Arcade

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Chapter 1

Namespace Index

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Chapter 2

Class Index

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Chapter 3

File Index

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Chapter 4

Namespace Documentation

4.1 Arcade Namespace Reference

Arcade project namespace.

Classes

• class Color

Color class.

· class IGameLib

Game libraries virtual class.

class IGraphicLib

Graphic libraries virtual class.

class PixelBox

PixelBox class.

• class Scale

Scale class.

class Scoreboard

Scoreboard class.

class TextBox

TextBox class.

class Vect

Vect class template.

Enumerations

```
enum Keys {
NONE, A, B, C,
D, E, F, G,
H, I, J, K,
L, M, N, O,
P, Q, R, S,
T, U, V, W,
X, Y, Z, LEFT,
RIGHT, UP, DOWN, ENTER,
SPACE, DELETE, BACKSPACE, TAB,
ESC, MOUSELEFT, MOUSERIGHT }
```

4.1.1 Detailed Description

Arcade project namespace.

4.1.2 Enumeration Type Documentation

4.1.2.1 Keys

enum Arcade::Keys

All those keys should be handled by any graphic libraries or any games

Enumerator

NONE	
A	
В	
C	
D	
E	
F	
G	
H	
J	
K	
L	
M	
N	
0	
Р	
Q	
R	
S	
Т	
U	
V	
W	
Х	
Υ	
Z	
LEFT	
RIGHT	
UP	
DOWN	
ENTER	
SPACE	
DELETE	
BACKSPACE	

Enumerator

TAB	
ESC	
MOUSELEFT	
MOUSERIGHT	

Chapter 5

Class Documentation

5.1 Arcade::Color Class Reference

Color class.

```
#include <Color.hpp>
```

Public Member Functions

- Color (unsigned char red=0, unsigned char green=0, unsigned char blue=0, unsigned char alpha=0)
 - Color class's constructor.
- void setColor (unsigned char red=0, unsigned char green=0, unsigned char blue=0, unsigned char alpha=0) Sets the color's subpixels value.
- unsigned char getRed () const
 - Red subpixel's getter.
- unsigned char getGreen () const
 - Green subpixel's getter.
- unsigned char getBlue () const
 - Blue subpixel's getter.
- unsigned char getAlpha () const
 - Alpha subpixel's getter.
- void setRed (unsigned char red)
 - Red subpixel's setter.
- void setGreen (unsigned char green)
 - Green subpixel's setter.
- void setBlue (unsigned char blue)
 - Blue subpixel's setter.
- void setAlpha (unsigned char alpha)
 - Alpha subpixel's setter.
- operator unsigned char * ()
- bool operator== (const Arcade::Color &other) const

5.1.1 Detailed Description

Color class.

Class used to represent a pixel

5.1.2 Constructor & Destructor Documentation

5.1.2.1 Color()

```
Arcade::Color::Color (
    unsigned char red = 0,
    unsigned char green = 0,
    unsigned char blue = 0,
    unsigned char alpha = 0 ) [explicit]
```

Color class's constructor.

Parameters

red	
green	
blue	
alpha	Creates a new color class instance, each argument being a value between 0-255, representing the value of one of the subpixels (red, green, blue and alpha).

5.1.3 Member Function Documentation

5.1.3.1 getAlpha()

```
unsigned char Arcade::Color::getAlpha ( ) const
```

Alpha subpixel's getter.

Returns

the alpha subpixel's value

5.1.3.2 getBlue()

```
unsigned char Arcade::Color::getBlue ( ) const
```

Blue subpixel's getter.

Returns

the blue subpixel's value

```
5.1.3.3 getGreen()
```

unsigned char Arcade::Color::getGreen () const

Green subpixel's getter.

Returns

the green subpixel's value

5.1.3.4 getRed()

```
unsigned char Arcade::Color::getRed ( ) const
```

Red subpixel's getter.

Returns

the red subpixel's value

5.1.3.5 operator unsigned char *()

```
Arcade::Color::operator unsigned char * ( ) [explicit]
```

Overloading the cast operator to unsigned char \ast

Returns

an array of unsigned char * composed of 4 elements, each representing one of the subpixels

5.1.3.6 operator==()

Overloading the comparison operator

Parameters

other : the color object to compare with

Returns

true if equal, otherwise returns false

5.1.3.7 setAlpha()

```
void Arcade::Color::setAlpha (
          unsigned char alpha )
```

Alpha subpixel's setter.

Sets the value of the alpha's subpixel

5.1.3.8 setBlue()

```
void Arcade::Color::setBlue (
          unsigned char blue )
```

Blue subpixel's setter.

Sets the value of the blue's subpixel

5.1.3.9 setColor()

```
void Arcade::Color::setColor (
    unsigned char red = 0,
    unsigned char green = 0,
    unsigned char blue = 0,
    unsigned char alpha = 0 )
```

Sets the color's subpixels value.

Parameters

red	
green	
blue	
alpha	Sets the color's object subpixels value, each argument being a value between 0-255, representing the value of one of the subpixels (red, green, blue and alpha).

