

arcade

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1 Namespace Index	1
1.1 Namespace List	1
2 Hierarchical Index	3
2.1 Class Hierarchy	3
3 Class Index	5
3.1 Class List	5
4 File Index	7
4.1 File List	7
5 Namespace Documentation	9
5.1 Arcade Namespace Reference	9
5.1.1 Detailed Description	10
5.1.2 Enumeration Type Documentation	10
5.1.2.1 KeyboardEvents	10
6 Class Documentation	11
6.1 Arcade::AGame Class Reference	11
6.1.1 Detailed Description	11
6.1.2 Member Function Documentation	12
6.1.2.1 getGameMode()	12
6.1.2.2 getScore()	12
6.2 Arcade::Clock Class Reference	12
6.2.1 Member Function Documentation	13
6.2.1.1 getElapsedTime()	13
6.3 Arcade::Core Class Reference	13
6.3.1 Detailed Description	14
6.3.2 Member Function Documentation	14
6.3.2.1 getNextLibIndex()	14
6.3.2.2 getPreviousLibIndex()	15
6.3.2.3 getRenderer()	15
6.3.2.4 loadRenderer()	15
6.3.2.5 mainLoop()	16
6.3.2.6 runArcade()	16
6.3.2.7 setMode()	16
6.3.2.8 switchLib()	16
6.4 Arcade::Core::CoreException Class Reference	17
6.4.1 Detailed Description	17
6.5 Arcade::EventManager Class Reference	18
6.5.1 Detailed Description	18
6.6 Arcade::IGame Class Reference	18
6.6.1 Detailed Description	19

6.6.2 Member Function Documentation	19
6.6.2.1 <code>getGameMode()</code>	19
6.6.2.2 <code>getScore()</code>	19
6.7 Arcade::IRenderer Class Reference	19
6.7.1 Detailed Description	20
6.7.2 Member Function Documentation	20
6.7.2.1 <code>createSprite()</code>	20
6.7.2.2 <code>createText()</code>	21
6.7.2.3 <code>displaySprite()</code>	21
6.7.2.4 <code>displayText()</code>	22
6.7.2.5 <code>getEvent()</code>	22
6.7.2.6 <code>getWindow()</code>	22
6.7.2.7 <code>isASCII()</code>	22
6.7.2.8 <code>loadFont()</code>	23
6.7.2.9 <code>loadTexture()</code>	24
6.7.2.10 <code>moveText()</code>	24
6.8 Arcade::IWindow Class Reference	25
6.8.1 Detailed Description	25
6.8.2 Member Function Documentation	25
6.8.2.1 <code>openWindow()</code>	25
6.8.2.2 <code>setTitle()</code>	26
6.9 Arcade::NCursesRenderer Class Reference	26
6.9.1 Detailed Description	27
6.9.2 Member Function Documentation	27
6.9.2.1 <code>createSprite()</code>	27
6.9.2.2 <code>createText()</code>	28
6.9.2.3 <code>displaySprite()</code>	28
6.9.2.4 <code>displayText()</code>	28
6.9.2.5 <code>getEvent()</code>	29
6.9.2.6 <code>getWindow()</code>	29
6.9.2.7 <code>isASCII()</code>	29
6.9.2.8 <code>loadFont()</code>	29
6.9.2.9 <code>loadTexture()</code>	30
6.9.2.10 <code>moveText()</code>	30
6.10 Arcade::NCursesWindow Class Reference	31
6.10.1 Detailed Description	31
6.10.2 Member Function Documentation	31
6.10.2.1 <code>getWindow()</code>	32
6.10.2.2 <code>openWindow()</code>	32
6.10.2.3 <code>setTitle()</code>	32
6.11 Arcade::RuntimeException Class Reference	32
6.11.1 Detailed Description	33

6.12 Arcade::Sdl2Renderer Class Reference	33
6.12.1 Detailed Description	34
6.12.2 Member Function Documentation	34
6.12.2.1 createSprite()	34
6.12.2.2 createText()	35
6.12.2.3 displaySprite()	35
6.12.2.4 displayText()	36
6.12.2.5 getEvent()	36
6.12.2.6 getWindow()	36
6.12.2.7 isASCII()	36
6.12.2.8 loadFont()	37
6.12.2.9 loadTexture()	38
6.12.2.10 moveText()	38
6.13 Arcade::Sdl2Window Class Reference	39
6.13.1 Detailed Description	39
6.13.2 Member Function Documentation	39
6.13.2.1 getRenderer()	40
6.13.2.2 getWindow()	40
6.13.2.3 openWindow()	40
6.13.2.4 setTitle()	40
6.14 Arcade::SfmlRenderer Class Reference	41
6.14.1 Detailed Description	42
6.14.2 Member Function Documentation	42
6.14.2.1 createSprite()	42
6.14.2.2 createText()	42
6.14.2.3 displaySprite()	43
6.14.2.4 displayText()	43
6.14.2.5 getEvent()	43
6.14.2.6 getWindow()	44
6.14.2.7 isASCII()	44
6.14.2.8 loadFont()	44
6.14.2.9 loadTexture()	45
6.14.2.10 moveText()	45
6.14.2.11 setInput()	45
6.15 Arcade::SfmlWindow Class Reference	46
6.15.1 Detailed Description	46
6.15.2 Member Function Documentation	46
6.15.2.1 getWindow()	47
6.15.2.2 openWindow()	47
6.15.2.3 setTitle()	47
6.16 Arcade::Time Class Reference	47

7 File Documentation	49
7.1 Core/include/Arcade/abstractions/AGame.hpp File Reference	49
7.1.1 Detailed Description	49
7.2 Core/include/Arcade/abstractions/IGame.hpp File Reference	49
7.2.1 Detailed Description	50
7.3 Core/include/Arcade/abstractions/IRenderer.hpp File Reference	50
7.3.1 Detailed Description	50
7.4 Core/include/Arcade/abstractions/IWindow.hpp File Reference	50
7.4.1 Detailed Description	51
7.5 Core/include/Arcade/Constants.hpp File Reference	51
7.5.1 Detailed Description	51
7.6 Core/include/Arcade/Core.hpp File Reference	52
7.6.1 Detailed Description	52
7.7 Core/include/Arcade/EventManager.hpp File Reference	52
7.7.1 Detailed Description	53
7.8 Core/include/Arcade/RuntimeException.hpp File Reference	53
7.8.1 Detailed Description	53
7.9 Graphics/NCurses/include/Arcade/NCursesRenderer.hpp File Reference	53
7.9.1 Detailed Description	54
7.10 Graphics/NCurses/include/Arcade/NCursesWindow.hpp File Reference	54
7.10.1 Detailed Description	54
7.11 Graphics/SDL2/include/Arcade/Sdl2Renderer.hpp File Reference	54
7.11.1 Detailed Description	55
7.12 Graphics/SDL2/include/Arcade/Sdl2Window.hpp File Reference	55
7.12.1 Detailed Description	55
7.13 Graphics/SFML/include/Arcade/SfmlRenderer.hpp File Reference	55
7.13.1 Detailed Description	56
7.14 Graphics/SFML/include/Arcade/SfmlWindow.hpp File Reference	56
7.14.1 Detailed Description	56
Index	57

Chapter 1

Namespace Index

1.1 Namespace List

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

Arcade	Main namespace for the Arcade project	9
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Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

Arcade::Clock	12
Arcade::Core	13
Arcade::EventManager	18
std::exception	
Arcade::Core::CoreException	17
Arcade::RuntimeException	32
Arcade::IGame	18
Arcade::AGame	11
Arcade::IRenderer	19
Arcade::NCursesRenderer	26
Arcade::Sdl2Renderer	33
Arcade::SfmlRenderer	41
Arcade::IWindow	25
Arcade::NCursesWindow	31
Arcade::Sdl2Window	39
Arcade::SfmlWindow	46
Arcade::Time	47

Chapter 3

Class Index

3.1 Class List

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

Arcade::AGame	
Game Abstract Class	11
Arcade::Clock	12
Arcade::Core	
Core class	13
Arcade::Core::CoreException	
CoreException class	17
Arcade::EventManager	
EventManager class	18
Arcade::IGame	
Game Interface	18
Arcade::IRenderer	
Graphic Interface	19
Arcade::IWindow	
Window Interface	25
Arcade::NCursesRenderer	
NCursesRenderer class	26
Arcade::NCursesWindow	
NCursesWindow class	31
Arcade::RuntimeException	
RuntimeException class	32
Arcade::Sdl2Renderer	
Sdl2Renderer class	33
Arcade::Sdl2Window	
Sdl2Window class	39
Arcade::SfmlRenderer	
SfmlRenderer class	41
Arcade::SfmlWindow	
SfmlWindow class	46
Arcade::Time	47

