

Raytracer

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

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

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Chapter 2

Class Index

2.1 Class List

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

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Chapter 3

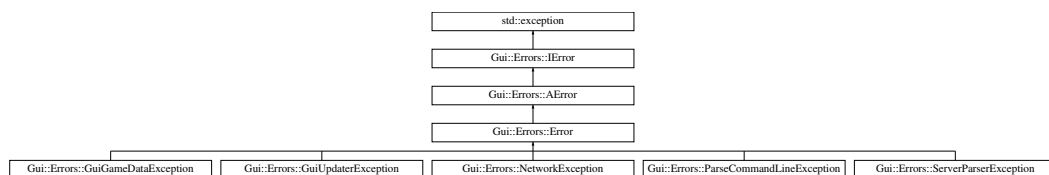
Class Documentation

3.1 Gui::Errors::AError Class Reference

Base class for custom error types. This class is derived from the [IError](#) interface and provides a common base for custom error types. It contains a protected member `_message` to store the error message.

```
#include <AError.hpp>
```

Inheritance diagram for Gui::Errors::AError:



Public Member Functions

- `~AError ()` override=default
Destructor.
- `const char * what ()` const noexcept override
Returns the error message.

Protected Attributes

- `std::string _message`

3.1.1 Detailed Description

Base class for custom error types. This class is derived from the [IError](#) interface and provides a common base for custom error types. It contains a protected member `_message` to store the error message.

3.1.2 Member Function Documentation

3.1.2.1 what()

```
const char * Gui::Errors::AError::what ( ) const [override], [virtual], [noexcept]
```

Returns the error message.

Returns

A pointer to a constant character string representing the error message.

Implements [Gui::Errors::IError](#).

3.1.3 Member Data Documentation

3.1.3.1 _message

```
std::string Gui::Errors::AError::_message [protected]
```

The error message.

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

- gui/include/Error/AError.hpp
- gui/src/Error/Error.cpp

3.2 API.API Class Reference

Public Member Functions

- def [__init__](#) (self, str host, int port)
- def [connect](#) (self)
- def [sendData](#) (self, str data, int timeout=None)
- def [receiveData](#) (self, int timeout=None)
- def [initConnection](#) (self, str teamName)
- def [close](#) (self)

3.2.1 Detailed Description

API class

A class to communicate with the server

Attributes :

```
host : str
    the host of the server
port : int
    the port of the server
inputs : list
    the list of inputs
outputs : list
    the list of outputs
sock : socket
    the socket to communicate with the server
```

Methods :

```
sendData(data : str, timeout : int = None)
    send data to the server
receiveData(timeout : int = None)
    receive data from the server
connect(team_name : str)
    connect to the server
close()
    close the connection
```

3.2.2 Constructor & Destructor Documentation

3.2.2.1 `__init__()`

```
def API.API.__init__ (
    self,
    str host,
    int port )
```

Constructor of the API class

Assign the host and the port of the server

Create the socket to communicate with the server

Connect to the server and add the socket to the inputs and outputs lists

Parameters :

```
host : str
    the host of the server
port : int
    the port of the server
```

3.2.3 Member Function Documentation

3.2.3.1 close()

```
def API.API.close (
    self )
```

Close the connection with the server

3.2.3.2 connect()

```
def API.API.connect (
    self )
```

Connect to the server

Add the socket to the inputs and outputs lists

3.2.3.3 initConnection()

```
def API.API.initConnection (
    self,
    str teamName )
```

Function to do the first exchange with the server

Send the team name to the server

Receive the client number and the map size from the server

Print the client number and the map size

Parameters :

```
    team_name : str
        the name of the team
```

Returns :

```
    client_num : int
        the client number
    x : int
        the x size of the map
    y : int
        the y size of the map
```

3.2.3.4 receiveData()

```
def API.API.receiveData (
    self,
    int timeout = None )
```

Receive data from the server

Parameters :

```
    timeout : int
        the timeout to wait for the server to send data
        (default is None which means no timeout)
```


3.2.3.5 sendData()

```
def API.API.sendData (
    self,
    str data,
    int timeout = None )

Send data to the server

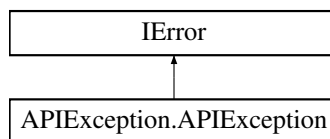
Parameters :
    data : str
        the data to send
    timeout : int
        the timeout to wait for the server to be ready to receive data
        (default is None which means no timeout)
```

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

- ai/src/Network/API.py

3.3 APIException.APIException Class Reference

Inheritance diagram for APIException.APIException:



Public Member Functions

- def `__init__`(self, message)

3.3.1 Detailed Description

APIException class

A class to handle exceptions that can occur in the API
The APIException class inherits from the IError class

Attributes :

- message : str
the message of the exception

3.3.2 Constructor & Destructor Documentation

3.3.2.1 `__init__()`

```
def APIException.APIException.__init__ (
    self,
    message )
```

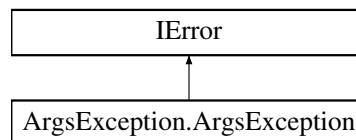
Constructor of the APIException class

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

- ai/src/Network/APIException.py

3.4 ArgsException.ArgsException Class Reference

Inheritance diagram for ArgsException.ArgsException:



Public Member Functions

- `def __init__ (self, message)`

3.4.1 Detailed Description

ArgsException class

A class to handle exceptions that can occur in the Args
The ArgsException class inherits from the IError class

Attributes :
 message : str
 the message of the exception

3.4.2 Constructor & Destructor Documentation

3.4.2.1 `__init__()`

```
def ArgsException.ArgsException.__init__ (
    self,
    message )
```

Constructor of the ArgsException class

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

- ai/src/Errors/ArgsException.py

3.5 Gui::Egg Class Reference

Public Member Functions

- [Egg](#) (size_t id, const std::string &team, std::pair< std::size_t, std::size_t > position)
Construct a new [Egg](#) object.
- [~Egg](#) ()
Destroy the [Egg](#) object.
- std::size_t [getId](#) () const
Get the [Id](#) object.
- std::string [getTeam](#) () const
Get the [Team](#) object.
- std::pair< std::size_t, std::size_t > [getPosition](#) () const
Get the [Position](#) object.
- void [setId](#) (std::size_t id)
Set the [id](#) object.
- void [setTeam](#) (const std::string &team)
Set the [team](#) object.
- void [setPosition](#) (std::pair< std::size_t, std::size_t > position)
Set the [position](#) object.

3.5.1 Constructor & Destructor Documentation

3.5.1.1 Egg()

```
Gui::Egg::Egg (
    size_t id,
    const std::string & team,
    std::pair< std::size_t, std::size_t > position )
```

Construct a new [Egg](#) object.

