

R-Type - Engine

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Chapter 1

Engine

1.1 Install package(s)

1.1.1 Debian

- Install the following zip file: `debian.zip`
- Unzip the package
- Install the package with the following command:

```
cd deb-package
sudo dpkg -i quantumvortex-engine_1.0.0-1_amd64.deb
```

1.1.2 Fedora 38

- Install the following zip file: `fedora.zip`
- Unzip the package
- Install the package with the following command:

```
cd rpm-package-fedora-38
sudo dnf install quantumvortex-engine-fedora38.rpm
```

1.1.3 Fedora Latest

- Install the following zip file: `fedora.zip`
- Unzip the package
- Install the package with the following command:

```
cd rpm-package-fedora-latest
sudo dnf install quantumvortex-engine-fedora-latest.rpm
```

1.2 Compilation

1.2.1 Linux

Use the following command to compile the engine:

```
cmake -Bbuild  
make -Cbuild
```

Use the following command to compile the engine and its tests:

```
cmake -Bbuild -DBUILD_TESTS=ON  
make -Cbuild
```

Use the following command for create the package (.tgz or .zip) after compile:

```
cd build  
cpack
```

1.3 Documentation

1.3.1 PDF

Here you can see the documentation in PDF format: [R-Type_Engine](#)

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

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Chapter 3

Class Index

3.1 Class List

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

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Chapter 4

Class Documentation

4.1 Archetypes Class Reference

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

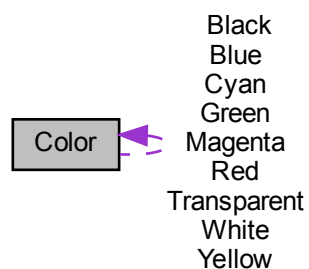
- `src/Archetype/include/Archetypes.h`

4.2 Color Class Reference

`Color` class: `Color` is a class that use for the color in game.

```
#include <Color.h>
```

Collaboration diagram for `Color`:



Public Member Functions

- [Color](#) ()
< Represent the Alpha of a color between 0 and 255.
- [Color](#) (const sf::Color &sfmlColor)
[Color](#) constructor with sf::Color& as parameter.
- [~Color](#) ()=default
Default override [Color](#) destructor.
- sf::Uint8 [getRed](#) () const
[getRed\(\)](#): Get the sf::Uint8 red.
- sf::Uint8 [getGreen](#) () const
[getGreen\(\)](#): Get the sf::Uint8 green.
- sf::Uint8 [getBlue](#) () const
[getBlue\(\)](#): Get the sf::Uint8 blue.
- sf::Uint8 [getAlpha](#) () const
[getAlpha\(\)](#): Get the sf::Uint8 alpha.
- void [setRed](#) (int newRed)
[setRed\(int\)](#): Set the sf::Uint8 red with an int and convert into sf::Unit8 in the function.
- void [setGreen](#) (int newGreen)
[setGreen\(int\)](#): Set the sf::Uint8 green with an int and convert into sf::Unit8 in the function.
- void [setBlue](#) (int newBlue)
[setBlue\(int\)](#): Set the sf::Uint8 blue with an int and convert into sf::Unit8 in the function.
- void [setAlpha](#) (int newAlpha)
[setAlpha\(int\)](#): Set the sf::Uint8 alpha with an int and convert into sf::Unit8 in the function.
- operator sf::Color () const
operator sf::Color() const: Convert [Color](#) classes into sf::Color

Static Public Member Functions

- static [Color](#) [fromSFMLColor](#) (const sf::Color &sfColor)
[fromSFMLColor\(const sf::Color&\)](#): Convert SFML color into [Color](#) class.

Static Public Attributes

- static const [Color](#) **Black** = [Color::fromSFMLColor](#)(sf::Color::Black)
- static const [Color](#) **White** = [Color::fromSFMLColor](#)(sf::Color::White)
- static const [Color](#) **Red** = [Color::fromSFMLColor](#)(sf::Color::Red)
- static const [Color](#) **Green** = [Color::fromSFMLColor](#)(sf::Color::Green)
- static const [Color](#) **Blue** = [Color::fromSFMLColor](#)(sf::Color::Blue)
- static const [Color](#) **Yellow** = [Color::fromSFMLColor](#)(sf::Color::Yellow)
- static const [Color](#) **Magenta** = [Color::fromSFMLColor](#)(sf::Color::Magenta)
- static const [Color](#) **Cyan** = [Color::fromSFMLColor](#)(sf::Color::Cyan)
- static const [Color](#) **Transparent** = [Color::fromSFMLColor](#)(sf::Color::Transparent)

4.2.1 Detailed Description

[Color](#) class: [Color](#) is a class that use for the color in game.

The [Color](#) class manages the color.

4.2.2 Constructor & Destructor Documentation

4.2.2.1 Color() [1/2]

```
Color::Color ( ) [inline]
```

< Represent the Alpha of a color between 0 and 255.

Default [Color](#) constructor.

Set the default value to "Default" and initialize red, green, blue and alpha to 255 for initialize the color white.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.2.2.2 Color() [2/2]

```
Color::Color (
    const sf::Color & sfmlColor ) [inline], [explicit]
```

[Color](#) constructor with `sf::Color&` as parameter.

Parameters

<i>sfmlColor</i>	Represent a color preset or no from SFML.
------------------	---

Returns

void

4.2.2.3 ~Color()

```
Color::~~Color ( ) [default]
```

Default override [Color](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.2.3 Member Function Documentation

4.2.3.1 fromSFMLColor()

```
Color Color::fromSFMLColor (
    const sf::Color & sfColor ) [static]
```

fromSFMLColor(const sf::Color&): Convert SFML color into [Color](#) class.

Parameters

<i>sfColor</i>	The color from SFML
----------------	---------------------

Returns

[Color](#): [Color](#) class.

4.2.3.2 getAlpha()

```
sf::Uint8 Color::getAlpha ( ) const
```

getAlpha(): Get the sf::Uint8 alpha.

Parameters

<i>void</i>	
-------------	--

Returns

sf::Uint8: The value of alpha.

4.2.3.3 getBlue()

```
sf::Uint8 Color::getBlue ( ) const
```

[getBlue\(\)](#): Get the sf::Uint8 blue.

Parameters

<i>void</i>	
-------------	--

Returns

sf::Uint8: The value of blue.

4.2.3.4 getGreen()

```
sf::Uint8 Color::getGreen ( ) const
```

[getGreen\(\)](#): Get the sf::Uint8 green.

Parameters

<i>void</i>	
-------------	--

Returns

sf::Uint8: The value of green.

4.2.3.5 getRed()

```
sf::Uint8 Color::getRed ( ) const
```

[getRed\(\)](#): Get the sf::Uint8 red.

Parameters

<i>void</i>	
-------------	--

Returns

sf::Uint8: The value of red.

4.2.3.6 operator sf::Color()

```
Color::operator sf::Color ( ) const [explicit]
```

operator sf::Color() const: Convert [Color](#) classes into sf::Color

Parameters

<i>void</i>	
-------------	--

Returns

sf::Color: Get the [Color](#) in sf::Color

4.2.3.7 setAlpha()

```
void Color::setAlpha (
    int newAlpha )
```

[setAlpha\(int\)](#): Set the sf::Unit8 alpha with an int and convert into sf::Unit8 in the function.

Parameters

<i>newAlpha</i>	
-----------------	--

Returns

void

4.2.3.8 setBlue()

```
void Color::setBlue (
    int newBlue )
```

[setBlue\(int\)](#): Set the sf::Unit8 blue with an int and convert into sf::Unit8 in the function.

Parameters

<i>newBlue</i>	
----------------	--

Returns

void

4.2.3.9 setGreen()

```
void Color::setGreen (
    int newGreen )
```

[setGreen\(int\)](#): Set the sf::Uint8 green with an int and convert into sf::Unit8 in the function.

Parameters

<i>newGreen</i>	
-----------------	--

Returns

void

4.2.3.10 setRed()

```
void Color::setRed (
    int newRed )
```

[setRed\(int\)](#): Set the sf::Uint8 red with an int and convert into sf::Unit8 in the function.

Parameters

<i>newRed</i>	Number between 0 and 255.
---------------	---------------------------

Returns

void

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

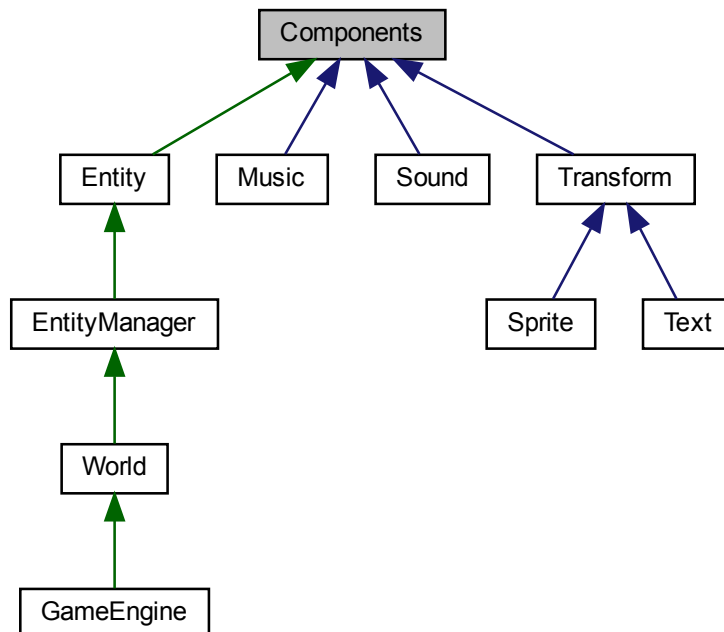
- src/Other/include/Color.h
- src/Other/Color.cpp

4.3 Components Class Reference

[Components](#) class: [Components](#) is a class that represents a component in the game.

```
#include <Components.h>
```

Inheritance diagram for Components:



Public Member Functions

- [Components](#) ()=default
Default [Components](#) constructor.
- virtual [~Components](#) ()=default
[Components](#) destructor.
- virtual bool [init](#) ()=0
[init\(\)](#): Initialize the component
- virtual int [getBit](#) ()=0
[getBit\(\)](#): Get the bitmask of the component
- virtual void [update](#) (sf::Time timeDelta)=0
[update\(\)](#): Update the component

4.3.1 Detailed Description

[Components](#) class: [Components](#) is a class that represents a component in the game.

[Components](#) are the building blocks of the game. They are attached to entities and define their behavior.

4.3.2 Constructor & Destructor Documentation

4.3.2.1 Components()

```
Components::Components ( ) [default]
```

Default [Components](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.3.2.2 ~Components()

```
virtual Components::~~Components ( ) [virtual], [default]
```

[Components](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.3.3 Member Function Documentation

4.3.3.1 getBit()

```
virtual int Components::getBit ( ) [pure virtual]
```

[getBit\(\)](#): Get the bitmask of the component

Parameters

<i>void</i>	
-------------	--

Returns

int: bitmask of the component

Implemented in [Entity](#), [Transform](#), [Text](#), [Sprite](#), [Sound](#), and [Music](#).

4.3.3.2 init()

```
virtual bool Components::init ( ) [pure virtual]
```

[init\(\)](#): Initialize the component

Parameters

<i>void</i>	
-------------	--

Returns

bool: true if the component is initialized, false otherwise

Implemented in [World](#), [EntityManager](#), [Entity](#), [Transform](#), [Text](#), [Sprite](#), [Sound](#), and [Music](#).

4.3.3.3 update()

```
virtual void Components::update (
    sf::Time timeDelta ) [pure virtual]
```

[update\(\)](#): Update the component

Parameters

<i>timeDelta</i>	time elapsed since the last update
------------------	------------------------------------

Returns

void

Implemented in [Sound](#), [Music](#), [Entity](#), [Transform](#), [Text](#), and [Sprite](#).

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

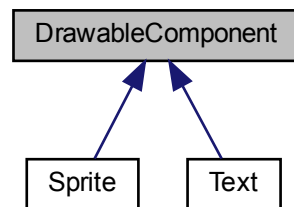
- `src/Components/include/Components.h`

4.4 DrawableComponent Class Reference

[DrawableComponent](#) class: [DrawableComponent](#) is a class that represents a drawable component in the game.

```
#include <DrawableComponent.h>
```

Inheritance diagram for DrawableComponent:



Public Member Functions

- virtual [~DrawableComponent](#) ()=default
Default [DrawableComponent](#) constructor.
- virtual void [draw](#) (sf::RenderWindow &window) const =0
[draw\(\)](#): Draw the component

4.4.1 Detailed Description

[DrawableComponent](#) class: [DrawableComponent](#) is a class that represents a drawable component in the game.

DrawableComponents are components that can be drawn on the screen.

4.4.2 Constructor & Destructor Documentation

4.4.2.1 ~DrawableComponent()

```
virtual DrawableComponent::~~DrawableComponent ( ) [virtual], [default]
```

Default [DrawableComponent](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.4.3 Member Function Documentation

4.4.3.1 draw()

```
virtual void DrawableComponent::draw (  
    sf::RenderWindow & window ) const [pure virtual]
```

[draw\(\)](#): Draw the component

Parameters

<i>window</i>	Window to draw the component on
---------------	---------------------------------

Returns

void

Implemented in [Text](#), and [Sprite](#).

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

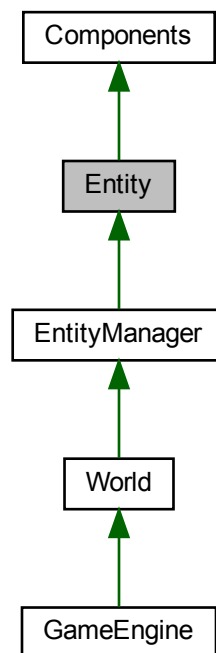
- src/Components/include/DrawableComponent.h

4.5 Entity Class Reference

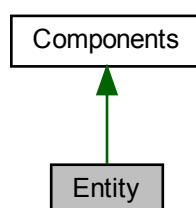
[Entity](#) class: [Entity](#) is a class that represents an entity in the game.

```
#include <entity.h>
```

Inheritance diagram for Entity:



Collaboration diagram for Entity:



Public Member Functions

- [Entity](#) ()
Default [Entity](#) constructor.
- [Entity](#) (const std::string &nameEntity, [Archetypes](#) newArchetype=[Archetypes](#)())
[Entity](#) constructor.
- [~Entity](#) () override=default

- *Entity* destructor.
- int `getBit` () override
getBit(): Get the bit of the *Sprite*.
- bool `init` () override
init(): Initialize the entity
- std::string `getName` () const
getName(): Get the name of the entity
- void `setName` (std::string newName)
setName(): Set the name of the entity
- void `update` (sf::Time deltaTime) override
update(sf::Time): Update the component *Music*
- void `addDrawable` (*Components* *component)
addDrawable(): Add a drawable component to the entity
- void `removeDrawable` (*Components* *component)
removeDrawable(): Remove a drawable component to the entity
- void `drawEntity` (sf::RenderWindow &window)
drawEntity(): Draw the entities
- template<typename T , typename... TArgs>
T & `addComponent` (TArgs &&... args)
addComponent(): Add a component to the entity
- template<typename T >
bool `removeComponent` ()
removeComponent(): Remove a component to the entity
- template<typename T >
T & `getComponent` ()
getComponent(): Get a component from the entity
- template<typename T >
std::size_t `getComponentTypeID` () noexcept
getComponentTypeID(): Get a component ID from the entity
- std::bitset< 6 > `getComponentBitset` () const
getComponentBitset(): Get all components bitset from the entity
- std::vector< *DrawableComponent* * > `getDrawableComponents` () const
getDrawableComponents(): Get all the drawable components from the entity
- std::array< *Components* *, 6 > `getComponentArrays` () const
getComponentArrays(): Get all the components from the entity
- void `setActive` (bool isActive)
setActive(bool): Set the value active for using entity or not
- bool `getActive` () const
getActive(): Get the value active for knowing if entity is using or not.
- void `setDeferredEntity` (std::function< void()> setter)
setDeferredEntity(std::function<void()>): Set the deferred entity.
- void `applyDeferredEntity` ()
setDeferredEntity(std::function<void()>): Set the deferred entity.

