

Graphics


0.0.0

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Chapter 1

Data Structure Index

1.1 Data Structures

Here are the data structures with brief descriptions:

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Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

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Chapter 3

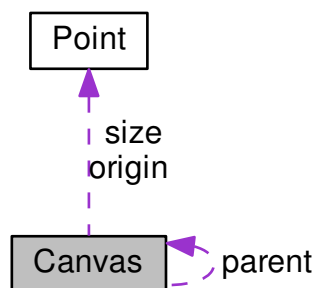
Data Structure Documentation

3.1 Canvas Struct Reference

A [Canvas](#) is part of a [Window](#) or of another [Canvas](#), on which it's possible to draw.

```
#include <canvas.h>
```

Collaboration diagram for Canvas:



Data Fields

- `SDL_Surface *` [surface](#)
- [Point](#) `size`
- [Point](#) `origin`
- `struct Canvas *` [parent](#)

3.1.1 Detailed Description

A [Canvas](#) is part of a [Window](#) or of another [Canvas](#), on which it's possible to draw.

3.1.2 Field Documentation

3.1.2.1 Point Canvas::origin

[Point](#) representing the origin of the [Canvas](#), user can set and get it safely.

3.1.2.2 struct Canvas* Canvas::parent

Pointer to the [Canvas](#) representing the parent of the [Canvas](#), i.e. the one one which it will be blitted, if the [Canvas](#) is the root [Canvas](#) representing the whole [Window](#) it points to NULL.

3.1.2.3 Point Canvas::size

[Point](#) representing the size of the [Canvas](#), usefull to get the value quickly, but user shouldn't change it.

3.1.2.4 SDL_Surface* Canvas::surface

Pointer to the SDL_Surface used to store the content of the [Canvas](#), user shouldn't have to touch this.

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

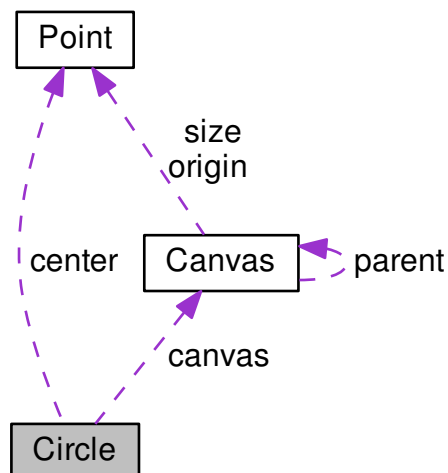
- [canvas.h](#)

3.2 Circle Struct Reference

A struct used to represent a circle.

```
#include <circle.h>
```

Collaboration diagram for Circle:



Data Fields

- [Point](#) `center`
- `int` `radius`
- `Canvas` * `canvas`

3.2.1 Detailed Description

A struct used to represent a circle.

3.2.2 Field Documentation

3.2.2.1 `Canvas`* `Circle::canvas`

Pointer to the [Canvas](#) the [Circle](#) belongs to.

3.2.2.2 `Point` `Circle::center`

[Point](#) representing the center of the circle, must be relative to its [Canvas](#).

3.2.2.3 `int` `Circle::radius`

`int` representing the radius of the circle.

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

- [circle.h](#)

3.3 Color Struct Reference

A struct used to represent a RGBA color.

```
#include <color.h>
```

Data Fields

- `UInt32` `rgb`
- `UInt8` `alpha`

3.3.1 Detailed Description

A struct used to represent a RGBA color.

3.3.2 Field Documentation

3.3.2.1 Uint8 Color::alpha

Uint32 representing the alpha component of the color.

3.3.2.2 Uint32 Color::rgb

Uint32 representing the RGB component of the color.

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

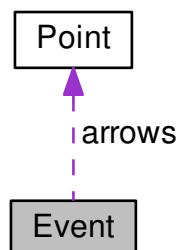
- [color.h](#)

3.4 Event Struct Reference

A struct used to represent events, i.e. user input.

```
#include <event.h>
```

Collaboration diagram for Event:



Data Fields

- bool [quit](#)
- bool [space](#)
- [Point](#) [arrows](#)

3.4.1 Detailed Description

A struct used to represent events, i.e. user input.

3.4.2 Field Documentation

3.4.2.1 Point Event::arrows

[Point](#) representing the arrow keys.

3.4.2.2 bool Event::quit

bool containing true if user press one of the exit key or close the current [Window](#), else contain false.

3.4.2.3 bool Event::space

bool containing true if user press the space key, else contain false.

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

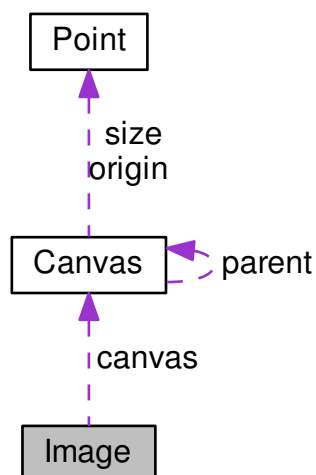
- [event.h](#)

3.5 Image Struct Reference

A struct representing an image.

```
#include <image.h>
```

Collaboration diagram for Image:



Data Fields

- `SDL_Surface *` [surface](#)
- [Canvas](#) * [canvas](#)

3.5.1 Detailed Description

A struct representing an image.

3.5.2 Field Documentation

3.5.2.1 `Canvas*` `Image::canvas`

Pointer to the [Canvas](#) the [Image](#) belongs to.

3.5.2.2 `SDL_Surface*` `Image::surface`

Pointer to the `SDL_Surface` used to store the content of the image, user shouldn't have to touch this.

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

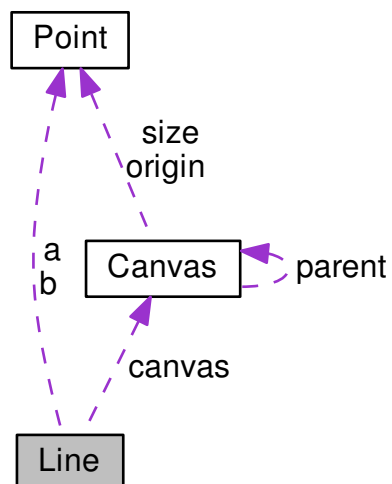
- [image.h](#)

3.6 Line Struct Reference

A struct used to represent a line segment.

```
#include <line.h>
```

Collaboration diagram for Line:



Data Fields

- [Point a](#)
- [Point b](#)
- [Canvas](#) * [canvas](#)

3.6.1 Detailed Description

A struct used to represent a line segment.

3.6.2 Field Documentation

3.6.2.1 Point Line::a

The first point of the line segment.

3.6.2.2 Point Line::b

The last point of the line segment.

3.6.2.3 Canvas* Line::canvas

The [Canvas](#) the [Line](#) belongs to.

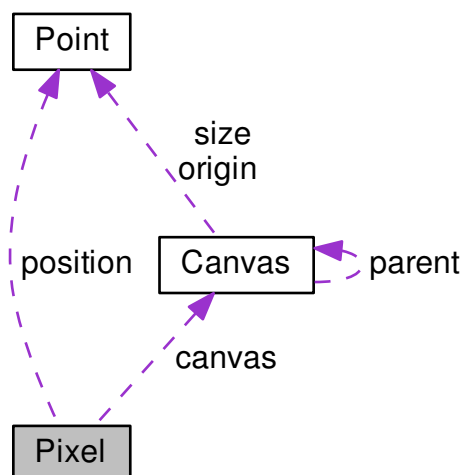
The documentation for this struct was generated from the following file:

- [line.h](#)

3.7 Pixel Struct Reference

```
#include <pixel.h>
```

Collaboration diagram for Pixel:



Data Fields

- [Point position](#)
- [Canvas * canvas](#)

3.7.1 Field Documentation

3.7.1.1 Canvas* Pixel::canvas

3.7.1.2 Point Pixel::position

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

- [pixel.h](#)

3.8 Point Struct Reference

```
#include <point.h>
```

Data Fields

- [int x](#)
- [int y](#)

3.8.1 Field Documentation

3.8.1.1 int Point::x

3.8.1.2 int Point::y

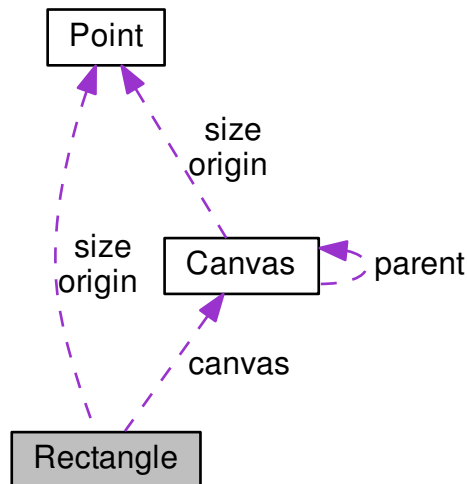
The documentation for this struct was generated from the following file:

- [point.h](#)

3.9 Rectangle Struct Reference

```
#include <rectangle.h>
```

Collaboration diagram for Rectangle:



Data Fields

- [Point origin](#)
- [Point size](#)
- [Canvas * canvas](#)

3.9.1 Field Documentation

3.9.1.1 [Canvas*](#) [Rectangle::canvas](#)

3.9.1.2 [Point](#) [Rectangle::origin](#)

3.9.1.3 [Point](#) [Rectangle::size](#)

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

- [rectangle.h](#)

3.10 Sound Struct Reference

```
#include <sound.h>
```

Data Fields

- Mix_Music * [content](#)

