My Project

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EECE435L Game

A game containing two sub-games designed to help kids learn programming

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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

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4.1 File List

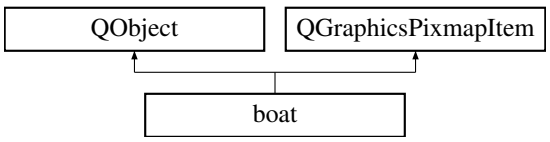
Here is a list of all documented files with brief descriptions:

Chapter 5

Class Documentation

5.1 boat Class Reference

Inheritance diagram for boat:



Public Member Functions

- boat (QObject *parent=nullptr)

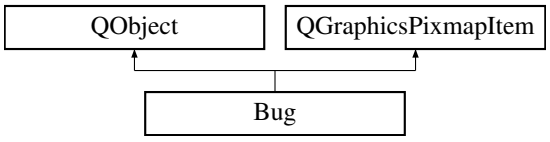
  Setting Popeye's Image.

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

- boat.h
- boat.cpp

5.2 Bug Class Reference

Inheritance diagram for Bug:



Public Slots

- void guard ()

  The slot that moves the bug on each timer timeout.
- void shoot ()

  Responsible for the shooting logic of the Bug.

Public Member Functions

- Bug (Game2Scene ∗)

  Bug constructor.
- void decrementLives ()

  Responsible for collision logic with bullet.
- void pause ()

  Responsible for keeping the bug in place when pausing the game.
- void resume ()

  responsible for resuming after pausing

Public Attributes

- Game2Scene ∗ scene

  The scene where the bug is added.
- QTimer ∗ timer

  QTimer for moving the Bug periodically.
- QTimer ∗ shootingTimer

  QTimer for shooting miniBugs.
- QPixmap ∗ icon

  QPixmap holding the image of the Bug.
- QTransform **transform**
- int lives

  Integer holding the number of Bug's lives left.
- int dir

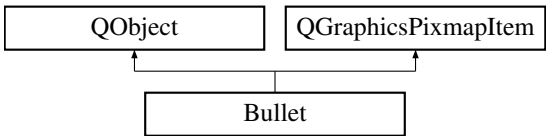
  Integer holding the direction of movement of the Bug.
- int **i**

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

- bug.h
- bug.cpp

5.3 Bullet Class Reference

Inheritance diagram for Bullet:



Public Slots

- void move ()

  The slot that moves the Bullet on the timer's timeout.

Public Member Functions

- Bullet (int direction, int x, int y, Game2Scene *scene)

  Bullet Constructor.

Public Attributes

- QPixmap * icon

  QPixmap holding the image of the bullet.
- QTimer * timer

  QTimer that trigger s==s.
- Game2Scene * scene

  The Scene where the Bullet is.
- int step

  A steps counter used for deleting the bullet at a certain range.
- int direction

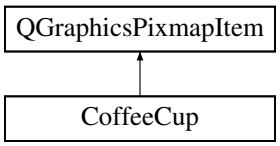
  Integer holding the direction of the Bullet according to the last step the tester made.

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

- bullet.h
- bullet.cpp

5.4 CoffeeCup Class Reference

Inheritance diagram for CoffeeCup:



Public Member Functions

- CoffeeCup ()

  CoffeeCup Constructor.

Public Attributes

- QPixmap * icon

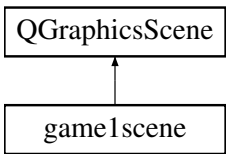
  QPixmap holding the image of the CoffeeCup.

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

- coffeecup.h
- coffeecup.cpp

5.5 game1scene Class Reference

Inheritance diagram for game1scene:



Public Slots

- void startLevel ()

  start the appropriate level
- void updateCountdownTimer ()

  Function that will update the timer and then display it.