5.1.3.10 setGreen()

Green subpixel's setter.

Sets the value of the green's subpixel

5.1.3.11 setRed()

Red subpixel's setter.

Sets the value of the red's subpixel

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

- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Color.hpp
- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Color.cpp

5.2 Arcade::IGameLib Class Reference

Game libraries virtual class.

```
#include <IGameLib.hpp>
```

Public Member Functions

virtual ∼IGameLib ()=default

Destructor.

• virtual const std::string getName () const =0

Game name's getter.

• virtual bool init ()=0

Init the resources needed by the game to run.

• virtual bool stop ()=0

Unloads the library.

virtual bool applyEvent (Arcade::Keys key)=0

Processes the key obtained by the IGraphicLib from the user to update the game state.

• virtual bool update ()=0

Updates the game state.

- virtual void refresh (IGraphicLib &graphicLib)=0
- virtual size_t getScore ()=0

Current player score's getter.

5.2.1 Detailed Description

Game libraries virtual class.

Purely virtual class that serves as the basis for all game libraries

5.2.2 Constructor & Destructor Documentation

5.2.2.1 ∼IGameLib()

```
virtual Arcade::IGameLib::~IGameLib ( ) [virtual], [default]
```

Destructor.

IGameLib class's destructor

5.2.3 Member Function Documentation

5.2.3.1 applyEvent()

Processes the key obtained by the IGraphicLib from the user to update the game state.

Parameters

```
key : enum value of the obtained key
```

Returns

true if the game is still in progress, false in case of defeat

5.2.3.2 getName()

```
virtual const std::string Arcade::IGameLib::getName ( ) const [pure virtual]
```

Game name's getter.

Returns

a string containing the name of the game

5.2.3.3 getScore()

```
virtual size_t Arcade::IGameLib::getScore ( ) [pure virtual]
```

Current player score's getter.

Returns

the player score

To call at the end of the execution of the game (after the player loose or win) for getting his score

5.2.3.4 init()

```
virtual bool Arcade::IGameLib::init ( ) [pure virtual]
```

Init the resources needed by the game to run.

Returns

true if succeed, otherwise returns false

5.2.3.5 refresh()

Renders the game state to the screen.

Parameters

```
graphicLib : Loaded graphics library used for rendering.
```

This should call IGraphicLib::refresh() to display content to the user.

5.2.3.6 stop()

```
virtual bool Arcade::IGameLib::stop ( ) [pure virtual]
```

Unloads the library.

Returns

true if succeed, otherwise returns false

5.2.3.7 update()

```
virtual bool Arcade::IGameLib::update ( ) [pure virtual]
```

Updates the game state.

Returns

true if the game is still in progress, false in case of defeat

Move the player forward and/or move the NPCs, according to the game's rules

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

• /home/thibrex/epitech/CPP/cpp_arcade/shared_header/IGameLib.hpp

5.3 Arcade::IGraphicLib Class Reference

Graphic libraries virtual class.

```
#include <IGraphicLib.hpp>
```

Public Member Functions

virtual ∼IGraphicLib ()=default

Destructor.

• virtual std::string getName () const =0

Graphic library name's getter.

virtual bool isOpen () const =0

Specifies whether the window is open or not.

• virtual void closeRenderer ()=0

Closes the rendering support.

• virtual void openRenderer (std::string const &title)=0

Opens the rendering support.

• virtual void clearWindow ()=0

Clears the rendering support.

• virtual void refreshWindow ()=0

Displays the buffered frame to the screen.

• virtual void drawPixelBox (PixelBox const &)=0

Draws a PixelBox.

• virtual void drawText (TextBox const &)=0

Draws a TextBox.

• virtual bool pollEvents ()=0

Fetches the events from the user and saves it.

virtual Keys getLastEvent ()=0

Getter of the oldest command in memory.

• virtual void clearEvents ()=0

Clears the pending commands.

virtual Vect< size_t > getScreenSize () const =0

Getter from the rendering support dimensions.

virtual size_t getMaxY () const =0

Getter from the rendering support height.

virtual size_t getMaxX () const =0

Getter from the rendering support width.

5.3.1 Detailed Description

Graphic libraries virtual class.

Purely virtual class that serves as the basis for all graphic libraries

5.3.2 Constructor & Destructor Documentation

```
5.3.2.1 \simIGraphicLib()
```

```
virtual Arcade::IGraphicLib::~IGraphicLib ( ) [virtual], [default]
```

Destructor.

IGraphicLib class's destructor

5.3.3 Member Function Documentation

5.3.3.1 clearEvents()

```
virtual void Arcade::IGraphicLib::clearEvents ( ) [pure virtual]
```

Clears the pending commands.

The function deletes all the commands currently stored. They wont be accessible anymore, even with the getLast ← Event() method.

5.3.3.2 clearWindow()

```
virtual void Arcade::IGraphicLib::clearWindow ( ) [pure virtual]
```

Clears the rendering support.

