of what exactly went wrong.

Returns

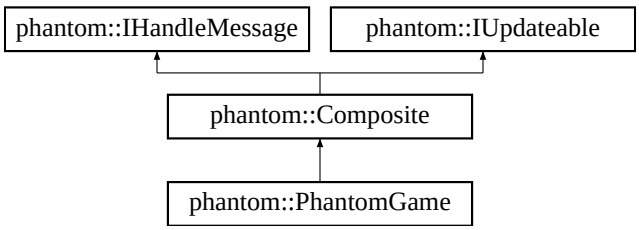
More information of what went wrong.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/PhantomException.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/PhantomException.cpp

3.50 phantom::PhantomGame Class Reference

Inheritance diagram for phantom::PhantomGame:



Public Member Functions

- **PhantomGame** (const char *configfile)
- void parseConfigurationFile (const char *configfile)
- void pushGameState (GameState *state)
- void popGameState ()
- int start (int argc, char *argv[])
- virtual void update (const PhantomTime &time)
- void exit (int returncode)
- Vector3 getViewPort () const
- Vector3 getScreenSize () const
- Vector3 getWorldSize () const
- void setWorldSize (float width, float height)
- deque< GameState * > & getGameStates ()
- Driver * getDriver ()
- Console * getConsole ()
- void setDriver (Driver *driver)
- virtual MessageState handleMessage (AbstractMessage *message)

Public Attributes

- bool **fullscreen**
- bool **mousecursor**
- float **soundvol**
- float **musicvol**

Protected Member Functions

- virtual void **onExit** (int returncode)

Protected Attributes

- bool **_running**

Friends

- class **Composite**
- class **Graphics**

3.50.1 Member Function Documentation

3.50.1.1 void phantom::PhantomGame::exit (int *returncode*)

Call this function when you want to exit the game.

Parameters

returncode	If everything went fine, give the returncode 0. If not enter a custom return code so you can identify where the exit call is comming from.

3.50.1.2 Console* phantom::PhantomGame::getConsole ( ) [inline]

In case you need the actual console pointer, this will return it.

Returns

Returns the console instance.

3.50.1.3 Driver * phantom::PhantomGame::getDriver (void)

Returns the driver this game is using.

Returns

Returns the driver this game is using.

3.50.1.4 deque< GameState * > & phantom::PhantomGame::getGameStates ( )

Returns the list of currently pushed gamestates.

Returns

Returns the list of currently pushed gamestates.

3.50.1.5 Vector3 phantom::PhantomGame::getScreenSize ( ) const

Returns the current screensize (resolution) of the game.

Returns

Returns the current screensize (resolution) of the game.

3.50.1.6 Vector3 phantom::PhantomGame::getViewPort ( ) const

Returns the current viewport of the game.

Returns

Returns the current viewport of the game.

3.50.1.7 Vector3 phantom::PhantomGame::getWorldSize ( ) const

Returns the current worldsize of the game.

Returns

Returns the current worldsize of the game.

3.50.1.8 MessageState phantom::PhantomGame::handleMessage (AbstractMessage * *message*) [virtual]

Send a message across the system

Parameters

message	The message you want to send.

Reimplemented from phantom::Composite.

3.50.1.9 void phantom::PhantomGame::parseConfigurationFile (const char * *configfile*)

Parse the configuration file and set all the game parameters.

Parameters

configfile	The location of the configuration file.

3.50.1.10 void phantom::PhantomGame::popGameState ( )

Pop the top most gamestate.

3.50.1.11 void phantom::PhantomGame::pushGameState (GameState * *state*)

Push a gamestate.

Parameters

state	The gamestate you want to push on the stack.

3.50.1.12 void phantom::PhantomGame::setDriver (Driver * *driver*)

Sets the driver of the game.

Parameters

driver	The new driver you want to set.

3.50.1.13 void phantom::PhantomGame::setWorldSize (float *width*, float *height*)

Change the current worldsize of the game.

Parameters

width	The width of the playing field.
height	The height of the playing field.

