Arcade

1.0

Chapter 1

How to implement your own game / library

Game

- First, you wanna create a c++ class implementing the IGameModule interface.

- Next you wanna compile it into a dynamic library (.so file).

- Put that library file in the `games/` folder located at the root of the arcade repository.

Every class contained by the libraries located in the `games/` folder are

going to be instanciated thanks to the symbol `createLib` that your library **must** contain.

```cpp
extern "C" std::unique_ptr<Arcade::Games::IGameModule> createLib(void)
{
    return std::make_unique<MyGameModule>();
}
```

Library

- First, you wanna create a c++ class implementing the IDisplayModule interface.

- Next you wanna compile it into a dynamic library (.so file).

- Put that library file in the `lib/` folder located at the root of the arcade repository.

Every class contained by the libraries located in the `lib/` folder are going to be instanciated thanks to the symbol `createLib` that your library **must** contain.

```cpp
extern "C" std::unique_ptr<Arcade::Display::IDisplayModule> createLib(void)
{
    return std::make_unique<MyDisplayModule>();
}
```

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

Chapter 3

Class Index

3.1 Class List

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

Chapter 4

Class Documentation

4.1 Arcade::Games::AGameModule Class Reference

Inheritance diagram for Arcade::Games::AGameModule:
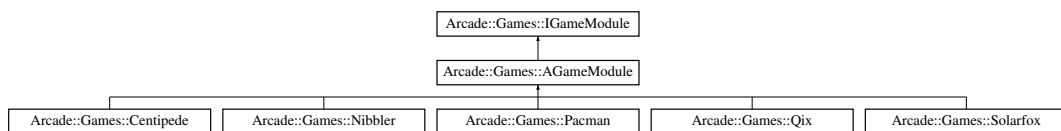
Public Member Functions

- **AGameModule** (std::string const &libname)
- bool **loadFromFile** (const std::string &filepath) final
- bool **loadFromFile** () final
- bool **saveToFile** (const std::string &filepath) const final
- bool **saveToFile** () const final
- void **setPlayerName** (const std::string &name) final
- std::pair< std::string, int > **getScore** () const final
- std::vector< std::pair< std::string, int > > **getBestScores** () const final
- void render (Arcade::Display::IDisplayModule &lib) const override
- const std::string & **getLibName** () const final

Protected Member Functions

- void **addToBestScores** (int nb)

Protected Attributes

- int **_currentScore**

4.1.1 Member Function Documentation

4.1.1.1 render()

```
void Arcade::Games::AGameModule::render (
            Arcade::Display::IDisplayModule & lib ) const  [override], [virtual]
```

Default game implementation (out of order)

Implements Arcade::Games::IGameModule.

Reimplemented in Arcade::Games::Nibbler, and Arcade::Games::Pacman.

4.2   Arcade::Exceptions::ArcadeException Class Reference

Inheritance diagram for Arcade::Exceptions::ArcadeException:
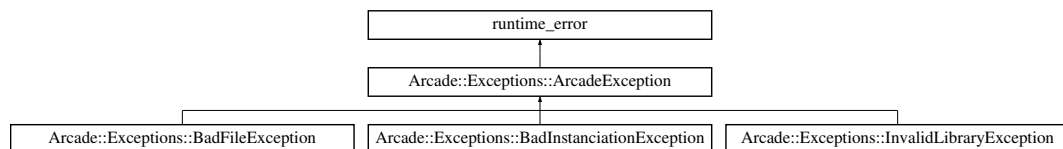
Public Member Functions

- **ArcadeException** (std::string const &message, std::string const &component)
- std::string const & **getComponent** (void) const noexcept

4.3   Arcade::Exceptions::BadFileException Class Reference

Inheritance diagram for Arcade::Exceptions::BadFileException:

Public Member Functions

- **BadFileException** (std::string const &message, std::string const &component)

