

QRodSystems

0.0.0.1

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

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

QDialog	
DataObjectsManager	??
QMainWindow	
MainWindow	??
QOpenGLFunctions	
View3DWidget	??
QOpenGLWidget	
View3DWidget	??
QTableWidget	
LogWidget	??
QWidget	
ManagersTab	??

Chapter 2

Class Index

2.1 Class List

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

DataObjectsManager	Manager to create objects of different types: scalars, vectors, matroces and surfaces	??
LogWidget	??
MainWindow	The main window of the program	??
ManagersTab	A toolbar consisted of object designers	??
View3DWidget	A widget to represent the resulted rod system	??

Chapter 3

File Index

3.1 File List

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

/home/qinterfly/Library/Projects/QRodSystems/src/main/ controltabs.cpp	
Implementation of ControlTabs class	??
/home/qinterfly/Library/Projects/QRodSystems/src/main/ controltabs.h	
Declaration of ControlTabs class	??
/home/qinterfly/Library/Projects/QRodSystems/src/main/ logwidget.cpp	
Implementation of LogWidget class	??
/home/qinterfly/Library/Projects/QRodSystems/src/main/ logwidget.h	
Declaration of LogWidget class	??
/home/qinterfly/Library/Projects/QRodSystems/src/main/ main.cpp	
The startup function	??
/home/qinterfly/Library/Projects/QRodSystems/src/main/ mainwindow.cpp	
Implementation of MainWindow class	??
/home/qinterfly/Library/Projects/QRodSystems/src/main/ mainwindow.h	
Declaration of MainWindow class	??
/home/qinterfly/Library/Projects/QRodSystems/src/main/ view3dwidget.cpp	
Implementation of View3DWidget class	??
/home/qinterfly/Library/Projects/QRodSystems/src/main/ view3dwidget.h	
Declaration of View3DWidget class	??
/home/qinterfly/Library/Projects/QRodSystems/src/managers/ dataobjectsmanager.cpp	
Implementation of DataObjectsManager class	??
/home/qinterfly/Library/Projects/QRodSystems/src/managers/ dataobjectsmanager.h	
Declaration of DataObjectsManager class	??

Chapter 4

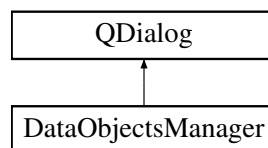
Class Documentation

4.1 DataObjectsManager Class Reference

Manager to create objects of different types: scalars, vectors, matroces and surfaces.

```
#include <dataobjectsmanager.h>
```

Inheritance diagram for DataObjectsManager:



Public Member Functions

- **DataObjectsManager** (QSettings &settings, QWidget *parent=nullptr)
- void [closeEvent](#) (QCloseEvent *) override

Save settings and delete handling widgets before closing the window.

Private Slots

- void [apply](#) ()

Apply all the changes made by a user.

Private Member Functions

- void `createContent` ()
Create all the widgets.
- `ads::CDockWidget * createDataTablesWidget` ()
Create a tabbed widget to interact with data tables.
- `ads::CDockWidget * createDataObjectsWidget` ()
Create an object to present all data objects.
- `ads::CDockWidget * createCodeWidget` ()
Create a widget enables to code data objects.
- `QLayout * createDialogControls` ()
Create dialog controls.
- void `restoreSettings` ()
Restore settings from a file.
- void `saveSettings` ()
Save settings to a file.

Private Attributes

- `Ui::DataObjectsManager * mpUi`
- `ads::CDockManager * mpDockManager`
- `QTabWidget * mpDataTables`
- `QSettings & mSettings`

4.1.1 Detailed Description

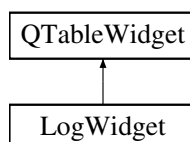
Manager to create objects of different types: scalars, vectors, matroces and surfaces.

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

- </home/qinterfly/Library/Projects/QRodSystems/src/managers/dataobjectsmanager.h>
- </home/qinterfly/Library/Projects/QRodSystems/src/managers/dataobjectsmanager.cpp>

4.2 LogWidget Class Reference

Inheritance diagram for LogWidget:



Public Member Functions

- **LogWidget** (QWidget *parent=nullptr)
- void **log** (QtMsgType messageType, const QString &message)
Represent a message sent.

