Arcade

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4.1 Arcade Namespace Reference

Arcade project namespace.

Classes

- class Color
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- class IGameLib
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- class IGraphicLib
  Graphic libraries virtual class.
- class PixelBox
  PixelBox class.
- class Scale
  Scale class.
- class Scoreboard
  Scoreboard class.
- class TextBox
  TextBox class.
- class Vect
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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	
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	

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 *

Returns

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

5.1.3.6 operator==()

```
bool Arcade::Color::operator== (
            const Arcade::Color & other ) const
```

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()

```
void Arcade::Color::setGreen (
            unsigned char green )
```

Green subpixel's setter.

Sets the value of the green's subpixel

5.1.3.11 setRed()

```
void Arcade::Color::setRed (
            unsigned char red )
```

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()

```
virtual bool Arcade::IGameLib::applyEvent (
            Arcade::Keys key )  [pure virtual]
```

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()

```
virtual void Arcade::IGameLib::refresh (
            IGraphicLib & graphicLib )  [pure virtual]
```

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 ~IGraphicLib()

```
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()

```
virtual void Arcade::IGraphicLib::drawPixelBox (
            PixelBox const &  )  [pure virtual]
```

Draws a PixelBox.

5.3.3.5 drawText()

```
virtual void Arcade::IGraphicLib::drawText (
            TextBox const &  )  [pure virtual]
```

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()

```
virtual void Arcade::IGraphicLib::openRenderer (
            std::string const & title )  [pure virtual]
```

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()

```
Arcade::PixelBox::PixelBox (
            Vect< size_t > size = Vect<size_t>(),
            Vect< size_t > pos = Vect<size_t>(),
            Color col = Color(255, 255, 255, 255) )  [explicit]
```

PixelBox class's constructor.

Parameters

size	: Vect<size_t> containing the width (x) and the height (y) of the pixelBox
pos	: Vect<size_t> containing both x and y offsets. Used to place the pixelBox on the rendering support
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 ~PixelBox()

```
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()

```
Arcade::Color Arcade::PixelBox::getPixel (
            Vect< size_t > pos ) const
```

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()

```
std::vector< Arcade::Color > const & 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()

```
void Arcade::PixelBox::putPixel (
            Vect< size_t > pos,
            Arcade::Color col )
```

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()

```
void Arcade::PixelBox::putRect (
            Vect< size_t > pos,
            Vect< size_t > size,
            Color col )
```

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

Parameters

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

5.4.3.11 setHeight()

```
void Arcade::PixelBox::setHeight (
            size_t height )
```

PixelBox height setter.

5.4.3.12 setPos()

```
void Arcade::PixelBox::setPos (
            Arcade::Vect< size_t > pos )
```

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()

```
void Arcade::PixelBox::setSize (
            Arcade::Vect< size_t > size )
```

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()

```
void Arcade::PixelBox::setWidth (
            size_t width )
```

PixelBox height's setter.

5.4.3.15 setX()

```
void Arcade::PixelBox::setX (
            size_t x )
```

PixelBox X offset's setter.

5.4.3.16 setY()

```
void Arcade::PixelBox::setY (
            size_t y )
```

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 ~Scale()

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

Scale class's destructor.

5.5.4 Member Function Documentation

5.5.4.1 scalePixelBox()