Chapter 4

File Index

4.1 File List

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

Core/include/Arcade/ Constants.hpp	
File containing constant values used in the Arcade project	51
Core/include/Arcade/ Core.hpp	
File declaring Core	52
Core/include/Arcade/ EventManager.hpp	
File declaring EventsManager	52
Core/include/Arcade/ RuntimeException.hpp	
File declaring RuntimeException	53
Core/include/Arcade/abstractions/ AGame.hpp	
File declaring Game Abstract Class	49
Core/include/Arcade/abstractions/ IGame.hpp	
File declaring Game Interface	49
Core/include/Arcade/abstractions/ IRenderer.hpp	
File declaring Graphic Interface	50
Core/include/Arcade/abstractions/ IWindow.hpp	
File declaring Window Interface	50
Core/include/Arcade/Clock/ Clock.hpp	??
Core/include/Arcade/Clock/ Time.hpp	??
Graphics/NCurses/include/Arcade/ NCursesRenderer.hpp	
File declaring NCursesRenderer	53
Graphics/NCurses/include/Arcade/ NCursesWindow.hpp	
File declaring NCursesWindow	54
Graphics/SDL2/include/Arcade/ Sdl2Renderer.hpp	
File declaring Sdl2Renderer class	54
Graphics/SDL2/include/Arcade/ Sdl2Window.hpp	
File declaring Sdl2Window class	55
Graphics/SFML/include/Arcade/ SfmlRenderer.hpp	
File declaring SfmlRenderer class	55
Graphics/SFML/include/Arcade/ SfmlWindow.hpp	
File declaring SfmlWindow class	56

Chapter 5

Namespace Documentation

5.1 Arcade Namespace Reference

Main namespace for the [Arcade](#) project.

Classes

- class [AGame](#)
Game Abstract Class.
- class [IGame](#)
Game Interface.
- class [IRenderer](#)
Graphic Interface.
- class [IWindow](#)
Window Interface.
- class [Clock](#)
- class [Time](#)
- class [Core](#)
Core class.
- class [EventManager](#)
EventManager class.
- class [RuntimeException](#)
RuntimeException class.
- class [Sdl2Renderer](#)
Sdl2Renderer class.
- class [Sdl2Window](#)
Sdl2Window class.
- class [NCursesRenderer](#)
NCursesRenderer class.
- class [NCursesWindow](#)
NCursesWindow class.
- class [SfmlRenderer](#)
SfmlRenderer class.
- class [SfmlWindow](#)
SfmlWindow class.

Enumerations

- enum class **CoreMode** { **GAME** , **LOGIN** , **MENU** , **QUIT** }
- enum class **GameMode** { **GAME** , **GAME_OVER** , **LOGIN** , **MENU** , **PAUSE** }
- enum class **KeyboardEvents** { **DOWN** , **ENTER** , **ESC** , **F1** , **F2** , **LEFT** , **RIGHT** , **TEXTENTERED** , **UP** , **NONE** }

Enum for the KeyboardEvents.

5.1.1 Detailed Description

Main namespace for the [Arcade](#) project.

5.1.2 Enumeration Type Documentation

5.1.2.1 KeyboardEvents

```
enum Arcade::KeyboardEvents [strong]
```

Enum for the KeyboardEvents.

Set of enum used for the game event

Chapter 6

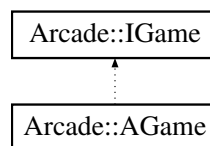
Class Documentation

6.1 Arcade::AGame Class Reference

Game Abstract Class.

```
#include <Arcade/abstractions/AGame.hpp>
```

Inheritance diagram for Arcade::AGame:



Public Member Functions

- void **start** (std::reference_wrapper< [IRenderer](#) > renderer, [Clock](#) &clock) override
start the game
- int **getScore** () const override
Get the score.
- GameMode **getGameMode** () const override
Get the game mode.

Protected Attributes

- int **_score** {0}
- [Clock](#) **_clock**
- [IRenderer](#) * **_renderer** {nullptr}
- GameMode **_gameMode** {GameMode::GAME}

6.1.1 Detailed Description

Game Abstract Class.

Set of method to implement for the business logic of the [Arcade](#) project

6.1.2 Member Function Documentation

6.1.2.1 `getGameMode()`

```
GameMode Arcade::AGame::getGameMode ( ) const [inline], [override], [virtual]
```

Get the game mode.

Returns

The game mode

Implements [Arcade::IGame](#).

6.1.2.2 `getScore()`

```
int Arcade::AGame::getScore ( ) const [inline], [override], [virtual]
```

Get the score.

Returns

The score

Implements [Arcade::IGame](#).

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

- Core/include/Arcade/abstractions/[AGame.hpp](#)

6.2 Arcade::Clock Class Reference

Public Types

- using [TimePoint](#) = std::chrono::time_point< std::chrono::high_resolution_clock >
TimePoint is a type alias for a time point which is a very long and complicated type in the standard library.

Public Member Functions

- [Clock](#) ()
Construct a new [Clock](#) object.
- void [restart](#) ()
Restart the clock.
- [Time](#) [getElapsedTime](#) () const
Get the elapsed time since the last restart.

6.2.1 Member Function Documentation

6.2.1.1 getElapsedTime()

`Time` Arcade::Clock::getElapsedTime () const

Get the elapsed time since the last restart.

Returns

`Time` The elapsed time

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

- Core/include/Arcade/Clock/Clock.hpp

6.3 Arcade::Core Class Reference

`Core` class.

```
#include <Arcade/Core.hpp>
```

Classes

- class `CoreException`
CoreException class.

Public Member Functions

- `Core` (const `Core` &)=delete
- `Core` & `operator=` (const `Core` &)=delete
- `Core` (const `Core` &&)=delete
- `Core` & `operator=` (const `Core` &&)=delete
- int `runArcade` (const std::string &path)
Run Arcade.
- void `getLibraries` (const std::string &libPath)
Get actives libraries.
- void `switchGraphicLibrary` ()
Switch Graphic library.
- template<typename T >
void `switchLib` (const std::string &libPath)
Switch library.
- void `mainLoop` ()
Game loop.
- void `setMode` (const CoreMode &gameMode)

- Set the game mode.*
- void [loadRenderer](#) (const std::string &path)
 - Load renderer.*
- void [loadMenu](#) ()
 - load Menu*
- void [displayMenu](#) ()
 - display menu*
- [IRenderer](#) * [getRenderer](#) ()
 - Get the renderer.*
- void [moveCursorDown](#) ()
- void [moveCursorUp](#) ()
- void [launchGame](#) ()
- void [setGameIndex](#) (size_t index)
- CoreMode [getMode](#) ()
- void [setUserName](#) (const std::string &userName)
- void [loadLogin](#) ()
- void [displayLoginScreen](#) ()

Static Public Member Functions

- static size_t [getNextLibIndex](#) (std::vector< std::string > &libs, size_t currentIndex)
 - Get next library index.*
- static size_t [getPreviousLibIndex](#) (std::vector< std::string > &libs, size_t currentIndex)
 - Get previous library index.*

6.3.1 Detailed Description

[Core](#) class.

[Core](#) class for the [Arcade](#) project

6.3.2 Member Function Documentation

6.3.2.1 getNextLibIndex()

```
static size_t Arcade::Core::getNextLibIndex (
    std::vector< std::string > & libs,
    size_t currentIndex ) [static]
```

Get next library index.

Parameters

<i>libs</i>	
<i>currentIndex</i>	

Returns

size_t

6.3.2.2 getPreviousLibIndex()

```
static size_t Arcade::Core::getPreviousLibIndex (
    std::vector< std::string > & libs,
    size_t currentIndex ) [static]
```

Get previous library index.

Parameters

<i>libs</i>	
<i>currentIndex</i>	

Returns

size_t

6.3.2.3 getRenderer()

```
IRenderer* Arcade::Core::getRenderer ( ) [inline]
```

Get the renderer.

Returns

The renderer

6.3.2.4 loadRenderer()

```
void Arcade::Core::loadRenderer (
    const std::string & path )
```

Load renderer.

