

Practice 9

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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:

Admin	7
AirQuality	8
CameraBW	10
CameraRGB	12
CLDashboard	13
CLInterface	17
CLLoginInterface	19
CLMenu	21
CLMenuBar	23
Dashboard	25
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Menu	38
MenuBar	39
Moisture	41
NotFoundUserException	43
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Chapter 3

File Index

3.1 File List

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

include/ Admin.h	
Header file of Admin.cpp	55
include/ AirQuality.h	
Header file of AirQuality.cpp	56
include/ CameraBW.h	
Header file of CameraBW.cpp	58
include/ CameraRGB.h	
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include/ CLDashboard.h	
Header file of CLDashboard.cpp	60
include/ CLInterface.h	
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src/LoginInterface.cpp	103
src/main.cpp	104
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src/MenuBar.cpp	106
src/Moisture.cpp	107
src/Sensor.cpp	108
src/Thermometer.cpp	109
src/User.cpp	110
src/UserConfig.cpp	112

Chapter 4

Class Documentation

4.1 Admin Class Reference

Inheritance diagram for Admin:



Collaboration diagram for Admin:



Public Member Functions

- [Admin](#) (std::string number="00000", std::string nif="00000000", std::string name="default")
Creates a new [Admin](#) object.

Additional Inherited Members

4.1.1 Constructor & Destructor Documentation

4.1.1.1 Admin()

```
Admin::Admin (
    std::string number = "00000",
    std::string nif = "00000000",
    std::string name = "default" )
```

Creates a new [Admin](#) object.

Parameters

<i>employeeNumber</i>	
<i>NIF</i>	
<i>name</i>	

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

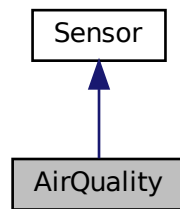
- include/[Admin.h](#)
- src/[Admin.cpp](#)

4.2 AirQuality Class Reference

Inheritance diagram for AirQuality:



Collaboration diagram for AirQuality:



Public Member Functions

- `AirQuality` (bool active=false, int valPerMin=1)
Create a new Air Quality object.
- `std::vector< int > requestData ()`
Request data from the air quality sensor.

Additional Inherited Members

4.2.1 Constructor & Destructor Documentation

4.2.1.1 AirQuality()

```
AirQuality::AirQuality (
    bool active = false,
    int valPerMin = 1 )
```

Create a new Air Quality object.

Parameters

<i>active</i>	By default off
<i>valPerMin</i>	By default 1 val/min

4.2.2 Member Function Documentation

4.2.2.1 requestData()

```
std::vector< int > AirQuality::requestData ( ) [virtual]
```

Request data from the air quality sensor.

Returns

std::vector<int> Data values

Note

This function is a placeholder, returns random values

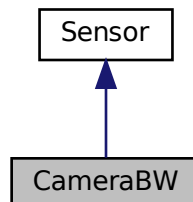
Implements [Sensor](#).

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

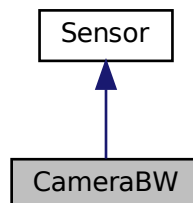
- include/[AirQuality.h](#)
- src/[AirQuality.cpp](#)

4.3 CameraBW Class Reference

Inheritance diagram for CameraBW:



Collaboration diagram for CameraBW:



Public Member Functions

- [CameraBW](#) (bool active=false, int valPerMin=1)
Create a new BW camera object.
- `std::vector< int >` [requestData](#) ()
Request data from the bw camera.

Additional Inherited Members

4.3.1 Constructor & Destructor Documentation

4.3.1.1 CameraBW()

```
CameraBW::CameraBW (
    bool active = false,
    int valPerMin = 1 )
```

Create a new BW camera object.

Parameters

<i>active</i>	By default off
<i>valPerMin</i>	By default 1 val/min

4.3.2 Member Function Documentation

4.3.2.1 requestData()

```
std::vector< int > CameraBW::requestData ( ) [virtual]
```

Request data from the bw camera.

Returns

`std::vector<int>` Data values

Note

This function is a placeholder, returns random values

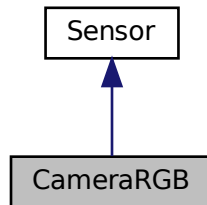
Implements [Sensor](#).

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

- include/[CameraBW.h](#)
- src/[CameraBW.cpp](#)

4.4 CameraRGB Class Reference

Inheritance diagram for CameraRGB:



Collaboration diagram for CameraRGB:



Public Member Functions

- [CameraRGB](#) (bool active=false, int valPerMin=1)
Create a new RGB camera object.
- std::vector< int > [requestData](#) ()
Request data from the rgb camera.

Additional Inherited Members

4.4.1 Constructor & Destructor Documentation

4.4.1.1 CameraRGB()

```
CameraRGB::CameraRGB (
    bool active = false,
    int valPerMin = 1 )
```

Create a new RGB camera object.

Parameters

<i>active</i>	By default off
<i>valPerMin</i>	By default 1 val/min

4.4.2 Member Function Documentation

4.4.2.1 requestData()

```
std::vector< int > CameraRGB::requestData ( ) [virtual]
```

Request data from the rgb camera.

Returns

std::vector<int> Data values

Note

This function is a placeholder, returns random values

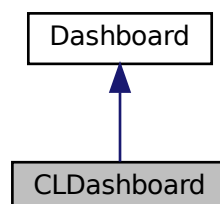
Implements [Sensor](#).

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

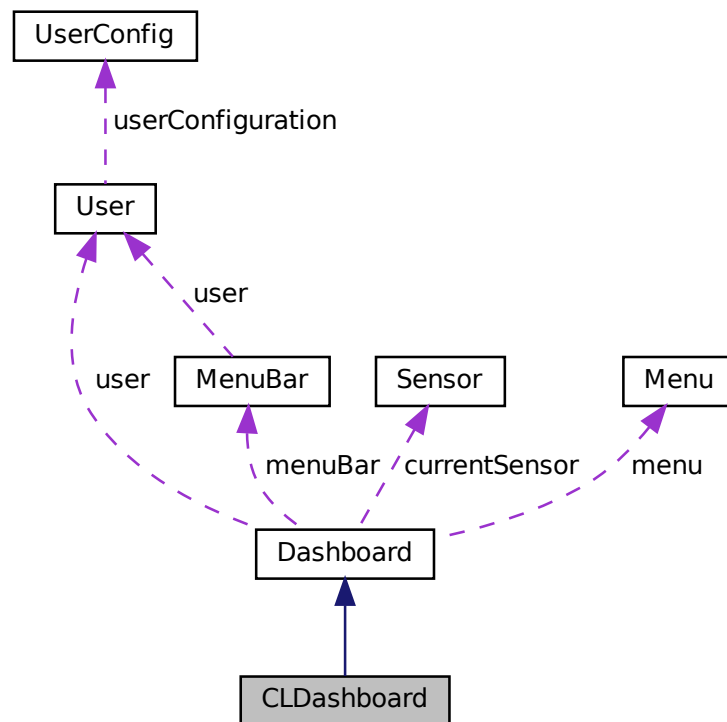
- include/[CameraRGB.h](#)
- src/[CameraRGB.cpp](#)

4.5 CLDashboard Class Reference

Inheritance diagram for CLDashboard:



Collaboration diagram for CLDashboard:



Public Member Functions

- `CLDashboard (User &user)`
Create a new `Dashboard` for the command line.
- `void showMainMenu ()`
Shows the default menu and starts the custom terminal.

Protected Member Functions

- `void changeMainMenu (int n)`
Change the page of the menu.
- `void readCommand ()`
Reads and executes a command from the terminal.
- `void listSensor ()`
Command that lists the sensors in the current menu page.
- `void helpCommand (std::string command="")`
Displays the use of the command.
- `void errorCommand (std::string command="")`
Shows error message because the command not being found.
- `void permissionError ()`
Shows error message because the permission being denied to execute it.

Additional Inherited Members

4.5.1 Constructor & Destructor Documentation

4.5.1.1 CLDashboard()

```
CLDashboard::CLDashboard (
    User & user )
```

Create a new [Dashboard](#) for the command line.

4.5.2 Member Function Documentation

4.5.2.1 changeMainMenu()

```
void CLDashboard::changeMainMenu (
    int n ) [protected]
```

Change the page of the menu.

Parameters

<i>n</i>	Number of pages to shift (positive to the right)
----------	--

4.5.2.2 errorCommand()

```
void CLDashboard::errorCommand (
    std::string command = "" ) [protected]
```

Shows error message because the command not being found.

Parameters

<i>command</i>	Command input
----------------	---------------

4.5.2.3 helpCommand()

```
void CLDashboard::helpCommand (
```

```
std::string command = "" ) [protected]
```

Displays the use of the command.

Parameters

<i>command</i>	Command to display info about
----------------	-------------------------------

4.5.2.4 listSensor()

```
void CLDashboard::listSensor ( ) [protected]
```

Command that lists the sensors in the current menu page.

4.5.2.5 permissionError()

```
void CLDashboard::permissionError ( ) [protected]
```

Shows error message because the permission being denied to execute it.

4.5.2.6 readCommand()

```
void CLDashboard::readCommand ( ) [protected]
```

Reads and executes a command from the terminal.

4.5.2.7 showMainMenu()

```
void CLDashboard::showMainMenu ( ) [virtual]
```

Shows the default menu and starts the custom terminal.

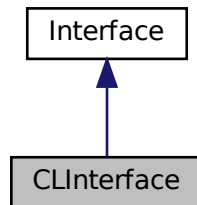
Implements [Dashboard](#).

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

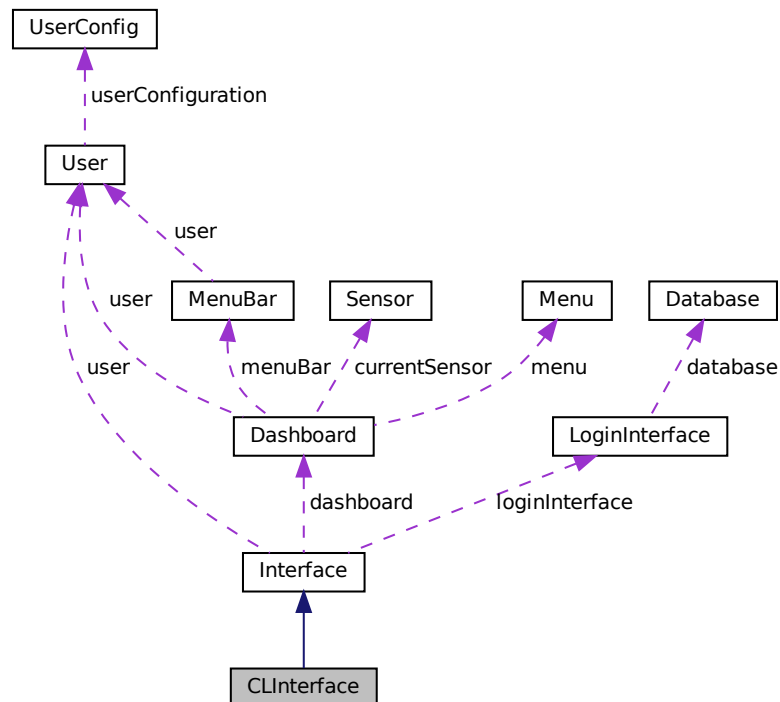
- [include/CLDashboard.h](#)
- [src/CLDashboard.cpp](#)

4.6 CLInterface Class Reference

Inheritance diagram for CLInterface:



Collaboration diagram for CLInterface:



Public Member Functions

- `CLInterface ()`
Create a new `Interface` for the command line.
- `void login (int tries)`
Controls the login interface for the command line.

Additional Inherited Members

4.6.1 Constructor & Destructor Documentation

4.6.1.1 CLInterface()

```
CLInterface::CLInterface ( )
```

Create a new [Interface](#) for the command line.

Note

Also gets the terminal size

4.6.2 Member Function Documentation

4.6.2.1 login()

```
void CLInterface::login (
    int tries ) [virtual]
```

Controls the login interface for the command line.

Parameters

<i>tries</i>	Number of tries to login
--------------	--------------------------

Note

If exceeded the number of tries, then the program will exit

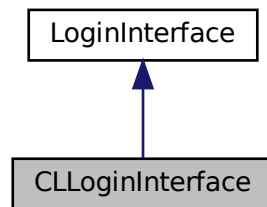
Implements [Interface](#).

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

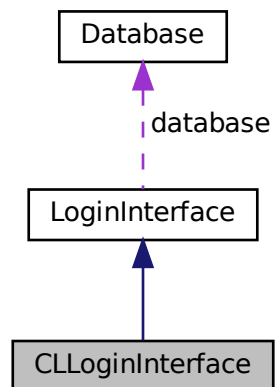
- [include/CLInterface.h](#)
- [src/CLInterface.cpp](#)

4.7 CLLoginInterface Class Reference

Inheritance diagram for CLLoginInterface:



Collaboration diagram for CLLoginInterface:



Public Member Functions

- void [showWelcomeMessage](#) ()
Show the login screen messages in the command line.
- void [askEmployeeNumber](#) ()
Ask the user to input the employee number from the command line.
- void [askEmployeeNumber](#) (const std::string &userNumber)
Default setter of employee number.
- void [askNIF](#) ()
Ask the user to input the employee nif from the command line.
- void [askNIF](#) (const std::string &nif)
Default setter of employee nif.

Additional Inherited Members

4.7.1 Member Function Documentation

4.7.1.1 askEmployeeNumber() [1/2]

```
void CLLoginInterface::askEmployeeNumber ( ) [virtual]
```

Ask the user to input the employee number from the command line.

Implements [LoginInterface](#).

4.7.1.2 askEmployeeNumber() [2/2]

```
void CLLoginInterface::askEmployeeNumber (
    const std::string & userNumber ) [virtual]
```

Default setter of employee number.

Note

This method is used when the user executes the main with the NIF and employee number

Parameters

<i>userNumber</i>	
-------------------	--

Implements [LoginInterface](#).

4.7.1.3 askNIF() [1/2]

```
void CLLoginInterface::askNIF ( ) [virtual]
```

Ask the user to input the employee nif from the command line.

Implements [LoginInterface](#).

4.7.1.4 askNIF() [2/2]

```
void CLLoginInterface::askNIF (
    const std::string & nif ) [virtual]
```

Default setter of employee nif.

Note

This method is used when the user executes the main with the NIF and employee number

Parameters

<i>nif</i>	
------------	--

Implements [LoginInterface](#).

4.7.1.5 showWelcomeMessage()

```
void CLLoginInterface::showWelcomeMessage ( ) [virtual]
```

Show the login screen messages in the command line.

Implements [LoginInterface](#).

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

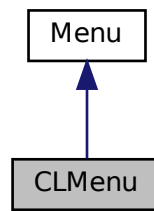
- include/CLLoginInterface.h
- src/CLLoginInterface.cpp

4.8 CLMenu Class Reference

Inheritance diagram for CLMenu:



Collaboration diagram for CLMenu:



Public Member Functions

- void `show` (std::vector< `Sensor` * > sensors, `UserConfig` &config)
Shows the menu with six or less smaller sensors displayed in the command line.
- void `show` (`Sensor` *sensorToDisplay, `UserConfig` &config)
Shows the menu for the sensor selected in a detailed format in the command line.

