

# Tangram

Generated by Doxygen 1.8.13



# Contents

<b>1</b>	<b>Tangram</b>	<b>1</b>
<b>2</b>	<b>Hierarchical Index</b>	<b>3</b>
2.1	Class Hierarchy . . . . .	3
<b>3</b>	<b>Class Index</b>	<b>5</b>
3.1	Class List . . . . .	5
<b>4</b>	<b>File Index</b>	<b>7</b>
4.1	File List . . . . .	7
<b>5</b>	<b>Class Documentation</b>	<b>9</b>
5.1	Button Class Reference . . . . .	9
5.1.1	Detailed Description . . . . .	9
5.1.2	Constructor & Destructor Documentation . . . . .	9
5.1.2.1	Button() [1/2] . . . . .	10
5.1.2.2	Button() [2/2] . . . . .	10
5.1.3	Member Function Documentation . . . . .	10
5.1.3.1	click() . . . . .	10
5.1.3.2	click_in_button() . . . . .	11
5.1.3.3	set_callback() . . . . .	11
5.2	Drawable Class Reference . . . . .	11
5.2.1	Detailed Description . . . . .	12
5.3	Game Class Reference . . . . .	12
5.3.1	Detailed Description . . . . .	13

5.3.2	Constructor & Destructor Documentation	13
5.3.2.1	Game()	13
5.3.3	Member Function Documentation	13
5.3.3.1	add_shape()	13
5.4	GTriangle Class Reference	14
5.4.1	Detailed Description	15
5.4.2	Constructor & Destructor Documentation	15
5.4.2.1	GTriangle() [1/2]	15
5.4.2.2	GTriangle() [2/2]	15
5.4.3	Member Function Documentation	16
5.4.3.1	get_Points()	16
5.4.3.2	is_in_shape()	16
5.4.3.3	move()	17
5.4.3.4	rotate()	18
5.4.3.5	toString()	18
5.5	Loader Class Reference	18
5.5.1	Detailed Description	19
5.5.2	Member Function Documentation	19
5.5.2.1	parse_file()	19
5.6	Menu Class Reference	19
5.6.1	Detailed Description	20
5.6.2	Member Function Documentation	20
5.6.2.1	add_button()	20
5.7	MTriangle Class Reference	20
5.7.1	Detailed Description	22
5.7.2	Constructor & Destructor Documentation	22
5.7.2.1	MTriangle() [1/2]	22
5.7.2.2	MTriangle() [2/2]	22
5.7.3	Member Function Documentation	23
5.7.3.1	get_Points()	23

5.7.3.2	<a href="#">is_in_shape()</a>	23
5.7.3.3	<a href="#">move()</a>	23
5.7.3.4	<a href="#">rotate()</a>	24
5.7.3.5	<a href="#">toString()</a>	24
5.8	<a href="#">Objective Class Reference</a>	24
5.8.1	<a href="#">Detailed Description</a>	25
5.8.2	<a href="#">Member Function Documentation</a>	25
5.8.2.1	<a href="#">boardCompleted()</a>	25
5.9	<a href="#">Parallelogram Class Reference</a>	25
5.9.1	<a href="#">Detailed Description</a>	27
5.9.2	<a href="#">Constructor &amp; Destructor Documentation</a>	27
5.9.2.1	<a href="#">Parallelogram() [1/2]</a>	27
5.9.2.2	<a href="#">Parallelogram() [2/2]</a>	27
5.9.3	<a href="#">Member Function Documentation</a>	28
5.9.3.1	<a href="#">get_Points()</a>	28
5.9.3.2	<a href="#">is_in_shape()</a>	28
5.9.3.3	<a href="#">move()</a>	28
5.9.3.4	<a href="#">rotate()</a>	29
5.9.3.5	<a href="#">toString()</a>	29
5.10	<a href="#">Point&lt; T &gt; Class Template Reference</a>	29
5.10.1	<a href="#">Detailed Description</a>	30
5.10.2	<a href="#">Constructor &amp; Destructor Documentation</a>	30
5.10.2.1	<a href="#">Point()</a>	30
5.10.3	<a href="#">Member Function Documentation</a>	31
5.10.3.1	<a href="#">operator!=(())</a>	31
5.10.3.2	<a href="#">operator&lt;()</a>	31
5.10.3.3	<a href="#">operator=()</a>	32
5.10.3.4	<a href="#">operator==(())</a>	32
5.10.3.5	<a href="#">operator&gt;()</a>	32
5.10.4	<a href="#">Member Data Documentation</a>	33

5.10.4.1	x	33
5.10.4.2	y	33
5.11	Save Class Reference	33
5.11.1	Detailed Description	33
5.12	Shape Class Reference	34
5.12.1	Detailed Description	35
5.12.2	Member Function Documentation	35
5.12.2.1	get_Points()	35
5.12.2.2	is_in_shape()	35
5.12.2.3	move()	35
5.12.2.4	rotate()	36
5.12.2.5	toString()	36
5.13	Square Class Reference	37
5.13.1	Detailed Description	38
5.13.2	Constructor & Destructor Documentation	38
5.13.2.1	Square() [1/2]	38
5.13.2.2	Square() [2/2]	38
5.13.3	Member Function Documentation	39
5.13.3.1	get_Points()	39
5.13.3.2	is_in_shape()	39
5.13.3.3	move()	40
5.13.3.4	rotate()	41
5.13.3.5	toString()	41
5.14	STriangle Class Reference	42
5.14.1	Detailed Description	43
5.14.2	Constructor & Destructor Documentation	43
5.14.2.1	STriangle() [1/3]	43
5.14.2.2	STriangle() [2/3]	44
5.14.2.3	STriangle() [3/3]	44
5.14.3	Member Function Documentation	44
5.14.3.1	center_point()	44
5.14.3.2	computeDistance()	45
5.14.3.3	draw()	45
5.14.3.4	get_center_point()	45
5.14.3.5	get_Points()	46
5.14.3.6	is_in_shape()	46
5.14.3.7	is_in_triangle()	46
5.14.3.8	move()	47
5.14.3.9	rotate()	47
5.14.3.10	toString()	47

<b>6</b>	<b>File Documentation</b>	<b>49</b>
6.1	include/drawable/Button.hpp File Reference	49
6.1.1	Detailed Description	50
6.2	include/drawable/Menu.hpp File Reference	50
6.2.1	Detailed Description	51
6.3	include/drawable/Shape.hpp File Reference	51
6.3.1	Detailed Description	52
6.4	include/game/Game.hpp File Reference	52
6.4.1	Detailed Description	53
6.5	include/game/Objective.hpp File Reference	53
6.5.1	Detailed Description	54
6.6	include/parser/Loader.hpp File Reference	54
6.6.1	Detailed Description	55
6.7	include/parser/Save.hpp File Reference	55
6.7.1	Detailed Description	56
6.8	include/shape/GTriangle.hpp File Reference	56
6.8.1	Detailed Description	57
6.9	include/shape/MTriangle.hpp File Reference	57
6.9.1	Detailed Description	58
6.10	include/shape/Parallelogram.hpp File Reference	58
6.10.1	Detailed Description	59
6.11	include/shape/Square.hpp File Reference	59
6.11.1	Detailed Description	60
6.12	include/shape/STriangle.hpp File Reference	60
6.12.1	Detailed Description	61
6.13	include/utils/Point.hpp File Reference	61
6.13.1	Detailed Description	61
	<b>Index</b>	<b>63</b>





# Chapter 1

## Tangram

A student project about the tangram's game

### How to run

When you're in the repository

```
cd cmake-build-debug
make
./tangram
```

### Documentation

Here there is HTML files, LaTeX files and PDF.

#### HTML

```
cd doc/html
```

#### LaTeX

```
cd doc/latex
```

#### PDF

```
cd doc/latex
./refman.pdf
```

### Regenerate Documentation

You can generate this document as you wish. If you're updating the code and the doc, you should do :

In the root directory of this project :

```
doxygen config-file
cd doc/latex
make
```



## Chapter 2

# Hierarchical Index

### 2.1 Class Hierarchy

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

Button . . . . .	9
Drawable . . . . .	11
Shape . . . . .	34
GTriangle . . . . .	14
MTriangle . . . . .	20
Parallelogram . . . . .	25
Square . . . . .	37
STriangle . . . . .	42
Game . . . . .	12
Loader . . . . .	18
Menu . . . . .	19
Objective . . . . .	24
Point< T > . . . . .	29
Point< double > . . . . .	29
Point< int > . . . . .	29
Save . . . . .	33