3.10.1 Field Documentation

3.10.1.1 Mix_Music* Sound::content

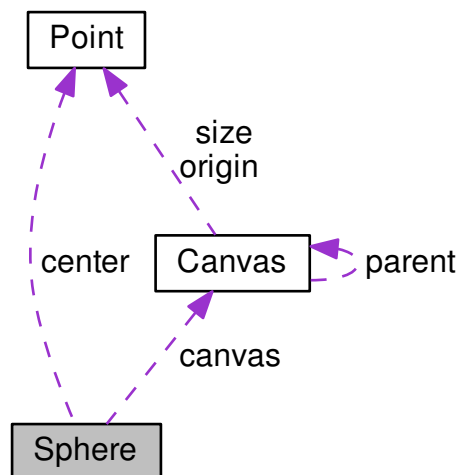
The documentation for this struct was generated from the following file:

- [sound.h](#)

3.11 Sphere Struct Reference

```
#include <sphere.h>
```

Collaboration diagram for Sphere:



Data Fields

- [Point](#) [center](#)
- int [radius](#)
- [Canvas](#) * [canvas](#)

3.11.1 Field Documentation

3.11.1.1 Canvas* Sphere::canvas

3.11.1.2 Point Sphere::center

3.11.1.3 int Sphere::radius

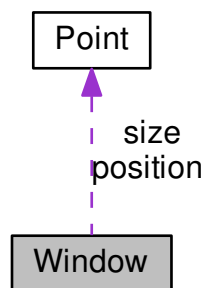
The documentation for this struct was generated from the following file:

- [sphere.h](#)

3.12 Window Struct Reference

```
#include <window.h>
```

Collaboration diagram for Window:



Data Fields

- `SDL_Window *` [window](#)
- `char *` [title](#)
- [Point](#) [position](#)
- [Point](#) [size](#)

3.12.1 Field Documentation

3.12.1.1 Point Window::position

3.12.1.2 Point Window::size

3.12.1.3 char* Window::title

3.12.1.4 SDL_Window* Window::window

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

- [window.h](#)

Chapter 4

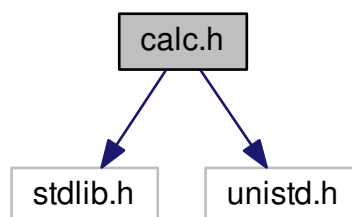
File Documentation

4.1 calc.h File Reference

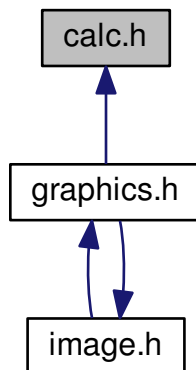
Some maths functions.

```
#include <stdlib.h>
#include <unistd.h>
```

Include dependency graph for calc.h:



This graph shows which files directly or indirectly include this file:



Functions

- float `calc_alea_float` (void)
Function to get a random float x in $[0 ; 1[$.
- int `calc_alea_int` (const int min, const int max)
Function to get a random int.

4.1.1 Detailed Description

Some maths functions.

4.1.2 Function Documentation

4.1.2.1 float `calc_alea_float` (void)

Function to get a random float x in $[0 ; 1[$.

Returns

The random float.

4.1.2.2 int `calc_alea_int` (const int *min*, const int *max*)

Function to get a random int.

Parameters

<i>min</i>	The minimum value for the random int.
<i>max</i>	The maximum value for the random int.

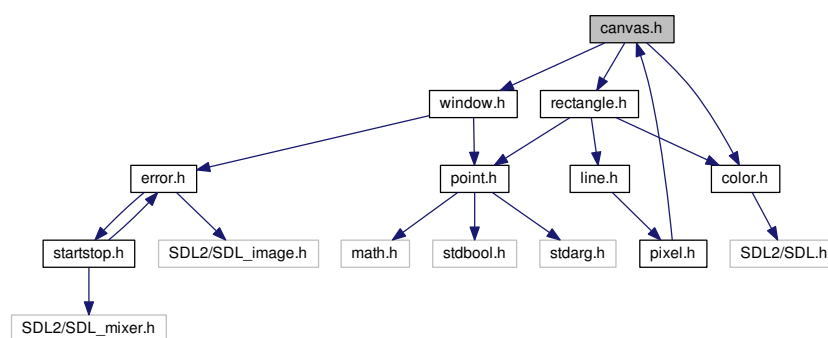
Returns

The random int.

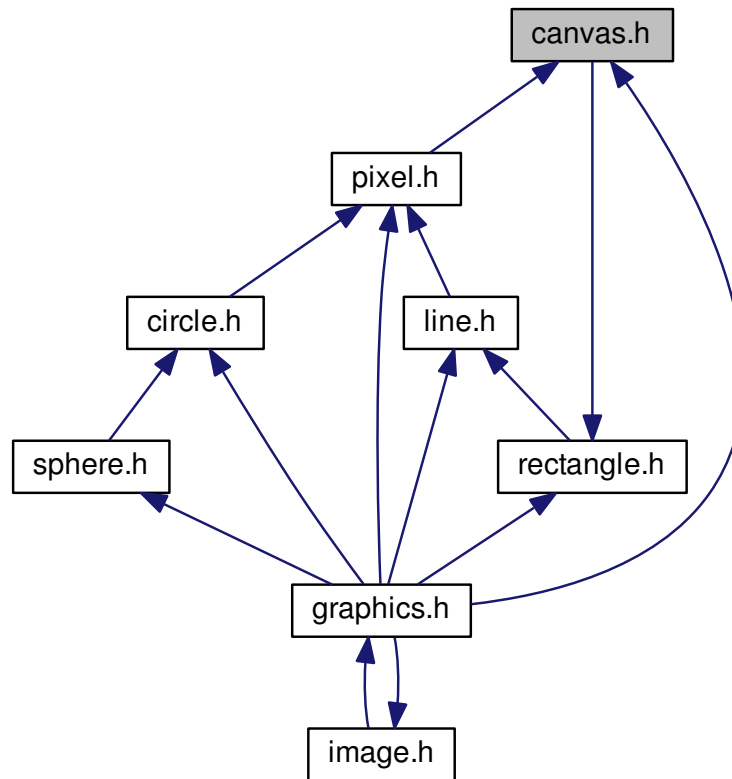
4.2 canvas.h File Reference

Everything related to [Canvas](#).

```
#include "window.h"
#include "color.h"
#include "rectangle.h"
Include dependency graph for canvas.h:
```



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Canvas](#)

A [Canvas](#) is part of a [Window](#) or of another [Canvas](#), on which it's possible to draw.

Typedefs

- typedef struct [Canvas](#) [Canvas](#)

Functions

- bool [canvas_collision_canvas](#) (const [Canvas](#) *canvas1, const [Canvas](#) *canvas2) __attribute__((pure))
Function to detect collision between two [Canvas](#).
- bool [canvas_is_out_of_parent_bottom](#) (const [Canvas](#) *canvas) __attribute__((pure))
Function to know if a [Canvas](#) is under its parent.
- bool [canvas_is_out_of_parent_left](#) (const [Canvas](#) *canvas) __attribute__((pure))
Function to know if a [Canvas](#) is out of its parent's left side.
- bool [canvas_is_out_of_parent_right](#) (const [Canvas](#) *canvas) __attribute__((pure))

- Function to know if a [Canvas](#) is out of its parent's right side.*
 - bool [canvas_is_out_of_parent_top](#) (const [Canvas](#) *canvas) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) is upper its parent's.*
 - bool [canvas_is_out_of_parent_x](#) (const [Canvas](#) *canvas) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) is outside of its parent's on the X axis.*
 - bool [canvas_is_out_of_parent_y](#) (const [Canvas](#) *canvas) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) is outside of its parent's on the Y axis.*
 - bool [canvas_will_be_out_of_parent_bottom](#) (const [Canvas](#) *canvas, const [Point](#) *move) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) will be under its parent after moving its origin.*
 - bool [canvas_will_be_out_of_parent_left](#) (const [Canvas](#) *canvas, const [Point](#) *move) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) will be out of its parent's left side after moving its origin.*
 - bool [canvas_will_be_out_of_parent_right](#) (const [Canvas](#) *canvas, const [Point](#) *move) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) will be out of its parent's right side after moving its origin.*
 - bool [canvas_will_be_out_of_parent_top](#) (const [Canvas](#) *canvas, const [Point](#) *move) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) will be upper its parent after moving its origin.*
 - bool [canvas_will_be_out_of_parent_x](#) (const [Canvas](#) *canvas, const [Point](#) *move) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) will be outside of its parent on the X axis after moving its origin.*
 - bool [canvas_will_be_out_of_parent_y](#) (const [Canvas](#) *canvas, const [Point](#) *move) [__attribute__\(\(pure\)\)](#)
- Function to know if a [Canvas](#) will be outside of its parent on the Y axis after moving its origin.*
 - void [canvas_blit](#) ([Canvas](#) *canvas)
- Function to blit a [Canvas](#) on its parent.*
 - void [canvas_create](#) ([Canvas](#) *canvas, const [Point](#) *size, const [Point](#) *origin, [Canvas](#) *parent)
- Function to create a [Canvas](#).*
 - void [canvas_clear](#) ([Canvas](#) *canvas)
- Function to clear a [Canvas](#), i.e. filling it with black.*
 - void [canvas_create_from_window](#) ([Canvas](#) *canvas, const [Window](#) *window)
- Function to create a [Canvas](#) from a [Window](#), it will fill the whole window.*
 - void [canvas_draw_borders_in](#) ([Canvas](#) *canvas, const [Color](#) *color)
- Function to draw a 1 pixel border inside of a [Canvas](#).*
 - void [canvas_draw_borders_out](#) ([Canvas](#) *canvas, const [Color](#) *color)
- Function to draw a 1 pixel border outside of a [Canvas](#).*
 - void [canvas_fill](#) ([Canvas](#) *canvas, const [Color](#) *color)
- Function to fill a [Canvas](#) with a [Color](#).*
 - void [canvas_get_absolute_origin](#) (const [Canvas](#) *canvas, [Point](#) *absoluteOrigin)
- Function to get the origin of a [Canvas](#) on the [Window](#), instead of on its parent.*

4.2.1 Detailed Description

Everything related to [Canvas](#).