Public Member Functions

- game1scene (QString user)

  Default constructor.
- void updatePosition1 ()

  update the position of popeye, placing him on top of the locks for level 1
- void updatePosition2 ()

  update the position of popeye, placing him on top of the locks for level 2
- void updatePosition3 ()

  update the position of popeye, placing him on top of the locks for level 3
- void updatePosition4 ()

  update the position of popeye, placing him on top of the locks for level 4
- void updatePosition5 ()

  update the position of popeye, placing him on top of the locks for level 5
- void updatePosition6 ()

  update the position of popeye, placing him on top of the locks for level 6
- void updatePosition7 ()

  update the position of popeye, placing him on top of the locks for level 7
- void updatePosition8 ()

  update the position of popeye, placing him on top of the locks for level 8
- void hideLevelScene ()

  update the position of popeye, placing him on top of the locks for level 1
- int getLevel ()

  get the user's level from the text file
- QStringList profileParser (QString line)

  get a list of string when parsing from text file the attributes that are seprated by spaces
- void setUpCountdownTimer ()

  < Timer controlling the countdown

Public Attributes

- Popeye * popeye = new Popeye()

  Creating the references to the Objects.
- locks * **lock1** = new locks()
- locks * **lock2** = new locks()
- locks * **lock3** = new locks()
- locks * **lock4** = new locks()
- locks * **lock5** = new locks()
- locks * **lock6** = new locks()
- locks * **lock7** = new locks()
- locks * **lock8** = new locks()
- QPushButton * **start**
- QString **user**
- levelsscene * scene2

  pointer to an Object of type levelsscene
- QGraphicsView * view2

  pointer to an Object of type QGraphicsView
- QGraphicsTextItem * **countDownText**
- int **countdown** = 12000
- QTimer * countdownTimer

  < *value of the countdown at the start of the game that is = to 120 i.e. 20 mins to reach Olive*

5.5.1 Constructor & Destructor Documentation

5.5.1.1 game1scene::game1scene (QString *user*)

Default constructor.

Setting the initial scene and object's positions.

5.5.2 Member Function Documentation

5.5.2.1 int game1scene::getLevel ( )

get the user's level from the text file

Getting the level number from the appropriate user text file (stored as the 10th entry)

Parameters

event	only argument, key press

Returns

int that is the Level Number

< to check if it is entering the file, and it is

5.5.2.2 QStringList game1scene::profileParser (QString *line*)

get a list of string when parsing from text file the attributes that are seprated by spaces

Parsing the text file that was filled and has his attributes seperated by tabs.

Returns

List of strings

5.5.2.3 void game1scene::setUpCountdownTimer ( )

< Timer controlling the countdown

Initializes TextItem that indicates the Countdown at the start of each level.

Setting up the timer

5.5.2.4 void game1scene::startLevel ( ) [slot]

start the appropriate level

Starting the corresponsding level by calling the levelsscene constructure and updating the lock's positions accordingly. < pointer to an Object of type levelsscene

< pointer to an Object of type QGraphicsView

5.5.2.5 void game1scene::updateCountdownTimer ( ) [slot]

Function that will update the timer and then display it.

update SLOT that controls the Countdown to display it when adjusted, every second

5.5.2.6 void game1scene::updatePosition1 ( )

update the position of popeye, placing him on top of the locks for level 1

Function Updating Popeye's position and hidding locks, according to the level Users' in.

5.5.2.7 void game1scene::updatePosition2 ( )

update the position of popeye, placing him on top of the locks for level 2

Function Updating Popeye's position and hidding locks, according to the level Users' in.

5.5.2.8 void game1scene::updatePosition3 ( )

update the position of popeye, placing him on top of the locks for level 3

Function Updating Popeye's position and hidding locks, according to the level Users' in.

5.5.2.9 void game1scene::updatePosition4 ( )

update the position of popeye, placing him on top of the locks for level 4

Function Updating Popeye's position and hidding locks, according to the level Users' in.

5.5.2.10 void game1scene::updatePosition5 ( )

update the position of popeye, placing him on top of the locks for level 5

Function Updating Popeye's position and hidding locks, according to the level Users' in.

5.5.2.11 void game1scene::updatePosition6 ( )

update the position of popeye, placing him on top of the locks for level 6

Function Updating Popeye's position and hidding locks, according to the level Users' in.

5.5.2.12 void game1scene::updatePosition7 ( )

update the position of popeye, placing him on top of the locks for level 7

Function Updating Popeye's position and hidding locks, according to the level Users' in.

5.5.2.13 void game1scene::updatePosition8 ( )

update the position of popeye, placing him on top of the locks for level 8

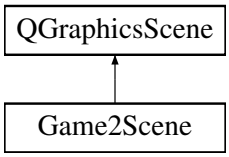
Function Updating Popeye's position and hidding locks, according to the level Users' in.