## Chapter 3

# Class Index

### 3.1 Class List

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

<a href="#">Button</a>		
	<a href="#">Button</a> of the <a href="#">Menu</a> . . . . .	9
<a href="#">Drawable</a>		
	<a href="#">Drawable</a> is everything to draw . . . . .	11
<a href="#">Game</a>		
	Class of the main <a href="#">Game</a> . . . . .	12
<a href="#">GTriangle</a>		
	Class of the greatest triangle . . . . .	14
<a href="#">Loader</a>		
	Class of the main <a href="#">Loader</a> . . . . .	18
<a href="#">Menu</a>		
	<a href="#">Menu</a> of the game . . . . .	19
<a href="#">MTriangle</a>		
	Class of the medium triangle . . . . .	20
<a href="#">Objective</a>		
	Class of the board <a href="#">Objective</a> . . . . .	24
<a href="#">Parallelogram</a>		
	Class of the parallelogram . . . . .	25
<a href="#">Point&lt; T &gt;</a>		
	Class of a <a href="#">Point</a> . . . . .	29
<a href="#">Save</a>		
	Class of the main Saver . . . . .	33
<a href="#">Shape</a>		
	Abstract Class of every <a href="#">Shape</a> . . . . .	34
<a href="#">Square</a>		
	Class of the square . . . . .	37
<a href="#">STriangle</a>		
	Class of the small triangle . . . . .	42



## Chapter 4

# File Index

### 4.1 File List

Here is a list of all documented files with brief descriptions:

include/drawable/ <a href="#">Button.hpp</a>	
Every buttons of menu	49
include/drawable/ <b>Drawable.h</b>	??
include/drawable/ <a href="#">Menu.hpp</a>	
<a href="#">Menu</a> of the Tangram's <a href="#">Game</a>	50
include/drawable/ <a href="#">Shape.hpp</a>	
Abstract Class <a href="#">Shape</a> of every shape in Tangram	51
include/game/ <a href="#">Game.hpp</a>	
Main <a href="#">Game</a> of the Tangram	52
include/game/ <a href="#">Objective.hpp</a>	
<a href="#">Objective</a> of the Tangram's board	53
include/parser/ <a href="#">Loader.hpp</a>	
Load a board of Tangram	54
include/parser/ <a href="#">Save.hpp</a>	
<a href="#">Save</a> a board of Tangram	55
include/shape/ <a href="#">GTriangle.hpp</a>	
<a href="#">Shape</a> of Great Triangle	56
include/shape/ <a href="#">MTriangle.hpp</a>	
<a href="#">Shape</a> of Medium Triangle	57
include/shape/ <a href="#">Parallelogram.hpp</a>	
<a href="#">Shape</a> of <a href="#">Parallelogram</a>	58
include/shape/ <a href="#">Square.hpp</a>	
<a href="#">Shape</a> of <a href="#">Square</a>	59
include/shape/ <a href="#">STriangle.hpp</a>	
<a href="#">Shape</a> of Small Triangle	60
include/utils/ <a href="#">Point.hpp</a>	
<a href="#">Point</a> for every shape and menu	61





## Chapter 5

# Class Documentation

### 5.1 Button Class Reference

[Button](#) of the [Menu](#).

```
#include <Button.hpp>
```

#### Public Member Functions

- [~Button](#) ()  
*Destructor of the [Button](#).*
- [Button](#) ([Point](#)< int > point, [Point](#)< int > sizing, std::string text)  
*Constructor of a [Button](#).*
- [Button](#) ([Point](#)< int > point, [Point](#)< int > sizing, std::string text, std::function< int(int)> callback)  
*Constructor of a [Button](#).*
- bool [click\\_in\\_button](#) (const [Point](#)< int > &[click](#))  
*Check if a click is in the button.*
- int [click](#) (int)  
*Define a value about a click.*
- void [draw](#) ()  
*Draw the button.*
- void [set\\_callback](#) (std::function< int(int)> callback)  
*Set a callback for a button.*

#### 5.1.1 Detailed Description

[Button](#) of the [Menu](#).

This class manage all buttons of the menu

#### 5.1.2 Constructor & Destructor Documentation

### 5.1.2.1 Button() [1/2]

```
Button::Button (
    Point< int > point,
    Point< int > sizing,
    std::string text )
```

Constructor of a [Button](#).

#### Parameters

<i>point</i>	: Top left point position of the button
<i>sizing</i>	: Sizing of the button, (width , height)
<i>text</i>	: Text of the button

### 5.1.2.2 Button() [2/2]

```
Button::Button (
    Point< int > point,
    Point< int > sizing,
    std::string text,
    std::function< int(int)> callback )
```

Constructor of a [Button](#).

#### Parameters

<i>point</i>	: Top left point position of the button
<i>sizing</i>	: Sizing of the button, (width , height)
<i>text</i>	: Text of the button
<i>callback</i>	: Pointer of function for callback

## 5.1.3 Member Function Documentation

### 5.1.3.1 click()

```
int Button::click (
    int val )
```

Define a value about a click.

#### Returns

Return a value about a click

### 5.1.3.2 click\_in\_button()

```
bool Button::click_in_button (
    const Point< int > & click )
```

Check if a click is in the button.

#### Parameters

<i>click</i>	: <a href="#">Point</a> to check
--------------	----------------------------------

#### Returns

True if the click is in this button, false if not

### 5.1.3.3 set\_callback()

```
void Button::set_callback (
    std::function< int(int)> callback )
```

Set a callback for a button.

#### Parameters

<i>callback</i>	: Requires a pointer of function for set the callback
-----------------	---

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

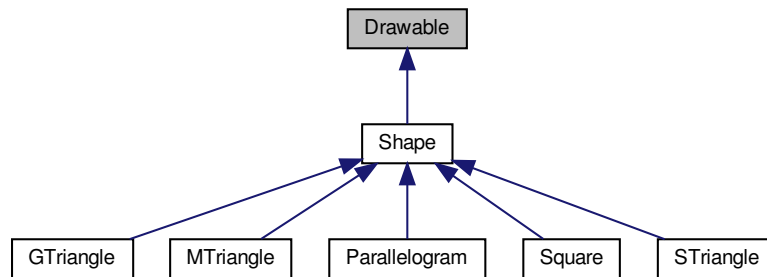
- include/drawable/[Button.hpp](#)
- src/drawable/Button.cpp

## 5.2 Drawable Class Reference

[Drawable](#) is everything to draw.

```
#include <Drawable.h>
```

Inheritance diagram for Drawable:



## Public Member Functions

- virtual void `draw` ()=0  
*Pure virtual function. Draw everything which needs to be draw.*

### 5.2.1 Detailed Description

`Drawable` is everything to draw.

This class manage everything drawing

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

- include/drawable/Drawable.h

## 5.3 Game Class Reference

Class of the main `Game`.

```
#include <Game.hpp>
```

## Public Member Functions

- void `main_loop` ()  
*Main loop of the game.*
- `Game` (int w, int h)  
*Constructor of the game, initialize a game with an sizing.*
- void `add_shape` (`Shape` \*s)  
*Add a shape in the game.*
- void `clear` ()  
*Clear the game / the board.*

### 5.3.1 Detailed Description

Class of the main [Game](#).

This class manage everything about the main game

### 5.3.2 Constructor & Destructor Documentation

#### 5.3.2.1 Game()

```
Game::Game (
    int w,
    int h )
```

Constructor of the game, initialize a game with an sizing.

##### Parameters

<i>w</i>	: Width of the window
<i>h</i>	: Height of the window

### 5.3.3 Member Function Documentation

#### 5.3.3.1 add\_shape()

```
void Game::add_shape (
    Shape * s )
```

Add a shape in the game.

##### Parameters

<i>s</i>	: <a href="#">Shape</a> to add
----------	--------------------------------

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

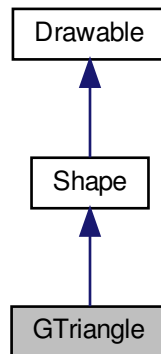
- include/game/[Game.hpp](#)
- src/game/Game.cpp

## 5.4 GTriangle Class Reference

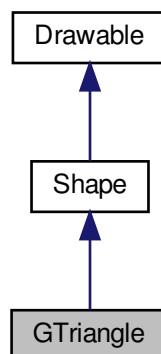
Class of the greatest triangle.

```
#include <GTriangle.hpp>
```

Inheritance diagram for GTriangle:



Collaboration diagram for GTriangle:



### Public Member Functions

- [~GTriangle](#) () override  
*Destructor of [GTriangle](#).*
- [GTriangle](#) ()

- Constructor by default of [GTriangle](#), make a triangle as default.*
- [GTriangle](#) (const std::vector< [STriangle](#) > &triangle)
- Constructor of [GTriangle](#), requires a vector of triangles.*
- [GTriangle](#) ([Point](#)< double > origin, double angular=0.0)
- Constructor of [GTriangle](#), calls the delegate Default Constructor.*
- void [move](#) ([Point](#)< double > translation) override
- Move the [GTriangle](#) by point translation.*
- void [rotate](#) (double angular) override
- Rotate the [GTriangle](#) with specified angular.*
- void [flip](#) () override
- Flip the figure as symmetry.*
- void [draw](#) () override
- Draw this shape on IHM.*
- bool [is\\_in\\_shape](#) ([Point](#)< double > click) override
- Check if a point is in this shape.*
- std::vector< [Point](#)< double > > [get\\_Points](#) () override
- Get points of this shape.*
- std::string [toString](#) () override
- Convert all data of [GTriangle](#) in a string.*

### 5.4.1 Detailed Description

Class of the greatest triangle.