4.2.2 Typedef Documentation

4.2.2.1 typedef struct Canvas Canvas

4.2.3 Function Documentation

4.2.3.1 void canvas_blit (Canvas * canvas)

Function to blit a [Canvas](#) on its parent.

Parameters

<i>canvas</i>	A pointer to the Canvas to blit.
---------------	--

4.2.3.2 void canvas_clear ([Canvas](#) * *canvas*)

Function to clear a [Canvas](#), i.e. filling it with black.

Parameters

<i>canvas</i>	A pointer to the Canvas to clear.
---------------	---

4.2.3.3 bool canvas_collision_canvas (const [Canvas](#) * *canvas1*, const [Canvas](#) * *canvas2*)

Function to detect collision between two [Canvas](#).

Parameters

<i>canvas1</i>	A pointer to the first Canvas .
<i>canvas2</i>	A pointer to the second Canvas .

Returns

If the two [Canvas](#) collide returns true, else, returns false.

4.2.3.4 void canvas_create ([Canvas](#) * *canvas*, const [Point](#) * *size*, const [Point](#) * *origin*, [Canvas](#) * *parent*)

Function to create a [Canvas](#).

Parameters

<i>canvas</i>	A pointer to the Canvas to create.
<i>size</i>	A pointer to a Point representing the wanted size for the Canvas .
<i>origin</i>	A pointer to a Point representing the wanted origin for the Canvas .
<i>parent</i>	A pointer to the Canvas wanted as the parent of the Canvas to create.

4.2.3.5 void canvas_create_from_window ([Canvas](#) * *canvas*, const [Window](#) * *window*)

Function to create a [Canvas](#) from a [Window](#), it will fill the whole window.

Parameters

<i>canvas</i>	A pointer to the Canvas to create.
<i>window</i>	A pointer to the Window from which the Canvas should be created.

4.2.3.6 void canvas_draw_borders_in (Canvas * canvas, const Color * color)

Function to draw a 1 pixel border inside of a [Canvas](#).

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>color</i>	A pointer to the Color wanted for the border.

4.2.3.7 void canvas_draw_borders_out (Canvas * canvas, const Color * color)

Function to draw a 1 pixel border outside of a [Canvas](#).

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>color</i>	A pointer to the Color wanted for the border.

4.2.3.8 void canvas_fill (Canvas * canvas, const Color * color)

Function to fill a [Canvas](#) with a [Color](#).

Parameters

<i>canvas</i>	A pointer to the Canvas to fill.
<i>color</i>	A pointer to the Color wanted to fill the Canvas .

4.2.3.9 void canvas_get_absolute_origin (const Canvas * canvas, Point * absoluteOrigin)

Function to get the origin of a [Canvas](#) on the [Window](#), instead of on its parent.

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>absoluteOrigin</i>	A pointer to the Point in which the origin will be stored.

4.2.3.10 bool canvas_is_out_of_parent_bottom (const Canvas * canvas)

Function to know if a [Canvas](#) is under its parent.

Parameters

<i>canvas</i>	A pointer to the Canvas .
---------------	---

Returns

If the [Canvas](#) is under its parent, returns true, else, returns false.

4.2.3.11 bool canvas_is_out_of_parent_left (const Canvas * canvas)

Function to know if a [Canvas](#) is out of its parent's left side.

Parameters

<i>canvas</i>	A pointer to the Canvas .
---------------	---

Returns

If the [Canvas](#) is out of its parent's left side, returns true, else, returns false.

4.2.3.12 bool canvas_is_out_of_parent_right (const Canvas * canvas)

Function to know if a [Canvas](#) is out of its parent's right side.

Parameters

<i>canvas</i>	A pointer to the Canvas .
---------------	---

Returns

If the [Canvas](#) is out of its parent's right side, returns true, else, returns false.

4.2.3.13 bool canvas_is_out_of_parent_top (const Canvas * canvas)

Function to know if a [Canvas](#) is upper its parent's.

Parameters

<i>canvas</i>	A pointer to the Canvas .
---------------	---

Returns

If the canvas is upper, returns true, else, returns false.

4.2.3.14 bool canvas_is_out_of_parent_x (const Canvas * canvas)

Function to know if a [Canvas](#) is outside of its parent's on the X axis.

Parameters

<i>canvas</i>	A pointer to the Canvas .
---------------	---

Returns

If the [Canvas](#) is outside, returns true, else, returns false.

4.2.3.15 `bool canvas_is_out_of_parent_y (const Canvas * canvas)`

Function to know if a [Canvas](#) is outside of its parent's on the Y axis.

Parameters

<i>canvas</i>	A pointer to the Canvas .
---------------	---

Returns

If the [Canvas](#) is outside, returns true, else, returns false.

4.2.3.16 `bool canvas_will_be_out_of_parent_bottom (const Canvas * canvas, const Point * move)`

Function to know if a [Canvas](#) will be under its parent after moving its origin.

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>move</i>	A pointer to the Point representing the origin's move.

Returns

If the [Canvas](#) will be under its parent, returns true, else, returns false.

4.2.3.17 `bool canvas_will_be_out_of_parent_left (const Canvas * canvas, const Point * move)`

Function to know if a [Canvas](#) will be out of its parent's left side after moving its origin.

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>move</i>	A pointer to the Point representing the origin's move.

Returns

If the [Canvas](#) will be out of its parent's left side, returns true, else, returns false.

4.2.3.18 `bool canvas_will_be_out_of_parent_right (const Canvas * canvas, const Point * move)`

Function to know if a [Canvas](#) will be out of its parent's right side after moving its origin.

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>move</i>	A pointer to the Point representing the origin's move.

Returns

If the [Canvas](#) will be out of its parent's right side, returns true, else, returns false.

4.2.3.19 `bool canvas_will_be_out_of_parent_top (const Canvas * canvas, const Point * move)`

Function to know if a [Canvas](#) will be upper its parent after moving its origin.

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>move</i>	A pointer to the point representing the origin's move.

Returns

If the [Canvas](#) will be upper its parent, returns true, else, returns false.

4.2.3.20 `bool canvas_will_be_out_of_parent_x (const Canvas * canvas, const Point * move)`

Function to know if a [Canvas](#) will be outside of its parent on the X axis after moving its origin.

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>move</i>	A pointer to the point representing the origin's move.

Returns

If the [Canvas](#) will be outside of its parent on the X axis, returns true, else, returns false.

4.2.3.21 `bool canvas_will_be_out_of_parent_y (const Canvas * canvas, const Point * move)`

Function to know if a [Canvas](#) will be outside of its parent on the Y axis after moving its origin.

Parameters

<i>canvas</i>	A pointer to the Canvas .
<i>move</i>	A pointer to the point representing the origin's move.

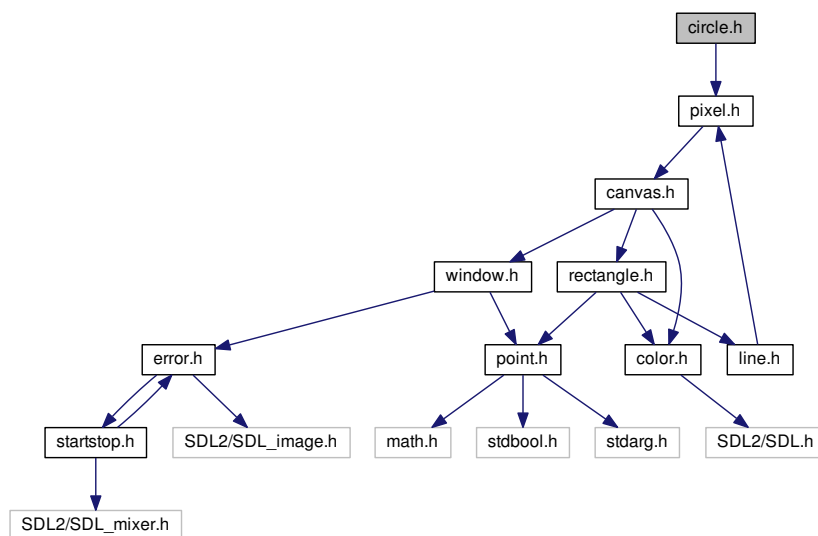
Returns

If the [Canvas](#) will be outside of its parent on the Y axis, returns true, else, returns false.

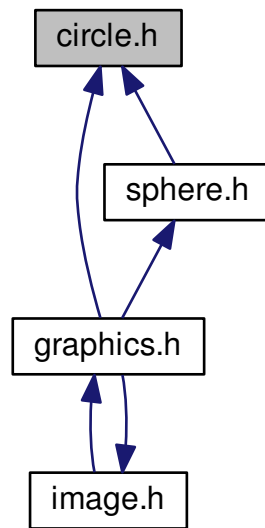
4.3 circle.h File Reference

Everything related to [Circle](#).

```
#include "pixel.h"
Include dependency graph for circle.h:
```



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Circle](#)
A struct used to represent a circle.

