Graphics

COLLABORATORS

	TITLE : Graphics	

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WRITTEN BY		July 5, 2016	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

Data Structure Documentation

1.1 Canvas struct Reference

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

Inheritance diagram for Canvas

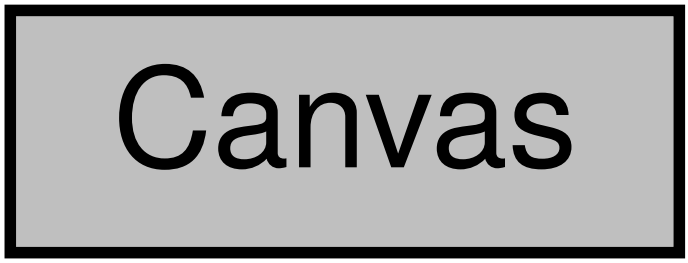

Figure 1.1: Inheritance graph

Collaboration diagram for Canvas

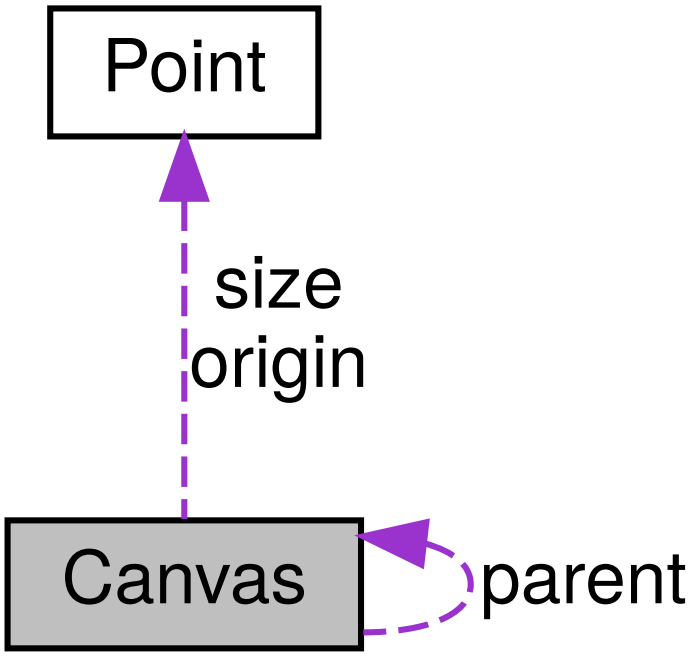

Figure 1.2: Collaboration graph

1.1.1 Data Fields

- SDL_Surface * surface
- Point size
- Point origin
- struct Canvas * parent

1.1.2 Field Documentation

1.2 Circle struct Reference

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

Inheritance diagram for Circle

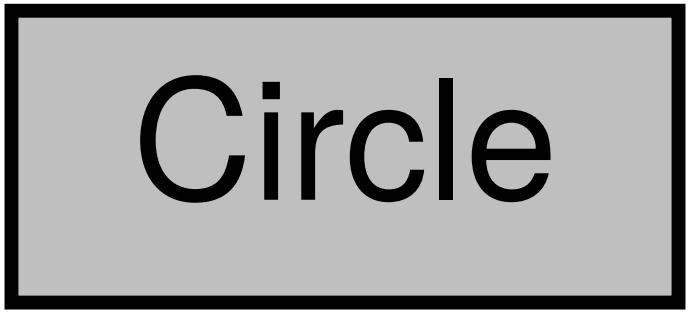

Figure 1.3: Inheritance graph

Collaboration diagram for Circle

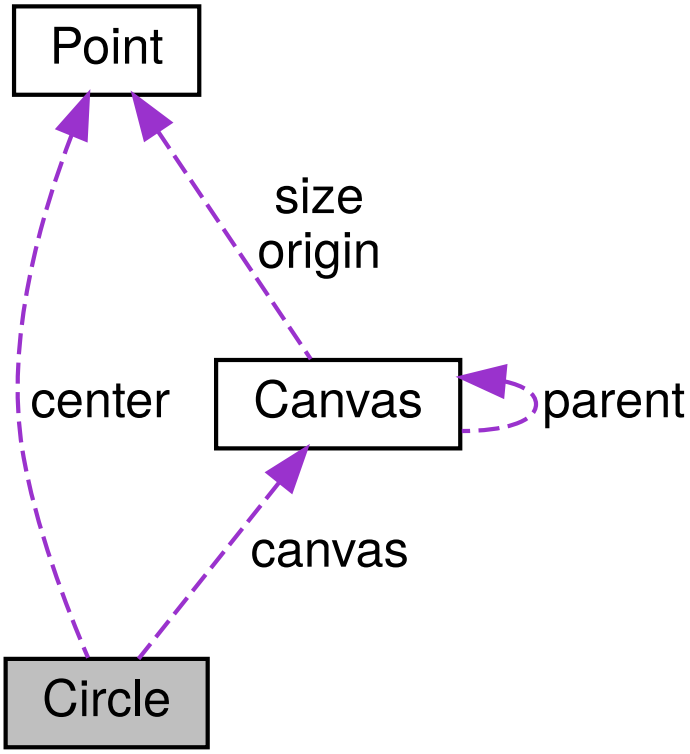

Figure 1.4: Collaboration graph

1.2.1 Data Fields

- Point center
- int radius
- Canvas * canvas

1.2.2 Field Documentation

1.3 Color struct Reference

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

Inheritance diagram for Color

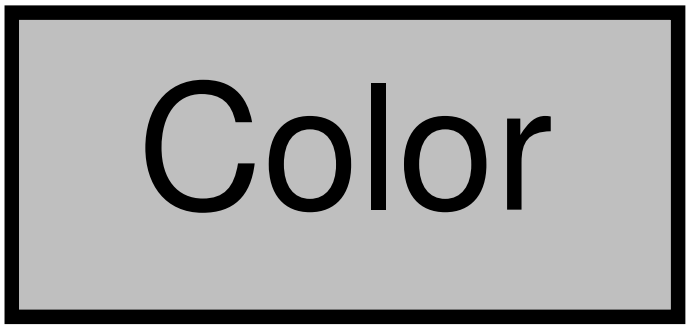

Figure 1.5: Inheritance graph

Collaboration diagram for Color

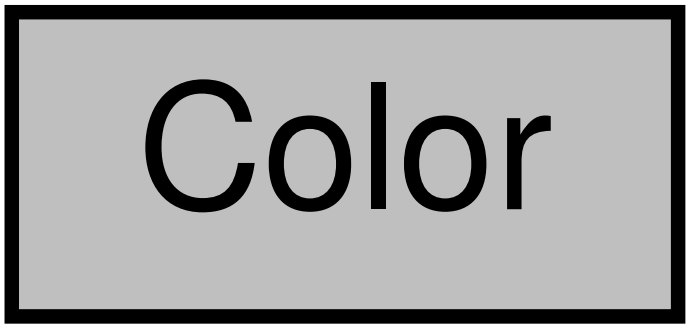

Figure 1.6: Collaboration graph

1.3.1 Data Fields

- Uint32 rgb
- Uint8 alpha

1.3.2 Field Documentation

1.4 Event struct Reference

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

Inheritance diagram for Event

Figure 1.7: Inheritance graph

Collaboration diagram for Event

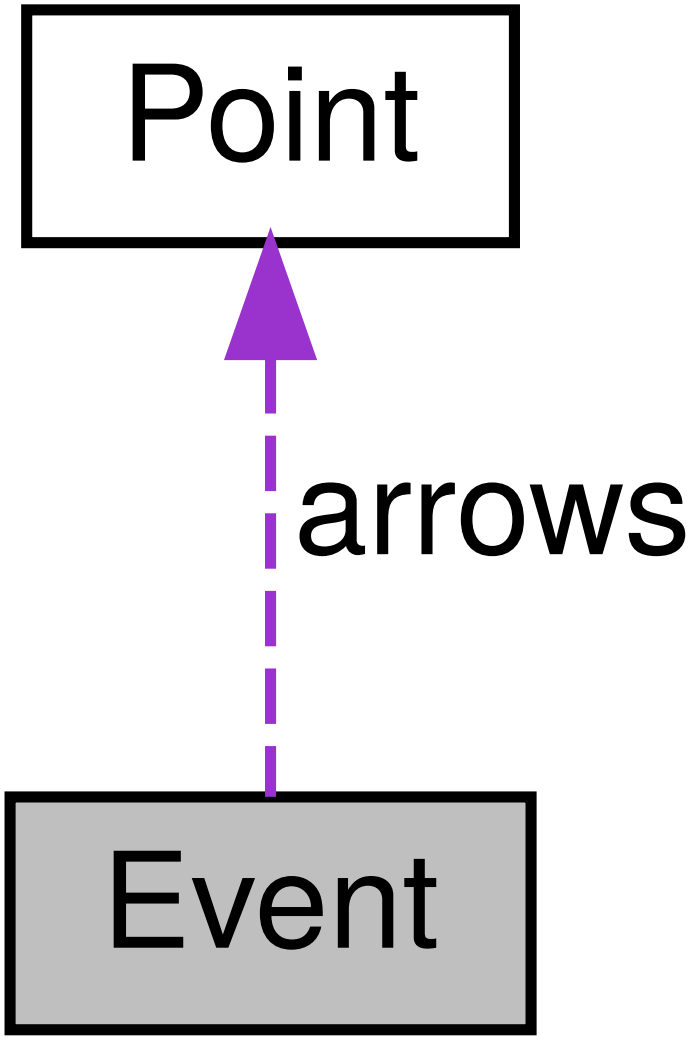

Figure 1.8: Collaboration graph

1.4.1 Data Fields

- bool quit

- bool space
- Point arrows

1.4.2 Field Documentation

1.5 Image struct Reference

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

Inheritance diagram for Image

Figure 1.9: Inheritance graph

Collaboration diagram for Image

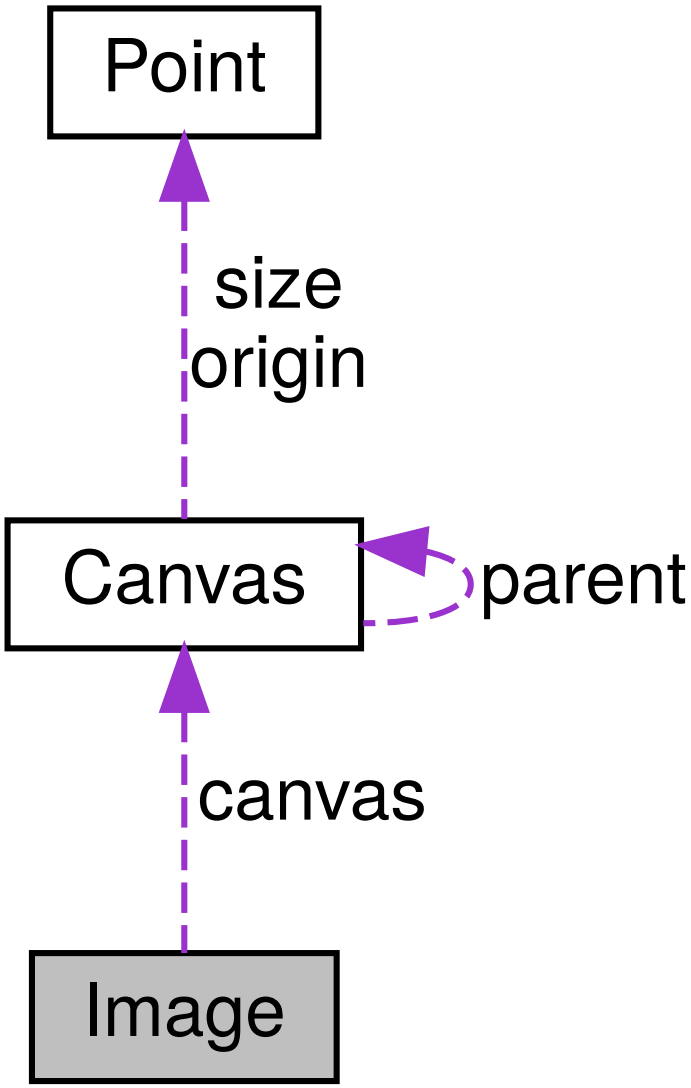

Figure 1.10: Collaboration graph

1.5.1 Data Fields

- SDL_Surface * surface
- Canvas * canvas

1.5.2 Field Documentation

1.6 Line struct Reference

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

Inheritance diagram for Line

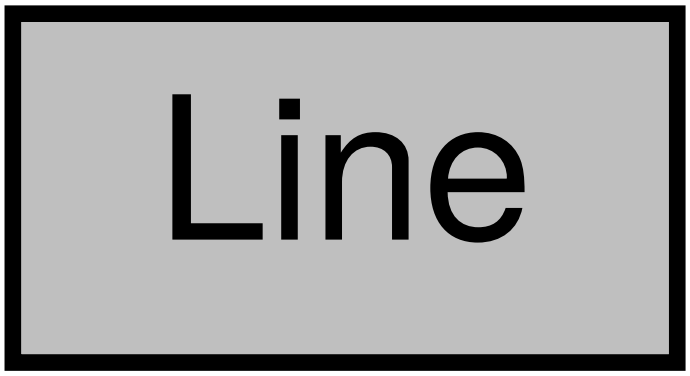

Figure 1.11: Inheritance graph

Collaboration diagram for Line

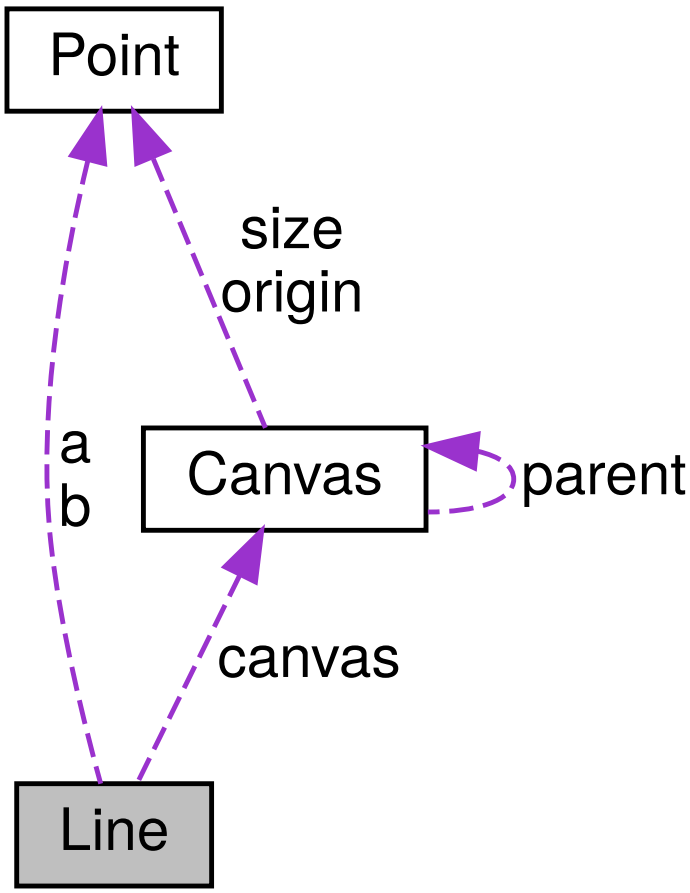

Figure 1.12: Collaboration graph

1.6.1 Data Fields

- Point a
- Point b
- Canvas * canvas

1.6.2 Field Documentation

1.7 Pixel struct Reference

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

Inheritance diagram for Pixel

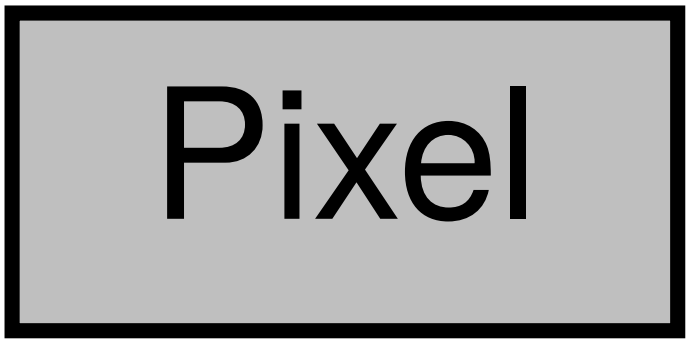

Figure 1.13: Inheritance graph

Collaboration diagram for Pixel

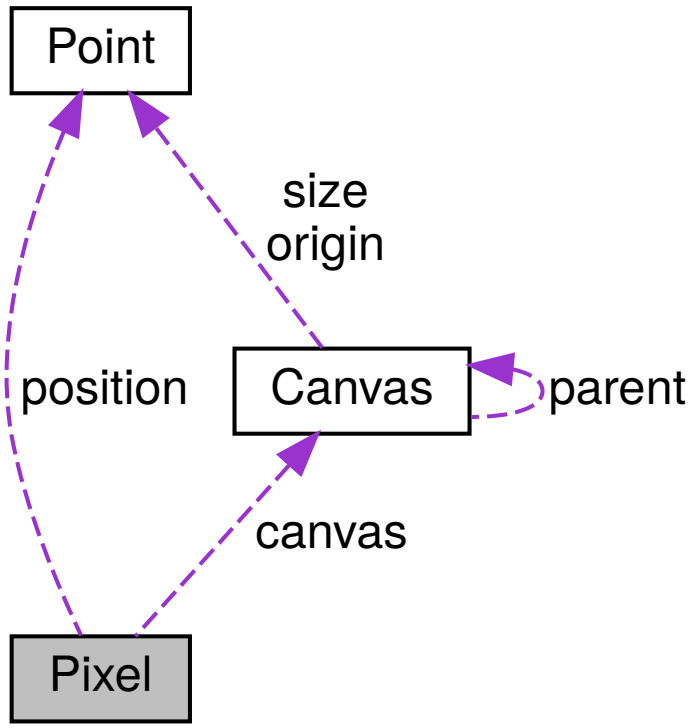

Figure 1.14: Collaboration graph

1.7.1 Data Fields

- Point position
- Canvas * canvas

1.7.2 Field Documentation