This class manage everything about the greatest triangle

### 5.4.2 Constructor & Destructor Documentation

#### 5.4.2.1 [GTriangle](#)() [1/2]

```
GTriangle::GTriangle (
    const std::vector< STriangle > & triangle ) [explicit]
```

Constructor of [GTriangle](#), requires a vector of triangles.

#### Parameters

<i>triangle</i>	: The <a href="#">GTriangle</a> will created with a vector of <a href="#">STriangle</a> (4)
-----------------	---

#### 5.4.2.2 [GTriangle](#)() [2/2]

```
GTriangle::GTriangle (
    Point< double > origin,
    double angular = 0.0 ) [explicit]
```

Constructor of [GTriangle](#), calls the delegate Default Constructor.

#### Parameters

<i>origin</i>	: shifts the figure of a translation of the origin
<i>angular</i>	: Optional parameter (angular=0.0 as default), rotate the figure with an angular

### 5.4.3 Member Function Documentation

#### 5.4.3.1 `get_Points()`

```
std::vector< Point< double > > GTriangle::get_Points ( ) [override], [virtual]
```

Get points of this shape.

#### Returns

Return a vector of points of this shape

Implements [Shape](#).

#### 5.4.3.2 `is_in_shape()`

```
bool GTriangle::is_in_shape (
    Point< double > click ) [override], [virtual]
```

Check if a point is in this shape.

#### Parameters

<i>click</i>	: <a href="#">Point</a> to check
--------------	----------------------------------

#### Returns

true if click is in this shape, false if not

Implements [Shape](#).



#### 5.4.3.3 move()

```
void GTriangle::move (
    Point< double > translation )  [override], [virtual]
```

Move the [GTriangle](#) by point translation.

**Parameters**

<i>translation</i>	: Every points of this shape will be translate by this parameter
--------------------	--

Implements [Shape](#).

**5.4.3.4 rotate()**

```
void GTriangle::rotate (
    double angular ) [override], [virtual]
```

Rotate the [GTriangle](#) with specified angular.

**Parameters**

<i>angular</i>	: This angular should be between (0, 2PI)
----------------	---

Implements [Shape](#).

**5.4.3.5 toString()**

```
std::string GTriangle::toString ( ) [override], [virtual]
```

Convert all data of [GTriangle](#) in a string.

**Returns**

Return a string which contains every points of this shape

Implements [Shape](#).

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

- include/shape/[GTriangle.hpp](#)
- src/shape/GTriangle.cpp

## 5.5 Loader Class Reference

Class of the main [Loader](#).

```
#include <Loader.hpp>
```

## Static Public Member Functions

- static bool [parse\\_file](#) (const std::string &filename, [Game](#) &game)  
*Parse a file to make a board.*

### 5.5.1 Detailed Description

Class of the main [Loader](#).

This class manage everything about the loader

### 5.5.2 Member Function Documentation

#### 5.5.2.1 [parse\\_file\(\)](#)

```
bool Loader::parse_file (
    const std::string & filename,
    Game & game ) [static]
```

Parse a file to make a board.

#### Parameters

<i>filename</i>	: name of the file, this file should be located in this directory ./Tangram/extern/board/
<i>game</i>	: The current game / board

#### Returns

True if the game has been created, false if not

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

- include/parser/[Loader.hpp](#)
- src/parser/Loader.cpp

## 5.6 Menu Class Reference

[Menu](#) of the game.

```
#include <Menu.hpp>
```

## Public Member Functions

- void `add_button` (`Button` button)  
*Add a button in the `Menu`.*
- void `main_loop` ()  
*Main loop of the `Menu`.*

### 5.6.1 Detailed Description

`Menu` of the game.

This class manage everything about Tangram's menu

### 5.6.2 Member Function Documentation

#### 5.6.2.1 `add_button()`

```
void Menu::add_button (  
    Button button )
```

Add a button in the `Menu`.

#### Parameters

<code>button</code>	: <code>Button</code> to add
---------------------	------------------------------

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

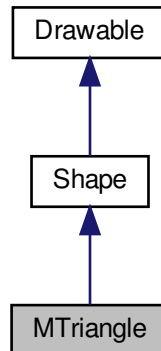
- include/drawable/`Menu.hpp`
- src/drawable/`Menu.cpp`

## 5.7 MTriangle Class Reference

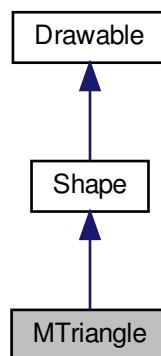
Class of the medium triangle.

```
#include <MTriangle.hpp>
```

Inheritance diagram for MTriangle:



Collaboration diagram for MTriangle:



## Public Member Functions

- `~MTriangle ()` override  
*Destructor of `MTriangle`.*
- `MTriangle ()`  
*Constructor by default of `MTriangle`, make a `MTriangle` as default.*
- `MTriangle (const std::vector< STriangle > &triangle)`  
*Constructor of `MTriangle`, requires a vector of `STriangles`.*
- `MTriangle (Point< double > origin, double angular=0.0)`  
*Constructor of `MTriangle`, calls the delegate Default Constructor.*
- `void move (Point< double > translation)` override

- Move the *MTriangle* by point translation.
- void *rotate* (double angular) override  
Rotate the *MTriangle* with specified angular.
- void *flip* () override  
Flip the figure as symmetry.
- void *draw* () override  
Draw this shape on IHM.
- bool *is\_in\_shape* (Point< double > click) override  
Check if a point is in this shape.
- std::vector< Point< double > > *get\_Points* () override  
Get points of this shape.
- std::string *toString* () override  
Convert all data of *MTriangle* in a string.

### 5.7.1 Detailed Description

Class of the medium triangle.

This class manage everything about the medium triangle

### 5.7.2 Constructor & Destructor Documentation

#### 5.7.2.1 MTriangle() [1/2]

```
MTriangle::MTriangle (
    const std::vector< STriangle > & triangle ) [explicit]
```

Constructor of *MTriangle*, requires a vector of STriangles.

Parameters

<i>triangle</i>	: The <i>MTriangle</i> will created with a vector of <i>STriangle</i> (4)
-----------------	---

#### 5.7.2.2 MTriangle() [2/2]

```
MTriangle::MTriangle (
    Point< double > origin,
    double angular = 0.0 ) [explicit]
```

Constructor of *MTriangle*, calls the delegate Default Constructor.

## Parameters

<i>origin</i>	: shifts the figure of a translation of the origin
<i>angular</i>	: Optional parameter (angular=0.0 as default), rotate the figure with an angular

### 5.7.3 Member Function Documentation

#### 5.7.3.1 get\_Points()

```
std::vector< Point< double > > MTriangle::get_Points ( ) [override], [virtual]
```

Get points of this shape.

## Returns

Return a vector of points of this shape

Implements [Shape](#).

#### 5.7.3.2 is\_in\_shape()

```
bool MTriangle::is_in_shape (
    Point< double > click ) [override], [virtual]
```

Check if a point is in this shape.

## Parameters

<i>click</i>	: <a href="#">Point</a> to check
--------------	----------------------------------

## Returns

true if click is in this shape, false if not

Implements [Shape](#).

#### 5.7.3.3 move()

```
void MTriangle::move (
    Point< double > translation ) [override], [virtual]
```

Move the [MTriangle](#) by point translation.

**Parameters**

<i>translation</i>	: Every points of this shape will be translate by this parameter
--------------------	--

Implements [Shape](#).

**5.7.3.4 rotate()**

```
void MTriangle::rotate (
    double angular ) [override], [virtual]
```

Rotate the [MTriangle](#) with specified angular.

**Parameters**

<i>angular</i>	: This angular should be between (0, 2PI)
----------------	---

Implements [Shape](#).

**5.7.3.5 toString()**

```
std::string MTriangle::toString ( ) [override], [virtual]
```

Convert all data of [MTriangle](#) in a string.

**Returns**

Return a string which contains every points of this shape

Implements [Shape](#).

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

- include/shape/[MTriangle.hpp](#)
- src/shape/[MTriangle.cpp](#)

## 5.8 Objective Class Reference

Class of the board [Objective](#).

```
#include <Objective.hpp>
```



## Public Member Functions

- bool `boardCompleted` (std::vector< [Shape](#) \*> objective, std::vector< [Shape](#) \*> game)  
*Check if the board is completed.*

### 5.8.1 Detailed Description

Class of the board [Objective](#).

This class manage everything about the objective

### 5.8.2 Member Function Documentation

#### 5.8.2.1 `boardCompleted()`

```
bool Objective::boardCompleted (
    std::vector< Shape *> objective,
    std::vector< Shape *> game )
```

Check if the board is completed.