5.3.3.3 closeRenderer()

```
virtual void Arcade::IGraphicLib::closeRenderer ( ) [pure virtual]
```

Closes the rendering support.

Usually closes a window. Some graphic library uses other rendering support.

5.3.3.4 drawPixelBox()

Draws a PixelBox.

5.3.3.5 drawText()

Draws a TextBox.

5.3.3.6 getLastEvent()

```
virtual Keys Arcade::IGraphicLib::getLastEvent ( ) [pure virtual]
```

Getter of the oldest command in memory.

Returns

the first event of the list.

The function deletes the command if it succeed to retrieves one, using front() and pop_front() methods

5.3.3.7 getMaxX()

```
virtual size_t Arcade::IGraphicLib::getMaxX ( ) const [pure virtual]
```

Getter from the rendering support width.

Returns

the width of the rendering support

5.3.3.8 getMaxY()

```
virtual size_t Arcade::IGraphicLib::getMaxY ( ) const [pure virtual]
```

Getter from the rendering support height.

Returns

the height of the rendering support

5.3.3.9 getName()

```
virtual std::string Arcade::IGraphicLib::getName ( ) const [pure virtual]
```

Graphic library name's getter.

Returns

a string containing the name of the graphic library

5.3.3.10 getScreenSize()

```
virtual Vect<size_t> Arcade::IGraphicLib::getScreenSize ( ) const [pure virtual]
```

Getter from the rendering support dimensions.

Returns

a two dimensions vector containing the width and the height of the rendering support

5.3.3.11 isOpen()

```
virtual bool Arcade::IGraphicLib::isOpen ( ) const [pure virtual]
```

Specifies whether the window is open or not.

Returns

true if open, otherwise returns false

5.3.3.12 openRenderer()

Opens the rendering support.

Parameters

title : Title of the rendering support if supported

Usually opens a window. Some graphic library uses other rendering support.

5.3.3.13 pollEvents()

```
virtual bool Arcade::IGraphicLib::pollEvents ( ) [pure virtual]
```

Fetches the events from the user and saves it.

Returns

true if at least one command has been fetched, otherwise returns false

Fetched commands are usually stored inside a std::vector<Arcade::Keys> or std::list<Arcade::Keys>

5.3.3.14 refreshWindow()

```
virtual void Arcade::IGraphicLib::refreshWindow ( ) [pure virtual]
```

Displays the buffered frame to the screen.

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

/home/thibrex/epitech/CPP/cpp_arcade/shared_header/IGraphicLib.hpp

5.4 Arcade::PixelBox Class Reference

PixelBox class.

```
#include <PixelBox.hpp>
```

Public Member Functions

PixelBox (Vect< size_t > size=Vect< size_t >(), Vect< size_t > pos=Vect< size_t >(), Color col=Color(255, 255, 255, 255))

PixelBox class's constructor.

∼PixelBox ()=default

PixelBox class's destructor.

• size_t getHeight () const

PixelBox height's getter.

size_t getY () const

PixelBox Y offset's getter.

void setHeight (size_t height)

PixelBox height setter.

void setY (size_t y)

PixelBox Y offset's getter.

• size t getWidth () const

PixelBox width's getter.

size_t getX () const

```
PixelBox X offset's getter.
```

void setWidth (size_t width)

PixelBox height's setter.

void setX (size_t x)

PixelBox X offset's setter.

Vect< size_t > getSize () const

PixelBox dimensions's getter.

void setSize (Vect< size_t > size)

PixelBox dimensions's getter.

Vect< size_t > getPos () const

PixelBox positions's getter.

void setPos (Vect< size_t > pos)

PixelBox positions's setter.

void putPixel (Vect< size_t > pos, Color col)

Sets the color of the pixel at the given position.

Color getPixel (Vect< size_t > pos) const

Getter from pixel color to given position.

void putRect (Vect< size_t > pos, Vect< size_t > size, Color col)

Sets the color of many pixels within the pixelBox pixels's array.

std::vector < Color > const & getPixelArray () const

Getter of the pixels array.

5.4.1 Detailed Description

PixelBox class.

Class used to represent a rectangle of pixels

5.4.2 Constructor & Destructor Documentation

5.4.2.1 PixelBox()

PixelBox class's constructor.

Parameters

size	: Vect <size_t> containing the width (x) and the height (y) of the pixelBox</size_t>
pos	: Vect <size_t> containing both x and y offsets. Used to place the pixelBox on the rendering support</size_t>
col	: the color with which the array of pixels inside the pixelBox will be created

Creates a new pixelBox class instance. The first Vect<size_t> size argument defines the dimensions of the pixel←

Box. The second Vect<size_t> pos argument defines the coordinates of the pixelBox's position on the rendering support. It will be the offset applied when rendering it. The third argument defines the color in which the pixels will be created.

```
5.4.2.2 \simPixelBox()
```

```
Arcade::PixelBox::~PixelBox ( ) [default]
```

PixelBox class's destructor.

