

Practice 4

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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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| AirQuality | 8 |
| CameraBW | 10 |
| CameraRGB | 12 |
| CLDashboard | 13 |
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Chapter 3

File Index

3.1 File List

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

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| Header file of AirQuality.cpp | 55 |
| include/ CameraBW.h | |
| Header file of CameraBW.cpp | 56 |
| include/ CameraRGB.h | |
| Header file of CameraRGB.cpp | 57 |
| include/ CLDashboard.h | |
| Header file of CLDashboard.cpp | 59 |
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| include/ CLIUtils.h | |
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| include/ Database.h | |
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| Header file of MenuBar.cpp | 77 |
| include/ Moisture.h | |
| Header file of Moisture.cpp | 78 |

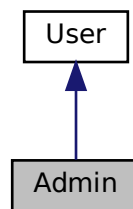
| | |
|------------------------------------------------|-----|
| include/Sensor.h | |
| Header file of Sensor.cpp | 80 |
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| Header file of Thermometer.cpp | 81 |
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| src/Interface.cpp | 98 |
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| src/main.cpp | 100 |
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| src/MenuBar.cpp | 102 |
| src/Moisture.cpp | 103 |
| src/Sensor.cpp | 104 |
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Chapter 4

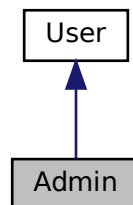
Class Documentation

4.1 Admin Class Reference

Inheritance diagram for Admin:



Collaboration diagram for Admin:



Public Member Functions

- [Admin](#) (std::string number="00000", std::string nif="000000000", 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 employeeNumber = "00000",
    std::string NIF = "00000000",
    std::string name = "default" )
```

Creates a new [Admin](#) object.

Parameters

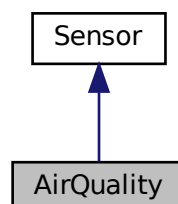
| | |
|-----------------------|--|
| <i>employeeNumber</i> | |
| <i>NIF</i> | |
| <i>name</i> | |

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

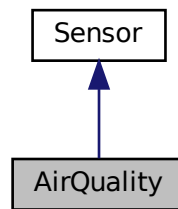
- include/[Admin.h](#)
- src/[Admin.cpp](#)

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

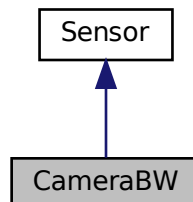
Implements [Sensor](#).

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

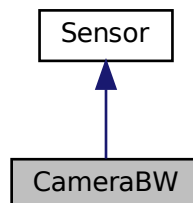
- include/[AirQuality.h](#)
- src/[AirQuality.cpp](#)

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

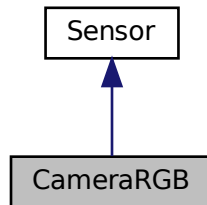
Implements [Sensor](#).

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

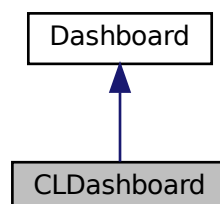
Implements [Sensor](#).

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

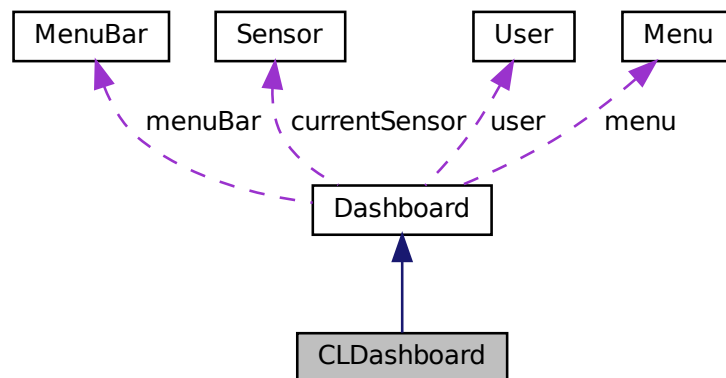
- include/[CameraRGB.h](#)
- src/[CameraRGB.cpp](#)

4.5 CLDashboard Class Reference

Inheritance diagram for CLDashboard:



Collaboration diagram for CLDashboard:



Public Member Functions

- `CLDashboard ()`
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 ( )
```

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.

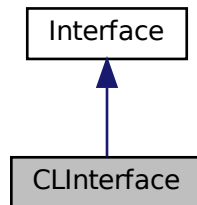
Implements [Dashboard](#).

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

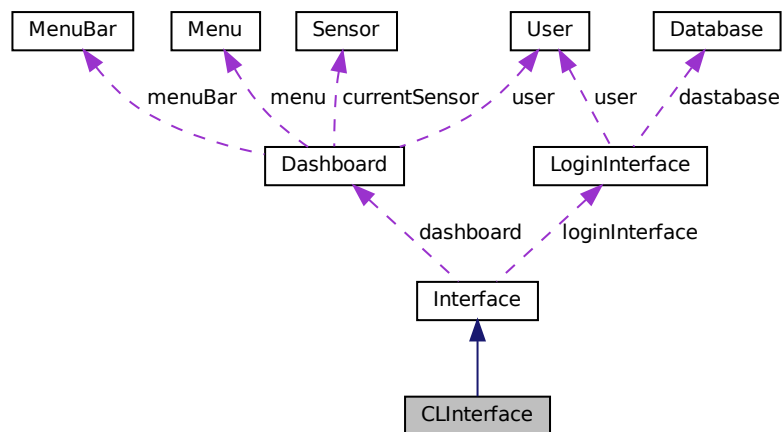
- [include/CLDashboard.h](#)
- [src/CLDashboard.cpp](#)

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.
- `void loadMenu ()`

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

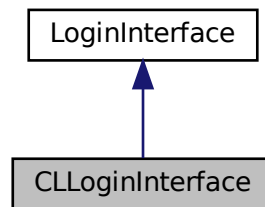
Implements [Interface](#).

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

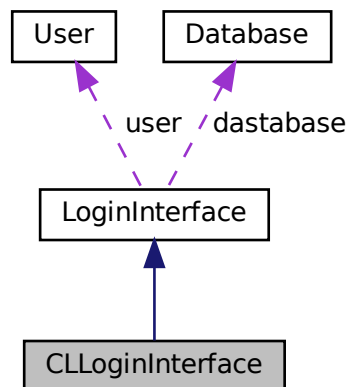
- include/[CLInterface.h](#)
- src/[CLInterface.cpp](#)

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:

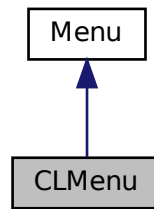
- include/CLLoginInterface.h
- src/CLLoginInterface.cpp

4.8 CLMenu Class Reference

Inheritance diagram for CLMenu:



Collaboration diagram for CLMenu:



Public Member Functions

- void `show` (std::vector< `Sensor` * >)
Shows the menu with six or less smaller sensors displayed in the command line.
- void `show` (`Sensor` *sensor)
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 ) [virtual]
```

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

Parameters

| | |
|------------------------|-----------------------------------|
| <i>sensorToDisplay</i> | Sensor to display |
|------------------------|-----------------------------------|

Implements [Menu](#).

4.8.1.3 show() [2/2]

```
void CLMenu::show (
    std::vector< Sensor * > sensors ) [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 |
|----------------|---------------------------------|

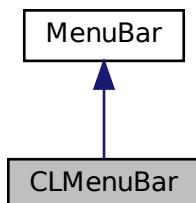
Implements [Menu](#).

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

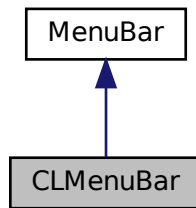
- include/[CLMenu.h](#)
- src/[CLMenu.cpp](#)

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.

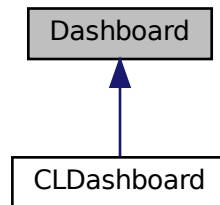
Implements [MenuBar](#).

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

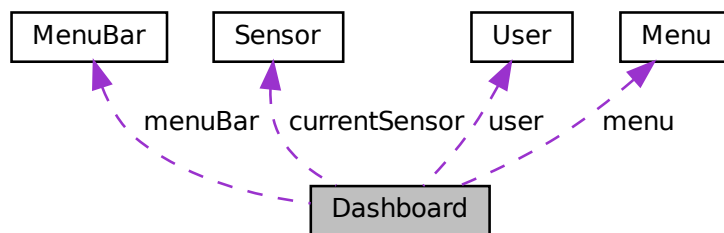
- include/[CLMenuBar.h](#)
- src/[CLMenuBar.cpp](#)

4.10 Dashboard Class Reference

Inheritance diagram for Dashboard:



Collaboration diagram for Dashboard:



Public Member Functions

- virtual void **showMainMenu** ()=0
- void **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 **setUser** (User user)
Adds the user to the dashboard.
- 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` (const std::string type="CLI")
 - *Create a new instance of the desired `Dashboard` interface.*

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()`

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

Changes the current interface to the input one.

Parameters

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

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 (
    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) |
|----------|----------------------------------------------------|

4.10.1.13 setUser()

```
void Dashboard::setUser (
    User user )
```

Adds the user to the dashboard.

Parameters

| | |
|-------------|--------------|
| <i>user</i> | Current user |
|-------------|--------------|

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

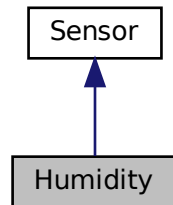
- void **addUser** ([User](#))
- [User](#) **getUser** (std::string, std::string)

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

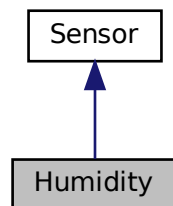
- include/[Database.h](#)
- src/[Database.cpp](#)

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

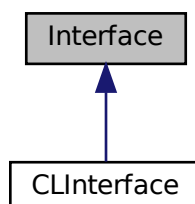
Implements [Sensor](#).

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

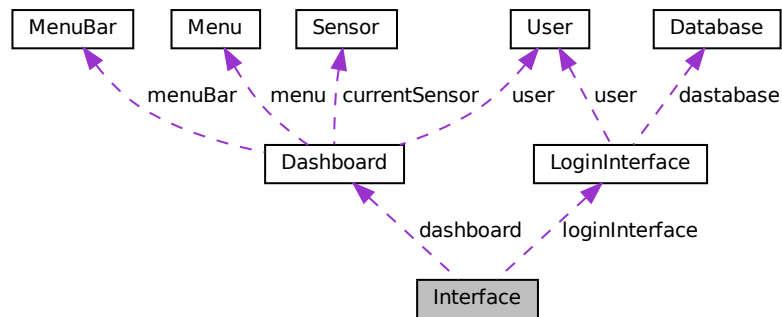
- include/[Humidity.h](#)
- src/[Humidity.cpp](#)

4.13 Interface Class Reference

Inheritance diagram for Interface:



Collaboration diagram for Interface:



Public Member Functions

- virtual void **login** (int tries)=0
- void **login** (std::string userNumber, std::string nif)
Default login method withouth 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**

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()

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

Default login method without any interface.