#### Parameters

<i>objective</i>	: Vector of objective's shape
<i>game</i>	: Vector of current game's shape

#### Returns

True if the board is completed, false if not

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

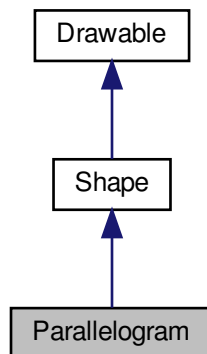
- include/game/[Objective.hpp](#)
- src/game/Objective.cpp

## 5.9 Parallelogram Class Reference

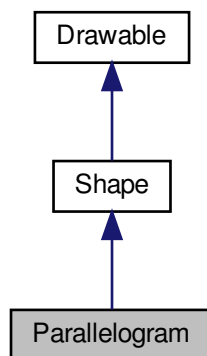
Class of the parallelogram.

```
#include <Parallelogram.hpp>
```

Inheritance diagram for Parallelogram:



Collaboration diagram for Parallelogram:



## Public Member Functions

- [~Parallelogram](#) () override  
*Destructor of [Parallelogram](#).*
- [Parallelogram](#) ()  
*Constructor by default of [Parallelogram](#), make a [Parallelogram](#) as default.*
- [Parallelogram](#) (const std::vector< [STriangle](#) > &triangle)  
*Constructor of [Parallelogram](#), requires a vector of [STriangles](#).*
- [Parallelogram](#) ([Point](#)< double > origin, double angular=0.0)  
*Constructor of [Parallelogram](#), calls the delegate Default Constructor.*
- void [move](#) ([Point](#)< double > translation) override

- Move the [Parallelogram](#) by point translation.
- void [rotate](#) (double angular) override  
Rotate the [Parallelogram](#) with specified angular.
- void [flip](#) () override  
Flip the figure as symmetry.
- void [draw](#) () override  
Draw this shape on IHM.
- bool [is\\_in\\_shape](#) ([Point](#)< double > click) override  
Check if a point is in this shape.
- std::vector< [Point](#)< double > > [get\\_Points](#) () override  
Get points of this shape.
- std::string [toString](#) () override  
Convert all data of [Parallelogram](#) in a string.

### 5.9.1 Detailed Description

Class of the parallelogram.

This class manage everything about the [Parallelogram](#)

### 5.9.2 Constructor & Destructor Documentation

#### 5.9.2.1 [Parallelogram](#)() [1/2]

```
Parallelogram::Parallelogram (
    const std::vector< STriangle > & triangle ) [explicit]
```

Constructor of [Parallelogram](#), requires a vector of STriangles.

Parameters

<i>triangle</i>	: The <a href="#">Parallelogram</a> will created with a vector of <a href="#">STriangle</a> (4)
-----------------	---

#### 5.9.2.2 [Parallelogram](#)() [2/2]

```
Parallelogram::Parallelogram (
    Point< double > origin,
    double angular = 0.0 ) [explicit]
```

Constructor of [Parallelogram](#), calls the delegate Default Constructor.

## Parameters

<i>origin</i>	: shifts the figure of a translation of the origin
<i>angular</i>	: Optional parameter (angular=0.0 as default), rotate the figure with an angular

### 5.9.3 Member Function Documentation

#### 5.9.3.1 get\_Points()

```
std::vector< Point< double > > Parallelogram::get_Points ( ) [override], [virtual]
```

Get points of this shape.

## Returns

Return a vector of points of this shape

Implements [Shape](#).

#### 5.9.3.2 is\_in\_shape()

```
bool Parallelogram::is_in_shape (
    Point< double > click ) [override], [virtual]
```

Check if a point is in this shape.

## Parameters

<i>click</i>	: <a href="#">Point</a> to check
--------------	----------------------------------

## Returns

true if click is in this shape, false if not

Implements [Shape](#).

#### 5.9.3.3 move()

```
void Parallelogram::move (
    Point< double > translation ) [override], [virtual]
```

Move the [Parallelogram](#) by point translation.

## Parameters

<i>translation</i>	: Every points of this shape will be translate by this parameter
--------------------	--

Implements [Shape](#).

## 5.9.3.4 rotate()

```
void Parallelogram::rotate (
    double angular ) [override], [virtual]
```

Rotate the [Parallelogram](#) with specified angular.

## Parameters

<i>angular</i>	: This angular should be between (0, 2PI)
----------------	---

Implements [Shape](#).

## 5.9.3.5 toString()

```
std::string Parallelogram::toString ( ) [override], [virtual]
```

Convert all data of [Parallelogram](#) in a string.

## Returns

Return a string which contains every points of this shape

Implements [Shape](#).

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

- include/shape/[Parallelogram.hpp](#)
- src/shape/Parallelogram.cpp

## 5.10 Point&lt; T &gt; Class Template Reference

Class of a [Point](#).

```
#include <Point.hpp>
```

## Public Member Functions

- [Point](#) ()  
*Constructor for a point with initialisation list.*
- [Point](#) (const [T](#) [x](#), const [T](#) [y](#))  
*Constructor for a point. Requires a X and a Y coordinate.*
- [Point](#) & [operator=](#) (const [Point](#)< [T](#) > p)  
*Operator = of a point.*
- bool [operator==](#) (const [Point](#)< [T](#) > p) const  
*Operator == of a point.*
- bool [operator!=](#) (const [Point](#)< [T](#) > p) const  
*Operator != of a point.*
- bool [operator<](#) (const [Point](#)< [T](#) > p) const  
*Operator < of a point.*
- bool [operator>](#) (const [Point](#)< [T](#) > p) const  
*Operator > of a point.*

## Public Attributes

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

### 5.10.1 Detailed Description

```
template<typename T>
class Point< T >
```

Class of a [Point](#).

#### Template Parameters

<a href="#">T</a>	: Template parameter This class manage everything about a point
-------------------	---

### 5.10.2 Constructor & Destructor Documentation

#### 5.10.2.1 Point()

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

Constructor for a point. Requires a X and a Y coordinate.

## Parameters

<i>x</i>	: Template X coordinate
<i>y</i>	: Template Y coordinate

## 5.10.3 Member Function Documentation

## 5.10.3.1 operator"!=()

```
template<typename T>
bool Point< T >::operator!= (
    const Point< T > p ) const [inline]
```

Operator != of a point.

## Parameters

<i>p</i>	: <a href="#">Point</a> to compare
----------	------------------------------------

## Returns

Return True if the point is different, false if not

## 5.10.3.2 operator&lt;()

```
template<typename T>
bool Point< T >::operator< (
    const Point< T > p ) const [inline]
```

Operator < of a point.

## Parameters

<i>p</i>	: <a href="#">Point</a> to compare
----------	------------------------------------

## Returns

Return True if the point is strictly weaker, false if not

### 5.10.3.3 operator=()

```
template<typename T>
Point& Point< T >::operator= (
    const Point< T > p ) [inline]
```

Operator = of a point.

#### Parameters

$p$	: <a href="#">Point</a> to "copy"
-----	-----------------------------------

#### Returns

Return a reference to a point

### 5.10.3.4 operator==()

```
template<typename T>
bool Point< T >::operator== (
    const Point< T > p ) const [inline]
```

Operator == of a point.

#### Parameters

$p$	: <a href="#">Point</a> to compare
-----	------------------------------------

#### Returns

Return True if the point is the same, false if not

### 5.10.3.5 operator>()

```
template<typename T>
bool Point< T >::operator> (
    const Point< T > p ) const [inline]
```

Operator > of a point.

#### Parameters

$p$	: <a href="#">Point</a> to comapre
-----	------------------------------------



**Returns**

Return True if the point is strictly greater, false if not

**5.10.4 Member Data Documentation****5.10.4.1 x**

```
template<typename T>
T Point< T >::x
```

Template x for a point

**5.10.4.2 y**

```
template<typename T>
T Point< T >::y
```

Template y for a point

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

- include/utills/[Point.hpp](#)

**5.11 Save Class Reference**

Class of the main Saver.

```
#include <Save.hpp>
```

**5.11.1 Detailed Description**

Class of the main Saver.

This class manage everything about the save

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

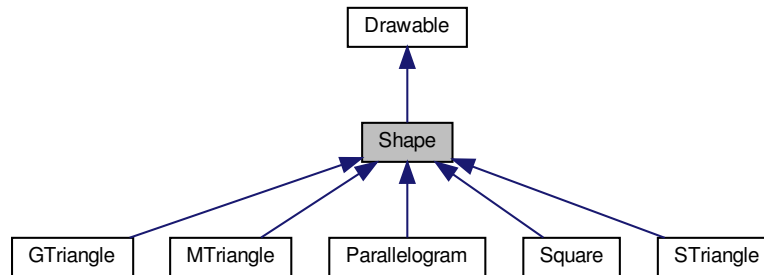
- include/parser/[Save.hpp](#)

## 5.12 Shape Class Reference

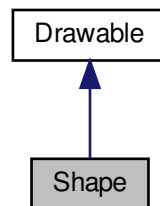
Abstract Class of every [Shape](#).

```
#include <Shape.hpp>
```

Inheritance diagram for Shape:



Collaboration diagram for Shape:



### Public Member Functions

- virtual `~Shape()`=0  
*Destructor of Abstract [Shape](#).*
- virtual void `move(Point< double > translation)`=0  
*Pure virtual function. Move the [Shape](#) by point translation.*
- virtual void `rotate(double angular)`=0  
*Pure virtual function. Rotate the [GTriangle](#) with specified angular.*
- virtual void `flip()`=0  
*Pure virtual function. Flip the figure as symmetry.*
- virtual bool `is_in_shape(Point< double > point)`=0  
*Pure virtual function. Check if a point is in this shape.*
- virtual std::vector< `Point< double >` > `get_Points()`=0  
*Pure virtual function. Get all points of this shape.*
- virtual std::string `toString()`=0  
*Pure virtual function. Convert all data of [GTriangle](#) in a string.*

### 5.12.1 Detailed Description

Abstract Class of every [Shape](#).