Protected Member Functions

- void `clearMenu` ()
Clear the menu in the command line.

Additional Inherited Members

4.8.1 Member Function Documentation

4.8.1.1 `clearMenu()`

```
void CLMenu::clearMenu ( ) [protected]
```

Clear the menu in the command line.

4.8.1.2 `show()` [1/2]

```
void CLMenu::show (
    Sensor * sensorToDisplay,
    UserConfig & config ) [virtual]
```

Shows the menu for the sensor selected in a detailed format in the command line.

Parameters

<i>sensorToDisplay</i>	Sensor to display
<i>config</i>	User configuration

Implements [Menu](#).

4.8.1.3 show() [2/2]

```
void CLMenu::show (
    std::vector< Sensor * > sensors,
    UserConfig & config ) [virtual]
```

Shows the menu with six or less smaller sensors displayed in the command line.

Parameters

<i>sensors</i>	Array of sensor to display ≤ 7
<i>config</i>	User configuration

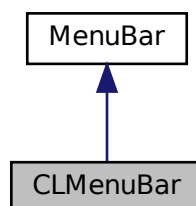
Implements [Menu](#).

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

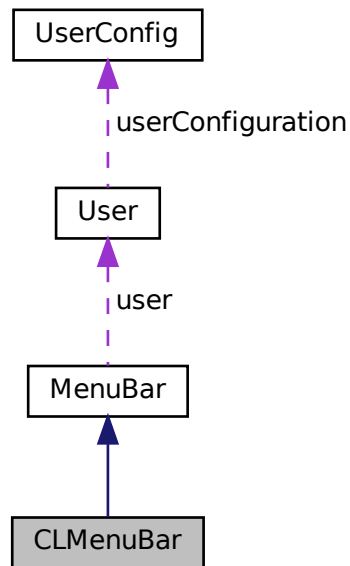
- include/[CLMenu.h](#)
- src/[CLMenu.cpp](#)

4.9 CLMenuBar Class Reference

Inheritance diagram for CLMenuBar:



Collaboration diagram for CLMenuBar:



Public Member Functions

- void [show](#) ()
Show the menu bar in the command line.

Additional Inherited Members

4.9.1 Member Function Documentation

4.9.1.1 [show\(\)](#)

```
void CLMenuBar::show ( ) [virtual]
```

Show the menu bar in the command line.

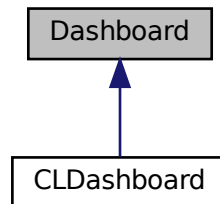
Implements [MenuBar](#).

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

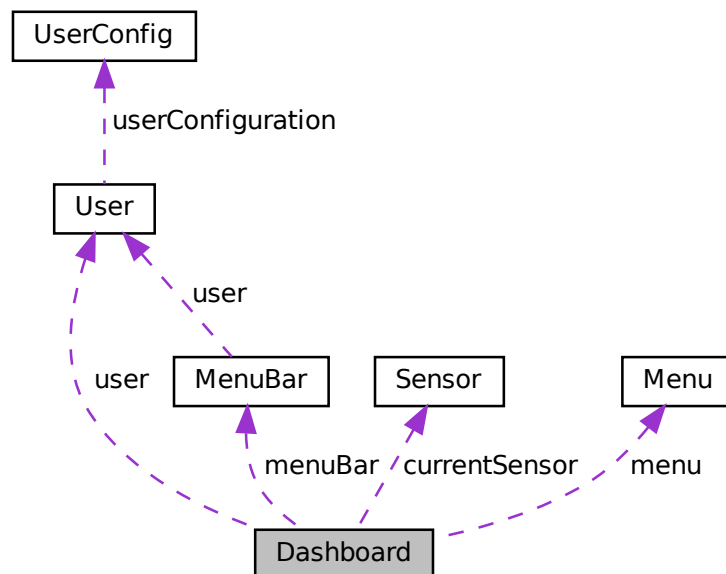
- include/[CLMenuBar.h](#)
- src/[CLMenuBar.cpp](#)

4.10 Dashboard Class Reference

Inheritance diagram for Dashboard:



Collaboration diagram for Dashboard:



Public Member Functions

- virtual void **showMainMenu** ()=0
- bool **changeInterface** (std::string newInterface="")
Changes the current interface to the input one.
- void **addToMainMenu** ()
Adds all the current sensors to the dashboard.

- void `addToMainMenu (Sensor *sensor)`
Adds a sensor to the dashboard.
- void `moveWindowMainMenu (int n=1)`
Shifts the main menu n pages.
- void `changeCurrentSensorInfo (std::string toChange, std::string newValue)`
Changes the current sensor values.
- void `addNewSensor (std::string type)`
Creates the new sensor and calls addToMainMenu.
- void `deleteSensor (std::string id)`
Deletes the desired sensor from the dashboard.
- void `cleanSensor ()`
Deletes all the sensors from the dashboard.
- void `exit ()`
Exits the dashboard and finishes the program.
- void `logout ()`
Exits the dashboard and goes back to the login screen.
- bool `canExit ()`
Called from main, checks if the program is allowed to exit.

Static Public Member Functions

- static `Dashboard * Create (User &user, const std::string type="CLI")`
Create a new instance of the desired `Dashboard` interface.

Protected Member Functions

- `Dashboard (User &user)`

Protected Attributes

- `std::vector< Sensor * > sensor`
Vector of all the vectors in the dashboard.
- `std::vector< std::vector< Sensor * > > mainMenu`
Vetor that contains the pages of the main `Menu`.
- `int mainMenuIndex`
Current page of the main `Menu`.
- `MenuBar * menuBar`
- `Menu * menu`
- `User * user`
- `std::string currentInterface`
Current interface, can be a sensor ID or the main menu (..)
- `std::string lastInterface`
Last interface, can be a sensor ID or the main menu (..)
- `Sensor * currentSensor`
If the currentInterface is a sensor then the value would be that sensor, if not the value is nullptr.
- bool `allowedToExit`

4.10.1 Member Function Documentation

4.10.1.1 addNewSensor()

```
void Dashboard::addNewSensor (
    std::string type )
```

Creates the new sensor and calls addToMainMenu.

Parameters

<i>type</i>	New sensor type
-------------	-----------------

See also

[addToMainMenu](#)

4.10.1.2 addToMainMenu() [1/2]

```
void Dashboard::addToMainMenu ( )
```

Adds all the current sensors to the dashboard.

Note

Only called at the start of the program

4.10.1.3 addToMainMenu() [2/2]

```
void Dashboard::addToMainMenu (
    Sensor * sensor )
```

Adds a sensor to the dashboard.

Parameters

<i>sensor</i>	Sensor to add
---------------	-------------------------------

4.10.1.4 canExit()

```
bool Dashboard::canExit ( )
```

Called from main, checks if the program is allowed to exit.

Returns

true End the program
false Cannot exit, goes to login screen

4.10.1.5 changeCurrentSensorInfo()

```
void Dashboard::changeCurrentSensorInfo (
    std::string toChange,
    std::string newValue )
```

Changes the current sensor values.

Parameters

<i>toChange</i>	Desired value to change
<i>newValue</i>	New value to add

4.10.1.6 changeInterface()

```
bool Dashboard::changeInterface (
    std::string newInterface = "" )
```

Changes the current interface to the input one.

Parameters

<i>newInterface</i>	Desired interface to change (.. = main Menu)
---------------------	--

Returns

true = can change interface
false = cannot change interface

4.10.1.7 cleanSensor()

```
void Dashboard::cleanSensor ( )
```

Deletes all the sensors from the dashboard.

Note

Only called when exiting the dashboard

4.10.1.8 Create()

```
Dashboard * Dashboard::Create (
    User & user,
    const std::string type = "CLI" ) [static]
```

Create a new instance of the desired [Dashboard](#) interface.

Parameters

<i>type</i>	Type of Dashboard interface
-------------	---

Returns

Dashboard*

4.10.1.9 deleteSensor()

```
void Dashboard::deleteSensor (
    std::string id )
```

Deletes the desired sensor from the dashboard.

Parameters

<i>id</i>	ID of the sensor to delete
-----------	----------------------------

See also

[addToMainMenu](#)

4.10.1.10 `exit()`

```
void Dashboard::exit ( )
```

Exits the dashboard and finishes the program.

See also

[cleanSensor](#)

4.10.1.11 `logout()`

```
void Dashboard::logout ( )
```

Exits the dashboard and goes back to the login screen.

See also

[cleanSensor](#)

4.10.1.12 `moveWindowMainMenu()`

```
void Dashboard::moveWindowMainMenu (
    int n = 1 )
```

Shifts the main menu n pages.

Parameters

<i>n</i>	Number of pages to shift (positive to the right)
----------	--

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

- include/[Dashboard.h](#)
- src/[Dashboard.cpp](#)

4.11 Database Class Reference

Public Member Functions

- void [getUser](#) (std::string employeeNumber, std::string NIF, [User](#) ¤tUser)
Get the [User](#) object in the database, if not throws an exception.
- void [resetUser](#) ([User](#) ¤tUser)

4.11.1 Member Function Documentation

4.11.1.1 getUser()

```
void Database::getUser (
    std::string employeeNumber,
    std::string NIF,
    User & currentUser )
```

Get the [User](#) object in the database, if not throws an exception.

Parameters

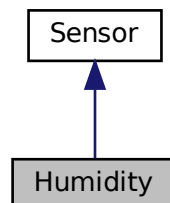
<i>employeeNumber</i>	
<i>NIF</i>	
<i>currentUser</i>	

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

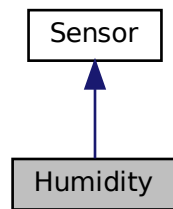
- include/[Database.h](#)
- src/[Database.cpp](#)

4.12 Humidity Class Reference

Inheritance diagram for Humidity:



Collaboration diagram for Humidity:



Public Member Functions

- [Humidity](#) (bool active=false, int valPerMin=1)
Create a new [Humidity](#) object.
- std::vector< int > [requestData](#) ()
Request data from the humidity sensor.

Additional Inherited Members

4.12.1 Constructor & Destructor Documentation

4.12.1.1 Humidity()

```
Humidity::Humidity (
    bool active = false,
    int valPerMin = 1 )
```

Create a new [Humidity](#) object.

Parameters

<i>active</i>	By default off
<i>valPerMin</i>	By default 1 val/min

4.12.2 Member Function Documentation

4.12.2.1 requestData()

```
std::vector< int > Humidity::requestData ( ) [virtual]
```

Request data from the humidity sensor.

Returns

std::vector<int> Data values

Note

This function is a placeholder, returns random values

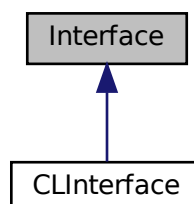
Implements [Sensor](#).

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

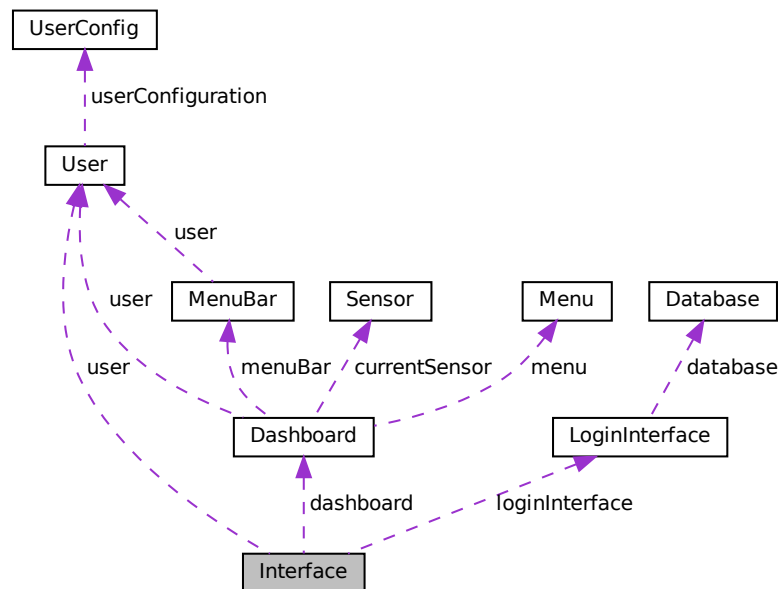
- include/[Humidity.h](#)
- src/[Humidity.cpp](#)

4.13 Interface Class Reference

Inheritance diagram for Interface:



Collaboration diagram for Interface:



Public Member Functions

- virtual void `login` (int tries)=0
Virtual interface for the login method.
- void `login` (std::string userNumber, std::string nif)
Default login method without any interface.
- bool `loadMenu` ()
Creates and loads the dashboard.

Static Public Member Functions

- static `Interface` * `Create` (const std::string type="CLI")
Create a new `Interface` instance of the type specified.

Protected Attributes

- `LoginInterface` * `loginInterface`
- `Dashboard` * `dashboard`
- `User` * `user`

4.13.1 Member Function Documentation

4.13.1.1 Create()

```
Interface * Interface::Create (
    const std::string type = "CLI" ) [static]
```

Create a new [Interface](#) instance of the type specified.

Parameters

<i>type</i>	Type of interface
-------------	-------------------

Returns

Interface* New [Interface](#) instance

4.13.1.2 loadMenu()

```
bool Interface::loadMenu ( )
```

Creates and loads the dashboard.

Returns

true = exit
false = login again

4.13.1.3 login() [1/2]

```
virtual void Interface::login (
    int tries ) [pure virtual]
```

Virtual interface for the login method.

Parameters

<i>tries</i>	
--------------	--

Implemented in [CLInterface](#).

4.13.1.4 login() [2/2]

```
void Interface::login (
    std::string userNumber,
    std::string nif )
```

Default login method without any interface.

Parameters

<i>userNumber</i>	
<i>nif</i>	

Note

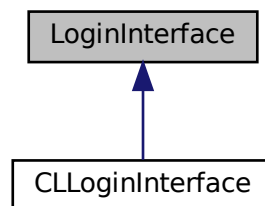
This method is used when the user executes the main with the NIF and employee number

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

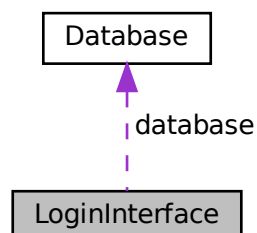
- [include/Interface.h](#)
- [src/Interface.cpp](#)

4.14 LoginInterface Class Reference

Inheritance diagram for LoginInterface:



Collaboration diagram for LoginInterface:



Public Member Functions

- virtual void **showWelcomeMessage** ()=0
 - virtual void **askEmployeeNumber** ()=0
 - virtual void **askEmployeeNumber** (const std::string &userNumber)=0
 - virtual void **askNIF** ()=0
 - virtual void **askNIF** (const std::string &userNumber)=0
 - void **checkUser** ([User](#) ¤tUser)
- Sets the user pass to the corresponding employee number and NIF in the database.*
- **LoginInterface** ([LoginInterface](#) &otherLoginInterface)=delete
 - void **operator=** (const [LoginInterface](#) &)=delete

Static Public Member Functions

- static [LoginInterface](#) * **Create** (const std::string="CLI")
- Create a new Login interface instance of the type specified.*

Public Attributes

- [Database](#) * **database**

Protected Attributes

- std::string **inputNIF**
- std::string **inputEmployeeNumber**

4.14.1 Member Function Documentation

4.14.1.1 checkUser()

```
void LoginInterface::checkUser (
    User & currentUser )
```

Sets the user pass to the corresponding employee number and NIF in the database.