Parameters

| | |
|-------------------|--|
| <i>userNumber</i> | |
| <i>nif</i> | |

Note

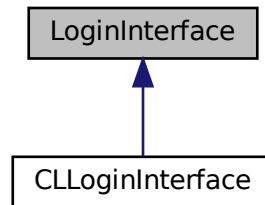
This method is used when the user executes the main with the NIF and employee number

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

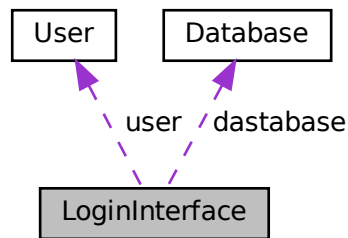
- [include/Interface.h](#)
- [src/Interface.cpp](#)

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
- bool **checkUser** ()

Check if the user data corresponds to a real user and stores the user.

- **User** **getUser** ()

Returns the user that has previously logged in.

Static Public Member Functions

- static **LoginInterface** * **Create** (const std::string="CLI")

Create a new Login interface instance of the type specified.

Protected Attributes

- `std::string inputNIF`
- `std::string inputEmployeeNumber`
- `User user`
- `Database dastabase`

4.14.1 Member Function Documentation

4.14.1.1 `checkUser()`

```
bool LoginInterface::checkUser ( )
```

Check if the user data corresponds to a real user and stores the user.

Returns

`true` = The user exists

`false` = The user does not exists

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

4.14.1.3 `getUser()`

```
User LoginInterface::getUser ( )
```

Returns the user that has previously logged in.

Returns

[User](#)

See also

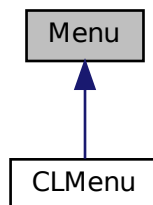
[checkUser\(\)](#)

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](#) * >)=0
- virtual void **show** ([Sensor](#) *)=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

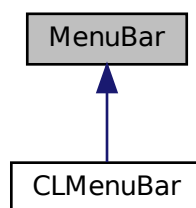
Menu* New menu instance

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:



Public Member Functions

- virtual void **show** ()=0
- void [setUserName](#) (std::string userName)
Sets the user name.
- 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

- std::string **userName**
- 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

| | |
|--------------------|--|
| <i>currentMenu</i> | |
|--------------------|--|

4.16.1.3 setUsername()

```
void MenuBar::setUserName (
    std::string userName )
```

Sets the user name.

Parameters

| | |
|-----------------|--|
| <i>userName</i> | |
|-----------------|--|

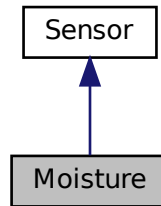
The documentation for this class was generated from the following files:

- include/[MenuBar.h](#)

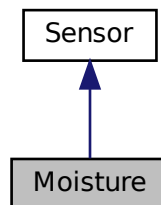
- [src/MenuBar.cpp](#)

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

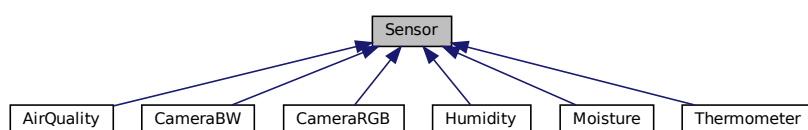
Implements [Sensor](#).

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

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

4.18 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](#)

4.18.1 Constructor & Destructor Documentation

4.18.1.1 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 |

4.18.2 Member Function Documentation

4.18.2.1 Create()

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

Creates an instance of the sensor type.

Parameters

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

Returns

[Sensor](#)*

4.18.2.2 getArea()

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

Returns the area of the sensor.

Returns

std::string Area

4.18.2.3 getId()

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

Returns the sensor id.

Returns

std::string ID

4.18.2.4 getMagnitude()

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

Returns the sensor magnitude.

Returns

std::string Magnitude

4.18.2.5 getType()

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

Returns the sensor type.

Returns

std::string [Sensor](#) type

4.18.2.6 getValPerMin()

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

Return the number of values per min.

Returns

int Values per minute

4.18.2.7 isActive()

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

Returns if the sensor is On/Off.

Returns

true = ON

false = OFF

4.18.2.8 setActive()

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

Turns the sensor On/Off.

Parameters

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

4.18.2.9 setArea()

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

Set the area of the sensor.

Parameters

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

4.18.2.10 setMagnitude()

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

Set the sensor data values magnitude.

Parameters

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

4.18.2.11 setValPerMin()

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

Set the number of values per min.

Parameters

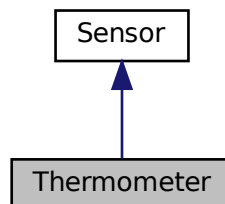
| | |
|------------------|--|
| <i>valPerMin</i> | |
|------------------|--|

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

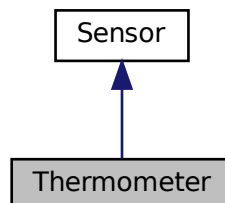
- include/[Sensor.h](#)
- src/[Sensor.cpp](#)

4.19 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

4.19.1 Constructor & Destructor Documentation

4.19.1.1 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 |

4.19.2 Member Function Documentation

4.19.2.1 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

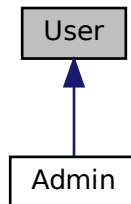
Implements [Sensor](#).

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

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

4.20 User Class Reference

Inheritance diagram for User:



Public Member Functions

- [User](#) (std::string number="00000", std::string nif="00000000", std::string name="default")
Create a new [User](#).
- bool [isSameNIF](#) (std::string)
Check if the user has the input NIF.
- bool [isSameEmployeeNumber](#) (std::string)
Check if the user has the input employee number.
- std::string [getName](#) ()
Returns the user name.
- void [addTimestamp](#) ()
Set the timestamp.
- std::string [getTimestamp](#) ()
Returns the timestamp.
- bool [hasAdminPermission](#) ()
Returns the user permissions.

Protected Member Functions

- void [setNIF](#) (std::string)
Set the user NIF.
- void [setEmployeeNumber](#) (std::string)
Set the user employee number.

Protected Attributes

- std::string **name**
- std::string **NIF**
- std::string **employeeNumber**
- std::string **lastLogTime**
- bool **adminPermission**

4.20.1 Constructor & Destructor Documentation

4.20.1.1 User()

```
User::User (
    std::string employeeNumber = "00000",
    std::string NIF = "00000000",
    std::string name = "default" )
```

Create a new [User](#).

Parameters

| | |
|-----------------------|--|
| <i>employeeNumber</i> | |
| <i>NIF</i> | |
| <i>name</i> | |

4.20.2 Member Function Documentation

4.20.2.1 addTimestamp()

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

Set the timestamp.

4.20.2.2 getName()

```
std::string User::getName ( )
```

Returns the user name.

Returns

std::string [User](#) name

4.20.2.3 `getTimestamp()`

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

Returns the timestamp.

Returns

std::string Timestamp

4.20.2.4 `hasAdminPermission()`

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

Returns the user permissions.

Returns

true = has admin permissions

false = does not have admin permissions

4.20.2.5 `isSameEmployeeNumber()`

```
bool User::isSameEmployeeNumber (
    std::string employeeNumber )
```

Check if the user has the input employee number.

Parameters

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

Returns

true = is the same employee number

false = is not the same employee number

4.20.2.6 `isSameNIF()`

```
bool User::isSameNIF (
    std::string NIF )
```

Check if the user has the input NIF.

Parameters

| | |
|----------------------------------|--|
| $N \leftrightarrow$ <i>IF</i> | |
|----------------------------------|--|

Returns

true = is the same NIF

false = is not the same NIF

4.20.2.7 setEmployeeNumber()

```
void User::setEmployeeNumber (
    std::string employeeNumber ) [protected]
```

Set the user employee number.

Parameters

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

4.20.2.8 setNIF()

```
void User::setNIF (
    std::string NIF ) [protected]
```

Set the user NIF.

Parameters

| | |
|----------------------------------|--|
| $N \leftrightarrow$ <i>IF</i> | |
|----------------------------------|--|

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

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

Chapter 5

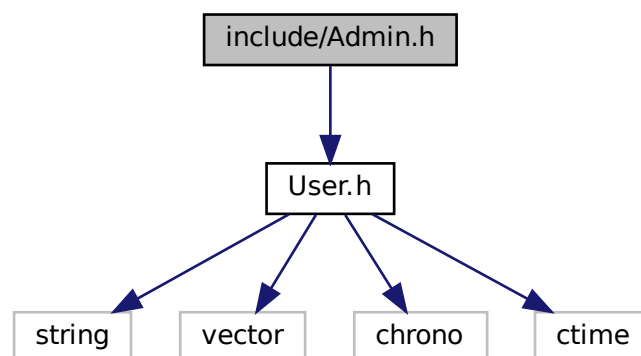
File Documentation

5.1 include/Admin.h File Reference

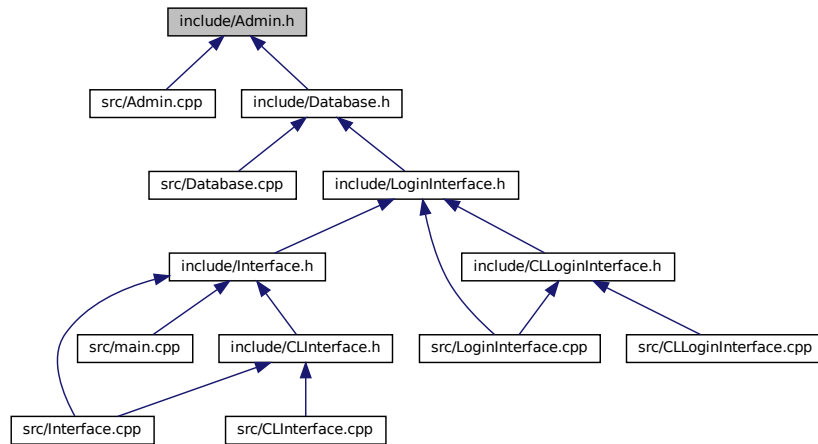
Header file of [Admin.cpp](#).

```
#include "User.h"
```

Include dependency graph for Admin.h:



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



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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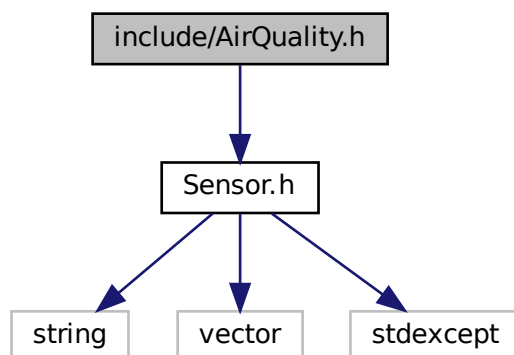
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5.2 include/AirQuality.h File Reference

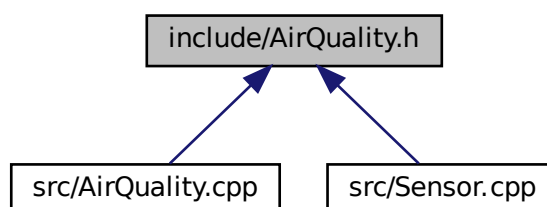
Header file of [AirQuality.cpp](#).

```
#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

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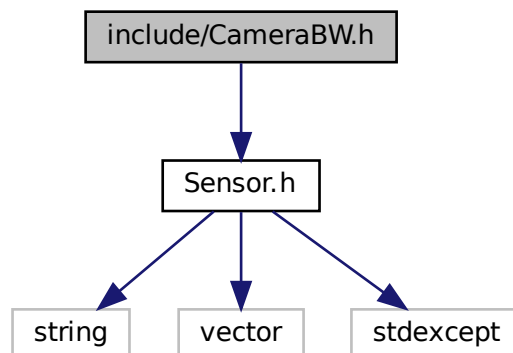
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5.3 include/CameraBW.h File Reference

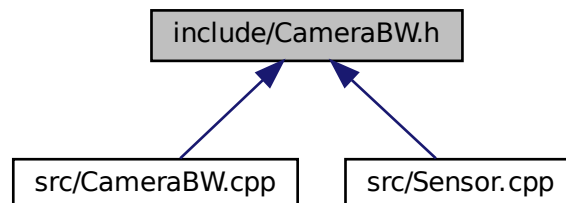
Header file of [CameraBW.cpp](#).

```
#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)

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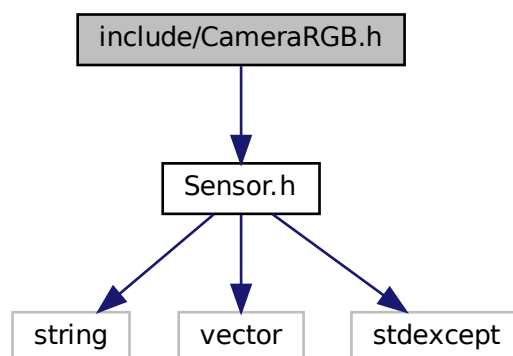
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5.4 include/CameraRGB.h File Reference

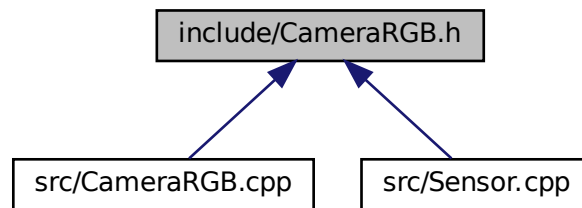
Header file of [CameraRGB.cpp](#).

```
#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

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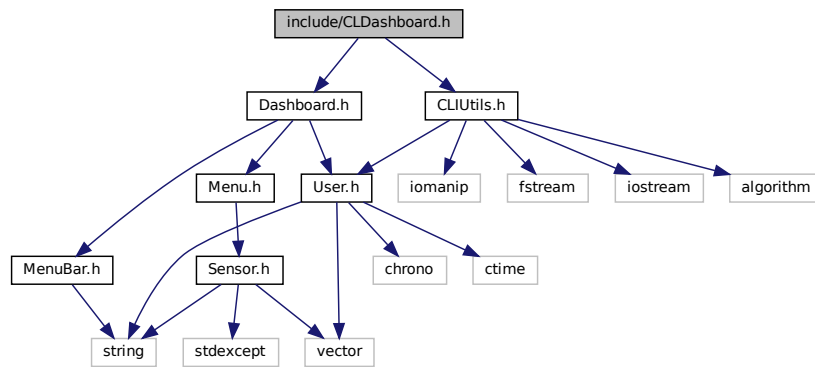
5.5 include/CLDashboard.h File Reference

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

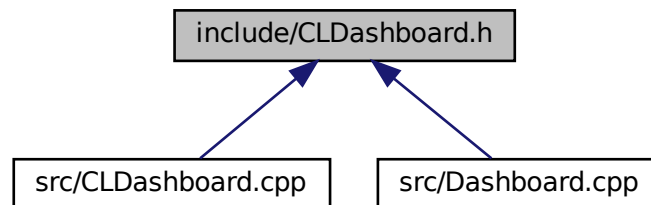
```
#include "Dashboard.h"
```

```
#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

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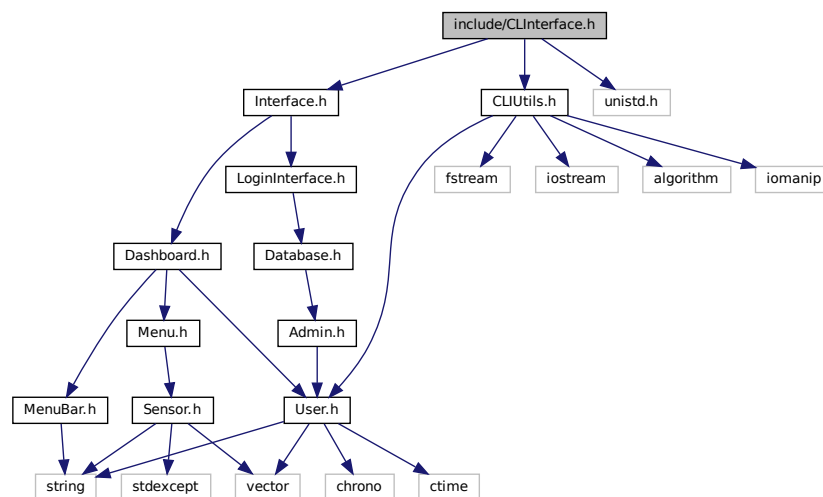
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5.6 include/CLInterface.h File Reference

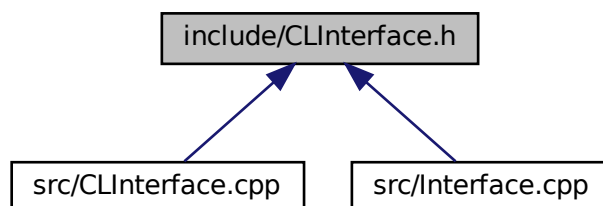
Header file of [CLInterface.cpp](#).

```
#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

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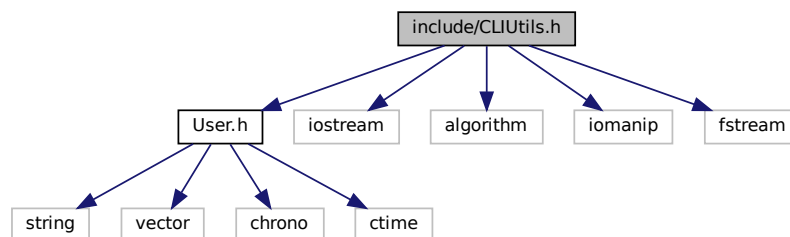
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5.7 include/CLIUtils.h File Reference

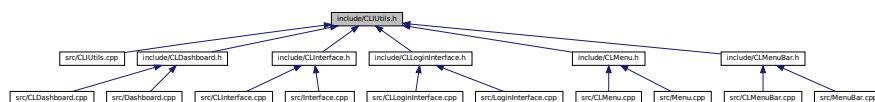
Header file of [CLIUtils.cpp](#).

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

Include 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, const std::string color="none")
Print the contents of the file in the center.
- void **printCenter** (const std::string toPrint, const int padding=0)
Print the string in the center.
- void **printCenter** (const std::string toPrint, const std::string color, const int padding=0)
Print the string in the center.
- void **printRight** (const std::string toPrint, const int padding=0)
- void **printRight** (const std::string toPrint, const std::string color, const int padding=0)
- void **printLeft** (const std::string toPrint, const int padding=0)
- void **printLeft** (const std::string toPrint, const std::string color, const int padding=0)
- void **printColor** (std::string, std::string="none")
Print the string to the terminal in the given color.
- std::string **setColor** (std::string)
Set the Color to print.
- 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, int valPerY=1, int posX=10, int posY=10, int scale=1)

5.7.1 Detailed Description

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

Author

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

Version

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5.7.2 Function Documentation

5.7.2.1 printCenter() [1/2]

```
void printCenter (
    const std::string toPrint,
    const int padding )
```

Print the string in the center.

Parameters

| | |
|----------------|--|
| <i>toPrint</i> | |
| <i>padding</i> | |

5.7.2.2 printCenter() [2/2]

```
void printCenter (
    const std::string toPrint,
    const std::string color,
    const int padding )
```

Print the string in the center.

Parameters

| | |
|----------------|--|
| <i>toPrint</i> | |
| <i>padding</i> | |
| <i>color</i> | |

5.7.2.3 printCenterFromFile()

```
void printCenterFromFile (
    std::string fileName,
    std::string color )
```

Print the contents of the file in the center.

Parameters

| | |
|-----------------|--|
| <i>fileName</i> | |
| <i>color</i> | |

5.7.2.4 printColor()

```
void printColor (
    std::string toPrint,
    std::string color )
```

Print the string to the terminal in the given color.

Parameters

| | |
|----------------|--|
| <i>toPrint</i> | |
| <i>color</i> | |

5.7.2.5 setColor()