3.50.1.14 int phantom::PhantomGame::start (int *argc*, char * *argv[]*)

After initializing all your initial data, call this function to actually start the game. In this function is a while loop located. To break out of it, call the exit function somewhere in the update loops of your game.

3.50.1.15 void phantom::PhantomGame::update (const PhantomTime & *time*) [virtual]

This function gets called every loop.

Parameters

time	The time generated in the start function.

Reimplemented from phantom::Composite.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/PhantomGame.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/PhantomGame.cpp

3.51 phantom::PhantomTime Class Reference

Public Member Functions

- **PhantomTime** (float elapsed, float totalGameTime, double currentTime)
- float getElapsed () const
- float getTotalGameTime () const
- double getTime () const

3.51.1 Member Function Documentation

3.51.1.1 float phantom::PhantomTime::getElapsed ( ) const

Returns the elapsed time since last update call.

Returns

Returns the elapsed time since last update call.

3.51.1.2 double phantom::PhantomTime::getTime ( ) const

Returns the time since epoch.

Returns

Returns the time since epoch.

3.51.1.3 float phantom::PhantomTime::getTotalGameTime ( ) const

Returns the total time the game is active.

Returns

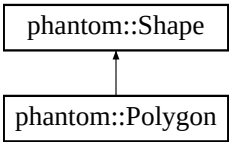
Returns the total time the game is active.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/Time.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/Time.cpp

3.52 phantom::Polygon Class Reference

Inheritance diagram for phantom::Polygon:



Public Member Functions

- void addPoint (float x, float y)

Public Attributes

- vector< Vertice > **collection**

Additional Inherited Members

3.52.1 Member Function Documentation

3.52.1.1 void phantom::Polygon::addPoint (float *x*, float *y*)

Adds a point in the polygon to draw a line next to.

Parameters

x	Location of the next vertex (X-coordinate).
y	Location of the next vertex (Y-coordinate).

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Polygon.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Polygon.cpp

3.53 phantom::Polygon2 Class Reference

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Polygon2.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Polygon2.cpp

3.54 phantom::Projection Class Reference

Public Types

- typedef std::deque< Vector3 > **Group**

Static Public Member Functions

- static Line2 **project** (const Vector3 axis, const Group &vertices)
- static bool **projectedLineIntersection** (const Line2 &him, const Line2 &her)

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Projection.h

3.55 phantom::Pulse Struct Reference

Public Member Functions

- **Pulse** (Vector3 _direction, float _speed, float _friction=0.0)
- string **toString** (void)

Public Attributes

- Vector3 **direction**
- float **speed**
- float **friction**
- char **weight**

Static Public Attributes

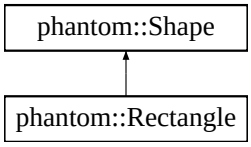
- static const int **FOREVER** = -1

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Pulse.h

3.56 phantom::Rectangle Class Reference

Inheritance diagram for phantom::Rectangle:



Public Member Functions

- **Rectangle** (float x, float y, float width, float height, bool isFilled, float thickness)

Public Attributes

- float **width**
- float **height**
- float **thickness**

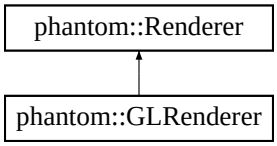
Additional Inherited Members

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Rectangle.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Rectangle.cpp

3.57 phantom::Renderer Class Reference

Inheritance diagram for phantom::Renderer:



Public Member Functions

- **Renderer** (PhantomGame ∗game)
- virtual void renderLoop ()=0

- virtual void buildShape (Shape *shape)=0
- virtual void destroyShape (Shape *shape)=0
- virtual void addTexture (ImageCacheItem *item, bool isText=false)=0
- virtual void removeTexture (ImageCacheItem *item)=0

Protected Attributes

- PhantomGame * **_game**

3.57.1 Member Function Documentation

3.57.1.1 virtual void phantom::Renderer::addTexture (ImageCacheItem * *item*, bool *isText* = false) [pure virtual]

This gets called when a texture has to be added to the graphics pipeline.