This class manage everything other shape ([STriangle](#), [MTriangle](#), [GTriangle](#), [Square](#), [Parallelogram](#))

### 5.12.2 Member Function Documentation

#### 5.12.2.1 `get_Points()`

```
virtual std::vector<Point<double> > Shape::get_Points ( ) [pure virtual]
```

Pure virtual function. Get all points of this shape.

##### Returns

Return a vector of points of this shape

Implemented in [STriangle](#), [GTriangle](#), [MTriangle](#), [Parallelogram](#), and [Square](#).

#### 5.12.2.2 `is_in_shape()`

```
virtual bool Shape::is_in_shape (
    Point< double > point ) [pure virtual]
```

Pure virtual function. Check if a point is in this shape.

##### Parameters

<i>point</i>	: <a href="#">Point</a> to check
--------------	----------------------------------

##### Returns

true if click is in this shape, false if not

Implemented in [STriangle](#), [GTriangle](#), [MTriangle](#), [Parallelogram](#), and [Square](#).

#### 5.12.2.3 `move()`

```
virtual void Shape::move (
    Point< double > translation ) [pure virtual]
```

Pure virtual function. Move the [Shape](#) by point translation.

**Parameters**

<i>translation</i>	: Every points of this shape will be translate by this parameter
--------------------	--

Implemented in [STriangle](#), [GTriangle](#), [MTriangle](#), [Parallelogram](#), and [Square](#).

**5.12.2.4 rotate()**

```
virtual void Shape::rotate (
    double angular ) [pure virtual]
```

Pure virtual function. Rotate the [GTriangle](#) with specified angular.

**Parameters**

<i>angular</i>	: This angular should be between (0, 2PI)
----------------	---

Implemented in [GTriangle](#), [MTriangle](#), [Parallelogram](#), and [Square](#).

**5.12.2.5 toString()**

```
virtual std::string Shape::toString ( ) [pure virtual]
```

Pure virtual function. Convert all data of [GTriangle](#) in a string.

**Returns**

Return a string which contains every points of this shape

Implemented in [STriangle](#), [GTriangle](#), [MTriangle](#), [Parallelogram](#), and [Square](#).

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

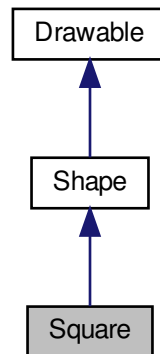
- include/drawable/[Shape.hpp](#)
- src/drawable/[Shape.cpp](#)

## 5.13 Square Class Reference

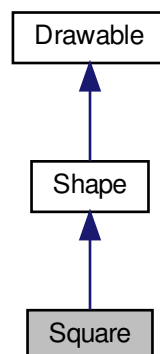
Class of the square.

```
#include <Square.hpp>
```

Inheritance diagram for Square:



Collaboration diagram for Square:



### Public Member Functions

- [~Square](#) () override  
*Destructor of [Square](#).*
- [Square](#) ()

- Constructor by default of [Square](#), make a [Square](#) as default.
- [Square](#) (const std::vector< [STriangle](#) > &triangle)

Constructor of [Square](#), requires a vector of STriangles.
- [Square](#) ([Point](#)< double > origin, double angular=0.0)

Constructor of [Square](#), calls the delegate Default Constructor.
- void [move](#) ([Point](#)< double > translation) override

Move the [Square](#) by point translation.
- void [rotate](#) (double angular) override

Rotate the [Square](#) with specified angular.
- void [flip](#) () override

Flip the figure as symmetry.
- void [draw](#) () override

Draw this shape on IHM.
- bool [is\\_in\\_shape](#) ([Point](#)< double > click) override

Check if a point is in this shape.
- std::vector< [Point](#)< double > > [get\\_Points](#) () override

Get points of this shape.
- std::string [toString](#) () override

Convert all data of [Square](#) in a string.

### 5.13.1 Detailed Description

Class of the square.

This class manage everything about the [Square](#)

### 5.13.2 Constructor & Destructor Documentation

#### 5.13.2.1 [Square\(\)](#) [1/2]

```
Square::Square (
    const std::vector< STriangle > & triangle ) [explicit]
```

Constructor of [Square](#), requires a vector of STriangles.

#### Parameters

<i>triangle</i>	: The <a href="#">Square</a> will created with a vector of <a href="#">STriangle</a> (4)
-----------------	--

#### 5.13.2.2 [Square\(\)](#) [2/2]

```
Square::Square (
    Point< double > origin,
    double angular = 0.0 ) [explicit]
```

Constructor of [Square](#), calls the delegate Default Constructor.

#### Parameters

<i>origin</i>	: shifts the figure of a translation of the origin
<i>angular</i>	: Optional parameter (angular=0.0 as default), rotate the figure with an angular

### 5.13.3 Member Function Documentation

#### 5.13.3.1 `get_Points()`

```
std::vector< Point< double > > Square::get_Points ( ) [override], [virtual]
```

Get points of this shape.

#### Returns

Return a vector of points of this shape

Implements [Shape](#).

#### 5.13.3.2 `is_in_shape()`

```
bool Square::is_in_shape (
    Point< double > click ) [override], [virtual]
```

Check if a point is in this shape.

#### Parameters

<i>click</i>	: <a href="#">Point</a> to check
--------------	----------------------------------

#### Returns

true if click is in this shape, false if not

Implements [Shape](#).

#### 5.13.3.3 move()

```
void Square::move (
    Point< double > translation )  [override], [virtual]
```

Move the [Square](#) by point translation.



## Parameters

<i>translation</i>	: Every points of this shape will be translate by this parameter
--------------------	--

Implements [Shape](#).

## 5.13.3.4 rotate()

```
void Square::rotate (
    double angular ) [override], [virtual]
```

Rotate the [Square](#) with specified angular.

## Parameters

<i>angular</i>	: This angular should be between (0, 2PI)
----------------	---

Implements [Shape](#).

## 5.13.3.5 toString()

```
std::string Square::toString ( ) [override], [virtual]
```

Convert all data of [Square](#) in a string.

## Returns

Return a string which contains every points of this shape

Implements [Shape](#).

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

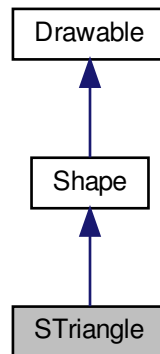
- [include/shape/Square.hpp](#)
- [src/shape/Square.cpp](#)

## 5.14 STriangle Class Reference

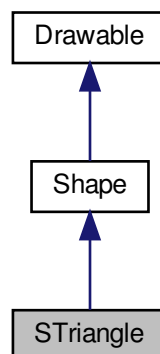
Class of the small triangle.

```
#include <STriangle.hpp>
```

Inheritance diagram for STriangle:



Collaboration diagram for STriangle:



### Public Member Functions

- [~STriangle](#) () override  
*Destructor of [STriangle](#).*
- [STriangle](#) ()

- Constructor by default of *MTriangle*, make a *STriangle* as default.

  - *STriangle* (*Point*< double > p1, *Point*< double > p2, *Point*< double > p3)

Constructor of *STriangle*, requires 3 points.
- *STriangle* (const std::vector< *Point*< double >> &points)

Constructor of *STriangle*, requires a vector of 3 points.
- *STriangle* (*Point*< double > origin, double angular=0.0)

Constructor of *STriangle*, calls the delegate Default Constructor.
- void *move* (*Point*< double > translation) override

Move the *MTriangle* by point translation.
- void *rotate* (double angular, *Point*< double > center\_point)

Rotate an *STriangle* with specified angular, used only for an other shape.
- void *flip* () override

Flip the figure as symmetry.
- void *draw* () override

Draw this shape on IHM.
- void *draw* (MLV\_Color Color)

Draw this shape on IHM with specific color.
- bool *is\_in\_shape* (*Point*< double > click) override

Check if a point is in this shape.
- bool *is\_in\_triangle* (*Point*< double > click)

Check if a point is in this *STriangle*.
- std::string *toString* () override

Convert all data of *MTriangle* in a string.
- double *computeDistance* (*Point*< double > point1, *Point*< double > point2)

Compute distance between 2 points.
- std::vector< *Point*< double > > *get\_Points* () override

Get every points of this *STriangle*.
- *Point*< double > *get\_center\_point* ()

Get the current center point of this *STriangle*.