Parameters

<i>currentUser</i>	
--------------------	--

4.14.1.2 Create()

```
LoginInterface * LoginInterface::Create (
    const std::string type = "CLI" ) [static]
```

Create a new Login interface instance of the type specified.

Parameters

<i>type</i>	Type of login interface
-------------	-------------------------

Returns

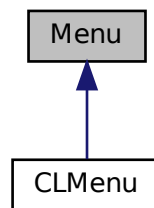
LoginInterface* New login interface instance

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

- [include/LoginInterface.h](#)
- [src/LoginInterface.cpp](#)

4.15 Menu Class Reference

Inheritance diagram for Menu:



Public Member Functions

- virtual void **show** (std::vector< [Sensor](#) * > sensors, [UserConfig](#) &config)=0
- virtual void **show** ([Sensor](#) *sensorToDisplay, [UserConfig](#) &config)=0

Static Public Member Functions

- static [Menu](#) * [Create](#) (const std::string type="CLI")
Create a new [Menu](#) instance of the type specified.

4.15.1 Member Function Documentation

4.15.1.1 Create()

```

Menu * Menu::Create (
    const std::string type = "CLI" ) [static]
  
```

Create a new [Menu](#) instance of the type specified.

Parameters

<i>type</i>	Type of menu
-------------	--------------

Returns

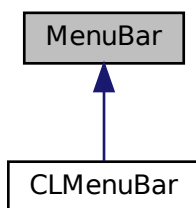
Menu* New menu instance

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

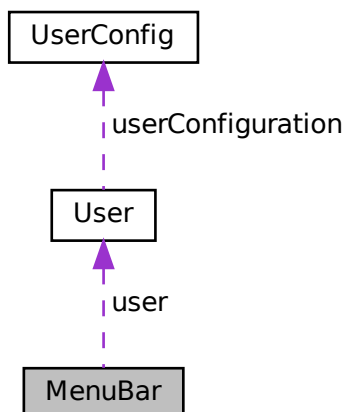
- include/[Menu.h](#)
- src/[Menu.cpp](#)

4.16 MenuBar Class Reference

Inheritance diagram for MenuBar:



Collaboration diagram for MenuBar:



Public Member Functions

- virtual void **show** ()=0
- void **setUser** ([User](#) &user)
- void **setCurrentMenu** (std::string currentMenu)

Sets the current menu.

Static Public Member Functions

- static [MenuBar](#) * **Create** (const std::string type="CLI")

Create a new [Menu](#) bar instance of the type specified.

Protected Attributes

- [User](#) **user**
- std::string **currentMenu**

4.16.1 Member Function Documentation

4.16.1.1 Create()

```
MenuBar * MenuBar::Create (
    const std::string type = "CLI" ) [static]
```

Create a new [Menu](#) bar instance of the type specified.

Parameters

<i>type</i>	Type of menu bar
-------------	------------------

Returns

[MenuBar](#)* New menu bar instance

4.16.1.2 setCurrentMenu()

```
void MenuBar::setCurrentMenu (
    std::string currentMenu )
```

Sets the current menu.

Parameters

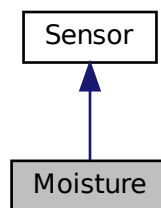
<code>currentMenu</code>	
--------------------------	--

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

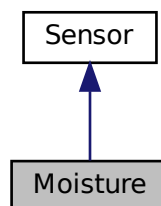
- include/[MenuBar.h](#)
- src/[MenuBar.cpp](#)

4.17 Moisture Class Reference

Inheritance diagram for Moisture:



Collaboration diagram for Moisture:



Public Member Functions

- [Moisture](#) (bool active=false, int valPerMin=1)
Create a new [Moisture](#) object.
- `std::vector< int > requestData ()`
Request data from the moisture sensor.

Additional Inherited Members

4.17.1 Constructor & Destructor Documentation

4.17.1.1 Moisture()

```
Moisture::Moisture (
    bool active = false,
    int valPerMin = 1 )
```

Create a new [Moisture](#) object.

Parameters

<i>active</i>	By default off
<i>valPerMin</i>	By default 1 val/min

4.17.2 Member Function Documentation

4.17.2.1 requestData()

```
std::vector< int > Moisture::requestData ( ) [virtual]
```

Request data from the moisture sensor.

Returns

std::vector<int> Data values

Note

This function is a placeholder, returns random values

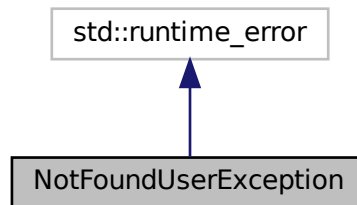
Implements [Sensor](#).

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

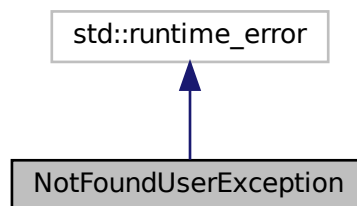
- include/[Moisture.h](#)
- src/[Moisture.cpp](#)

4.18 NotFoundUserException Class Reference

Inheritance diagram for NotFoundUserException:



Collaboration diagram for NotFoundUserException:

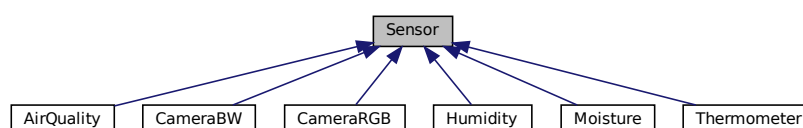


The documentation for this class was generated from the following file:

- include/[NotFoundUserException.h](#)

4.19 Sensor Class Reference

Inheritance diagram for Sensor:



Public Member Functions

- [Sensor](#) (std::string id="0000", std::string type="none", std::string magnitude="-", bool active=true, int valPerMin=1)
Construct a new [Sensor::Sensor](#) object.
- std::string [getId](#) ()
Returns the sensor id.
- std::string [getType](#) ()
Returns the sensor type.
- void [setActive](#) (bool)
Turns the sensor On/Off.
- bool [isActive](#) ()
Returns if the sensor is On/Off.
- void [setArea](#) (std::string)
Set the area of the sensor.
- std::string [getArea](#) ()
Returns the area of the sensor.
- void [setMagnitude](#) (std::string magnitude)
Set the sensor data values magnitude.
- std::string [getMagnitude](#) ()
Returns the sensor magnitude.
- void [setValPerMin](#) (int valPerMin)
Set the number of values per min.
- int [getValPerMin](#) ()
Return the number of values per min.
- virtual std::vector< int > [requestData](#) ()=0

Static Public Member Functions

- static [Sensor](#) * [Create](#) (const std::string type)
Creates an instance of the sensor type.

Protected Member Functions

- void [addNewData](#) (int)
- void [removeOldData](#) (int)

Protected Attributes

- std::string [id](#)
- bool [active](#)
- std::string [type](#)
- std::string [area](#)
- std::vector< int > [data](#)
- std::string [magnitude](#)
- int [valPerMin](#)

4.19.1 Constructor & Destructor Documentation

4.19.1.1 Sensor()

```
Sensor::Sensor (
    std::string id = "0000",
    std::string type = "none",
    std::string magnitude = "-",
    bool active = true,
    int valPerMin = 1 )
```

Construct a new [Sensor::Sensor](#) object.

Parameters

<i>id</i>	Identification of type and number
<i>type</i>	Type of sensor
<i>magnitude</i>	Data values magnitude
<i>active</i>	Sensor is On/Off
<i>valPerMin</i>	Number of values per min

4.19.2 Member Function Documentation

4.19.2.1 Create()

```
Sensor * Sensor::Create (
    const std::string type ) [static]
```

Creates an instance of the sensor type.

Parameters

<i>type</i>	
-------------	--

Returns

[Sensor](#)*

4.19.2.2 getArea()

```
std::string Sensor::getArea ( )
```

Returns the area of the sensor.

Returns

std::string Area

4.19.2.3 getId()

```
std::string Sensor::getId ( )
```

Returns the sensor id.

Returns

std::string ID

4.19.2.4 getMagnitude()

```
std::string Sensor::getMagnitude ( )
```

Returns the sensor magnitude.

Returns

std::string Magnitude

4.19.2.5 getType()

```
std::string Sensor::getType ( )
```

Returns the sensor type.

Returns

std::string [Sensor](#) type

4.19.2.6 getValPerMin()

```
int Sensor::getValPerMin ( )
```

Return the number of values per min.

Returns

int Values per minute

4.19.2.7 isActive()

```
bool Sensor::isActive ( )
```

Returns if the sensor is On/Off.

Returns

true = ON

false = OFF

4.19.2.8 setActive()

```
void Sensor::setActive (
    bool active )
```

Turns the sensor On/Off.

Parameters

<i>active</i>	
---------------	--

4.19.2.9 setArea()

```
void Sensor::setArea (
    std::string area )
```

Set the area of the sensor.

Parameters

<i>area</i>	
-------------	--

4.19.2.10 setMagnitude()

```
void Sensor::setMagnitude (
    std::string magnitude )
```

Set the sensor data values magnitude.

Parameters

<i>magnitude</i>	
------------------	--

4.19.2.11 setValPerMin()

```
void Sensor::setValPerMin (
    int valPerMin )
```

Set the number of values per min.

Parameters

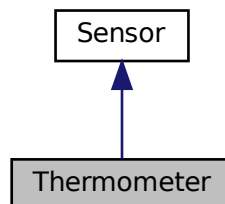
<i>valPerMin</i>	
------------------	--

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

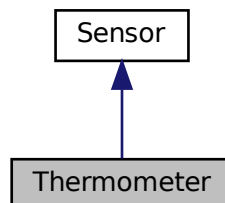
- include/[Sensor.h](#)
- src/[Sensor.cpp](#)

4.20 Thermometer Class Reference

Inheritance diagram for Thermometer:



Collaboration diagram for Thermometer:



Public Member Functions

- [Thermometer](#) (bool active=false, int valPerMin=1)
Create a new [Thermometer](#) object.
- std::vector< int > [requestData](#) ()
Request data from the thermometer.

Additional Inherited Members

4.20.1 Constructor & Destructor Documentation

4.20.1.1 Thermometer()

```
Thermometer::Thermometer (
    bool active = false,
    int valPerMin = 1 )
```

Create a new [Thermometer](#) object.

Parameters

<i>active</i>	By default off
<i>valPerMin</i>	By default 1 val/min

4.20.2 Member Function Documentation

4.20.2.1 requestData()

```
std::vector< int > Thermometer::requestData ( ) [virtual]
```

Request data from the thermometer.

Returns

std::vector<int> Data values

Note

This function is a placeholder, returns random values

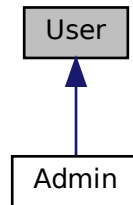
Implements [Sensor](#).

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

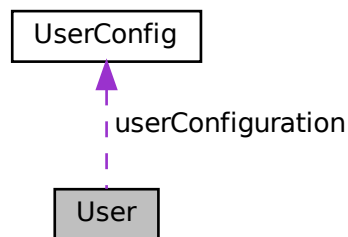
- include/[Thermometer.h](#)
- src/[Thermometer.cpp](#)

4.21 User Class Reference

Inheritance diagram for User:



Collaboration diagram for User:



Public Member Functions

- [User](#) (std::string number="00000", std::string nif="00000000", std::string name="default")
Create a new [User](#).
- [User](#) ([UserConfig](#) [UserConfig](#), std::string number="00000", std::string nif="00000000", std::string name="default")
- std::string **getNIF** () const
- bool **isSameNIF** (std::string NIF)
- std::string **getEmployeeNumber** () const
- bool **isSameEmployeeNumber** (std::string employeeNumber)
- std::string [getName](#) () const
Returns the user name.
- void **setName** (std::string newName)
- void [addTimestamp](#) ()
Set the timestamp.
- std::string [getTimestamp](#) () const
Returns the timestamp.

- bool `hasAdminPermission` ()
Returns the user permissions.
- bool `operator<` (const `User` &) const
- bool `operator==` (const `User` &) const
- void `setNIF` (std::string)
Set the user NIF.
- void `setEmployeeNumber` (std::string)
Set the user employee number.
- void `setConfig` (`UserConfig` newConfig)
- `UserConfig` * `getConfiguration` ()

Protected Attributes

- char `name` [21]
- char `NIF` [9]
- char `employeeNumber` [6]
- char `lastLogTime` [25]
- bool `adminPermission`
- `UserConfig` `userConfiguration`

Friends

- std::ostream & `operator<<` (std::ostream &, const `User` &)

4.21.1 Constructor & Destructor Documentation

4.21.1.1 User()

```
User::User (
    std::string number = "00000",
    std::string nif = "00000000",
    std::string name = "default" )
```

Create a new `User`.

Parameters

<i>employeeNumber</i>	
<i>NIF</i>	
<i>name</i>	

4.21.2 Member Function Documentation

4.21.2.1 addTimestamp()

```
void User::addTimestamp ( )
```

Set the timestamp.

4.21.2.2 getName()

```
std::string User::getName ( ) const [inline]
```

Returns the user name.

Returns

std::string [User](#) name

4.21.2.3 getTimestamp()

```
std::string User::getTimestamp ( ) const
```

Returns the timestamp.

Returns

std::string Timestamp

4.21.2.4 hasAdminPermission()

```
bool User::hasAdminPermission ( )
```

Returns the user permissions.

Returns

true = has admin permissions

false = does not have admin permissions

4.21.2.5 setEmployeeNumber()

```
void User::setEmployeeNumber (
    std::string newEmployeeNumber )
```

Set the user employee number.

Parameters

<i>employeeNumber</i>	
-----------------------	--

4.21.2.6 setNIF()

```
void User::setNIF (
    std::string newNIF )
```

Set the user NIF.

Parameters

<i>N_{IF}</i>	
-----------------------	--

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

- [include/User.h](#)
- [src/User.cpp](#)

4.22 UserConfig Class Reference

Public Member Functions

- **UserConfig** (std::string language="ENG", std::array< int, 3 > backgroundColor={0, 0, 0}, std::array< int, 3 > fontColor={255, 255, 255}, std::array< int, 3 > graphicColor={255, 0, 0})
- std::string **getlanguage** () const
- void **setLanguage** (std::string newLanguage)
- std::array< int, 3 > * **getBackgroundColor** ()
- void **setBackgroundColor** (std::array< int, 3 > newBackgroundColor)
- std::array< int, 3 > * **getFontColor** ()
- void **setFontColor** (std::array< int, 3 > newFontColor)
- std::array< int, 3 > * **getGraphicColor** ()
- void **setGraphicColor** (std::array< int, 3 > newGraphicColor)

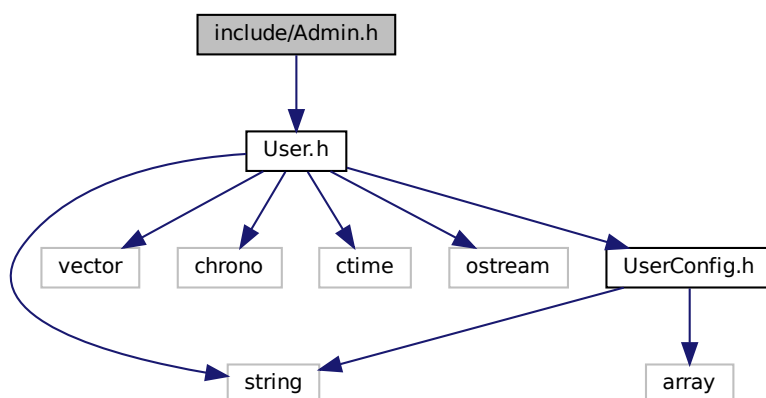
The documentation for this class was generated from the following files:

- [include/UserConfig.h](#)
- [src/UserConfig.cpp](#)

File Documentation

Header file of `Admin.cpp`.