Functions

- void [circle_draw](#) (const [Circle](#) *circle, const [Color](#) *color)
Function to draw a [Circle](#).
- void [circle_draw_fill](#) (const [Circle](#) *circle, const [Color](#) *color)
Function to draw a filled [Circle](#).

4.3.1 Detailed Description

Everything related to [Circle](#).

4.3.2 Function Documentation

4.3.2.1 void circle_draw (const Circle * circle, const Color * color)

Function to draw a [Circle](#).

Parameters

<i>circle</i>	A pointer to the Circle to draw.
<i>color</i>	A pointer to the Color to use to draw the Circle .

4.3.2.2 void circle_draw_fill (const [Circle](#) * *circle*, const [Color](#) * *color*)

Function to draw a filled [Circle](#).

Parameters

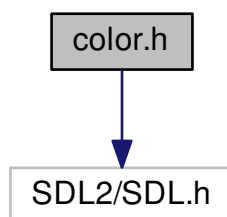
<i>circle</i>	A pointer to the Circle to draw.
<i>color</i>	A pointer to the Color to use to draw the Circle .

4.4 color.h File Reference

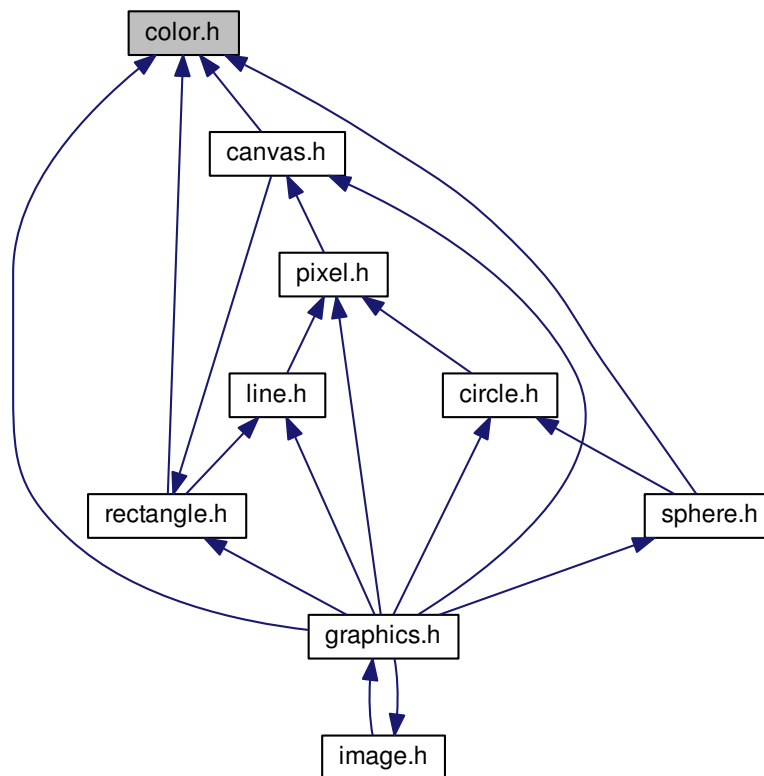
Everything related to [Color](#).

```
#include <SDL2/SDL.h>
```

Include dependency graph for color.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Color](#)

A struct used to represent a RGBA color.

Functions

- void [color_translate](#) (const [Color](#) *color, SDL_Color *sdIColor)
- Uint8 [color_get_red](#) (const [Color](#) *color) __attribute__((const))
Function to get the red component of a [Color](#).
- Uint8 [color_get_green](#) (const [Color](#) *color) __attribute__((const))
Function to get the green component of a [Color](#).
- Uint8 [color_get_blue](#) (const [Color](#) *color) __attribute__((pure))
Function to get the blue component of a [Color](#).

4.4.1 Detailed Description

Everything related to [Color](#).

4.4.2 Function Documentation

4.4.2.1 Uint8 color_get_blue (const Color * color)

Function to get the blue component of a [Color](#).

Parameters

<i>canvas1</i>	A pointer to the Color .
----------------	--

Returns

The blue component in a Uint8.

4.4.2.2 Uint8 color_get_green (const Color * color) const

Function to get the green component of a [Color](#).

Parameters

<i>canvas1</i>	A pointer to the Color .
----------------	--

Returns

The green component in a Uint8.

4.4.2.3 Uint8 color_get_red (const Color * color) const

Function to get the red component of a [Color](#).

Parameters

<i>canvas1</i>	A pointer to the Color .
----------------	--

Returns

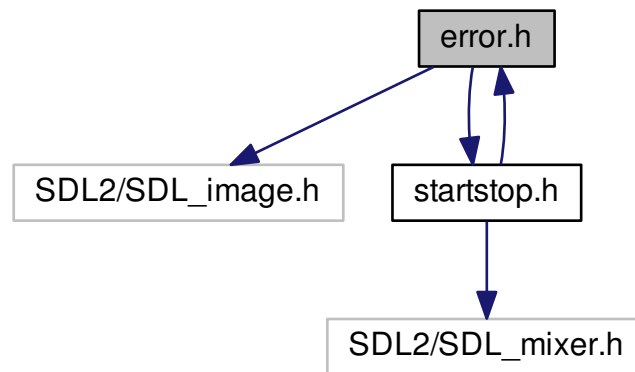
The red component in a Uint8.

4.4.2.4 void color_translate (const Color * color, SDL_Color * sdlColor)

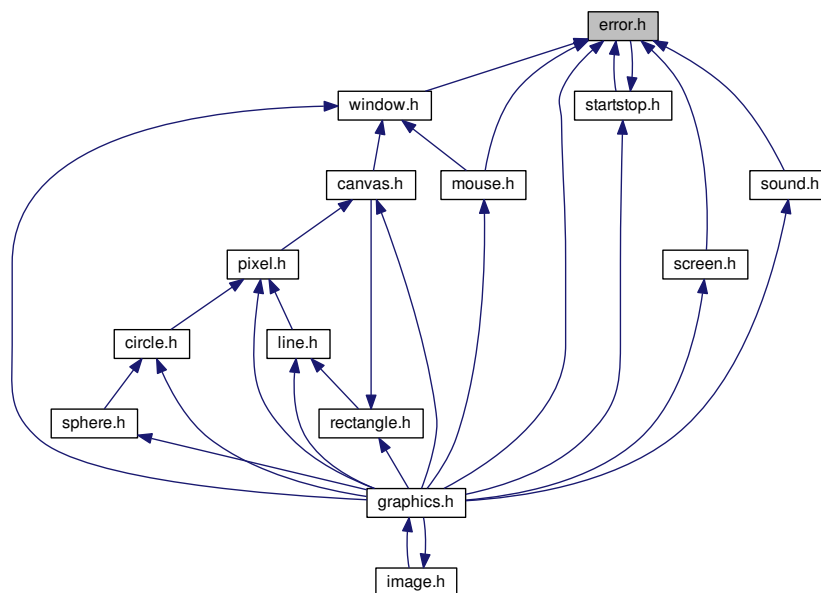
4.5 error.h File Reference

Everything related to errors and warnings handling.

```
#include <SDL2/SDL_image.h>
#include "startstop.h"
Include dependency graph for error.h:
```



This graph shows which files directly or indirectly include this file:



Functions

- void `error_quit` (void) `__attribute__((noreturn))`

Function to quit after an error, will stop graphics and SDL components and stop the program.

4.5.1 Detailed Description

Everything related to errors and warnings handling.

4.5.2 Function Documentation

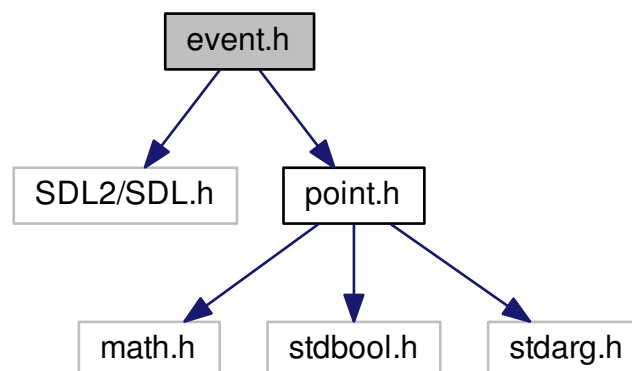
4.5.2.1 void error_quit (void)

Function to quit after an error, will stop graphics and SDL components and stop the program.

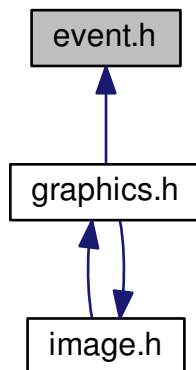
4.6 event.h File Reference

Everything related to events, i.e. user input.

```
#include <SDL2/SDL.h>
#include "point.h"
Include dependency graph for event.h:
```



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Event](#)
A struct used to represent events, i.e. user input.

Functions

- void [event_create](#) ([Event](#) *newEvent)
Function to create an [Event](#).
- void [event_update](#) ([Event](#) *event)
Function to update an [Event](#).

4.6.1 Detailed Description

Everything related to events, i.e. user input.

4.6.2 Function Documentation

4.6.2.1 void [event_create](#) ([Event](#) * *newEvent*)

Function to create an [Event](#).