```
std::string setColor (
    std::string color )
```

Set the Color to print.

Parameters

| | |
|--------------|--|
| <i>color</i> | |
|--------------|--|

Returns

std::string

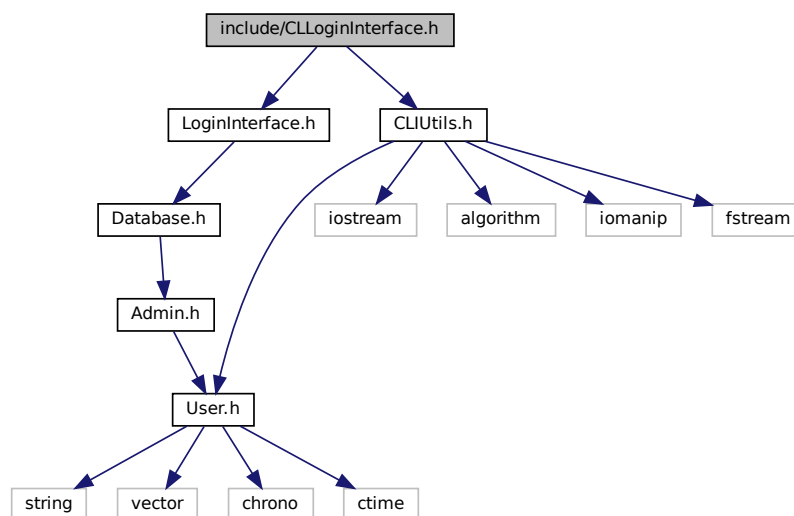
5.8 include/CLoginInterface.h File Reference

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

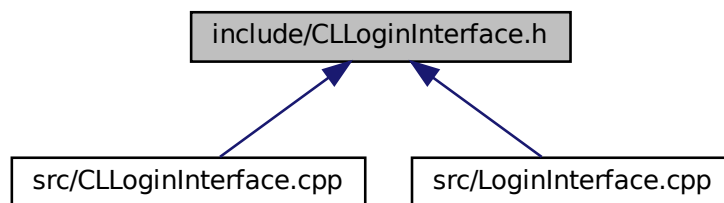
```
#include "LoginInterface.h"
```

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

Include dependency graph for CLoginInterface.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

1.0

Date

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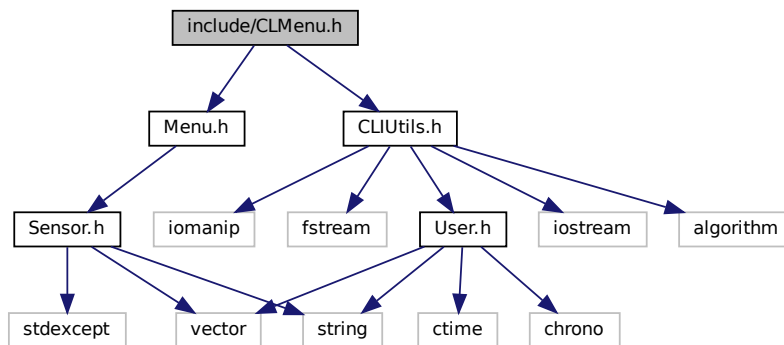
Copyright

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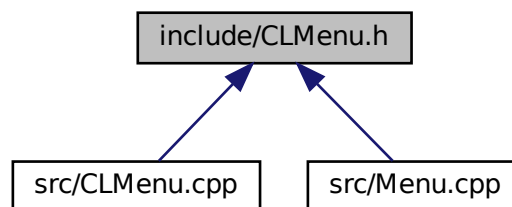
5.9 include/CLMenu.h File Reference

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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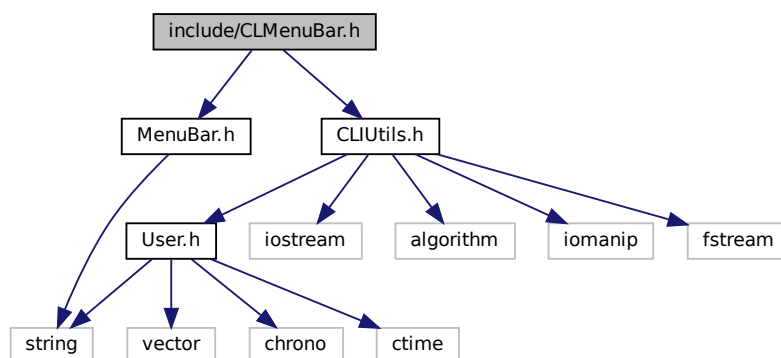
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5.10 include/CLMenuBar.h File Reference

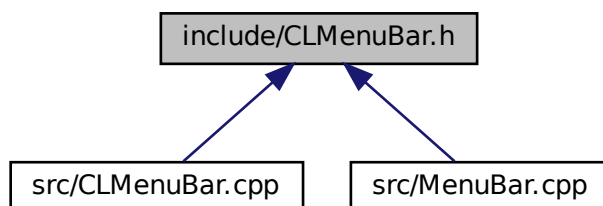
Header file of [CLMenuBar.cpp](#).

```
#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)

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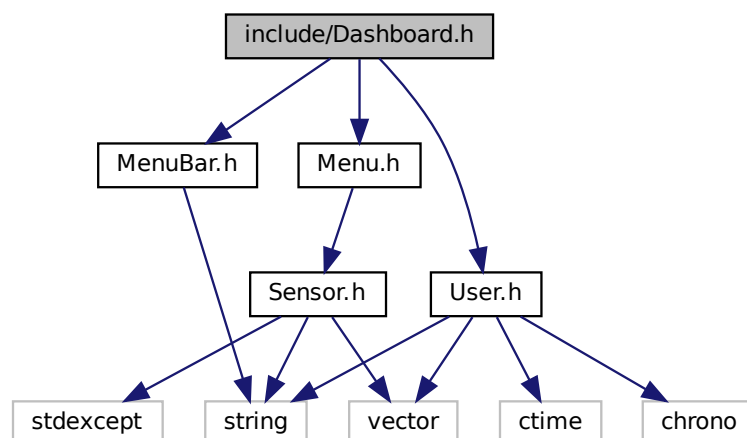
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5.11 include/Dashboard.h File Reference

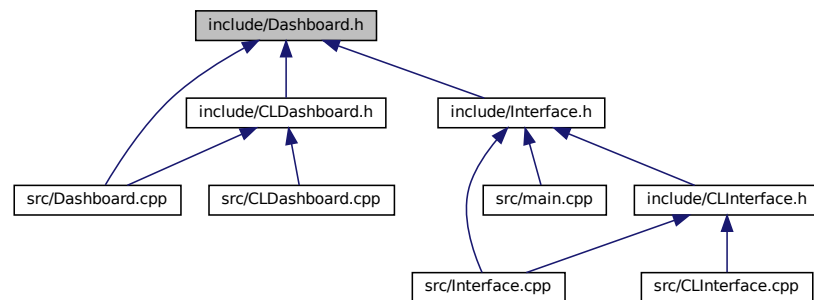
Header file of [Dashboard.cpp](#).

```
#include "User.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

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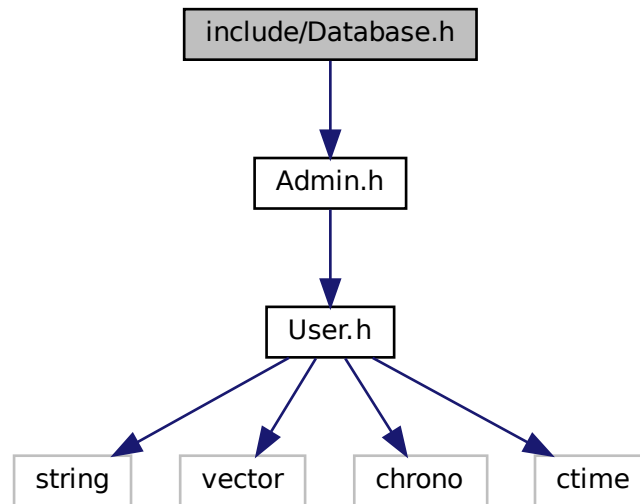
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5.12 include/Database.h File Reference

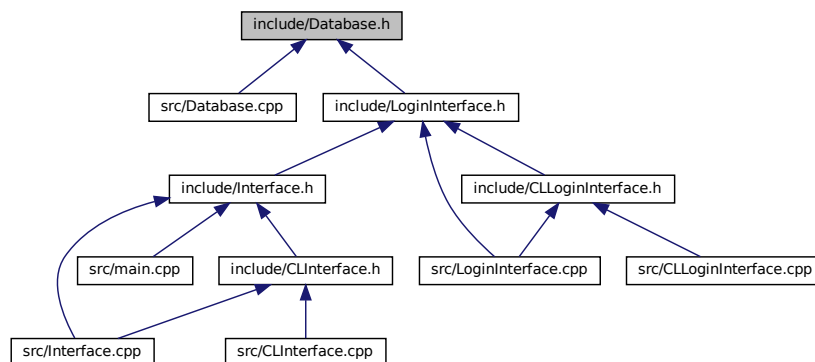
Header file of [Database.cpp](#).

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

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

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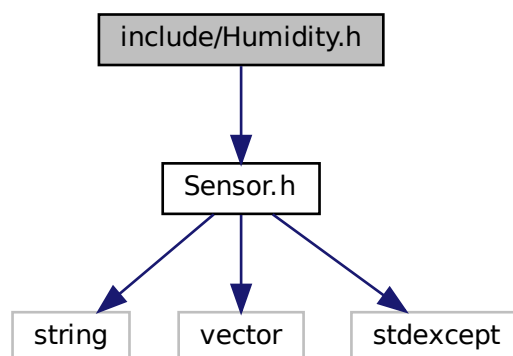
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5.13 include/Humidity.h File Reference

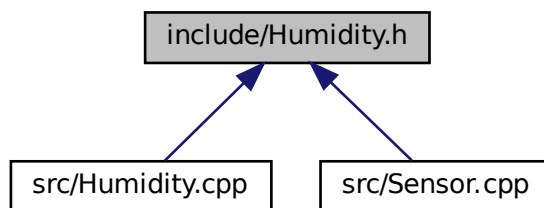
Header file of [Humidity.cpp](#).

```
#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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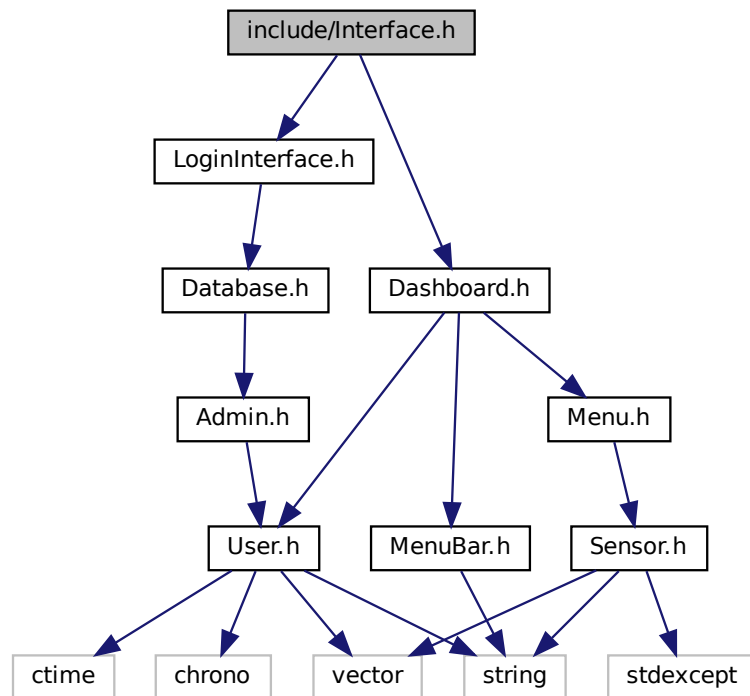
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5.14 include/Interface.h File Reference

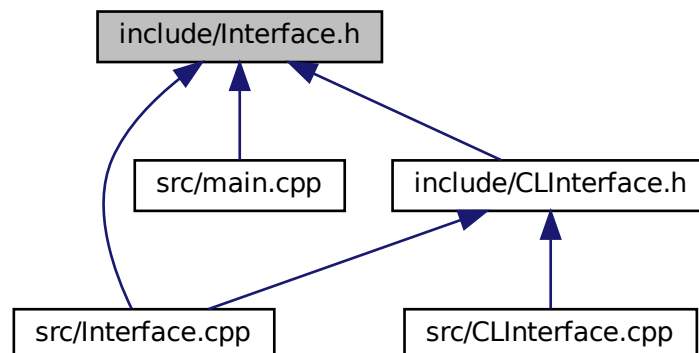
Header file of [Interface.cpp](#).