Parameters

<i>id</i>	Id of the egg.
<i>team</i>	Team name of the egg.
<i>position</i>	Position of the egg.

Note

The egg is created when a player lays an egg.
The constructor starts the egg animation if implemented.

3.5.1.2 ~Egg()

```
Gui::Egg::~~Egg ( )
```

Destroy the [Egg](#) object.

Note

The destructor starts the egg animation if implemented.

3.5.2 Member Function Documentation

3.5.2.1 getId()

```
std::size_t Gui::Egg::getId ( ) const
```

Get the Id object.

Returns

std::size_t Id of the egg.

3.5.2.2 getPosition()

```
std::pair< std::size_t, std::size_t > Gui::Egg::getPosition ( ) const
```

Get the Position object.

Returns

std::pair<std::size_t, std::size_t> Position of the egg.

3.5.2.3 getTeam()

```
std::string Gui::Egg::getTeam ( ) const
```

Get the [Team](#) object.

Returns

std::string [Team](#) name of the egg.

3.5.2.4 setId()

```
void Gui::Egg::setId (
    std::size_t id )
```

Set the id object.

Parameters

<i>id</i>	Id of the egg.
-----------	----------------

3.5.2.5 setPosition()

```
void Gui::Egg::setPosition (
    std::pair< std::size_t, std::size_t > position )
```

Set the position object.

Parameters

<i>position</i>	Position of the egg.
-----------------	----------------------

3.5.2.6 setTeam()

```
void Gui::Egg::setTeam (
    const std::string & team )
```

Set the team object.

Parameters

<i>team</i>	Team name of the egg.
-------------	---------------------------------------

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

- gui/include/GameDatas/Egg.hpp
- gui/src/GameDatas/Egg.cpp

3.6 Gui::Engine Class Reference

Public Member Functions

- [Engine](#) ([Network](#) network)
Construct a new [Engine](#) object.
- [~Engine](#) ()=default
Destroy the [Engine](#) object.
- void [run](#) (void)
Run the engine loop.

3.6.1 Constructor & Destructor Documentation

3.6.1.1 Engine()

```
Gui::Engine::Engine (
    Network network )
```

Construct a new [Engine](#) object.

Parameters

<i>network</i>	Network class.
----------------	--------------------------------

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

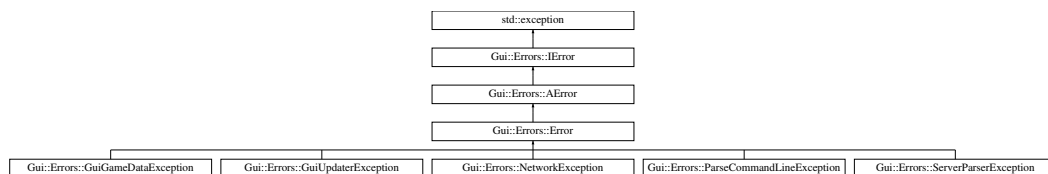
- gui/include/Engine/Engine.hpp
- gui/src/Engine/Engine.cpp

3.7 Gui::Errors::Error Class Reference

Base class for argument-related errors.

```
#include <Error.hpp>
```

Inheritance diagram for Gui::Errors::Error:



Additional Inherited Members

3.7.1 Detailed Description

Base class for argument-related errors.

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

- gui/include/Error/Error.hpp

3.8 Gui::Event Class Reference

Public Member Functions

- [Event](#) ()
Construct a new [Event](#) object.
- [~Event](#) ()=default
Destroy the [Event](#) object.
- void [listen](#) ()
Listen the user's events.
- void [setRender](#) (std::shared_ptr< [Render](#) > render)
Set the [Render](#) object.

3.8.1 Member Function Documentation

3.8.1.1 setRender()

```
void Gui::Event::setRender (
    std::shared_ptr< Render > render )
```

Set the [Render](#) object.

Parameters

<i>render</i>	Render class.
---------------	-------------------------------

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

- gui/include/Event/Event.hpp
- gui/src/Event/Event.cpp

3.9 Gui::GameData Class Reference

Public Member Functions

- [GameData](#) ()
Construct a new [GameData](#) object.
- [~GameData](#) ()=default
Destroy the [GameData](#) object.
- std::vector< [Gui::Team](#) > & [getTeams](#) ()
Get the [Teams](#) object.
- [Gui::Team](#) & [getTeam](#) (const std::string &name)
Get a [Team](#) object.
- void [addTeam](#) (const [Gui::Team](#) &team)

- Add a team to the game.*

 - void [addTeam](#) (const std::string &name, const std::string &playerModelPath, const std::string &eggModelPath)
- Add a team to the game.*

 - void [addPlayerToTeam](#) (const std::string &teamName, const [Gui::Player](#) &player)
- Add a player to a team.*

 - Map< [Gui::Tile](#) > & [getMap](#) ()
- Get the Map object.*

 - void [setMap](#) (const Map< [Gui::Tile](#) > &map)
- Set the Map object.*

 - void [setMapSize](#) (size_t x, size_t y)
- Set the Map Size object.*

 - std::pair< size_t, size_t > [getMapSize](#) () const
- Get the Map Size object.*

 - [Gui::Tile](#) & [getTile](#) (size_t x, size_t y)
- Get a Tile object.*

 - void [setTile](#) (const [Gui::Tile](#) &tile)
- Set the Tile object.*

 - void [restartLastTick](#) (void)
- Restart the last tick clock.*

 - void [setServerTick](#) (std::size_t tick)
- Set the Server Tick object.*

 - clock_t [getLastTick](#) () const
- Get the Last Tick object.*

 - std::size_t [getServerTick](#) () const
- Get the Server Tick object.*

 - void [setIsEndGame](#) (bool isEndGame)
- Set the IsEnd Game object.*

 - bool [getIsEndGame](#) () const
- Get the IsEnd Game object.*

3.9.1 Member Function Documentation

3.9.1.1 addPlayerToTeam()

```
void Gui::GameData::addPlayerToTeam (
    const std::string & teamName,
    const Gui::Player & player )
```

Add a player to a team.

Parameters

<i>teamName</i>	Name of the team.
<i>player</i>	Player to add.

3.9.1.2 addTeam() [1/2]

```
void Gui::GameData::addTeam (
    const Gui::Team & team )
```

Add a team to the game.

Parameters

<i>team</i>	Team to add.
-------------	--------------

3.9.1.3 addTeam() [2/2]

```
void Gui::GameData::addTeam (
    const std::string & name,
    const std::string & playerModelPath,
    const std::string & eggModelPath )
```

Add a team to the game.