Include dependency graph for Admin.h:



```

graph TD
    AdminH[include/Admin.h] --> AdminC[src/Admin.cpp]
    AdminH --> MenuBarH[include/MenuBar.h]
    AdminH --> DatabaseH[include/Database.h]
    AdminH --> InterfaceH[include/Interface.h]
    
    MenuBarH --> MenuBarC[src/MenuBar.cpp]
    MenuBarH --> CLMenuBarH[include/CLMenuBar.h]
    
    DatabaseH --> DatabaseC[src/Database.cpp]
    DatabaseH --> LoginInterfaceH[include/LoginInterface.h]
    
    InterfaceH --> CLInterfaceH[include/CLInterface.h]
    InterfaceH --> CLLoginInterfaceH[include/CLLoginInterface.h]
    InterfaceH --> LoginInterfaceC[src/LoginInterface.cpp]
    
    CLInterfaceH --> mainC[src/main.cpp]
    CLInterfaceH --> CLInterfaceC[src/CLInterface.cpp]
    
    CLLoginInterfaceH --> CLLoginInterfaceC[src/CLLoginInterface.cpp]
    
    CLMenuBarH --> CLMenuBarC[src/CLMenuBar.cpp]
    
    CLDashboardH[include/CLDashboard.h] --> CLDashboardC[src/CLDashboard.cpp]
    
    InterfaceH --> DashboardH[include/Dashboard.h]
    DashboardH --> DashboardC[src/Dashboard.cpp]
    DashboardH --> CLDashboardH
  
```

Classes

- class [Admin](#)

5.1.1 Detailed Description

Header file of [Admin.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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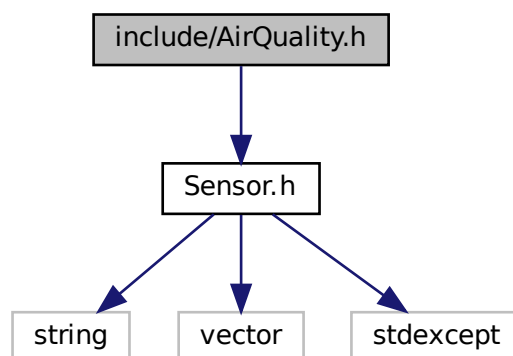
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5.2 include/AirQuality.h File Reference

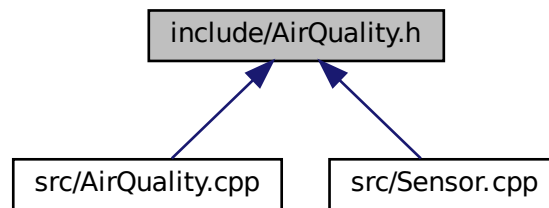
Header file of [AirQuality.cpp](#).

```
#include "Sensor.h"
```

Include dependency graph for AirQuality.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [AirQuality](#)

5.2.1 Detailed Description

Header file of [AirQuality.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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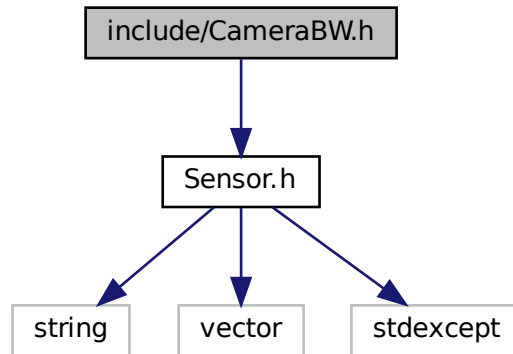
Copyright (c) 2022

5.3 include/CameraBW.h File Reference

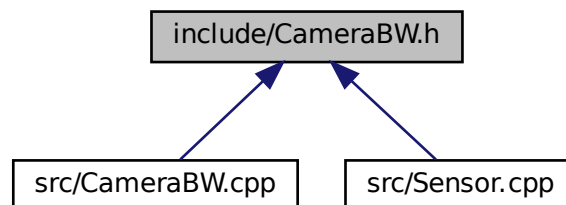
Header file of [CameraBW.cpp](#).

```
#include "Sensor.h"
```

Include dependency graph for CameraBW.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [CameraBW](#)

5.3.1 Detailed Description

Header file of [CameraBW.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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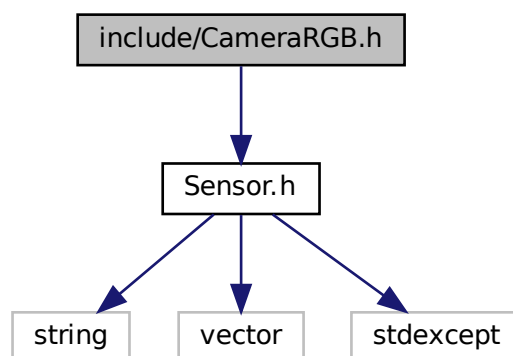
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5.4 include/CameraRGB.h File Reference

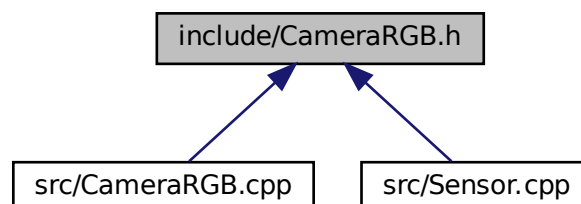
Header file of [CameraRGB.cpp](#).

```
#include "Sensor.h"
```

Include dependency graph for CameraRGB.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [CameraRGB](#)

5.4.1 Detailed Description

Header file of [CameraRGB.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

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Date

2022-11-23

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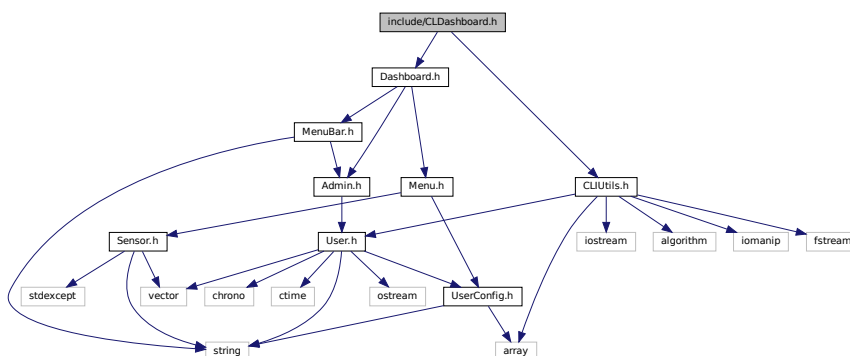
5.5 include/CLDashboard.h File Reference

Header file of [CLDashboard.cpp](#).

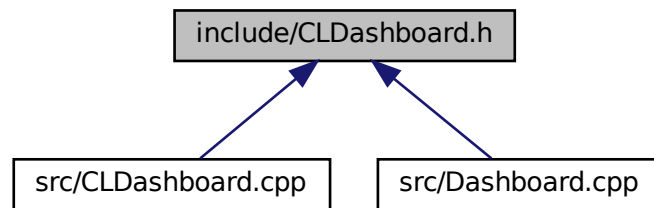
```
#include "Dashboard.h"
```

```
#include "CLIUtils.h"
```

Include dependency graph for CLDashboard.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [CLDashboard](#)

5.5.1 Detailed Description

Header file of [CLDashboard.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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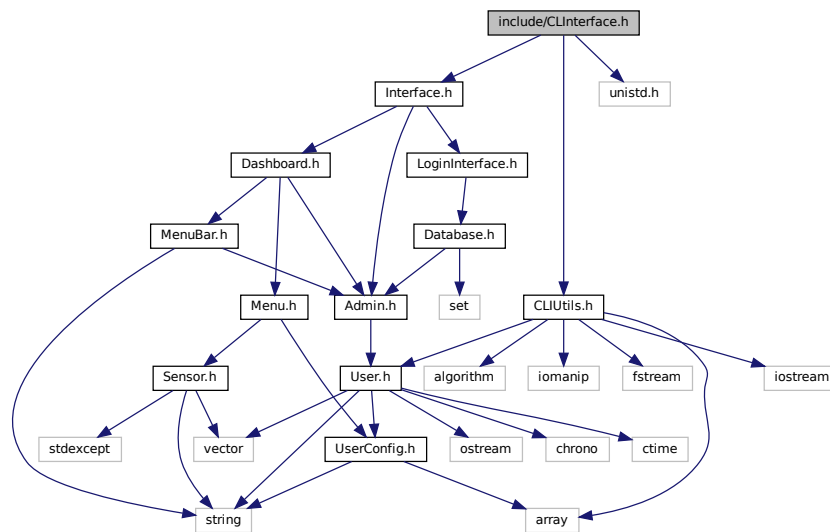
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5.6 include/CLInterface.h File Reference

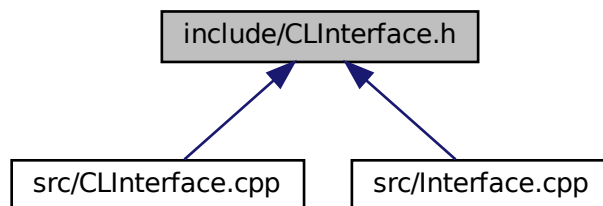
Header file of [CLInterface.cpp](#).

```
#include "Interface.h"
#include "CLIUtils.h"
#include <unistd.h>
```

Include dependency graph for CLInterface.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [CLInterface](#)

5.6.1 Detailed Description

Header file of [CLInterface.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

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Date

2022-11-23

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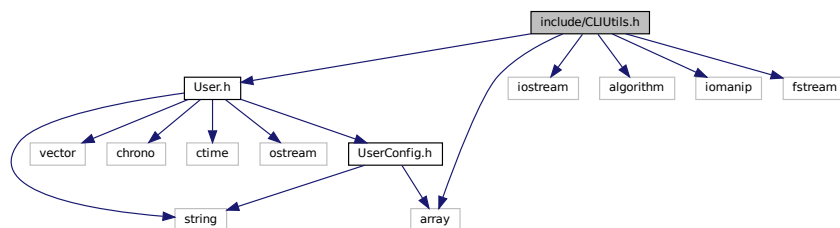
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5.7 include/CLIUtils.h File Reference

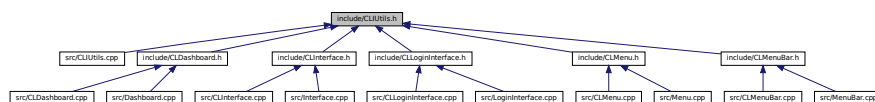
Header file of [CLIUtils.cpp](#).

```
#include "User.h"
#include <iostream>
#include <algorithm>
#include <iomanip>
#include <fstream>
#include <array>
```

Include dependency graph for CLIUtils.h:



This graph shows which files directly or indirectly include this file:



Functions

- void **setTerminalSize** ()
- int **getTerminalWidth** ()
- int **getTerminalHeight** ()
- void **printCenterFromFile** (const std::string fileName, std::array< int, 3 > frontColor, std::array< int, 3 > backColor)
Print the contents of the file in the center.
- void **printCenter** (const std::string toPrint, std::array< int, 3 > frontColor, std::array< int, 3 > backColor, const int padding=0)
Print the string in the center.
- void **printRight** (const std::string toPrint, std::array< int, 3 > frontColor, std::array< int, 3 > backColor, const int padding=0)
- void **printLeft** (const std::string toPrint, std::array< int, 3 > frontColor, std::array< int, 3 > backColor, const int padding=0)
- void **printColor** (std::string toPrint, std::array< int, 3 > frontColor, std::array< int, 3 > backColor)
Print the string to the terminal in the given color.
- void **startCustomTerminal** (int)
- std::vector< std::string > **newCommand** ([User](#) &user, std::string="")
- void **clearCustomTerminal** (int)
- void **moveCursor** (int posX, int posY)
- void **printGraphic** (const std::vector< int > &data, std::array< int, 3 > frontColor, std::array< int, 3 > backColor, std::array< int, 3 > pointColor, int valPerY=1, int posX=10, int posY=10, int scale=1)

5.7.1 Detailed Description

Header file of [CLIUtils.cpp](#).

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Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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5.7.2 Function Documentation

5.7.2.1 printCenter()

```
void printCenter (
    const std::string toPrint,
    std::array< int, 3 > frontColor,
    std::array< int, 3 > backColor,
    const int padding = 0 )
```

Print the string in the center.

Parameters

<i>toPrint</i>	
<i>frontColor</i>	
<i>backColor</i>	
<i>padding</i>	

5.7.2.2 printCenterFromFile()

```
void printCenterFromFile (
    const std::string fileName,
    std::array< int, 3 > frontColor,
    std::array< int, 3 > backColor )
```

Print the contents of the file in the center.

Parameters

<i>fileName</i>	
<i>frontColor</i>	
<i>backColor</i>	

5.7.2.3 printColor()

```
void printColor (
    std::string toPrint,
    std::array< int, 3 > frontColor,
    std::array< int, 3 > backColor )
```

Print the string to the terminal in the given color.