Parameters

<i>newEvent</i>	A pointer to the Event to create.
-----------------	---

4.6.2.2 void event_update (Event * event)

Function to update an [Event](#).

Parameters

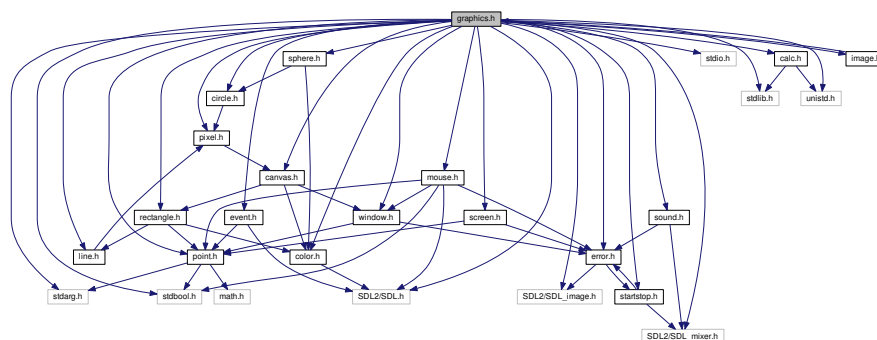
<i>newEvent</i>	A pointer to the Event to update.
-----------------	---

4.7 graphics.h File Reference

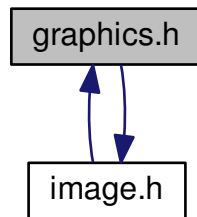
The main lib file.

```
#include <stdarg.h>
#include <stdbool.h>
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <SDL2/SDL.h>
#include <SDL2/SDL_image.h>
#include <SDL2/SDL_mixer.h>
#include "point.h"
#include "pixel.h"
#include "canvas.h"
#include "line.h"
#include "window.h"
#include "screen.h"
#include "color.h"
#include "circle.h"
#include "sound.h"
#include "calc.h"
#include "rectangle.h"
#include "event.h"
#include "sphere.h"
#include "image.h"
#include "error.h"
#include "startstop.h"
#include "mouse.h"
```

Include dependency graph for graphics.h:



This graph shows which files directly or indirectly include this file:



4.7.1 Detailed Description

The main lib file.

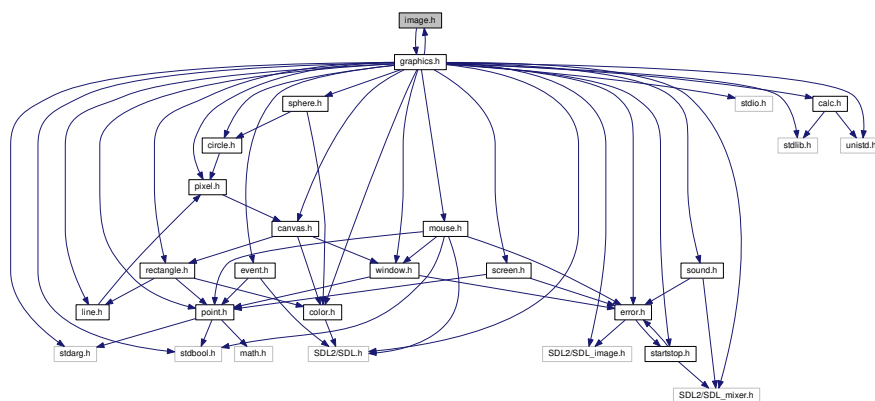
It's the file to include when using the lib in a program. It includes all the others headers and dependencies.

4.8 image.h File Reference

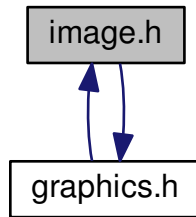
Everything related to [Image](#).

```
#include "graphics.h"
```

Include dependency graph for image.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Image](#)
A struct representing an image.

Functions

- void [image_blit_naive](#) (const [Image](#) *image)
Function to blit an [Image](#) on its [Canvas](#), it will be blitted "as is", event if the [Image](#) is bigger than its [Canvas](#).
- void [image_blit_scaled](#) (const [Image](#) *image)
Function to blit an [Image](#) on its [Canvas](#), it will be scaled, i.e. fill the [Canvas](#) perfectly.
- void [image_load](#) ([Image](#) *image, const char *pathToImg)
Function to load an image into an [Image](#) struct.
- void [image_unload](#) ([Image](#) *image)
Function to unload an [Image](#), i.e. to free it.

4.8.1 Detailed Description

Everything related to [Image](#).

4.8.2 Function Documentation

4.8.2.1 void image_blit_naive (const Image * image)

Function to blit an [Image](#) on its [Canvas](#), it will be blitted "as is", event if the [Image](#) is bigger than its [Canvas](#).

Parameters

<i>image</i>	A pointer to the Image to blit.
--------------	---

4.8.2.2 void image_blit_scaled (const Image * image)

Function to blit an [Image](#) on its [Canvas](#), it will be scaled, i.e. fill the [Canvas](#) perfectly.

Parameters

<i>image</i>	A pointer to the Image to blit.
--------------	---

4.8.2.3 void image_load (Image * image, const char * pathToImg)

Function to load an image into an [Image](#) struct.

Parameters

<i>image</i>	A pointer to the Image used to store the loaded image.
<i>pathToImg</i>	The path to the image to load.

4.8.2.4 void image_unload (Image * image)

Function to unload an [Image](#), i.e. to free it.

Parameters

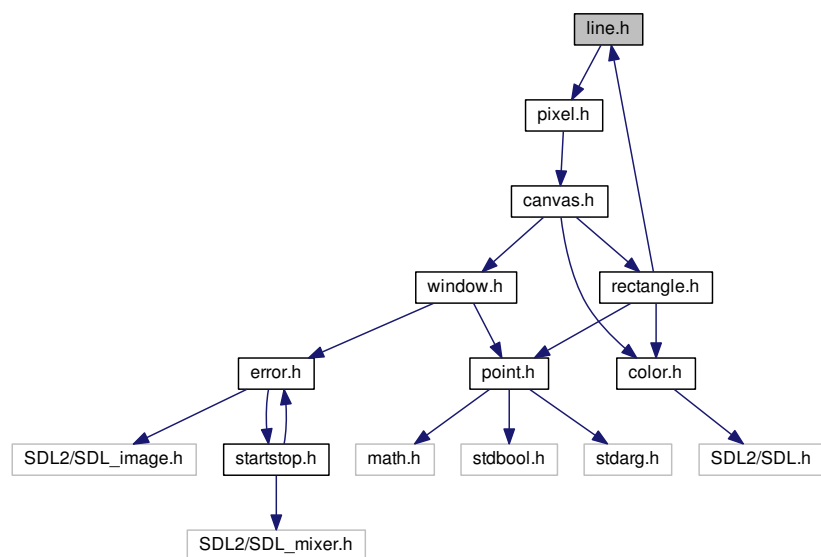
<i>image</i>	A pointer to the Image to unload.
--------------	---

4.9 line.h File Reference

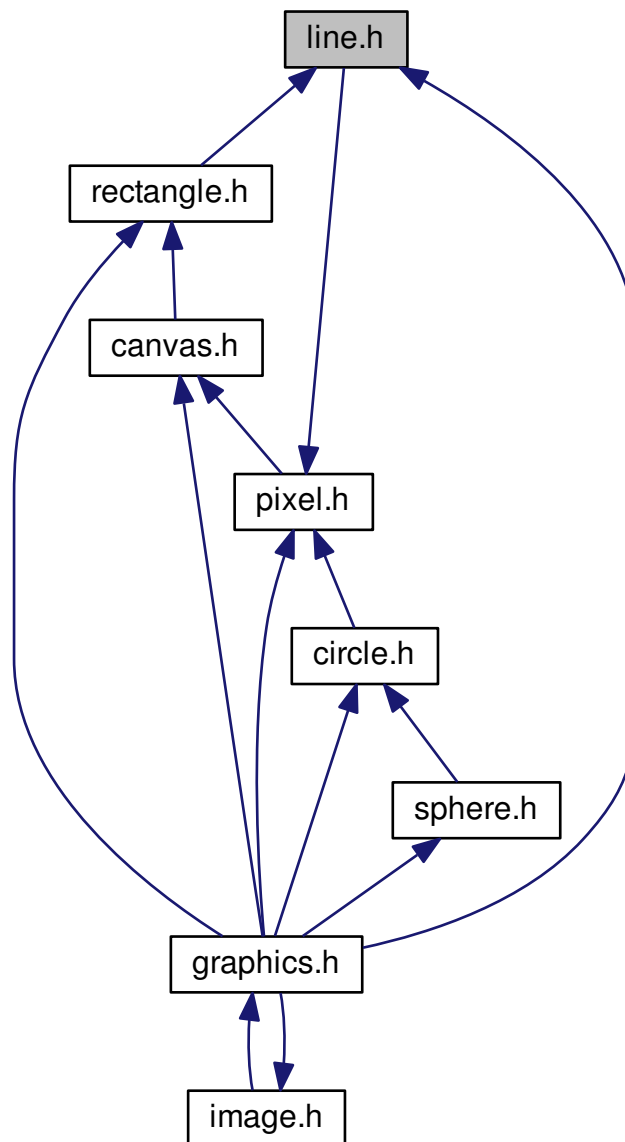
Everything related to [Line](#).


```
#include "pixel.h"
```

Include dependency graph for line.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Line](#)
A struct used to represent a line segment.

Functions

- void [line_draw](#) (const [Line](#) *line, const [Color](#) *color)
Function to draw a line. The best one.

