Clue Solver

Generated by Doxygen 1.8.14

Contents

Chapter 1

Clue Solver

Overview

Clue Solver is an is intended to be used during a Clue play to help the user play in the best way. More precisely, the user, by means of a GUI, is supposed to continously insert into *Clue Solver* the inquiries that are made during the inquiry phases of a play (i.e., insert which cards are searched by another player, which player shows him a card, etc.), so that *Clue Solver* can use this knowledge to continuously make deductions about the current play (e.g.: understand which cards are held by a certain adversary player, etc.); the results of these deduction are shown to the user, so that he can use this knowledge to play better during his turns (e.g.: make better inquiries, decide which room is more convient for him to reach, etc.).

Clue Solver does not allow to directly play Clue with a computer (or any other device): it only provides reasoning support to the user, therefore the players still need the board game to play.

A sketch of the game rules can be found on Wikipedia: `https://en.wikipedia.org/wiki/Cluedo`. It is assumed that the players use the rules of the classical version of the game, since at the moment *Clue Solver* does not support game variants.

Reasons for creating *Clue Solver*

There are already plenty of programs on the web with the same functionalities of *Clue Solver* for several devices (computers, tablets and smartphones), and some cases of homonymy may possibly exist. My *Clue Solver* doesn't have the aim of being an innovative program or a better version of an already esisting one, it is just meant as a free time activity to make some practice with the C++ language, the Qt framework, and so on.

Notes

The official name of the software is *Clue Solver*, however, to avoid problems with the space character in the name during computations, the Qt project and the GitHub repository are named *Clue_Solver* (i.e., an underscore replaces the space).

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

Chapter 3

Class Index

3.1 Class List

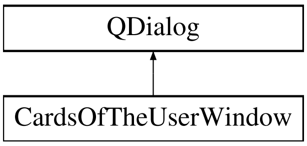
Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 4

Class Documentation

4.1 CardsOfTheUserWindow Class Reference

Inheritance diagram for CardsOfTheUserWindow:



Public Member Functions

- **CardsOfTheUserWindow** (NewGameCreator ∗newGameCreator, QWidget ∗parent=0)

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

- gui/CardsOfTheUserWindow.h
- gui/CardsOfTheUserWindow.cpp

4.2 Game Class Reference

Public Member Functions

- **Game** (MainWindow ∗mainWindow, int numberOfPlayers, std::vector< QString > playerName, std::vector< int > playerCardsNumber, std::vector< QString > userCards)
- void **addInquiry** (Inquiry ∗q, InquiryHistoryWindow ∗i)
- std::vector< QString > **getUserCards** ()
- std::vector< QString > **getRoomCardList** ()
- std::vector< QString > **getSuspectCardList** ()
- std::vector< QString > **getWeaponCardList** ()
- std::vector< QString > **getPlayerList** ()
- int **getTurnNumber** ()

Public Attributes

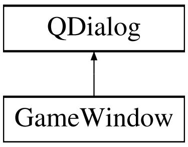
- std::vector< QString > **suspectCardList**
- std::vector< QString > **weaponCardList**
- std::vector< QString > **roomCardList**
- int **playerNumberOfCards** [ ]
- int **numberOfPlayers**
- std::list< Inquiry ∗ > ∗ **inquiryList**
- Player **player** [6]
- std::vector< QString > **userCards**
- std::vector< QString > **playerName**
- MainWindow ∗ **mainWindow**
- int **turnNumber**

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

- game/Game.h
- game/Game.cpp

4.3 GameWindow Class Reference

Inheritance diagram for GameWindow:



Public Member Functions

- **GameWindow** (Game ∗game, QWidget ∗parent=0)
- void **myupdate** ()
- void **updateCardTable** (QString card, QString player, QString value)
- void **closeEvent** (QCloseEvent ∗e)
- void **myupdate2** ()

Public Attributes

- Game ∗ **game**
- QTableWidget ∗ **roomCardTable**

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

- gui/GameWindow.h
- gui/GameWindow.cpp

4.4 Inquiry Class Reference

Public Member Functions

- **Inquiry** (int turn, std::string inquirer, std::string room, std::string suspect, std::string weapon, std::string giver)