Parameters

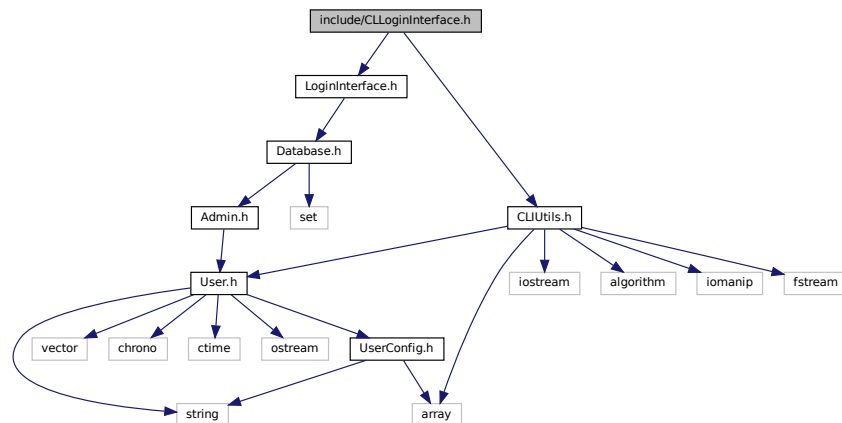
<i>toPrint</i>	
<i>frontColor</i>	
<i>backColor</i>	

5.8 include/CLLoginInterface.h File Reference

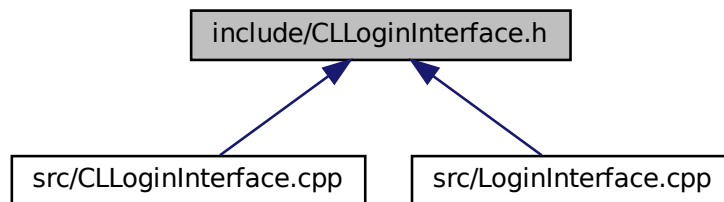
Header file of [CLLoginInterface.cpp](#).

```
#include "LoginInterface.h"
#include "CLIUtils.h"
```

Include dependency graph for CLLoginInterface.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [CLLoginInterface](#)

5.8.1 Detailed Description

Header file of [CLLoginInterface.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

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Date

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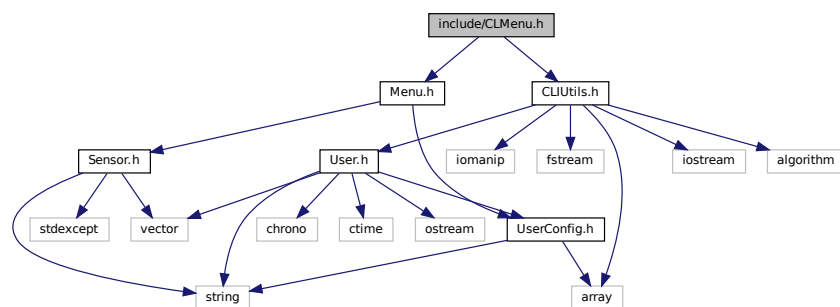
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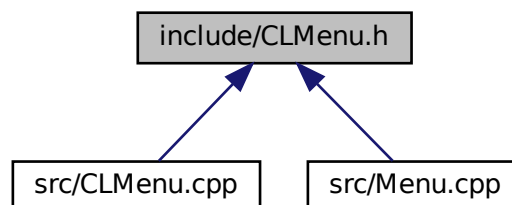
5.9 include/CLMenu.h File Reference

Header file of [CLMenu.cpp](#).

```
#include "Menu.h"
#include "CLIUtils.h"
Include dependency graph for CLMenu.h:
```



This graph shows which files directly or indirectly include this file:



Classes

- class [CLMenu](#)

5.9.1 Detailed Description

Header file of [CLMenu.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

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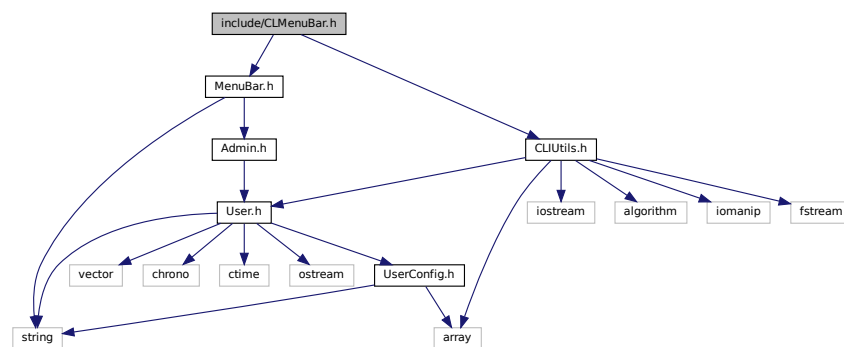
5.10 include/CLMenuBar.h File Reference

Header file of [CLMenuBar.cpp](#).

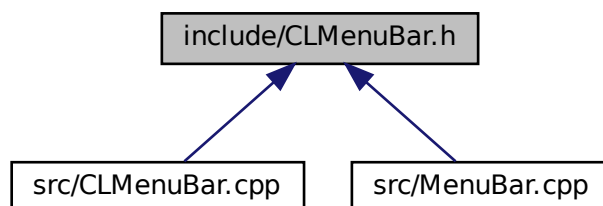
```
#include "MenuBar.h"
```

```
#include "CLIUtils.h"
```

Include dependency graph for CLMenuBar.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [CLMenuBar](#)

5.10.1 Detailed Description

Header file of [CLMenuBar.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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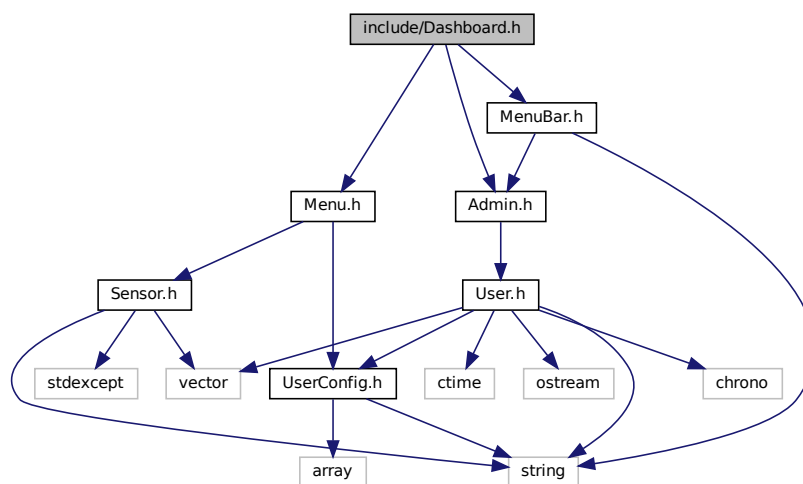
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5.11 include/Dashboard.h File Reference

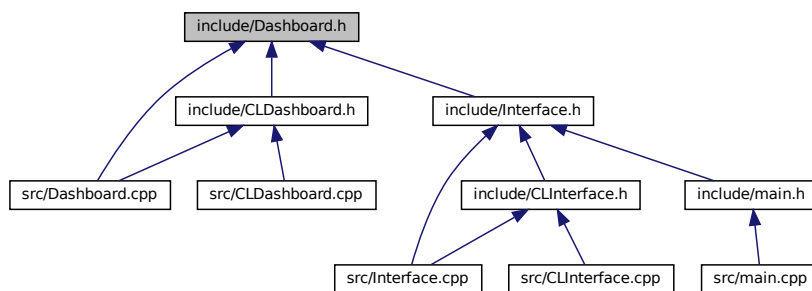
Header file of [Dashboard.cpp](#).

```
#include "Admin.h"  
#include "MenuBar.h"  
#include "Menu.h"
```

Include dependency graph for Dashboard.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [Dashboard](#)

5.11.1 Detailed Description

Header file of [Dashboard.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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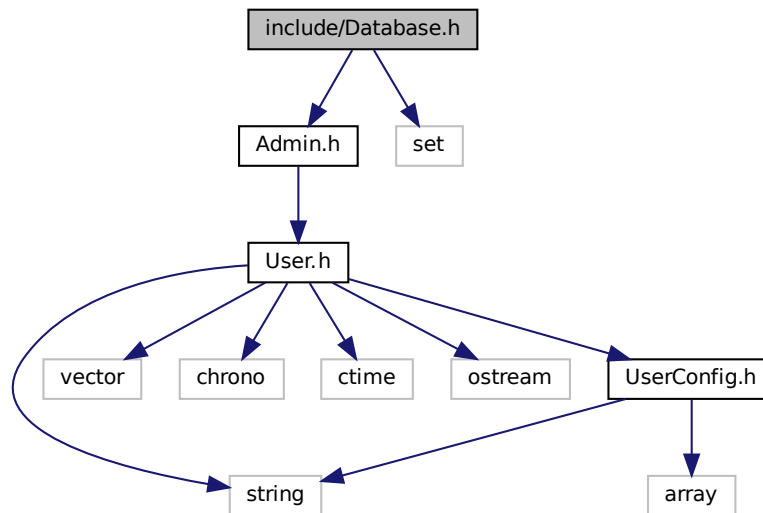
5.12 include/Database.h File Reference

Header file of [Database.cpp](#).

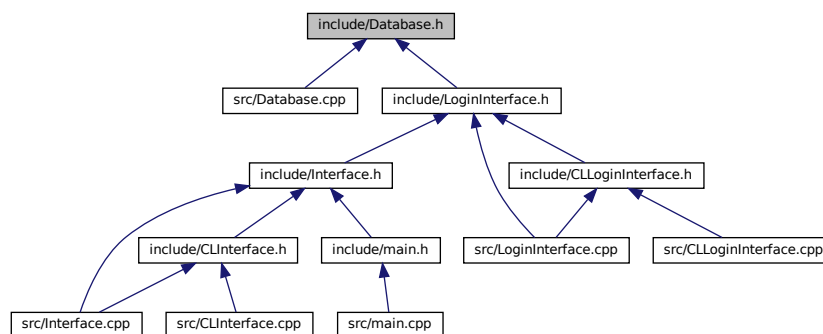
```
#include "Admin.h"
```

```
#include <set>
```

Include dependency graph for Database.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [Database](#)

5.12.1 Detailed Description

Header file of [Database.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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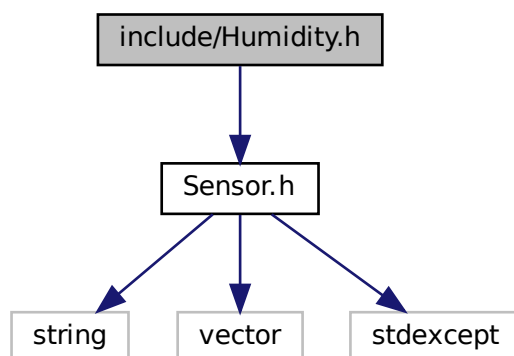
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5.13 include/Humidity.h File Reference

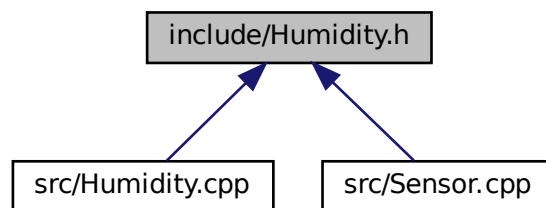
Header file of [Humidity.cpp](#).

```
#include "Sensor.h"
```

Include dependency graph for Humidity.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [Humidity](#)

5.13.1 Detailed Description

Header file of [Humidity.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

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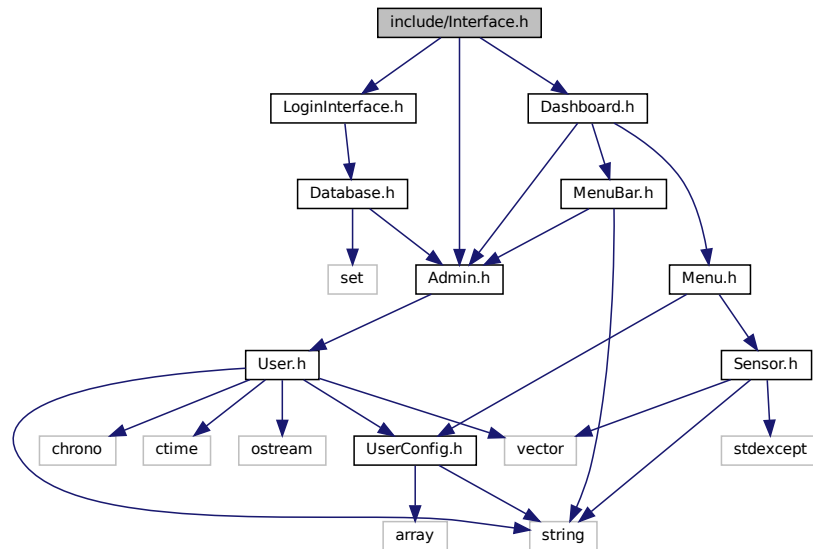
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5.14 include/Interface.h File Reference

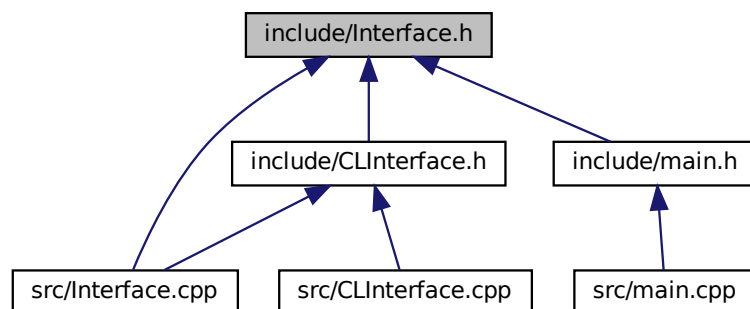
Header file of [Interface.cpp](#).

```
#include "LoginInterface.h"
#include "Dashboard.h"
#include "Admin.h"
```

Include dependency graph for Interface.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [Interface](#)

5.14.1 Detailed Description

Header file of [Interface.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

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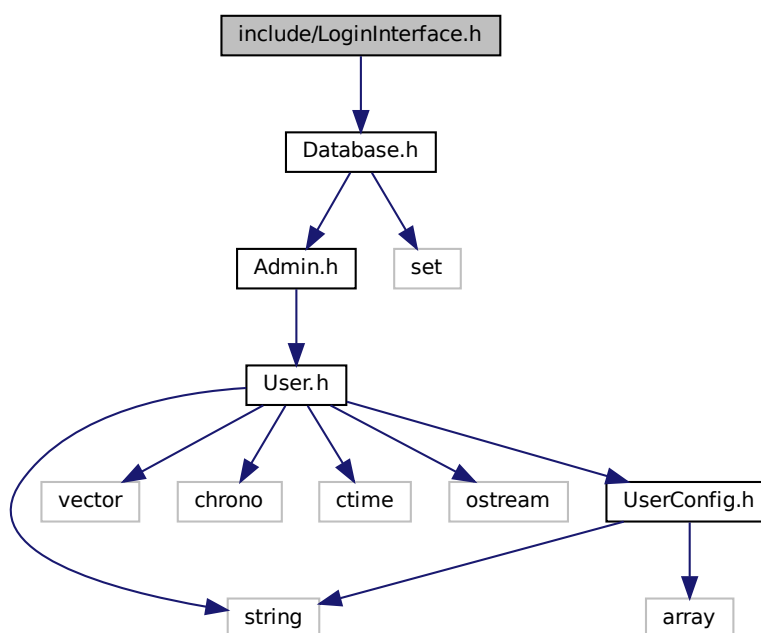
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5.15 include/LoginInterface.h File Reference

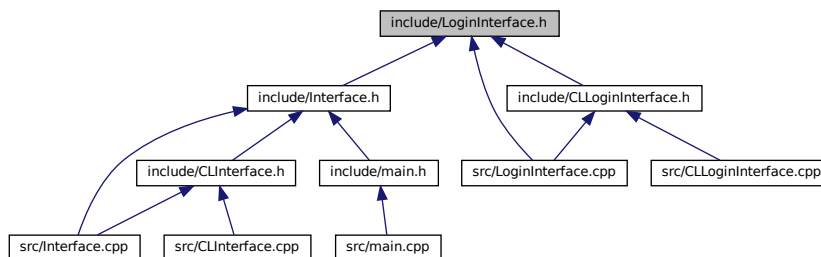
Header file of [LoginInterface.cpp](#).

```
#include "Database.h"
```

Include dependency graph for LoginInterface.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [LoginInterface](#)

5.15.1 Detailed Description

Header file of [LoginInterface.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