Parameters

<i>path</i>	
-------------	--

6.3.2.5 mainLoop()

```
void Arcade::Core::mainLoop ( )
```

Game loop.

Main game loop

6.3.2.6 runArcade()

```
int Arcade::Core::runArcade (
    const std::string & path )
```

Run [Arcade](#).

Parameters

<i>path</i>	
-------------	--

Returns

int

6.3.2.7 setMode()

```
void Arcade::Core::setMode (
    const CoreMode & gameMode ) [inline]
```

Set the game mode.

Parameters

<i>gameMode</i>	
-----------------	--

6.3.2.8 switchLib()

```
template<typename T >
void Arcade::Core::switchLib (
    const std::string & libPath )
```

Switch library.

Template Parameters

<i>T</i>	
----------	--

Parameters

<i>libPath</i>	
----------------	--

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

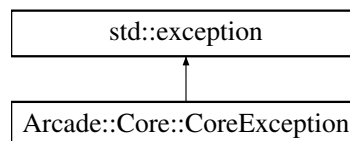
- Core/include/Arcade/[Core.hpp](#)

6.4 Arcade::Core::CoreException Class Reference

[CoreException](#) class.

```
#include <Arcade/Core.hpp>
```

Inheritance diagram for Arcade::Core::CoreException:



Public Member Functions

- **CoreException** (std::string msg)
- **CoreException** (const [CoreException](#) &)=delete
- [CoreException](#) & **operator=** (const [CoreException](#) &)=delete
- **CoreException** (const [CoreException](#) &&)=delete
- [CoreException](#) & **operator=** (const [CoreException](#) &&)=delete
- const char * **what** () const noexcept override

6.4.1 Detailed Description

[CoreException](#) class.

Exception class for the [Core](#) class

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

- Core/include/Arcade/[Core.hpp](#)

6.5 Arcade::EventManager Class Reference

[EventManager](#) class.

```
#include <Arcade/EventsManager.hpp>
```

Static Public Member Functions

- `template<typename T >`
`static void handleEvent (const std::map< const Arcade::KeyboardEvents, std::function< void(T &)>>>`
`&eventMap, T &object, const Arcade::KeyboardEvents &event)`

6.5.1 Detailed Description

[EventManager](#) class.

[EventManager](#) class for the [Arcade](#) project

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

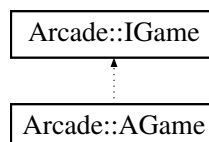
- `Core/include/Arcade/EventsManager.hpp`

6.6 Arcade::IGame Class Reference

Game Interface.

```
#include <Arcade/abstractions/IGame.hpp>
```

Inheritance diagram for `Arcade::IGame`:



Public Member Functions

- `virtual void start (std::reference_wrapper< IRenderer > renderer, Clock &clock)=0`
start the game
- `virtual void loadGame ()=0`
load the game
- `virtual void displayGame ()=0`
display the game
- `virtual void stop ()=0`
stop the game
- `virtual void handleEvents (KeyboardEvents event)=0`
handle the game event
- `virtual int getScore () const =0`
Get the score.
- `virtual GameMode getGameMode () const =0`
Get the game mode.

6.6.1 Detailed Description

Game Interface.

Set of method to implement for the business logic of the [Arcade](#) project

6.6.2 Member Function Documentation

6.6.2.1 `getGameMode()`

```
virtual GameMode Arcade::IGame::getGameMode ( ) const [pure virtual]
```

Get the game mode.

Returns

The game mode

Implemented in [Arcade::AGame](#).

6.6.2.2 `getScore()`

```
virtual int Arcade::IGame::getScore ( ) const [pure virtual]
```

Get the score.

Returns

The score

Implemented in [Arcade::AGame](#).

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

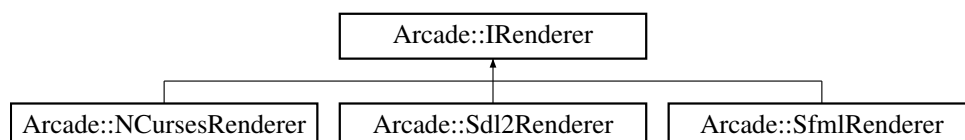
- [Core/include/Arcade/abstractions/IGame.hpp](#)

6.7 Arcade::IRenderer Class Reference

Graphic Interface.

```
#include <Arcade/abstractions/IRenderer.hpp>
```

Inheritance diagram for Arcade::IRenderer:



Public Member Functions

- virtual [IWindow](#) * [getWindow](#) ()=0
Retrieve the window associated with the renderer.
- virtual [KeyboardEvents](#) [getEvent](#) ()=0
Retrieve the current event from the window.
- virtual bool [isASCII](#) ()=0
Check if the renderer supports only ASCII characters.
- virtual bool [loadTexture](#) (const std::string &filepath, const std::string &name)=0
Load a texture from a file.
- virtual bool [loadFont](#) (const std::string &filepath, const std::string &name)=0
Load a font from a file.
- virtual void [createSprite](#) (const std::string &textureName, float pos_x, float pos_y, float scale_x, float scale_y)=0
Create a sprite with the specified parameters.
- virtual void [displaySprite](#) (const std::string &spriteName)=0
Display a sprite with the specified name.
- virtual void [createText](#) (const std::string &fontName, const std::string &text, int size, float pos_x, float pos_y)=0
Create a text object with the specified parameters.
- virtual void [displayText](#) (const std::string &textName)=0
Display a text object with the specified name.
- virtual void [moveText](#) (const std::string &textName, int pos_x, int pos_y)=0
Move a text object to the specified position.
- virtual void [loadSound](#) ()=0
Load a sound for menu.
- virtual void [stopSound](#) ()=0
Stop the sound for menu.
- virtual std::string [updateTextBox](#) ()=0
Update the text box for username input.
- virtual void [setSize](#) (float x, float y)=0

6.7.1 Detailed Description

Graphic Interface.

Set of method for the [Arcade](#) project

6.7.2 Member Function Documentation

6.7.2.1 createSprite()

```
virtual void Arcade::IRenderer::createSprite (
    const std::string & textureName,
    float pos_x,
    float pos_y,
    float scale_x,
    float scale_y ) [pure virtual]
```

Create a sprite with the specified parameters.

Parameters

<i>textureName</i>	The name of the texture to use for the sprite
<i>pos_x</i>	The x-coordinate of the sprite's position
<i>pos_y</i>	The y-coordinate of the sprite's position
<i>scale_x</i>	The scale factor for the sprite's width
<i>scale_y</i>	The scale factor for the sprite's height

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

6.7.2.2 createText()

```
virtual void Arcade::IRenderer::createText (
    const std::string & fontName,
    const std::string & text,
    int size,
    float pos_x,
    float pos_y ) [pure virtual]
```

Create a text object with the specified parameters.

Parameters

<i>fontName</i>	The name of the font to use for the text
<i>text</i>	The text to display
<i>size</i>	The size of the text
<i>pos_x</i>	The x-coordinate of the text's position
<i>pos_y</i>	The y-coordinate of the text's position

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

6.7.2.3 displaySprite()

```
virtual void Arcade::IRenderer::displaySprite (
    const std::string & spriteName ) [pure virtual]
```

Display a sprite with the specified name.

Parameters

<i>spriteName</i>	The name of the sprite to display
-------------------	-----------------------------------

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

6.7.2.4 displayText()

```
virtual void Arcade::IRenderer::displayText (
    const std::string & textName ) [pure virtual]
```

Display a text object with the specified name.

Parameters

<i>textName</i>	The name of the text to display
-----------------	---------------------------------

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

6.7.2.5 getEvent()

```
virtual KeyboardEvents Arcade::IRenderer::getEvent ( ) [pure virtual]
```

Retrieve the current event from the window.

Returns

The current event

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

6.7.2.6 getWindow()

```
virtual IWindow* Arcade::IRenderer::getWindow ( ) [pure virtual]
```

Retrieve the window associated with the renderer.

Returns

The window associated with the renderer

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

6.7.2.7 isASCII()

```
virtual bool Arcade::IRenderer::isASCII ( ) [pure virtual]
```

Check if the renderer supports only ASCII characters.

Returns

True if the renderer supports ASCII, false otherwise

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

6.7.2.8 loadFont()

```
virtual bool Arcade::IRenderer::loadFont (
    const std::string & filepath,
    const std::string & name ) [pure virtual]
```

Load a font from a file.