Public Attributes

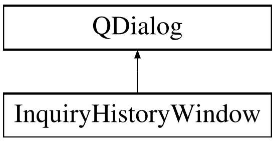
- int **turn**
- std::string **inquirer**
- std::string **giver**
- std::string **room**
- std::string **suspect**
- std::string **weapon**

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

- game/Inquiry.h
- game/Inquiry.cpp

4.5 InquiryHistoryWindow Class Reference

Inheritance diagram for InquiryHistoryWindow:



Public Member Functions

- **InquiryHistoryWindow** (Game ∗g, QWidget ∗parent=0)
- void **closeEvent** (QCloseEvent ∗e)
- void **myupdate** ()

Public Attributes

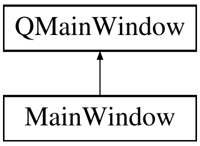
- Game ∗ **g**
- QTableWidget ∗ **inquiryHistoryTable**

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

- gui/InquiryHistoryWindow.h
- gui/InquiryHistoryWindow.cpp

4.6 MainWindow Class Reference

Inheritance diagram for MainWindow:



Public Member Functions

- **MainWindow** (QWidget ∗parent=0)
- void **resizeEvent** (QResizeEvent ∗event)
- void **setSubwindow** (QWidget ∗q)
- void **createNewGame** ()
- void **setGame** (Game ∗game)
- void **myupdate** ()

Public Attributes

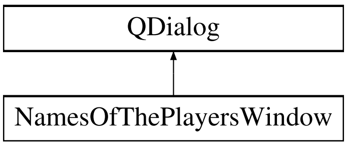
- QPixmap ∗ **m_pPixmap**
- QPalette ∗ **m_pPalette**

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

- gui/MainWindow.h
- gui/MainWindow.cpp

4.7 NamesOfThePlayersWindow Class Reference

Inheritance diagram for NamesOfThePlayersWindow:



Public Slots

- void **openNumberOfCardsForEachPlayerWindow** ()
- void **enableOrDisableConfirmButton** (const QString &text)

Public Member Functions

- **NamesOfThePlayersWindow** (NewGameCreator ∗newGameCreator, QWidget ∗parent=0)

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

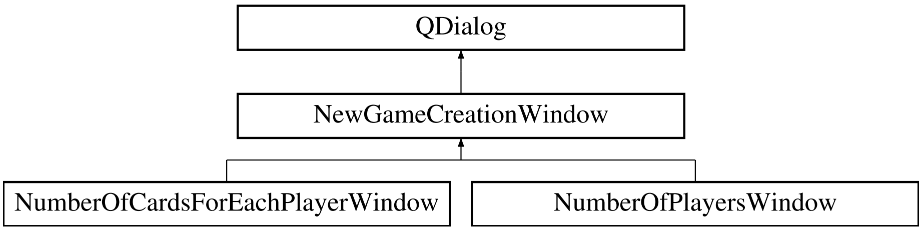
- gui/NamesOfThePlayersWindow.h
- gui/NamesOfThePlayersWindow.cpp

4.8 NewGameCreationWindow Class Reference

Parent class of windows used to create a new game.

```
#include <NewGameCreationWindow.h>
```

Inheritance diagram for NewGameCreationWindow:



Public Member Functions

- NewGameCreationWindow (QWidget ∗parent=0)

  Create the window.

4.8.1 Detailed Description

Parent class of windows used to create a new game.

This class is the parent of all the windows that are used to create a new game. It is a QDialog to center it and it is modal to avoid that the user, when one of the children windows of this class is opened, does something else than inserting the data required by the children window.

4.8.2 Constructor & Destructor Documentation

4.8.2.1 NewGameCreationWindow()

```
NewGameCreationWindow::NewGameCreationWindow (
              QWidget ∗ parent = 0 )
```

Create the window.

Parameters

parent	the parent of the window

Create the window and set it to be modal.