5.4.3 Member Function Documentation

```
5.4.3.1 getHeight()
```

```
size_t Arcade::PixelBox::getHeight ( ) const
```

PixelBox height's getter.

Returns

the pixelBox's height

5.4.3.2 getPixel()

Getter from pixel color to given position.

Parameters

```
pos : The position of the pixel from which the color is requested
```

Returns

the color of the requested pixel

5.4.3.3 getPixelArray()

```
\verb|std::vector| < \verb|Arcade::Color| > \verb|const| & \verb|Arcade::PixelBox::getPixelArray| ( ) | const| \\
```

Getter of the pixels array.

Returns

a vector of all the pixels of the pixelBox.

```
5.4.3.4 getPos()

Arcade::Vect < size_t > Arcade::PixelBox::getPos ( ) const

PixelBox positions's getter.

Returns

a Vect < size_t > containing the offsetX (x) and the offsetY (y) of the pixelBox.
```

5.4.3.5 getSize()

```
Arcade::Vect< size_t > Arcade::PixelBox::getSize ( ) const
```

PixelBox dimensions's getter.

Returns

a Vect<size_t> containing the width (x) and the height (y) of the pixelBox.

```
5.4.3.6 getWidth()
```

```
size_t Arcade::PixelBox::getWidth ( ) const
```

PixelBox width's getter.

Returns

the pixelBox's height

5.4.3.7 getX()

```
size_t Arcade::PixelBox::getX ( ) const
```

PixelBox X offset's getter.

Returns

the pixelBox X's offset

5.4.3.8 getY()

```
size_t Arcade::PixelBox::getY ( ) const
```

PixelBox Y offset's getter.

Returns

the pixelBox Y's offset

5.4.3.9 putPixel()

Sets the color of the pixel at the given position.

Parameters

pos	: The position of the pixel to be modified
col	: The new color of the pixel to be modified

5.4.3.10 putRect()

Sets the color of many pixels within the pixelBox pixels's array.

Parameters

ĺ	pos	: The position from which the new color has to be applied
	size	: The dimensions of the chunk of pixels to be modified
Ī	col	: The new color to apply

5.4.3.11 setHeight()

PixelBox height setter.

5.4.3.12 setPos()

PixelBox positions's setter.

Parameters

```
pos : new positions of the pixelBox pixels's array
```

Takes both new positions as parameter, within a Vect<size_t>

5.4.3.13 setSize()

PixelBox dimensions's getter.

Parameters

```
size : new dimensions of the pixelBox pixels's array
```

Takes both new dimensions as parameter, within a Vect<size_t>

5.4.3.14 setWidth()

PixelBox height's setter.

5.4.3.15 setX()

PixelBox X offset's setter.

5.4.3.16 setY()

PixelBox Y offset's getter.

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

- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/PixelBox.hpp
- /home/thibrex/epitech/CPP/cpp arcade/shared header/PixelBox.cpp

5.5 Arcade::Scale Class Reference

Scale class.

```
#include <Scale.hpp>
```

Public Types

enum CENTERING { NONE, HORIZONTAL, VERTICAL, BOTH }
 Enumeration used by setCentering method.

Public Member Functions

• Scale ()

Scale class's constructor Creates a new Scale class instance.

∼Scale ()

Scale class's destructor.

void setCentering (const CENTERING &)

Scale centering's setter.

void setWindowSize (const Arcade::Vect< size_t > &windowsSize)

Scale window size's setter.

void scalePixelBox (const Arcade::Vect< size_t > &pos, const Arcade::Vect< size_t > &size, Arcade::

 PixelBox &pixelBox)

Scale main function for PixelBoxes.

void scaleTextBox (const Arcade::Vect< double > &pos, Arcade::TextBox &textBox)

Scale main function for TextBoxes.

5.5.1 Detailed Description

Scale class.

Class used to scale PixelBoxes

5.5.2 Member Enumeration Documentation

5.5.2.1 CENTERING

```
enum Arcade::Scale::CENTERING
```

Enumeration used by setCentering method.

Enumerator

NONE	
HORIZONTAL	
VERTICAL	
BOTH	

5.5.3 Constructor & Destructor Documentation

5.5.3.1 Scale()

```
Arcade::Scale::Scale ( )
```

Scale class's constructor Creates a new Scale class instance.

5.5.3.2 \sim Scale()

```
Arcade::Scale::~Scale ( )
```

Scale class's destructor.

5.5.4 Member Function Documentation

5.5.4.1 scalePixelBox()

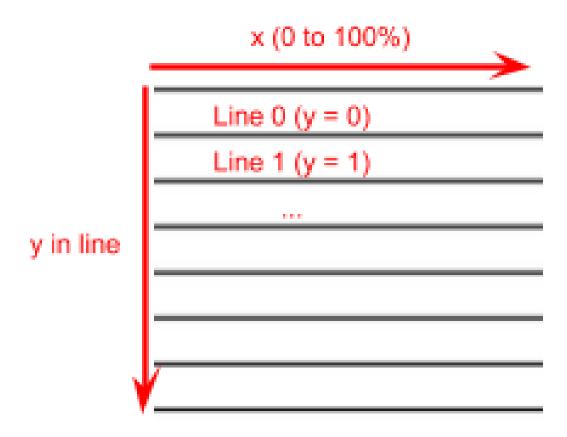
Scale main function for PixelBoxes.