Parameters

<i>filepath</i>	The path to the font file
<i>name</i>	The name to associate with the font

Returns

True if the font was loaded successfully, false otherwise

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

6.7.2.9 loadTexture()

```
virtual bool Arcade::IRenderer::loadTexture (
    const std::string & filepath,
    const std::string & name ) [pure virtual]
```

Load a texture from a file.

Parameters

<i>filepath</i>	The path to the texture file
<i>name</i>	The name to associate with the texture

Returns

True if the texture was loaded successfully, false otherwise

Implemented in [Arcade::SfmlRenderer](#), [Arcade::NCursesRenderer](#), and [Arcade::Sdl2Renderer](#).

6.7.2.10 moveText()

```
virtual void Arcade::IRenderer::moveText (
    const std::string & textName,
    int pos_x,
    int pos_y ) [pure virtual]
```

Move a text object to the specified position.

Parameters

<i>textName</i>	The name of the text to move
<i>pos_x</i>	The x-coordinate of the new position
<i>pos_y</i>	The y-coordinate of the new position

Implemented in [Arcade::SfmlRenderer](#), [Arcade::Sdl2Renderer](#), and [Arcade::NCursesRenderer](#).

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

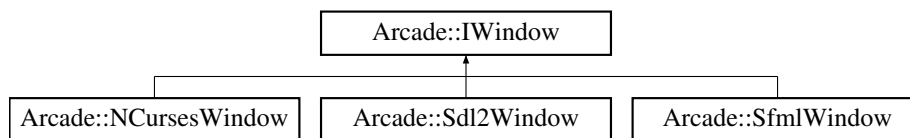
- [Core/include/Arcade/abstractions/IRenderer.hpp](#)

6.8 Arcade::IWindow Class Reference

Window Interface.

```
#include <Arcade/abstractions/IWindow.hpp>
```

Inheritance diagram for Arcade::IWindow:



Public Member Functions

- virtual void [openWindow](#) (unsigned int width, unsigned int height)=0
Create a window with the specified dimensions.
- virtual void [displayWindow](#) ()=0
Display the current window.
- virtual void [clearWindow](#) ()=0
Clear the contents of the current window.
- virtual void [closeWindow](#) ()=0
Close the current window.
- virtual void [setTitle](#) (const std::string &title)=0
Set the title of the window.

6.8.1 Detailed Description

Window Interface.

Set of method to implement for the business logic of the [Arcade](#) project

6.8.2 Member Function Documentation

6.8.2.1 openWindow()

```
virtual void Arcade::IWindow::openWindow (
    unsigned int width,
    unsigned int height ) [pure virtual]
```

Create a window with the specified dimensions.

Parameters

<i>width</i>	The width of the window
<i>height</i>	The height of the window

Implemented in [Arcade::SfmlWindow](#), [Arcade::Sdl2Window](#), and [Arcade::NCursesWindow](#).

6.8.2.2 setTitle()

```
virtual void Arcade::IWindow::setTitle (
    const std::string & title ) [pure virtual]
```

Set the title of the window.

Parameters

<i>title</i>	The new title of the window
--------------	-----------------------------

Implemented in [Arcade::SfmlWindow](#), [Arcade::Sdl2Window](#), and [Arcade::NCursesWindow](#).

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

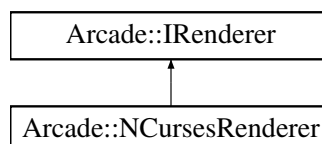
- [Core/include/Arcade/abstractions/IWindow.hpp](#)

6.9 Arcade::NCursesRenderer Class Reference

[NCursesRenderer](#) class.

```
#include <Arcade/NCursesRenderer.hpp>
```

Inheritance diagram for `Arcade::NCursesRenderer`:



Public Member Functions

- [KeyboardEvents](#) `getEvent ()` override
Retrieve the current event from the window.
- bool [loadTexture](#) (const std::string &texture, const std::string &name) override
Load a texture from a file.
- void [createSprite](#) (const std::string &textureName, float pos_x, float pos_y, float scale_x, float scale_y) override

- Create a sprite with the specified parameters.*

 - void [displaySprite](#) (const std::string &spriteName) override

Display a sprite with the specified name.
- bool [loadFont](#) (const std::string &filepath, const std::string &name) override

Load a font from a file.
- void [createText](#) (const std::string &fontName, const std::string &text, int size, float pos_x, float pos_y) override

Create a text object with the specified parameters.
- void [displayText](#) (const std::string &textName) override

Display a text object with the specified name.
- void [moveText](#) (const std::string &textName, int pos_x, int pos_y) override

Move a text object to the specified position.
- bool [isASCII](#) () override

Check if the renderer supports only ASCII characters.
- [IWindow](#) * [getWindow](#) () override

Retrieve the window associated with the renderer.
- void [loadSound](#) () override

Load a sound for menu.
- void [stopSound](#) () override

Stop the sound for menu.
- std::string [updateTextBox](#) () override

Update the text box for username input.
- void [setSize](#) (float x, float y) override

6.9.1 Detailed Description

[NCursesRenderer](#) class.

[NCursesRenderer](#) class for the [Arcade](#) project

6.9.2 Member Function Documentation

6.9.2.1 createSprite()

```
void Arcade::NCursesRenderer::createSprite (
    const std::string & textureName,
    float pos_x,
    float pos_y,
    float scale_x,
    float scale_y ) [inline], [override], [virtual]
```

Create a sprite with the specified parameters.

Parameters

<i>textureName</i>	The name of the texture to use for the sprite
<i>pos_x</i>	The x-coordinate of the sprite's position
<i>pos_y</i>	The y-coordinate of the sprite's position
<i>scale_x</i>	The scale factor for the sprite's width
<i>scale_y</i>	The scale factor for the sprite's height

Implements [Arcade::IRenderer](#).

6.9.2.2 createText()

```
void Arcade::NCursesRenderer::createText (
    const std::string & fontName,
    const std::string & text,
    int size,
    float pos_x,
    float pos_y ) [inline], [override], [virtual]
```

Create a text object with the specified parameters.

Parameters

<i>fontName</i>	The name of the font to use for the text
<i>text</i>	The text to display
<i>size</i>	The size of the text
<i>pos_x</i>	The x-coordinate of the text's position
<i>pos_y</i>	The y-coordinate of the text's position

Implements [Arcade::IRenderer](#).

6.9.2.3 displaySprite()

```
void Arcade::NCursesRenderer::displaySprite (
    const std::string & spriteName ) [inline], [override], [virtual]
```

Display a sprite with the specified name.

Parameters

<i>spriteName</i>	The name of the sprite to display
-------------------	-----------------------------------

Implements [Arcade::IRenderer](#).

6.9.2.4 displayText()

```
void Arcade::NCursesRenderer::displayText (
    const std::string & textName ) [inline], [override], [virtual]
```

Display a text object with the specified name.

Parameters

<i>textName</i>	The name of the text to display
-----------------	---------------------------------

Implements [Arcade::IRenderer](#).

6.9.2.5 getEvent()

```
KeyboardEvents Arcade::NCursesRenderer::getEvent ( ) [override], [virtual]
```

Retrieve the current event from the window.

Returns

The current event

Implements [Arcade::IRenderer](#).

6.9.2.6 getWindow()

```
IWindow* Arcade::NCursesRenderer::getWindow ( ) [inline], [override], [virtual]
```

Retrieve the window associated with the renderer.

Returns

The window associated with the renderer

Implements [Arcade::IRenderer](#).

6.9.2.7 isASCII()

```
bool Arcade::NCursesRenderer::isASCII ( ) [inline], [override], [virtual]
```

Check if the renderer supports only ASCII characters.

Returns

True if the renderer supports ASCII, false otherwise

Implements [Arcade::IRenderer](#).

6.9.2.8 loadFont()

```
bool Arcade::NCursesRenderer::loadFont (
    const std::string & filepath,
    const std::string & name ) [inline], [override], [virtual]
```

Load a font from a file.

Parameters

<i>filepath</i>	The path to the font file
<i>name</i>	The name to associate with the font

Returns

True if the font was loaded successfully, false otherwise

Implements [Arcade::IRenderer](#).

6.9.2.9 loadTexture()

```
bool Arcade::NCursesRenderer::loadTexture (
    const std::string & filepath,
    const std::string & name ) [inline], [override], [virtual]
```

Load a texture from a file.