1.8 Point struct Reference

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

Inheritance diagram for Point

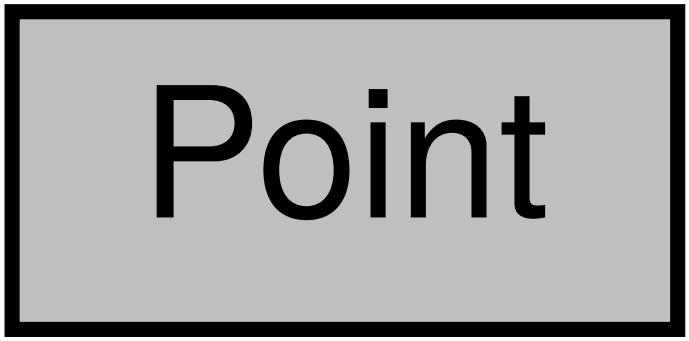

Figure 1.15: Inheritance graph

Collaboration diagram for Point

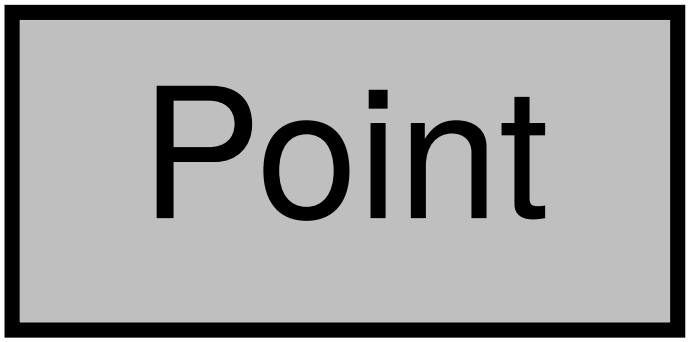

Figure 1.16: Collaboration graph

1.8.1 Data Fields

- int x
- int y

1.8.2 Field Documentation

1.9 Rectangle struct Reference

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

Inheritance diagram for Rectangle

Figure 1.17: Inheritance graph

Collaboration diagram for Rectangle

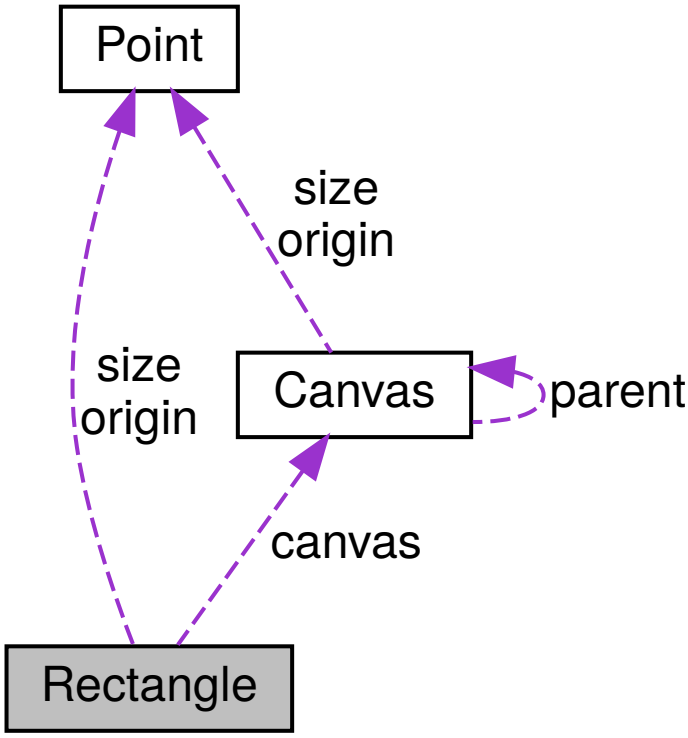

Figure 1.18: Collaboration graph

1.9.1 Data Fields

- Point origin
- Point size
- Canvas * canvas

1.9.2 Field Documentation

1.10 Sound struct Reference

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

Inheritance diagram for Sound

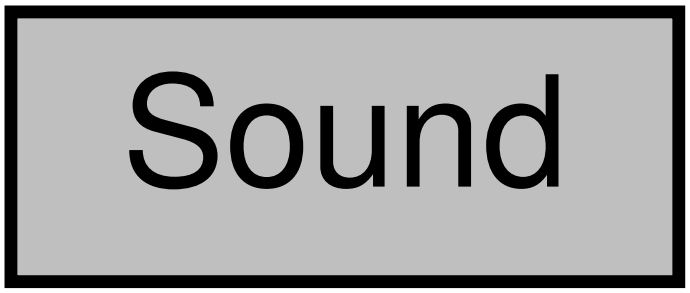

Figure 1.19: Inheritance graph

Collaboration diagram for Sound

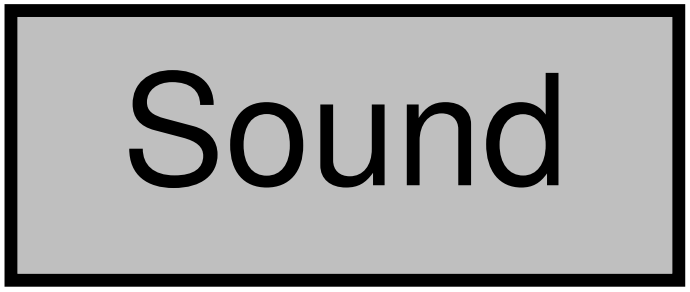

Figure 1.20: Collaboration graph

1.10.1 Data Fields

- Mix_Music * content

1.10.2 Field Documentation

1.11 Sphere struct Reference

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

Inheritance diagram for Sphere

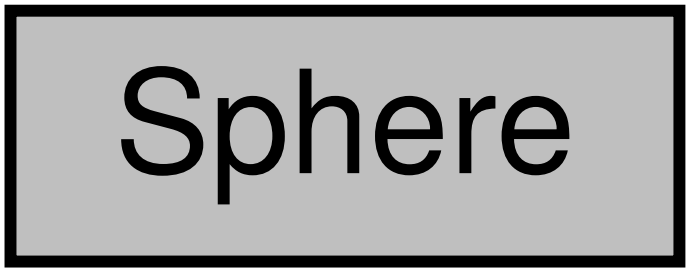

Figure 1.21: Inheritance graph

Collaboration diagram for Sphere

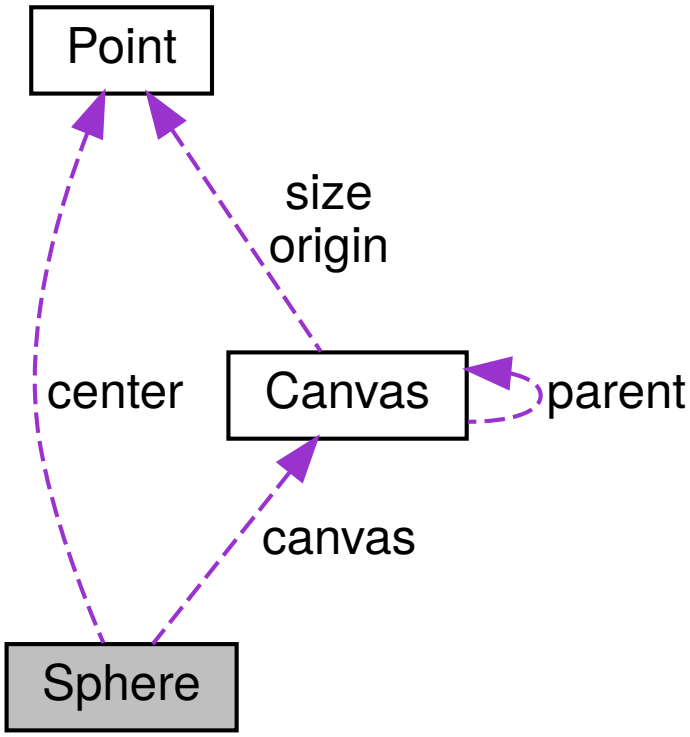

Figure 1.22: Collaboration graph

1.11.1 Data Fields

- Point center
- int radius
- Canvas * canvas

1.11.2 Field Documentation

1.12 Window struct Reference

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

Inheritance diagram for Window

Figure 1.23: Inheritance graph

Collaboration diagram for Window

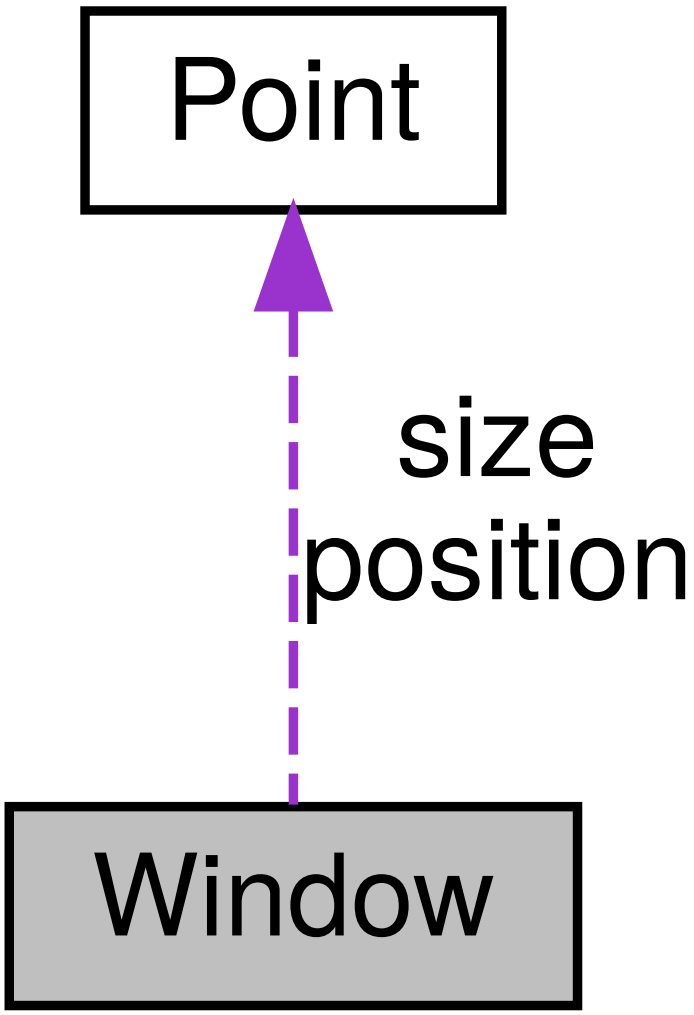

Figure 1.24: Collaboration graph

1.12.1 Data Fields

- SDL_Window * window
- char * title
- Point position
- Point size

1.12.2 Field Documentation

Chapter 2

File Documentation

2.1 calc.h File Reference

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

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

Include dependency diagram for calc.h

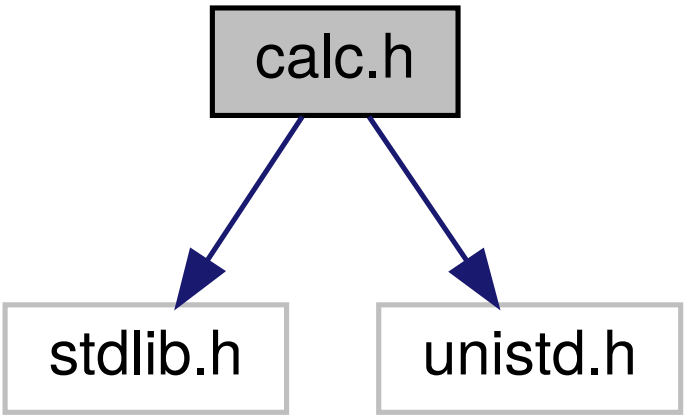

Figure 2.1: Dependency diagram

Included by dependency diagram for calc.h

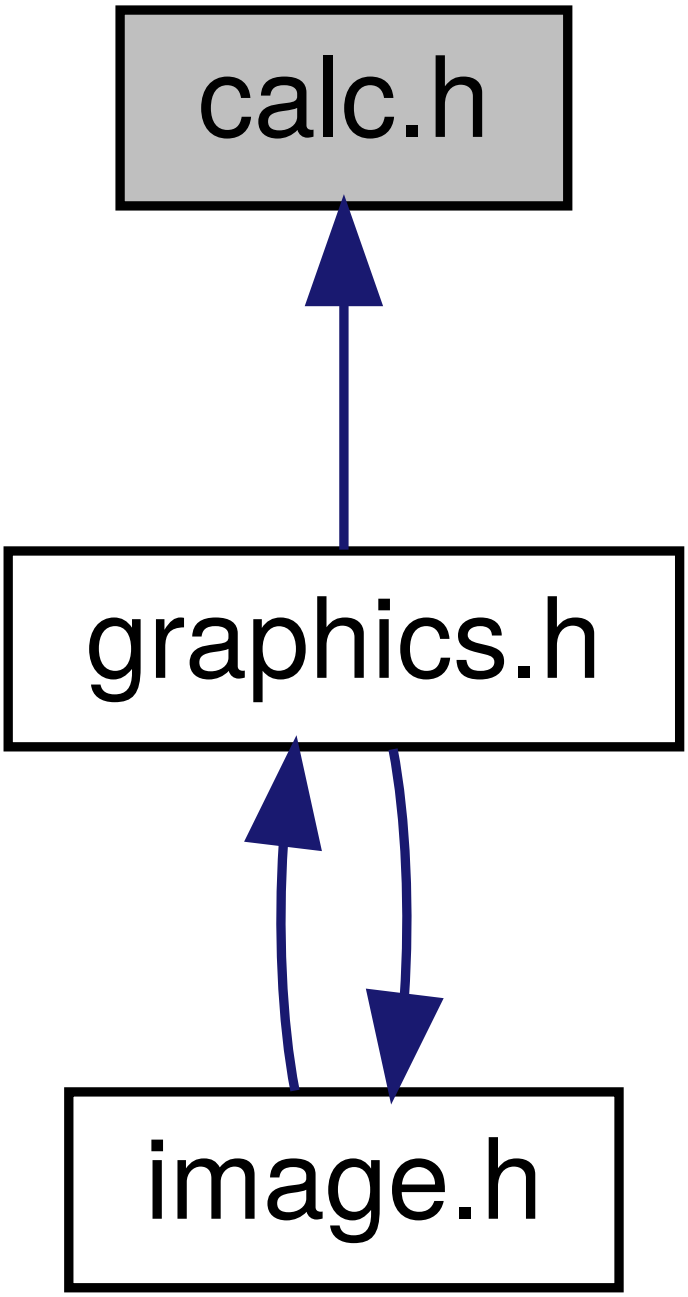

Figure 2.2: Dependency diagram

2.1.1 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.*

2.1.2 Detailed Description

Definition in file calc.h

```
1 #ifndef DEF_CALC_H
```

```
2 #define DEF_CALC_H
3
4 #include <stdlib.h>
5 #include <unistd.h>
6
12 float calc_alea_float(void);
13
21 int calc_alea_int(const int min, const int max);
22
23 #endif
```

2.2 canvas.h File Reference

```
#include "window.h"
```

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

```
#include "rectangle.h"
```

Include dependency diagram for canvas.h

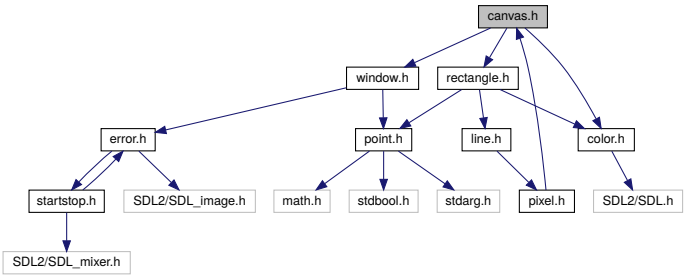

Figure 2.3: Dependency diagram