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

Include 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

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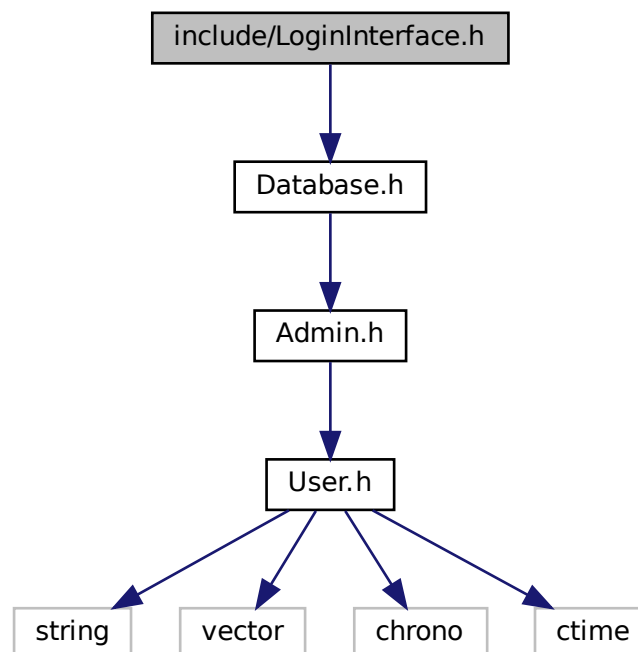
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5.15 include/LoginInterface.h File Reference

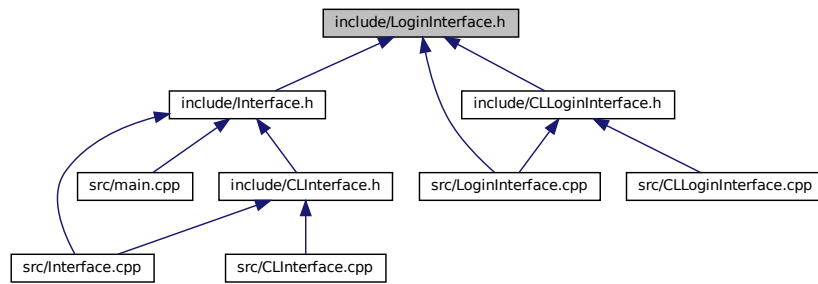
Header file of [LoginInterface.cpp](#).

```
#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

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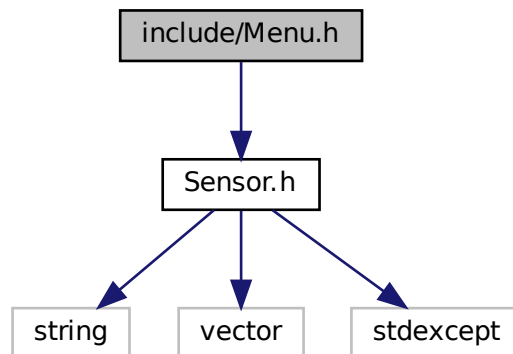
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5.16 include/Menu.h File Reference

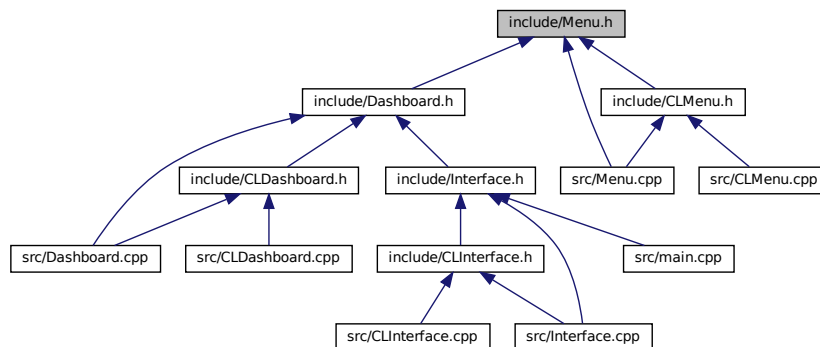
Header file of [Menu.cpp](#).

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

Include dependency graph for Menu.h:



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



Classes

- class [Menu](#)

5.16.1 Detailed Description

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

Author

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

Version

1.0

Date

2022-11-23

Copyright

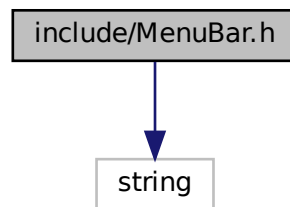
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5.17 include/MenuBar.h File Reference

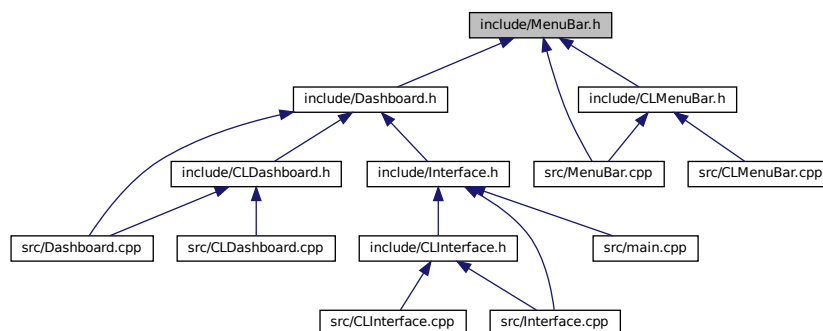
Header file of [MenuBar.cpp](#).

```
#include <string>
```

Include dependency graph for MenuBar.h:



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



Classes

- class [MenuBar](#)

5.17.1 Detailed Description

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

Author

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

Version

1.0

Date

2022-11-23

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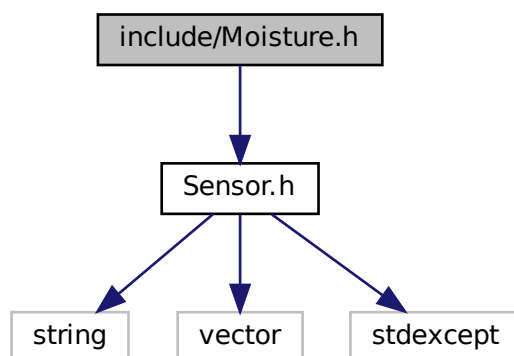
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5.18 include/Moisture.h File Reference

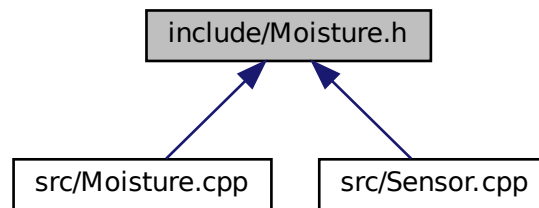
Header file of [Moisture.cpp](#).

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

Include dependency graph for Moisture.h:



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



Classes

- class [Moisture](#)

5.18.1 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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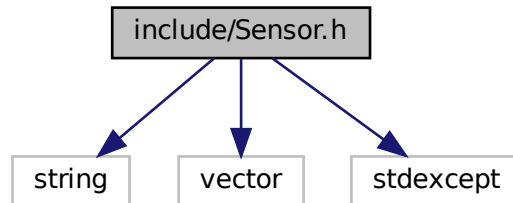
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5.19 include/Sensor.h File Reference

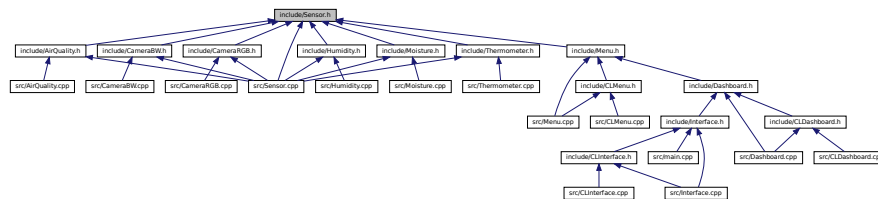
Header file of [Sensor.cpp](#).

```
#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](#)

5.19.1 Detailed Description

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

Author

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

Version

1.0

Date

2022-11-23

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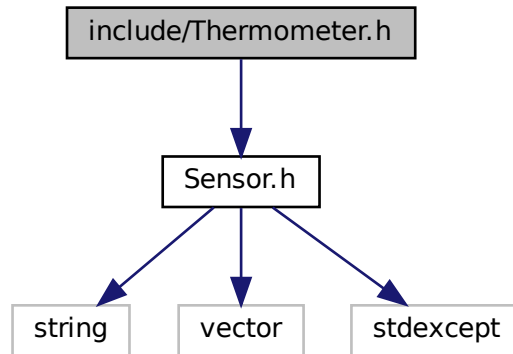
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5.20 include/Thermometer.h File Reference

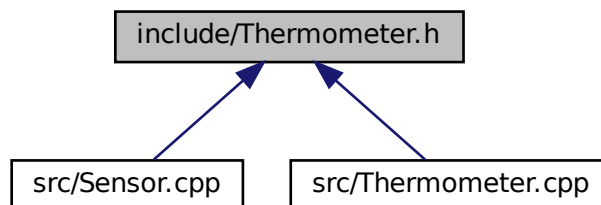
Header file of [Thermometer.cpp](#).