Parameters

<i>filepath</i>	The path to the texture file
<i>name</i>	The name to associate with the texture

Returns

True if the texture was loaded successfully, false otherwise

Implements [Arcade::IRenderer](#).

6.9.2.10 moveText()

```
void Arcade::NCursesRenderer::moveText (
    const std::string & textName,
    int pos_x,
    int pos_y ) [inline], [override], [virtual]
```

Move a text object to the specified position.

Parameters

<i>textName</i>	The name of the text to move
<i>pos_x</i>	The x-coordinate of the new position
<i>pos_y</i>	The y-coordinate of the new position

Implements [Arcade::IRenderer](#).

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

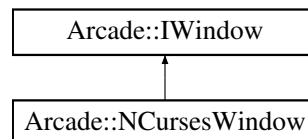
- Graphics/NCurses/include/Arcade/[NCursesRenderer.hpp](#)

6.10 Arcade::NCursesWindow Class Reference

[NCursesWindow](#) class.

```
#include <Arcade/NCursesWindow.hpp>
```

Inheritance diagram for Arcade::NCursesWindow:



Public Member Functions

- void [openWindow](#) (unsigned int width, unsigned int height) override
Create a window with the specified dimensions.
- void [displayWindow](#) () override
Display the current window.
- void [clearWindow](#) () override
Clear the contents of the current window.
- void [closeWindow](#) () override
Close the current window.
- void [setTitle](#) (const std::string &title) override
Set the title of the window.
- WINDOW * [getWindow](#) ()
Get the current window.

6.10.1 Detailed Description

[NCursesWindow](#) class.

[NCursesWindow](#) class for the [Arcade](#) project

6.10.2 Member Function Documentation

6.10.2.1 getWindow()

```
WINDOW* Arcade::NCursesWindow::getWindow ( ) [inline]
```

Get the current window.

Returns

The current window

6.10.2.2 openWindow()

```
void Arcade::NCursesWindow::openWindow (
    unsigned int width,
    unsigned int height ) [override], [virtual]
```

Create a window with the specified dimensions.

Parameters

<i>width</i>	The width of the window
<i>height</i>	The height of the window

Implements [Arcade::IWindow](#).

6.10.2.3 setTitle()

```
void Arcade::NCursesWindow::setTitle (
    const std::string & title ) [inline], [override], [virtual]
```

Set the title of the window.

Parameters

<i>title</i>	The new title of the window
--------------	-----------------------------

Implements [Arcade::IWindow](#).

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

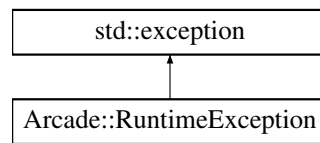
- Graphics/NCurses/include/Arcade/[NCursesWindow.hpp](#)

6.11 Arcade::RuntimeException Class Reference

[RuntimeException](#) class.

```
#include <Arcade/RuntimeException.hpp>
```

Inheritance diagram for Arcade::RuntimeException:



Public Member Functions

- **RuntimeException** (std::string msg)
- **RuntimeException** ([RuntimeException](#) const &)=delete
- const char * **what** () const noexcept override

6.11.1 Detailed Description

[RuntimeException](#) class.

[RuntimeException](#) class for the [Arcade](#) project

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

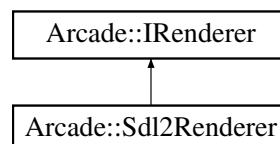
- Core/include/Arcade/[RuntimeException.hpp](#)

6.12 Arcade::Sdl2Renderer Class Reference

[Sdl2Renderer](#) class.

```
#include <Arcade/Sdl2Renderer.hpp>
```

Inheritance diagram for Arcade::Sdl2Renderer:



Public Member Functions

- [KeyboardEvents](#) [getEvent](#) () override
Retrieve the current event from the window.
- bool [loadTexture](#) (const std::string &filePath, const std::string &name) override
Load a texture from a file.
- bool [loadFont](#) (const std::string &filepath, const std::string &name) override
Load a font from a file.
- void [createSprite](#) (const std::string &textureName, float pos_x, float pos_y, float scale_x, float scale_y) override
Create a sprite with the specified parameters.
- void [createText](#) (const std::string &fontName, const std::string &text, int size, float pos_x, float pos_y) override
Create a text object with the specified parameters.
- void [displaySprite](#) (const std::string &spriteName) override
Display a sprite with the specified name.
- void [displayText](#) (const std::string &textName) override
Display a text object with the specified name.
- void [moveText](#) (const std::string &textName, int pos_x, int pos_y) override
Move a text object to the specified position.
- bool [isASCII](#) () override
Check if the renderer supports only ASCII characters.
- [IWindow](#) * [getWindow](#) () override
Retrieve the window associated with the renderer.
- void [loadSound](#) () override
Load a sound for menu.
- void [stopSound](#) () override
Stop the sound for menu.
- std::string [updateTextBox](#) () override
Update the text box for username input.
- void [setSize](#) (float x, float y) override

6.12.1 Detailed Description

[Sdl2Renderer](#) class.

[Sdl2Renderer](#) class for the [Arcade](#) project

6.12.2 Member Function Documentation

6.12.2.1 createSprite()

```
void Arcade::Sdl2Renderer::createSprite (
    const std::string & textureName,
    float pos_x,
    float pos_y,
    float scale_x,
    float scale_y ) [override], [virtual]
```

Create a sprite with the specified parameters.

Parameters

<i>textureName</i>	The name of the texture to use for the sprite
<i>pos_x</i>	The x-coordinate of the sprite's position
<i>pos_y</i>	The y-coordinate of the sprite's position
<i>scale_x</i>	The scale factor for the sprite's width
<i>scale_y</i>	The scale factor for the sprite's height

Implements [Arcade::IRenderer](#).

6.12.2.2 createText()

```
void Arcade::Sdl2Renderer::createText (
    const std::string & fontName,
    const std::string & text,
    int size,
    float pos_x,
    float pos_y ) [override], [virtual]
```

Create a text object with the specified parameters.

Parameters

<i>fontName</i>	The name of the font to use for the text
<i>text</i>	The text to display
<i>size</i>	The size of the text
<i>pos_x</i>	The x-coordinate of the text's position
<i>pos_y</i>	The y-coordinate of the text's position

Implements [Arcade::IRenderer](#).

6.12.2.3 displaySprite()

```
void Arcade::Sdl2Renderer::displaySprite (
    const std::string & spriteName ) [override], [virtual]
```

Display a sprite with the specified name.

Parameters

<i>spriteName</i>	The name of the sprite to display
-------------------	-----------------------------------

Implements [Arcade::IRenderer](#).

6.12.2.4 displayText()

```
void Arcade::Sdl2Renderer::displayText (
    const std::string & textName ) [override], [virtual]
```

Display a text object with the specified name.

Parameters

<i>textName</i>	The name of the text to display
-----------------	---------------------------------

Implements [Arcade::IRenderer](#).

6.12.2.5 getEvent()

```
KeyboardEvents Arcade::Sdl2Renderer::getEvent ( ) [override], [virtual]
```

Retrieve the current event from the window.

Returns

The current event

Implements [Arcade::IRenderer](#).

6.12.2.6 getWindow()

```
IWindow\* Arcade::Sdl2Renderer::getWindow ( ) [inline], [override], [virtual]
```

Retrieve the window associated with the renderer.

Returns

The window associated with the renderer

Implements [Arcade::IRenderer](#).

6.12.2.7 isASCII()

```
bool Arcade::Sdl2Renderer::isASCII ( ) [inline], [override], [virtual]
```

Check if the renderer supports only ASCII characters.

Returns

True if the renderer supports ASCII, false otherwise

Implements [Arcade::IRenderer](#).

6.12.2.8 loadFont()

```
bool Arcade::Sdl2Renderer::loadFont (
    const std::string & filepath,
    const std::string & name ) [override], [virtual]
```

Load a font from a file.

Parameters

<i>filepath</i>	The path to the font file
<i>name</i>	The name to associate with the font

Returns

True if the font was loaded successfully, false otherwise

Implements [Arcade::IRenderer](#).

6.12.2.9 loadTexture()

```
bool Arcade::Sdl2Renderer::loadTexture (
    const std::string & filepath,
    const std::string & name ) [override], [virtual]
```

Load a texture from a file.