- void `line_draw_bis` (const `Line` *line, const `Color` *color)
Function to draw a line. Use floats and thus, is slower than line_draw.
- void `line_draw_ter` (const `Line` *line, const `Color` *color)
Function to draw a line. Is very fast, but, draws lines with blanks.

4.9.1 Detailed Description

Everything related to `Line`.

4.9.2 Function Documentation

4.9.2.1 void line_draw (const `Line` * line, const `Color` * color)

Function to draw a line. The best one.

Parameters

<i>line</i>	A pointer to the <code>Line</code> to draw.
<i>color</i>	A pointer to the <code>Color</code> to use to draw the <code>Line</code> .

4.9.2.2 void line_draw_bis (const `Line` * line, const `Color` * color)

Function to draw a line. Use floats and thus, is slower than line_draw.

Parameters

<i>line</i>	A pointer to the <code>Line</code> to draw.
<i>color</i>	A pointer to the <code>Color</code> to use to draw the <code>Line</code> .

4.9.2.3 void line_draw_ter (const `Line` * line, const `Color` * color)

Function to draw a line. Is very fast, but, draws lines with blanks.

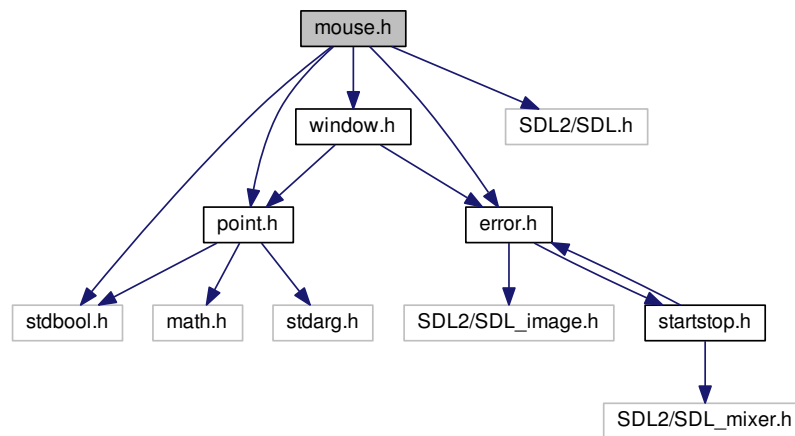
Parameters

<i>line</i>	A pointer to the <code>Line</code> to draw.
<i>color</i>	A pointer to the <code>Color</code> to use to draw the <code>Line</code> .

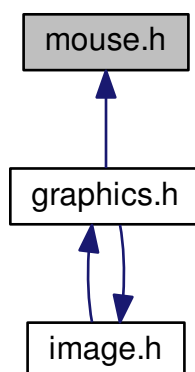
4.10 mouse.h File Reference

```
#include <stdbool.h>
#include <SDL2/SDL.h>
#include "error.h"
#include "point.h"
#include "window.h"
```

Include dependency graph for mouse.h:



This graph shows which files directly or indirectly include this file:



Functions

- void [mouse_hide](#) (void)
- void [mouse_show](#) (void)
- void [mouse_wait_click](#) (const [Window](#) *window, [Point](#) *click)
- bool [mouse_is_hidden](#) (void)
- bool [mouse_is_shown](#) (void)

4.10.1 Function Documentation

4.10.1.1 void mouse_hide (void)

4.10.1.2 bool mouse_is_hidden (void)

4.10.1.3 bool mouse_is_shown (void)

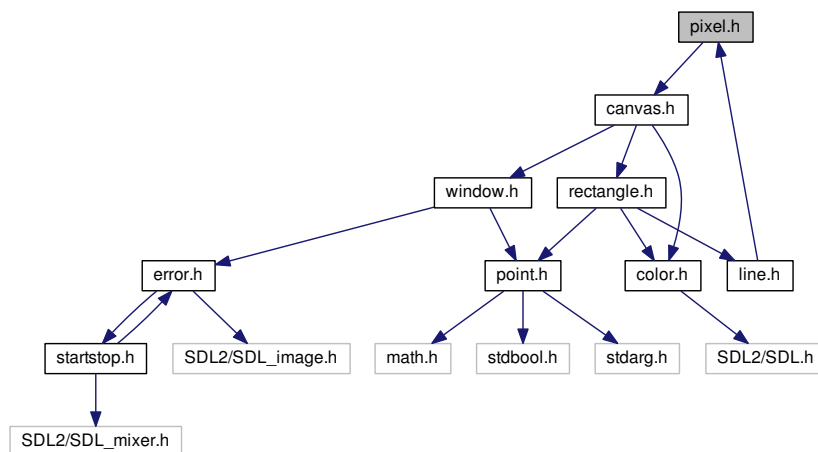
4.10.1.4 void mouse_show (void)

4.10.1.5 void mouse_wait_click (const Window * window, Point * click)

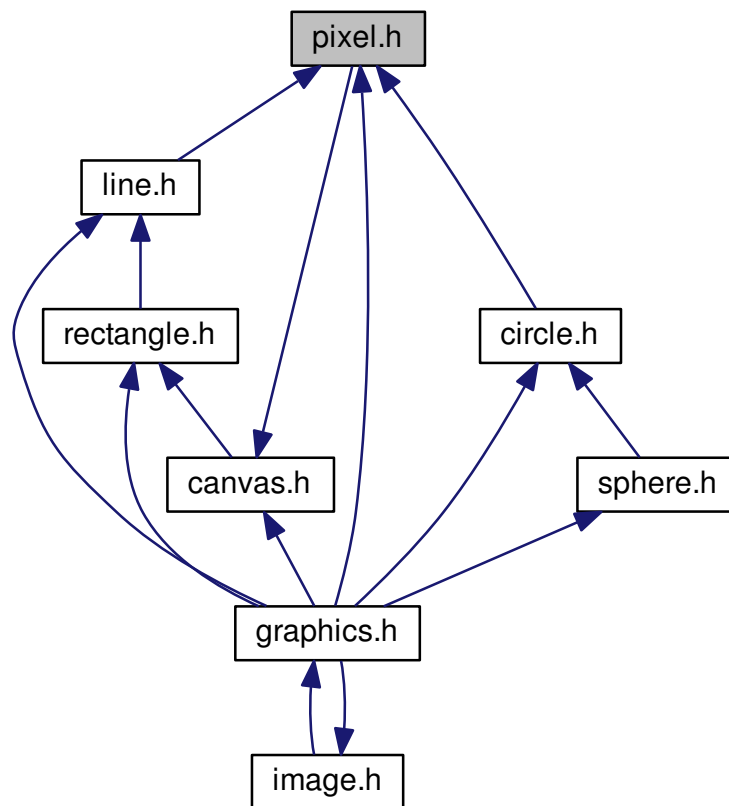
4.11 pixel.h File Reference

```
#include "canvas.h"
```

Include dependency graph for pixel.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Pixel](#)

Functions

- void [pixel_draw](#) (const [Pixel](#) *pixel, const [Color](#) *color)

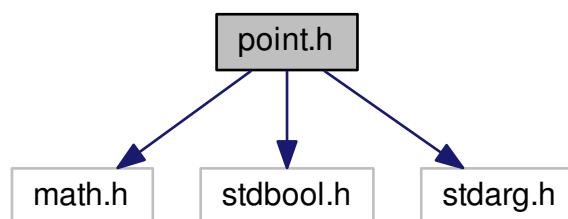
4.11.1 Function Documentation

4.11.1.1 void [pixel_draw](#) (const [Pixel](#) * *pixel*, const [Color](#) * *color*)

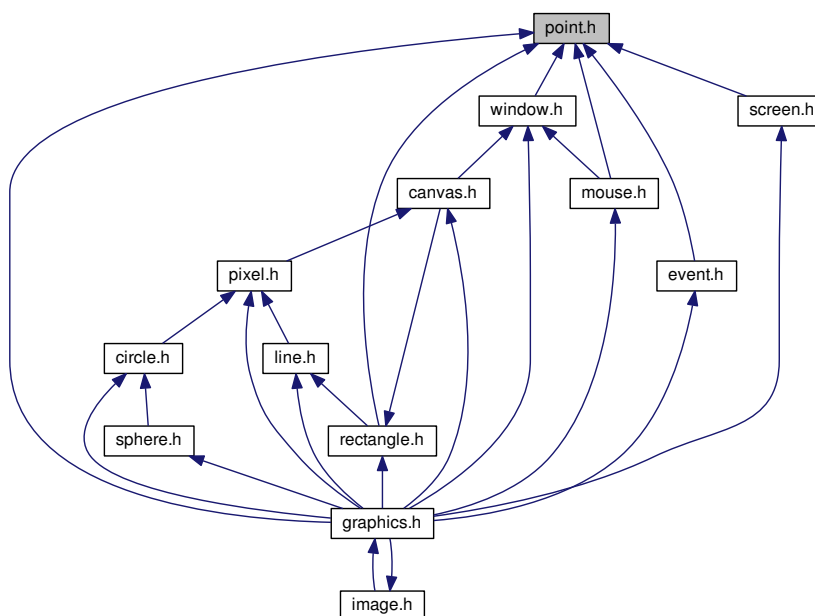
4.12 point.h File Reference

```
#include <math.h>
#include <stdbool.h>
#include <stdarg.h>
```

Include dependency graph for point.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Point](#)