Included by dependency diagram for canvas.h

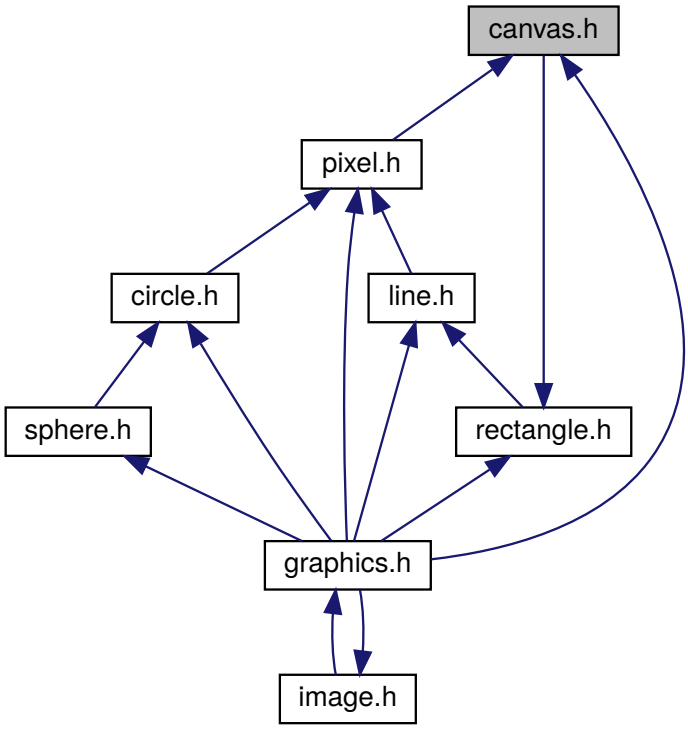

Figure 2.4: Dependency diagram

2.2.1 Data Structures

- struct Canvas

2.2.2 Typedefs

- typedef struct Canvas Canvas

2.2.3 Functions

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

- 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.*
- 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.*
- 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.*
- 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.*
- 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.*
- 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.*

2.2.4 Detailed Description

Definition in file canvas.h

```
1 #ifndef DEF_CANVAS_H
2 #define DEF_CANVAS_H
3
4 #include "window.h"
5 #include "color.h"
6
7 typedef struct Canvas {
8     SDL_Surface* surface;
9     Point size;
10     Point origin;
11     struct Canvas* parent;
12 } Canvas;
13
14 #include "rectangle.h"
15
```

```
24 bool canvas_collision_canvas(const Canvas* canvas1, const Canvas* canvas2)  ↩
   __attribute__((pure));
25
33 bool canvas_is_out_of_parent_bottom(const Canvas* canvas) __attribute__((pure)) ↩
   ;
34
42 bool canvas_is_out_of_parent_left(const Canvas* canvas) __attribute__((pure));
43
51 bool canvas_is_out_of_parent_right(const Canvas* canvas) __attribute__((pure));
52
60 bool canvas_is_out_of_parent_top(const Canvas* canvas) __attribute__((pure));
61
69 bool canvas_is_out_of_parent_x(const Canvas* canvas) __attribute__((pure));
70
78 bool canvas_is_out_of_parent_y(const Canvas* canvas) __attribute__((pure));
79
88 bool canvas_will_be_out_of_parent_bottom(const Canvas* canvas, const Point*  ↩
   move) __attribute__((pure));
89
98 bool canvas_will_be_out_of_parent_left(const Canvas* canvas, const Point* move) ↩
    __attribute__((pure));
99
108 bool canvas_will_be_out_of_parent_right(const Canvas* canvas, const Point*  ↩
   move) __attribute__((pure));
109
118 bool canvas_will_be_out_of_parent_top(const Canvas* canvas, const Point* move) ↩
    __attribute__((pure));
119
128 bool canvas_will_be_out_of_parent_x(const Canvas* canvas, const Point* move)  ↩
   __attribute__((pure));
129
138 bool canvas_will_be_out_of_parent_y(const Canvas* canvas, const Point* move)  ↩
   __attribute__((pure));
139
146 void canvas_blit(Canvas* canvas);
147
157 void canvas_create(Canvas* canvas, const Point* size, const Point* origin,  ↩
   Canvas* parent);
158
165 void canvas_clear(Canvas* canvas);
166
174 void canvas_create_from_window(Canvas* canvas, const Window* window);
175
183 void canvas_draw_borders_in(Canvas* canvas, const Color* color);
184
192 void canvas_draw_borders_out(Canvas* canvas, const Color* color);
193
201 void canvas_fill(Canvas* canvas, const Color* color);
202
210 void canvas_get_absolute_origin(const Canvas* canvas, Point* absoluteOrigin);
211
212 #endif
```