Parameters

<i>name</i>	Name of the team.
<i>playerModelPath</i>	Path to the asset of the team for players.
<i>eggModelPath</i>	Path to the asset of the team for eggs.

3.9.1.4 getIsEndGame()

```
bool Gui::GameData::getIsEndGame ( ) const
```

Get the IsEnd Game object.

Returns

true - The game is finished.
false - The game continue.

3.9.1.5 getLastTick()

```
clock_t Gui::GameData::getLastTick ( ) const
```

Get the Last Tick object.

Returns

clock_t - Last Tick.

3.9.1.6 getMap()

```
Map< Gui::Tile > & Gui::GameData::getMap ( )
```

Get the Map object.

Returns

Map<Gui::Tile>& Map of the game.

3.9.1.7 getMapSize()

```
std::pair< size_t, size_t > Gui::GameData::getMapSize ( ) const
```

Get the Map Size object.

Returns

std::pair<size_t, size_t> Size of the map.

3.9.1.8 getServerTick()

```
std::size_t Gui::GameData::getServerTick ( ) const
```

Get the Server Tick object.

Returns

std::size_t - Server Tick.

3.9.1.9 getTeam()

```
Gui::Team & Gui::GameData::getTeam (
    const std::string & name )
```

Get a Team object.

Parameters

<i>name</i>	Name of the team.
-------------	-------------------

Returns

[Gui::Team](#)& [Team](#) object.

3.9.1.10 getTeams()

```
std::vector< Gui::Team > & Gui::GameData::getTeams ( )
```

Get the Teams object.

Returns

std::vector<Gui::Team>& Teams of the game.

3.9.1.11 getTile()

```
Gui::Tile & Gui::GameData::getTile (
    size_t x,
    size_t y )
```

Get a [Tile](#) object.

Parameters

<i>x</i>	X position of the tile.
<i>y</i>	Y position of the tile.

Returns

[Gui::Tile](#)& [Tile](#) object.

3.9.1.12 setIsEndGame()

```
void Gui::GameData::setIsEndGame (
    bool isEndGame )
```

Set the IsEnd Game object.

Parameters

<i>isEndGame</i>	EndGame state.
------------------	----------------

3.9.1.13 setMap()

```
void Gui::GameData::setMap (
    const Map< Gui::Tile > & map )
```

Set the Map object.

Parameters

<i>map</i>	Map of the game.
------------	------------------

3.9.1.14 setMapSize()

```
void Gui::GameData::setMapSize (
    size_t x,
    size_t y )
```

Set the Map Size object.

Parameters

<i>x</i>	X size of the map.
<i>y</i>	Y size of the map.

Note

This method resizes the map.

3.9.1.15 setServerTick()

```
void Gui::GameData::setServerTick (
    std::size_t tick )
```

Set the Server Tick object.

Parameters

<i>tick</i>	Tick of the server.
-------------	---------------------

3.9.1.16 setTile()

```
void Gui::GameData::setTile (
    const Gui::Tile & tile )
```

Set the [Tile](#) object.

Parameters

<i>x</i>	X position of the tile.
<i>y</i>	Y position of the tile.
<i>tile</i>	Tile to set.

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

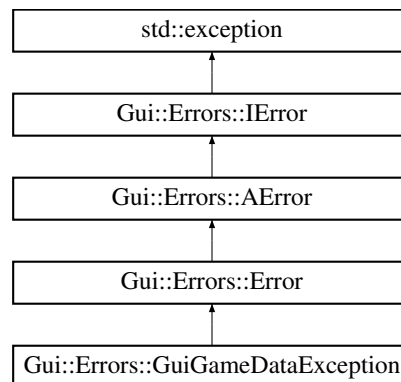
- gui/include/GameDatas/GameData.hpp
- gui/src/GameDatas/GameData.cpp

3.10 Gui::Errors::GuiGameDataException Class Reference

[Error](#) class for [GameData](#) errors.

```
#include <Error.hpp>
```

Inheritance diagram for Gui::Errors::GuiGameDataException:



Public Member Functions

- [GuiGameDataException](#) (std::string message)
Constructor for [GuiGameDataException](#).

Additional Inherited Members

3.10.1 Detailed Description

[Error](#) class for [GameData](#) errors.

3.10.2 Constructor & Destructor Documentation

3.10.2.1 GuiGameDataException()

```
Gui::Errors::GuiGameDataException::GuiGameDataException (
    std::string message )
```

Constructor for [GuiGameDataException](#).

Parameters

<i>message</i>	The error message.
----------------	--------------------

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

- gui/include/Error/Error.hpp
- gui/src/Error/Error.cpp

3.11 Gui::GUIUpdater Class Reference

Public Member Functions

- [GUIUpdater](#) (std::shared_ptr< [GameData](#) > gameData)
Construct a new [GUIUpdater](#) object.
- [~GUIUpdater](#) ()=default
Destroy the [GUIUpdater](#) object.
- void [update](#) (const std::string &command, const std::vector< std::string > &data)
Update the GUI [GameData](#).

3.11.1 Constructor & Destructor Documentation

3.11.1.1 GUIUpdater()

```
Gui::GUIUpdater::GUIUpdater (
    std::shared_ptr< GameData > gameData )
```

Construct a new [GUIUpdater](#) object.

Parameters

<i>gameData</i>	The GUI GameData to update.
-----------------	---

3.11.2 Member Function Documentation

3.11.2.1 update()

```
void Gui::GUIUpdater::update (
    const std::string & command,
    const std::vector< std::string > & data )
```

Update the GUI [GameData](#).

Parameters

<i>command</i>	The command to update the GUI GameData .
<i>data</i>	The data to update the GUI GameData .

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

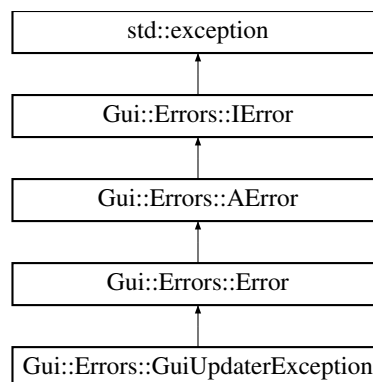
- gui/include/GUIUpdater/GUIUpdater.hpp
- gui/src/GUIUpdater/GUIUpdater.cpp

3.12 Gui::Errors::GuiUpdaterException Class Reference

[Error](#) class for [GUIUpdater](#) errors.

```
#include <Error.hpp>
```

Inheritance diagram for Gui::Errors::GuiUpdaterException:



Public Member Functions

- [GuiUpdaterException](#) (std::string message)
Constructor for [GuiUpdaterException](#).