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

Include dependency graph for Thermometer.h:



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



Classes

- class [Thermometer](#)

5.20.1 Detailed Description

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

Author

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

Version

1.0

Date

2022-11-23

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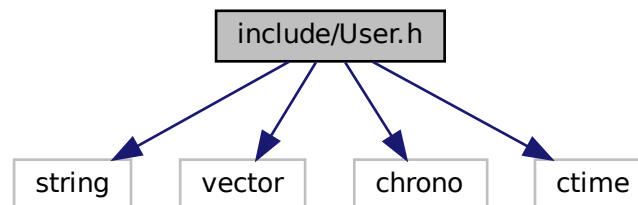
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5.21 include/User.h File Reference

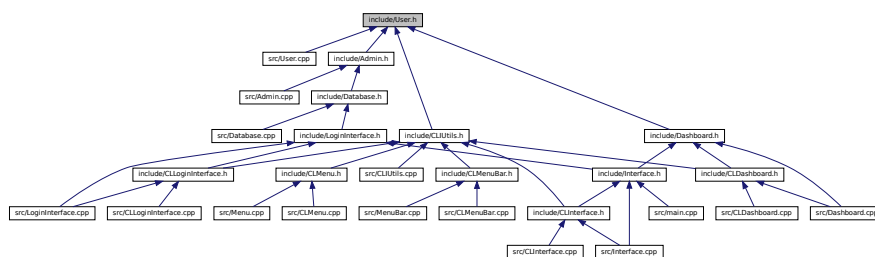
Header file of [User.cpp](#).

```
#include <string>
#include <vector>
#include <chrono>
#include <ctime>
```

Include dependency graph for User.h:



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



Classes

- class [User](#)

5.21.1 Detailed Description

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

Author

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

Version

1.0

Date

2022-11-23

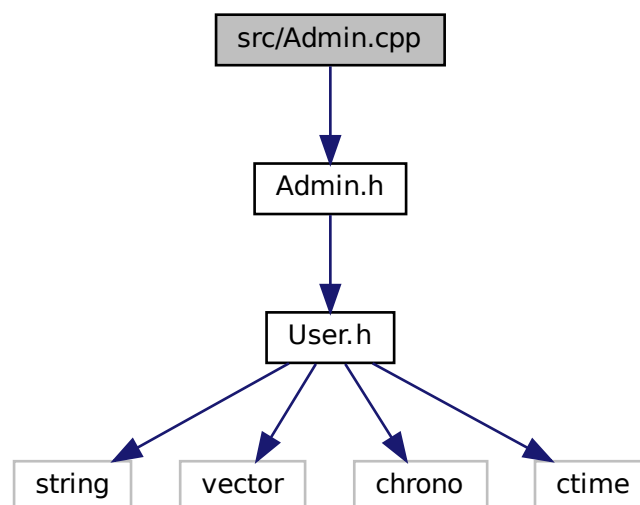
Copyright

Copyright (c) 2022

5.22 src/Admin.cpp File Reference

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

Include dependency graph for Admin.cpp:



5.22.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

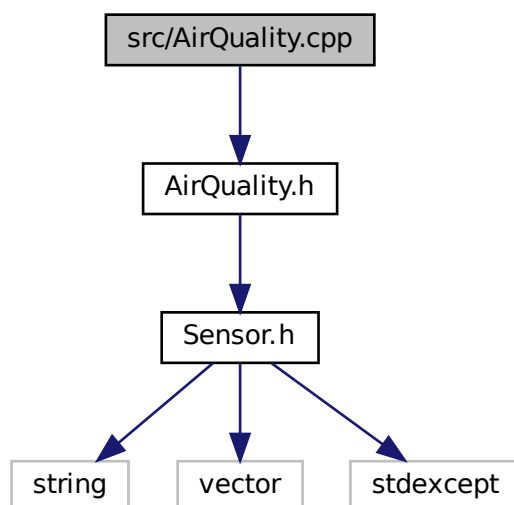
Copyright

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5.23 src/AirQuality.cpp File Reference

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

Include dependency graph for AirQuality.cpp:



5.23.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

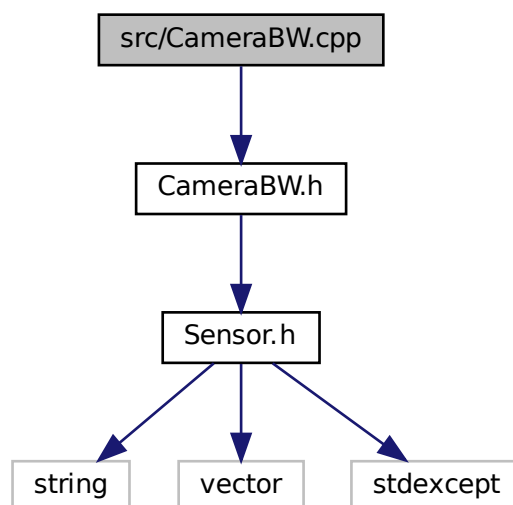
Copyright

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5.24 src/CameraBW.cpp File Reference

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

Include dependency graph for CameraBW.cpp:



5.24.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

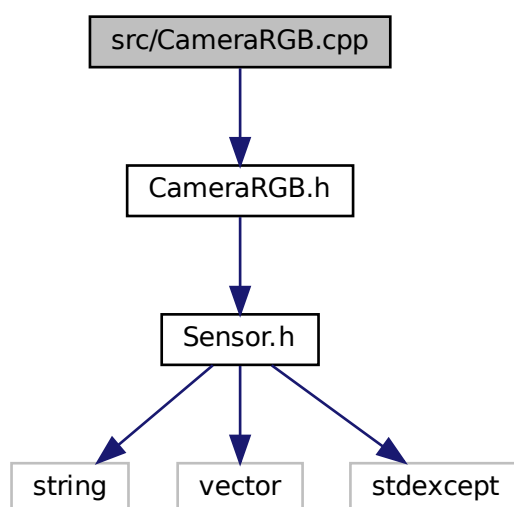
Copyright

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5.25 src/CameraRGB.cpp File Reference

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

Include dependency graph for CameraRGB.cpp:



5.25.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

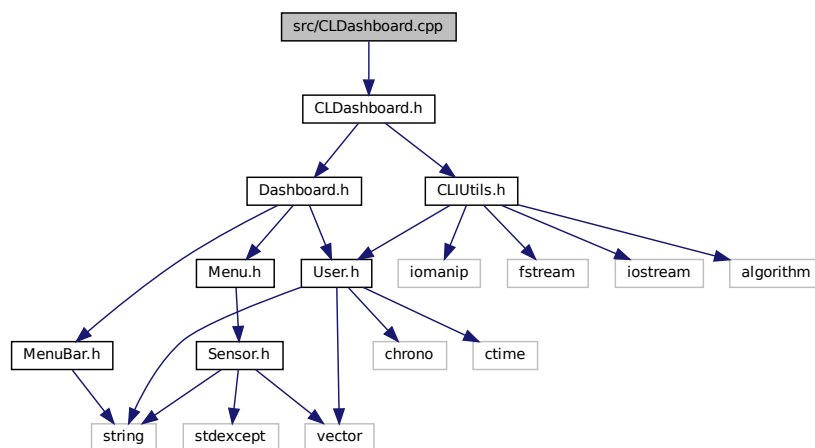
Copyright

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5.26 src/CLDashboard.cpp File Reference

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

Include dependency graph for CLDashboard.cpp:



5.26.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

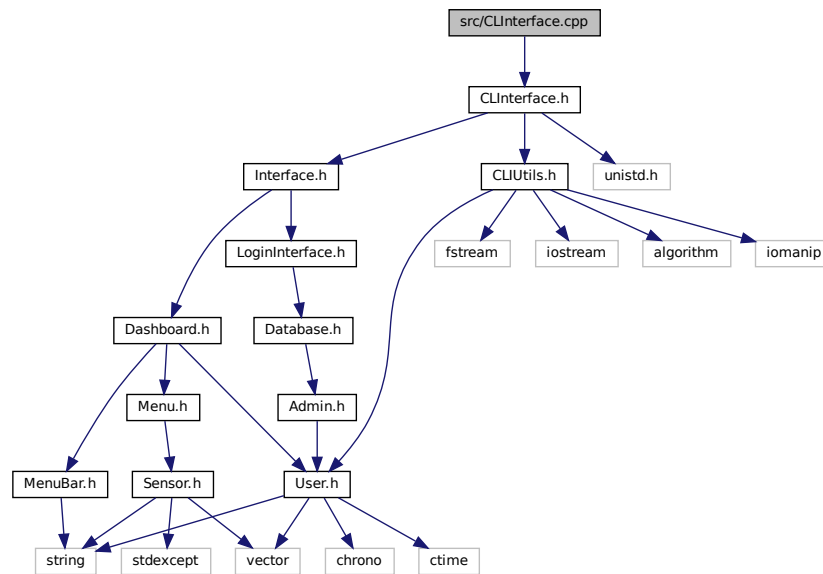
Copyright

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5.27 src/CLIInterface.cpp File Reference

```
#include "CLIInterface.h"
```

Include dependency graph for CLIInterface.cpp:



5.27.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

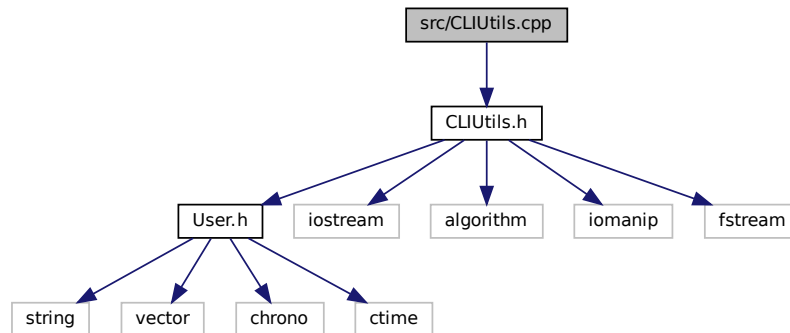
Copyright

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5.28 src/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::string color)
Print the contents of the file in the center.
- void **printCenter** (const std::string toPrint, const int padding)
Print the string in the center.
- void **printCenter** (const std::string toPrint, const std::string color, const int padding)
Print the string in the center.
- void **printRight** (const std::string toPrint, const int padding)
- void **printRight** (const std::string toPrint, const std::string color, const int padding)
- void **printLeft** (const std::string toPrint, const int padding)
- void **printLeft** (const std::string toPrint, const std::string color, const int padding)
- void **printColor** (std::string toPrint, std::string color)
Print the string to the terminal in the given color.
- std::string **setColor** (std::string color)
Set the Color to print.
- 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, int valPerY, int posX, int posY, int scale)

Variables

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

5.28.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

Copyright

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5.28.2 Function Documentation

5.28.2.1 `printCenter()` [1/2]

```
void printCenter (
    const std::string toPrint,
    const int padding )
```

Print the string in the center.