Additional Inherited Members

4.5.1 Detailed Description

Entity class: *Entity* is a class that represents an entity in the game.

The *Entity* class manages components associated with the entity.

4.5.2 Constructor & Destructor Documentation

4.5.2.1 Entity() [1/2]

```
Entity::Entity ( ) [inline]
```

Default [Entity](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.5.2.2 Entity() [2/2]

```
Entity::Entity (
    const std::string & nameEntity,
    Archetypes newArchetype = Archetypes() ) [explicit]
```

[Entity](#) constructor.

Parameters

<i>nameEntity</i>	name of the entity
<i>newArchetype</i>	archetype of the entity (optional, default = new archetype)

Returns

void

4.5.2.3 ~Entity()

```
Entity::~Entity ( ) [override], [default]
```

[Entity](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.5.3 Member Function Documentation

4.5.3.1 addComponent()

```
template<typename T , typename... TArgs>
template Text & Entity::addComponent< Text > (
    TArgs &&... args )
```

[addComponent\(\)](#): Add a component to the entity

Template Parameters

<i>T</i>	Type of the component
<i>TArgs</i>	Variadic template for component constructor arguments.

Parameters

<i>args</i>	arguments of the component
-------------	----------------------------

Returns

T&: reference of the component

4.5.3.2 addDrawable()

```
void Entity::addDrawable (
    Components * component )
```

[addDrawable\(\)](#): Add a drawable component to the entity

Parameters

<i>component</i>	component to add
------------------	------------------

Returns

void

4.5.3.3 applyDeferredEntity()

```
void Entity::applyDeferredEntity ( )
```

[setDeferredEntity\(std::function<void\(\)>\)](#): Set the deferred entity.

Parameters

<i>setter</i>	Function that will set the entity.
---------------	------------------------------------

Returns

void

4.5.3.4 drawEntity()

```
void Entity::drawEntity (
    sf::RenderWindow & window )
```

[drawEntity\(\)](#): Draw the entities

Parameters

<i>window</i>	window where the entities are drawn
---------------	-------------------------------------

Returns

void

4.5.3.5 getActive()

```
bool Entity::getActive ( ) const
```

[getActive\(\)](#): Get the value active for knowing if entity is using or not.

Parameters

<i>void</i>	
-------------	--

Returns

bool: True if the engine use this entity, false otherwise.

4.5.3.6 getBit()

```
int Entity::getBit ( ) [override], [virtual]
```

[getBit\(\)](#): Get the bit of the [Sprite](#).

Parameters

<i>void</i>	
-------------	--

Returns

int: The bit of the [Sprite](#).

Implements [Components](#).

4.5.3.7 getComponent()

```
template<typename T >
template Text & Entity::getComponent< Text > ( )
```

[getComponent\(\)](#): Get a component from the entity

Template Parameters

<i>T</i>	Type of the component
----------	-----------------------

Parameters

<i>void</i>	
-------------	--

Returns

T&: reference of the component

4.5.3.8 getComponentArrays()

```
std::array< Components *, 6 > Entity::getComponentArrays ( ) const
```

[getComponentArrays\(\)](#): Get all the components from the entity

Parameters

<i>void</i>	
-------------	--

Returns

`std::array<Components*, 6>`: array of components

4.5.3.9 getComponentBitset()

```
std::bitset< 6 > Entity::getComponentBitset ( ) const
```

[getComponentBitset\(\)](#): Get all components bitset from the entity

Parameters

<i>void</i>	
-------------	--

Returns

`std::bitset<6>`: bitset of the components

4.5.3.10 getComponentTypeID()

```
template<typename T >
template std::size_t Entity::getComponentTypeID< Text > ( ) [noexcept]
```

[getComponentTypeID\(\)](#): Get a component ID from the entity

Template Parameters

<i>T</i>	Type of the component
----------	-----------------------

Parameters

<i>void</i>	
-------------	--

Returns

`std::size_t`: id of the component

4.5.3.11 getDrawableComponents()

```
std::vector< DrawableComponent * > Entity::getDrawableComponents ( ) const
```

[getDrawableComponents\(\)](#): Get all the drawable components from the entity

Parameters

<i>void</i>	
-------------	--

Returns

std::vector<DrawableComponent*>: drawable components of the entity

4.5.3.12 getName()

```
std::string Entity::getName ( ) const
```

getName(): Get the name of the entity

Parameters

<i>void</i>	
-------------	--

Returns

std::string: name of the entity

4.5.3.13 init()

```
bool Entity::init ( ) [override], [virtual]
```

init(): Initialize the entity

Parameters

<i>void</i>	
-------------	--

Returns

bool: true if the entity is initialized, false otherwise

Implements [Components](#).

Reimplemented in [World](#), and [EntityManager](#).

4.5.3.14 removeComponent()

```
template<typename T >
template bool Entity::removeComponent< Text > ( )
```

[removeComponent\(\)](#): Remove a component to the entity

Template Parameters

<i>T</i>	Type of the component
----------	-----------------------

Returns

T&: reference of the component

4.5.3.15 removeDrawable()

```
void Entity::removeDrawable (
    Components * component )
```

[removeDrawable\(\)](#): Remove a drawable component to the entity

Parameters

<i>component</i>	component to remove
------------------	---------------------

Returns

void

4.5.3.16 setActive()

```
void Entity::setActive (
    bool isActive )
```

[setActive\(bool\)](#): Set the value active for using entity or not

Parameters

<i>isActive</i>	True or false;
-----------------	----------------

Returns

void

4.5.3.17 setDeferredEntity()

```
void Entity::setDeferredEntity (
    std::function< void()> setter )
```

[setDeferredEntity\(std::function<void\(\)>\)](#): Set the deferred entity.

Parameters

<i>setter</i>	Function that will set the entity.
---------------	------------------------------------

Returns

void

4.5.3.18 setName()

```
void Entity::setName (
    std::string newName )
```

[setName\(\)](#): Set the name of the entity

Parameters

<i>newName</i>	new name of the entity
----------------	------------------------

Returns

void

4.5.3.19 update()

```
void Entity::update (
    sf::Time deltaTime ) [override], [virtual]
```

[update\(sf::Time\)](#): Update the component [Music](#)

Parameters

<i>timeDelta</i>	sf::Time of the game.
------------------	-----------------------

Returns

void

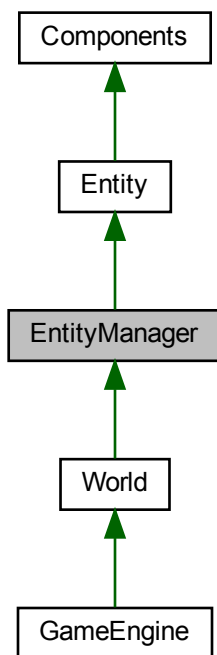
Implements [Components](#).

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

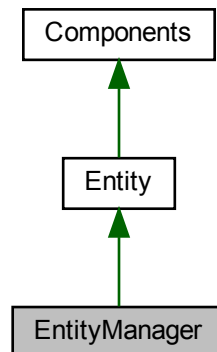
- src/Entity/include/entity.h
- src/Entity/entity.cpp

4.6 EntityManager Class Reference

Inheritance diagram for EntityManager:



Collaboration diagram for EntityManager:



Public Member Functions

- [EntityManager](#) ()=default
Default [EntityManager](#) constructor.
- [~EntityManager](#) () override=default
[EntityManager](#) destructor.
- bool [init](#) () override
[initEntityManager\(\)](#): Initialize the [EntityManager](#).
- [Entity](#) & [addEntity](#) (const std::string &nameEntity, [Archetypes](#) newArchetype=[Archetypes](#)())
[addEntity\(\)](#): Create and add a new entity to the entity manager.
- [Entity](#) & [getEntity](#) (const std::string &nameEntity)
[getEntity\(\)](#): Get an entity from the entity manager by its name.
- std::map< std::string, [Entity](#) * > [getEntities](#) () const
[getEntities\(\)](#): Get the [EntityManager](#)'s entities.
- std::map< std::string, [Entity](#) * > [getEntityMap](#) () const
[getEntityMap\(\)](#): Get the [EntityManager](#)'s entity map.

Additional Inherited Members

4.6.1 Constructor & Destructor Documentation

4.6.1.1 EntityManager()

```
EntityManager::EntityManager ( ) [default]
```

Default [EntityManager](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.6.1.2 ~EntityManager()

```
EntityManager::~~EntityManager ( ) [override], [default]
```

[EntityManager](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.6.2 Member Function Documentation

4.6.2.1 addEntity()

```
Entity & EntityManager::addEntity (
    const std::string & nameEntity,
    Archetypes newArchetype = Archetypes() )
```

[addEntity\(\)](#): Create and add a new entity to the entity manager.

Template Parameters

<i>T</i>	Type of the entity.
<i>TArgs</i>	Type of the arguments.

Parameters

<i>args</i>	Arguments of the entity.
-------------	--------------------------

4.6.2.2 getEntities()

```
std::map< std::string, Entity * > EntityManager::getEntities ( ) const
```

[getEntities\(\)](#): Get the [EntityManager](#)'s entities.

Parameters

<i>void</i>	
-------------	--

Returns

std::map<std::string, Entity *>: Entities.

4.6.2.3 getEntity()

```
Entity & EntityManager::getEntity (
    const std::string & nameEntity )
```

[getEntity\(\)](#): Get an entity from the entity manager by its name.

Template Parameters

<i>T</i>	Type of the entity.
----------	---------------------

Parameters

<i>nameEntity</i>	Name of the entity.
-------------------	---------------------

Returns

T&: Reference of the entity.

4.6.2.4 getEntityMap()

```
std::map< std::string, Entity * > EntityManager::getEntityMap ( ) const
```

[getEntityMap\(\)](#): Get the [EntityManager](#)'s entity map.

Parameters

<i>void</i>	
-------------	--

Returns

Entity::EntityMap: [Entity](#) map.

4.6.2.5 init()

```
bool EntityManager::init ( ) [override], [virtual]
```

initEntityManager(): Initialize the [EntityManager](#).

Parameters

<i>void</i>	
-------------	--

Returns

bool: true if the [EntityManager](#) is initialized, false otherwise.

Reimplemented from [Entity](#).

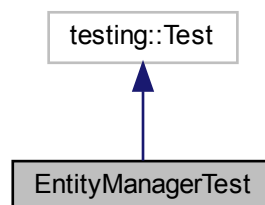
Reimplemented in [World](#).

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

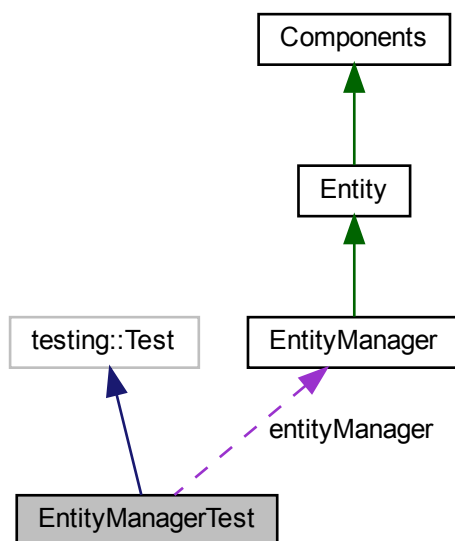
- src/Entity/include/entityManager.h
- src/Entity/entityManager.cpp

4.7 EntityManagerTest Class Reference

Inheritance diagram for EntityManagerTest:



Collaboration diagram for EntityManagerTest:



Protected Member Functions

- void **SetUp** () override
- void **TearDown** () override

Protected Attributes

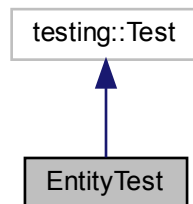
- [EntityManager](#) **entityManager** {}

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

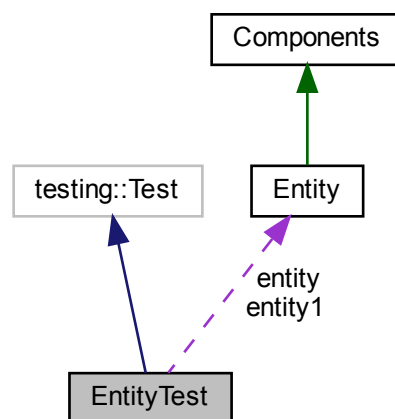
- tests/Entity/TestEntityManager.cpp

4.8 EntityTest Class Reference

Inheritance diagram for EntityTest:



Collaboration diagram for EntityTest:



Protected Attributes

- [Entity](#) entity
- [Entity](#) entity1

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

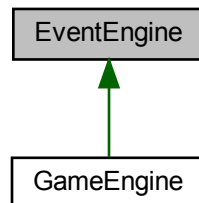
- tests/Entity/TestEntity.cpp

4.9 EventEngine Class Reference

[EventEngine](#) class: [EventEngine](#) is a class that represents the event engine of the game.

```
#include <eventEngine.h>
```

Inheritance diagram for EventEngine:



Public Member Functions

- [EventEngine](#) ()=default
Default [EventEngine](#) constructor.
- virtual [~EventEngine](#) ()=default
[EventEngine](#) destructor.
- sf::Event & [getEvent](#) ()
[getEvent\(\)](#): Get the SFML Event.
- void [addKeyPressed](#) (sf::Keyboard::Key keyboard, const std::function< void()> &function)
[addKeyPressed\(\)](#): Add a key pressed to the map.
- void [addMouseButtonPressed](#) (sf::Mouse::Button mouse, const std::function< void()> &function)
[addMouseButtonPressed\(\)](#): Add a mouse button pressed to the map.
- void [addMouseMoved](#) (const std::string &nameEntity, const std::function< void()> &function)
[addMouseMoved\(\)](#): Add a mouse moved to the map.
- std::map< sf::Keyboard::Key, std::function< void()> > & [getKeyPressedMap](#) ()
[getKeyPressedMap\(\)](#): Get the map of the key pressed.
- std::map< sf::Mouse::Button, std::function< void()> > & [getMouseButtonPressedMap](#) ()
[getMouseButtonPressedMap\(\)](#): Get the map of the mouse button pressed.
- std::map< std::string, std::function< void()> > & [getMouseMovedMap](#) ()
[getMouseMovedPressedMap\(\)](#): Get the map of the key pressed.
- std::map< sf::Keyboard::Key, bool > & [getKeyStatesMap](#) ()
[getKeyStatesMap\(\)](#): Get the map of the key states.
- void [setKeyStatesMap](#) (sf::Keyboard::Key key)
[setKeyStatesMap\(sf::Keyboard::Key\)](#): Initialize the map of the key states for the parameter value to false

4.9.1 Detailed Description

[EventEngine](#) class: [EventEngine](#) is a class that represents the event engine of the game.