Parameters

<i>filepath</i>	The path to the texture file
<i>name</i>	The name to associate with the texture

Returns

True if the texture was loaded successfully, false otherwise

Implements [Arcade::IRenderer](#).

6.12.2.10 moveText()

```
void Arcade::Sdl2Renderer::moveText (
    const std::string & textName,
    int pos_x,
    int pos_y ) [override], [virtual]
```

Move a text object to the specified position.

Parameters

<i>textName</i>	The name of the text to move
<i>pos_x</i>	The x-coordinate of the new position
<i>pos_y</i>	The y-coordinate of the new position

Implements [Arcade::IRenderer](#).

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

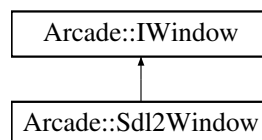
- Graphics/SDL2/include/Arcade/[Sdl2Renderer.hpp](#)

6.13 Arcade::Sdl2Window Class Reference

[Sdl2Window](#) class.

```
#include <Arcade/Sdl2Window.hpp>
```

Inheritance diagram for Arcade::Sdl2Window:



Public Member Functions

- void [openWindow](#) (unsigned int width, unsigned int height) override
Create a window with the specified dimensions.
- void [displayWindow](#) () override
Display the current window.
- void [clearWindow](#) () override
Clear the contents of the current window.
- void [closeWindow](#) () override
Close the current window.
- void [setTitle](#) (const std::string &title) override
Set the title of the window.
- SDL_Window * [getWindow](#) ()
Get the current window.
- SDL_Renderer * [getRenderer](#) ()
Get the current renderer.

6.13.1 Detailed Description

[Sdl2Window](#) class.

[Sdl2Window](#) class for the [Arcade](#) project

6.13.2 Member Function Documentation

6.13.2.1 `getRenderer()`

```
SDL_Renderer* Arcade::Sdl2Window::getRenderer ( ) [inline]
```

Get the current renderer.

Returns

The current renderer

6.13.2.2 `getWindow()`

```
SDL_Window* Arcade::Sdl2Window::getWindow ( ) [inline]
```

Get the current window.

Returns

The current window

6.13.2.3 `openWindow()`

```
void Arcade::Sdl2Window::openWindow (
    unsigned int width,
    unsigned int height ) [override], [virtual]
```

Create a window with the specified dimensions.

Parameters

<i>width</i>	The width of the window
<i>height</i>	The height of the window

Implements [Arcade::IWindow](#).

6.13.2.4 `setTitle()`

```
void Arcade::Sdl2Window::setTitle (
    const std::string & title ) [inline], [override], [virtual]
```

Set the title of the window.

Parameters

<i>title</i>	The new title of the window
--------------	-----------------------------

Implements [Arcade::IWindow](#).

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

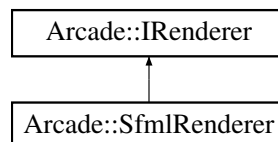
- Graphics/SDL2/include/Arcade/[Sdl2Window.hpp](#)

6.14 Arcade::SfmlRenderer Class Reference

[SfmlRenderer](#) class.

```
#include <Arcade/SfmlRenderer.hpp>
```

Inheritance diagram for `Arcade::SfmlRenderer`:



Public Member Functions

- bool [loadFont](#) (const std::string &filepath, const std::string &name) override
Load a font from a file.
- void [createText](#) (const std::string &fontName, const std::string &text, int size, float pos_x, float pos_y) override
Create a text object with the specified parameters.
- void [moveText](#) (const std::string &textName, int pos_x, int pos_y) override
Move a text object to the specified position.
- void [displayText](#) (const std::string &textName) override
Display a text object with the specified name.
- bool [loadTexture](#) (const std::string &texture, const std::string &name) override
Load a texture from a file.
- void [createSprite](#) (const std::string &textureName, float pos_x, float pos_y, float scale_x, float scale_y) override
Create a sprite with the specified parameters.
- void [displaySprite](#) (const std::string &spriteName) override
Display a sprite with the specified name.
- std::string [updateTextBox](#) () override
Update the text box for username input.
- void [loadSound](#) () override
Load a sound for menu.
- void [stopSound](#) () override
Stop the sound for menu.
- [IWindow](#) * [getWindow](#) () override
Retrieve the window associated with the renderer.
- [KeyboardEvents](#) [getEvent](#) () override
Retrieve the current event from the window.
- bool [isASCII](#) () override
Check if the renderer supports only ASCII characters.
- void [setSize](#) (float x, float y) override
- void [setInput](#) (const sf::Event &event)
Set the Input object.

6.14.1 Detailed Description

[SfmlRenderer](#) class.

[SfmlRenderer](#) class for the [Arcade](#) project

6.14.2 Member Function Documentation

6.14.2.1 createSprite()

```
void Arcade::SfmlRenderer::createSprite (
    const std::string & textureName,
    float pos_x,
    float pos_y,
    float scale_x,
    float scale_y ) [override], [virtual]
```

Create a sprite with the specified parameters.

Parameters

<i>textureName</i>	The name of the texture to use for the sprite
<i>pos_x</i>	The x-coordinate of the sprite's position
<i>pos_y</i>	The y-coordinate of the sprite's position
<i>scale_x</i>	The scale factor for the sprite's width
<i>scale_y</i>	The scale factor for the sprite's height

Implements [Arcade::IRenderer](#).

6.14.2.2 createText()

```
void Arcade::SfmlRenderer::createText (
    const std::string & fontName,
    const std::string & text,
    int size,
    float pos_x,
    float pos_y ) [override], [virtual]
```

Create a text object with the specified parameters.

Parameters

<i>fontName</i>	The name of the font to use for the text
<i>text</i>	The text to display
<i>size</i>	The size of the text
<i>pos_x</i>	The x-coordinate of the text's position
<i>pos_y</i>	The y-coordinate of the text's position

Implements [Arcade::IRenderer](#).

6.14.2.3 displaySprite()

```
void Arcade::SfmlRenderer::displaySprite (
    const std::string & spriteName ) [override], [virtual]
```

Display a sprite with the specified name.

Parameters

<i>spriteName</i>	The name of the sprite to display
-------------------	-----------------------------------

Implements [Arcade::IRenderer](#).

6.14.2.4 displayText()

```
void Arcade::SfmlRenderer::displayText (
    const std::string & textName ) [override], [virtual]
```

Display a text object with the specified name.

Parameters

<i>textName</i>	The name of the text to display
-----------------	---------------------------------

Implements [Arcade::IRenderer](#).

6.14.2.5 getEvent()

```
KeyboardEvents Arcade::SfmlRenderer::getEvent ( ) [override], [virtual]
```

Retrieve the current event from the window.

Returns

The current event

Implements [Arcade::IRenderer](#).

6.14.2.6 getWindow()

```
IWindow* Arcade::SfmlRenderer::getWindow ( ) [inline], [override], [virtual]
```

Retrieve the window associated with the renderer.

Returns

The window associated with the renderer

Implements [Arcade::IRenderer](#).

6.14.2.7 isASCII()

```
bool Arcade::SfmlRenderer::isASCII ( ) [inline], [override], [virtual]
```

Check if the renderer supports only ASCII characters.

Returns

True if the renderer supports ASCII, false otherwise

Implements [Arcade::IRenderer](#).

6.14.2.8 loadFont()

```
bool Arcade::SfmlRenderer::loadFont (
    const std::string & filepath,
    const std::string & name ) [override], [virtual]
```

Load a font from a file.

Parameters

<i>filepath</i>	The path to the font file
<i>name</i>	The name to associate with the font

Returns

True if the font was loaded successfully, false otherwise

Implements [Arcade::IRenderer](#).

6.14.2.9 loadTexture()

```
bool Arcade::SfmlRenderer::loadTexture (
    const std::string & filepath,
    const std::string & name ) [override], [virtual]
```

Load a texture from a file.

Parameters

<i>filepath</i>	The path to the texture file
<i>name</i>	The name to associate with the texture

Returns

True if the texture was loaded successfully, false otherwise

Implements [Arcade::IRenderer](#).

6.14.2.10 moveText()

```
void Arcade::SfmlRenderer::moveText (
    const std::string & textName,
    int pos_x,
    int pos_y ) [override], [virtual]
```

Move a text object to the specified position.

Parameters

<i>textName</i>	The name of the text to move
<i>pos_x</i>	The x-coordinate of the new position
<i>pos_y</i>	The y-coordinate of the new position

Implements [Arcade::IRenderer](#).