```
void Arcade::Scale::scalePixelBox (
            const Arcade::Vect< size_t > & pos,
            const Arcade::Vect< size_t > & size,
            Arcade::PixelBox & pixelBox )
```

Scale main function for PixelBoxes.

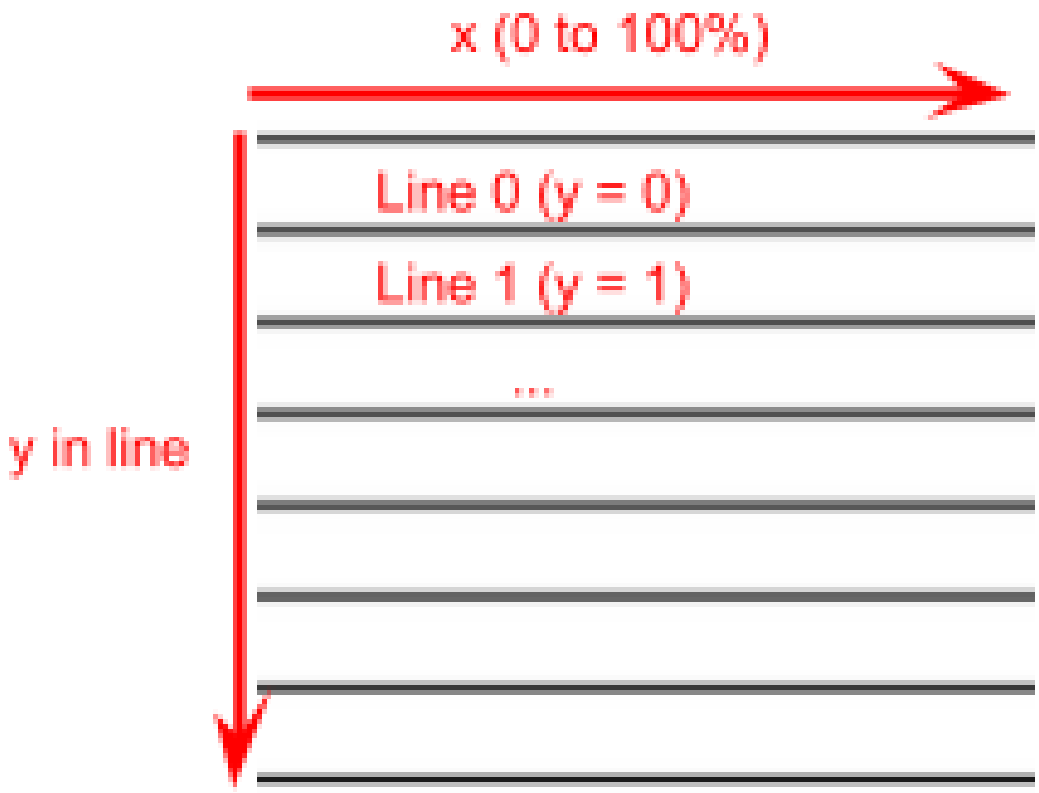
Modifies the PixelBox giving as parameter and sets the position and size using the Arcade::Vect pos and size. Your PixelBox object giving as parameter must be set with the minimal size possible to prevent a possible partial display.

5.5.4.2 scaleTextBox()

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

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()

```
void Arcade::Scale::setCentering (
            const CENTERING & param )
```

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()

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

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 ~Scoreboard()

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

Scoreboard class's destructor.

5.6.3 Member Function Documentation

5.6.3.1 addScores()

```
void Arcade::Scoreboard::addScores (
            const size_t & points )
```

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()

```
void Arcade::Scoreboard::setGameName (
            const std::string & gameName )
```

Scoreboard game name's setter.

5.6.3.8 setPlayerName()

```
void Arcade::Scoreboard::setPlayerName (
            const std::string & playerName )
```

Scoreboard player name's setter.

5.6.3.9 subScores()

```
void Arcade::Scoreboard::subScores (
            const size_t & points )
```

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, 255), Color backgroundColor=Color(0, 0, 0, 255))

  TextBox class's constructor.
- ~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()

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

TextBox class's constructor.

Parameters

text	: characters to be apply on the textBox
pos	: Vect<size_t> containing both x and y offsets. Used to place the textBox on the rendering support
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 ~TextBox()

```
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

5.7.3.4 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()

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

TextBox's text color's setter.

Parameters

color	: new color to apply to text

5.7.3.10 setFontSize()

```
void Arcade::TextBox::setFontSize (
            size_t size )
```

TextBox's font size's setter.

Parameters

size	: new font size to be assigned

5.7.3.11 setPos()

```
void Arcade::TextBox::setPos (
            Arcade::Vect< size_t > pos )
```

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()

```
void Arcade::TextBox::setValue (
            std::string const & text )
```

Sets the textBox text's value.