2.3 circle.h File Reference

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

Include dependency diagram for circle.h

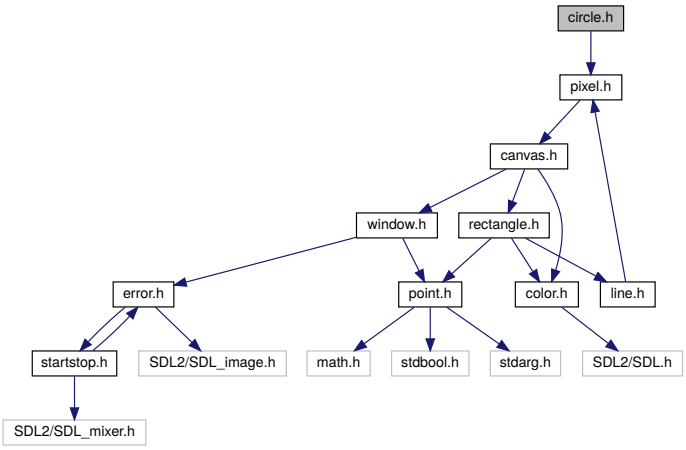

Figure 2.5: Dependency diagram

Included by dependency diagram for circle.h

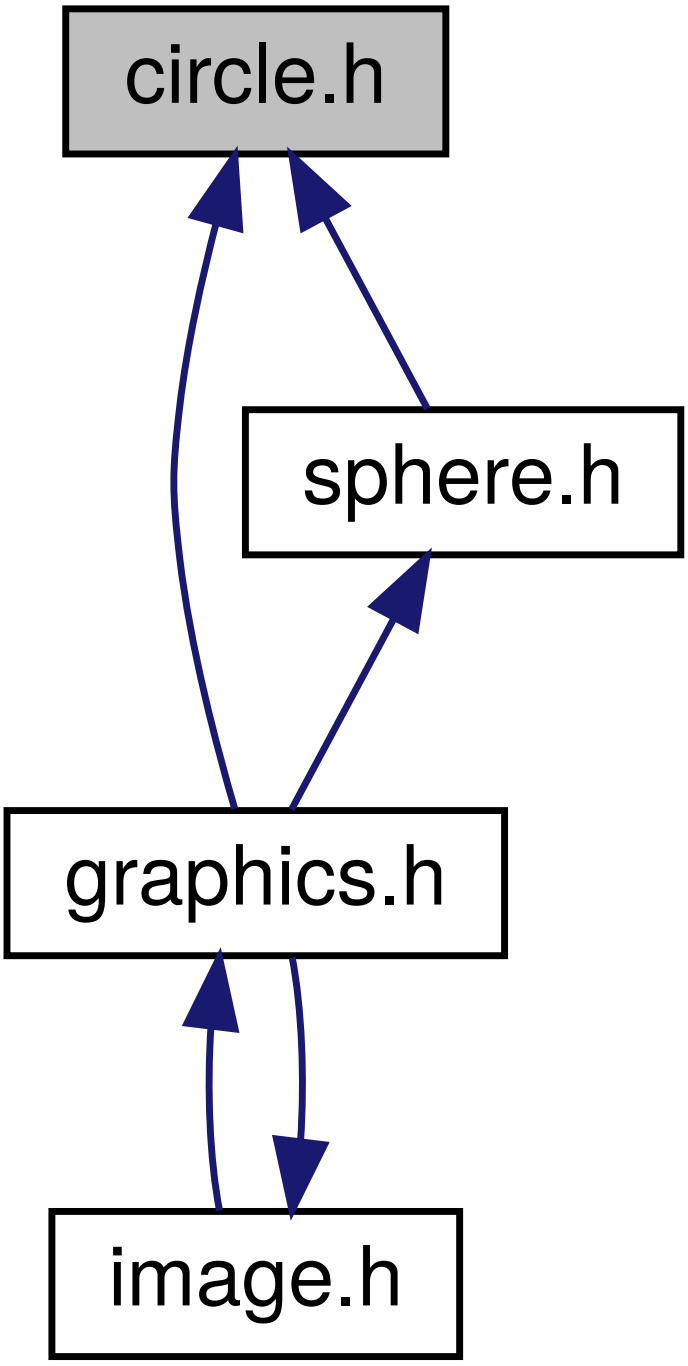

Figure 2.6: Dependency diagram

2.3.1 Data Structures

- struct Circle

2.3.2 Functions

- void circle_draw (const Circle * circle, const Color * color)
- void circle_draw_fill (const Circle * circle, const Color * color)

2.3.3 Detailed Description

Definition in file circle.h

```
1 #ifndef DEF_CIRCLE_H
2 #define DEF_CIRCLE_H
3
4 #include "pixel.h"
5
6 #pragma pack(push, 1)
7 typedef struct {
8     Point center;
9     int radius;
10     Canvas* canvas;
11 } Circle;
12 #pragma pack(pop)
13
14 void circle_draw(const Circle* circle, const Color* color);
15
16 void circle_draw_fill(const Circle* circle, const Color* color);
17
18 #endif
```

2.4 color.h File Reference

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

Include dependency diagram for color.h

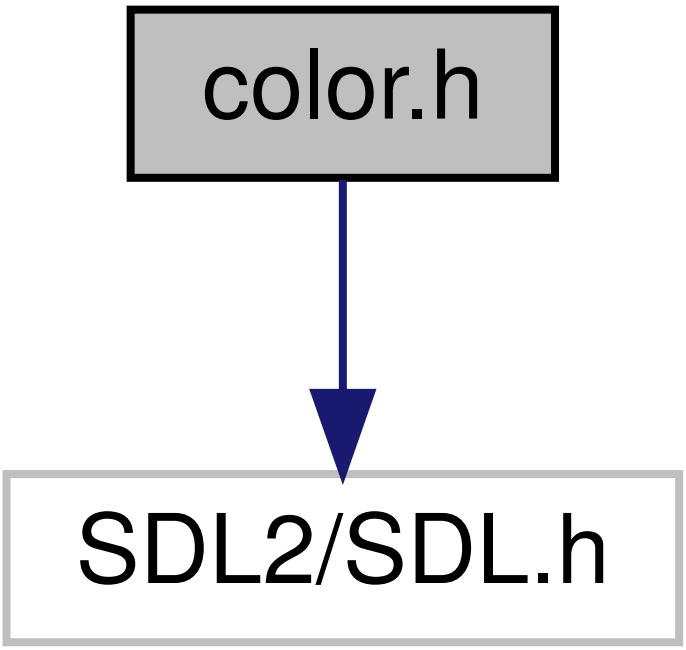

Figure 2.7: Dependency diagram

Included by dependency diagram for color.h

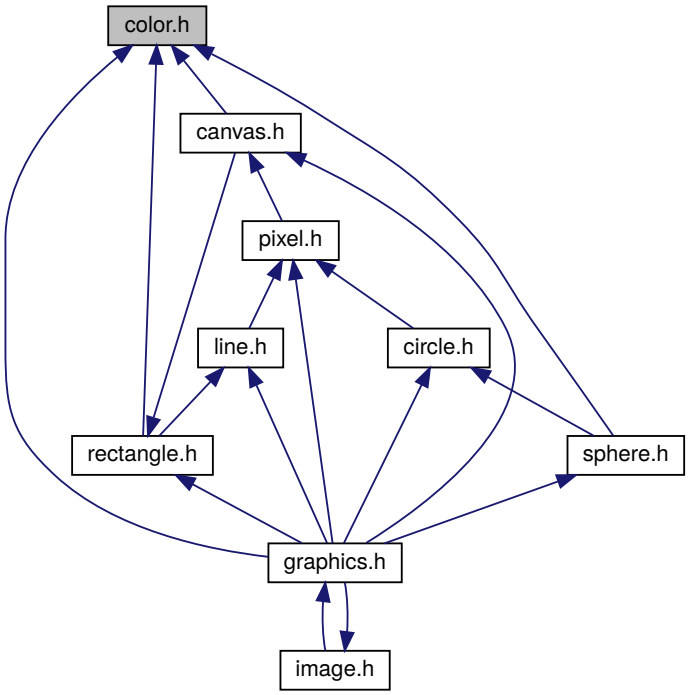

Figure 2.8: Dependency diagram

2.4.1 Data Structures

- struct Color

2.4.2 Functions

- void color_translate (const Color * color, SDL_Color * sdlColor)
- Uint8 color_get_red (const Color * color)
- Uint8 color_get_green (const Color * color)
- Uint8 color_get_blue (const Color * color)

2.4.3 Detailed Description

Definition in file color.h

```
1 #ifndef DEF_COLOR_H
2 #define DEF_COLOR_H
3
4 #include <SDL2/SDL.h>
5
6 #pragma pack(push, 1)
7 typedef struct {
8     Uint32 rgb;
9     Uint8 alpha;
10 } Color;
```

```
11 #pragma pack(pop)
12
13 void color_translate(const Color* color, SDL_Color* sdlColor);
14
15 Uint8 color_get_red(const Color* color) __attribute__((const));
16
17 Uint8 color_get_green(const Color* color) __attribute__((const));
18
19 Uint8 color_get_blue(const Color* color) __attribute__((pure));
20
21 #endif
```

2.5 error.h File Reference

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

```
#include "startstop.h"
```

Include dependency diagram for error.h

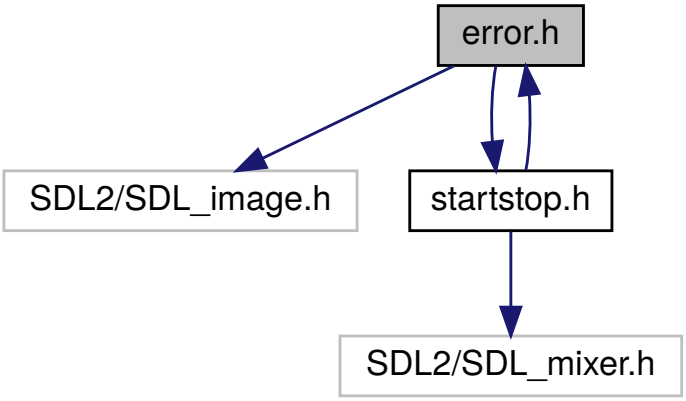

Figure 2.9: Dependency diagram

Included by dependency diagram for error.h

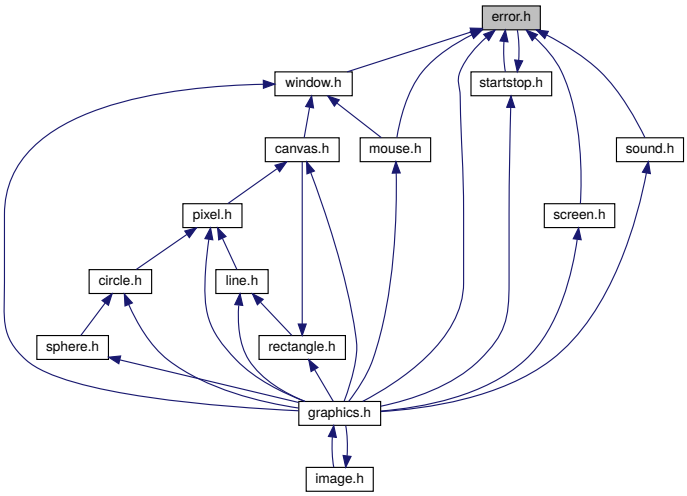

Figure 2.10: Dependency diagram

2.5.1 Functions

- void error_quit (void)

2.5.2 Detailed Description

Definition in file error.h

```
1 #ifndef DEF_ERROR_H
2 #define DEF_ERROR_H
3
4 #include <SDL2/SDL_image.h>
5 #include "startstop.h"
6
7 void error_quit(void) __attribute__ ((noreturn));
8
9 #endif
```