Functions

- `bool point_are_equals` (const `Point` `p1`, const `Point` `p2`) `__attribute__((const))`
- `int point_distance` (const `Point` `a`, const `Point` `b`)
- `Point point_max_x` (const `Point` `a`, const `Point` `b`)
- `Point point_max_y` (const `Point` `a`, const `Point` `b`)
- `Point point_min_x` (const `Point` `a`, const `Point` `b`)
- `Point point_min_y` (const `Point` `a`, const `Point` `b`)

4.12.1 Function Documentation

4.12.1.1 `bool point_are_equals (const Point p1, const Point p2) const`

4.12.1.2 `int point_distance (const Point a, const Point b)`

4.12.1.3 `Point point_max_x (const Point a, const Point b)`

4.12.1.4 `Point point_max_y (const Point a, const Point b)`

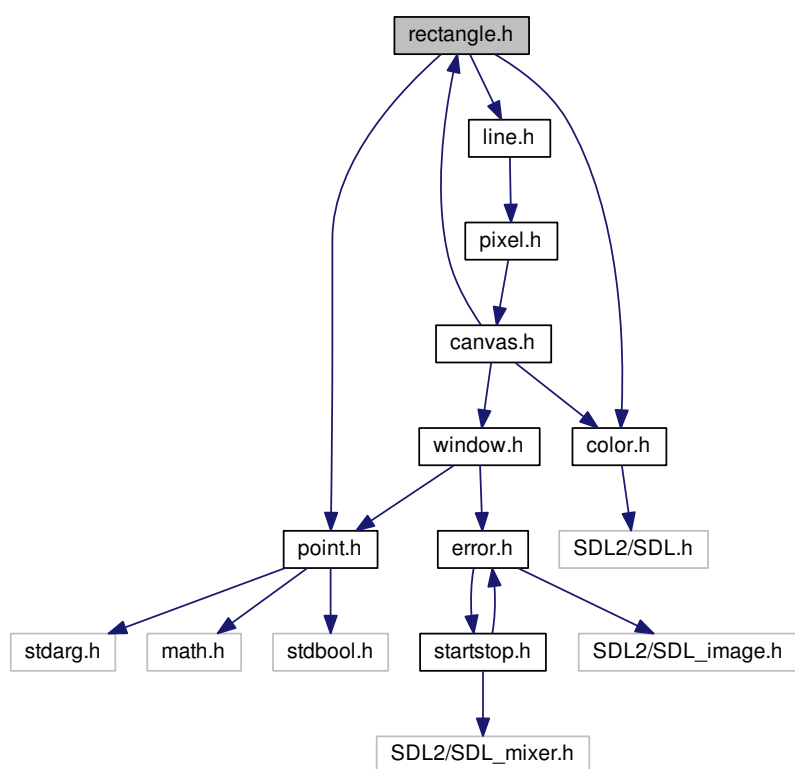
4.12.1.5 `Point point_min_x (const Point a, const Point b)`

4.12.1.6 `Point point_min_y (const Point a, const Point b)`

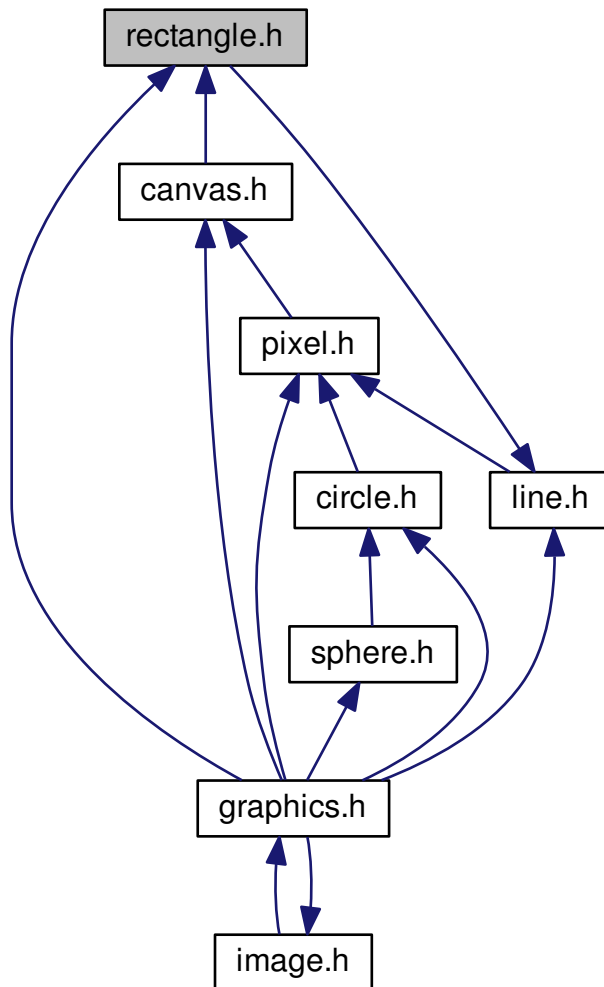
4.13 rectangle.h File Reference

```
#include "point.h"
#include "line.h"
#include "color.h"
```


Include dependency graph for rectangle.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Rectangle](#)

Functions

- void [rectangle_draw](#) (const [Rectangle](#) *rectangle, const [Color](#) *color)
- void [rectangle_draw_fill](#) (const [Rectangle](#) *rectangle, const [Color](#) *color)
- bool [rectangle_contains_point](#) (const [Rectangle](#) *rect, const [Point](#) *p) `__attribute__((pure))`
- bool [rectangle_contains_absolute_point](#) (const [Rectangle](#) *rect, const [Point](#) *p)

4.13.1 Function Documentation

4.13.1.1 `bool rectangle_contains_absolute_point (const Rectangle * rect, const Point * p)`

4.13.1.2 `bool rectangle_contains_point (const Rectangle * rect, const Point * p)`

4.13.1.3 `void rectangle_draw (const Rectangle * rectangle, const Color * color)`

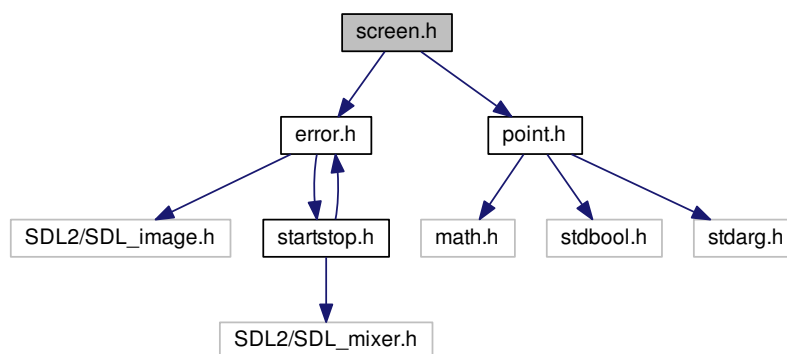
4.13.1.4 `void rectangle_draw_fill (const Rectangle * rectangle, const Color * color)`

4.14 screen.h File Reference

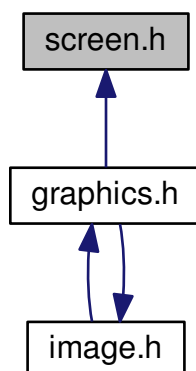
```
#include "error.h"
```

```
#include "point.h"
```

Include dependency graph for screen.h:



This graph shows which files directly or indirectly include this file:



Functions

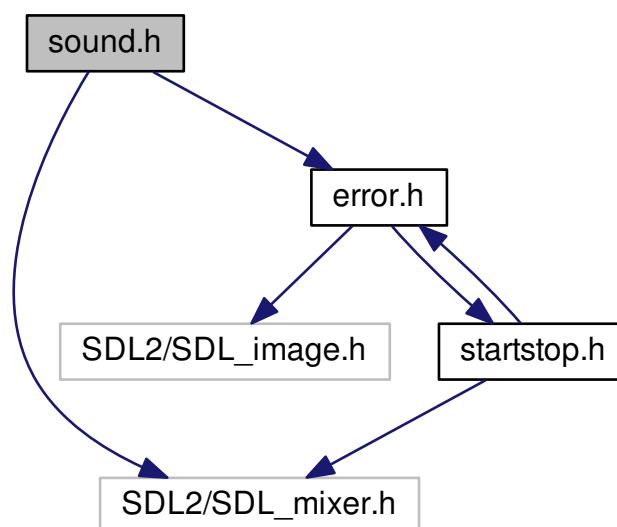
- void [screen_get_size](#) ([Point](#) *screenSize)

4.14.1 Function Documentation

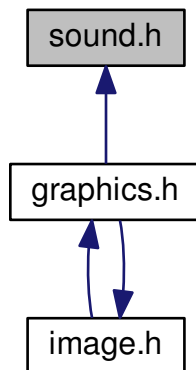
4.14.1.1 void [screen_get_size](#) ([Point](#) * *screenSize*)

4.15 sound.h File Reference

```
#include <SDL2/SDL_mixer.h>
#include "error.h"
Include dependency graph for sound.h:
```



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Sound](#)

Functions

- void [sound_load](#) (const char *fileName, [Sound](#) *sound)
- void [sound_play](#) (const [Sound](#) *music)
- void [sound_play_once](#) (const [Sound](#) *music)
- void [sound_free](#) ([Sound](#) *sound)
- void [sound_stop](#) (void)
- void [sound_pause](#) (void)
- void [sound_resume](#) (void)

4.15.1 Function Documentation

4.15.1.1 void [sound_free](#) ([Sound](#) * *sound*)

4.15.1.2 void [sound_load](#) (const char * *fileName*, [Sound](#) * *sound*)