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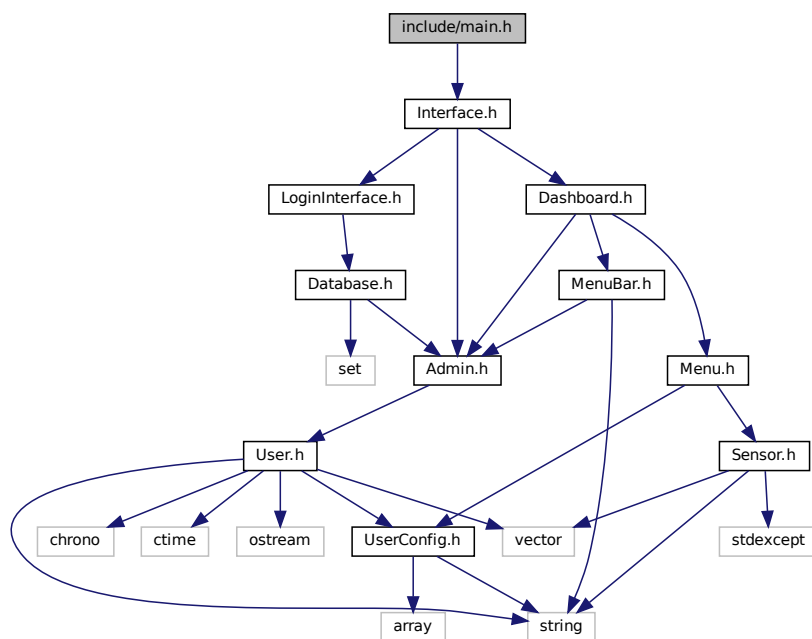
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5.16 include/main.h File Reference

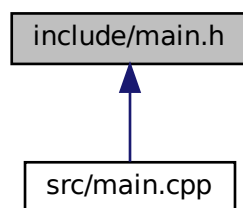
Header file of [main.cpp](#).

```
#include "Interface.h"
```

Include dependency graph for main.h:



This graph shows which files directly or indirectly include this file:



Functions

- int **main** (int argc, char *argv[])

5.16.1 Detailed Description

Header file of [main.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

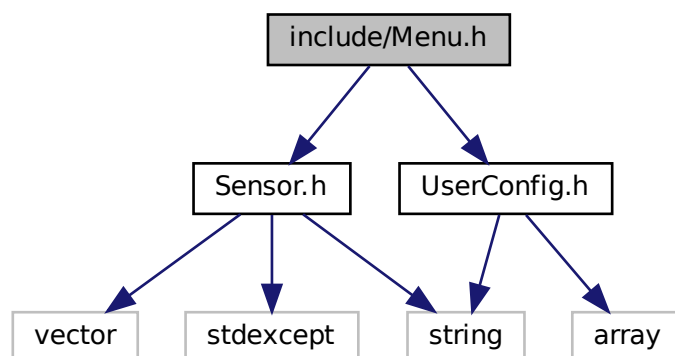
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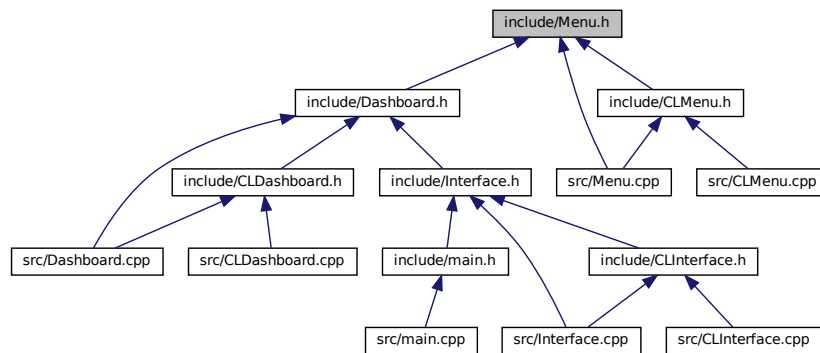
5.17 include/Menu.h File Reference

Header file of [Menu.cpp](#).

```
#include "Sensor.h"  
#include "UserConfig.h"  
Include dependency graph for Menu.h:
```



This graph shows which files directly or indirectly include this file:



Classes

- class [Menu](#)

5.17.1 Detailed Description

Header file of [Menu.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

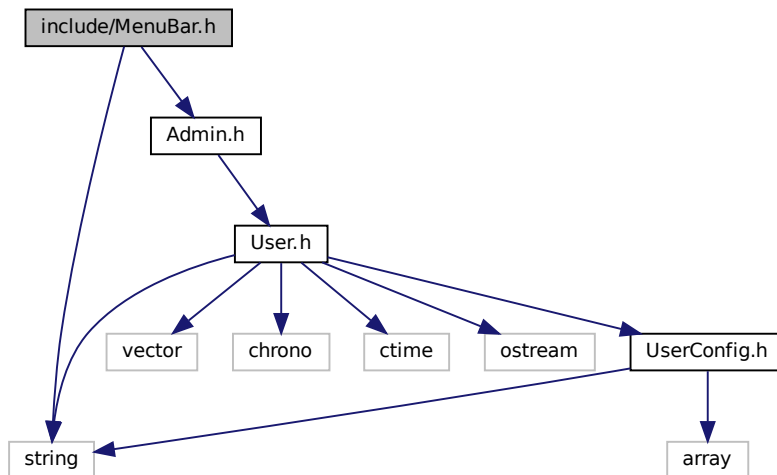
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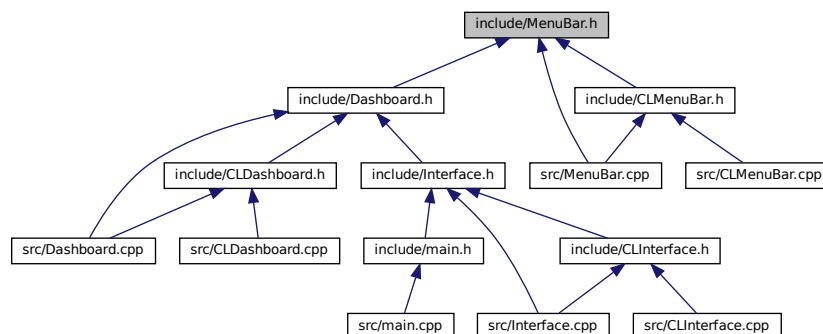
5.18 include/MenuBar.h File Reference

Header file of [MenuBar.cpp](#).

```
#include <string>
#include "Admin.h"
Include dependency graph for MenuBar.h:
```



This graph shows which files directly or indirectly include this file:



Classes

- class [MenuBar](#)

5.18.1 Detailed Description

Header file of [MenuBar.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

Copyright

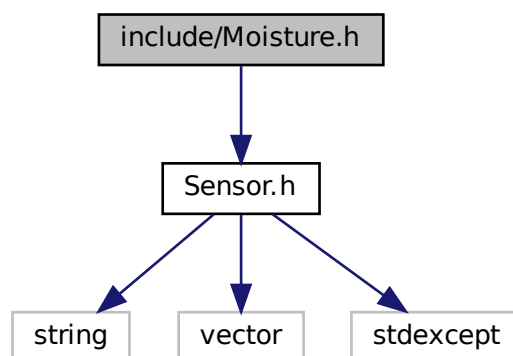
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5.19 include/Moisture.h File Reference

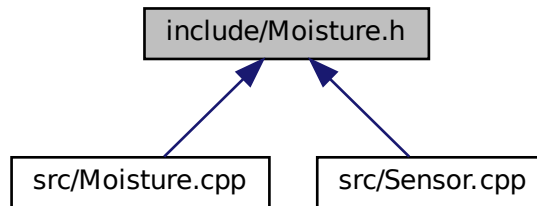
Header file of [Moisture.cpp](#).

```
#include "Sensor.h"
```

Include dependency graph for Moisture.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [Moisture](#)

5.19.1 Detailed Description

Header file of [Moisture.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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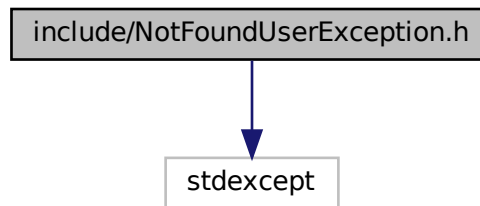
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5.20 include/NotFoundUserException.h File Reference

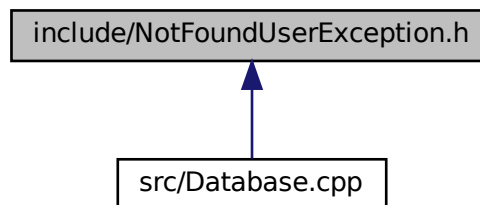
Exception thrown when user not found in database.

```
#include <stdexcept>
```

Include dependency graph for NotFoundUserException.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [NotFoundUserException](#)

5.20.1 Detailed Description

Exception thrown when user not found in database.

Author

Javier Izquierdo Hernandez (j.izquierdoh.2021@alumnos.urjc.es)

Version

0.1

Date

2022-12-20

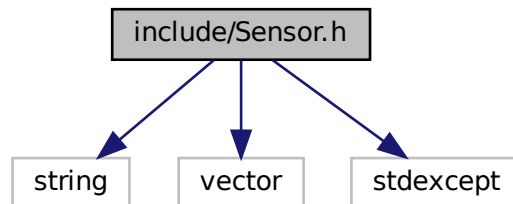
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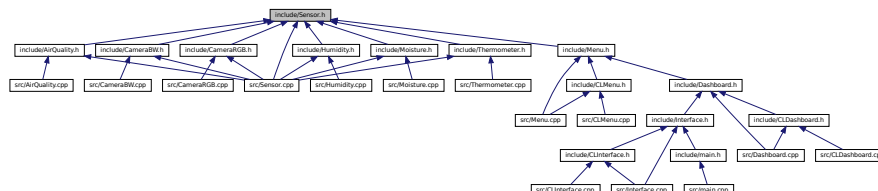
5.21 include/Sensor.h File Reference

Header file of [Sensor.cpp](#).

```
#include <string>
#include <vector>
#include <stdexcept>
Include dependency graph for Sensor.h:
```



This graph shows which files directly or indirectly include this file:



Classes

- class [Sensor](#)

5.21.1 Detailed Description

Header file of [Sensor.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

Copyright

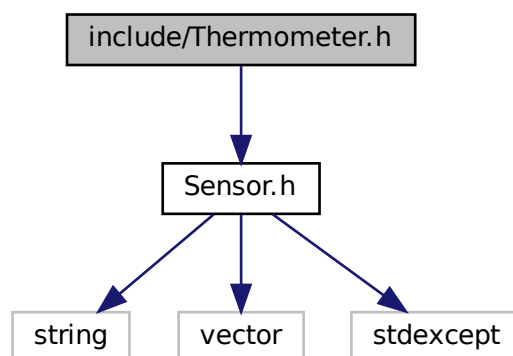
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5.22 include/Thermometer.h File Reference

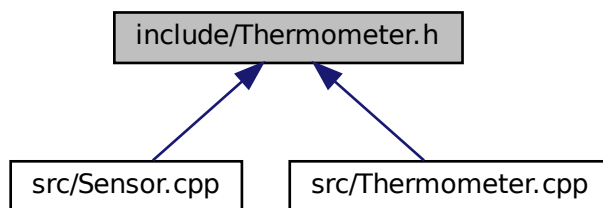
Header file of [Thermometer.cpp](#).

```
#include "Sensor.h"
```

Include dependency graph for Thermometer.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [Thermometer](#)

5.22.1 Detailed Description

Header file of [Thermometer.cpp](#).

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

Copyright

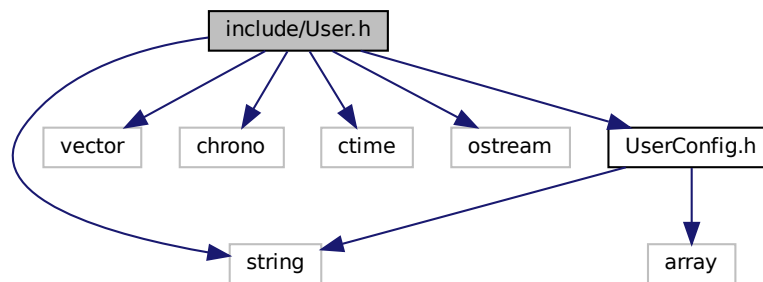
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5.23 include/User.h File Reference

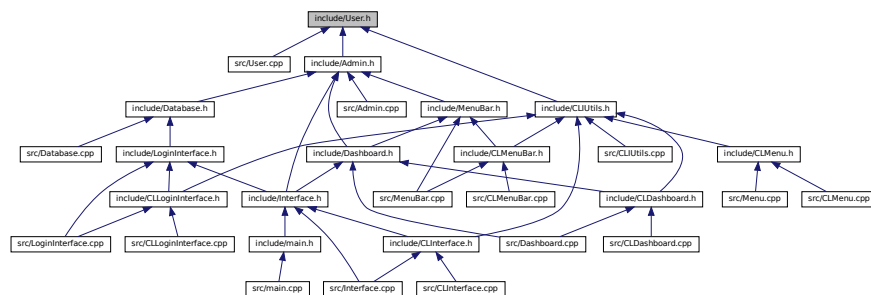
Header file of [User.cpp](#).

```
#include <string>
#include <vector>
#include <chrono>
#include <ctime>
#include <ostream>
#include "UserConfig.h"
```

Include dependency graph for User.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [User](#)

5.23.1 Detailed Description

Header file of [User.cpp](#).

Classes

- class [UserConfig](#)

5.24.1 Detailed Description

Header file of [UserConfig.cpp](#).