2.6 event.h File Reference

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

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

Include dependency diagram for event.h

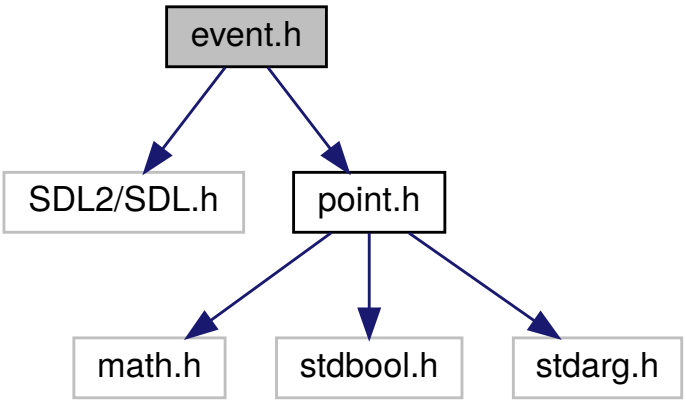

Figure 2.11: Dependency diagram

Included by dependency diagram for event.h

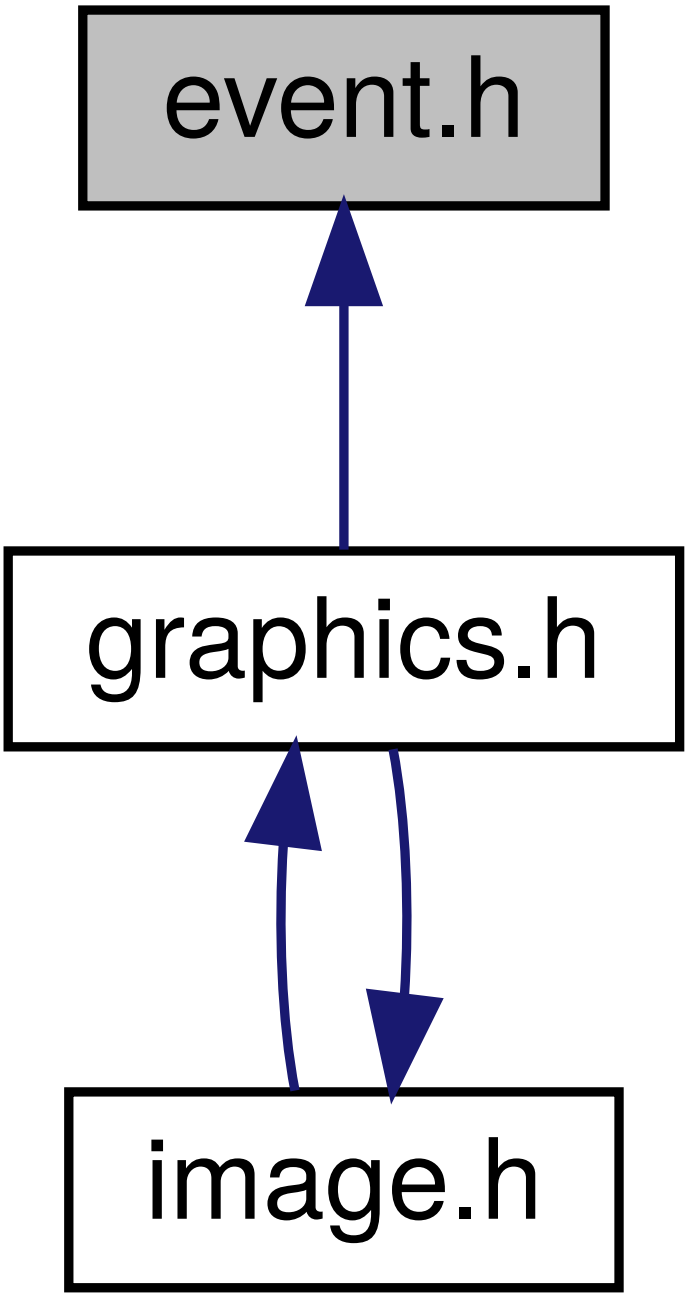

Figure 2.12: Dependency diagram

2.6.1 Data Structures

- struct Event

2.6.2 Functions

- void event_create (Event * newEvent)
- void event_update (Event * event)

2.6.3 Detailed Description

Definition in file event.h

```
1 #ifndef DEF_EVENT_H
2 #define DEF_EVENT_H
3
4 #include <SDL2/SDL.h>
5 #include "point.h"
6
7 #pragma pack(push, 1)
8 typedef struct {
9     bool quit;
10     bool space;
11     Point arrows;
12 } Event;
13 #pragma pack(pop)
14
15 void event_create(Event* newEvent);
16
17 void event_update(Event* event);
18
19 #endif
```

2.7 graphics.h File Reference

```
#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 diagram for graphics.h

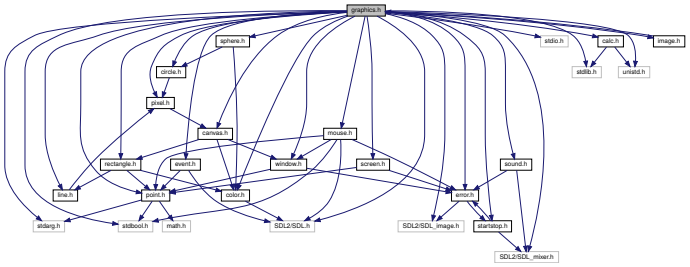

Figure 2.13: Dependency diagram

Included by dependency diagram for graphics.h

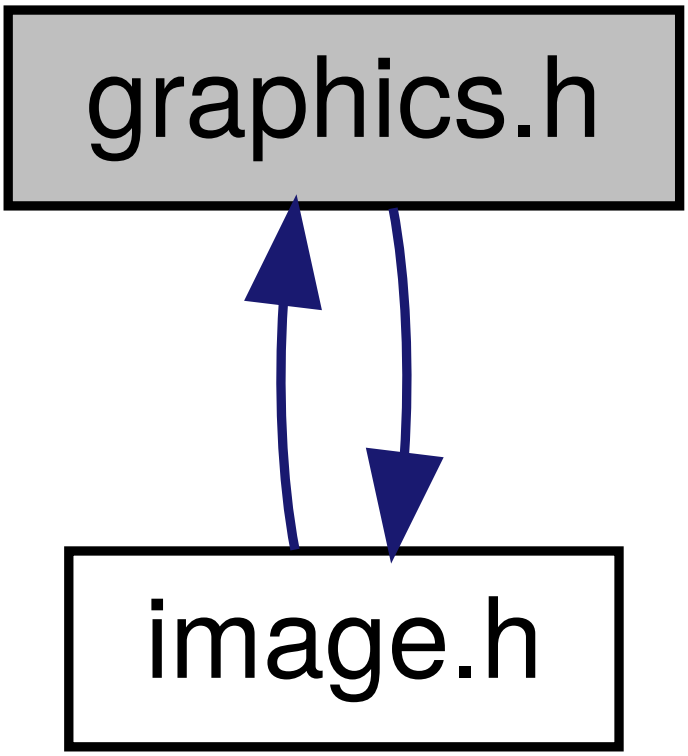

Figure 2.14: Dependency diagram

2.7.1 Detailed Description

Definition in file graphics.h

```
1 #ifndef DEF_GRAPHICS_H
2 #define DEF_GRAPHICS_H
3
4 #include <stdarg.h>
5 #include <stdbool.h>
6 #include <stdio.h>
7 #include <stdlib.h>
8 #include <unistd.h>
9
10 #include <SDL2/SDL.h>
11 #include <SDL2/SDL_image.h>
12 #include <SDL2/SDL_mixer.h>
13
14 #include "point.h"
15 #include "pixel.h"
16 #include "canvas.h"
17 #include "line.h"
18 #include "window.h"
19 #include "screen.h"
20 #include "color.h"
21 #include "circle.h"
22 #include "sound.h"
23 #include "calc.h"
24 #include "rectangle.h"
25 #include "event.h"
```

```
26 #include "sphere.h"
27 #include "image.h"
28 #include "error.h"
29 #include "startstop.h"
30 #include "mouse.h"
31
32 #endif
```

2.8 image.h File Reference

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

Include dependency diagram for image.h

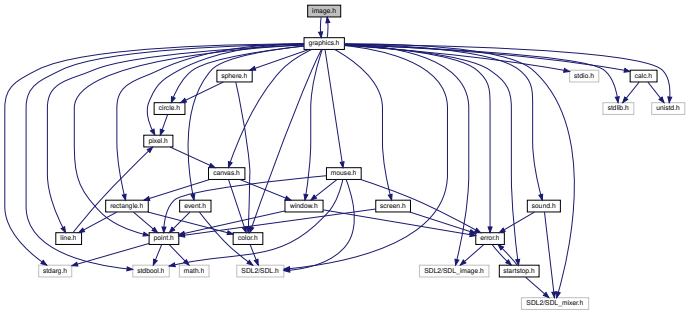

Figure 2.15: Dependency diagram

Included by dependency diagram for image.h

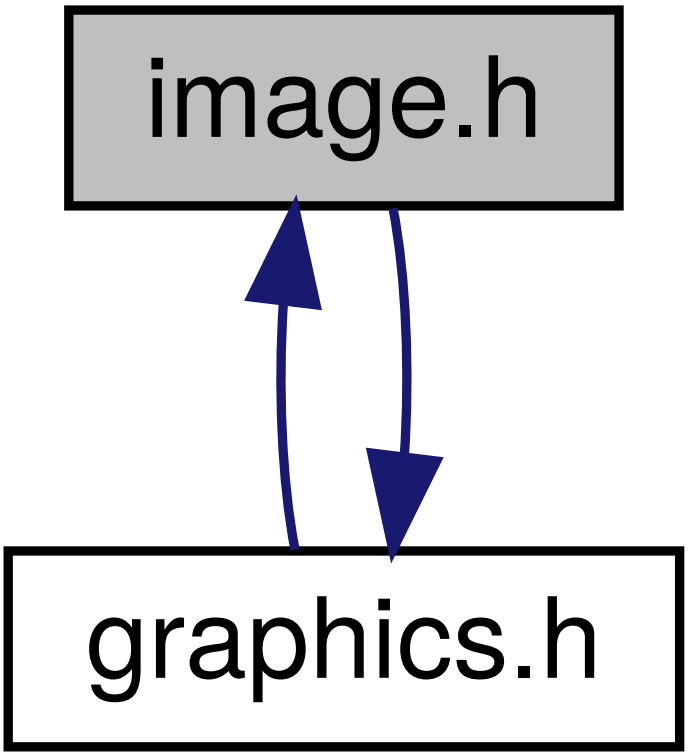

Figure 2.16: Dependency diagram

2.8.1 Data Structures

- struct Image

2.8.2 Functions

- void image_blit_naive (const Image * image)
- void image_blit_scaled (const Image * image)
- void image_load (Image * image, const char * pathToImg)
- void image_unload (Image * image)

2.8.3 Detailed Description

Definition in file image.h

```
1 #ifndef DEF_IMAGE_H
2 #define DEF_IMAGE_H
3
4 #include "graphics.h"
5
6 typedef struct {
7     SDL_Surface* surface;
8     Canvas* canvas;
9 } Image;
```

```
10
11 void image_blit_naive(const Image* image);
12
13 void image_blit_scaled(const Image* image);
14
15 void image_load(Image* image, const char* pathToImg);
16
17 void image_unload(Image* image);
18
19 #endif
```

2.9 line.h File Reference

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

Include dependency diagram for line.h

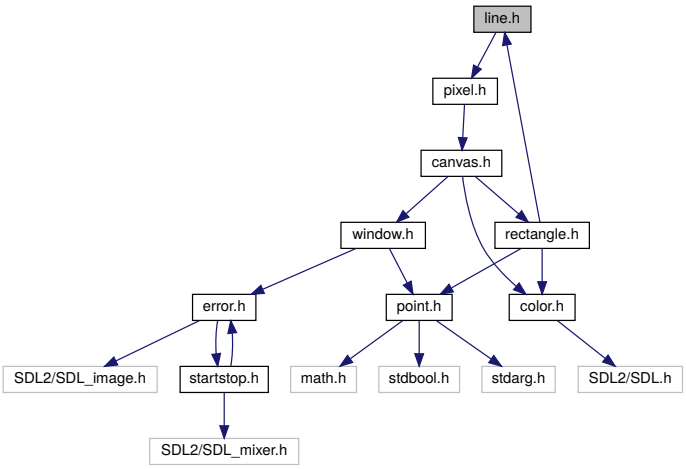

Figure 2.17: Dependency diagram

Included by dependency diagram for line.h

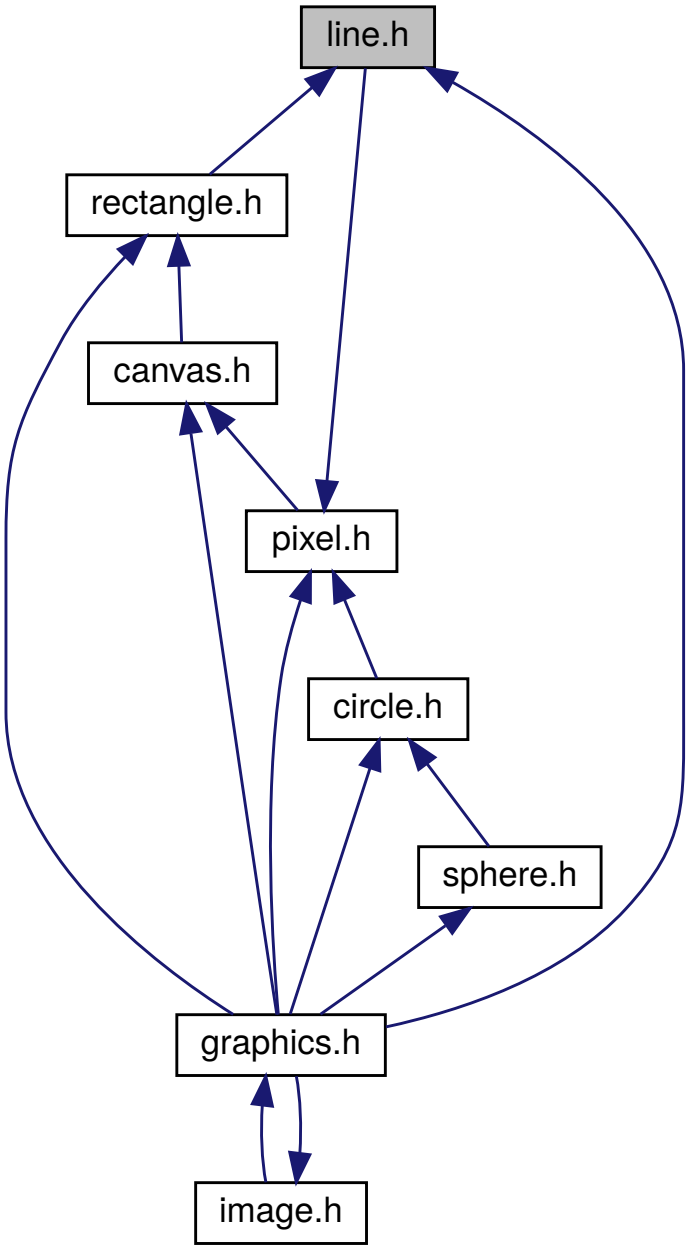

Figure 2.18: Dependency diagram

2.9.1 Data Structures

- struct Line

2.9.2 Functions

- void line_draw (const Line * line, const Color * color)
- void line_draw_bis (const Line * line, const Color * color)
- void line_draw_ter (const Line * line, const Color * color)

2.9.3 Detailed Description

Definition in file line.h