The [EventEngine](#) class manages the events of the game.

4.9.2 Constructor & Destructor Documentation

4.9.2.1 EventEngine()

```
EventEngine::EventEngine ( ) [default]
```

Default [EventEngine](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.9.2.2 ~EventEngine()

```
virtual EventEngine::~~EventEngine ( ) [virtual], [default]
```

[EventEngine](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.9.3 Member Function Documentation

4.9.3.1 addKeyPressed()

```
void EventEngine::addKeyPressed (
    sf::Keyboard::Key keyboard,
    const std::function< void()> & function )
```

[addKeyPressed\(\)](#): Add a key pressed to the map.

Parameters

<i>keyboard</i>	SFML Keyboard::Key of the key pressed.
<i>function</i>	Function to execute when the key is pressed.

Returns

void

4.9.3.2 addMouseButtonPressed()

```
void EventEngine::addMouseButtonPressed (
    sf::Mouse::Button mouse,
    const std::function< void()> & function )
```

[addMouseButtonPressed\(\)](#): Add a mouse button pressed to the map.

Parameters

<i>mouse</i>	SFML Mouse::Button of the mouse button pressed.
<i>function</i>	Function to execute when the mouse button is pressed.

Returns

void

4.9.3.3 addMouseMoved()

```
void EventEngine::addMouseMoved (
    const std::string & nameEntity,
    const std::function< void()> & function )
```

[addMouseMoved\(\)](#): Add a mouse moved to the map.

Parameters

<i>nameEntity</i>	: Name of the Entity you want.
<i>function</i>	Function to execute when the mouse moved on entity.

Returns

void

4.9.3.4 `getEvent()`

```
sf::Event & EventEngine::getEvent ( )
```

[`getEvent\(\)`](#): Get the SFML Event.

Parameters

<i>void</i>	
-------------	--

Returns

sf::Event: The SFML Event.

4.9.3.5 `getKeyPressedMap()`

```
std::map< sf::Keyboard::Key, std::function< void()> > & EventEngine::getKeyPressedMap ( )
```

[`getKeyPressedMap\(\)`](#): Get the map of the key pressed.

Parameters

<i>void</i>	
-------------	--

Returns

std::map<sf::Keyboard::Key, std::function<void()>>: The map of the key pressed.

4.9.3.6 `getKeyStatesMap()`

```
std::map< sf::Keyboard::Key, bool > & EventEngine::getKeyStatesMap ( )
```

[`getKeyStatesMap\(\)`](#): Get the map of the key states.

Parameters

<i>void</i>	
-------------	--

Returns

std::map<sf::Keyboard::Key, bool>&: The map of the key states.

4.9.3.7 getMouseButtonPressedMap()

```
std::map< sf::Mouse::Button, std::function< void()> > & EventEngine::getMouseButtonPressedMap
( )
```

[getMouseButtonPressedMap\(\)](#): Get the map of the mouse button pressed.

Parameters

<i>void</i>	
-------------	--

Returns

`std::map<sf::Mouse::Button, std::function<void()>>`: The map of the mouse button pressed.

4.9.3.8 getMouseMovedMap()

```
std::map< std::string, std::function< void()> > & EventEngine::getMouseMovedMap ( )
```

[getMouseMovedPressedMap\(\)](#): Get the map of the key pressed.

Parameters

<i>void</i>	
-------------	--

Returns

`std::map<std::string, std::function<void()>>`: The map of the mouse moved.

4.9.3.9 setKeyStatesMap()

```
void EventEngine::setKeyStatesMap (
    sf::Keyboard::Key key )
```

[setKeyStatesMap\(sf::Keyboard::Key\)](#): Initialize the map of the key states for the parameter value to false

Parameters

<i>key</i>	The touch of the keyboard with using SFML.
------------	--

Returns

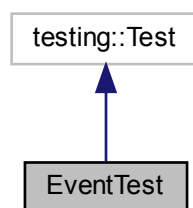
`void`

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

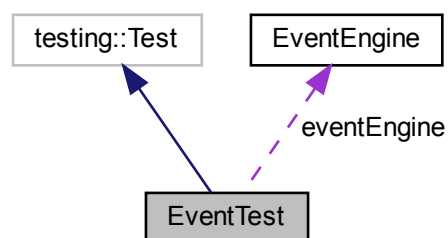
- `src/Event/include/eventEngine.h`
- `src/Event/eventEngine.cpp`

4.10 EventTest Class Reference

Inheritance diagram for EventTest:



Collaboration diagram for EventTest:



Protected Attributes

- [EventEngine](#) `eventEngine`

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

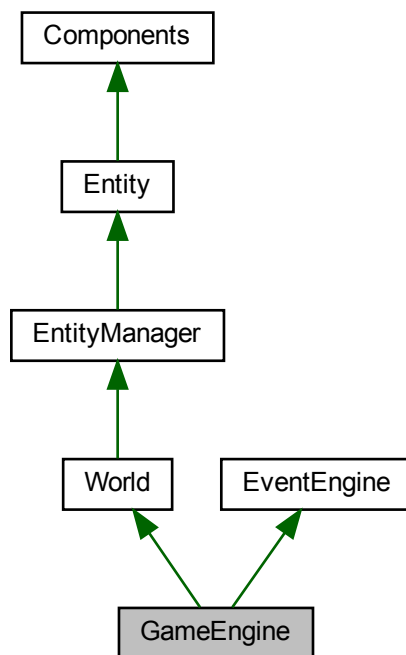
- `tests/Event/TestEvent.cpp`

4.11 GameEngine Class Reference

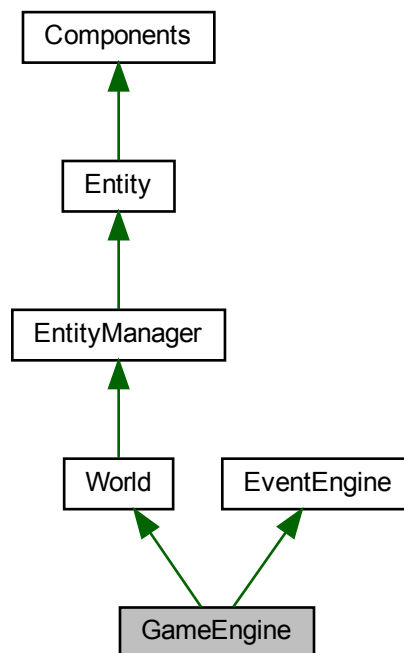
[GameEngine](#) class: [GameEngine](#) is a class that represents the game engine.

```
#include <gameEngine.h>
```

Inheritance diagram for GameEngine:



Collaboration diagram for GameEngine:



Public Member Functions

- `GameEngine()` = default
< Time of the game. Using with the Clock.
- `GameEngine(sf::VideoMode mode, const sf::String &title, sf::Uint32 style=sf::Style::Default, const sf::ContextSettings &settings=sf::ContextSettings())`
GameEngine constructor with parameters.
- `~GameEngine()` override = default
GameEngine destructor.
- `void run(std::map< std::string, std::unique_ptr< World >> mapWorld, const std::map< std::string, std::string > &pathRessources, const std::string &firstScene)`
run(): Run the game engine (with parameters).
- `void renderGameEngine()`
renderGameEngine(): Render the game engine.
- `void eventGameEngine()`
eventGameEngine(): Manage the events of the game engine.
- `void updateGameEngine()`
updateGameEngine(): Update the game engine.
- `bool isWindowOpen()`
isWindowOpen(): Check if the window is open.
- `void initialize(std::map< std::string, std::unique_ptr< World >> mapWorld, const std::map< std::string, std::string > &pathRessources, const std::string &firstScene)`
initialize(): Initialize the game engine.

- void [initializeSpriteFunction](#) () const
initializeSpriteFunction(): Initialize the sprites function.
- void [initializeSoundFunction](#) () const
initializeSoundFunction(): Initialize the sound function.
- void [initializeMusicFunction](#) () const
initializeMusicFunction(): Initialize the music function.
- void [initializeTextFunction](#) () const
initializeFontFunction(): Initialize the font function.
- void [initializeAllFiles](#) (const std::map< std::string, std::string > &pathResources)
initializeAllFiles(): Initialize all the ressources files the engine need.
- void [initializeTexture](#) (std::string path)
initializeTexture(): Initialize the textures with their path.
- void [initializeSound](#) (std::string path)
initializeSound(): Initialize the sound with their path.
- void [initializeMusic](#) (std::string path)
initializeMusic(): Initialize the music with their path.
- void [initializeFont](#) (std::string path)
initializeFont(): Initialize the font with their path.
- void [initializeWorldMap](#) (std::map< std::string, std::unique_ptr< [World](#) >> mapWorld)
initializeWorldMap(): Initialize the world map.
- sf::RenderWindow & [getWindow](#) ()
getWindow(): Get the window.
- [EventEngine](#) & [getEventEngine](#) ()
getEventEngine(): Get the event engine.
- void [setCurrentWorld](#) ([World](#) *world)
setCurrentWorld(): Set [GameEngine](#)'s current world.
- [World](#) * [getCurrentWorld](#) () const
getCurrentWorld(): Get [GameEngine](#)'s current world.
- [World](#) & [addWorld](#) (const std::string &nameWorld, std::unique_ptr< [World](#) > world)
addWorld(): Add a world to the world map.
- [World](#) & [getWorld](#) (const std::string &nameWorld)
getWorld(): Get a world from the world map with its name.
- std::map< std::string, std::shared_ptr< sf::Texture > > [getMapTexture](#) () const
getMapTexture(): Get [GameEngine](#)'s map of the textures.
- std::map< std::string, [World](#) * > [getWorldMap](#) () const
getWorldMap(): Get [GameEngine](#)'s map of the worlds.
- std::map< std::string, std::shared_ptr< sf::Music > > [getMapMusic](#) () const
getMapMusic(): Get [GameEngine](#)'s map of the music.
- std::map< std::string, std::shared_ptr< sf::SoundBuffer > > [getMapSound](#) () const
getMapSound(): Get [GameEngine](#)'s map of the sound.
- std::map< std::string, std::shared_ptr< sf::Font > > [getMapFont](#) () const
getMapFont(): Get [GameEngine](#)'s map of the font.
- sf::Clock [getClock](#) () const
getClock(): Get [GameEngine](#)'s clock.
- sf::Time [getDeltaTime](#) () const
getDeltaTime(): Get [GameEngine](#)'s deltaTime.
- void [setDeltaTime](#) (sf::Time newTimeDelta)
setDeltaTime(): Set [GameEngine](#)'s deltaTime.

Static Public Member Functions

- static std::vector< std::string > [getFilesRessources](#) (const std::string &pathDirectory)
[getFilesRessources\(\)](#): *Get all the ressources type files in the given directory.*

Additional Inherited Members

4.11.1 Detailed Description

[GameEngine](#) class: [GameEngine](#) is a class that represents the game engine.

The [GameEngine](#) class manages the game engine.

4.11.2 Constructor & Destructor Documentation

4.11.2.1 [GameEngine\(\)](#) [1/2]

```
GameEngine::GameEngine ( ) [default]
```

< Time of the game. Using with the Clock.

Default [GameEngine](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.11.2.2 [GameEngine\(\)](#) [2/2]

```
GameEngine::GameEngine (
    sf::VideoMode mode,
    const sf::String & title,
    sf::Uint32 style = sf::Style::Default,
    const sf::ContextSettings & settings = sf::ContextSettings() )
```

[GameEngine](#) constructor with parameters.

Parameters

<i>mode</i>	Video mode.
<i>type</i>	Type of the graphics ("2D" or "3D").
<i>title</i>	Title of the window.
<i>style</i>	Style of the window (sf::Style::Default by default).
<i>settings</i>	Settings of the window.

Returns

void

4.11.2.3 ~GameEngine()

```
GameEngine::~GameEngine ( ) [override], [default]
```

[GameEngine](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.11.3 Member Function Documentation

4.11.3.1 addWorld()

```
World & GameEngine::addWorld (
    const std::string & nameWorld,
    std::unique_ptr< World > world )
```

[addWorld\(\)](#): Add a world to the world map.

Parameters

<i>nameWorld</i>	Name of the world.
<i>world</i>	World to add.

Returns

[World&](#): The world.

4.11.3.2 eventGameEngine()

```
void GameEngine::eventGameEngine ( )
```

[eventGameEngine\(\)](#): Manage the events of the game engine.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.11.3.3 getClock()

```
sf::Clock GameEngine::getClock ( ) const
```

[getClock\(\)](#): Get [GameEngine](#)'s clock.

Parameters

<i>void</i>	
-------------	--

Returns

sf::Clock: [GameEngine](#)'s clock.

4.11.3.4 getCurrentWorld()

```
World * GameEngine::getCurrentWorld ( ) const
```

[getCurrentWorld\(\)](#): Get [GameEngine](#)'s current world.

Parameters

<i>void</i>	
-------------	--

Returns

World*: [GameEngine](#)'s current world.

4.11.3.5 getDeltaTime()

```
sf::Time GameEngine::getDeltaTime ( ) const
```

[getDeltaTime\(\)](#): Get [GameEngine](#)'s deltaTime.

Parameters

<i>void</i>	
-------------	--

Returns

sf::Time: [GameEngine](#)'s deltaTimes.

4.11.3.6 getEventEngine()

```
EventEngine & GameEngine::getEventEngine ( )
```

[getEventEngine\(\)](#): Get the event engine.

Parameters

<i>void</i>	
-------------	--

Returns

[EventEngine](#)&: [GameEngine](#)'s [EventEngine](#).

4.11.3.7 getFilesRessources()

```
std::vector< std::string > GameEngine::getFilesRessources (
    const std::string & pathDirectory ) [static]
```

[getFilesRessources\(\)](#): Get all the ressources type files in the given directory.