6.14.2.11 setInput()

```
void Arcade::SfmlRenderer::setInput (
    const sf::Event & event )
```

Set the Input object.

used for username input

Parameters

<i>event</i>	The event to set
--------------	------------------

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

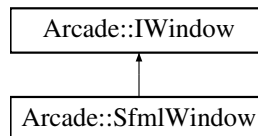
- Graphics/SFML/include/Arcade/[SfmlRenderer.hpp](#)

6.15 Arcade::SfmlWindow Class Reference

[SfmlWindow](#) class.

```
#include <Arcade/SfmlWindow.hpp>
```

Inheritance diagram for Arcade::SfmlWindow:



Public Member Functions

- void [openWindow](#) (unsigned int width, unsigned int height) override
Create a window with the specified dimensions.
- void [displayWindow](#) () override
Display the current window.
- void [clearWindow](#) () override
Clear the contents of the current window.
- void [closeWindow](#) () override
Close the current window.
- void [setTitle](#) (const std::string &title) override
Set the title of the window.
- sf::RenderWindow * [getWindow](#) ()
Get the current window.

6.15.1 Detailed Description

[SfmlWindow](#) class.

[SfmlWindow](#) class for the [Arcade](#) project

6.15.2 Member Function Documentation

6.15.2.1 getWindow()

```
sf::RenderWindow* Arcade::SfmlWindow::getWindow ( ) [inline]
```

Get the current window.

Returns

The current window

6.15.2.2 openWindow()

```
void Arcade::SfmlWindow::openWindow (
    unsigned int width,
    unsigned int height ) [override], [virtual]
```

Create a window with the specified dimensions.

Parameters

<i>width</i>	The width of the window
<i>height</i>	The height of the window

Implements [Arcade::IWindow](#).

6.15.2.3 setTitle()

```
void Arcade::SfmlWindow::setTitle (
    const std::string & title ) [inline], [override], [virtual]
```

Set the title of the window.

Parameters

<i>title</i>	The new title of the window
--------------	-----------------------------

Implements [Arcade::IWindow](#).

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

- Graphics/SFML/include/Arcade/[SfmlWindow.hpp](#)

6.16 Arcade::Time Class Reference

Public Member Functions

- [Time](#) (double seconds)

Construct a new *Time* object.

- int *asSeconds* () const

Transform the time to seconds.

- int *asMilliseconds* () const

Transform the time to milliseconds.

- int *asMicroseconds* () const

Transform the time to microseconds.

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

- Core/include/Arcade/Clock/Time.hpp

Chapter 7

File Documentation

7.1 Core/include/Arcade/abstractions/AGame.hpp File Reference

File declaring Game Abstract Class.

```
#include "Arcade/abstractions/IGame.hpp"
```

Classes

- class [Arcade::AGame](#)
Game Abstract Class.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.1.1 Detailed Description

File declaring Game Abstract Class.

7.2 Core/include/Arcade/abstractions/IGame.hpp File Reference

File declaring Game Interface.

```
#include <functional>
#include "Arcade/abstractions/IRenderer.hpp"
#include "Arcade/Constants.hpp"
#include "Arcade/Clock/Clock.hpp"
```

Classes

- class [Arcade::IGame](#)
Game Interface.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.2.1 Detailed Description

File declaring Game Interface.

7.3 Core/include/Arcade/abstractions/IRenderer.hpp File Reference

File declaring Graphic Interface.

```
#include "Arcade/Constants.hpp"  
#include "Arcade/abstractions/IWindow.hpp"
```

Classes

- class [Arcade::IRenderer](#)
Graphic Interface.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.3.1 Detailed Description

File declaring Graphic Interface.

7.4 Core/include/Arcade/abstractions/IWindow.hpp File Reference

File declaring Window Interface.

```
#include <iostream>
```


Classes

- class [Arcade::IWindow](#)
Window Interface.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.4.1 Detailed Description

File declaring Window Interface.

7.5 Core/include/Arcade/Constants.hpp File Reference

File containing constant values used in the [Arcade](#) project.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

Enumerations

- enum class **CoreMode** { **GAME** , **LOGIN** , **MENU** , **QUIT** }
- enum class **GameMode** { **GAME** , **GAME_OVER** , **LOGIN** , **MENU** , **PAUSE** }
- enum class [Arcade::KeyboardEvents](#) { **DOWN** , **ENTER** , **ESC** , **F1** , **F2** , **LEFT** , **RIGHT** , **TEXTENTERED** , **UP** , **NONE** }
Enum for the KeyboardEvents.

7.5.1 Detailed Description

File containing constant values used in the [Arcade](#) project.

This file provides a set of constant values that are used throughout the [Arcade](#) project.

7.6 Core/include/Arcade/Core.hpp File Reference

File declaring Core.

```
#include <memory>
#include <vector>
#include "Arcade/abstractions/IRenderer.hpp"
#include "Arcade/abstractions/IWindow.hpp"
#include "Arcade/abstractions/IGame.hpp"
```

Classes

- class [Arcade::Core](#)
Core class.
- class [Arcade::Core::CoreException](#)
CoreException class.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.6.1 Detailed Description

File declaring Core.

7.7 Core/include/Arcade/EventManager.hpp File Reference

File declaring EventManager.

```
#include <map>
#include <functional>
#include "Arcade/Core.hpp"
#include "Arcade/Constants.hpp"
```

Classes

- class [Arcade::EventManager](#)
EventManager class.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.7.1 Detailed Description

File declaring EventsManager.

7.8 Core/include/Arcade/RuntimeException.hpp File Reference

File declaring RuntimeException.

```
#include <iostream>
#include <exception>
```

Classes

- class [Arcade::RuntimeException](#)
RuntimeException class.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.8.1 Detailed Description

File declaring RuntimeException.

7.9 Graphics/NCurses/include/Arcade/NCursesRenderer.hpp File Reference

File declaring NCursesRenderer.

```
#include <ncurses.h>
#include "Arcade/abstractions/IRenderer.hpp"
#include "Arcade/NCursesWindow.hpp"
```

Classes

- class [Arcade::NCursesRenderer](#)
NCursesRenderer class.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.9.1 Detailed Description

File declaring NCursesRenderer.

7.10 Graphics/NCurses/include/Arcade/NCursesWindow.hpp File Reference

File declaring NCursesWindow.

```
#include <ncurses.h>
#include "Arcade/abstractions/IWindow.hpp"
```

Classes

- class [Arcade::NCursesWindow](#)
NCursesWindow class.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.10.1 Detailed Description

File declaring NCursesWindow.

7.11 Graphics/SDL2/include/Arcade/Sdl2Renderer.hpp File Reference

File declaring Sdl2Renderer class.

```
#include <map>
#include <SDL2/SDL.h>
#include <SDL2/SDL_ttf.h>
#include <SDL2/SDL_image.h>
#include <SDL2/SDL_mixer.h>
#include "Arcade/abstractions/IRenderer.hpp"
#include "Arcade/Sdl2Window.hpp"
```

Classes

- class [Arcade::Sdl2Renderer](#)
Sdl2Renderer class.

Namespaces

- [Arcade](#)

Main namespace for the [Arcade](#) project.

7.11.1 Detailed Description

File declaring Sdl2Renderer class.

7.12 Graphics/SDL2/include/Arcade/Sdl2Window.hpp File Reference

File declaring Sdl2Window class.

```
#include <SDL2/SDL.h>
#include <SDL2/SDL_ttf.h>
#include <SDL2/SDL_image.h>
#include "Arcade/abstractions/IWindow.hpp"
```

Classes

- class [Arcade::Sdl2Window](#)
Sdl2Window class.

Namespaces

- [Arcade](#)

Main namespace for the [Arcade](#) project.

7.12.1 Detailed Description

File declaring Sdl2Window class.

7.13 Graphics/SFML/include/Arcade/SfmlRenderer.hpp File Reference

File declaring SfmlRenderer class.

```
#include <SFML/Graphics.hpp>
#include <SFML/Audio.hpp>
#include "Arcade/abstractions/IRenderer.hpp"
#include "Arcade/abstractions/IWindow.hpp"
#include "Arcade/SfmlWindow.hpp"
```

Classes

- class [Arcade::SfmlRenderer](#)
SfmlRenderer class.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.13.1 Detailed Description

File declaring SfmlRenderer class.