Parameters

item	The imache cache item that has to be created.
isText	The fonts are converted to images as well. Set this to true to have an optimization for font rendering.

Implemented in phantom::GLRenderer.

3.57.1.2 virtual void phantom::Renderer::buildShape (Shape * *shape*) [pure virtual]

This gets called by the Graphics class. This makes it possible to build VBO's for example.

Parameters

shape	The shape you want to build.

Implemented in phantom::GLRenderer.

3.57.1.3 virtual void phantom::Renderer::destroyShape (Shape * *shape*) [pure virtual]

This gets called by the Graphics class. This makes it possible to destroy VBO's for example.

Parameters

shape	The shape you want to destroy.

Implemented in phantom::GLRenderer.

3.57.1.4 virtual void phantom::Renderer::removeTexture (ImageCacheItem * *item*) [pure virtual]

This gets called when the texture has to be removed from the graphics pipeline.

Parameters

item	The item you want to remove from the cache.

Implemented in phantom::GLRenderer.

3.57.1.5 virtual void phantom::Renderer::renderLoop ( ) [pure virtual]

This is called every loop by the Driver class.

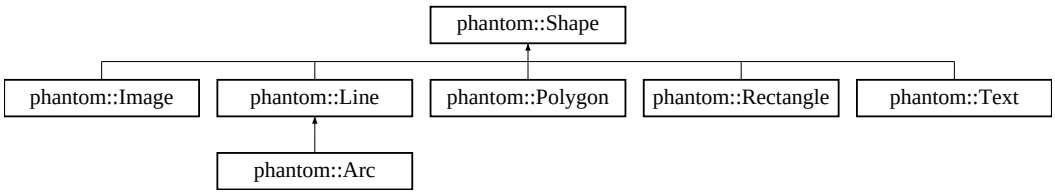
Implemented in phantom::GLRenderer.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/core/Renderer.h

3.58 phantom::Shape Class Reference

Inheritance diagram for phantom::Shape:



Public Member Functions

- void setFillColor (Color color)
- void setLineColor (Color color)
- virtual void addVertex (float x, float y, float u=TEX_COORD_UNUSED, float v=TEX_COORD_UNUSED)
- void buildShape (Renderer *renderer)
- void destroyShape (Renderer *renderer)
- bool hasFillColor (void)
- bool hasLineColor (void)
- const Color & getLineColor ()
- const Color & getFillColor ()
- const Box3 & getBounds ()

Static Public Member Functions

- static unsigned getShapecount ()

Public Attributes

- std::vector< Vertice > **vertices**
- Vertice * **verticesArray**
- std::vector< TexCoord > **texCoords**
- TexCoord * **texCoordsArray**
- unsigned int **verticesCount**
- unsigned int **vboVertices**
- unsigned int **vboTexCoords**
- bool **isImage**
- bool **isText**
- float **x**
- float **y**

Static Public Attributes

- static const float **TEX_COORD_UNUSED** = -999.0f

Protected Attributes

- Box3 **_bounds**

3.58.1 Member Function Documentation

3.58.1.1 void phantom::Shape::addVertex (float *x*, float *y*, float *u* = TEX_COORD_UNUSED, float *v* = TEX_COORD_UNUSED) [virtual]

Add a vertex to the shape. The renderer will iterate through all the vertices to draw them.

Parameters

x	The x location of the vertex
y	The y location of the vertex
u	The u texture coordinate associated with the vertex
v	The v texture coordinate associated with the vertex

3.58.1.2 void phantom::Shape::buildShape (Renderer * *renderer*)

When the shape gets added to the Graphics class the graphics class calls this function. This function then calls the renderer to build VBO's for example.

Parameters

renderer	The renderer class.

3.58.1.3 void phantom::Shape::destroyShape (Renderer * *renderer*)

When the shape gets removed from the Graphics class the graphics class calls this function. This function then calls the renderer to destroy VBO's for example.

Parameters

renderer	The renderer class.

3.58.1.4 const Box3 & phantom::Shape::getBounds ( )

Returns the size of the shape.

Returns

Returns the size of the shape.