Parameters

<i>pathDirectory</i>	Path of the directory.
----------------------	------------------------

Returns

`std::vector<std::string>`: Vector of the ressources type files' names.

4.11.3.8 getMapFont()

```
std::map< std::string, std::shared_ptr< sf::Font > > GameEngine::getMapFont ( ) const
```

[getMapFont\(\)](#): Get [GameEngine](#)'s map of the font.

Parameters

<i>void</i>	
-------------	--

Returns

`std::map<std::string, std::shared_ptr<sf::Font>>`: [GameEngine](#)'s map of the musics.

4.11.3.9 getMapMusic()

```
std::map< std::string, std::shared_ptr< sf::Music > > GameEngine::getMapMusic ( ) const
```

[getMapMusic\(\)](#): Get [GameEngine](#)'s map of the music.

Parameters

<i>void</i>	
-------------	--

Returns

`std::map<std::string, std::shared_ptr<sf::Music>>`: [GameEngine](#)'s map of the musics.

4.11.3.10 getMapSound()

```
std::map< std::string, std::shared_ptr< sf::SoundBuffer > > GameEngine::getMapSound ( ) const
```

[getMapSound\(\)](#): Get [GameEngine](#)'s map of the sound.

Parameters

<i>void</i>	
-------------	--

Returns

`std::map<std::string, std::shared_ptr<sf::SoundBuffer>>`: [GameEngine](#)'s map of the musics.

4.11.3.11 getMapTexture()

```
std::map< std::string, std::shared_ptr< sf::Texture > > GameEngine::getMapTexture ( ) const
```

[getMapTexture\(\)](#): Get [GameEngine](#)'s map of the textures.

Parameters

<i>void</i>	
-------------	--

Returns

`std::map<std::string, std::shared_ptr<sf::Texture>>`: [GameEngine](#)'s map of the textures.

4.11.3.12 getWindow()

```
sf::RenderWindow & GameEngine::getWindow ( )
```

[getWindow\(\)](#): Get the window.

Parameters

<i>void</i>	
-------------	--

Returns

`sf::RenderWindow&`: [GameEngine](#)'s window.

4.11.3.13 getWorld()

```
World & GameEngine::getWorld (
    const std::string & nameWorld )
```

[getWorld\(\)](#): Get a world from the world map with its name.

Parameters

<i>nameWorld</i>	Name of the world.
------------------	--------------------

Returns

[World](#)&: [GameEngine](#)'s world.

4.11.3.14 `getWorldMap()`

```
std::map< std::string, World * > GameEngine::getWorldMap ( ) const
```

[getWorldMap\(\)](#): Get [GameEngine](#)'s map of the worlds.

Parameters

<i>void</i>	
-------------	--

Returns

`std::map<std::string, World*`>: [GameEngine](#)'s map of the worlds.

4.11.3.15 `initialize()`

```
void GameEngine::initialize (
    std::map< std::string, std::unique_ptr< World >> mapWorld,
    const std::map< std::string, std::string > & pathResources,
    const std::string & firstScene )
```

[initialize\(\)](#): Initialize the game engine.

Parameters

<i>mapWorld</i>	Map of World classes' unique pointers.
<i>pathResources</i>	Map of the path of the ressources (assets).
<i>firstScene</i>	Name of the first scene.

Returns

`void`

4.11.3.16 `initializeAllFiles()`

```
void GameEngine::initializeAllFiles (
    const std::map< std::string, std::string > & pathResources )
```

[initializeAllFiles\(\)](#): Initialize all the ressources files the engine need.

Parameters

<i>pathResources</i>	Map of the path of the ressources (assets).
----------------------	---

Returns

void

4.11.3.17 initializeFont()

```
void GameEngine::initializeFont (
    std::string path )
```

[initializeFont\(\)](#): Initialize the font with their path.

Parameters

<i>path</i>	Path of the font file.
-------------	------------------------

Returns

void

4.11.3.18 initializeMusic()

```
void GameEngine::initializeMusic (
    std::string path )
```

[initializeMusic\(\)](#): Initialize the music with their path.

Parameters

<i>path</i>	Path of the music file.
-------------	-------------------------

Returns

void

4.11.3.19 initializeMusicFunction()

```
void GameEngine::initializeMusicFunction ( ) const
```

[initializeMusicFunction\(\)](#): Initialize the music function.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.11.3.20 initializeSound()

```
void GameEngine::initializeSound (
    std::string path )
```

[initializeSound\(\)](#): Initialize the sound with their path.

Parameters

<i>path</i>	Path of the sound file.
-------------	-------------------------

Returns

void

4.11.3.21 initializeSoundFunction()

```
void GameEngine::initializeSoundFunction ( ) const
```

[initializeSoundFunction\(\)](#): Initialize the sound function.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.11.3.22 initializeSpriteFunction()

```
void GameEngine::initializeSpriteFunction ( ) const
```

[initializeSpriteFunction\(\)](#): Initialize the sprites function.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.11.3.23 initializeTextFunction()

```
void GameEngine::initializeTextFunction ( ) const
```

initializeFontFunction(): Initialize the font function.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.11.3.24 initializeTexture()

```
void GameEngine::initializeTexture (
    std::string path )
```

[initializeTexture\(\)](#): Initialize the textures with their path.

Parameters

<i>path</i>	Path of the texture.
-------------	----------------------

Returns

void

4.11.3.25 initializeWorldMap()

```
void GameEngine::initializeWorldMap (
    std::map< std::string, std::unique_ptr< World >> mapWorld )
```

[initializeWorldMap\(\)](#): Initialize the world map.

Parameters

<i>mapWorld</i>	Map of World classes' unique pointers.
-----------------	--

Returns

void

4.11.3.26 isWindowOpen()

```
bool GameEngine::isWindowOpen ( )
```

[isWindowOpen\(\)](#): Check if the window is open.

Parameters

<i>void</i>	
-------------	--

Returns

bool: True if the window is open, false otherwise.

4.11.3.27 renderGameEngine()

```
void GameEngine::renderGameEngine ( )
```

[renderGameEngine\(\)](#): Render the game engine.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.11.3.28 run()

```
void GameEngine::run (
    std::map< std::string, std::unique_ptr< World >> mapWorld,
```

```
const std::map< std::string, std::string > & pathResources,  
const std::string & firstScene )
```

[run\(\)](#): Run the game engine (with parameters).

Parameters

<i>mapWorld</i>	Map of World classes' unique pointers.
<i>pathResources</i>	Map of the path of the ressources (assets).
<i>firstScene</i>	Name of the first scene.

Returns

void

4.11.3.29 setCurrentWorld()

```
void GameEngine::setCurrentWorld (
    World * world )
```

[setCurrentWorld\(\)](#): Set [GameEngine](#)'s current world.

Parameters

<i>world</i>	World to set.
--------------	-------------------------------

Returns

void

4.11.3.30 setDeltaTime()

```
void GameEngine::setDeltaTime (
    sf::Time newTimeDelta )
```

[setDeltaTime\(\)](#): Set [GameEngine](#)'s deltaTime.

Parameters

<i>newTimeDelta</i>	New deltaTime for GameEngine 's deltaTime.
---------------------	--

Returns

void

4.11.3.31 updateGameEngine()

```
void GameEngine::updateGameEngine ( )
```

[updateGameEngine\(\)](#): Update the game engine.

Parameters

<i>void</i>	
-------------	--

Returns

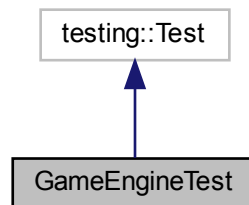
void

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

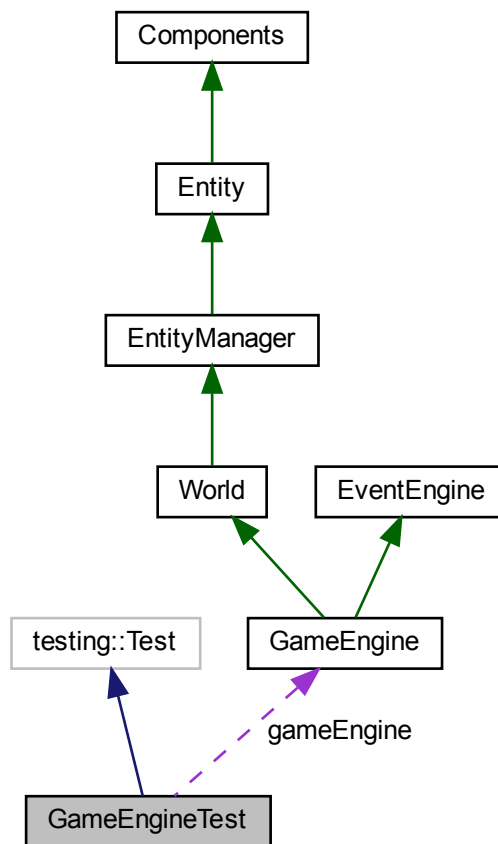
- src/GameEngine/include/gameEngine.h
- src/GameEngine/gameEngine.cpp

4.12 GameEngineTest Class Reference

Inheritance diagram for GameEngineTest:



Collaboration diagram for GameEngineTest:



Protected Member Functions

- void **TearDown** () override

Protected Attributes

- [GameEngine](#) * **gameEngine**

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

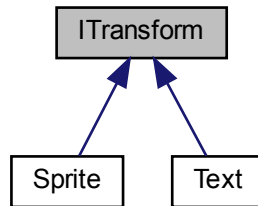
- tests/GameEngine/TestGameEngine.cpp

4.13 ITransform Class Reference

ITransform class: **ITransform** is a class that represents an interface of the Component **Transform**.

```
#include <ITransform.h>
```

Inheritance diagram for ITransform:



Public Member Functions

- virtual `~ITransform()`=default
*Default Virtual **ITransform** destructor.*
- virtual `Transform * getTransform()`=0
*`getTransform()`: Get the reference of the component **Transform** of the same **Entity***

4.13.1 Detailed Description

ITransform class: **ITransform** is a class that represents an interface of the Component **Transform**.

The **ITransform** interface give to components which need to have a reference to **Transform**

4.13.2 Constructor & Destructor Documentation

4.13.2.1 ~ITransform()

```
virtual ITransform::~~ITransform ( ) [virtual], [default]
```

Default Virtual **ITransform** destructor.

Parameters

<code>void</code>	
-------------------	--

Returns

void

4.13.3 Member Function Documentation

4.13.3.1 getTransform()

```
virtual Transform* ITransform::getTransform ( ) [pure virtual]
```

getTransform(): Get the reference of the component [Transform](#) of the same [Entity](#)

Virtual function which get the reference of the [Transform](#) component from the same [Entity](#) when a component need to use [Transform](#). If [Transform](#) don't exist **getTransform()** return nullptr.

Parameters

<i>void</i>	
-------------	--

Returns

Transform*: The reference of [Transform](#) or nullptr.

Implemented in [Text](#), and [Sprite](#).

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

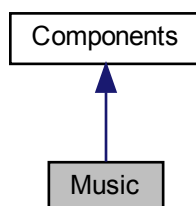
- src/Components/all_components/include/ITransform.h

4.14 Music Class Reference

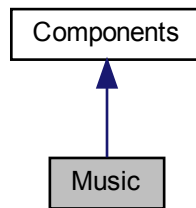
Music class: [Music](#) is a class that represents the music in the world.

```
#include <Music.h>
```

Inheritance diagram for Music:



Collaboration diagram for Music:



Public Member Functions

- **Music** ()=default
*< Bit of the **Music***
- **~Music** () override=default
*Default override **Music** destructor.*
- int **getBit** () override
***getBit()**: Get the bit of the **Music**.*
- void **update** (sf::Time timeDelta) override
update(sf::Time)**: Update the component **Music
- bool **init** () override
***init()**: Initialize the component.*
- void **setMusic** (std::map< std::string, std::shared_ptr< sf::Music >> mapMusic, const std::string &name↵
Music)
***setMusic(std::map<std::string, std::shared_ptr<sf::Music>>, const std::string&)**: Initialize the sf::Music of the class.*
- void **setDeferredMusic** (std::function< void()> setter)
***setDeferredMusic(std::function<void()>)**: Set the deferred function for **Music**.*
- void **applyDeferredMusic** ()
applyDeferredMusic()**: Apply the deferred function for **Music
- std::shared_ptr< sf::Music > **getMusic** () const
***getMusic()**: Get the music.*
- void **play** ()
***play()**: Play the music.*
- void **pause** ()
***pause()**: Pause the music.*
- void **stop** ()
***stop()**: Stop the music.*
- void **setLoop** (bool loop)
***setLoop(bool)**: Set the loop of the music.*
- bool **getLoop** () const
***getLoop()**: Get if the loop is set to True or False.*
- void **setVolume** (float volume)
***setVolume(float)**: Set the volume of the music.*
- float **getVolume** () const
***getVolume()**: Get the volume of the music.*
- sf::SoundSource::Status **getStatus** () const
***getStatus()**: Get the status of the music. Playing, pause or stop.*

4.14.1 Detailed Description

Music class: **Music** is a class that represents the music in the world.

The music class manages the music from an **Entity** using SFML.

4.14.2 Constructor & Destructor Documentation

4.14.2.1 Music()

```
Music::Music ( ) [default]
```

< Bit of the **Music**

Default **Music** constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.14.2.2 ~Music()

```
Music::~Music ( ) [override], [default]
```

Default override **Music** destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.14.3 Member Function Documentation

4.14.3.1 `applyDeferredMusic()`

```
void Music::applyDeferredMusic ( )
```

[`applyDeferredMusic\(\)`](#): Apply the deferred function for [Music](#)

Parameters

<i>void</i>	
-------------	--

Returns

`void`

4.14.3.2 `getBit()`

```
int Music::getBit ( ) [override], [virtual]
```

[`getBit\(\)`](#): Get the bit of the [Music](#).

Parameters

<i>void</i>	
-------------	--

Returns

`int`: The bit of the [Music](#).

Implements [Components](#).

4.14.3.3 `getLoop()`

```
bool Music::getLoop ( ) const
```

[`getLoop\(\)`](#): Get if the loop is set to True or False.

Parameters

<i>void</i>	
-------------	--

Returns

`bool`: True or False. If no music set, return false.

4.14.3.4 `getMusic()`

```
std::shared_ptr< sf::Music > Music::getMusic ( ) const
```

`getMusic()`: Get the music.

Parameters

<i>void</i>	
-------------	--

Returns

`std::shared_ptr<sf::Music>`: The shared ptr of the music.

4.14.3.5 `getStatus()`

```
sf::SoundSource::Status Music::getStatus ( ) const
```

`getStatus()`: Get the status of the music. Playing, pause or stop.

Parameters

<i>void</i>	
-------------	--

Returns

`sf::SoundSource::Status`: Enumerator of `sf::SoundSource::Status` which is (Stopped, Paused, Playing). If no music set, return Stopped.

4.14.3.6 `getVolume()`

```
float Music::getVolume ( ) const
```

`getVolume()`: Get the volume of the music.