### Static Public Member Functions

- static *Point*< double > *center\_point* (const std::vector< *Point*< double >> &list\_points)

Compute the center point of N points.

#### 5.14.1 Detailed Description

Class of the small triangle.

This class manage everything about the small triangle

#### 5.14.2 Constructor & Destructor Documentation

##### 5.14.2.1 STriangle() [1/3]

```
STriangle::STriangle (
    Point< double > p1,
    Point< double > p2,
    Point< double > p3 )
```

Constructor of *STriangle*, requires 3 points.

## Parameters

<i>p1</i>	: First point of the <a href="#">STriangle</a>
<i>p2</i>	: Second point of the <a href="#">STriangle</a>
<i>p3</i>	: Third point of the <a href="#">STriangle</a>

5.14.2.2 [STriangle\(\)](#) [2/3]

```
STriangle::STriangle (
    const std::vector< Point< double >> & points ) [explicit]
```

Constructor of [STriangle](#), requires a vector of 3 points.

## Parameters

<i>points</i>	: vector of 3 points
---------------	----------------------

5.14.2.3 [STriangle\(\)](#) [3/3]

```
STriangle::STriangle (
    Point< double > origin,
    double angular = 0.0 ) [explicit]
```

Constructor of [STriangle](#), calls the delegate Default Constructor.

## Parameters

<i>origin</i>	: shifts the figure of a translation of the origin
<i>angular</i>	: Optional parameter (angular=0.0 as default), rotate the figure with an angular

## 5.14.3 Member Function Documentation

5.14.3.1 [center\\_point\(\)](#)

```
Point< double > STriangle::center_point (
    const std::vector< Point< double >> & list_points ) [static]
```

Compute the center point of N points.

## Parameters

<i>list_points</i>	: vector of N points
--------------------	----------------------

## Returns

Return the center point of these N points

## 5.14.3.2 computeDistance()

```
double STriangle::computeDistance (
    Point< double > point1,
    Point< double > point2 )
```

Compute distance between 2 points.

## Parameters

<i>point1</i>	: First point
<i>point2</i>	: Second point

## Returns

Return the distance between these two points

## 5.14.3.3 draw()

```
void STriangle::draw (
    MLV_Color Color )
```

Draw this shape on IHM with specific color.

## Parameters

<i>Color</i>	: Color from the graphic library MLV like MLV_COLOR_XXX
--------------	---

## 5.14.3.4 get\_center\_point()

```
Point< double > STriangle::get_center_point ( )
```

Get the current center point of this [STriangle](#).

**Returns**

Return the current center point of this [STriangle](#)

**5.14.3.5 get\_Points()**

```
std::vector< Point< double > > STriangle::get_Points ( ) [override], [virtual]
```

Get every points of this [STriangle](#).

**Returns**

Return a vector of these points

Implements [Shape](#).

**5.14.3.6 is\_in\_shape()**

```
bool STriangle::is_in_shape (
    Point< double > click ) [override], [virtual]
```

Check if a point is in this shape.

**Parameters**

<i>click</i>	: <a href="#">Point</a> to check
--------------	----------------------------------

**Returns**

true if click is in this shape, false if not

Implements [Shape](#).

**5.14.3.7 is\_in\_triangle()**

```
bool STriangle::is_in_triangle (
    Point< double > click )
```

Check if a point is in this [STriangle](#).

**Parameters**

<i>click</i>	: <a href="#">Point</a> to check
--------------	----------------------------------

**Returns**

true if click is in this shape, false if not

**5.14.3.8 move()**

```
void STriangle::move (
    Point< double > translation ) [override], [virtual]
```

Move the [MTriangle](#) by point translation.

**Parameters**

<i>translation</i>	: Every points of this shape will be translate by this parameter
--------------------	--

Implements [Shape](#).

**5.14.3.9 rotate()**

```
void STriangle::rotate (
    double angular,
    Point< double > center_point )
```

Rotate an [STriangle](#) with specified angular, used only for an other shape.

**Parameters**

<i>angular</i>	: This angular should be between (0, 2PI)
<i>center_point</i>	: Rotate an <a href="#">STriangle</a> around this point

**5.14.3.10 toString()**

```
std::string STriangle::toString ( ) [override], [virtual]
```

Convert all data of [MTriangle](#) in a string.

**Returns**

Return a string which contains every points of this shape

Implements [Shape](#).

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

- include/shape/[STriangle.hpp](#)
- src/shape/[STriangle.cpp](#)





## Chapter 6

# File Documentation

### 6.1 include/drawable/Button.hpp File Reference

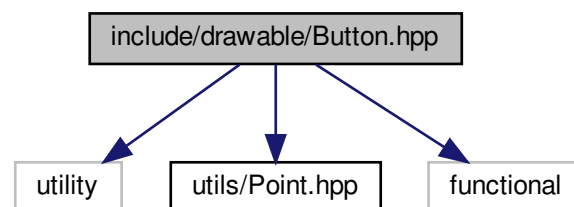
Every buttons of menu.

```
#include <utility>
```

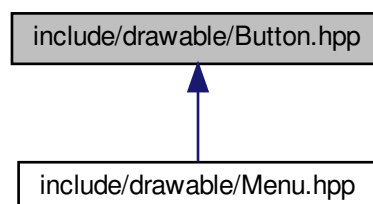
```
#include <utils/Point.hpp>
```

```
#include <functional>
```

Include dependency graph for Button.hpp:



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



## Classes

- class [Button](#)  
*Button of the [Menu](#).*

### 6.1.1 Detailed Description

Every buttons of menu.

#### Author

J  r  mie LE BASTARD

#### Version

1.0

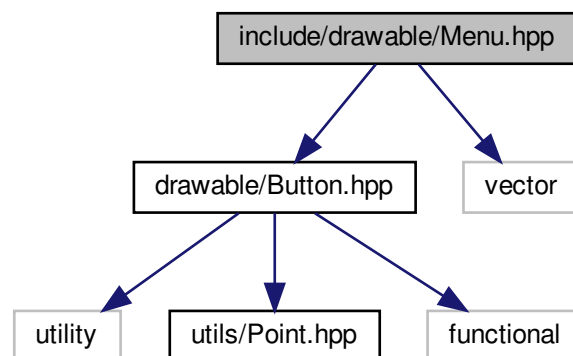
## 6.2 include/drawable/Menu.hpp File Reference

[Menu](#) of the Tangram's [Game](#).

```
#include <drawable/Button.hpp>
```

```
#include <vector>
```

Include dependency graph for Menu.hpp:



## Classes

- class [Menu](#)  
*Menu of the game.*

### 6.2.1 Detailed Description

[Menu](#) of the Tangram's [Game](#).

#### Author

J  r  mie LE BASTARD

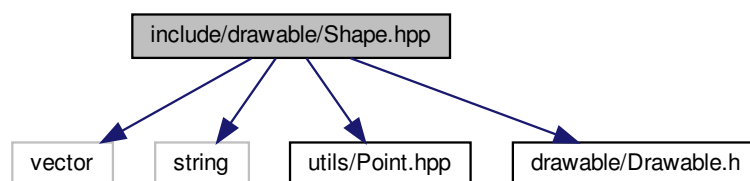
#### Version

1.0

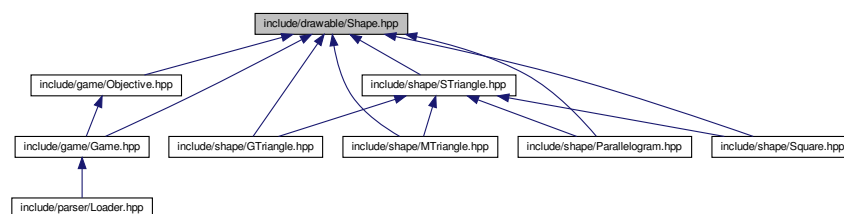
## 6.3 include/drawable/Shape.hpp File Reference

Abstract Class [Shape](#) of every shape in Tangram.

```
#include <vector>
#include <string>
#include <utils/Point.hpp>
#include <drawable/Drawable.h>
Include dependency graph for Shape.hpp:
```



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



## Classes

- class [Shape](#)  
Abstract Class of every [Shape](#).

### 6.3.1 Detailed Description

Abstract Class [Shape](#) of every shape in Tangram.