Additional Inherited Members

3.12.1 Detailed Description

[Error](#) class for [GuiUpdater](#) errors.

3.12.2 Constructor & Destructor Documentation

3.12.2.1 GuiUpdaterException()

```
Gui::Errors::GuiUpdaterException::GuiUpdaterException (
    std::string message )
```

Constructor for [GuiUpdaterException](#).

Parameters

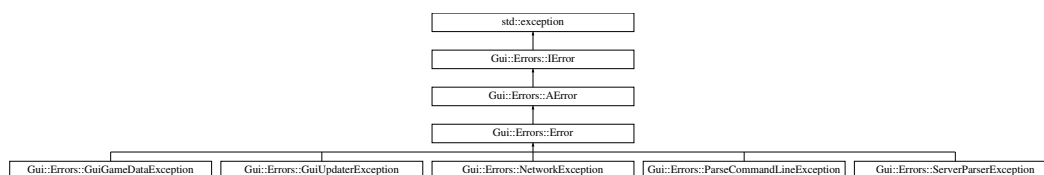
<i>message</i>	The error message.
----------------	--------------------

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

- gui/include/Error/Error.hpp
- gui/src/Error/Error.cpp

3.13 Gui::Errors::IError Class Reference

Inheritance diagram for Gui::Errors::IError:



Public Member Functions

- virtual [~IError](#) ()=default
Destructor for [IError](#).
- virtual const char * [what](#) () const noexcept=0
Returns a C-style string describing the error. This function must be implemented by derived classes to provide a description of the error. The returned string should be null-terminated.

3.13.1 Member Function Documentation

3.13.1.1 what()

```
virtual const char* Gui::Errors::IError::what ( ) const [pure virtual], [noexcept]
```

Returns a C-style string describing the error. This function must be implemented by derived classes to provide a description of the error. The returned string should be null-terminated.

Returns

const char* A C-style string describing the error.

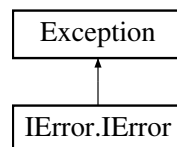
Implemented in [Gui::Errors::AError](#).

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

- `gui/include/Error/IError.hpp`

3.14 IError.IError Class Reference

Inheritance diagram for IError.IError:



Public Member Functions

- `def __init__ (self, message)`
- `def __str__ (self)`
- `def __repr__ (self)`

Public Attributes

- `message`

3.14.1 Detailed Description

IEError class

A class to handle errors that can occur in the project

Attributes :

 message : str
 the message of the error

Methods :

 __str__()
 return the message of the error
 __repr__()
 return the message of the error

3.14.2 Constructor & Destructor Documentation

3.14.2.1 __init__()

```
def IEError.IEError.__init__ (
    self,
    message )
```

Constructor of the IEError class

Assign the message of the error

Parameters :

 message : str
 the message of the error

3.14.3 Member Function Documentation

3.14.3.1 __repr__()

```
def IEError.IEError.__repr__ (
    self )
```

Return the message of the error

3.14.3.2 __str__()

```
def IError.IError.__str__ (
    self )
```

Return the message of the error

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

- ai/src/Errors/IError.py

3.15 Gui::Inventory Class Reference

Public Types

- using **Ressources** = size_t[RessourcesNumber]

Public Member Functions

- [Inventory](#) ()
Construct a new [Inventory](#) object.
- [Inventory](#) (std::size_t food, std::size_t linemate, std::size_t deraumere, std::size_t sibur, std::size_t mendiane, std::size_t phiras, std::size_t thystame)
Construct a new [Inventory](#) object.
- [~Inventory](#) ()=default
Destroy the [Inventory](#) object.
- void [setFood](#) (std::size_t food)
Set the Food object.
- void [setLinemate](#) (std::size_t linemate)
Set the Linemate object.
- void [setDeraumere](#) (std::size_t deraumere)
Set the Deraumere object.
- void [setSibur](#) (std::size_t sibur)
Set the Sibur object.
- void [setMendiane](#) (std::size_t mendiane)
Set the Mendiane object.
- void [setPhiras](#) (std::size_t phiras)
Set the Phiras object.
- void [setThystame](#) (std::size_t thystsame)
Set the Thystame object.
- void [setRessources](#) (Ressources ressources)
Set the Ressources object.
- std::size_t [getFood](#) (void)
Get the Food object.
- std::size_t [getLinemate](#) (void)
Get the Linemate object.
- std::size_t [getDeraumere](#) (void)
Get the Deraumere object.

- `std::size_t` [getSibur](#) (void)
Get the Sibur object.
- `std::size_t` [getMendiane](#) (void)
Get the Mendiane object.
- `std::size_t` [getPhiras](#) (void)
Get the Phiras object.
- `std::size_t` [getThystame](#) (void)
Get the Thystame object.
- Ressources & [getRessources](#) (void)
Get the Ressources object.

3.15.1 Constructor & Destructor Documentation

3.15.1.1 Inventory()

```
Gui::Inventory::Inventory (
    std::size_t food,
    std::size_t linemate,
    std::size_t deraumere,
    std::size_t sibur,
    std::size_t mendiane,
    std::size_t phiras,
    std::size_t thystame )
```

Construct a new [Inventory](#) object.

Parameters

<i>food</i>	Food to set.
<i>linemate</i>	Linemate to set.
<i>deraumere</i>	Deraumere to set.
<i>sibur</i>	Sibur to set.
<i>mendiane</i>	Mendiane to set.
<i>phiras</i>	Phiras to set.
<i>thystame</i>	Thystame to set.

3.15.2 Member Function Documentation

3.15.2.1 getDeraumere()

```
std::size_t Gui::Inventory::getDeraumere (
    void )
```

Get the Deraumere object.

Returns

std::size_t - deraumere

3.15.2.2 getFood()

```
std::size_t Gui::Inventory::getFood (
    void )
```

Get the Food object.

Returns

std::size_t - food

3.15.2.3 getLinemate()

```
std::size_t Gui::Inventory::getLinemate (
    void )
```

Get the Linemate object.

Returns

std::size_t - linemate

3.15.2.4 getMendiane()

```
std::size_t Gui::Inventory::getMendiane (
    void )
```

Get the Mendiane object.

Returns

std::size_t - mendiane

3.15.2.5 getPhiras()

```
std::size_t Gui::Inventory::getPhiras (
    void )
```

Get the Phiras object.

Returns

std::size_t - phiras

3.15.2.6 getRessources()

```
Gui::Inventory::Ressources & Gui::Inventory::getRessources (
    void )
```

Get the Ressources object.