Parameters

<i>void</i>	
-------------	--

Returns

`float`: Float number that represents the volume between 0 and 100 of the music. If no music set, return -100.

4.14.3.7 init()

```
bool Music::init ( ) [override], [virtual]
```

[init\(\)](#): Initialize the component.

Parameters

<i>void</i>	
-------------	--

Returns

bool: true if the component is initialized, false otherwise

Implements [Components](#).

4.14.3.8 pause()

```
void Music::pause ( )
```

[pause\(\)](#): Pause the music.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.14.3.9 play()

```
void Music::play ( )
```

[play\(\)](#): Play the music.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.14.3.10 setDeferredMusic()

```
void Music::setDeferredMusic (
    std::function< void()> setter )
```

[setDeferredMusic\(std::function<void\(\)>\)](#): Set the deferred function for [Music](#).

Parameters

<i>setter</i>	Function that will use Music .
---------------	--

Returns

void

4.14.3.11 setLoop()

```
void Music::setLoop (
    bool loop )
```

[setLoop\(bool\)](#): Set the loop of the music.

Parameters

<i>loop</i>	True or False.
-------------	----------------

Returns

void

4.14.3.12 setMusic()

```
void Music::setMusic (
    std::map< std::string, std::shared_ptr< sf::Music >> mapMusic,
    const std::string & nameMusic )
```

[setMusic\(std::map<std::string, std::shared_ptr<sf::Music>>, const std::string&\)](#): Initialize the sf::Music of the class.

Parameters

<i>mapMusic</i>	Map of all the music loaded.
<i>nameMusic</i>	Name of the music loaded.

Returns

void

4.14.3.13 setVolume()

```
void Music::setVolume (
    float volume )
```

[setVolume\(float\)](#): Set the volume of the music.

Parameters

<i>volume</i>	Float number that represents the volume between 0 and 100 of the music.
---------------	---

Returns

void

4.14.3.14 stop()

```
void Music::stop ( )
```

[stop\(\)](#): Stop the music.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.14.3.15 update()

```
void Music::update (
    sf::Time timeDelta ) [override], [virtual]
```

[update\(sf::Time\)](#): Update the component [Music](#)

Parameters

<i>timeDelta</i>	sf::Time of the game.
------------------	-----------------------

Returns

void

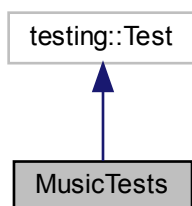
Implements [Components](#).

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

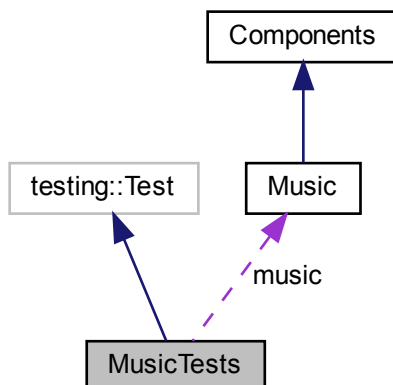
- src/Components/all_components/include/Music.h
- src/Components/all_components/Music.cpp

4.15 MusicTests Class Reference

Inheritance diagram for MusicTests:



Collaboration diagram for MusicTests:



Protected Member Functions

- void **SetUp** () override
- void **TearDown** () override

Protected Attributes

- **Music** music

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

- tests/Components/all_components/TestMusic.cpp

4.16 Rect< T > Class Template Reference

Rect class: **Rect** is a class that represents a rectangle.

```
#include <Rect.h>
```

Public Member Functions

- **Rect** (T left, T top, T width, T height)
< Rect is the variable you can use for change the data in RectStruct.
- **~Rect** ()=default
Rect destructor.
- RectStruct **getRect** () const
getRect(): Get the using RectStruct.
- T **getLeft** () const
getLeft(): Get the using RectStruct left.
- T **getTop** () const
getTop(): Get the using RectStruct top.
- T **getWidth** () const
getWidth(): Get the using RectStruct width.
- T **getHeight** () const
getHeight(): Get the using RectStruct height.
- bool **contains** (T x, T y) const
contains(): Check if a point is in the rectangle.

4.16.1 Detailed Description

```
template<typename T>
class Rect< T >
```

Rect class: **Rect** is a class that represents a rectangle.

This create a rectangle and using for what you want.

4.16.2 Constructor & Destructor Documentation

4.16.2.1 Rect()

```
template<typename T >
Rect< T >::Rect (
    T left,
    T top,
    T width,
    T height ) [inline]
```

< Rect is the variable you can use for change the data in RectStruct.

Rect constructor with parameters.

Template Parameters

<i>T</i>	Type of the rect.
----------	-------------------

Parameters

<i>left</i>	Position x.
<i>top</i>	Position y.
<i>width</i>	Width of your rectangle.
<i>height</i>	Height of your rectangle.

Returns

void

4.16.2.2 ~Rect()

```
template<typename T >
Rect< T >::~~Rect ( ) [default]
```

Rect destructor.

Template Parameters

<i>T</i>	Type of the rect.
----------	-------------------

Parameters

<i>void</i>	
-------------	--

Returns

void

4.16.3 Member Function Documentation

4.16.3.1 contains()

```
template<typename T >
template bool Rect< T >::contains (
    T x,
    T y ) const
```

contains(): Check if a point is in the rectangle.

Template Parameters

<i>T</i>	Type of the rect.
----------	-------------------

Parameters

<i>x</i>	: Position x of the point.
<i>y</i>	: Position y of the point.

Returns

T : *T* is the type you want (float, int,...).

4.16.3.2 getHeight()

```
template<typename T >
template int Rect< T >::getHeight ( ) const
```

getHeight(): Get the using RectStruct height.

Template Parameters

<i>T</i>	Type of the rect.
----------	-------------------

Parameters

<i>void</i>	
-------------	--

Returns

T : T is the type you want (float, int,...).

4.16.3.3 getLeft()

```
template<typename T >
template int Rect< T >::getLeft ( ) const
```

[getLeft\(\)](#): Get the using RectStruct left.

Template Parameters

<i>T</i>	Type of the rect.
----------	-------------------

Parameters

<i>void</i>	
-------------	--

Returns

T : T is the type you want (float, int,...).

4.16.3.4 getRect()

```
template<typename T >
RectStruct Rect< T >::getRect ( ) const [inline]
```

[getRect\(\)](#): Get the using RectStruct.

Parameters

<i>void</i>	
-------------	--

Returns

[Rect](#)

4.16.3.5 getTop()

```
template<typename T >
template int Rect< T >::getTop ( ) const
```

[getTop\(\)](#): Get the using RectStruct top.

Template Parameters

<i>T</i>	Type of the rect.
----------	-------------------

Parameters

<i>void</i>	
-------------	--

Returns

T : *T* is the type you want (float, int,...).

4.16.3.6 getWidth()

```
template<typename T >
template int Rect< T >::getWidth ( ) const
```

[getWidth\(\)](#): Get the using RectStruct width.

Template Parameters

<i>T</i>	Type of the rect.
----------	-------------------

Parameters

<i>void</i>	
-------------	--

Returns

T : *T* is the type you want (float, int,...).

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

- src/Other/include/Rect.h
- src/Other/Rect.cpp

4.17 Script Class Reference**Public Member Functions**

- virtual void **execute** ()=0

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

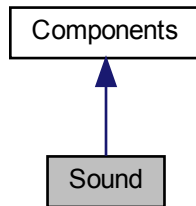
- src/Script/include/Script.h

4.18 Sound Class Reference

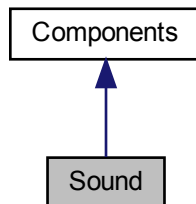
Sound class: **Sound** is a class that represents the sound properties of a Component.

```
#include <Sound.h>
```

Inheritance diagram for Sound:



Collaboration diagram for Sound:



Public Member Functions

- **Sound** ()=default
 < Bit of the **Sound**.
- **~Sound** () override=default
 Default override **Sound** destructor.
- int **getBit** () override
 getBit(): Get the bit of the **Sound**.
- void **update** (sf::Time timeDelta) override
 update(sf::Time): Update the component **Sound**
- bool **init** () override
 init(): Initialize the component.
- void **setSound** (const sf::Sound &sound)

- [`setSound\(const sf::Sound&\)`](#): Set the sound with an existing one. Automatically set the component sound buffer.
- void [`setSound`](#) (std::map< std::string, std::shared_ptr< sf::SoundBuffer >> mapSound, const std::string &nameSound)

[`setSound\(std::map<std::string, std::shared_ptr<sf::SoundBuffer>>, const std::string&\)`](#): Initialize the sf::Sound of the class.
- void [`setDeferredSound`](#) (std::function< void()> setter)

[`setDeferredSound\(std::function<void\(\)>\)`](#): Set the deferred function for [Sound](#).
- void [`applyDeferredSound`](#) ()

[`applyDeferredSound\(\)`](#): Apply the deferred function for [Sound](#)
- const sf::Sound & [`getSound`](#) () const

[`getSound\(\)`](#): Get the sound.
- void [`play`](#) ()

[`play\(\)`](#): Play the sound.
- void [`pause`](#) ()

[`pause\(\)`](#): Pause the sound.
- void [`stop`](#) ()

[`stop\(\)`](#): Stop the sound.
- void [`setLoop`](#) (bool loop)

[`setLoop\(bool\)`](#): Set the loop of the sound.
- bool [`getLoop`](#) () const

[`getLoop\(\)`](#): Get if the loop is set to True or False.
- void [`setVolume`](#) (float volume)

[`setVolume\(float\)`](#): Set the volume of the sound.
- float [`getVolume`](#) () const

[`getVolume\(\)`](#): Get the volume of the sound.
- bool [`isPlaying`](#) () const

[`isPlaying\(\)`](#): Check if the sound is currently playing.

4.18.1 Detailed Description

[Sound](#) class: [Sound](#) is a class that represents the sound properties of a Component.

The [Sound](#) class manages the sound representation of a Component using SFML.

4.18.2 Constructor & Destructor Documentation

4.18.2.1 [Sound\(\)](#)

```
Sound::Sound ( ) [default]
```

< Bit of the [Sound](#).

Default [Sound](#) constructor.

Parameters

<code>void</code>	
-------------------	--

Returns

void

4.18.2.2 ~Sound()

```
Sound::~~Sound ( ) [override], [default]
```

Default override [Sound](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.18.3 Member Function Documentation

4.18.3.1 applyDeferredSound()

```
void Sound::applyDeferredSound ( )
```

[applyDeferredSound\(\)](#): Apply the deferred function for [Sound](#)

Parameters

<i>void</i>	
-------------	--

Returns

void

4.18.3.2 getBit()

```
int Sound::getBit ( ) [override], [virtual]
```

[getBit\(\)](#): Get the bit of the [Sound](#).

Parameters

<i>void</i>	
-------------	--

Returns

int: The bit of the [Sound](#).

Implements [Components](#).

4.18.3.3 getLoop()

```
bool Sound::getLoop ( ) const
```

[getLoop\(\)](#): Get if the loop is set to True or False.

Parameters

<i>void</i>	
-------------	--

Returns

bool: True or False.

4.18.3.4 getSound()

```
const sf::Sound & Sound::getSound ( ) const
```

[getSound\(\)](#): Get the sound.

Parameters

<i>void</i>	
-------------	--

Returns

const sf::Sound&: The shared ptr of the sound.

4.18.3.5 getVolume()

```
float Sound::getVolume ( ) const
```

[getVolume\(\)](#): Get the volume of the sound.

Parameters

<i>void</i>	
-------------	--

Returns

float: Float number that represents the volume between 0 and 100 of the sound.

4.18.3.6 init()

```
bool Sound::init ( ) [override], [virtual]
```

[init\(\)](#): Initialize the component.

Parameters

<i>void</i>	
-------------	--

Returns

bool: true if the component is initialized, false otherwise

Implements [Components](#).

4.18.3.7 isPlaying()

```
bool Sound::isPlaying ( ) const
```

[isPlaying\(\)](#): Check if the sound is currently playing.

Parameters

<i>void</i>	
-------------	--

Returns

bool: True if the sound is playing, false otherwise.

4.18.3.8 pause()

```
void Sound::pause ( )
```

[pause\(\)](#): Pause the sound.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.18.3.9 play()

```
void Sound::play ( )
```

[play\(\)](#): Play the sound.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.18.3.10 setDeferredSound()

```
void Sound::setDeferredSound (
    std::function< void()> setter )
```

[setDeferredSound\(std::function<void\(\)>\)](#): Set the deferred function for [Sound](#).

Parameters

<i>setter</i>	Function that will use Sound .
---------------	--

Returns

void

4.18.3.11 setLoop()

```
void Sound::setLoop (
    bool loop )
```

[setLoop\(bool\)](#): Set the loop of the sound.

Parameters

<i>loop</i>	True or False.
-------------	----------------

Returns

void

4.18.3.12 setSound() [1/2]

```
void Sound::setSound (
    const sf::Sound & sound )
```

[setSound\(const sf::Sound&\)](#): Set the sound with an existing one. Automatically set the component sound buffer.

Parameters

<i>sound</i>	SFML Sound for sound.
--------------	---------------------------------------

Returns

void

4.18.3.13 setSound() [2/2]

```
void Sound::setSound (
    std::map< std::string, std::shared_ptr< sf::SoundBuffer >> mapSound,
    const std::string & nameSound )
```

[setSound\(std::map<std::string, std::shared_ptr<sf::SoundBuffer>>, const std::string&\)](#): Initialize the sf::Sound of the class.

Parameters

<i>mapSound</i>	Map of all the sound loaded.
<i>nameSound</i>	Name of the sound loaded.

Returns

void

4.18.3.14 **setVolume()**

```
void Sound::setVolume (
    float volume )
```

[setVolume\(float\)](#): Set the volume of the sound.

Parameters

<i>volume</i>	Float number that represents the volume between 0 and 100 of the sound.
---------------	---

Returns

void

4.18.3.15 **stop()**

```
void Sound::stop ( )
```

[stop\(\)](#): Stop the sound.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.18.3.16 **update()**

```
void Sound::update (
    sf::Time timeDelta ) [override], [virtual]
```

[update\(sf::Time\)](#): Update the component [Sound](#)

Parameters

<i>timeDelta</i>	sf::Time of the game.
------------------	-----------------------

Returns

void

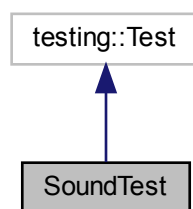
Implements [Components](#).