3.58.1.5 const Color & phantom::Shape::getFillColor ( )

Returns the line color of the shape.

Returns

Returns the line color of the shape.

3.58.1.6 const Color & phantom::Shape::getLineColor ( )

Returns the line color of the shape.

Returns

Returns the line color of the shape.

3.58.1.7 unsigned phantom::Shape::getShapecount ( ) [static]

Returns the total shapes that exist in the game.

Returns

Returns the total shapes that exist in the game.

3.58.1.8 bool phantom::Shape::hasFillColor (void)

Returns true if the shape has a fill color.

Returns

Returns true if the shape has a fill color.

3.58.1.9 bool phantom::Shape::hasLineColor (void)

Returns true if the shape has a line color.

Returns

Returns true if the shape has a fill color.

3.58.1.10 void phantom::Shape::setFillColor (Color *color*)

Set the fill color of the shape.

Parameters

color	The color you want to use for the shape.

3.58.1.11 void phantom::Shape::setLineColor (Color *color*)

Set the line color of the shape.

Parameters

color	The color you want to use for the shape.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Shape.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Shape.cpp

3.59 phantom::SoundData Class Reference

Public Attributes

- int **state**
- unsigned int **bufferID**
- std::deque< unsigned int > **sourceID**
- int **format**
- int **freq**
- int **channels**
- int **bitsPerSample**
- std::vector< char > * **bufferData**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/audio/SoundData.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/audio/SoundData.cpp

3.60 phantom::SoundLoader Class Reference

Static Public Member Functions

- static void loadVorbis (const char *file, SoundData *data)

3.60.1 Member Function Documentation

3.60.1.1 void phantom::SoundLoader::loadVorbis (const char * *file*, SoundData * *data*) [static]

This function loads an OGG Vorbis file into a SoundData object.

Parameters

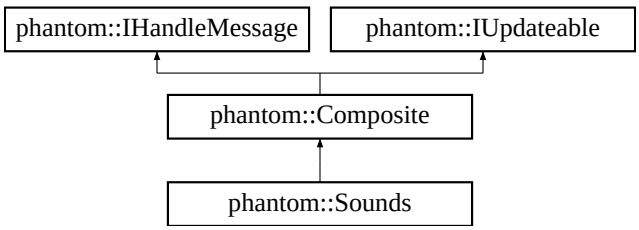
file	The location of the ogg file.
data	The SoundData object you want to load the data in.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/audio/SoundLoader.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/audio/SoundLoader.cpp

3.61 phantom::Sounds Class Reference

Inheritance diagram for phantom::Sounds:



Public Member Functions

- int playSound (const string &filename, const Vector3 &position)
- bool stopSound (int id)
- int playMusic (const string &filename)
- bool stopMusic (const string &filename)

Additional Inherited Members

3.61.1 Member Function Documentation

3.61.1.1 int phantom::Sounds::playMusic (const string & *filename*)

The function playMusic should be called when you want to play music gapless in looping mode.

Parameters

filename	The location of the music file.

3.61.1.2 int phantom::Sounds::playSound (const string & *filename,* const Vector3 & *position*)

The function playSound should be called by the game when an audio file has to be played.

Parameters

filename	The location of the file.
position	The position of the object on the map unrelative to the listener.

3.61.1.3 bool phantom::Sounds::stopMusic (const string & *filename*)

The function stopMusic should be called when you want to stop music.

Parameters

filename	The location of the music file.

3.61.1.4 bool phantom::Sounds::stopSound (int *id*)

The function stopSound should be called when you want to stop the sound from playing.

Parameters

id	The sound id that has been returned by the playSound function.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/audio/Sounds.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/audio/Sounds.cpp

3.62 phantom::TexCoord Class Reference

Public Attributes

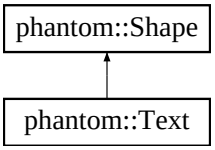
- float **u**
- float **v**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/VerticeData.h

3.63 phantom::Text Class Reference

Inheritance diagram for phantom::Text:



Public Member Functions

- **Text** (float x, float y, unsigned int size, const char ∗font, const char ∗text)
- void genVertices (const char ∗text, FreeTypeFont ∗font)

Public Attributes

- const char ∗ **text**
- const char ∗ **font**
- FreeTypeFont ∗ **ftfont**
- unsigned int **size**

Additional Inherited Members

3.63.1 Member Function Documentation

3.63.1.1 void phantom::Text::genVertices (const char ∗ *text*, FreeTypeFont ∗ *font*)

Generate the vertices required for the text.