7.14 Graphics/SFML/include/Arcade/SfmlWindow.hpp File Reference

File declaring SfmlWindow class.

```
#include <SFML/Graphics.hpp>
#include "Arcade/abstractions/IRenderer.hpp"
#include "Arcade/abstractions/IWindow.hpp"
```

Classes

- class [Arcade::SfmlWindow](#)
SfmlWindow class.

Namespaces

- [Arcade](#)
Main namespace for the [Arcade](#) project.

7.14.1 Detailed Description

File declaring SfmlWindow class.

Index

- Arcade, [9](#)
 - KeyboardEvents, [10](#)
- Arcade::AGame, [11](#)
 - getGameMode, [12](#)
 - getScore, [12](#)
- Arcade::Clock, [12](#)
 - getElapsedTime, [13](#)
- Arcade::Core, [13](#)
 - getNextLibIndex, [14](#)
 - getPreviousLibIndex, [15](#)
 - getRenderer, [15](#)
 - loadRenderer, [15](#)
 - mainLoop, [16](#)
 - runArcade, [16](#)
 - setMode, [16](#)
 - switchLib, [16](#)
- Arcade::Core::CoreException, [17](#)
- Arcade::EventManager, [18](#)
- Arcade::IGame, [18](#)
 - getGameMode, [19](#)
 - getScore, [19](#)
- Arcade::IRenderer, [19](#)
 - createSprite, [20](#)
 - createText, [21](#)
 - displaySprite, [21](#)
 - displayText, [21](#)
 - getEvent, [22](#)
 - getWindow, [22](#)
 - isASCII, [22](#)
 - loadFont, [22](#)
 - loadTexture, [24](#)
 - moveText, [24](#)
- Arcade::IWindow, [25](#)
 - openWindow, [25](#)
 - setTitle, [26](#)
- Arcade::NCursesRenderer, [26](#)
 - createSprite, [27](#)
 - createText, [28](#)
 - displaySprite, [28](#)
 - displayText, [28](#)
 - getEvent, [29](#)
 - getWindow, [29](#)
 - isASCII, [29](#)
 - loadFont, [29](#)
 - loadTexture, [30](#)
 - moveText, [30](#)
- Arcade::NCursesWindow, [31](#)
 - getWindow, [31](#)
 - openWindow, [32](#)
 - setTitle, [32](#)
- Arcade::RuntimeException, [32](#)
- Arcade::Sdl2Renderer, [33](#)
 - createSprite, [34](#)
 - createText, [35](#)
 - displaySprite, [35](#)
 - displayText, [35](#)
 - getEvent, [36](#)
 - getWindow, [36](#)
 - isASCII, [36](#)
 - loadFont, [36](#)
 - loadTexture, [38](#)
 - moveText, [38](#)
- Arcade::Sdl2Window, [39](#)
 - getRenderer, [39](#)
 - getWindow, [40](#)
 - openWindow, [40](#)
 - setTitle, [40](#)
- Arcade::SfmlRenderer, [41](#)
 - createSprite, [42](#)
 - createText, [42](#)
 - displaySprite, [43](#)
 - displayText, [43](#)
 - getEvent, [43](#)
 - getWindow, [43](#)
 - isASCII, [44](#)
 - loadFont, [44](#)
 - loadTexture, [44](#)
 - moveText, [45](#)
 - setInput, [45](#)
- Arcade::SfmlWindow, [46](#)
 - getWindow, [46](#)
 - openWindow, [47](#)
 - setTitle, [47](#)
- Arcade::Time, [47](#)
- Core/include/Arcade/abstractions/AGame.hpp, [49](#)
- Core/include/Arcade/abstractions/IGame.hpp, [49](#)
- Core/include/Arcade/abstractions/IRenderer.hpp, [50](#)
- Core/include/Arcade/abstractions/IWindow.hpp, [50](#)
- Core/include/Arcade/Constants.hpp, [51](#)
- Core/include/Arcade/Core.hpp, [52](#)
- Core/include/Arcade/EventManager.hpp, [52](#)
- Core/include/Arcade/RuntimeException.hpp, [53](#)
- createSprite
 - Arcade::IRenderer, [20](#)
 - Arcade::NCursesRenderer, [27](#)
 - Arcade::Sdl2Renderer, [34](#)
 - Arcade::SfmlRenderer, [42](#)
- createText

- Arcade::IRenderer, [21](#)
 - Arcade::NCursesRenderer, [28](#)
 - Arcade::Sdl2Renderer, [35](#)
 - Arcade::SfmlRenderer, [42](#)
- displaySprite
 - Arcade::IRenderer, [21](#)
 - Arcade::NCursesRenderer, [28](#)
 - Arcade::Sdl2Renderer, [35](#)
 - Arcade::SfmlRenderer, [43](#)
- displayText
 - Arcade::IRenderer, [21](#)
 - Arcade::NCursesRenderer, [28](#)
 - Arcade::Sdl2Renderer, [35](#)
 - Arcade::SfmlRenderer, [43](#)
- getElapsedTime
 - Arcade::Clock, [13](#)
- getEvent
 - Arcade::IRenderer, [22](#)
 - Arcade::NCursesRenderer, [29](#)
 - Arcade::Sdl2Renderer, [36](#)
 - Arcade::SfmlRenderer, [43](#)
- getGameMode
 - Arcade::AGame, [12](#)
 - Arcade::IGame, [19](#)
- getNextLibIndex
 - Arcade::Core, [14](#)
- getPreviousLibIndex
 - Arcade::Core, [15](#)
- getRenderer
 - Arcade::Core, [15](#)
 - Arcade::Sdl2Window, [39](#)
- getScore
 - Arcade::AGame, [12](#)
 - Arcade::IGame, [19](#)
- getWindow
 - Arcade::IRenderer, [22](#)
 - Arcade::NCursesRenderer, [29](#)
 - Arcade::NCursesWindow, [31](#)
 - Arcade::Sdl2Renderer, [36](#)
 - Arcade::Sdl2Window, [40](#)
 - Arcade::SfmlRenderer, [43](#)
 - Arcade::SfmlWindow, [46](#)
- Graphics/NCurses/include/Arcade/NCursesRenderer.hpp, [53](#)
- Graphics/NCurses/include/Arcade/NCursesWindow.hpp, [54](#)
- Graphics/SDL2/include/Arcade/Sdl2Renderer.hpp, [54](#)
- Graphics/SDL2/include/Arcade/Sdl2Window.hpp, [55](#)
- Graphics/SFML/include/Arcade/SfmlRenderer.hpp, [55](#)
- Graphics/SFML/include/Arcade/SfmlWindow.hpp, [56](#)
- isASCII
 - Arcade::IRenderer, [22](#)
 - Arcade::NCursesRenderer, [29](#)
 - Arcade::Sdl2Renderer, [36](#)
 - Arcade::SfmlRenderer, [44](#)
- KeyboardEvents
 - Arcade, [10](#)
- loadFont
 - Arcade::IRenderer, [22](#)
 - Arcade::NCursesRenderer, [29](#)
 - Arcade::Sdl2Renderer, [36](#)
 - Arcade::SfmlRenderer, [44](#)
- loadRenderer
 - Arcade::Core, [15](#)
- loadTexture
 - Arcade::IRenderer, [24](#)
 - Arcade::NCursesRenderer, [30](#)
 - Arcade::Sdl2Renderer, [38](#)
 - Arcade::SfmlRenderer, [44](#)
- mainLoop
 - Arcade::Core, [16](#)
- moveText
 - Arcade::IRenderer, [24](#)
 - Arcade::NCursesRenderer, [30](#)
 - Arcade::Sdl2Renderer, [38](#)
 - Arcade::SfmlRenderer, [45](#)
- openWindow
 - Arcade::IWindow, [25](#)
 - Arcade::NCursesWindow, [32](#)
 - Arcade::Sdl2Window, [40](#)
 - Arcade::SfmlWindow, [47](#)
- runArcade
 - Arcade::Core, [16](#)
- setInput
 - Arcade::SfmlRenderer, [45](#)
- setMode
 - Arcade::Core, [16](#)
- setTitle
 - Arcade::IWindow, [26](#)
 - Arcade::NCursesWindow, [32](#)
 - Arcade::Sdl2Window, [40](#)
 - Arcade::SfmlWindow, [47](#)
- switchLib
 - Arcade::Core, [16](#)