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

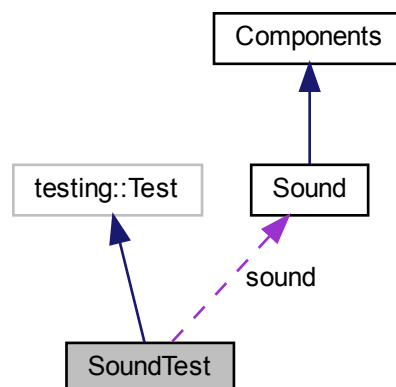
- src/Components/all_components/include/Sound.h
- src/Components/all_components/Sound.cpp

4.19 SoundTest Class Reference

Inheritance diagram for SoundTest:



Collaboration diagram for SoundTest:



Protected Member Functions

- void **SetUp** () override
- void **TearDown** () override

Protected Attributes

- [Sound](#) `sound`

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

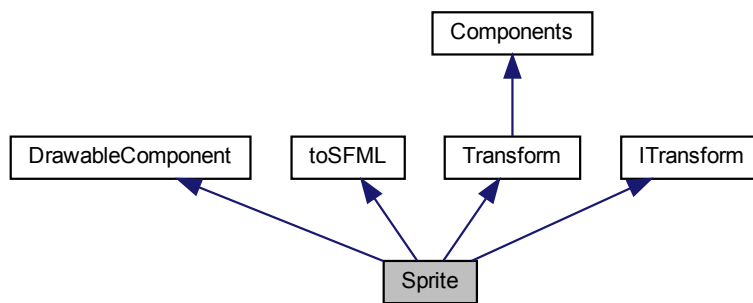
- `tests/Components/all_components/TestSound.cpp`

4.20 Sprite Class Reference

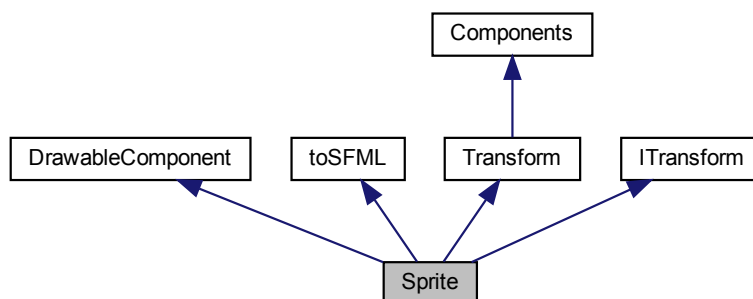
[Sprite](#) class: [Sprite](#) is a class that represents the rendering properties of a Component.

```
#include <Sprite.h>
```

Inheritance diagram for [Sprite](#):



Collaboration diagram for [Sprite](#):



Public Member Functions

- [Sprite](#) ()
< Doing the animation.
- [~Sprite](#) () override=default
Default override [Sprite](#) destructor.
- [Transform](#) * [getTransform](#) () override
[getTransform\(\)](#): Get the reference to the component [Transform](#).
- bool [init](#) () override
[init\(\)](#): Initialize the component.
- int [getBit](#) () override
[getBit\(\)](#): Get the bit of the [Music](#).
- void [draw](#) (sf::RenderWindow &>window) const override
[draw\(\)](#): Draw the [Sprite](#).
- void [update](#) (sf::Time deltaTime) override
[update\(sf::Time\)](#): Update the component [Music](#)
- sf::Sprite [getSprite](#) () const
[getSprite\(\)](#): Get the SFML [Sprite](#) for rendering.
- void [setSprite](#) (const sf::Sprite &sprite)
[setSprite\(sf::Sprite&\)](#): Set the SFML [Sprite](#) with an existing one for rendering.
- void [setSprite](#) (std::map< std::string, std::shared_ptr< sf::Texture >> mapTexture, const std::string &name← Texture, bool animate=false, const std::vector< [Rect](#)< int >> &newFrames=std::vector< [Rect](#)< int >>(), int durationOfFrame=100)
Sets the sprite of the component.
- void [setDeferredSprite](#) (std::function< void()> setter)
[setDeferredSprite\(std::function< void\(\)>\)](#): Set the deferred sprite.
- void [applyDeferredSprite](#) ()
[applyDeferredSprite\(\)](#): Apply the deferred sprite.
- void [setTransform](#) ([Transform](#) &newTransform)
[setTransform\(Transform&\)](#): Set the reference of the [Transform](#) component.

4.20.1 Detailed Description

[Sprite](#) class: [Sprite](#) is a class that represents the rendering properties of a Component.

The [Sprite](#) class manages the graphical representation of a Component using SFML.

4.20.2 Constructor & Destructor Documentation

4.20.2.1 [Sprite](#)()

```
Sprite::Sprite ( ) [inline]
```

< Doing the animation.

Default [Sprite](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.20.2.2 ~Sprite()

```
Sprite::~~Sprite ( ) [override], [default]
```

Default override [Sprite](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.20.3 Member Function Documentation**4.20.3.1 applyDeferredSprite()**

```
void Sprite::applyDeferredSprite ( )
```

[applyDeferredSprite\(\)](#): Apply the deferred sprite.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.20.3.2 draw()

```
void Sprite::draw (
    sf::RenderWindow & window ) const [override], [virtual]
```


[draw\(\)](#): Draw the [Sprite](#).

Parameters

<i>window</i>	SFML RenderWindow where the Sprite will be drawn.
---------------	---

Returns

void

Implements [DrawableComponent](#).

4.20.3.3 [getBit\(\)](#)

```
int Sprite::getBit ( ) [override], [virtual]
```

[getBit\(\)](#): Get the bit of the [Music](#).

Parameters

<i>void</i>	
-------------	--

Returns

int: The bit of the [Music](#).

Implements [Components](#).

4.20.3.4 [getSprite\(\)](#)

```
sf::Sprite Sprite::getSprite ( ) const
```

[getSprite\(\)](#): Get the SFML [Sprite](#) for rendering.

Parameters

<i>void</i>	
-------------	--

Returns

sf::Sprite: SFML [Sprite](#) for rendering

4.20.3.5 getTransform()

```
Transform * Sprite::getTransform ( ) [override], [virtual]
```

[getTransform\(\)](#): Get the reference to the component [Transform](#).

Parameters

<i>void</i>	
-------------	--

Returns

Transform*: Reference of [Transform](#)

Implements [ITransform](#).

4.20.3.6 init()

```
bool Sprite::init ( ) [override], [virtual]
```

[init\(\)](#): Initialize the component.

Parameters

<i>void</i>	
-------------	--

Returns

bool: true if the component is initialized, false otherwise

Implements [Components](#).

4.20.3.7 setDeferredSprite()

```
void Sprite::setDeferredSprite (
    std::function< void()> setter )
```

[setDeferredSprite\(std::function<void\(\)>\)](#): Set the deferred sprite.

Parameters

<i>setter</i>	Function that will set the sprite.
---------------	------------------------------------

Returns

void

4.20.3.8 setSprite() [1/2]

```
void Sprite::setSprite (
    const sf::Sprite & sprite )
```

setSprite(sf::Sprite&): Set the SFML [Sprite](#) with an existing one for rendering.

Parameters

<i>sprite</i>	SFML Sprite for rendering
---------------	---

Returns

void

4.20.3.9 setSprite() [2/2]

```
void Sprite::setSprite (
    std::map< std::string, std::shared_ptr< sf::Texture >> mapTexture,
    const std::string & nameTexture,
    bool animate = false,
    const std::vector< Rect< int >> & newFrames = std::vector<Rect<int>>(),
    int durationOfFrame = 100 )
```

Sets the sprite of the component.

This function sets the sprite of the component using the provided texture map and texture name. Optionally, it can enable animation by providing a vector of frames and the duration of each frame.

Parameters

<i>mapTexture</i>	A map of texture names and their corresponding shared pointers to sf::Texture objects.
<i>nameTexture</i>	The name of the texture to set as the sprite.
<i>animate</i>	Flag indicating whether to enable animation or not. Default is false.
<i>newFrames</i>	A vector of frames to use for animation. Default is an empty vector.
<i>durationOfFrame</i>	The duration of each frame in milliseconds. Default is 100 milliseconds.

Returns

void

4.20.3.10 setTransform()

```
void Sprite::setTransform (
    Transform & newTransform )
```

[setTransform\(Transform&\)](#): Set the reference of the [Transform](#) component.

Parameters

<i>newTransform</i>	Reference of Transform .
---------------------	--

Returns

void

4.20.3.11 update()

```
void Sprite::update (
    sf::Time deltaTime ) [override], [virtual]
```

[update\(sf::Time\)](#): Update the component [Music](#)

Parameters

<i>timeDelta</i>	sf::Time of the game.
------------------	-----------------------

Returns

void

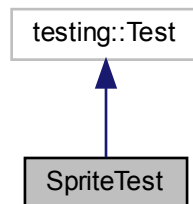
Implements [Components](#).

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

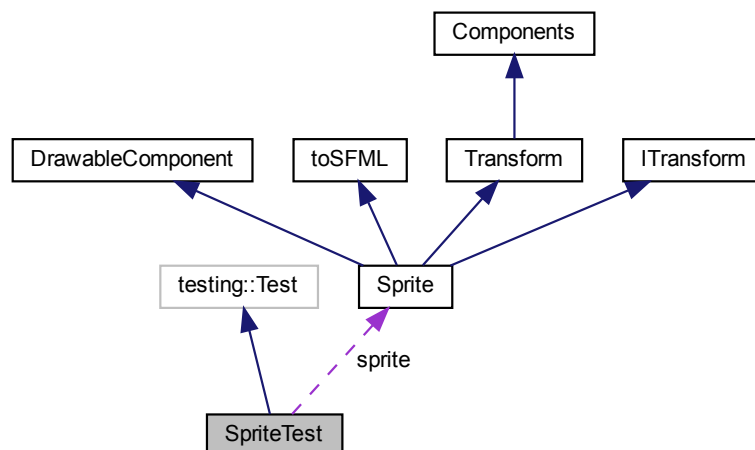
- src/Components/all_components/include/Sprite.h
- src/Components/all_components/Sprite.cpp

4.21 SpriteTest Class Reference

Inheritance diagram for SpriteTest:



Collaboration diagram for SpriteTest:



Protected Attributes

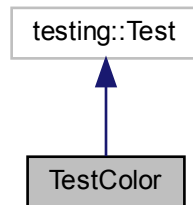
- [Sprite](#) `sprite`

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

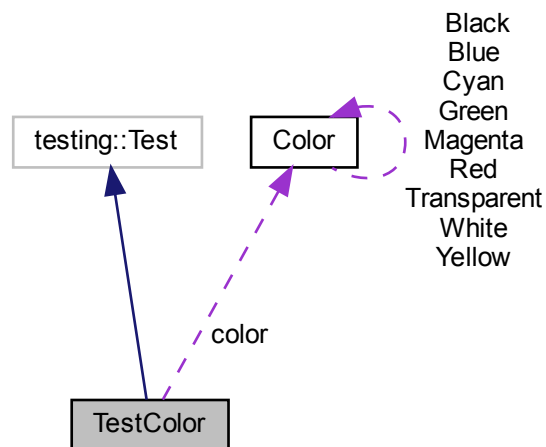
- `tests/Components/all_components/TestSprite.cpp`

4.22 TestColor Class Reference

Inheritance diagram for TestColor:



Collaboration diagram for TestColor:



Protected Member Functions

- void **SetUp** () override
- void **TearDown** () override

Protected Attributes

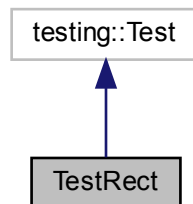
- `Color` `color`

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

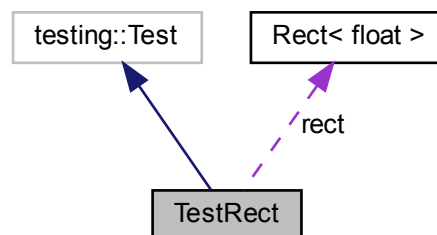
- `tests/Other/TestColor.cpp`

4.23 TestRect Class Reference

Inheritance diagram for TestRect:



Collaboration diagram for TestRect:



Protected Attributes

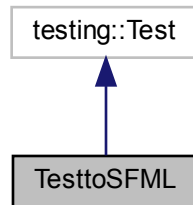
- `Rect< float > rect = Rect<float>(0, 0, 0, 0)`

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

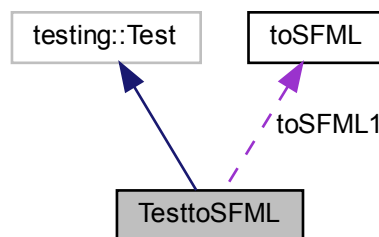
- tests/Other/TestRect.cpp

4.24 TesttoSFML Class Reference

Inheritance diagram for TesttoSFML:



Collaboration diagram for TesttoSFML:



Protected Attributes

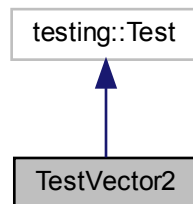
- `toSFML toSFML1 = toSFML()`

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

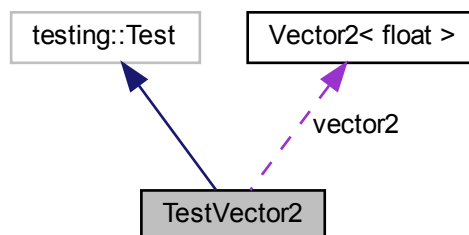
- `tests/toSFML/TesttoSFML.cpp`

4.25 TestVector2 Class Reference

Inheritance diagram for TestVector2:



Collaboration diagram for TestVector2:



Protected Attributes

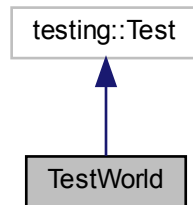
- `Vector2< float > vector2 = Vector2<float>(0, 0)`

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

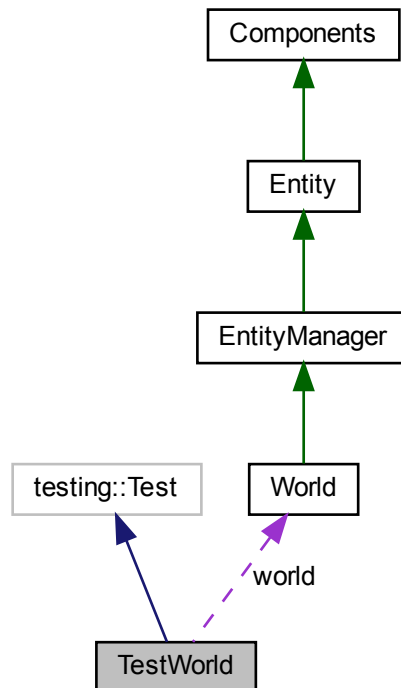
- tests/Other/TestVector2.cpp

4.26 TestWorld Class Reference

Inheritance diagram for TestWorld:



Collaboration diagram for TestWorld:



Protected Attributes

- [World](#) world

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

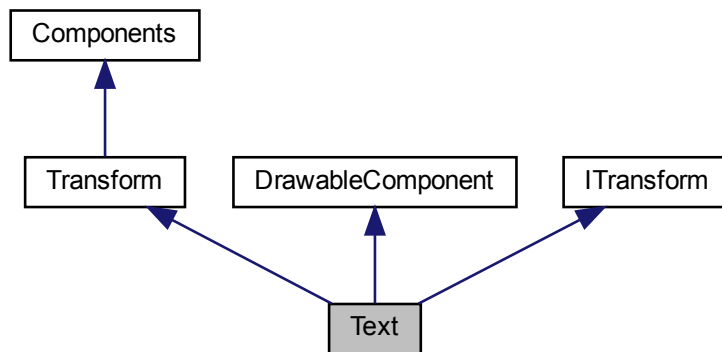
- tests/World/TestWorld.cpp

4.27 Text Class Reference

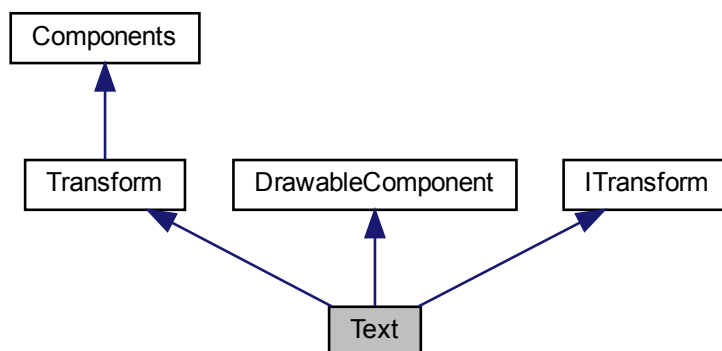
Text class: **Text** is a class that represents the text in the world.

```
#include <Text.h>
```

Inheritance diagram for Text:



Collaboration diagram for Text:



Public Member Functions

- **Text** ()
 *< Bit of the **Text**.*
- **~Text** () override=default
 *Default override **Text** destructor.*

- int `getBit` () override
getBit(): Get the bit of the `Text`.
- void `draw` (sf::RenderWindow &window) const override
draw(): Draw the `Text`.
- void `update` (sf::Time deltaTime) override
update(sf::Time): Update the component `Text`
- bool `init` () override
init(): Initialize the component.
- void `setText` (std::map< std::string, std::shared_ptr< sf::Font >> mapFont, const std::string &nameFont, const std::string &newStringText, int sizeText, `Color` fillColor)
Sets the text of the component.
- void `setText` (std::map< std::string, std::shared_ptr< sf::Font >> mapFont, const std::string &nameFont, const std::string &newStringText, int sizeText, `Color` fillColor, `Color` outlineColor)
Sets the text of the component.
- void `setFont` (std::map< std::string, std::shared_ptr< sf::Font >> mapFont, const std::string &nameFont)
setFont(std::map<std::string, std::shared_ptr<sf::Font>>, const std::string&): Set the font of `Text`.
- void `setString` (const std::string &newStringText)
setString(const std::string&): Set the string of `Text`.
- void `setSize` (int sizeText)
setSize(int): Set the size of `Text`.
- void `setOutlineColor` (`Color` outlineColor)
setOutlineColor(Color): Set the outline color of `Text`.
- void `setFillColor` (`Color` fillColor)
setFillColor(Color): Set the fill color of `Text`.
- sf::Text `getText` () const
getText(): Get the `Text`.
- sf::Font `getFont` () const
getFont(): Get the `Font`.
- std::string `getStringText` () const
getStringText(): Get the string.
- int `getSize` () const
getSize(): Get the size.
- `Color` `getColorFill` () const
getColorFill(): Get the fill color.
- `Color` `getColorOutline` () const
getColorOutline(): Get the outline color.
- `Transform` * `getTransform` () override
getTransform(): Get the reference to the component `Transform`.
- void `setTransform` (`Transform` &newTransform)
setTransform(Transform&): Set the reference of the `Transform` component.
- void `setDeferredText` (std::function< void()> setter)
setDeferredText(std::function<void()>): Set the deferred text.
- void `applyDeferredText` ()
applyDeferredText(): Apply the deferred text.

4.27.1 Detailed Description

`Text` class: `Text` is a class that represents the text in the world.

The text class manages the text from an `Entity` using SFML.

4.27.2 Constructor & Destructor Documentation

4.27.2.1 Text()

```
Text::Text ( ) [inline]
```

< Bit of the [Text](#).

Default [Text](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.27.2.2 ~Text()

```
Text::~Text ( ) [override], [default]
```

Default override [Text](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.27.3 Member Function Documentation

4.27.3.1 applyDeferredText()

```
void Text::applyDeferredText ( )
```

[applyDeferredText\(\)](#): Apply the deferred text.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.27.3.2 draw()

```
void Text::draw (
    sf::RenderWindow & window ) const [override], [virtual]
```

[draw\(\)](#): Draw the [Text](#).

Parameters

<i>window</i>	SFML RenderWindow where the Text will be drawn.
---------------	---

Returns

void

Implements [DrawableComponent](#).

4.27.3.3 getBit()

```
int Text::getBit ( ) [override], [virtual]
```

[getBit\(\)](#): Get the bit of the [Text](#).

Parameters

<i>void</i>	
-------------	--

Returns

int: The bit of the [Text](#).

Implements [Components](#).

4.27.3.4 getColorFill()

```
Color Text::getColorFill ( ) const
```

[getColorFill\(\)](#): Get the fill color.

Parameters

<i>void</i>	
-------------	--

Returns

[Color](#): Fill color of the text.

4.27.3.5 getColorOutline()

```
Color Text::getColorOutline ( ) const
```

[getColorOutline\(\)](#): Get the outline color.

Parameters

<i>void</i>	
-------------	--

Returns

[Color](#): Outline color of the text.

4.27.3.6 getFont()

```
sf::Font Text::getFont ( ) const
```

[getFont\(\)](#): Get the Font.

Parameters

<i>void</i>	
-------------	--

Returns

[sf::Font](#): Font of the [Text](#).

4.27.3.7 getSize()

```
int Text::getSize ( ) const
```

[getSize\(\)](#): Get the size.

Parameters

<i>void</i>	
-------------	--

Returns

int: int number that represents size of the text.

4.27.3.8 getStringText()

```
std::string Text::getStringText ( ) const
```

[getStringText\(\)](#): Get the string.

Parameters

<i>void</i>	
-------------	--

Returns

std::string: String of the text.

4.27.3.9 getText()

```
sf::Text Text::getText ( ) const
```

[getText\(\)](#): Get the [Text](#).

Parameters

<i>void</i>	
-------------	--

Returns

sf::Text: [Text](#) for draw.

4.27.3.10 `getTransform()`

```
Transform * Text::getTransform ( ) [override], [virtual]
```

`getTransform()`: Get the reference to the component [Transform](#).

Parameters

<i>void</i>	
-------------	--

Returns

Transform*: Reference of [Transform](#)

Implements [ITransform](#).

4.27.3.11 `init()`

```
bool Text::init ( ) [override], [virtual]
```

`init()`: Initialize the component.

Parameters

<i>void</i>	
-------------	--

Returns

bool: true if the component is initialized, false otherwise. If no [Transform](#) is set, returns false.

Implements [Components](#).

4.27.3.12 `setDeferredText()`

```
void Text::setDeferredText (
    std::function< void()> setter )
```

`setDeferredText(std::function<void()>)`: Set the deferred text.

Parameters

<i>setter</i>	Function that will set the text.
---------------	----------------------------------

Returns

void

4.27.3.13 setFillColor()

```
void Text::setFillColor (
    Color fillColor )
```

[setFillColor\(Color\)](#): Set the fill color of [Text](#).

Parameters

<i>fillColor</i>	Color for the text.
------------------	-------------------------------------

Returns

void

4.27.3.14 setFont()

```
void Text::setFont (
    std::map< std::string, std::shared_ptr< sf::Font >> mapFont,
    const std::string & nameFont )
```

[setFont\(std::map<std::string, std::shared_ptr<sf::Font>>, const std::string&\)](#): Set the font of [Text](#).

Parameters

<i>mapFont</i>	Map of all the font loaded.
<i>nameFont</i>	Name of the font loaded.

Returns

void

4.27.3.15 setOutlineColor()

```
void Text::setOutlineColor (
    Color outlineColor )
```

[setOutlineColor\(Color\)](#): Set the outline color of [Text](#).

Parameters

<i>outlineColor</i>	Color for the border of the text.
---------------------	-----------------------------------

Returns

void

4.27.3.16 setSize()

```
void Text::setSize (
    int sizeText )
```

[setSize\(int\)](#): Set the size of [Text](#).

Parameters

<i>sizeText</i>	Size of the text.
-----------------	-------------------

Returns

void

4.27.3.17 setString()

```
void Text::setString (
    const std::string & newStringText )
```

[setString\(const std::string&\)](#): Set the string of [Text](#).

Parameters

<i>newStringText</i>	String text for draw.
----------------------	-----------------------

Returns

void

4.27.3.18 setText() [1/2]

```
void Text::setText (
    std::map< std::string, std::shared_ptr< sf::Font >> mapFont,
```

```

const std::string & nameFont,
const std::string & newStringText,
int sizeText,
Color fillColor )

```

Sets the text of the component.

This function sets the [Text](#) of the component using the provided font map, the font name, a string for set the [Text](#), the size for the size of character and fill color for color the text.

Parameters

<i>mapFont</i>	Map of all the font loaded.
<i>nameFont</i>	Name of the font loaded.
<i>newStringText</i>	String text for draw.
<i>sizeText</i>	Size of the text.
<i>fillColor</i>	Color for the text.

Returns

void

4.27.3.19 setText() [2/2]

```

void Text::setText (
    std::map< std::string, std::shared_ptr< sf::Font >> mapFont,
    const std::string & nameFont,
    const std::string & newStringText,
    int sizeText,
    Color fillColor,
    Color outlineColor )

```

Sets the text of the component.

This function sets the [Text](#) of the component using the provided font map, the font name, a string for set the [Text](#), the size for the size of character, fill color for color the text and outline color for the border of the text.

Parameters

<i>mapFont</i>	Map of all the font loaded.
<i>nameFont</i>	Name of the font loaded.
<i>newStringText</i>	String text for draw.
<i>sizeText</i>	Size of the text.
<i>fillColor</i>	Color for the text.
<i>outlineColor</i>	Color for the border of the text.

Returns

void

4.27.3.20 setTransform()

```
void Text::setTransform (
    Transform & newTransform )
```

[setTransform\(Transform&\)](#): Set the reference of the [Transform](#) component.

Parameters

<i>newTransform</i>	Reference of Transform .
---------------------	--

Returns

void

4.27.3.21 update()

```
void Text::update (
    sf::Time deltaTime ) [override], [virtual]
```

[update\(sf::Time\)](#): Update the component [Text](#)

Parameters

<i>timeDelta</i>	sf::Time of the game.
------------------	-----------------------

Returns

void

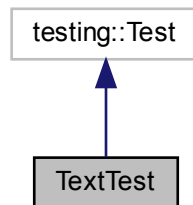
Implements [Components](#).

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

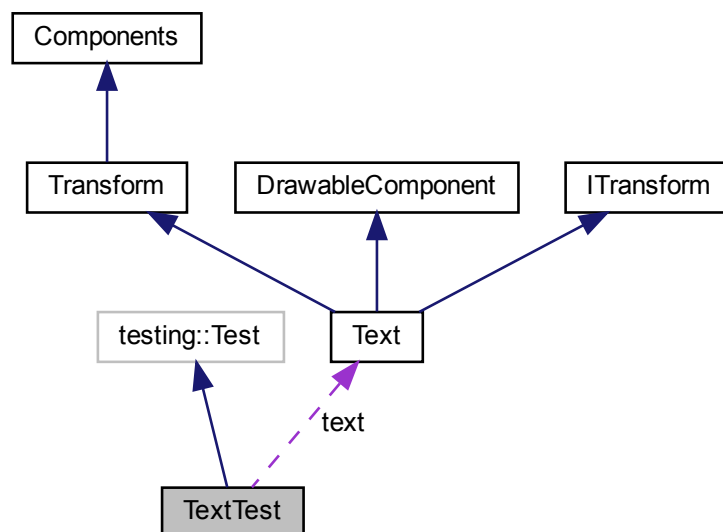
- src/Components/all_components/include/Text.h
- src/Components/all_components/Text.cpp

4.28 TextTest Class Reference

Inheritance diagram for TextTest:



Collaboration diagram for TextTest:



Protected Member Functions

- void **SetUp** () override
- void **TearDown** () override

Protected Attributes

- [Text](#) `text`

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

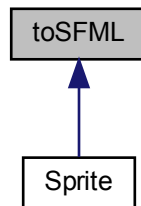
- tests/Components/all_components/TestText.cpp

4.29 toSFML Class Reference

`toSFML` class: `toSFML` is a class that convert some class into SFML class.

```
#include <toSFML.h>
```

Inheritance diagram for `toSFML`:



Public Member Functions

- `toSFML()`=default
Default `toSFML` constructor.
- `~toSFML()`=default
`toSFML` destructor.
- `template<typename T>`
`sf::Rect< T > toSFMLRect (Rect< T > rect)`
`toSFMLRect()`: Convert your `Rect<T>` into `sf::Rect<T>`.

4.29.1 Detailed Description

`toSFML` class: `toSFML` is a class that convert some class into SFML class.

Convert some class in SFML class.

4.29.2 Constructor & Destructor Documentation

4.29.2.1 toSFML()

```
toSFML::toSFML ( ) [default]
```

Default `toSFML` constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.29.2.2 ~toSFML()

```
toSFML::~~toSFML ( ) [default]
```

[toSFML](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.29.3 Member Function Documentation**4.29.3.1 toSFMLRect()**

```
template<typename T >
template sf::Rect< float > toSFML::toSFMLRect (
    Rect< T > rect )
```

[toSFMLRect\(\)](#): Convert your Rect<T> into sf::Rect<T>.

Template Parameters

<i>T</i>	Type of the rect.
----------	-------------------

Parameters

<i>rect</i>	The rect you want to convert.
-------------	-------------------------------

Returns

sf::Rect<T>: SFML rect.