Modifies the PixelBox giving as parameter and sets the position and size using the Arcade::Vect pos and size. Your PixelBox object giving as parameter must be set with the minimal size possible to prevent a possible partial display.

5.5.4.2 scaleTextBox()

Scale main function for TextBoxes.

Modifies the TextBox giving as parameter and sets the position using the Arcade::Vect pos. Position can be set as double to allow a better vertical precision alignment for advanced graphical libs.



5.5.4.3 setCentering()

Scale centering's setter.

Allows the user to define the desired alignment (only working on PixelBox object). By default, alignment is set to NONE which means that the PixelBox object will be set starting from the exact position set by the scalePixelBox method.

5.5.4.4 setWindowSize()

Scale window size's setter.

Allows the user to set the window size. If not set, the scaling class may just explode and create a black hole destroying our world. You probably don't want that.

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

- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Scale.hpp
- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Scale.cpp

5.6 Arcade::Scoreboard Class Reference

Scoreboard class.

```
#include <Scoreboard.hpp>
```

Public Member Functions

· Scoreboard ()

Scoreboard class's constructor.

∼Scoreboard ()

Scoreboard class's destructor.

void setGameName (const std::string &gameName)

Scoreboard game name's setter.

void setPlayerName (const std::string &playerName)

Scoreboard player name's setter.

• bool readScoreboard ()

Scoreboard initializer.

• size_t getLastPlayerScore ()

Scoreboard last player score's getter.

- std::map < std::string, std::vector < std::string > > getScoreboard () const

Scoreboard getter.

• size_t getScores () const

Scoreboard current score's getter.

void addScores (const size_t &)

Scoreboard setter.

void subScores (const size_t &)

Scoreboard setter.

· void resetScores ()

Scoreboard reseter.

5.6.1 Detailed Description

Scoreboard class.

Class used to manage the scoreboard

5.6.2 Constructor & Destructor Documentation

```
5.6.2.1 Scoreboard()
```

```
Arcade::Scoreboard::Scoreboard ( )
```

Scoreboard class's constructor.

Creates a new scoreboard class instance.

```
5.6.2.2 \simScoreboard()
```

```
Arcade::Scoreboard::~Scoreboard ( )
```

Scoreboard class's destructor.

5.6.3 Member Function Documentation

```
5.6.3.1 addScores()
```

Scoreboard setter.

Add score to the current score.

5.6.3.2 getLastPlayerScore()

```
size_t Arcade::Scoreboard::getLastPlayerScore ( )
```

Scoreboard last player score's getter.

Returns

the score of the last player as a size_t

```
5.6.3.3 getScoreboard()
std::map< std::string, std::vector< std::string > > Arcade::Scoreboard::getScoreboard ( )
const
Scoreboard getter.
Returns
     all the scoreboard.
5.6.3.4 getScores()
size_t Arcade::Scoreboard::getScores ( ) const
Scoreboard current score's getter.
Returns
     the current score.
5.6.3.5 readScoreboard()
bool Arcade::Scoreboard::readScoreboard ( )
Scoreboard initializer.
Reads the file to feed itself.
5.6.3.6 resetScores()
void Arcade::Scoreboard::resetScores ( )
Scoreboard reseter.
Reset the scores.
5.6.3.7 setGameName()
```

Scoreboard game name's setter.

void Arcade::Scoreboard::setGameName (

const std::string & gameName)

5.6.3.8 setPlayerName()

Scoreboard player name's setter.

5.6.3.9 subScores()

Scoreboard setter.

Sub score to the current score.

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

- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Scoreboard.hpp
- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Scoreboard.cpp

5.7 Arcade::TextBox Class Reference

TextBox class.

```
#include <TextBox.hpp>
```

Public Member Functions

TextBox (std::string const &text, Vect< size_t > pos, size_t fontSize=30, Color color=Color(255, 255, 255), Color backgroundColor=Color(0, 0, 0, 255))

TextBox class's constructor.

• \sim TextBox ()=default

PixelBox class's destructor.

• const std::string & getValue () const

TextBox text's value's getter.

• void setValue (std::string const &text)

Sets the textBox text's value.

Vect< size_t > getPos () const

TextBox positions's getter.

void setPos (Vect< size_t > pos)

TextBox positions's setter.

size_t getX () const

TextBox X offset's getter.

• size_t getY () const

TextBox Y offset's getter.

void setX (size_t x)

TextBox X offset's setter.

void setY (size_t y)

TextBox Y offset's setter.

• size_t getFontSize () const

TextBox's font size's getter.

void setFontSize (size_t size)

TextBox's font size's setter.

• Color getColor () const

TextBox's text color's getter.

• void setColor (Color color)

TextBox's text color's setter.