Parameters

| | |
|----------------|--|
| <i>toPrint</i> | |
| <i>padding</i> | |

5.28.2.2 `printCenter()` [2/2]

```
void printCenter (
    const std::string toPrint,
    const std::string color,
    const int padding )
```

Print the string in the center.

Parameters

| | |
|----------------|--|
| <i>toPrint</i> | |
| <i>padding</i> | |
| <i>color</i> | |

5.28.2.3 printCenterFromFile()

```
void printCenterFromFile (
    std::string fileName,
    std::string color )
```

Print the contents of the file in the center.

Parameters

| | |
|-----------------|--|
| <i>fileName</i> | |
| <i>color</i> | |

5.28.2.4 printColor()

```
void printColor (
    std::string toPrint,
    std::string color )
```

Print the string to the terminal in the given color.

Parameters

| | |
|----------------|--|
| <i>toPrint</i> | |
| <i>color</i> | |

5.28.2.5 setColor()

```
std::string setColor (
    std::string color )
```

Set the Color to print.

Parameters

| | |
|--------------|--|
| <i>color</i> | |
|--------------|--|

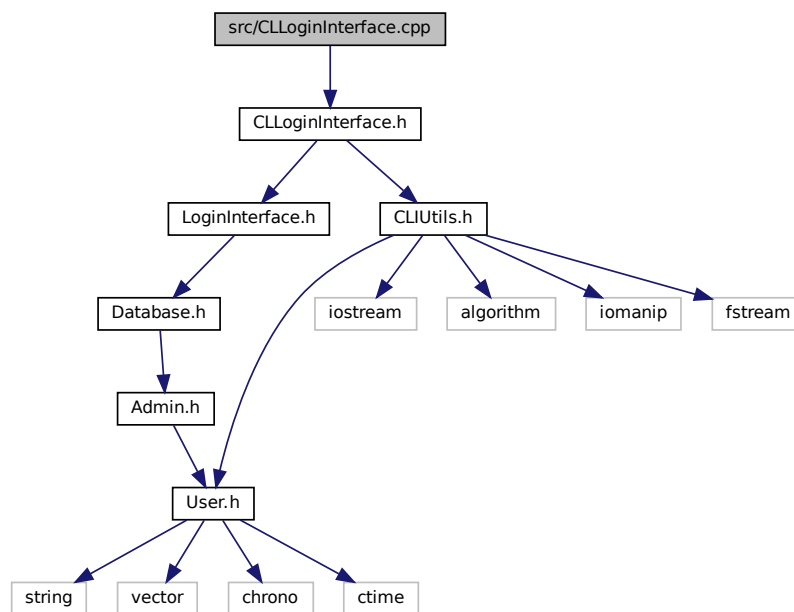
Returns

std::string

5.29 src/CLLoginInterface.cpp File Reference

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

Include dependency graph for CLLoginInterface.cpp:



5.29.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

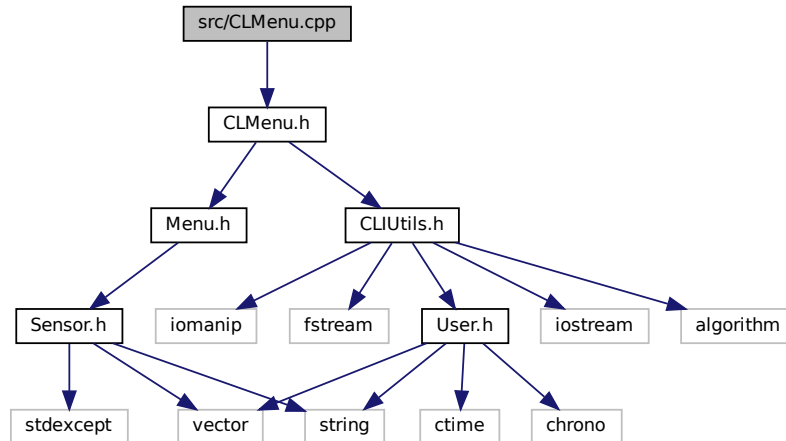
Copyright

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5.30 src/CLMenu.cpp File Reference

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

Include dependency graph for CLMenu.cpp:



5.30.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

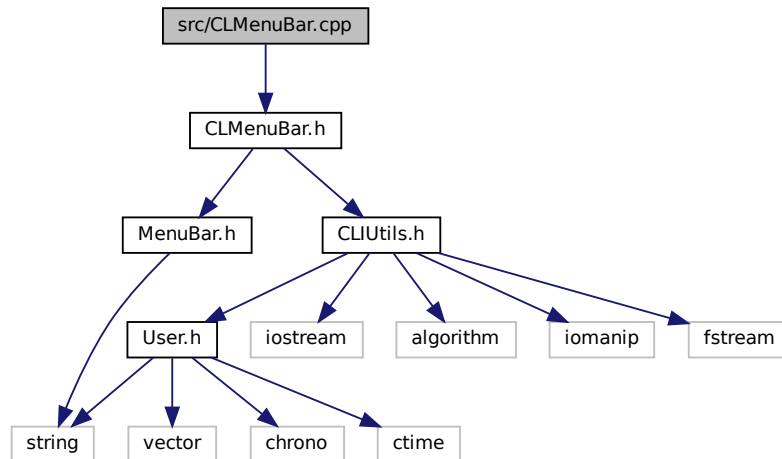
Copyright

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5.31 src/CLMenuBar.cpp File Reference

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

Include dependency graph for CLMenuBar.cpp:



5.31.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

Copyright

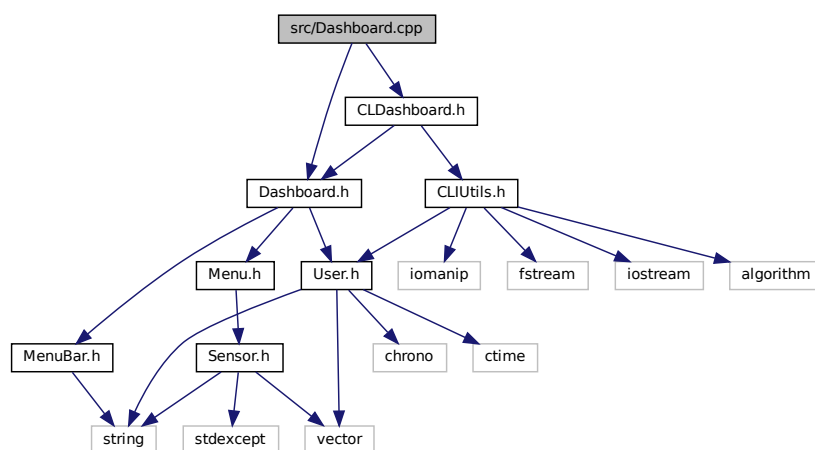
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5.32 src/Dashboard.cpp File Reference

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

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

Include dependency graph for Dashboard.cpp:



5.32.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

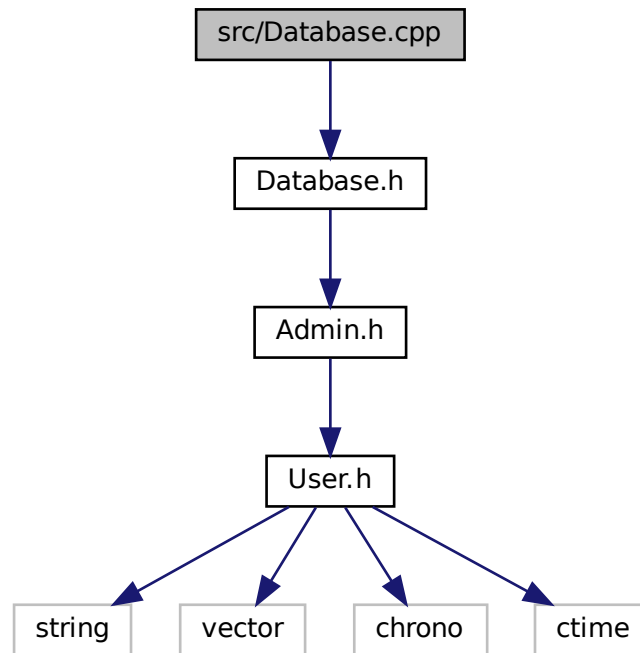
Copyright

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5.33 src/Database.cpp File Reference

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

Include dependency graph for Database.cpp:



5.33.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

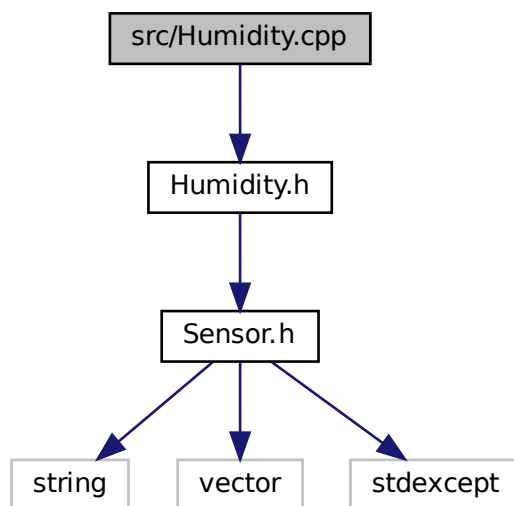
Copyright

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5.34 src/Humidity.cpp File Reference

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

Include dependency graph for Humidity.cpp:



5.34.1 Detailed Description

Author

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

Version

1.0

Date

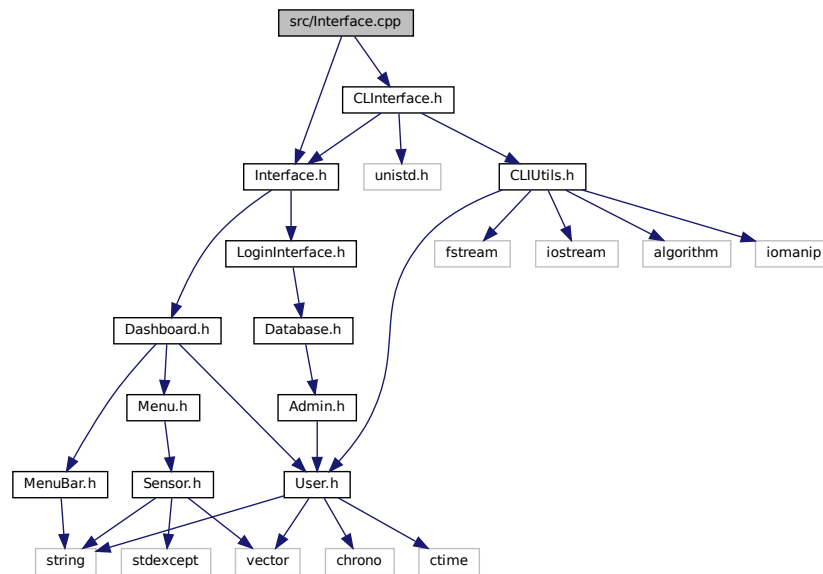
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Copyright