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

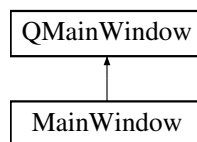
- /home/qinterfly/Library/Projects/QRodSystems/src/main/[logwidget.h](#)
- /home/qinterfly/Library/Projects/QRodSystems/src/main/[logwidget.cpp](#)

4.3 MainWindow Class Reference

The main window of the program.

```
#include <mainwindow.h>
```

Inheritance diagram for MainWindow:



Public Member Functions

- **MainWindow** (QWidget *parent=nullptr)

Static Public Attributes

- static [LogWidget](#) * **pLogger** = nullptr

Private Slots

- void [saveSettings](#) ()
Save the current view state.
- void [restoreSettings](#) ()
Restore a view state from a file.
- void [createDataObjectsManager](#) ()
Show a manager for designing data objects.
- void [createRodPropertiesManager](#) ()
Show a manager to set rod properties based on the created data objects.
- void [createRodConstructorManager](#) ()
Show a manager to create a rod with assigned data properties.

Private Member Functions

- void [createContent](#) ()
Create all the widgets and corresponding actions.
- ads::CDockWidget * [createProjectHierarchyWidget](#) ()
Create a widget to represent a project hierarchy.
- ads::CDockWidget * [createGLWidget](#) ()
Create an OpenGL widget.
- ads::CDockWidget * [createLogWidget](#) ()
Create a window for logging.
- ads::CDockWidget * [createPropertiesWidget](#) ()
Create a window to modify properties of selected objects.
- void [specifyMenuConnections](#) ()
Set signals and slots for menu actions.

Private Attributes

- Ui::MainWindow * **mpUi**
- ads::CDockManager * **mpDockManager**
- QSharedPointer< QSettings > **mpSettings**
- [DataObjectsManager](#) * **mpDataObjectsManager** = nullptr

4.3.1 Detailed Description

The main window of the program.

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

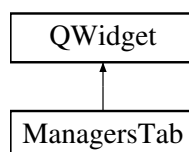
- /home/qinterfly/Library/Projects/QRodSystems/src/main/[mainwindow.h](#)
- /home/qinterfly/Library/Projects/QRodSystems/src/main/[mainwindow.cpp](#)

4.4 ManagersTab Class Reference

A toolbar consisted of object designers.

```
#include <controltabs.h>
```

Inheritance diagram for ManagersTab:



Signals

- void **actionDataObjectsTriggered** ()
- void **actionRodPropertiesTriggered** ()
- void **actionRodConstructorTriggered** ()

Public Member Functions

- [ManagersTab](#) (QWidget *parent=nullptr)
Managers tab constructor.

4.4.1 Detailed Description

A toolbar consisted of object designers.

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

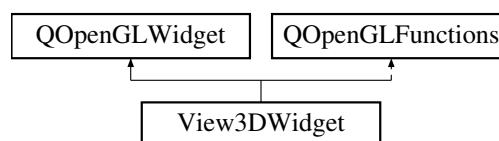
- /home/qinterfly/Library/Projects/QRodSystems/src/main/[controlltabs.h](#)
- /home/qinterfly/Library/Projects/QRodSystems/src/main/[controlltabs.cpp](#)

4.5 View3DWidget Class Reference

A widget to represent the resulted rod system.

```
#include <view3dwidget.h>
```

Inheritance diagram for View3DWidget:



Public Member Functions

- **View3DWidget** (QWidget *parent=nullptr)

Protected Member Functions

- void [initializeGL](#) () override
Initialize a graphical scene.
- void [paintGL](#) () override
Render its content.

Private Attributes

- bool **mCore**

4.5.1 Detailed Description

A widget to represent the resulted rod system.

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

- /home/qinterfly/Library/Projects/QRodSystems/src/main/[view3dwidget.h](#)
- /home/qinterfly/Library/Projects/QRodSystems/src/main/[view3dwidget.cpp](#)

Chapter 5

File Documentation

5.1 /home/qinterfly/Library/Projects/QRod↵ Systems/src/main/controltabs.cpp File Reference

Implementation of ControlTabs class.

```
#include <QLayout>
#include <QToolBar>
#include <QIcon>
#include "controltabs.h"
```

5.1.1 Detailed Description

Implementation of ControlTabs class.

Author

Pavel Lakiza

Date

March 2021

5.2 /home/qinterfly/Library/Projects/QRod↵ Systems/src/main/controltabs.h File Reference

Declaration of ControlTabs class.

```
#include <QWidget>
```

Classes

- class [ManagersTab](#)

A toolbar consisted of object designers.

5.2.1 Detailed Description

Declaration of ControlTabs class.