Color getBackgroundColor () const

TextBox's text background color's getter.

void setBackgroundColor (Color color)

TextBox's text background color's setter.

5.7.1 Detailed Description

TextBox class.

Class used to represent a rectangle of text

5.7.2 Constructor & Destructor Documentation

5.7.2.1 TextBox()

TextBox class's constructor.

Parameters

text	: characters to be apply on the textBox
pos	: $\ensuremath{\text{Vect}}\xspace\!<\!$
fontSize	: size of the text
color	: color of the text
backgroundColor	: background color of the text

Creates a new textBox class instance. The first text argument defines the value of the text within the textBox. The Vect<size_t> pos argument defines the coordinates of the textBox's position on the rendering support. It will be the

offset applied when rendering it. The third fontSize argument defines the size in which the text should be printed. The color's argument defines in which color the characters will be printed. The backgroundColor's argument defines the background color of the characters.

```
5.7.2.2 \simTextBox()
Arcade::TextBox::~TextBox ( ) [default]
PixelBox class's destructor.
5.7.3 Member Function Documentation
5.7.3.1 getBackgroundColor()
Arcade::Color Arcade::TextBox::getBackgroundColor ( ) const
TextBox's text background color's getter.
Returns
     the textBox's text's background color
5.7.3.2 getColor()
Arcade::Color Arcade::TextBox::getColor ( ) const
TextBox's text color's getter.
Returns
     the textBox's text's color
5.7.3.3 getFontSize()
size_t Arcade::TextBox::getFontSize ( ) const
TextBox's font size's getter.
Returns
```

the font size

```
5.7 Arcade::TextBox Class Reference
5.7.3.4 getPos()
Arcade::Vect< size_t > Arcade::TextBox::getPos ( ) const
TextBox positions's getter.
Returns
     a Vect<size_t> containing the offsetX (x) and the offsetY (y) of the textBox.
5.7.3.5 getValue()
const std::string & Arcade::TextBox::getValue ( ) const
TextBox text's value's getter.
Returns
     the value of the text within textBox
5.7.3.6 getX()
size_t Arcade::TextBox::getX ( ) const
TextBox X offset's getter.
5.7.3.7 getY()
size_t Arcade::TextBox::getY ( ) const
TextBox Y offset's getter.
```

5.7.3.8 setBackgroundColor()

```
void Arcade::TextBox::setBackgroundColor (
            Arcade::Color color )
```

TextBox's text background color's setter.

Parameters

color : new background color to apply to text

5.7.3.9 setColor()

TextBox's text color's setter.

Parameters

color : new color to apply to text

5.7.3.10 setFontSize()

TextBox's font size's setter.

Parameters

size : new font size to be assigned

5.7.3.11 setPos()

TextBox positions's setter.

Parameters

pos : new positions of the textBox

Takes both new positions as parameter, within a Vect<size_t>

5.7.3.12 setValue()

Sets the textBox text's value.

Parameters

```
text : new value to assign
```

5.7.3.13 setX()

TextBox X offset's setter.

5.7.3.14 setY()

TextBox Y offset's setter.

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

- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/TextBox.hpp
- /home/thibrex/epitech/CPP/cpp_arcade/shared_header/TextBox.cpp

5.8 Arcade::Vect < T > Class Template Reference

Vect class template.

```
#include <Vect.hpp>
```

Public Member Functions

```
• Vect (T x=0, T y=0)
```

Vect class template's constructor.

void setXY (T x=0, T y=0)

Vect class template's coordinates's setter.

void setX (T x=0)

Vect class template's X coordinate's setter.

void setY (T y=0)

Vect class template's Y coordinate's setter.

• T getX () const

Vect class template's X coordinate's getter.

• T getY () const

Vect class template's Y coordinate's getter.

bool operator== (const Vect< T > &other) const

Overloading the comparison operator.

- Vect< T > operator+ (const Vect< T > &other) const
- Vect< T > operator- (const Vect< T > &other) const
- Vect< T > operator* (const Vect< T > &other) const
- Vect< T > operator/ (const Vect< T > &other) const
- Vect< T > & operator+= (const Vect< T > & other)
- Vect< T > & operator= (const Vect< T > & other)
- Vect< T > & operator*= (const Vect< T > & other)
- Vect< T > & operator/= (const Vect< T > & other)
- Vect< T > operator+ (const T &other) const
- Vect< T > operator- (const T &other) const
- Vect< T > operator* (const T &other) const
- Vect < T > operator/ (const T &other) const
- Vect< T > & operator+= (const T &other)
 Vect< T > & operator-= (const T &other)
- Vect< T > & operator*= (const T &other)
- Vect< T > & operator/= (const T &other)

5.8.1 Detailed Description

```
template<typename T> class Arcade::Vect< T>
```

Vect class template.

Mainly used to store and manage 2 coordinates

5.8.2 Constructor & Destructor Documentation

5.8.2.1 Vect()

Vect class template's constructor.