4.4 Arcade::Exceptions::BadInstanciationException Class Reference

Inheritance diagram for Arcade::Exceptions::BadInstanciationException:

```
┌─────────────────────────────────────────────────┐
│                  runtime_error                   │
└─────────────────────────────────────────────────┘
                        ▲
                        │
┌─────────────────────────────────────────────────┐
│        Arcade::Exceptions::ArcadeException       │
└─────────────────────────────────────────────────┘
                        ▲
                        │
┌─────────────────────────────────────────────────┐
│  Arcade::Exceptions::BadInstanciationException   │
└─────────────────────────────────────────────────┘
```
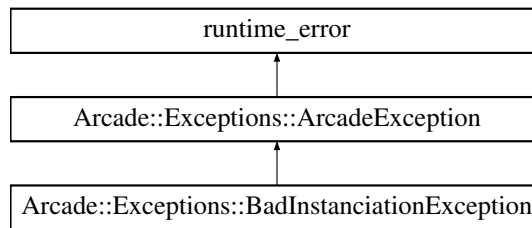
Public Member Functions

- **BadInstanciationException** (std::string const &message, std::string const &component)

4.5 Arcade::Games::Centipede Class Reference

Inheritance diagram for Arcade::Games::Centipede:
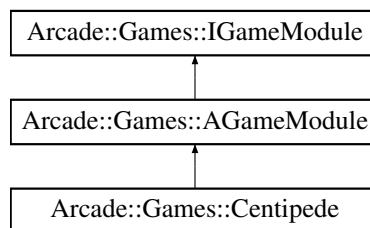
```
┌─────────────────────────────────────┐
│      Arcade::Games::IGameModule      │
└─────────────────────────────────────┘
                   ▲
                   │
┌─────────────────────────────────────┐
│      Arcade::Games::AGameModule      │
└─────────────────────────────────────┘
                   ▲
                   │
┌─────────────────────────────────────┐
│       Arcade::Games::Centipede       │
└─────────────────────────────────────┘
```
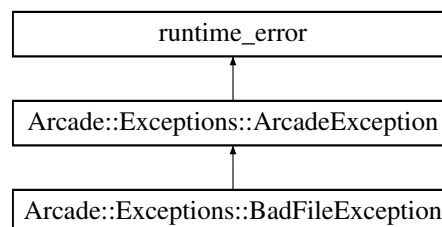
Public Member Functions

- void **reset** () final
- void **update** (const Arcade::Display::IDisplayModule &lib) final

Additional Inherited Members

4.6 Arcade::Core Class Reference

Public Member Functions

- **Core** (const std::string &startLibraryPath)
- void **play** ()

4.7 Arcade::Display::IDisplayModule Class Reference

Inheritance diagram for Arcade::Display::IDisplayModule:

```
              ┌─────────────────────────────────┐
              │   Arcade::Display::IDisplayModule │
              └─────────────────────────────────┘
                              ▲
         ┌────────────────────┼────────────────────┐
┌──────────────────────┐ ┌──────────────────────┐ ┌──────────────────────┐
│ Arcade::Display::Libcaca │ │  Arcade::Display::SDL  │ │  Arcade::Display::SFML │
└──────────────────────┘ └──────────────────────┘ └──────────────────────┘
```

Public Types

- enum **Colors** {
  DEFAULT, **BLACK**, **RED**, **GREEN**,
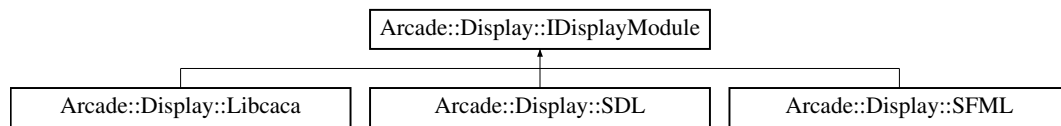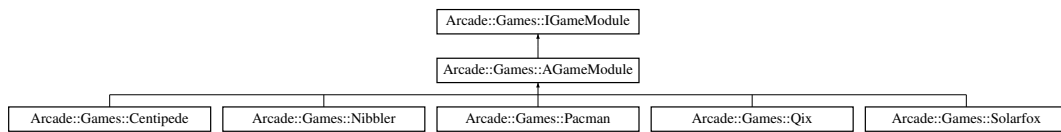 **YELLOW**, **BLUE**, **MAGENTA**, **CYAN**,
  LIGHT_GRAY, **DARK_GRAY**, **LIGHT_RED**, **LIGHT_GREEN**,
  LIGHT_YELLOW, **LIGHT_BLUE**, **LIGHT_MAGENTA**, **LIGHT_CYAN**,
  WHITE, **COLORS_END** }
- enum **Keys** {
  LEFT, **RIGHT**, **UP**, **DOWN**,
  Z, **Q**, **S**, **D**,
  A, **E**, **W**, **X**,
  SPACE, **ESCAPE**, **J**, **K**,
  U, **I**, **M**, **R**,
  ENTER, **KEYS_END** }