```
1 #ifndef DEF_LINE_H
2 #define DEF_LINE_H
3
4 #include "pixel.h"
5
6 typedef struct {
7     Point a;
8     Point b;
9     Canvas* canvas;
10 } Line;
11
12 void line_draw(const Line* line, const Color* color);
13
14 void line_draw_bis(const Line* line, const Color* color);
15
16 void line_draw_ter(const Line* line, const Color* color);
17
18 #endif
```

2.10 mouse.h File Reference

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

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

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

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

```
#include "window.h"
```

Include dependency diagram for mouse.h

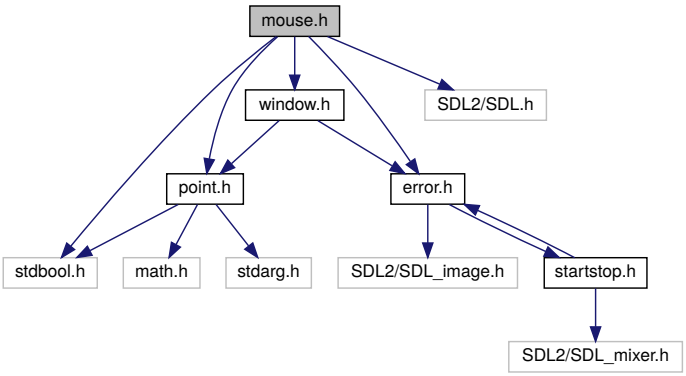

Figure 2.19: Dependency diagram

Included by dependency diagram for mouse.h

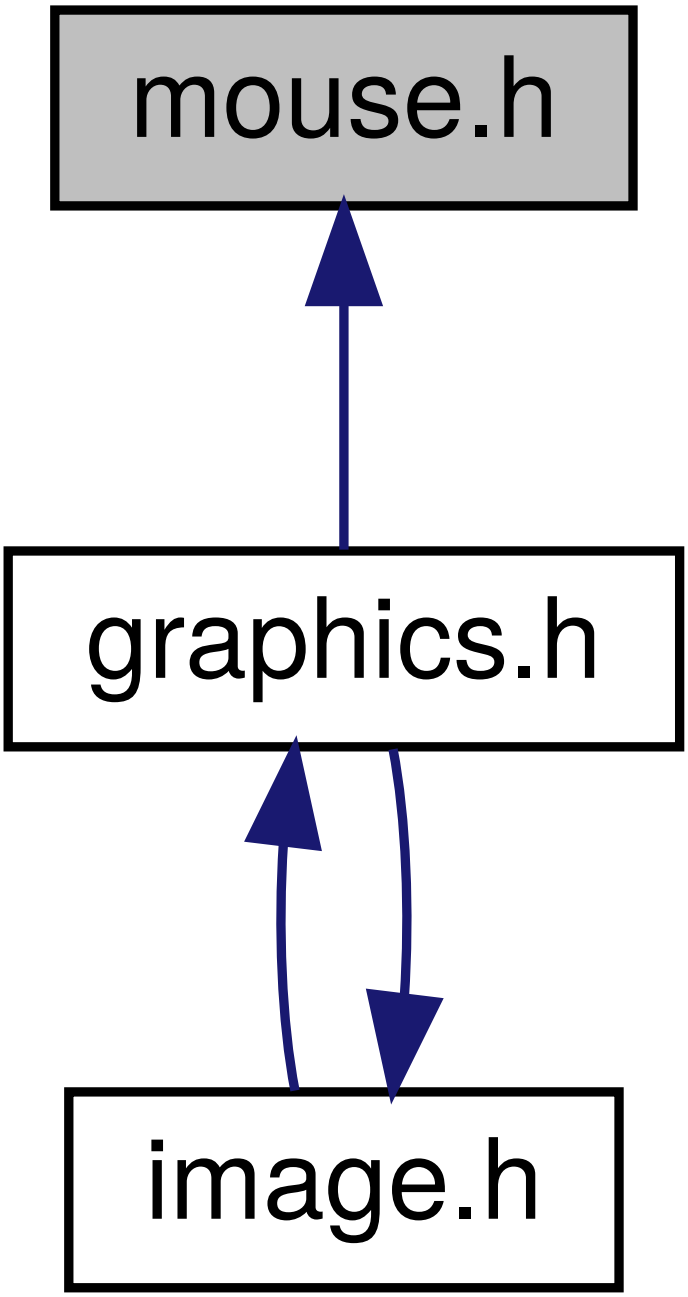

Figure 2.20: Dependency diagram

2.10.1 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)

2.10.2 Detailed Description

Definition in file mouse.h

```
1 #ifndef DEF_MOUSE_H
2 #define DEF_MOUSE_H
3
4 #include <stdbool.h>
5 #include <SDL2/SDL.h>
6 #include "error.h"
7 #include "point.h"
8 #include "window.h"
9
10 void mouse_hide(void);
11
12 void mouse_show(void);
13
14 void mouse_wait_click(const Window* window, Point* click);
15
16 bool mouse_is_hidden(void);
17
18 bool mouse_is_shown(void);
19
20 #endif
```

2.11 pixel.h File Reference

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

Include dependency diagram for pixel.h

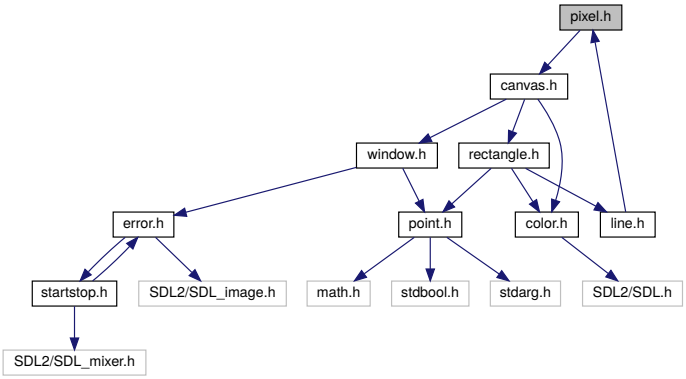

Figure 2.21: Dependency diagram

Included by dependency diagram for pixel.h

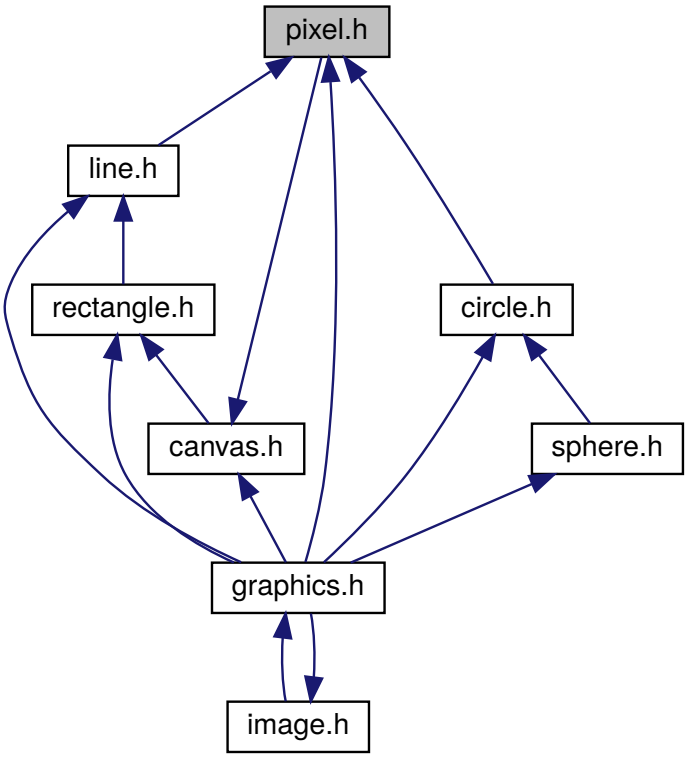

Figure 2.22: Dependency diagram

2.11.1 Data Structures

- struct Pixel

2.11.2 Functions

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

2.11.3 Detailed Description

Definition in file pixel.h

```
1 #ifndef DEF_PIXEL_H
2 #define DEF_PIXEL_H
3
4 #include "canvas.h"
5
6 typedef struct {
7     Point position;
8     Canvas* canvas;
9 } Pixel;
10
11 void pixel_draw(const Pixel* pixel, const Color* color);
12
13 #endif
```

2.12 point.h File Reference

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

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

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

Include dependency diagram for point.h

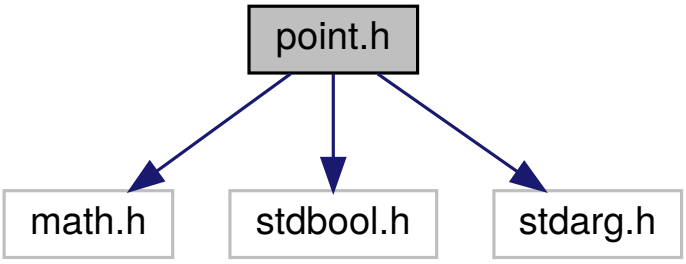

Figure 2.23: Dependency diagram

Included by dependency diagram for point.h

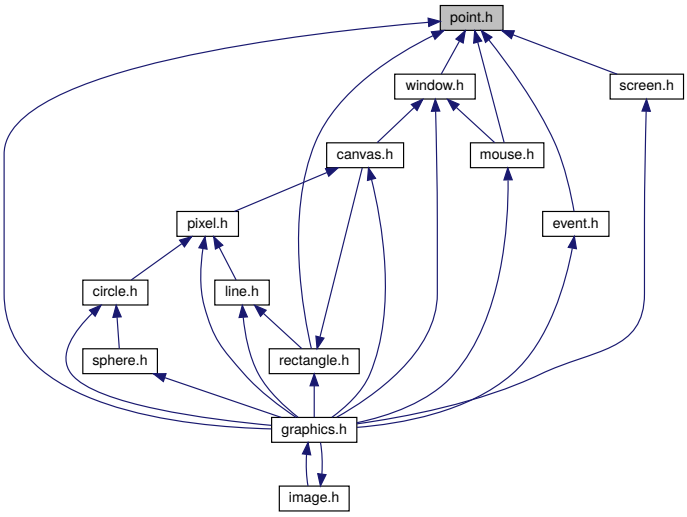

Figure 2.24: Dependency diagram

2.12.1 Data Structures

- struct Point

2.12.2 Functions

- bool point_are_equals (const Point p1, const Point p2)
- 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)

2.12.3 Detailed Description

Definition in file point.h

```
1 #ifndef DEF_POINT_H
2 #define DEF_POINT_H
3
4 #include <math.h>
5 #include <stdbool.h>
6 #include <stdarg.h>
7
8 typedef struct {
9     int x;
10     int y;
11 } Point;
12
13 bool point_are_equals(const Point p1, const Point p2) __attribute__((const));
14
15 int point_distance(const Point a, const Point b);
16
17 Point point_max_x(const Point a, const Point b);
18
19 Point point_max_y(const Point a, const Point b);
20
21 Point point_min_x(const Point a, const Point b);
22
23 Point point_min_y(const Point a, const Point b);
24
25 #endif
```

2.13 rectangle.h File Reference

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