Author

Javier Izquierdo Hernandez (j.izquierdoh.2021@alumnos.urjc.es)

Version

0.1

Date

2022-12-22

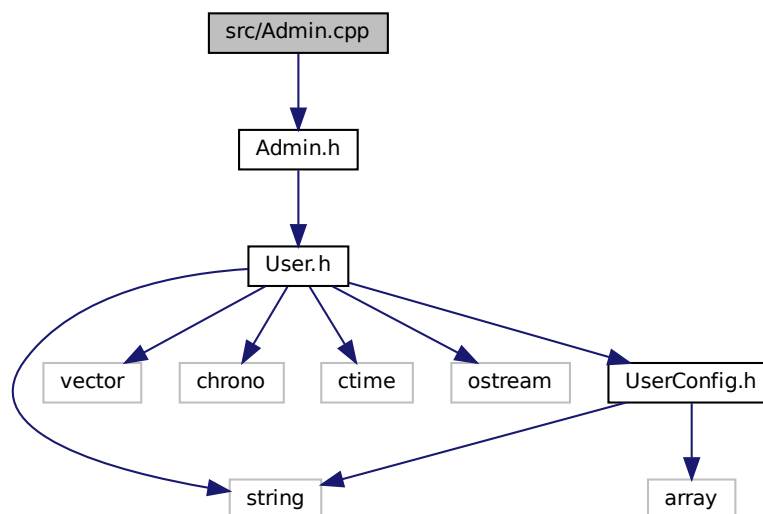
Copyright

Copyright (c) 2022

5.25 src/Admin.cpp File Reference

```
#include "Admin.h"
```

Include dependency graph for Admin.cpp:



5.25.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

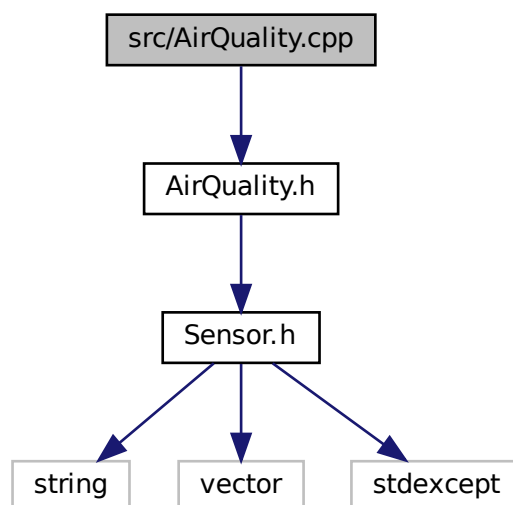
Copyright

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5.26 src/AirQuality.cpp File Reference

```
#include "AirQuality.h"
```

Include dependency graph for AirQuality.cpp:



5.26.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

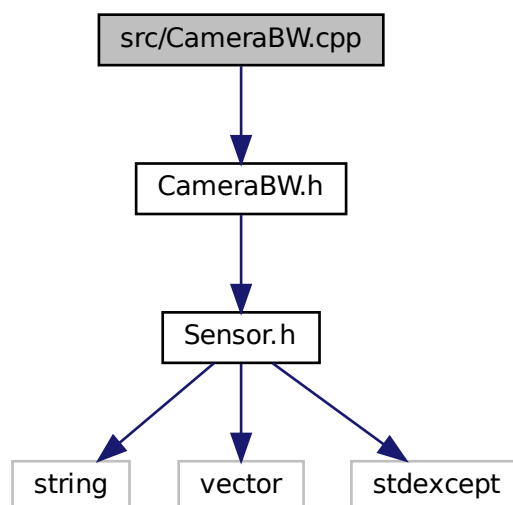
Copyright

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5.27 src/CameraBW.cpp File Reference

```
#include "CameraBW.h"
```

Include dependency graph for CameraBW.cpp:



5.27.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

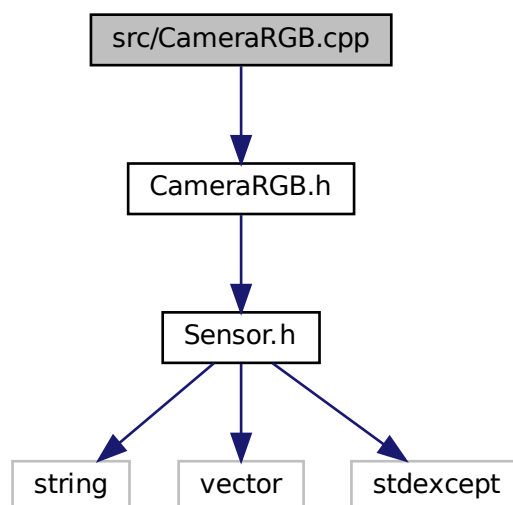
Copyright

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5.28 src/CameraRGB.cpp File Reference

```
#include "CameraRGB.h"
```

Include dependency graph for CameraRGB.cpp:



5.28.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

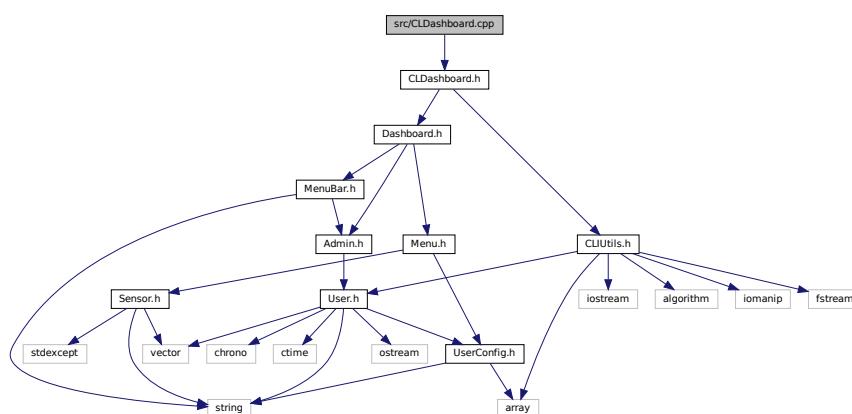
Copyright

Copyright (c) 2022

5.29 src/CLDashboard.cpp File Reference

```
#include "CLDashboard.h"
```

Include dependency graph for CLDashboard.cpp:



5.29.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

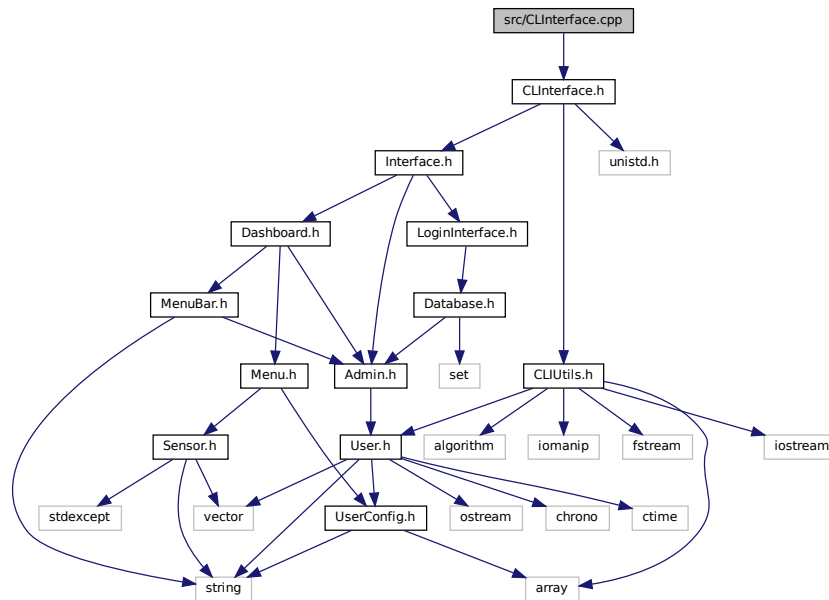
Copyright

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5.30 src/CLInterface.cpp File Reference

```
#include "CLInterface.h"
```

Include dependency graph for CLInterface.cpp:



5.30.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

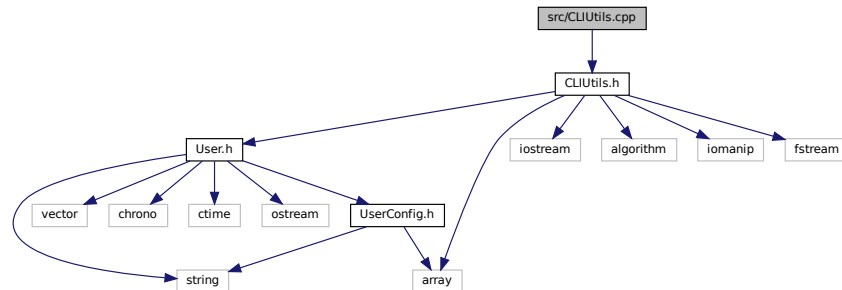
Copyright

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5.31 src/CLIUtils.cpp File Reference

```
#include "CLIUtils.h"
```

Include dependency graph for CLIUtils.cpp:



Functions

- void **setTerminalSize** ()
- int **getTerminalWidth** ()
- int **getTerminalHeight** ()
- void **printCenterFromFile** (std::string fileName, std::array< int, 3 > frontColor, std::array< int, 3 > backColor)

Print the contents of the file in the center.
- void **printCenter** (const std::string toPrint, std::array< int, 3 > frontColor, std::array< int, 3 > backColor, const int padding)

Print the string in the center.
- void **printRight** (const std::string toPrint, std::array< int, 3 > frontColor, std::array< int, 3 > backColor, const int padding)
- void **printLeft** (const std::string toPrint, std::array< int, 3 > frontColor, std::array< int, 3 > backColor, const int padding)
- void **printColor** (std::string toPrint, std::array< int, 3 > frontColor, std::array< int, 3 > backColor)

Print the string to the terminal in the given color.
- void **startCustomTerminal** (int terminalSize)
- void **clearCustomTerminal** (int terminalSize)
- void **moveCursor** (int posX, int posY)
- std::vector< std::string > **newCommand** (**User** &user, std::string currentSensor)
- void **printGraphic** (const std::vector< int > &data, std::array< int, 3 > frontColor, std::array< int, 3 > backColor, std::array< int, 3 > pointColor, int valPerY, int posX, int posY, int scale)

Variables

- int **terminalWidth**
- int **terminalHeight**

5.31.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

Copyright

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5.31.2 Function Documentation

5.31.2.1 `printCenter()`

```
void printCenter (
    const std::string toPrint,
    std::array< int, 3 > frontColor,
    std::array< int, 3 > backColor,
    const int padding = 0 )
```

Print the string in the center.

Parameters

<i>toPrint</i>	
<i>frontColor</i>	
<i>backColor</i>	
<i>padding</i>	

5.31.2.2 `printCenterFromFile()`

```
void printCenterFromFile (
    const std::string fileName,
    std::array< int, 3 > frontColor,
    std::array< int, 3 > backColor )
```

Print the contents of the file in the center.

Parameters

<i>fileName</i>	
<i>frontColor</i>	
<i>backColor</i>	

5.31.2.3 printColor()

```
void printColor (
    std::string toPrint,
    std::array< int, 3 > frontColor,
    std::array< int, 3 > backColor )
```

Print the string to the terminal in the given color.

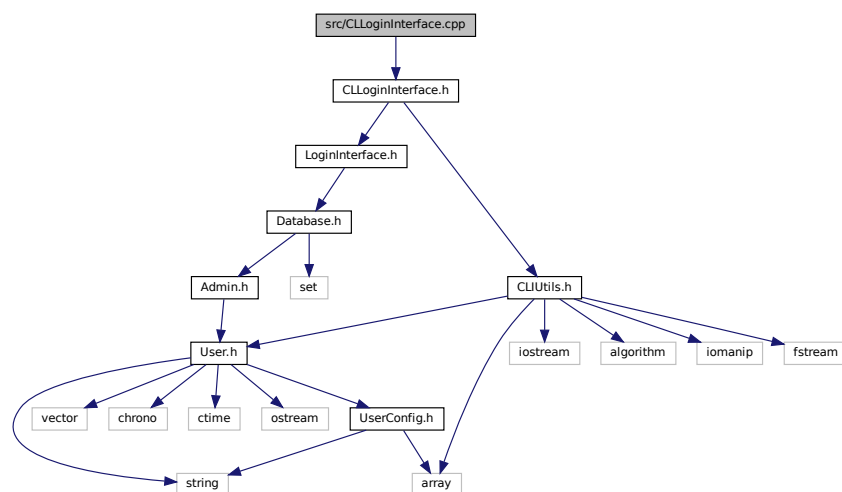
Parameters

<i>toPrint</i>	
<i>frontColor</i>	
<i>backColor</i>	

5.32 src/CLLoginInterface.cpp File Reference

```
#include "CLLoginInterface.h"
```

Include dependency graph for CLLoginInterface.cpp:



5.32.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

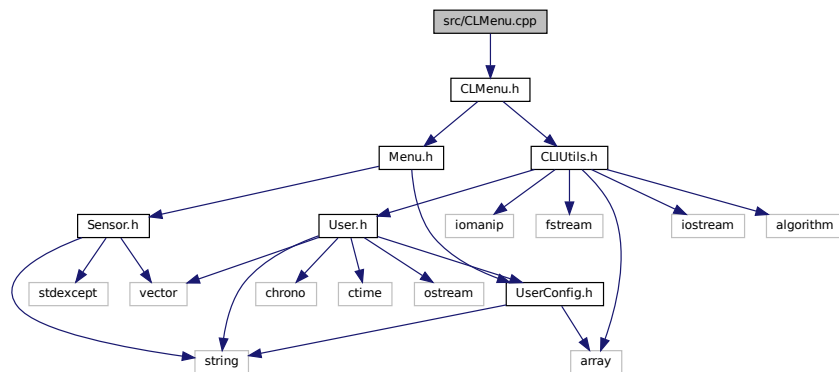
Copyright

Copyright (c) 2022

5.33 src/CLMenu.cpp File Reference

```
#include "CLMenu.h"
```

Include dependency graph for CLMenu.cpp:



5.33.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

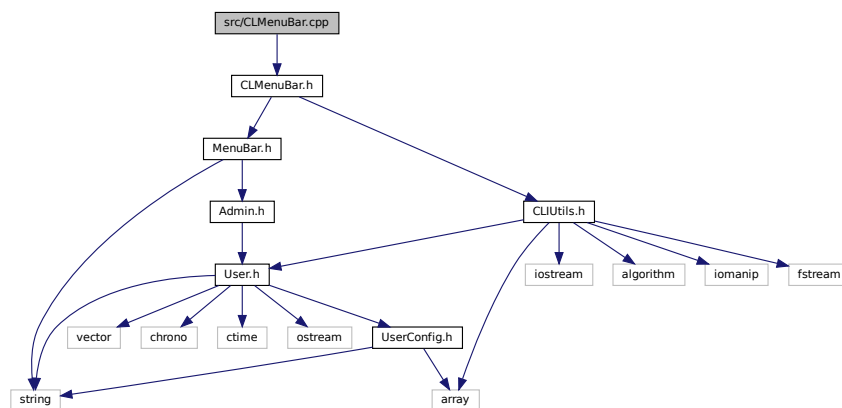
Copyright

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5.34 src/CLMenuBar.cpp File Reference

```
#include "CLMenuBar.h"
```

Include dependency graph for CLMenuBar.cpp:



5.34.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

Copyright

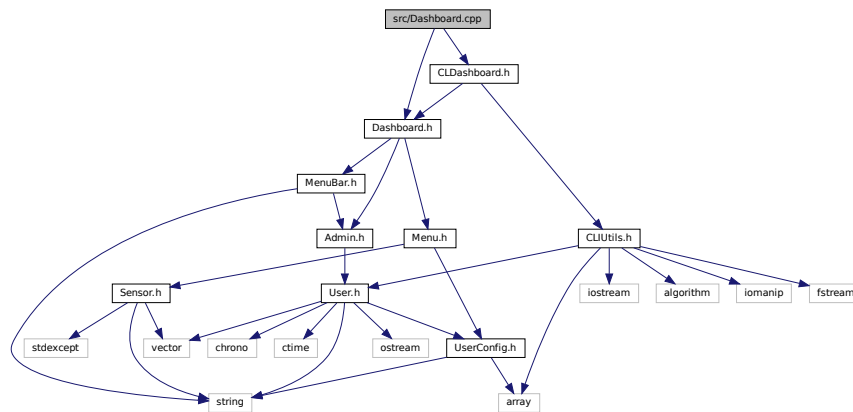
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5.35 src/Dashboard.cpp File Reference

```
#include "Dashboard.h"
```

```
#include "CLDashboard.h"
```

Include dependency graph for Dashboard.cpp:



5.35.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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5.36 src/Database.cpp File Reference