Returns

Ressources - ressources

3.15.2.7 getSibur()

```
std::size_t Gui::Inventory::getSibur (
    void )
```

Get the Sibur object.

Returns

std::size_t - sibur

3.15.2.8 getThystame()

```
std::size_t Gui::Inventory::getThystame (
    void )
```

Get the Thystame object.

Returns

std::size_t - thystame

3.15.2.9 setDeraumere()

```
void Gui::Inventory::setDeraumere (
    std::size_t deraumere )
```

Set the Deraumere object.

Parameters

<i>deraumere</i>	Deraumere to set.
------------------	-------------------

3.15.2.10 setFood()

```
void Gui::Inventory::setFood (
    std::size_t food )
```

Set the Food object.

Parameters

<i>food</i>	Food to set.
-------------	--------------

3.15.2.11 setLinemate()

```
void Gui::Inventory::setLinemate (
    std::size_t linemate )
```

Set the Linemate object.

Parameters

<i>linemate</i>	Linemate to set.
-----------------	------------------

3.15.2.12 setMendiane()

```
void Gui::Inventory::setMendiane (
    std::size_t mendiane )
```

Set the Mendiane object.

Parameters

<i>mendiane</i>	Mendiane to set.
-----------------	------------------

3.15.2.13 setPhiras()

```
void Gui::Inventory::setPhiras (
    std::size_t phiras )
```

Set the Phiras object.

Parameters

<i>phiras</i>	Phiras to set.
---------------	----------------

3.15.2.14 setRessources()

```
void Gui::Inventory::setRessources (
    Ressources ressources )
```

Set the Ressources object.

Parameters

<i>ressources</i>	Ressources to set.
-------------------	--------------------

3.15.2.15 setSibur()

```
void Gui::Inventory::setSibur (
    std::size_t sibur )
```

Set the Sibur object.

Parameters

<i>sibur</i>	Sibur to set.
--------------	---------------

3.15.2.16 setThystame()

```
void Gui::Inventory::setThystame (
    std::size_t thytsame )
```

Set the Thystame object.

Parameters

<i>thystame</i>	Thystame to set.
-----------------	------------------

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

- gui/include/GameDatas/Inventory.hpp
- gui/src/GameDatas/Inventory.cpp

3.16 Gui::Network Class Reference

Public Member Functions

- [Network](#) (int port, const std::string &hostName)
Construct a new [Network](#) object.
- [~Network](#) ()=default
Destroy the [Network](#) object.
- void [setPort](#) (int port)
Set the port object.
- void [setHostName](#) (const std::string &hostName)
Set the host name object.
- int [getPort](#) () const
Get the port object.
- std::string [getHostName](#) () const
Get the host name object.
- void [connectToServer](#) ()
Connect the Gui network with the server.
- const std::string [listenServer](#) ()
Listen the server and return it message.
- void [sendMessageServer](#) (const std::string &message)
Send a message to the Server.

3.16.1 Constructor & Destructor Documentation

3.16.1.1 Network()

```
Gui::Network::Network (
    int port,
    const std::string & hostName )
```

Construct a new [Network](#) object.

Parameters

<i>port</i>	Port of the server.
<i>hostName</i>	Host of the server.

3.16.2 Member Function Documentation

3.16.2.1 `getHostName()`

```
std::string Gui::Network::getHostName ( ) const
```

Get the host name object.

Returns

const std::string - Host name of the server.

3.16.2.2 `getPort()`

```
int Gui::Network::getPort ( ) const
```

Get the port object.

Returns

const int - Port of the server.

3.16.2.3 `listenServer()`

```
const std::string Gui::Network::listenServer (
    void )
```

Listen the server and return it message.

Returns

std::string - Message of the server.

3.16.2.4 `sendMessageServer()`

```
void Gui::Network::sendMessageServer (
    const std::string & message )
```

Send a message to the Server.

Parameters

<i>message</i>	Message to send to the server.
----------------	--------------------------------

3.16.2.5 setHostName()

```
void Gui::Network::setHostName (
    const std::string & hostName )
```

Set the host name object.

Parameters

<i>hostName</i>	Host of the server.
-----------------	---------------------

3.16.2.6 setPort()

```
void Gui::Network::setPort (
    int port )
```

Set the port object.

Parameters

<i>port</i>	Port of the server.
-------------	---------------------

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

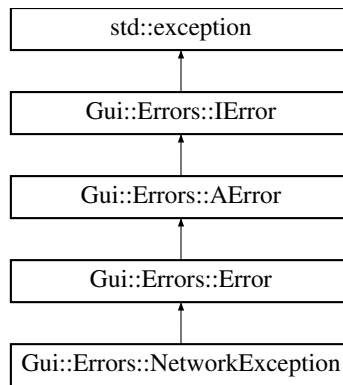
- gui/include/Network/Network.hpp
- gui/src/Network/Network.cpp

3.17 Gui::Errors::NetworkException Class Reference

[Error](#) class for network errors.

```
#include <Error.hpp>
```

Inheritance diagram for Gui::Errors::NetworkException:



Public Member Functions

- [NetworkException](#) (std::string message)
Constructor for [NetworkException](#).

Additional Inherited Members

3.17.1 Detailed Description

[Error](#) class for network errors.

3.17.2 Constructor & Destructor Documentation

3.17.2.1 NetworkException()

```
Gui::Errors::NetworkException::NetworkException (
    std::string message )
```

Constructor for [NetworkException](#).

Parameters

<i>message</i>	The error message.
----------------	--------------------

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

- gui/include/Error/Error.hpp
- gui/src/Error/Error.cpp

3.18 Gui::ParseCommandLine Class Reference

Public Member Functions

- [ParseCommandLine](#) (int argc, char **argv)
Construct a new Parse Command Line object.
- [~ParseCommandLine](#) ()=default
Destroy the Parse Command Line object.
- void [parseFlags](#) (int argc, char **argv)
Parse flags in command line.
- int [getPort](#) (void)
Get the port object.
- std::string [getHostName](#) (void)
Get the hostName object.

3.18.1 Constructor & Destructor Documentation

3.18.1.1 ParseCommandLine()

```
Gui::ParseCommandLine::ParseCommandLine (
    int  argc,
    char ** argv )
```

Construct a new Parse Command Line object.

Parameters

<i>argc</i>	Number of arguments in command line.
<i>argv</i>	Array with command line arguments.

3.18.2 Member Function Documentation

3.18.2.1 getHostName()

```
std::string Gui::ParseCommandLine::getHostName (
    void )
```

Get the hostName object.

Returns

std::string - hostName

3.18.2.2 getPort()

```
int Gui::ParseCommandLine::getPort (
    void )
```

Get the port object.