```
#include "line.h"
```

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

Include dependency diagram for rectangle.h

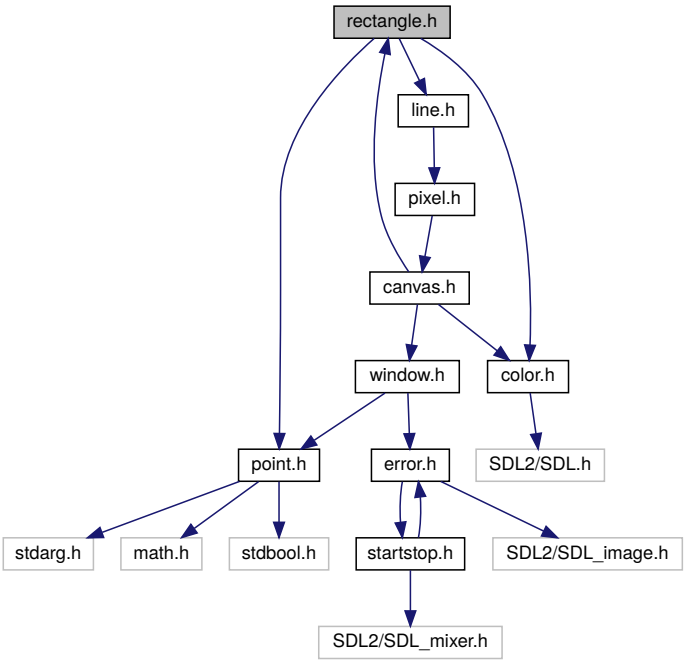

Figure 2.25: Dependency diagram

Included by dependency diagram for rectangle.h

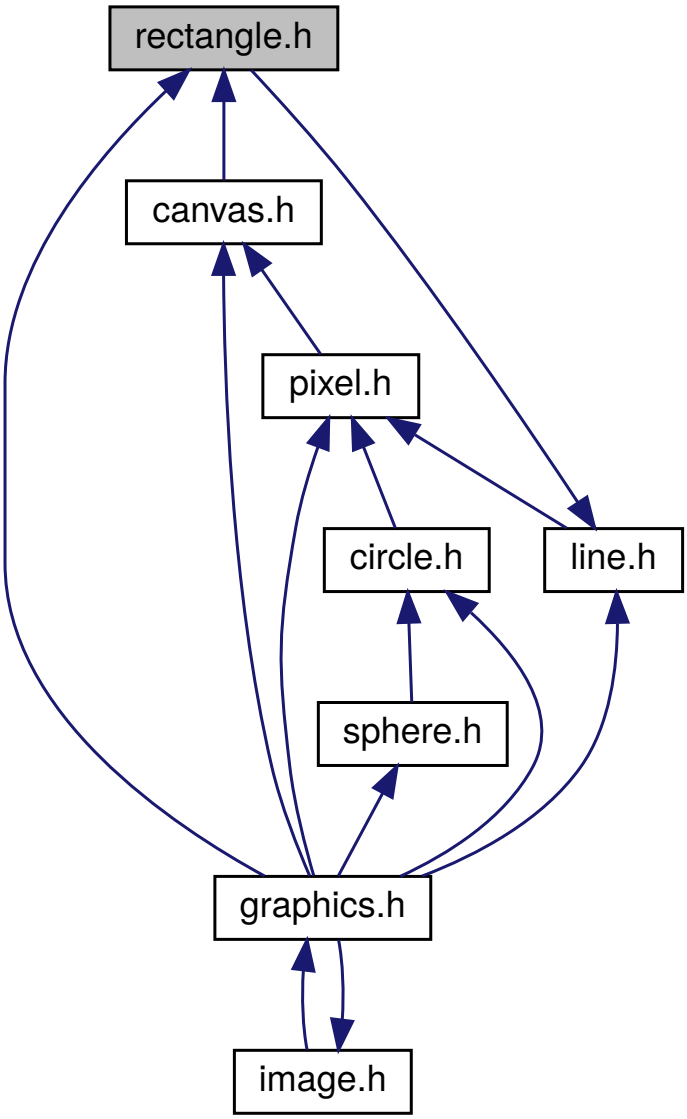

Figure 2.26: Dependency diagram

2.13.1 Data Structures

- struct Rectangle

2.13.2 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)
- bool rectangle_contains_absolute_point (const Rectangle * rect, const Point * p)

2.13.3 Detailed Description

Definition in file rectangle.h

```
1 #ifndef DEF_RECTANGLE_H
2 #define DEF_RECTANGLE_H
3
4 #include "point.h"
5 #include "line.h"
6 #include "color.h"
7
8 typedef struct {
9     Point origin;
10     Point size;
11     Canvas* canvas;
12 } Rectangle;
13
14 void rectangle_draw(const Rectangle* rectangle, const Color* color);
15
16 void rectangle_draw_fill(const Rectangle* rectangle, const Color* color);
17
18 bool rectangle_contains_point(const Rectangle* rect, const Point* p)  ↩
   __attribute__((pure));
19
20 bool rectangle_contains_absolute_point(const Rectangle* rect, const Point* p);
21
22 #endif
```

2.14 screen.h File Reference

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

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

Include dependency diagram for screen.h

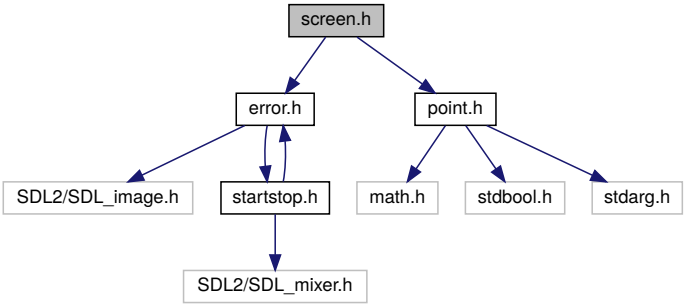

Figure 2.27: Dependency diagram

Included by dependency diagram for screen.h

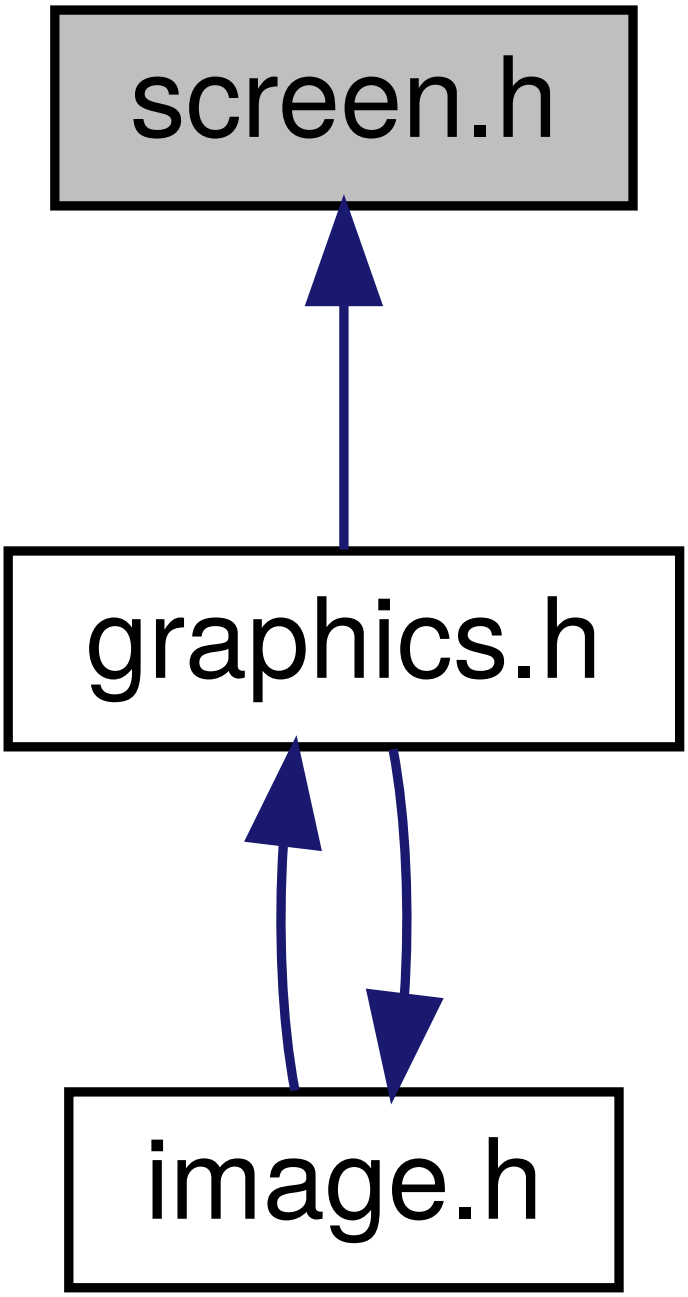

Figure 2.28: Dependency diagram

2.14.1 Functions

- void screen_get_size (Point * screenSize)

2.14.2 Detailed Description

Definition in file screen.h

```
1 #ifndef DEF_SCREEN_H
2 #define DEF_SCREEN_H
3
```

```
4 #include "error.h"
5 #include "point.h"
6
7 void screen_get_size(Point* screenSize);
8
9 #endif
```

2.15 sound.h File Reference

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

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

Include dependency diagram for sound.h

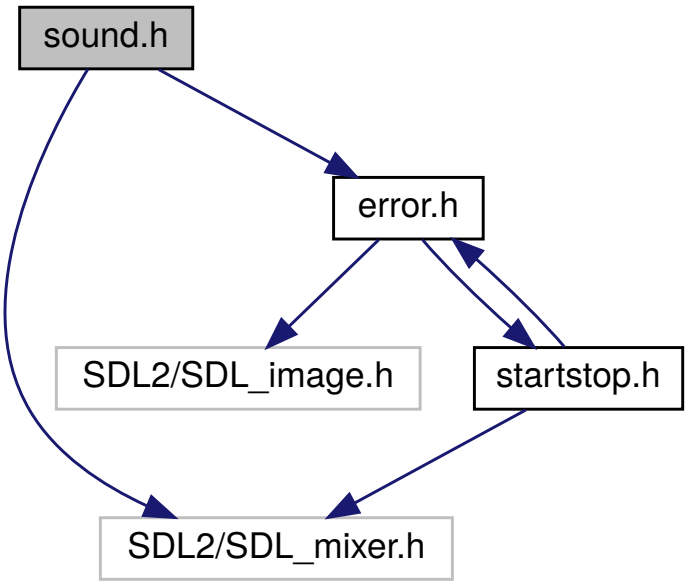

Figure 2.29: Dependency diagram

Included by dependency diagram for sound.h

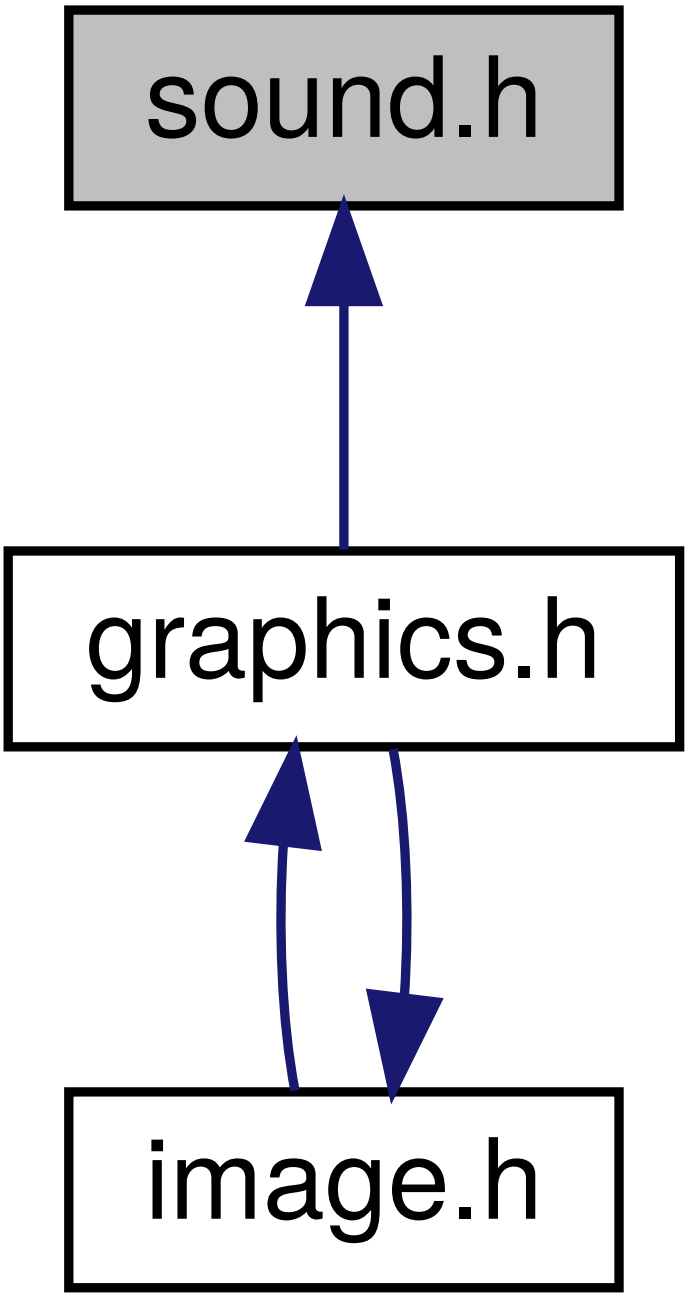

Figure 2.30: Dependency diagram

2.15.1 Data Structures

- struct Sound

2.15.2 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)

2.15.3 Detailed Description

Definition in file sound.h