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

- game1scene.h
- game1scene.cpp

5.6 Game2Scene Class Reference

Inheritance diagram for Game2Scene:



Public Slots

- void deactivateShield ()

  Responsible of deactivating the shield on shieldTimer timeout.
- void updateTimer ()

  Responsible of updating remSec on every timer timeout.
- void pauseOrResume ()

  Responsible of pausing or resuming the game on pause PushButton press.
- void startLevel ()

  Responsible of starting a new level after passing the previous one.
- void logScore ()

  Responsible of logging the score to file after winning the game.
- void retry ()

  Responsible of restarting the game after losing.

Public Member Functions

- Game2Scene (QString user)

  Constructor.
- void updateLifeScore ()

  Responsible of updating the tester's lives when colliding with a bug or a miniBug.
- int getHighScore ()

  Responsible of fetching the HighScore from the profile file.
- void updateHighScore (QString user)

  Responsible of updating the HighScore in the profile file if needed.

Public Attributes

- int dir

  Integer holding the direction of the tester.
- int ammo

  Integer holding the amount of ammo left.
- int bugs

  Integer holding the number of bugs left on the scene.
- int remSec

  Integer holding the number of seconds left.
- int HighScore

  Integer holding the HighScore of the Player.
- int score

  Integer holding the current score of the player.
- int level

  Integer holding the level the player is currently playing.
- bool playing

  Boolean indicating if the player is active or not.
- bool hasShield

  Boolean indicating if the tester has an active shiekd.
- bool QCshown

  Boolean indicating if the Quality Control icon is hidden or shown.
- bool paused

  Boolean indicating if the game is paused.
- QList< Bug * > bugList

  QList of Bug objects pointers.
- QLabel * announcement

  QLabel holding the win/loss announcements.
- QLabel * timerLabel

  QLabel holding the string Timer.
- QLabel * ammoLabel

  QLabel holding the word Ammo.
- QLabel * livesLabel

  QLabel holding the word Lives.
- QLabel * **HiScore**
- QLabel * scoreL

  QLabel holding the word HighScore.
- QPushButton * next

  QPushButton used to continue when level finishes;.
- QPushButton * pause

  QPsuhButton used to pause/resume the.
- LifeCounter * lifeCounter

  QGraphicsPixmapItem representing the number of lives of the tester.
- LevelParser * parser

  Used to parse the levels from text files.
- QString user

  QString holding the current user.
- Tester * tester

  QGraphicsPixmapItem representing the tester character.
- QualityControlIcon * QCIcon

  QGraphicsPixmapItem representing the Quality control Icon.

- QTimer * shieldTimer

  QTimer responsible for deactivating the shield after 5 seconds.
- QTimer * timer

  QTimer responsible for updating the time each second.
- QGraphicsPixmapItem * **soul1**
- QGraphicsPixmapItem * **soul2**
- QGraphicsPixmapItem * soul3

  QGraphicsPixmapItem representing the souls of the tester.
- QGraphicsPixmapItem * **tens**
- QGraphicsPixmapItem * units

  QGraphicsPixmapItem representing the time left.
- QGraphicsPixmapItem * **ammoTens**
- QGraphicsPixmapItem * ammoUnits

  QGraphicsPixmapItem representing the ammo left.

5.6.1 Member Function Documentation

5.6.1.1 int Game2Scene::getHighScore ( )

Responsible of fetching the HighScore from the profile file.

< to check if it is entering the file, and it is

5.6.1.2 void Game2Scene::updateHighScore (QString *user*)

Responsible of updating the HighScore in the profile file if needed.

<To update the level number in the text file (stored as the 10th entry)

5.6.2 Member Data Documentation

5.6.2.1 QLabel* Game2Scene::scoreL

QLabel holding the word HighScore.

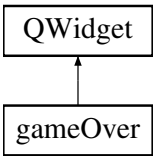
QLabel holding the word score

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

- game2scene.h
- game2scene.cpp

5.7 gameOver Class Reference

Inheritance diagram for gameOver:



Public Member Functions

- gameOver (QWidget *parent=nullptr)

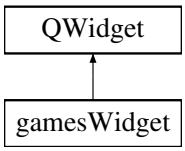
  Setting the message pop up window content.

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

- gameover.h
- gameover.cpp

5.8 gamesWidget Class Reference

Inheritance diagram for gamesWidget:



Public Slots

- void startGame1 ()

  Slot to take the user to Game1Scene.
- void startGame2 ()

  Slot to take the user to Game2Scene.