Returns

int - port

3.18.2.3 parseFlags()

```
void Gui::ParseCommandLine::parseFlags (
    int argc,
    char ** argv )
```

Parse flags in command line.

Parameters

<i>argc</i>	Number of arguments in command line.
<i>argv</i>	Array with command line arguments.

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

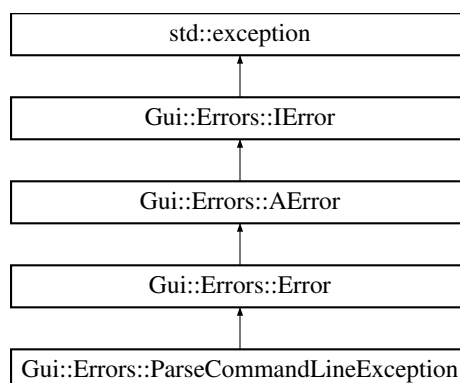
- gui/include/Parsing/ParseCommandLine.hpp
- gui/src/Parsing/ParseCommandLine.cpp

3.19 Gui::Errors::ParseCommandLineException Class Reference

[Error](#) class for parseCommandLine errors.

```
#include <Error.hpp>
```

Inheritance diagram for Gui::Errors::ParseCommandLineException:



Public Member Functions

- [ParseCommandLineException](#) (std::string message)
Constructor for [ParseCommandLineException](#).

Additional Inherited Members

3.19.1 Detailed Description

[Error](#) class for parseCommandLine errors.

3.19.2 Constructor & Destructor Documentation

3.19.2.1 ParseCommandLineException()

```
Gui::Errors::ParseCommandLineException::ParseCommandLineException (
    std::string message )
```

Constructor for [ParseCommandLineException](#).

Parameters

<i>message</i>	The error message.
----------------	--------------------

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

- gui/include/Error/Error.hpp
- gui/src/Error/Error.cpp

3.20 Gui::Player Class Reference

Public Types

- enum **PlayerState** {
 IDLE , BORN , BROADCAST , EJECT ,
 BEING_EJECTED , WALK , INCANTATION , FINISHED_INCANTATION ,
 LAY_EGG , DROP , COLLECT }

Public Member Functions

- [Player](#) (std::size_t id, const std::string &team, std::pair< std::size_t, std::size_t > position, std::size_t orientation, std::size_t level=1)

- Construct a new [Player](#) object.

 - [~Player](#) ()=default

Destroy the [Player](#) object.
- void [setPosition](#) (std::pair< std::size_t, std::size_t > position)

Set the [Position](#) object.
- void [setId](#) (std::size_t id)

Set the [Id](#) object.
- void [setLevel](#) (std::size_t level)

Set the [Level](#) object.
- void [setOrientation](#) (std::size_t orientation)

Set the [Orientation](#) object.
- void [setTeam](#) (const std::string &team)

Set the [Team](#) object.
- std::pair< std::size_t, std::size_t > [getPosition](#) (void) const

Get the [Position](#) object.
- std::size_t [getId](#) (void) const

Get the [Id](#) object.
- std::size_t [getLevel](#) (void) const

Get the [Level](#) object.
- std::size_t [getOrientation](#) (void) const

Get the [Orientation](#) object.
- std::string [getTeam](#) (void) const

Get the [Team](#) object.
- void [setState](#) (PlayerState state)

Set the [State](#) object.
- PlayerState [getState](#) (void) const

Get the [State](#) object.

Public Attributes

- [Inventory](#) [inventory](#)
[Inventory](#) of the player.

3.20.1 Constructor & Destructor Documentation

3.20.1.1 Player()

```
Gui::Player::Player (
    std::size_t id,
    const std::string & team,
    std::pair< std::size_t, std::size_t > position,
    std::size_t orientation,
    std::size_t level = 1 )
```

Construct a new [Player](#) object.

Parameters

<i>id</i>	Id of the player.
<i>team</i>	Team name of the player.
<i>position</i>	Position of the Player .

3.20.2 Member Function Documentation

3.20.2.1 getId()

```
std::size_t Gui::Player::getId (
    void ) const
```

Get the Id object.

Returns

std::size_t - id

3.20.2.2 getLevel()

```
std::size_t Gui::Player::getLevel (
    void ) const
```

Get the Level object.

Returns

std::size_t - level

3.20.2.3 getOrientation()

```
std::size_t Gui::Player::getOrientation (
    void ) const
```

Get the Orientation object.

Returns

std::size_t - orientation

3.20.2.4 getPosition()

```
std::pair< std::size_t, std::size_t > Gui::Player::getPosition (
    void ) const
```

Get the Position object.

Returns

std::pair<std::size_t, std::size_t> - position

3.20.2.5 getState()

```
Gui::Player::PlayerState Gui::Player::getState (
    void ) const
```

Get the State object.

Returns

PlayerState - [Player](#) state.

3.20.2.6 getTeam()

```
std::string Gui::Player::getTeam (
    void ) const
```

Get the [Team](#) object.

Returns

std::string - team name

3.20.2.7 setId()

```
void Gui::Player::setId (
    std::size_t id )
```

Set the Id object.

Parameters

<i>id</i>	Id of the player.
-----------	-------------------

3.20.2.8 setLevel()

```
void Gui::Player::setLevel (
    std::size_t level )
```

Set the Level object.

Parameters

<i>level</i>	Level of the player.
--------------	----------------------

3.20.2.9 setOrientation()

```
void Gui::Player::setOrientation (
    std::size_t orientation )
```

Set the Orientation object.

Parameters

<i>orientation</i>	Orientation of the player.
--------------------	----------------------------

3.20.2.10 setPosition()

```
void Gui::Player::setPosition (
    std::pair< std::size_t, std::size_t > position )
```

Set the Position object.

Parameters

<i>position</i>	Position of the player
-----------------	------------------------

3.20.2.11 setState()

```
void Gui::Player::setState (
    PlayerState state )
```

Set the State object.

Parameters

<i>state</i>	New player state.
--------------	-------------------

3.20.2.12 setTeam()

```
void Gui::Player::setTeam (
    const std::string & team )
```

Set the [Team](#) object.

Parameters

<i>team</i>	Team name of the player.
-------------	--

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

- gui/include/GameDatas/Player.hpp
- gui/src/GameDatas/Player.cpp

3.21 Gui::Render Class Reference**Public Member Functions**

- [Render](#) (std::shared_ptr< [GameData](#) > gameData)
Construct a new [Render](#) object.
- [~Render](#) ()
Destroy the [Render](#) object.
- bool [isOpen](#) ()
Check if the window is open.
- void [draw](#) ()
Draw the scene.
- std::shared_ptr< Camera > [getCamera](#) ()
Get the Camera object.
- void [setIsDebug](#) (bool isDebug)
Set the Is Debug object.
- bool [getIsDebug](#) (void)
Get the Is Debug object.