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

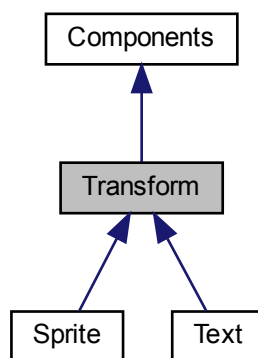
- src/toSFML/include/toSFML.h
- src/toSFML/toSFML.cpp

4.30 Transform Class Reference

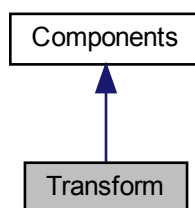
Transform class: **Transform** is a class that represents the transform of a Component.

```
#include <Transform.h>
```

Inheritance diagram for Transform:



Collaboration diagram for Transform:



Public Member Functions

- [Transform](#) ()
Default [Transform](#) constructor.
- bool [init](#) () override
[init\(\)](#): Initialize the component
- [~Transform](#) () override=default
[Transform](#) destructor.
- void [update](#) (sf::Time deltaTime) override
[update\(sf::Time\)](#): Update the component [Music](#)
- int [getBit](#) () override
[getBit\(\)](#): Get the bitmask of the component
- [Vector2](#)< float > [getPosition](#) () const
[getPositionVector\(\)](#): Get the position vector of the component;
- float [getRotation](#) () const
[getRotationVector\(\)](#): Get the rotation vector of the component;
- [Vector2](#)< float > [getScale](#) () const
[getScaleVector\(\)](#): Get the scale vector of the component;
- TransformStruct [getTransform](#) () const
[getTransform\(\)](#): Get the the transform of the component;
- void [setTransform](#) ([Vector2](#)< float > newPosition, float newRotation, [Vector2](#)< float > newScale)
[setTransform\(\)](#): Set the transform of the component;
- void [setPosition](#) ([Vector2](#)< float > newPosition)
[setPosition\(\)](#): Set the transform position of the component;
- void [setRotation](#) (float newRotation)
[setRotation\(\)](#): Set the transform rotation of the component;
- void [setScale](#) ([Vector2](#)< float > newScale)
[setScale\(\)](#): Set the transform scale of the component;
- void [setDeferredTransform](#) (const std::function< void()> &setter)
[setDeferredTransform\(\)](#): Set the deferred transform.
- void [applyDeferredTransform](#) ()
[applyDeferredTransform\(\)](#): Apply the deferred transform.

4.30.1 Detailed Description

[Transform](#) class: [Transform](#) is a class that represents the transform of a Component.

The [Transform](#) class manages the position, rotation and scale of a Component.

4.30.2 Constructor & Destructor Documentation

4.30.2.1 Transform()

```
Transform::Transform ( ) [inline]
```

Default [Transform](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.30.2.2 ~Transform()

```
Transform::~Transform ( ) [override], [default]
```

[Transform](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.30.3 Member Function Documentation**4.30.3.1 applyDeferredTransform()**

```
void Transform::applyDeferredTransform ( )
```

[applyDeferredTransform\(\)](#): Apply the deferred transform.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.30.3.2 getBit()

```
int Transform::getBit ( ) [override], [virtual]
```

[getBit\(\)](#): Get the bitmask of the component

Parameters

<i>void</i>	
-------------	--

Returns

int: bitmask of the component

Implements [Components](#).

4.30.3.3 getPosition()

```
Vector2< float > Transform::getPosition ( ) const
```

getPositionVector(): Get the position vector of the component;

Parameters

<i>void</i>	
-------------	--

Returns

std::vector<float>: position vector of the component

4.30.3.4 getRotation()

```
float Transform::getRotation ( ) const
```

getRotationVector(): Get the rotation vector of the component;

Parameters

<i>void</i>	
-------------	--

Returns

std::vector<float>: rotation vector of the component

4.30.3.5 getScale()

```
Vector2< float > Transform::getScale ( ) const
```

getScaleVector(): Get the scale vector of the component;

Parameters

<i>void</i>	
-------------	--

Returns

std::vector<float>: scale vector of the component

4.30.3.6 getTransform()

```
Transform::TransformStruct Transform::getTransform ( ) const
```

[getTransform\(\)](#): Get the the transform of the component;

Parameters

<i>void</i>	
-------------	--

Returns

TransformStruct: struct of the [Transform](#).

4.30.3.7 init()

```
bool Transform::init ( ) [override], [virtual]
```

[init\(\)](#): Initialize the component

Parameters

<i>void</i>	
-------------	--

Returns

bool: true if the component is initialized, false otherwise

Implements [Components](#).

4.30.3.8 setDeferredTransform()

```
void Transform::setDeferredTransform (
    const std::function< void()> & setter )
```

[setDeferredTransform\(\)](#): Set the deferred transform.

Parameters

<i>setter</i>	Function that will set the transform.
---------------	---------------------------------------

Returns

void

4.30.3.9 setPosition()

```
void Transform::setPosition (
    Vector2< float > newPosition )
```

[setPosition\(\)](#): Set the transform position of the component;

Parameters

<i>newPosition</i>	: the new Vector2<float> position.
--------------------	--

Returns

void

4.30.3.10 setRotation()

```
void Transform::setRotation (
    float newRotation )
```

[setRotation\(\)](#): Set the transform rotation of the component;

Parameters

<i>newRotation</i>	: the new float rotation.
--------------------	---------------------------

Returns

void

4.30.3.11 setScale()

```
void Transform::setScale (
    Vector2< float > newScale )
```

[setScale\(\)](#): Set the transform scale of the component;

Parameters

<i>newScale</i>	: the new Vector2<float> scale.
-----------------	---

Returns

void

4.30.3.12 setTransform()

```
void Transform::setTransform (
    Vector2< float > newPosition,
    float newRotation,
    Vector2< float > newScale )
```

[setTransform\(\)](#): Set the transform of the component;

Parameters

<i>newPosition</i>	: the new Vector2<float> position.
<i>newRotation</i>	: the new float rotation.
<i>newScale</i>	: the new Vector2<float> scale.

Returns

void

4.30.3.13 update()

```
void Transform::update (
    sf::Time deltaTime ) [override], [virtual]
```

[update\(sf::Time\)](#): Update the component [Music](#)

Parameters

<i>timeDelta</i>	sf::Time of the game.
------------------	-----------------------

Returns

void

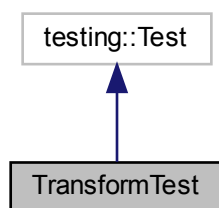
Implements [Components](#).

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

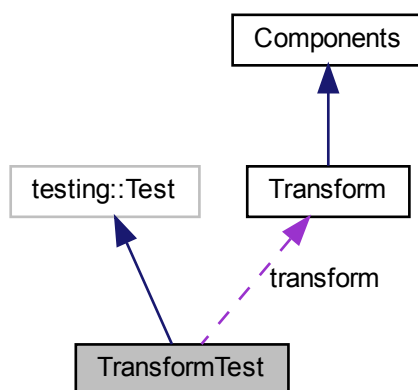
- src/Components/all_components/include/Transform.h
- src/Components/all_components/Transform.cpp

4.31 TransformTest Class Reference

Inheritance diagram for TransformTest:



Collaboration diagram for TransformTest:



Protected Member Functions

- void **SetUp** () override
- void **TearDown** () override

Protected Attributes

- [Transform](#) transform

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

- tests/Components/all_components/TestTransform.cpp

4.32 Vector2< T > Class Template Reference

Vector class: Vector is a class that represents a vector in 2 dimensions.

```
#include <Vector2.h>
```

Public Member Functions

- [Vector2](#) ()
< Variable for using the value of the Vector2Struct.
- [Vector2](#) (T x, T y)
Vector2 constructor with parameters.
- [~Vector2](#) ()=default
Vector2 destructor.
- Vector2Struct [getVector2Struct](#) () const
getVector2Struct(): Get the using Vector2Struct.
- T [getX](#) () const
getX(): Get x of Vector2Struct.
- T [getY](#) () const
getY(): Get y of Vector2Struct.
- void [setX](#) (T newX)
setX(): Set x of Vector2Struct.
- void [setY](#) (T newY)
setY(): Set y of Vector2Struct.

4.32.1 Detailed Description

```
template<typename T>
class Vector2< T >
```

Vector class: Vector is a class that represents a vector in 2 dimensions.

This create a vector with 2 value.

4.32.2 Constructor & Destructor Documentation

4.32.2.1 Vector2() [1/2]

```
template<typename T >
Vector2< T >::Vector2 ( ) [inline]
```

< Variable for using the value of the Vector2Struct.

[Vector2](#) constructor with parameters.

Template Parameters

T	Type of the vector.
-----	---------------------

Parameters

x	Position x.
y	Position y.

Returns

void

4.32.2.2 **Vector2()** [2/2]

```
template<typename T >
Vector2< T >::Vector2 (
    T x,
    T y ) [inline]
```

[Vector2](#) constructor with parameters.

Template Parameters

T	Type of the vector.
-----	---------------------

Parameters

x	Position x.
y	Position y.

Returns

void

4.32.2.3 **~Vector2()**

```
template<typename T >
Vector2< T >::~~Vector2 ( ) [default]
```

[Vector2](#) destructor.

Template Parameters

<i>T</i>	Type of the vector.
----------	---------------------

Parameters

<i>void</i>	
-------------	--

Returns

void

4.32.3 Member Function Documentation

4.32.3.1 `getVector2Struct()`

```
template<typename T >
template Vector2< int >::Vector2Struct Vector2< T >::getVector2Struct ( ) const
```

[getVector2Struct\(\)](#): Get the using Vector2Struct.

Parameters

<i>void</i>	
-------------	--

Returns

Vector2Struct

4.32.3.2 `getX()`

```
template<typename T >
template int Vector2< T >::getX ( ) const
```

[getX\(\)](#): Get x of Vector2Struct.

Template Parameters

--	--

4.32.3.3 getY()

```
template<typename T >
template int Vector2< T >::getY ( ) const
```

[getY\(\)](#): Get y of Vector2Struct.

Template Parameters

--	--

4.32.3.4 setX()

```
template<typename T >
template void Vector2< T >::setX (
    T newX )
```

[setX\(\)](#): Set x of Vector2Struct.

Template Parameters

<i>T</i>	Type of the Vector2
----------	-------------------------------------

Parameters

<i>newX</i>	The new value of x.
-------------	---------------------

Returns

void

4.32.3.5 setY()

```
template<typename T >
template void Vector2< T >::setY (
    T newY )
```

[setY\(\)](#): Set y of Vector2Struct.

Template Parameters

<i>T</i>	Type of the Vector2
----------	-------------------------------------

Parameters

<code>newY</code>	The new value of y.
-------------------	---------------------

Returns

void

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

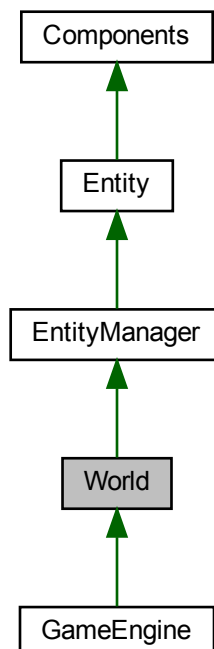
- src/Other/include/Vector2.h
- src/Other/Vector2.cpp

4.33 World Class Reference

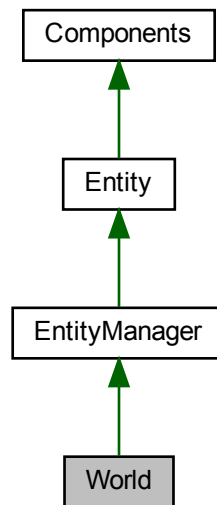
[World](#) class: [World](#) is a class that represents the world of the game.

```
#include <world.h>
```

Inheritance diagram for World:



Collaboration diagram for World:



Public Member Functions

- `World ()`=default
Default `World` constructor.
- `~World ()` override=default
`World` destructor.
- `bool init ()` override
`init()`: Initialize the world.
- `void createEntities (std::map< std::string, std::pair< std::unique_ptr< EntityManager >, std::vector< std::string >>> &mapEntityManager)`
`createEntities()`: Create the entities.
- `EntityManager & addEntityManager (const std::string &NameEntityManager)`
`addEntityManager()`: Add an entity manager to the map.
- `EntityManager & getEntityManager (const std::string &NameEntityManager)`
`getEntityManager()`: Get the entity manager.
- `void setNameWorld (std::string newName)`
`setNameWorld()`: Set the name of the world.
- `std::string getNameWorld ()` const
`getNameWorld()`: Get the name of the world.
- `std::map< std::string, EntityManager * > getEntityManagerMap ()` const
`getEntityManagerMap()`: Get the map of the entity manager.
- `std::map< std::string, EntityManager * > getEntitiesManager ()` const
`getEntitiesManager()`: Get the entities

Additional Inherited Members

4.33.1 Detailed Description

[World](#) class: [World](#) is a class that represents the world of the game.

The [World](#) class manages the world of the game.

4.33.2 Constructor & Destructor Documentation

4.33.2.1 World()

```
World::World ( ) [default]
```

Default [World](#) constructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.33.2.2 ~World()

```
World::~World ( ) [override], [default]
```

[World](#) destructor.

Parameters

<i>void</i>	
-------------	--

Returns

void

4.33.3 Member Function Documentation

4.33.3.1 addEntityManager()

```
EntityManager & World::addEntityManager (
    const std::string & NameEntityManager )
```

[addEntityManager\(\)](#): Add an entity manager to the map.

Parameters

<i>NameEntityManager</i>	Name of the entity manager.
--------------------------	-----------------------------

Returns

[EntityManager&](#): The entity manager.

4.33.3.2 createEntities()

```
void World::createEntities (
    std::map< std::string, std::pair< std::unique_ptr< EntityManager >, std::vector<
std::string >>> & mapEntityManager )
```

[createEntities\(\)](#): Create the entities.

Parameters

<i>mapEntityManager</i>	Map of the entities manager's unique pointers.
<i>keyEntityManager</i>	Key of the entities manager.

Returns

void

4.33.3.3 getEntitiesManager()

```
std::map< std::string, EntityManager * > World::getEntitiesManager ( ) const
```

[getEntitiesManager\(\)](#): Get the entities

Parameters

<i>void</i>	
-------------	--

Returns

`std::map<std::string, EntityManager*>`: Get the entities.

4.33.3.4 getEntityManager()

```
EntityManager & World::getEntityManager (
    const std::string & NameEntityManager )
```

`getEntityManager()`: Get the entity manager.

Parameters

<code>NameEntityManager</code>	Name of the entity manager.
--------------------------------	-----------------------------

Returns

`EntityManager&`: The entity manager.

4.33.3.5 getEntityManagerMap()

```
std::map< std::string, EntityManager * > World::getEntityManagerMap ( ) const
```

`getEntityManagerMap()`: Get the map of the entity manager.

Parameters

<code>void</code>	
-------------------	--

Returns

`std::map<std::string, EntityManager*>`: The map of the entity manager.

4.33.3.6 getNameWorld()

```
std::string World::getNameWorld ( ) const
```

`getNameWorld()`: Get the name of the world.

Parameters

<code>void</code>	
-------------------	--

Returns

std::string: The name of the world.

4.33.3.7 init()

```
bool World::init ( ) [override], [virtual]
```

[init\(\)](#): Initialize the world.

Parameters

<i>void</i>	
-------------	--

Returns

bool: True if the world is initialized, false otherwise.

Reimplemented from [EntityManager](#).

4.33.3.8 setNameWorld()

```
void World::setNameWorld (
    std::string newName )
```

[setNameWorld\(\)](#): Set the name of the world.

Parameters

<i>newName</i>	New name of the world.
----------------	------------------------

Returns

void

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- src/World/include/world.h
- src/World/world.cpp

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