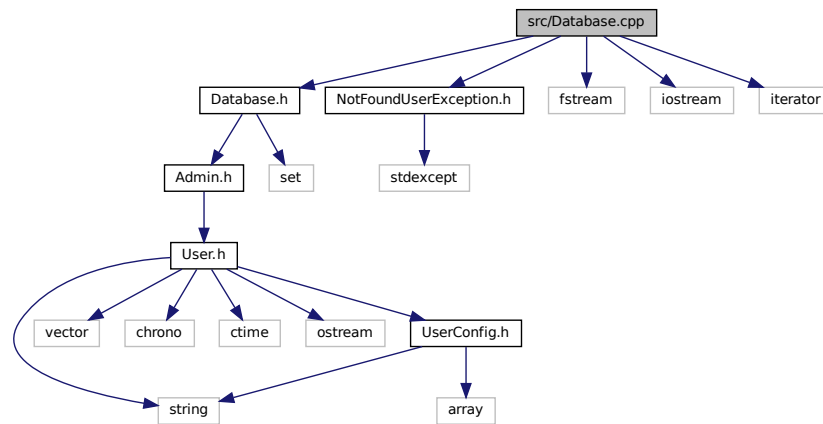
```

#include "Database.h"
#include "NotFoundUserException.h"
#include <fstream>
#include <iostream>

```

```
#include <iterator>
```

Include dependency graph for Database.cpp:



5.36.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

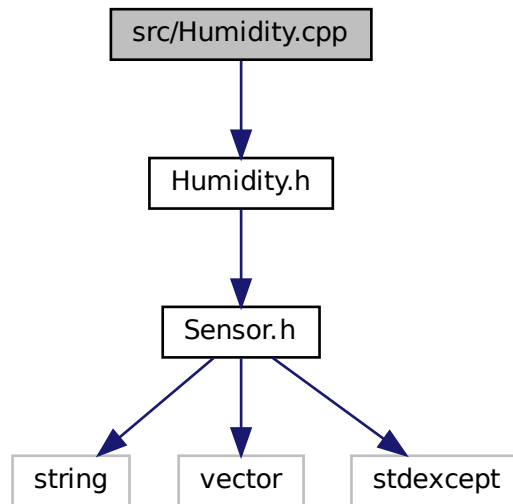
Copyright

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5.37 src/Humidity.cpp File Reference

```
#include "Humidity.h"
```

Include dependency graph for Humidity.cpp:



5.37.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

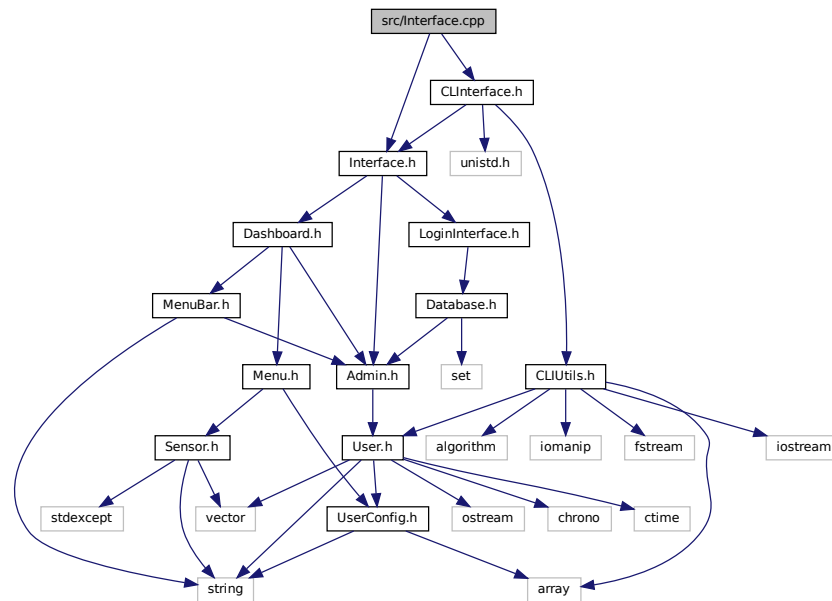
Copyright

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5.38 `src/Interface.cpp` File Reference

```
#include "Interface.h"
#include "CLInterface.h"
```

Include dependency graph for Interface.cpp:



5.38.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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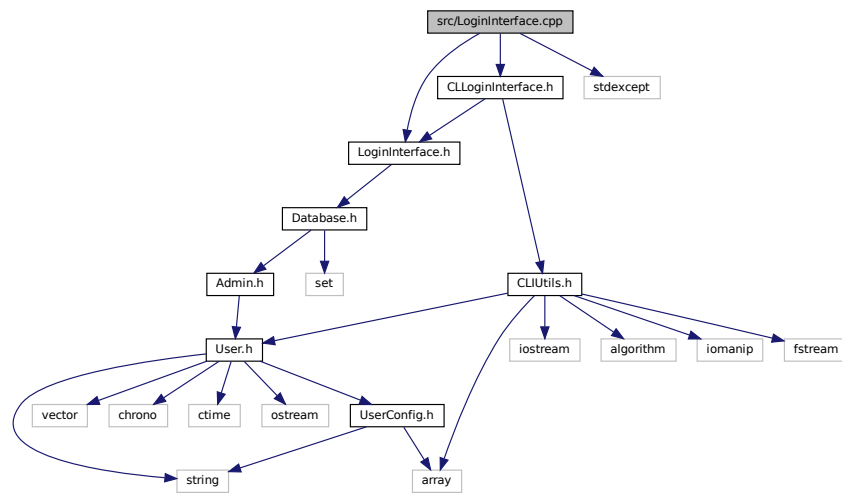
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5.39 src/LoginInterface.cpp File Reference

```
#include "LoginInterface.h"
#include "CLLoginInterface.h"
```

```
#include <stdexcept>
```

Include dependency graph for LoginInterface.cpp:



5.39.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

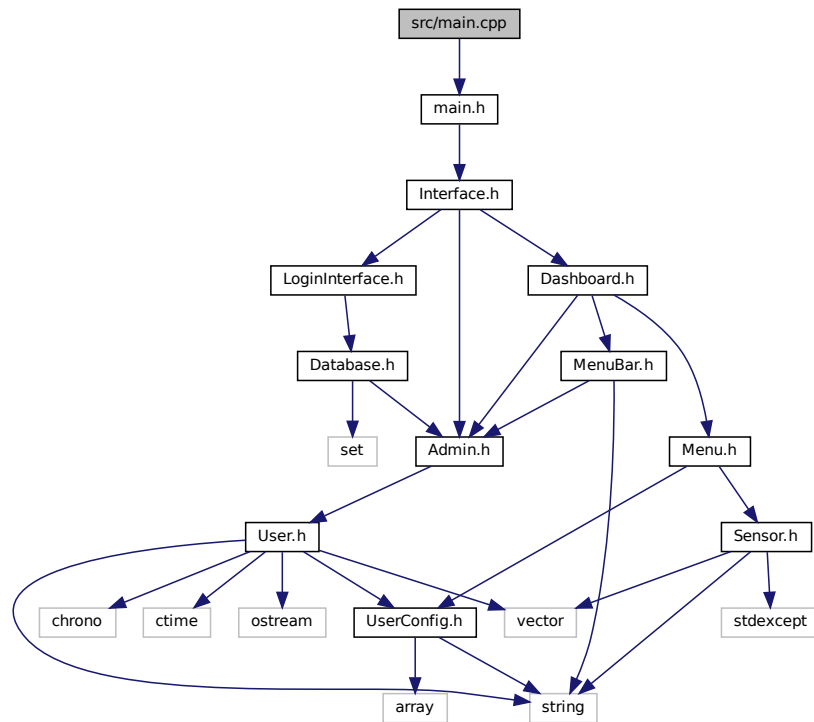
Copyright

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5.40 src/main.cpp File Reference

```
#include "main.h"
```


Include dependency graph for main.cpp:



Functions

- `int main (int argc, char *argv[])`

5.40.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

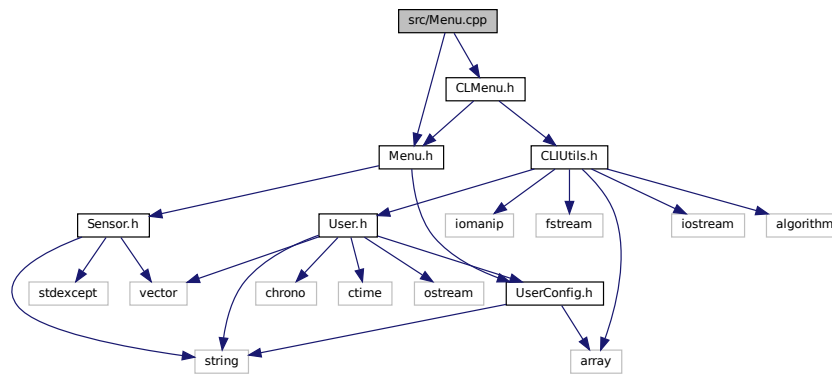
2022-11-23

Copyright

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5.41 src/Menu.cpp File Reference

```
#include "Menu.h"
#include "CLMenu.h"
Include dependency graph for Menu.cpp:
```



5.41.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

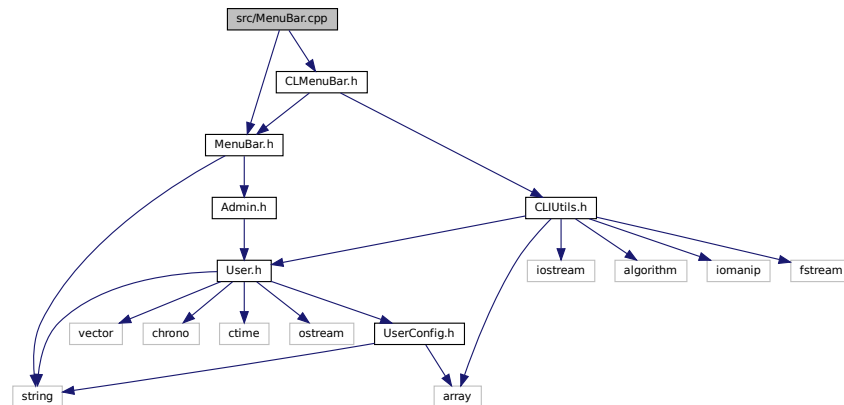
Copyright

Copyright (c) 2022

5.42 src/MenuBar.cpp File Reference

```
#include "MenuBar.h"
#include "CLMenuBar.h"
```

Include dependency graph for MenuBar.cpp:



5.42.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

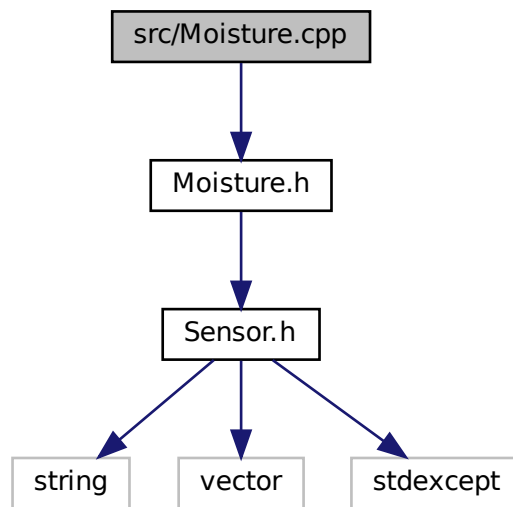
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5.43 src/Moisture.cpp File Reference

```
#include "Moisture.h"
```

Include dependency graph for Moisture.cpp:



5.43.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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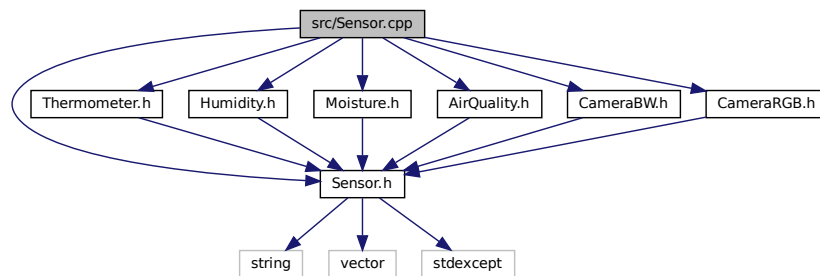
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5.44 src/Sensor.cpp File Reference

```
#include "Sensor.h"
#include "Thermometer.h"
#include "Humidity.h"
#include "Moisture.h"
#include "AirQuality.h"
#include "CameraBW.h"
```

```
#include "CameraRGB.h"
```

Include dependency graph for Sensor.cpp:



5.44.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

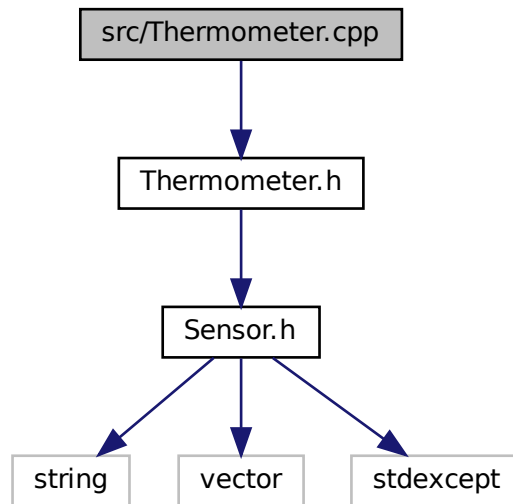
Copyright

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5.45 src/Thermometer.cpp File Reference

```
#include "Thermometer.h"
```

Include dependency graph for Thermometer.cpp:



5.45.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

1.0

Date

2022-11-23

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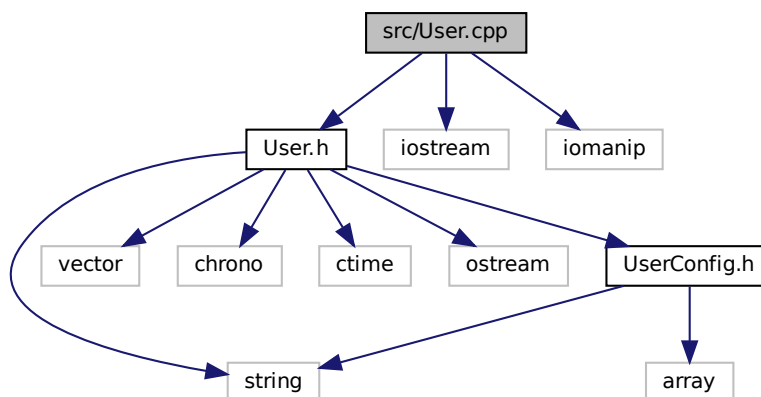
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5.46 `src/User.cpp` File Reference

```
#include "User.h"
#include <iostream>
```

```
#include <iomanip>
```

Include dependency graph for User.cpp:



Functions

- `std::ostream & operator<< (std::ostream &output, const User &user)`

5.46.1 Detailed Description

Author

Javier Izquierdo (j.izquierdoh.2021@alumnos.urjc.es)

Version

2.0

Date

2022-11-23

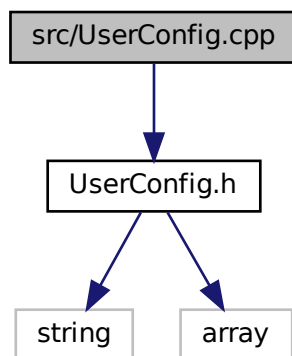
Copyright

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5.47 src/UserConfig.cpp File Reference

```
#include "UserConfig.h"
```

Include dependency graph for UserConfig.cpp:



5.47.1 Detailed Description

Author

Javier Izquierdo Hernandez (j.izquierdoh.2021@alumnos.urjc.es)

Version

0.1

Date

2022-12-22

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