Author

Pavel Lakiza

Date

March 2021

5.3 [/home/qinterfly/Library/Projects/QRod↔](#) Systems/src/main/logwidget.cpp File Reference

Implementation of [LogWidget](#) class.

```
#include <QHeaderView>
#include <QTime>
#include <QTimer>
#include "logwidget.h"
```

Enumerations

- enum **ColumnType** { kTime , kType , kMessage }

5.3.1 Detailed Description

Implementation of [LogWidget](#) class.

Author

Pavel Lakiza

Date

March 2021

5.4 /home/qinterfly/Library/Projects/QRodSystems/src/main/logwidget.h File Reference

Declaration of [LogWidget](#) class.

```
#include <QTableWidget>
```

Classes

- class [LogWidget](#)

5.4.1 Detailed Description

Declaration of [LogWidget](#) class.

Author

Pavel Lakiza

Date

March 2021

5.5 /home/qinterfly/Library/Projects/QRodSystems/src/main/main.cpp File Reference

The startup function.

```
#include <QApplication>
#include "mainwindow.h"
```

Functions

- void [throwMessage](#) (QtMsgType type, const QMessageLogContext &, const QString &message)
Log all the messages.
- int [main](#) (int argc, char *argv[])
Entry point.

5.5.1 Detailed Description

The startup function.

Author

Pavel Lakiza

Date

March 2021

5.6 /home/qinterfly/Library/Projects/QRod↵ Systems/src/main/mainwindow.cpp File Reference

Implementation of [MainWindow](#) class.

```
#include <QDesktopWidget>
#include <QToolBar>
#include <QTableWidget>
#include <QTreeView>
#include <QFileSystemModel>
#include <QTextEdit>
#include <QVBoxLayout>
#include <QSettings>
#include "DockManager.h"
#include "DockWidget.h"
#include "ads_globals.h"
#include "mainwindow.h"
#include "ui_mainwindow.h"
#include "controltabs.h"
#include "view3dwidget.h"
#include "logwidget.h"
#include "../managers/dataobjectsmanager.h"
```

Functions

- void [moveToCenter](#) (QWidget *pWidget)
Helper function to situate widgets at the center of their parent widgets.

5.6.1 Detailed Description

Implementation of [MainWindow](#) class.

Author

Pavel Lakiza

Date

March 2021

5.7 /home/qinterfly/Library/Projects/QRod↵ Systems/src/main/mainwindow.h File Reference

Declaration of [MainWindow](#) class.

```
#include <QMainWindow>
#include "logwidget.h"
```

Classes

- class [MainWindow](#)

The main window of the program.

5.7.1 Detailed Description

Declaration of [MainWindow](#) class.

Author

Pavel Lakiza

Date

March 2021

5.8 /home/qinterfly/Library/Projects/QRod↔ Systems/src/main/view3dwidget.cpp File Reference

Implementation of [View3DWidget](#) class.

```
#include <QOpenGLContext>
#include <QOpenGLPaintDevice>
#include <QPainter>
#include "view3dwidget.h"
```

5.8.1 Detailed Description

Implementation of [View3DWidget](#) class.

Author

Pavel Lakiza

Date

March 2021

5.9 /home/qinterfly/Library/Projects/QRod↔ Systems/src/main/view3dwidget.h File Reference

Declaration of [View3DWidget](#) class.

```
#include <QOpenGLWidget>
#include <QOpenGLFunctions>
```

Classes

- class [View3DWidget](#)

A widget to represent the resulted rod system.

5.9.1 Detailed Description

Declaration of [View3DWidget](#) class.

Author

Pavel Lakiza

Date

March 2021

5.10 /home/qinterfly/Library/Projects/QRod↵ Systems/src/managers/dataobjectsmanager.cpp File Reference

Implementation of [DataObjectsManager](#) class.

```
#include <QSettings>
#include <QHBoxLayout>
#include <QToolBar>
#include <QListWidget>
#include <QTableView>
#include <QTextEdit>
#include <QPushButton>
#include <QSpacerItem>
#include "DockManager.h"
#include "DockWidget.h"
#include "dataobjectsmanager.h"
#include "ui_dataobjectsmanager.h"
```

5.10.1 Detailed Description

Implementation of [DataObjectsManager](#) class.

Author

Pavel Lakiza

Date

March 2021

5.11 /home/qinterfly/Library/Projects/QRod↵ Systems/src/managers/dataobjectsmanager.h File Reference

Declaration of [DataObjectsManager](#) class.

```
#include <QDialog>
```

Classes

- class [DataObjectsManager](#)
Manager to create objects of different types: scalars, vectors, matroces and surfaces.

5.11.1 Detailed Description

Declaration of [DataObjectsManager](#) class.

Author

Pavel Lakiza

Date

March 2021