#### Author

J  r  mie LE BASTARD

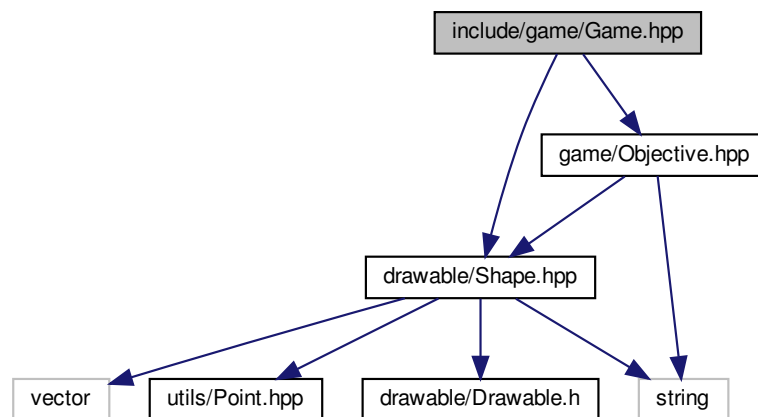
#### Version

1.0

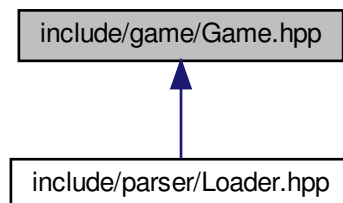
## 6.4 include/game/Game.hpp File Reference

Main [Game](#) of the Tangram.

```
#include <game/Objective.hpp>
#include <drawable/Shape.hpp>
Include dependency graph for Game.hpp:
```



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



## Classes

- class [Game](#)

*Class of the main [Game](#).*

### 6.4.1 Detailed Description

Main [Game](#) of the Tangram.

#### Author

J  r  mie LE BASTARD

#### Version

1.0

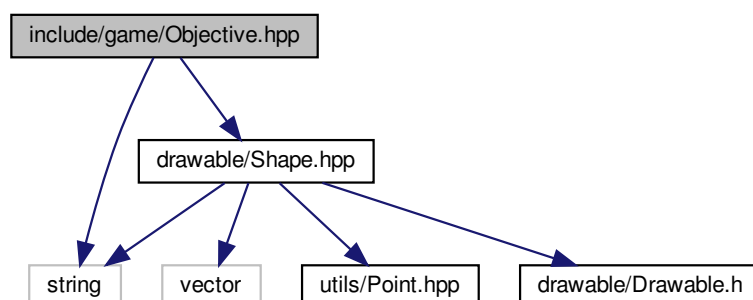
## 6.5 include/game/Objective.hpp File Reference

[Objective](#) of the Tangram's board.

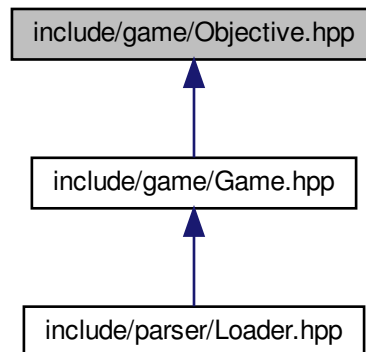
```
#include <drawable/Shape.hpp>
```

```
#include <string>
```

Include dependency graph for Objective.hpp:



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



## Classes

- class [Objective](#)  
*Class of the board [Objective](#).*

### 6.5.1 Detailed Description

[Objective](#) of the Tangram's board.

#### Author

J  r  mie LE BASTARD

#### Version

1.0

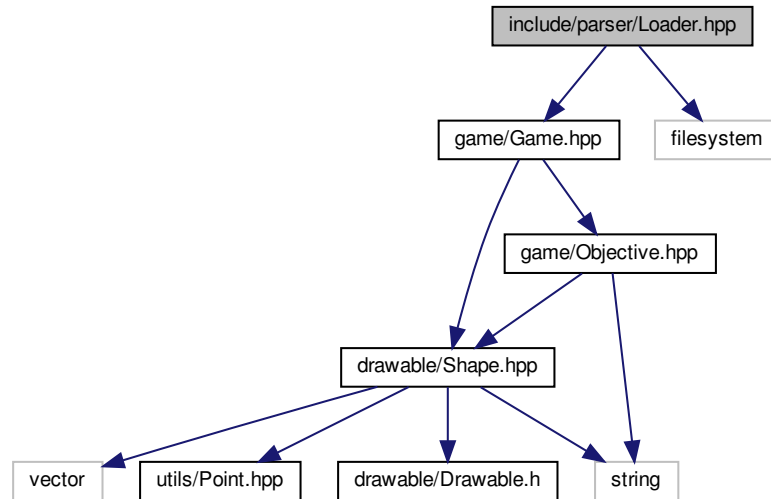
## 6.6 include/parser/Loader.hpp File Reference

Load a board of Tangram.

```
#include <game/Game.hpp>
```

```
#include <filesystem>
```

Include dependency graph for Loader.hpp:



## Classes

- class [Loader](#)  
*Class of the main [Loader](#).*

### 6.6.1 Detailed Description

Load a board of Tangram.

#### Author

J  r  mie LE BASTARD

#### Version

1.0

## 6.7 include/parser/Save.hpp File Reference

[Save](#) a board of Tangram.

## Classes

- class [Save](#)  
*Class of the main Saver.*

### 6.7.1 Detailed Description

[Save](#) a board of Tangram.

#### Author

J  r  mie LE BASTARD

#### Version

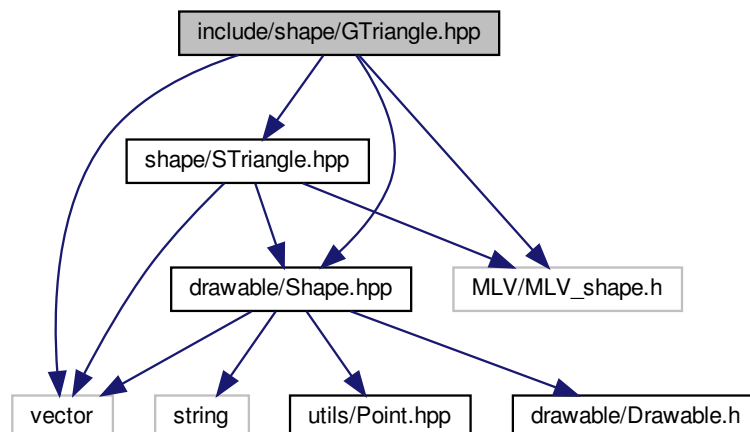
1.0

## 6.8 include/shape/GTriangle.hpp File Reference

[Shape](#) of Great Triangle.

```
#include <vector>
#include <shape/STriangle.hpp>
#include <drawable/Shape.hpp>
#include <MLV/MLV_shape.h>
```

Include dependency graph for GTriangle.hpp:



## Classes

- class [GTriangle](#)

*Class of the greatest triangle.*



### 6.8.1 Detailed Description

[Shape](#) of Great Triangle.

#### Author

Jérémie LE BASTARD

#### Version

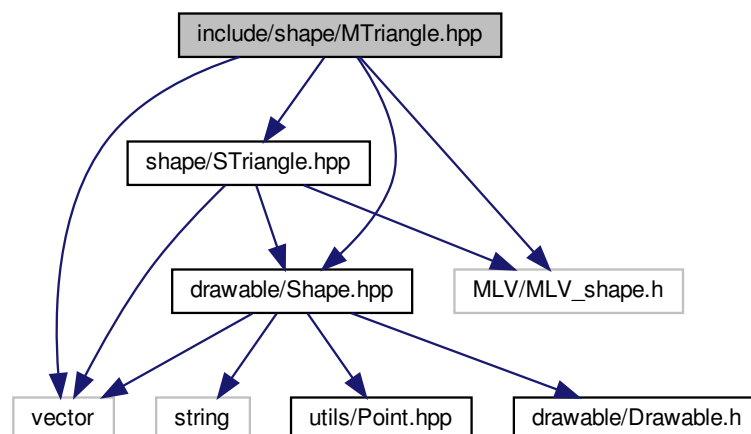
1.0

## 6.9 include/shape/MTriangle.hpp File Reference

[Shape](#) of Medium Triangle.

```
#include <vector>
#include <shape/STriangle.hpp>
#include <drawable/Shape.hpp>
#include <MLV/MLV_shape.h>
```

Include dependency graph for MTriangle.hpp:



### Classes

- class [MTriangle](#)

*Class of the medium triangle.*

### 6.9.1 Detailed Description

[Shape](#) of Medium Triangle.

Author

J  r  mie LE BASTARD

Version

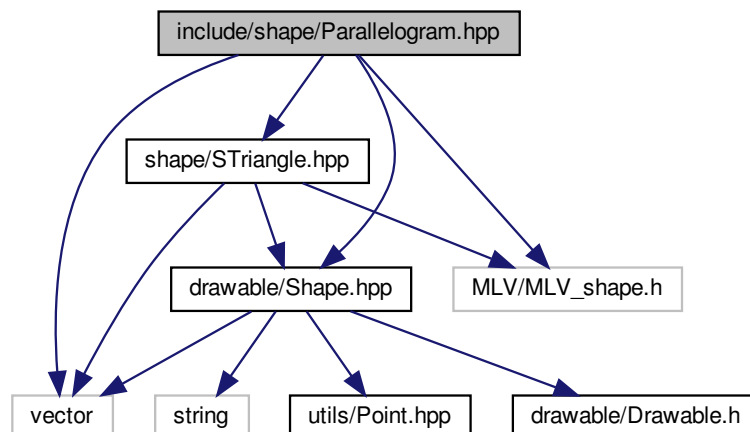
1.0

### 6.10 include/shape/Parallelogram.hpp File Reference

[Shape](#) of [Parallelogram](#).

```
#include <vector>
#include <shape/STriangle.hpp>
#include <drawable/Shape.hpp>
#include <MLV/MLV_shape.h>
```

Include dependency graph for Parallelogram.hpp:



### Classes

- class [Parallelogram](#)

*Class of the parallelogram.*

### 6.10.1 Detailed Description

Shape of [Parallelogram](#).