Parameters

X	: coordinate X
У	: coordinate Y

5.8.3 Member Function Documentation

5.8.3.1 getX()

```
template<typename T>
T Arcade::Vect< T >::getX ( ) const [inline]
```

Vect class template's X coordinate's getter.

Returns

the value of the X coordinate

5.8.3.2 getY()

```
template<typename T>
T Arcade::Vect< T >::getY ( ) const [inline]
```

Vect class template's Y coordinate's getter.

Returns

the value of the Y coordinate

5.8.3.3 operator*() [1/2]

Overloading the multiplication operator

Parameters

other : the Vect object to perform the multiplication with

Returns

a new object resulting from the multiplication of the Vect

Overloading the multiplication operator

Parameters

```
other : the T variable to perform the multiplication with
```

Returns

a new object resulting from the multiplication

Overloading the multiplication assignment operator

Parameters

```
other : the Vect object to perform the multiplication with
```

Returns

the object from which this function was called

Overloading the multiplication assignment operator

Parameters

other : the T variable to perform the multiplication with

Returns

the object from which this function was called

5.8.3.7 operator+() [1/2]

Overloading the addition operator

Parameters

other : the Vect object to perform the addition with

Returns

a new object resulting from the addition of the Vect

5.8.3.8 operator+() [2/2]

Overloading the addition operator

Parameters

```
other : the T variable to perform the addition with
```

Returns

a new object resulting from the addition

5.8.3.9 operator+=() [1/2]

Overloading the addition assignment operator

Parameters

other	: the Vect object to perform the addition with
-------	--

Returns

the object from which this function was called

5.8.3.10 operator+=() [2/2]

Overloading the addition assignment operator

Parameters

```
other : the T variable to perform the addition with
```

Returns

the object from which this function was called

5.8.3.11 operator-() [1/2]

Overloading the subtraction operator

Parameters

other	: the Vect object to perform the subtraction with
-------	---

Returns

a new object resulting from the subtraction of the Vect

const T & other) const [inline]

5.8.3.12 operator-() [2/2] template<typename T> Vect<T> Arcade::Vect< T >::operator- (

Overloading the subtraction operator

Parameters

```
other : the T variable to perform the subtraction with
```

Returns

a new object resulting from the subtraction

Overloading the subtraction assignment operator

Parameters

```
other : the Vect object to perform the subtraction with
```

Returns

the object from which this function was called

Overloading the subtraction assignment operator

Parameters

other: the T variable to perform the subtraction with	ı
---	---

Returns

the object from which this function was called

```
5.8.3.15 operator/() [1/2]
```

Overloading the division operator

Parameters

other : the Vect object to perform the division with

Returns

a new object resulting from the division of the Vect

5.8.3.16 operator/() [2/2]

Overloading the division operator

Parameters

other : the T variable to perform the division with

Returns

a new object resulting from the division

5.8.3.17 operator/=() [1/2]

Overloading the division assignment operator

Parameters

other : the Vect object to perform the division with

Returns

the object from which this function was called

5.8.3.18 operator/=() [2/2]

Overloading the division assignment operator

Parameters

```
other : the T variable to perform the division with
```

Returns

the object from which this function was called

5.8.3.19 operator==()

Overloading the comparison operator.

Parameters

other : the Vect object to compare with

Returns

true if equal, otherwise returns false

5.8.3.20 setX()

Vect class template's X coordinate's setter.

Parameters

```
x : new X coordinate
```

5.8.3.21 setXY()

```
template<typename T>
void Arcade::Vect< T >::setXY (
        T x = 0,
        T y = 0 ) [inline]
```

Vect class template's coordinates's setter.

Parameters

```
x : new X coordinatey : new Y coordinate
```

5.8.3.22 setY()

Vect class template's Y coordinate's setter.

Parameters

```
x : new Y coordinate
```

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

5.8 Arcade::Vect< T> Class Template Reference 49 • /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Vect.hpp

Chapter 6

File Documentation

6.1 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Color.cpp File Reference

```
#include "Color.hpp"
Include dependency graph for Color.cpp:
```

6.2 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Color.hpp File Reference

Color class, pixel-like.

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

Classes

• class Arcade::Color Color class.

Namespaces

Arcade

Arcade project namespace.

6.2.1 Detailed Description

Color class, pixel-like.

Authors

```
https://github.com/EPITECH-Strasbourg-2021/CPP-Arcade-Spec
```

Class used by games and graphic libraries, as a color's array All functions must be implemented correctly for libraries to function properly.

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6.3 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/IGameLib.hpp File Reference

Game libraries dedicated class interface.

```
#include "IGraphicLib.hpp"
Include dependency graph for IGameLib.hpp:
```

Classes

class Arcade::IGameLib

Game libraries virtual class.

Namespaces

Arcade

Arcade project namespace.

6.3.1 Detailed Description

Game libraries dedicated class interface.

Authors

```
https://github.com/EPITECH-Strasbourg-2021/CPP-Arcade-Spec
```

Interface used by game libraries. All functions must be implemented correctly for the kernel to handle the game libraries.