```
1 #ifndef DEF_SOUND_H
2 #define DEF_SOUND_H
3
4 #include <SDL2/SDL_mixer.h>
5 #include "error.h"
6
7 typedef struct {
8     Mix_Music* content;
9 } Sound;
10
11 void sound_load(const char* fileName, Sound* sound);
12
13 void sound_play(const Sound* music);
14
15 void sound_play_once(const Sound* music);
16
17 void sound_free(Sound* sound);
18
19 void sound_stop(void);
20
21 void sound_pause(void);
22
23 void sound_resume(void);
24
25 #endif
```

2.16 sphere.h File Reference

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

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

Include dependency diagram for sphere.h

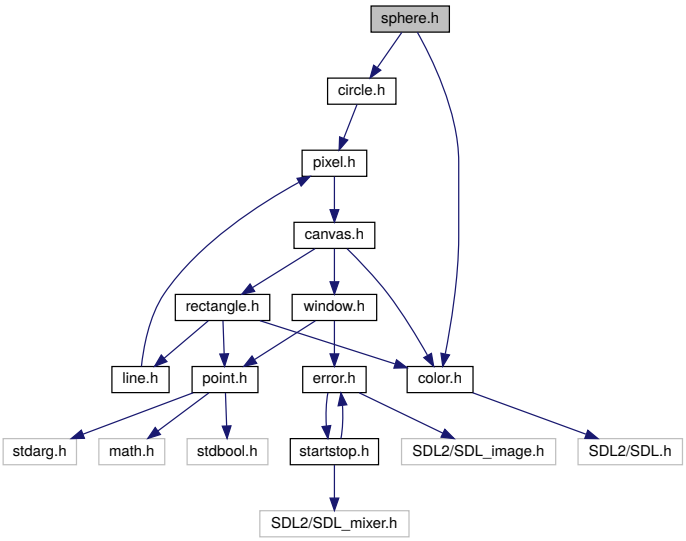

Figure 2.31: Dependency diagram

Included by dependency diagram for sphere.h

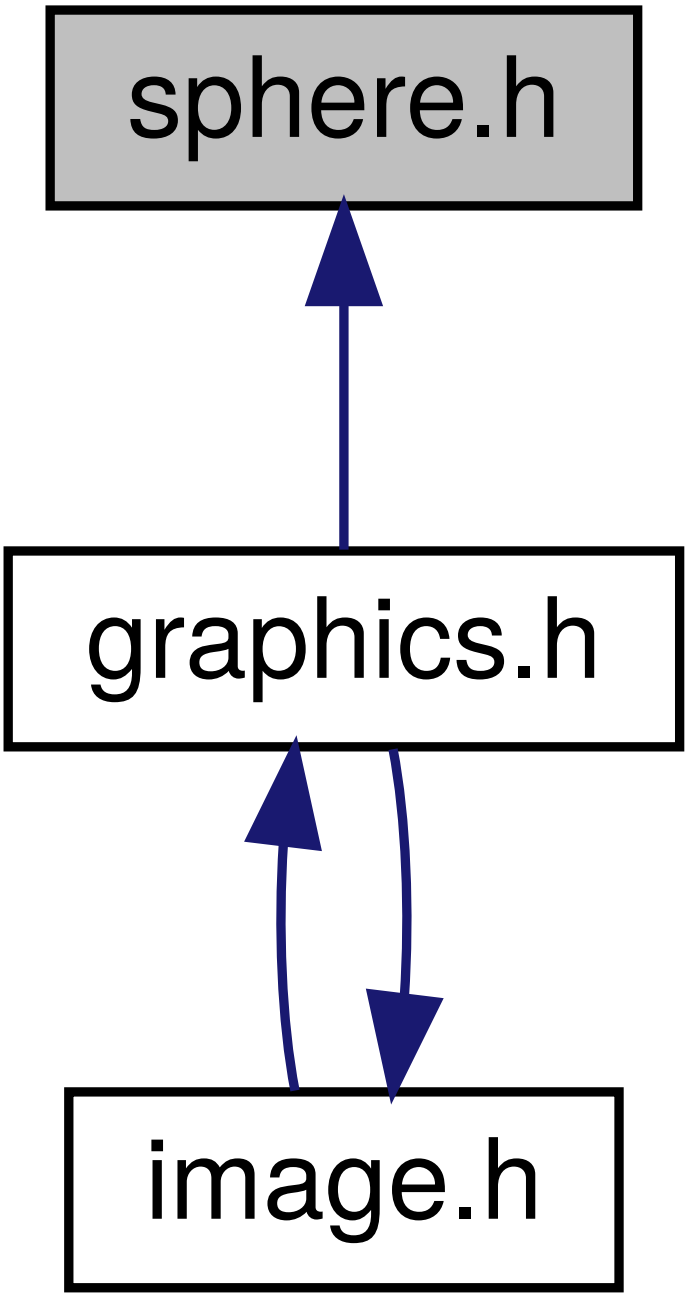

Figure 2.32: Dependency diagram

2.16.1 Data Structures

- struct Sphere

2.16.2 Functions

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

2.16.3 Detailed Description

Definition in file sphere.h

```
1 #ifndef DEF_SPHERE_H
2 #define DEF_SPHERE_H
3
4 #include "circle.h"
5 #include "color.h"
6
7 #pragma pack(push, 1)
8 typedef struct {
9     Point center;
10     int radius;
11     Canvas* canvas;
12 } Sphere;
13 #pragma pack(pop)
14
15 void sphere_draw_fill(const Sphere* sphere, const Color* color);
16
17 #endif
```

2.17 startstop.h File Reference

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

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

Include dependency diagram for startstop.h

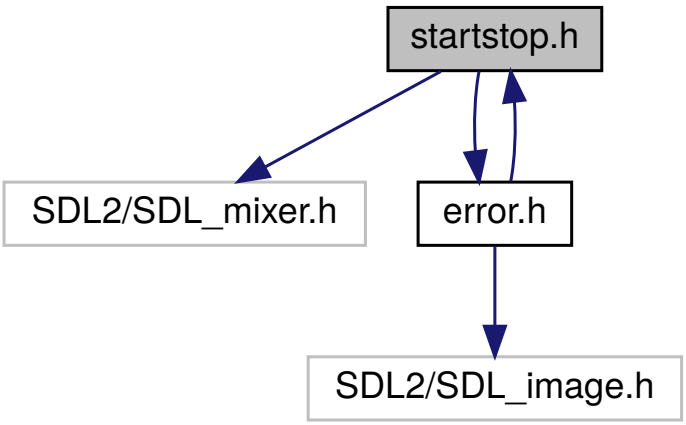

Figure 2.33: Dependency diagram

Included by dependency diagram for startstop.h

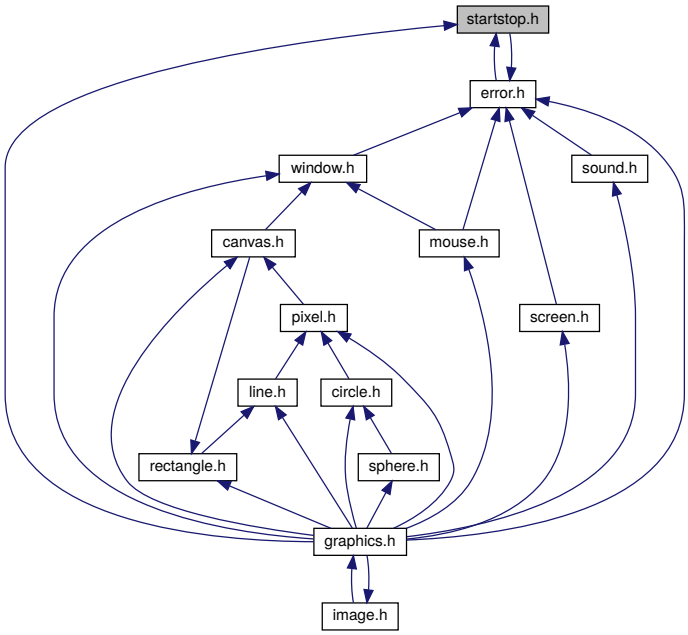

Figure 2.34: Dependency diagram

2.17.1 Functions

- void graphics_start (const Uint32 flags)
- void graphics_stop (void)

2.17.2 Detailed Description

Definition in file startstop.h

```
1 #ifndef DEF_STARTSTOP_H
2 #define DEF_STARTSTOP_H
3
4 #include <SDL2/SDL_mixer.h>
5 #include "error.h"
6
7 void graphics_start(const Uint32 flags);
8
9 void graphics_stop(void);
10
11 #endif
```

2.18 window.h File Reference

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

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

Include dependency diagram for window.h

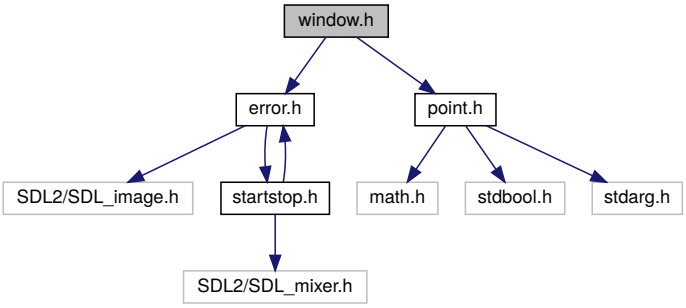

Figure 2.35: Dependency diagram

Included by dependency diagram for window.h

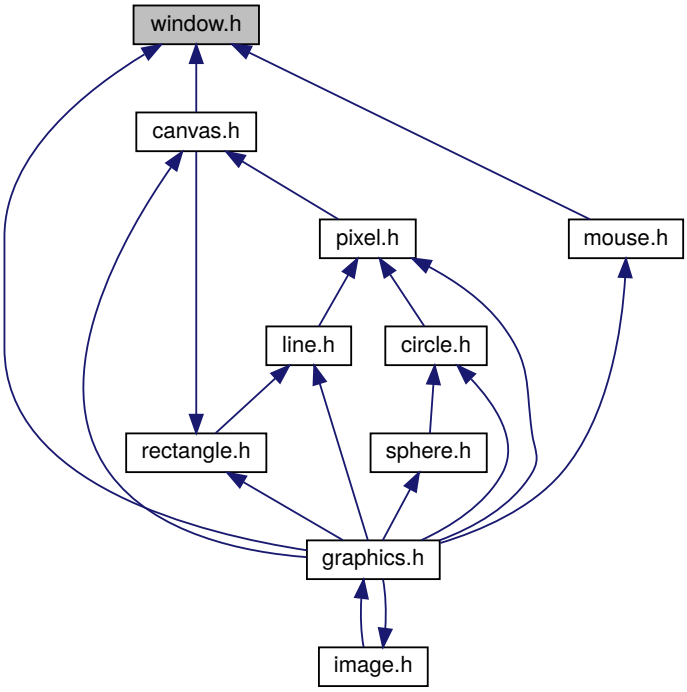

Figure 2.36: Dependency diagram

2.18.1 Data Structures

- struct Window

2.18.2 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)

2.18.3 Detailed Description

Definition in file window.h

```
1 #ifndef DEF_WINDOW_H
2 #define DEF_WINDOW_H
3
4 #include "error.h"
5 #include "point.h"
6
7 typedef struct {
8     SDL_Window* window;
9     char* title;
10     Point position;
11     Point size;
12 } Window;
13
14 void window_create(Window* window, char* title, const Point* position, const ↩
   Point* size, const Uint32 flags);
15
16 void window_destroy(Window* window);
17
18 void window_update(Window* window);
19
20 #endif
```

Chapter 3

Directory Documentation

3.1 head Directory Reference

Directory dependency diagram for head

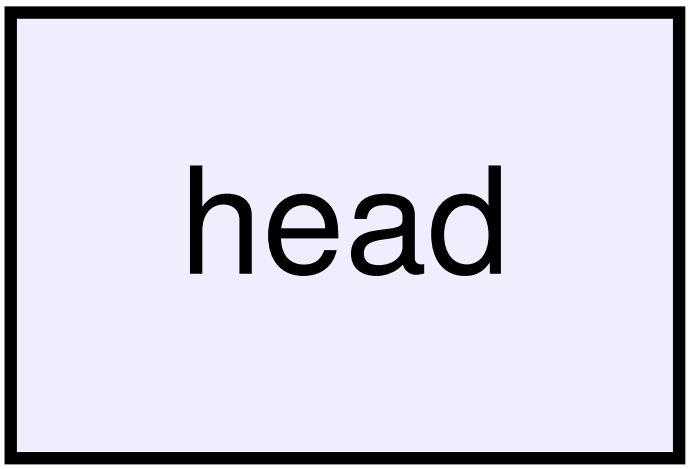

Figure 3.1: Directory Dependency diagram

3.1.1 File

- file calc.h
- file canvas.h
- file circle.h
- file color.h
- file error.h
- file event.h
- file graphics.h

- file image.h
- file line.h
- file mouse.h
- file pixel.h
- file point.h
- file rectangle.h
- file screen.h
- file sound.h
- file sphere.h
- file startstop.h
- file window.h

3.1.2 Detailed Description

Directory location is /home/leo/Programmation/C/graphics/head/