Public Member Functions

- virtual void **reset** ()=0
- virtual void **open** ()=0
- virtual bool **isOpen** () const =0
- virtual bool **switchToNextLib** () const =0
- virtual bool **switchToPreviousLib** () const =0
- virtual bool **switchToNextGame** () const =0
- virtual bool **switchToPreviousGame** () const =0
- virtual bool **shouldBeRestarted** () const =0
- virtual bool **shouldGoToMenu** () const =0
- virtual bool **shouldExit** () const =0
- virtual bool **isKeyPressed** (IDisplayModule::Keys) const =0
- virtual bool **isKeyPressedOnce** (IDisplayModule::Keys) const =0
- virtual float **getDelta** () const =0
- virtual void **clear** () const =0
- virtual void **update** ()=0
- virtual void **render** () const =0
- virtual char **getKeyCode** () const =0
- virtual void **setColor** (IDisplayModule::Colors col)=0
- virtual void **putPixel** (float x, float y) const =0
- virtual void **putLine** (float x1, float y1, float x2, float y2) const =0
- virtual void **putRect** (float x, float y, float w, float h) const =0
- virtual void **putFillRect** (float x, float y, float w, float h) const =0
- virtual void **putCircle** (float x, float y, float rad) const =0
- virtual void **putFillCircle** (float x, float y, float rad) const =0
- virtual void **putText** (const std::string &text, unsigned int size, float x, float y) const =0
- virtual const std::string & **getLibName** () const =0

4.8 Arcade::Games::IGameModule Class Reference

Inheritance diagram for Arcade::Games::IGameModule:

```
                            Arcade::Games::IGameModule

                            Arcade::Games::AGameModule

  Arcade::Games::Centipede  Arcade::Games::Nibbler  Arcade::Games::Pacman  Arcade::Games::Qix  Arcade::Games::Solarfox
```
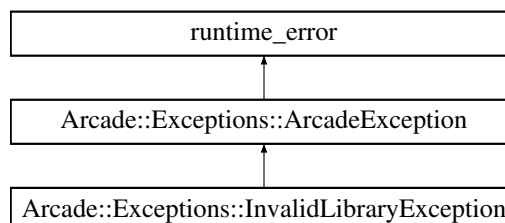
Public Member Functions

- virtual void **reset** ()=0
- virtual bool **loadFromFile** (const std::string &filepath)=0
- virtual bool **loadFromFile** ()=0
- virtual bool **saveToFile** (const std::string &filepath) const =0
- virtual bool **saveToFile** () const =0
- virtual void **setPlayerName** (const std::string &name)=0
- virtual std::pair< std::string, int > **getScore** () const =0
- virtual std::vector< std::pair< std::string, int > > **getBestScores** () const =0
- virtual void **update** (const Arcade::Display::IDisplayModule &lib)=0
- virtual void **render** (Arcade::Display::IDisplayModule &lib) const =0
- virtual const std::string & **getLibName** () const =0

4.9 Arcade::Exceptions::InvalidLibraryException Class Reference

Inheritance diagram for Arcade::Exceptions::InvalidLibraryException:

```
                            runtime_error

                  Arcade::Exceptions::ArcadeException

                Arcade::Exceptions::InvalidLibraryException
```
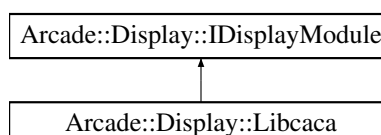
Public Member Functions

- **InvalidLibraryException** (std::string const &message, std::string const &component)

4.10 Arcade::Display::Libcaca Class Reference

Inheritance diagram for Arcade::Display::Libcaca:

```
                  Arcade::Display::IDisplayModule

                    Arcade::Display::Libcaca
```
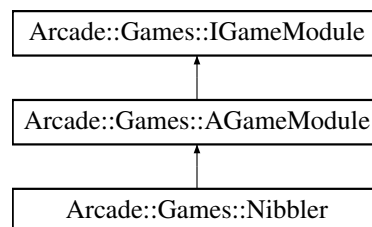
Public Member Functions