6.4 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/IGraphicLib.hpp File Reference

Graphic libraries dedicated class interface.

```
#include <string>
#include "Vect.hpp"
#include "PixelBox.hpp"
#include "TextBox.hpp"
#include "Keys.hpp"
```

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

Classes

· class Arcade::IGraphicLib

Graphic libraries virtual class.

Namespaces

Arcade

Arcade project namespace.

6.4.1 Detailed Description

Graphic libraries dedicated class interface.

Authors

```
https://github.com/EPITECH-Strasbourg-2021/CPP-Arcade-Spec
```

Interface used by graphic libraries All functions must be implemented correctly for the kernel to handle the graphic libraries.

6.5 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Keys.hpp File Reference

Keys enum.

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

Namespaces

Arcade

Arcade project namespace.

Enumerations

```
    enum Arcade::Keys {
        Arcade::NONE, Arcade::A, Arcade::B, Arcade::C,
        Arcade::D, Arcade::E, Arcade::F, Arcade::G,
        Arcade::H, Arcade::I, Arcade::K,
        Arcade::L, Arcade::M, Arcade::N, Arcade::O,
        Arcade::P, Arcade::Q, Arcade::R, Arcade::S,
        Arcade::T, Arcade::U, Arcade::V, Arcade::W,
        Arcade::X, Arcade::Y, Arcade::Z, Arcade::LEFT,
        Arcade::RIGHT, Arcade::UP, Arcade::DOWN, Arcade::ENTER,
        Arcade::SPACE, Arcade::DELETE, Arcade::BACKSPACE, Arcade::TAB,
        Arcade::ESC, Arcade::MOUSELEFT, Arcade::MOUSERIGHT }
```

6.5.1 Detailed Description

Keys enum.

Authors

```
https://github.com/EPITECH-Strasbourg-2021/CPP-Arcade-Spec
```

Key Enum, each graphics library must store a map in order to convert the specific library key code into one of this enum code so that it can be used by other components independently of the graphics library.

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6.6 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/PixelBox.cpp File Reference

```
#include "PixelBox.hpp"
Include dependency graph for PixelBox.cpp:
```

6.7 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/PixelBox.hpp File Reference

PixelBox class, similar to a rectangle of pixels.

```
#include <string>
#include <vector>
#include "Color.hpp"
#include "Vect.hpp"
```

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

Classes

 class Arcade::PixelBox PixelBox class.

Namespaces

Arcade

Arcade project namespace.

6.7.1 Detailed Description

PixelBox class, similar to a rectangle of pixels.

Authors

```
https://github.com/EPITECH-Strasbourg-2021/CPP-Arcade-Spec
```

Class used by games and graphic libraries, similar to a rectangle of pixels. All functions must be implemented correctly for libraries to function properly.

6.8 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Scale.cpp File Reference

```
#include <iostream>
#include <iomanip>
#include "Scale.hpp"
```

Include dependency graph for Scale.cpp:

6.9 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Scale.hpp File Reference

```
#include <string>
#include "Vect.hpp"
#include "PixelBox.hpp"
#include "TextBox.hpp"
```

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

Classes

class Arcade::Scale
 Scale class.

Namespaces

Arcade

Arcade project namespace.

6.10 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Scoreboard.cpp File Reference

```
#include <iostream>
#include <fstream>
#include <ios>
#include <sstream>
#include <regex>
#include "Scoreboard.hpp"
Include dependency graph for Scoreboard.cpp:
```

6.11 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Scoreboard.hpp File Reference

```
#include <vector>
#include <map>
```

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

Classes

class Arcade::Scoreboard
 Scoreboard class.

Namespaces

Arcade

Arcade project namespace.

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Macros

• #define SCOREBOARD "scores"

6.11.1 Macro Definition Documentation

6.11.1.1 SCOREBOARD

```
#define SCOREBOARD "scores"
```

6.12 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/TextBox.cpp File Reference

```
#include "TextBox.hpp"
Include dependency graph for TextBox.cpp:
```

6.13 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/TextBox.hpp File Reference

TextBox class, similar to a text rectangle.

```
#include <string>
#include "Color.hpp"
#include "Vect.hpp"
```

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

Classes

 class Arcade::TextBox TextBox class.

Namespaces

Arcade

Arcade project namespace.

6.13.1 Detailed Description

TextBox class, similar to a text rectangle.

Authors

```
https://github.com/EPITECH-Strasbourg-2021/CPP-Arcade-Spec
```

Class used by games and graphic libraries, similar to a text rectangle. All functions must be implemented correctly for libraries to function properly.

6.14 /home/thibrex/epitech/CPP/cpp_arcade/shared_header/Vect.hpp File Reference

Project-specific vector template.

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

Classes

class Arcade::Vect< T >
 Vect class template.

Namespaces

Arcade

Arcade project namespace.

6.14.1 Detailed Description

Project-specific vector template.

Authors

https://github.com/EPITECH-Strasbourg-2021/CPP-Arcade-Spec

Template used to store and perform arithmetic operations on coordinates.

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