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5.35 src/Interface.cpp File Reference

```
#include "Interface.h"  
#include "CLIInterface.h"  
Include dependency graph for Interface.cpp:
```



5.35.1 Detailed Description

Author

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

Version

1.0

Date

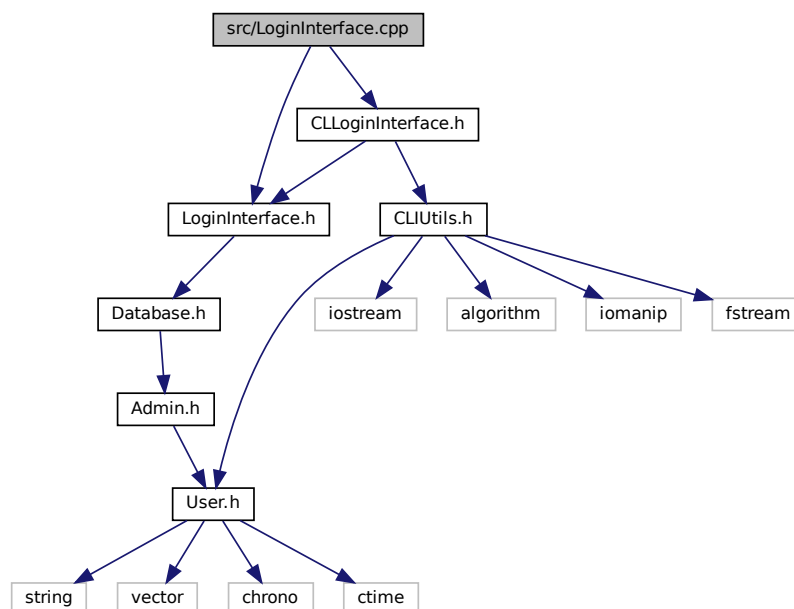
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Copyright

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5.36 src/LoginInterface.cpp File Reference

```
#include "LoginInterface.h"
#include "CLLoginInterface.h"
Include dependency graph for LoginInterface.cpp:
```



5.36.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

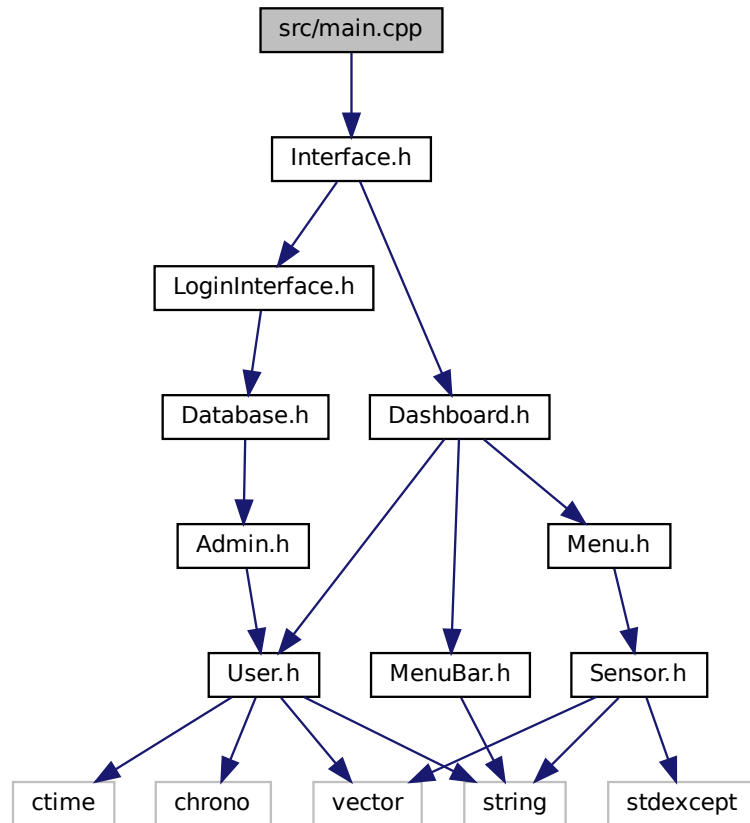
Copyright

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5.37 src/main.cpp File Reference

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

Include dependency graph for main.cpp:



Functions

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

5.37.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

Copyright

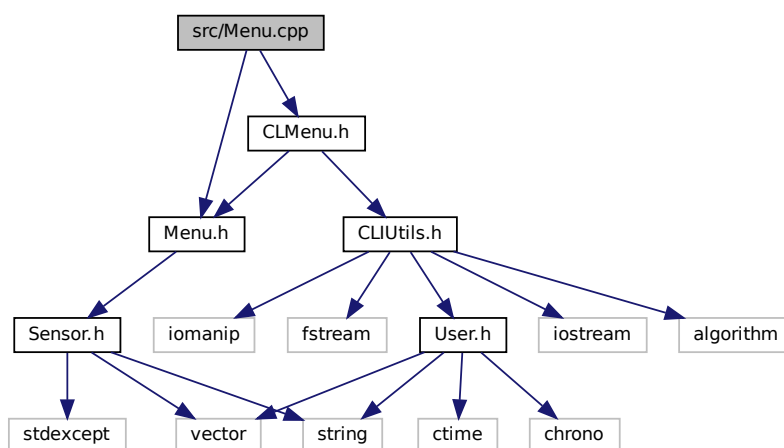
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5.38 src/Menu.cpp File Reference

```
#include "Menu.h"
```

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

Include dependency graph for Menu.cpp:



5.38.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

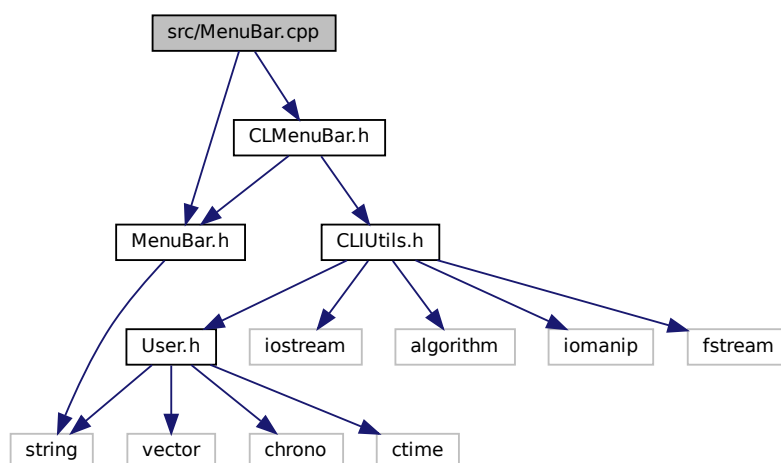
Copyright

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5.39 src/MenuBar.cpp File Reference

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

Include dependency graph for MenuBar.cpp:



5.39.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

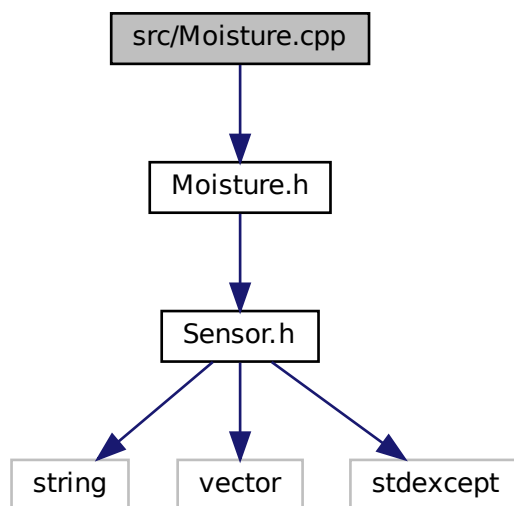
Copyright

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5.40 src/Moisture.cpp File Reference

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

Include dependency graph for Moisture.cpp:



5.40.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

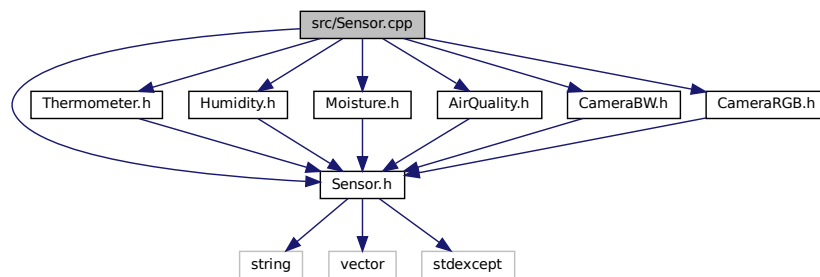
Copyright

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5.41 src/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:



5.41.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

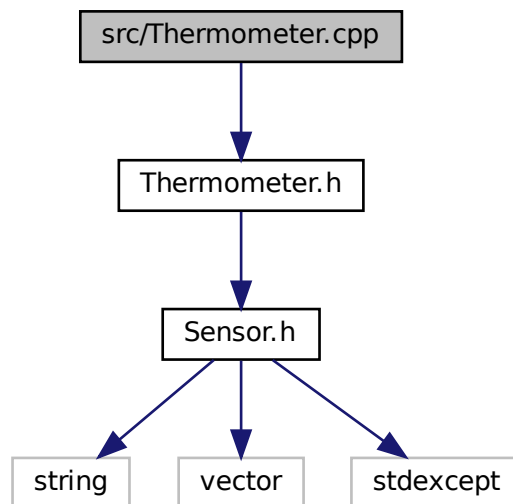
Copyright

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5.42 src/Thermometer.cpp File Reference

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

Include dependency graph for Thermometer.cpp:



5.42.1 Detailed Description

Author

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

Version

1.0

Date

2022-11-23

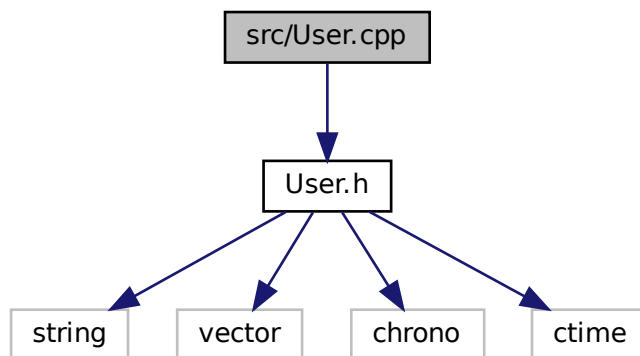
Copyright

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5.43 src/User.cpp File Reference

```
#include "User.h"
```

Include dependency graph for User.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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