- void **reset** () final
- void **open** () final
- bool **isOpen** () const final
- bool **switchToNextLib** () const final
- bool **switchToPreviousLib** () const final
- bool **switchToNextGame** () const final
- bool **switchToPreviousGame** () const final
- bool **shouldBeRestarted** () const final
- bool **shouldGoToMenu** () const final
- bool **shouldExit** () const final
- bool **isKeyPressed** (IDisplayModule::Keys) const final
- bool **isKeyPressedOnce** (IDisplayModule::Keys) const final
- float **getDelta** () const final
- void **clear** () const final
- void **update** () final
- void **render** () const final
- char **getKeyCode** () const final
- void **setColor** (IDisplayModule::Colors col) final
- void **putPixel** (float x, float y) const final
- void **putLine** (float x1, float y1, float x2, float y2) const final
- void **putRect** (float x, float y, float w, float h) const final
- void **putFillRect** (float x, float y, float w, float h) const final
- void **putCircle** (float x, float y, float rad) const final
- void **putFillCircle** (float x, float y, float rad) const final
- void **putText** (const std::string &text, unsigned int size, float x, float y) const final
- const std::string & **getLibName** () const final

Additional Inherited Members

4.11 Arcade::Games::Nibbler Class Reference

Inheritance diagram for Arcade::Games::Nibbler:

```
┌─────────────────────────────────┐
│ Arcade::Games::IGameModule      │
└─────────────────────────────────┘
                 ▲
                 │
┌─────────────────────────────────┐
│ Arcade::Games::AGameModule      │
└─────────────────────────────────┘
                 ▲
                 │
┌─────────────────────────────────┐
│ Arcade::Games::Nibbler          │
└─────────────────────────────────┘
```

Public Member Functions

- void **reset** () final
- void **update** (const Arcade::Display::IDisplayModule &displayModule) final
- void render (Arcade::Display::IDisplayModule &displayModule) const final

Additional Inherited Members

4.11.1 Member Function Documentation

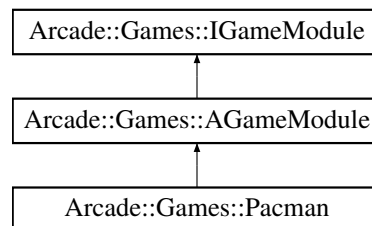#### 4.11.1.1 render()

```
void Arcade::Games::Nibbler::render (
            Arcade::Display::IDisplayModule & lib ) const  [final], [virtual]
```

Default game implementation (out of order)

Reimplemented from Arcade::Games::AGameModule.

4.12 Arcade::Games::Pacman Class Reference

Inheritance diagram for Arcade::Games::Pacman:

```
┌─────────────────────────────────┐
│   Arcade::Games::IGameModule    │
└─────────────────────────────────┘
                 ▲
┌─────────────────────────────────┐
│   Arcade::Games::AGameModule    │
└─────────────────────────────────┘
                 ▲
┌─────────────────────────────────┐
│     Arcade::Games::Pacman       │
└─────────────────────────────────┘
```

Public Member Functions

- void **reset** () final
- void **update** (const Arcade::Display::IDisplayModule &lib) final
- void render (Arcade::Display::IDisplayModule &lib) const final

Additional Inherited Members

4.12.1 Member Function Documentation
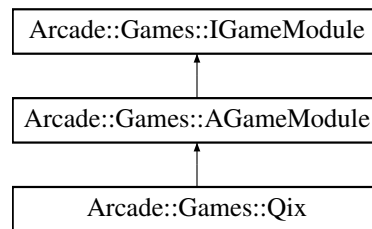
4.12.1.1 render()

```
void Arcade::Games::Pacman::render (
            Arcade::Display::IDisplayModule & lib ) const  [final], [virtual]
```

Default game implementation (out of order)

Reimplemented from Arcade::Games::AGameModule.