4.15.1.3 void [sound_pause](#) (void)

4.15.1.4 void [sound_play](#) (const [Sound](#) * *music*)

4.15.1.5 void [sound_play_once](#) (const [Sound](#) * *music*)

4.15.1.6 void [sound_resume](#) (void)

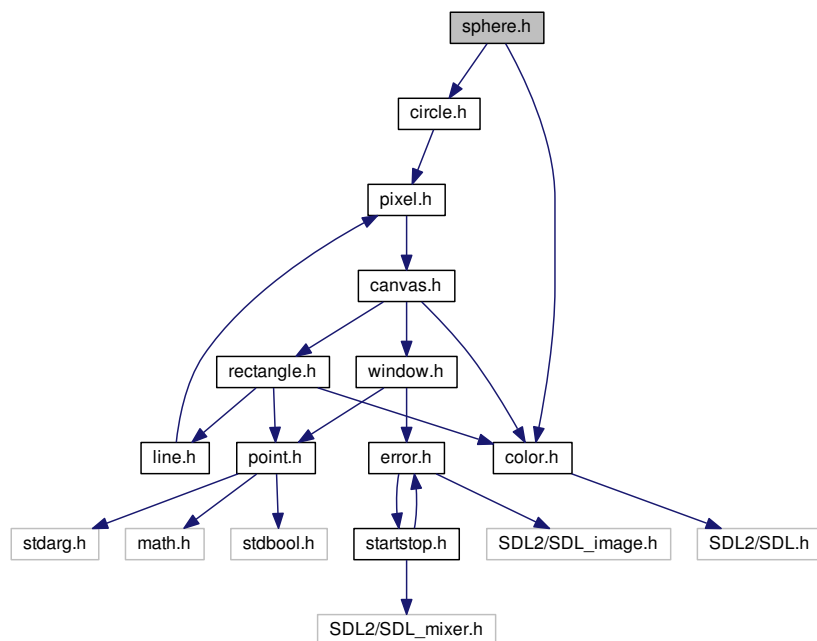
4.15.1.7 void sound_stop (void)

4.16 sphere.h File Reference

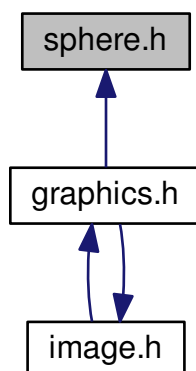
```
#include "circle.h"
```

```
#include "color.h"
```

Include dependency graph for sphere.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Sphere](#)

Functions

- void [sphere_draw_fill](#) (const [Sphere](#) *sphere, const [Color](#) *color)

4.16.1 Function Documentation

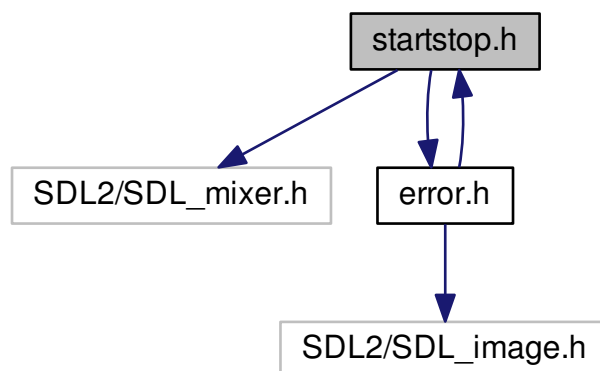
4.16.1.1 void [sphere_draw_fill](#) (const [Sphere](#) * *sphere*, const [Color](#) * *color*)

4.17 startstop.h File Reference

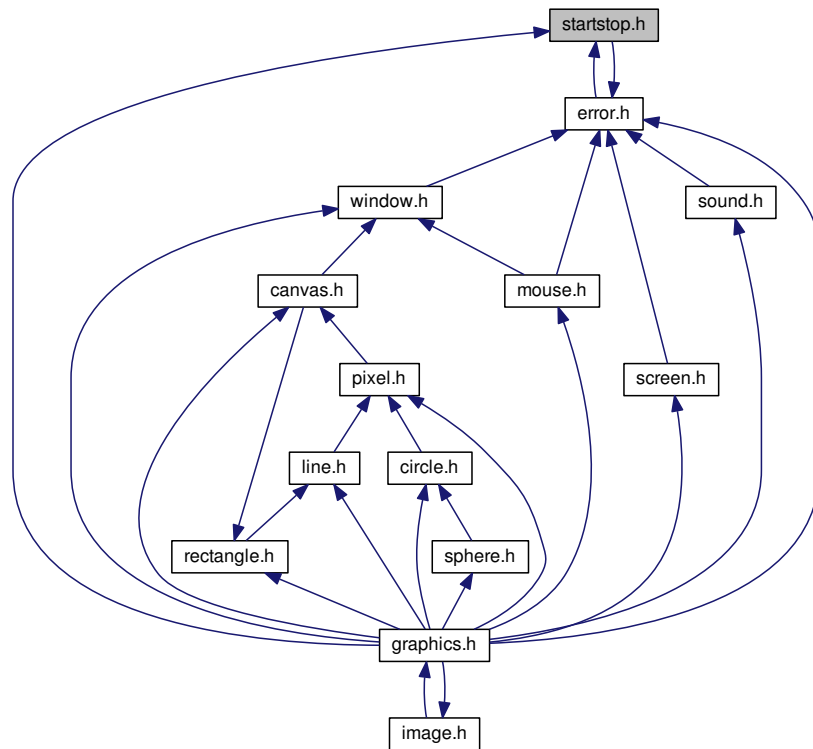
```
#include <SDL2/SDL_mixer.h>
```

```
#include "error.h"
```

Include dependency graph for startstop.h:



This graph shows which files directly or indirectly include this file:



Functions

- void [graphics_start](#) (const Uint32 flags)
- void [graphics_stop](#) (void)

4.17.1 Function Documentation

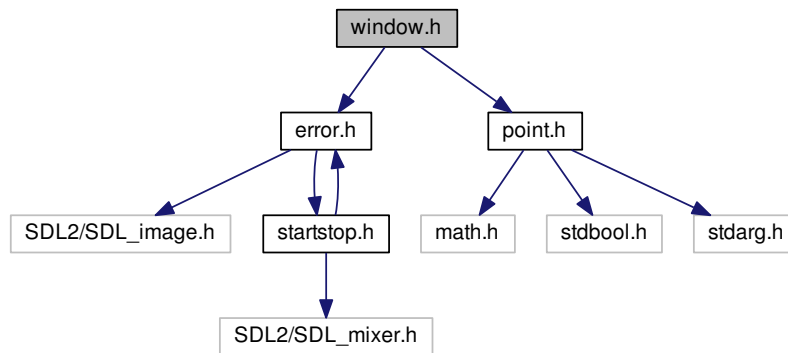
4.17.1.1 void [graphics_start](#) (const Uint32 flags)

4.17.1.2 void [graphics_stop](#) (void)

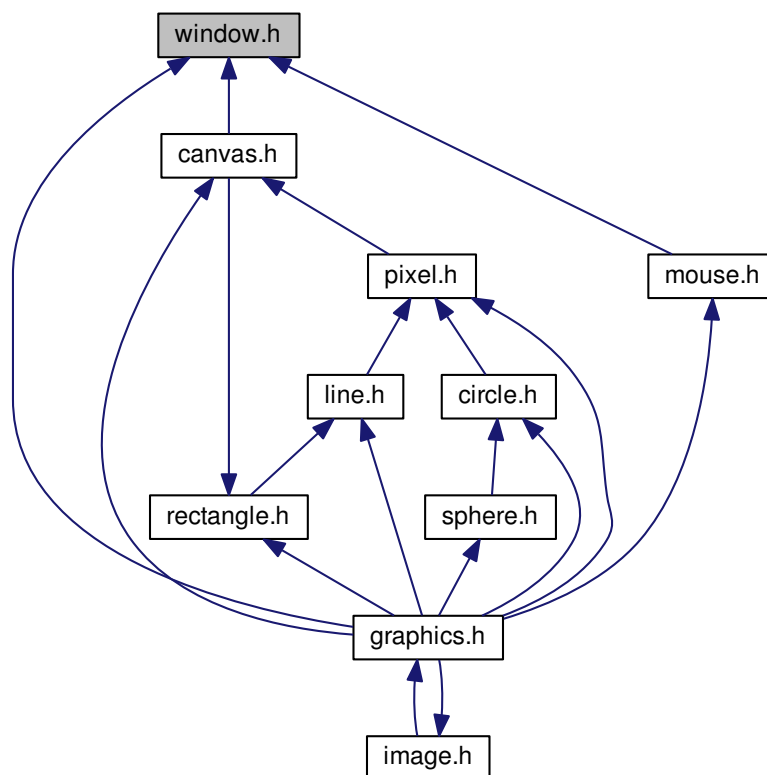
4.18 window.h File Reference

```
#include "error.h"
#include "point.h"
```


Include dependency graph for window.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct [Window](#)

Functions

- void `window_create` (`Window` *window, char *title, const `Point` *position, const `Point` *size, const Uint32 flags)
- void `window_destroy` (`Window` *window)
- void `window_update` (`Window` *window)

4.18.1 Function Documentation

4.18.1.1 void `window_create` (`Window` * *window*, char * *title*, const `Point` * *position*, const `Point` * *size*, const Uint32 *flags*)

4.18.1.2 void `window_destroy` (`Window` * *window*)

4.18.1.3 void `window_update` (`Window` * *window*)

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