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

- gui/NewGameCreationWindow.h
- gui/NewGameCreationWindow.cpp

4.9 NewGameCreator Class Reference

Public Member Functions

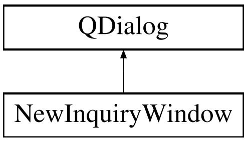
- **NewGameCreator** (MainWindow ∗mainWindow)
- void **openNextWindow** ()
- void **setNumberOfPlayers** (int numberOfPlayers)
- int **getNumberOfPlayers** ()
- void **setNamesOfThePlayers** (std::vector< QString > playerName)
- std::vector< QString > **getNamesOfThePlayers** ()
- void **setNumberOfCardsForEachPlayer** (std::vector< int > playerCardsNumber)
- void **setCardsOfTheUser** (std::vector< QString > userCards)
- std::vector< QString > **getCardsOfTheUser** ()
- std::vector< int > **getNumberOfCardsForEachPlayer** ()

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

- game/NewGameCreator.h
- game/NewGameCreator.cpp

4.10 NewInquiryWindow Class Reference

Inheritance diagram for NewInquiryWindow:



Public Slots

- void **openNewWindow** ()

Public Member Functions

- **NewInquiryWindow** (Game ∗g, InquiryHistoryWindow ∗i, QWidget ∗parent=0)

Public Attributes

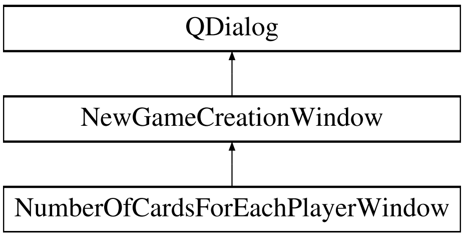
- Game ∗ **game**
- GameWindow ∗ **gw**

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

- gui/NewInquiryWindow.h
- gui/NewInquiryWindow.cpp

4.11 NumberOfCardsForEachPlayerWindow Class Reference

Inheritance diagram for NumberOfCardsForEachPlayerWindow:



Public Member Functions

- **NumberOfCardsForEachPlayerWindow** (NewGameCreator ∗newGameCreator, QWidget ∗parent=0)

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

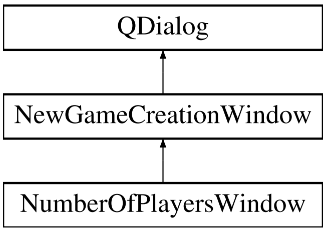
- gui/NumberOfCardsForEachPlayerWindow.h
- gui/NumberOfCardsForEachPlayerWindow.cpp

4.12 NumberOfPlayersWindow Class Reference

Window used to insert the number of players in the game.

```
#include <NumberOfPlayersWindow.h>
```

Inheritance diagram for NumberOfPlayersWindow:



Public Member Functions

- NumberOfPlayersWindow (NewGameCreator ∗newGameCreator, QWidget ∗parent=0)

  Create a window to allow the player to specify the number of players in game.

4.12.1 Detailed Description

Window used to insert the number of players in the game.

The valid numbers of players are shown to the user by means of radio buttons, and he can select the correct number.

4.12.2 Constructor & Destructor Documentation

4.12.2.1 NumberOfPlayersWindow()

```
NumberOfPlayersWindow::NumberOfPlayersWindow (
            NewGameCreator ∗ newGameCreator,
            QWidget ∗ parent = 0 )  [explicit]
```

Create a window to allow the player to specify the number of players in game.

Parameters

newGameCreator	pointer to the NewGameCreator instance
parent	the parent of the window

The pointer to the NewGameCreator instance is necessary because the window calls this object when all the data have been inserted.

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

- gui/NumberOfPlayersWindow.h
- gui/NumberOfPlayersWindow.cpp

4.13 Player Class Reference

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

- game/Player.h
- game/Player.cpp

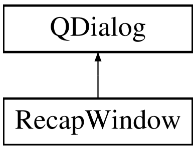
4.14 Reasoner Class Reference

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

- reasoner/Reasoner.h
- reasoner/Reasoner.cpp

4.15 RecapWindow Class Reference

Inheritance diagram for RecapWindow:



Public Member Functions

- **RecapWindow** (NewGameCreator ∗newGameCreator, QWidget ∗parent=0)

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

- gui/RecapWindow.h
- gui/RecapWindow.cpp