4.13 Arcade::Games::Qix Class Reference
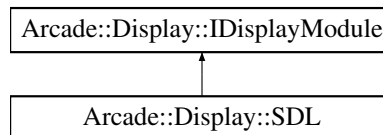
Inheritance diagram for Arcade::Games::Qix:

```
┌─────────────────────────────┐
│  Arcade::Games::IGameModule  │
└─────────────────────────────┘
               ▲
               │
┌─────────────────────────────┐
│  Arcade::Games::AGameModule  │
└─────────────────────────────┘
               ▲
               │
┌─────────────────────────────┐
│      Arcade::Games::Qix      │
└─────────────────────────────┘
```

Public Member Functions

- void **reset** () final
- void **update** (const Arcade::Display::IDisplayModule &lib) final

Additional Inherited Members

4.14 Arcade::Display::SDL Class Reference

Inheritance diagram for Arcade::Display::SDL:

```
┌─────────────────────────────────┐
│  Arcade::Display::IDisplayModule │
└─────────────────────────────────┘
                ▲
                │
┌─────────────────────────────────┐
│      Arcade::Display::SDL        │
└─────────────────────────────────┘
```
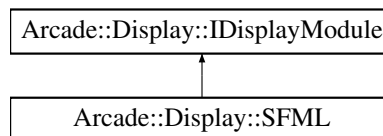
Public Member Functions

- void **reset** () final
- void **open** () final
- bool **isOpen** () const final
- bool **switchToNextLib** () const final
- bool **switchToPreviousLib** () const final
- bool **switchToNextGame** () const final
- bool **switchToPreviousGame** () const final
- bool **shouldBeRestarted** () const final
- bool **shouldGoToMenu** () const final
- bool **shouldExit** () const final
- bool **isKeyPressed** (IDisplayModule::Keys) const final
- bool **isKeyPressedOnce** (IDisplayModule::Keys) const final
- float **getDelta** () const final
- void **clear** () const final
- void **update** () final
- void **render** () const final
- char **getKeyCode** () const final

- void **setColor** (IDisplayModule::Colors col) final
- void **putPixel** (float x, float y) const final
- void **putLine** (float x1, float y1, float x2, float y2) const final
- void **putRect** (float x, float y, float w, float h) const final
- void **putFillRect** (float x, float y, float w, float h) const final
- void **putCircle** (float x, float y, float rad) const final
- void **putFillCircle** (float x, float y, float rad) const final
- void **putText** (const std::string &text, unsigned int size, float x, float y) const final
- const std::string & **getLibName** () const final

Additional Inherited Members

4.15 Arcade::Display::SFML Class Reference

Inheritance diagram for Arcade::Display::SFML:

Arcade::Display::IDisplayModule
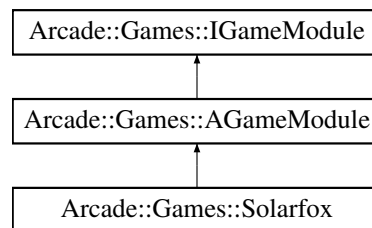
Arcade::Display::SFML

Public Member Functions

- void **reset** () final
- void **open** () final
- bool **isOpen** () const final
- bool **switchToNextLib** () const final
- bool **switchToPreviousLib** () const final
- bool **switchToNextGame** () const final
- bool **switchToPreviousGame** () const final
- bool **shouldBeRestarted** () const final
- bool **shouldGoToMenu** () const final
- bool **shouldExit** () const final
- bool **isKeyPressed** (IDisplayModule::Keys) const final
- bool **isKeyPressedOnce** (IDisplayModule::Keys) const final
- float **getDelta** () const final
- void **clear** () const final
- void **update** () final
- void **render** () const final
- char **getKeyCode** () const final
- void **setColor** (IDisplayModule::Colors col) final
- void **putPixel** (float x, float y) const final
- void **putLine** (float x1, float y1, float x2, float y2) const final
- void **putRect** (float x, float y, float w, float h) const final
- void **putFillRect** (float x, float y, float w, float h) const final
- void **putCircle** (float x, float y, float rad) const final
- void **putFillCircle** (float x, float y, float rad) const final
- void **putText** (const std::string &text, unsigned int size, float x, float y) const final
- const std::string & **getLibName** () const final

Additional Inherited Members

4.16 Arcade::Games::Solarfox Class Reference

Inheritance diagram for Arcade::Games::Solarfox:

Public Member Functions

- void **reset** () final
- void **update** (const Arcade::Display::IDisplayModule &lib) final

Additional Inherited Members

Index