Parameters

text	The text you want to display.
font	The font you want to use.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Text.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/shapes/Text.cpp

3.64 phantom::Timer Class Reference

Public Member Functions

- **Timer** (double delay)
- bool **hasExpired** (const PhantomTime &time)
- bool **hasExpired** ()
- Timer & **stop** ()
- Timer & **restart** ()
- Timer & **setDelay** (double delay)
- bool **isStopped** ()
- void **expire** (void)

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/Timer.h

3.65 phantom::Util Class Reference

Static Public Member Functions

- static void readfile (const char *filelocation, char **filecontent, unsigned int *length)
- static double getTime ()

3.65.1 Member Function Documentation

3.65.1.1 double phantom::Util::getTime ( ) [static]

Returns the time since epoch.

Returns

Returns the time since epoch.

3.65.1.2 void phantom::Util::readfile (const char * *filelocation*, char ** *filecontent*, unsigned int * *length*) [static]

Read a file into a buffer.

Parameters

filelocation	The location of the file relative to the working directory.
filecontent	A pointer to the buffer where the content of the file should be written to.
lenght	A pointer to the buffer where the lenght of the file should be written to.

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/util.h

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/utils/util.cpp

3.66 phantom::Vector3 Class Reference

Classes

- struct MapLessComparefunctor

Public Member Functions

- **Vector3** (float x, float y, float z=0.0f)
- **Vector3** (int x, int y, int z=0)
- **Vector3** (double x, double y, double z=0.0)
- **Vector3** (const Vector3 &origin)
- Vector3 **operator+** (const Vector3 &v) const
- Vector3 **operator-** (const Vector3 &v) const
- Vector3 **operator%** (const Vector3 &b) const
- Vector3 **operator**/ (const Vector3 &v) const
- Vector3 **operator**∗ (const Vector3 &v) const
- Vector3 **operator**∗ (float f) const
- Vector3 & **operator+=** (const Vector3 &v)
- Vector3 & **operator+=** (const float &v)
- Vector3 & **operator-=** (const Vector3 &v)
- Vector3 & **operator**∗**=** (const Vector3 &v)
- Vector3 & **operator**∗**=** (const float &v)
- Vector3 & **operator/=** (const Vector3 &v)
- Vector3 & **operator/=** (const float &v)
- bool **operator==** (const Vector3 &v) const
- bool **operator!=** (const Vector3 &v) const
- bool **isFinite** (void) const
- bool **isInfinite** (void) const
- Vector3 & **absolute** ()
- Vector3 & **normalize** ()
- Vector3 & **reverse** ()
- Vector3 **directionTo** (const Vector3 &other) const
- float **distanceTo** (const Vector3 &other) const
- float **distanceToSq** (const Vector3 &other) const
- float **distanceToSq** (const Vector3 ∗other) const
- float **getLengthSq** (void) const
- float **dot** (const Vector3 &v) const
- float **getAngleXOY** () const
- Vector3 **perp** (void) const
- Vector3 **cross** (const Vector3 &b) const
- Vector3 **projectOnto** (const Vector3 &b) const
- std::string **toString** () const
- std::string **toString2** () const

Public Attributes

- float **x**
- float **y**
- float **z**

Friends

- std::ostream & **operator**<< (std::ostream &o, const Vector3 &v)

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Vector3.h
- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/physics/Vector3.cpp

3.67 phantom::Vertice Class Reference

Public Attributes

- float **x**
- float **y**
- float **z**

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

- C:/Users/Sander/Documents/Projects/PCCS/phantom/src/graphics/VerticeData.h

Index