3.21.1 Member Function Documentation

3.21.1.1 getCamera()

```
std::shared_ptr< Camera > Gui::Render::getCamera ( )
```

Get the Camera object.

Returns

std::shared_ptr<Camera> - camera

3.21.1.2 getIsDebug()

```
bool Gui::Render::getIsDebug (
    void )
```

Get the Is Debug object.

Returns

true - diplay debug

false - do not display debug

3.21.1.3 isOpen()

```
bool Gui::Render::isOpen ( )
```

Check if the window is open.

Returns

true - the window is open

false - the window is closed

3.21.1.4 setIsDebug()

```
void Gui::Render::setIsDebug (
    bool isDebug )
```

Set the Is Debug object.

Parameters

<i>isDebug</i>	New Is Debug value to set.
----------------	----------------------------

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

- gui/include/Render/Render.hpp
- gui/src/Render/Render.cpp

3.22 Gui::ServerParser Class Reference

Public Types

- enum [ParseType](#) { INT , STRING , MESSAGE , LIST_INT }
Enum of types to parse.

Public Member Functions

- [ServerParser](#) ()=default
Construct a new Server Parser object.
- [~ServerParser](#) ()=default
Destroy the Server Parser object.
- std::vector< std::string > [parse](#) (const std::string &command)
Parse the command server.

3.22.1 Member Function Documentation

3.22.1.1 parse()

```
std::vector< std::string > Gui::ServerParser::parse (
    const std::string & command )
```

Parse the command server.

Parameters

<i>command</i>	Command to parse.
----------------	-------------------

Returns

std::vector<std::string> - arguments parsed

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

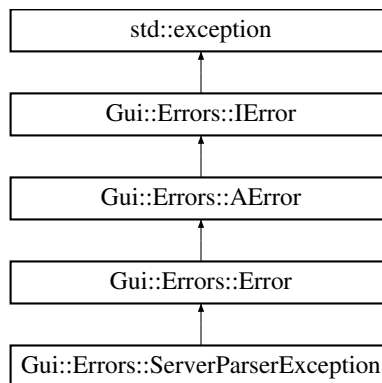
- `gui/include/Parsing/ServerParser.hpp`
- `gui/src/Parsing/ServerParser.cpp`

3.23 Gui::Errors::ServerParserException Class Reference

[Error](#) class for network errors.

```
#include <Error.hpp>
```

Inheritance diagram for Gui::Errors::ServerParserException:



Public Member Functions

- [ServerParserException](#) (std::string message)
Constructor for [ServerParserException](#).

Additional Inherited Members

3.23.1 Detailed Description

[Error](#) class for network errors.

3.23.2 Constructor & Destructor Documentation

3.23.2.1 ServerParserException()

```
Gui::Errors::ServerParserException::ServerParserException (
    std::string message )
```

Constructor for [ServerParserException](#).

Parameters

<i>message</i>	The error message.
----------------	--------------------

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

- gui/include/Error/Error.hpp
- gui/src/Error/Error.cpp

3.24 Gui::Team Class Reference

Public Member Functions

- **Team** (const std::string &name, const std::string &playerModelPath, const std::string &eggModelPath)
Construct a new Team object.
- **~Team** ()
Destroy the Team object.
- const std::string & **getName** () const
Get the Name object.
- std::vector< **Gui::Player** > & **getPlayers** ()
Get the Players object.
- std::vector< **Gui::Egg** > & **getEggs** ()
Get the Eggs object.
- void **setName** (const std::string &name)
Set the Name object.
- void **addPlayer** (const **Gui::Player** &player)
Add a player to the team.
- void **addEgg** (const **Gui::Egg** &egg)
Add an egg to the team.
- bool **removePlayer** (std::size_t id)
Remove a player from the team.
- bool **removeEgg** (std::size_t id)
Remove an egg from the team.
- std::shared_ptr< **Gui::Player** > **getPlayer** (std::size_t id)
Get the Player object.
- Model **getPlayerModel** () const
Get the Model object.
- void **setPlayerModelPath** (const std::string &playerModelPath)
Set the Model object.
- std::shared_ptr< **Gui::Egg** > **getEgg** (std::size_t id)
Get the Egg object.
- Model **getEggModel** () const
Get the Egg Model Path object.
- void **setEggModelPath** (const std::string &eggModelPath)
Set the Egg Model Path object.

3.24.1 Constructor & Destructor Documentation

3.24.1.1 Team()

```
Gui::Team::Team (
    const std::string & name,
    const std::string & playerModelPath,
    const std::string & eggModelPath )
```

Construct a new [Team](#) object.

Parameters

<i>name</i>	Name of the team.
<i>playerModelPath</i>	Path to the team model asset for players.
<i>eggSkinPath</i>	Path to the skin of the team.

3.24.2 Member Function Documentation

3.24.2.1 addEgg()

```
void Gui::Team::addEgg (
    const Gui::Egg & egg )
```

Add an egg to the team.

Parameters

<i>egg</i>	Egg to add.
------------	-----------------------------

3.24.2.2 addPlayer()

```
void Gui::Team::addPlayer (
    const Gui::Player & player )
```

Add a player to the team.

Parameters

<i>player</i>	Player to add.
---------------	--------------------------------

3.24.2.3 getEgg()

```
std::shared_ptr< Gui::Egg > Gui::Team::getEgg (
    std::size_t id )
```

Get the [Egg](#) object.

Parameters

<i>id</i>	Id of the egg.
-----------	----------------

Returns

std::shared_ptr<Gui::Egg> [Egg](#).

3.24.2.4 getEggModel()

```
Model Gui::Team::getEggModel ( ) const
```

Get the [Egg](#) Model Path object.

Returns

const std::string& Path to the eggs Model of the team.

3.24.2.5 getEggs()

```
std::vector< Gui::Egg > & Gui::Team::getEggs ( )
```

Get the Eggs object.

Returns

std::vector<Gui::Egg>& Eggs of the team.

3.24.2.6 getName()

```
const std::string & Gui::Team::getName ( ) const
```

Get the Name object.

Returns

const std::string& Name of the team.

3.24.2.7 getPlayer()

```
std::shared_ptr< Gui::Player > Gui::Team::getPlayer (
    std::size_t id )
```

Get the [Player](#) object.

Parameters

<i>id</i>	Id of the player.
-----------	-------------------

Returns

std::shared_ptr<Gui::Player> [Player](#).