#### Author

Jérémie LE BASTARD

#### Version

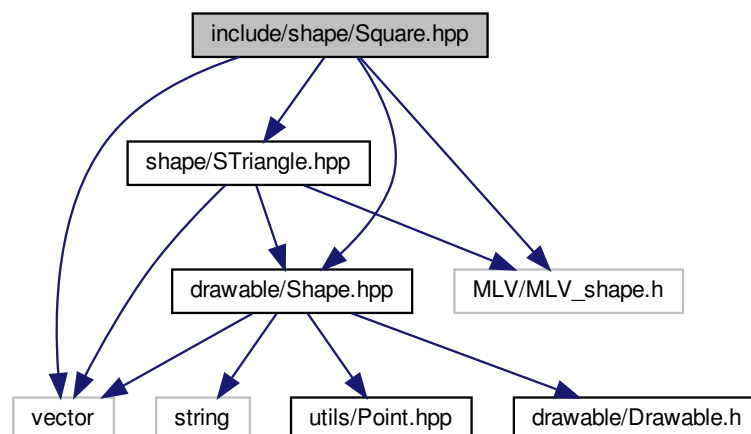
1.0

## 6.11 include/shape/Square.hpp File Reference

Shape of [Square](#).

```
#include <vector>
#include <shape/STriangle.hpp>
#include <drawable/Shape.hpp>
#include <MLV/MLV_shape.h>
```

Include dependency graph for Square.hpp:



### Classes

- class [Square](#)

*Class of the square.*

### 6.11.1 Detailed Description

Shape of Square.

Author

J  r  mie LE BASTARD

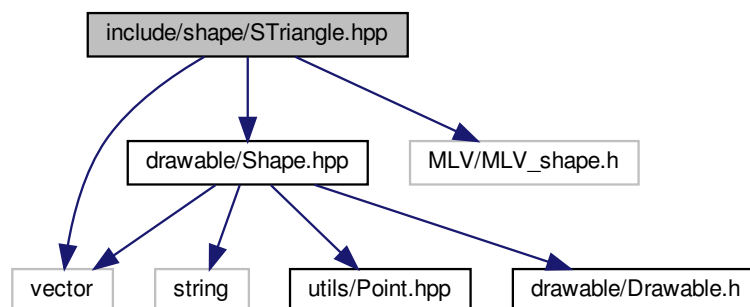
Version

1.0

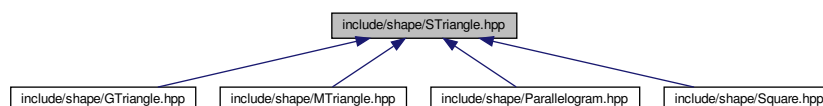
## 6.12 include/shape/STriangle.hpp File Reference

Shape of Small Triangle.

```
#include <vector>
#include <drawable/Shape.hpp>
#include <MLV/MLV_shape.h>
Include dependency graph for STriangle.hpp:
```



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



## Classes

- class [STriangle](#)

*Class of the small triangle.*

### 6.12.1 Detailed Description

[Shape](#) of Small Triangle.

#### Author

Jérémie LE BASTARD

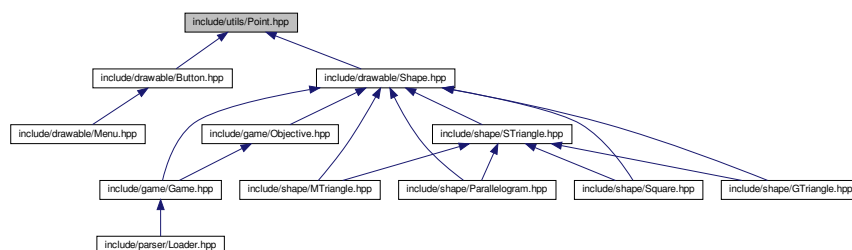
#### Version

1.0

## 6.13 include/utils/Point.hpp File Reference

[Point](#) for every shape and menu.

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



### Classes

- class [Point< T >](#)  
Class of a [Point](#).

### 6.13.1 Detailed Description

[Point](#) for every shape and menu.

#### Author

Jérémie LE BASTARD

#### Version

1.0



# Index

- add\_button
  - Menu, [20](#)
- add\_shape
  - Game, [13](#)
- boardCompleted
  - Objective, [25](#)
- Button, [9](#)
  - Button, [9](#), [10](#)
  - click, [10](#)
  - click\_in\_button, [10](#)
  - set\_callback, [11](#)
- center\_point
  - STriangle, [44](#)
- click
  - Button, [10](#)
- click\_in\_button
  - Button, [10](#)
- computeDistance
  - STriangle, [45](#)
- draw
  - STriangle, [45](#)
- Drawable, [11](#)
- GTriangle, [14](#)
  - GTriangle, [15](#)
  - get\_Points, [16](#)
  - is\_in\_shape, [16](#)
  - move, [16](#)
  - rotate, [18](#)
  - toString, [18](#)
- Game, [12](#)
  - add\_shape, [13](#)
  - Game, [13](#)
- get\_Points
  - GTriangle, [16](#)
  - MTriangle, [23](#)
  - Parallelogram, [28](#)
  - STriangle, [46](#)
  - Shape, [35](#)
  - Square, [39](#)
- get\_center\_point
  - STriangle, [45](#)
- include/drawable/Button.hpp, [49](#)
- include/drawable/Menu.hpp, [50](#)
- include/drawable/Shape.hpp, [51](#)
- include/game/Game.hpp, [52](#)
- include/game/Objective.hpp, [53](#)
- include/parser/Loader.hpp, [54](#)
- include/parser/Save.hpp, [55](#)
- include/shape/GTriangle.hpp, [56](#)
- include/shape/MTriangle.hpp, [57](#)
- include/shape/Parallelogram.hpp, [58](#)
- include/shape/STriangle.hpp, [60](#)
- include/shape/Square.hpp, [59](#)
- include/utils/Point.hpp, [61](#)
- is\_in\_shape
  - GTriangle, [16](#)
  - MTriangle, [23](#)
  - Parallelogram, [28](#)
  - STriangle, [46](#)
  - Shape, [35](#)
  - Square, [39](#)
- is\_in\_triangle
  - STriangle, [46](#)
- Loader, [18](#)
  - parse\_file, [19](#)
- MTriangle, [20](#)
  - get\_Points, [23](#)
  - is\_in\_shape, [23](#)
  - MTriangle, [22](#)
  - move, [23](#)
  - rotate, [24](#)
  - toString, [24](#)
- Menu, [19](#)
  - add\_button, [20](#)
- move
  - GTriangle, [16](#)
  - MTriangle, [23](#)
  - Parallelogram, [28](#)
  - STriangle, [47](#)
  - Shape, [35](#)
  - Square, [39](#)
- Objective, [24](#)
  - boardCompleted, [25](#)
- operator!=
  - Point, [31](#)
- operator<
  - Point, [31](#)
- operator>
  - Point, [32](#)
- operator=
  - Point, [31](#)
- operator==
  - Point, [32](#)

Parallelogram, 25  
  get\_Points, 28  
  is\_in\_shape, 28  
  move, 28  
  Parallelogram, 27  
  rotate, 29  
  toString, 29  
parse\_file  
  Loader, 19  
Point  
  operator!=, 31  
  operator<, 31  
  operator>, 32  
  operator=, 31  
  operator==, 32  
  Point, 30  
  x, 33  
  y, 33  
Point< T >, 29  
  
rotate  
  GTriangle, 18  
  MTriangle, 24  
  Parallelogram, 29  
  STriangle, 47  
  Shape, 36  
  Square, 41  
  
STriangle, 42  
  center\_point, 44  
  computeDistance, 45  
  draw, 45  
  get\_Points, 46  
  get\_center\_point, 45  
  is\_in\_shape, 46  
  is\_in\_triangle, 46  
  move, 47  
  rotate, 47  
  STriangle, 43, 44  
  toString, 47  
Save, 33  
set\_callback  
  Button, 11  
Shape, 34  
  get\_Points, 35  
  is\_in\_shape, 35  
  move, 35  
  rotate, 36  
  toString, 36  
Square, 37  
  get\_Points, 39  
  is\_in\_shape, 39  
  move, 39  
  rotate, 41  
  Square, 38  
  toString, 41  
  
toString  
  GTriangle, 18  
  MTriangle, 24  
  Parallelogram, 29  
  STriangle, 47  
  Shape, 36  
  Square, 41  
  
x  
  Point, 33  
  
y  
  Point, 33