Parameters

text	: new value to assign

5.7.3.13 setX()

```
void Arcade::TextBox::setX (
            size_t x )
```

TextBox X offset's setter.

5.7.3.14 setY()

```
void Arcade::TextBox::setY (
            size_t y )
```

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()

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

Vect class template's constructor.

Parameters

x	: coordinate X
y	: 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]

```
template<typename T>
Vect<T> Arcade::Vect< T >::operator* (
            const Vect< T > & other ) const  [inline]
```

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

5.8.3.4 operator∗() [2/2]

```
template<typename T>
Vect<T> Arcade::Vect< T >::operator* (
            const T & other ) const  [inline]
```

Overloading the multiplication operator

Parameters

other	: the T variable to perform the multiplication with

Returns

a new object resulting from the multiplication

5.8.3.5 operator∗=() [1/2]

```
template<typename T>
Vect<T>& Arcade::Vect< T >::operator*= (
            const Vect< T > & other )  [inline]
```

Overloading the multiplication assignment operator

Parameters

other	: the Vect object to perform the multiplication with

Returns

the object from which this function was called

5.8.3.6 operator∗=() [2/2]

```
template<typename T>
Vect<T>& Arcade::Vect< T >::operator*= (
            const T & other )  [inline]
```

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]

```
template<typename T>
Vect<T> Arcade::Vect< T >::operator+ (
            const Vect< T > & other ) const  [inline]
```

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]

```
template<typename T>
Vect<T> Arcade::Vect< T >::operator+ (
            const T & other ) const  [inline]
```

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]

```
template<typename T>
Vect<T>& Arcade::Vect< T >::operator+= (
            const Vect< T > & other )  [inline]
```

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]

```
template<typename T>
Vect<T>& Arcade::Vect< T >::operator+= (
            const T & other )  [inline]
```

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]

```
template<typename T>
Vect<T> Arcade::Vect< T >::operator- (
            const Vect< T > & other ) const  [inline]
```

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

5.8.3.12 operator-() [2/2]

```
template<typename T>
Vect<T> Arcade::Vect< T >::operator- (
            const T & other ) const  [inline]
```

Overloading the subtraction operator

Parameters

other	: the T variable to perform the subtraction with

Returns

a new object resulting from the subtraction

5.8.3.13 operator-=() [1/2]

```
template<typename T>
Vect<T>& Arcade::Vect< T >::operator-= (
            const Vect< T > & other )  [inline]
```

Overloading the subtraction assignment operator

Parameters

other	: the Vect object to perform the subtraction with

Returns

the object from which this function was called

5.8.3.14 operator-=() [2/2]

```
template<typename T>
Vect<T>& Arcade::Vect< T >::operator-= (
            const T & other )  [inline]
```

Overloading the subtraction assignment operator

Parameters

other	: the T variable to perform the subtraction with

Returns

the object from which this function was called

5.8.3.15 operator/() [1/2]

```
template<typename T>
Vect<T> Arcade::Vect< T >::operator/ (
            const Vect< T > & other ) const  [inline]
```

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]

```
template<typename T>
Vect<T> Arcade::Vect< T >::operator/ (
            const T & other ) const  [inline]
```

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]

```
template<typename T>
Vect<T>& Arcade::Vect< T >::operator/= (
            const Vect< T > & other )  [inline]
```

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]

```
template<typename T>
Vect<T>& Arcade::Vect< T >::operator/= (
            const T & other )  [inline]
```

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==()

```
template<typename T>
bool Arcade::Vect< T >::operator== (
            const Vect< T > & other ) const  [inline]
```

Overloading the comparison operator.

Parameters

other	: the Vect object to compare with

Returns

true if equal, otherwise returns false

5.8.3.20 setX()

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

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 coordinate
y	: new Y coordinate

5.8.3.22 setY()

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

Vect class template's Y coordinate's setter.

Parameters

x	: new Y coordinate

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

- /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.

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::J, 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.

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.

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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