3.24.2.8 getPlayerModel()

```
Model Gui::Team::getPlayerModel (
    void ) const
```

Get the Model object.

Returns

Model - Model asset of the [Team](#).

3.24.2.9 getPlayers()

```
std::vector< Gui::Player > & Gui::Team::getPlayers ( )
```

Get the Players object.

Returns

std::vector<Gui::Player>& Players of the team.

3.24.2.10 removeEgg()

```
bool Gui::Team::removeEgg (
    std::size_t id )
```

Remove an egg from the team.

Parameters

<i>id</i>	Id of the egg to remove.
-----------	--------------------------

Returns

true If the egg has been removed.

false If the egg has not been removed.

3.24.2.11 removePlayer()

```
bool Gui::Team::removePlayer (
    std::size_t id )
```

Remove a player from the team.

Parameters

<i>id</i>	Id of the player to remove.
-----------	-----------------------------

Returns

true If the player has been removed.

false If the player has not been removed.

3.24.2.12 setEggModelPath()

```
void Gui::Team::setEggModelPath (
    const std::string & eggModelPath )
```

Set the [Egg](#) Model Path object.

Parameters

<i>eggSkinPath</i>	Path to the eggs Model of the team.
--------------------	-------------------------------------

3.24.2.13 setName()

```
void Gui::Team::setName (
    const std::string & name )
```

Set the Name object.

Parameters

<i>name</i>	Name of the team.
-------------	-------------------

3.24.2.14 setPlayerModelPath()

```
void Gui::Team::setPlayerModelPath (
    const std::string & playerModelPath )
```

Set the Model object.

Parameters

<i>playerModelPath</i>	Path to the team model asset for players.
------------------------	---

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

- gui/include/GameDatas/Team.hpp
- gui/src/GameDatas/Team.cpp

3.25 Gui::Tile Class Reference**Public Member Functions**

- [Tile](#) (std::pair< std::size_t, std::size_t > position)
Construct a new [Tile](#) object.
- [Tile](#) (std::pair< std::size_t, std::size_t > position, [Inventory](#) inventory)
Construct a new [Tile](#) object.
- [~Tile](#) ()=default
Destroy the [Tile](#) object.
- void [setPosition](#) (std::pair< std::size_t, std::size_t > position)
Set the Position object.
- std::pair< std::size_t, std::size_t > [getPosition](#) (void) const
Get the Position object.
- Vector3 [getPositionIn3DSpace](#) (void)
Get the Position In Space object.

Public Attributes

- [Inventory inventory](#)
Inventory of the tile.

3.25.1 Constructor & Destructor Documentation

3.25.1.1 Tile() [1/2]

```
Gui::Tile::Tile (
    std::pair< std::size_t, std::size_t > position )
```

Construct a new [Tile](#) object.

Parameters

<i>position</i>	Set the position of the tile.
-----------------	-------------------------------

3.25.1.2 Tile() [2/2]

```
Gui::Tile::Tile (
    std::pair< std::size_t, std::size_t > position,
    Inventory inventory )
```

Construct a new [Tile](#) object.

Parameters

<i>position</i>	Set the position of the tile.
<i>inventory</i>	Set the inventory of the tile.

3.25.2 Member Function Documentation

3.25.2.1 getPosition()

```
std::pair< std::size_t, std::size_t > Gui::Tile::getPosition (
    void ) const
```

Get the Position object.

Returns

`std::pair<std::size_t, std::size_t>` - position x y

3.25.2.2 getPositionIn3DSpace()

```
Vector3 Gui::Tile::getPositionIn3DSpace (
    void )
```

Get the Position In Space object.

Returns

Vector3 - Position in space.

3.25.2.3 setPosition()

```
void Gui::Tile::setPosition (
    std::pair< std::size_t, std::size_t > position )
```

Set the Position object.

Parameters

<i>position</i>	New position of the tile.
-----------------	---------------------------

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

- `gui/include/GameDatas/Tile.hpp`
- `gui/src/GameDatas/Tile.cpp`

3.26 Gui::UserCamera Class Reference**Public Member Functions**

- [UserCamera](#) ()
Construct a new User Camera object.
- [~UserCamera](#) ()=default
Destroy the User Camera object.
- void [setPosition](#) (Vector3 position)
Set the Position object.
- void [setTarget](#) (Vector3 target)
Set the Target object.

- void [setUp](#) (Vector3 up)
Set the Up object.
- void [setFovy](#) (float fovy)
Set the Fovy object.
- Vector3 [getPosition](#) (void) const
Get the Position object.
- Vector3 [getTarget](#) (void) const
Get the Target object.
- Vector3 [getUp](#) (void) const
Get the Up object.
- float [getFovy](#) (void) const
Get the Fovy object.
- std::shared_ptr< Camera > [getCamera](#) ()
Get the Camera object.

3.26.1 Member Function Documentation

3.26.1.1 [getCamera\(\)](#)

```
std::shared_ptr< Camera > Gui::UserCamera::getCamera ( )
```

Get the Camera object.

Returns

Camera - camera

3.26.1.2 [getFovy\(\)](#)

```
float Gui::UserCamera::getFovy (
    void ) const
```

Get the Fovy object.

Returns

float - fovy

3.26.1.3 getPosition()

```
Vector3 Gui::UserCamera::getPosition (
    void ) const
```

Get the Position object.

Returns

Vector3 - position

3.26.1.4 getTarget()

```
Vector3 Gui::UserCamera::getTarget (
    void ) const
```

Get the Target object.

Returns

Vector3 - target

3.26.1.5 getUp()

```
Vector3 Gui::UserCamera::getUp (
    void ) const
```

Get the Up object.

Returns

Vector3 - up

3.26.1.6 setFovy()

```
void Gui::UserCamera::setFovy (
    float fovy )
```

Set the Fovy object.

Parameters

<i>fovy</i>	New camera fovy.
-------------	------------------

3.26.1.7 setPosition()

```
void Gui::UserCamera::setPosition (
    Vector3 position )
```

Set the Position object.

Parameters

<i>position</i>	New camera position.
-----------------	----------------------

3.26.1.8 setTarget()

```
void Gui::UserCamera::setTarget (
    Vector3 target )
```

Set the Target object.

Parameters

<i>target</i>	New camera target.
---------------	--------------------

3.26.1.9 setUp()

```
void Gui::UserCamera::setUp (
    Vector3 up )
```

Set the Up object.

Parameters

<i>up</i>	New camera up vector.
-----------	-----------------------

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

- gui/include/Render/UserCamera.hpp
- gui/src/Render/UserCamera.cpp

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 - Gui::Errors::AError, [6](#)
 - Gui::Errors::IError, [25](#)