Public Member Functions

- gamesWidget (QString user)

  Setting the widget's layout.
- void setVerticalLayout ()

  Setting the Vertical Layout.
- void setGridLayout ()

  Setting the Grid Layout.

Public Attributes

- QPushButton * **game1**
- QPushButton * **game2**
- QString **user**
- QVBoxLayout * **VerticalL**
- QGridLayout * **GridL**
- game1scene * scene1

  pointer to an Object of type game1scene
- Game2Scene * **scene2**
- QGraphicsView * view1

  pointer to an Object of type QGraphicsView
- QGraphicsView * **view2**

5.8.1 Member Function Documentation

5.8.1.1 void gamesWidget::startGame1 ( ) [slot]

Slot to take the user to Game1Scene.

< pointer to an Object of type game1scene

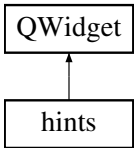
< pointer to an Object of type QGraphicsView

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

- gameswidget.h
- gameswidget.cpp

5.9 hints Class Reference

Inheritance diagram for hints:



Public Member Functions

- hints (QWidget *parent=nullptr)

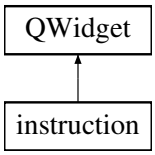
  Setting the hints pop up window content.
- **hints** (QString hint, QWidget *parent=nullptr)

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

- hints.h
- hints.cpp

5.10 instruction Class Reference

Inheritance diagram for instruction:



Public Member Functions

- instruction (QWidget *parent=nullptr)

  Setting the instruction pop up window content.

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

- instruction.h
- instruction.cpp

5.11 LevelParser Class Reference

Public Member Functions

- LevelParser (QString filePath)

  Constructor.
- void parse (Game2Scene ∗scene)

  Responsible of actually parsing the file and adding the elements to the scene.

Public Attributes

- QDir ∗ filePath

  Directory to the file being parsed.

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

- levelparser.h
- levelparser.cpp

5.12 levels Class Reference

Public Member Functions

- levels (int x, QString user)

  Setting the specs for each level.
- void setPopeyeX1 (int newX)

  Setting up popeye's X and Y positions.
- void setPopeyeY1 (int newY)

  Setting Popeye's New Y position.
- void incrementHintNumber ()

  Incrementing the hint Number.
- void resetHintNumber ()

  Restting the hint Number.
- void decrementLifes ()

  Decrementing the number of lifes.
- void incrementLevelNumb ()

  Incrementing the Level Number.
- void incrementScore ()

  Incrementing the score.
- void decrementScore ()

  Decrementing the score.
- void updateLevel (QString user)

  Updating the level Number when user passes a level.
- void updateLevelOne (QString user)

  Reseting the user's level to 1 if he looses the game.
- int getScore (QString user)

- void updateScore (QString user)
- void resetLives ()

  Reseting the lifes to it's initial count of 5.
- void resetScore ()

  Reseting the score to it's initial count of 100.
- QStringList profileParser (QString)

  parse the line in a text file and return a list of strings

Public Attributes

- QString **hint** [3]
- QString **instructions**
- int **popeyeX1**
- int popeyeY1

  popeye's X and Y positions
- int **spinachX1**
- int **spinachY1**
- int **spinachX2**
- int **spinachY2**
- int **spinachX3**
- int spinachY3

  spinach can's X and Y positions
- int **river1X**
- int river1Y

  the river's X and Y positions
- int **boat1X**
- int boat1Y

  the boat's X and Y positions
- int **rock1X**
- int rock1Y

  the rock's X and Y positions
- int **obstacleX**
- int obstacleY

  the obstacle's X and Y positions
- int **smallRiver1X**
- int smallRiver1Y

  the first small river's X and Y positions
- int **smallRiver2X**
- int smallRiver2Y

  the second small river X and Y positions
- int **levelNumb**
- int **hintNumber**
- int lifes

  User's level Number, hint number and life number count.
- int score

  User's score count.

5.12.1 Member Function Documentation

5.12.1.1 int levels::getScore (QString *user*)

< to check if it is entering the file, and it is

5.12.1.2 void levels::incrementHintNumber ( )

Incrementing the hint Number.

Increasing the hint Number.

5.12.1.3 QStringList levels::profileParser (QString *line*)

parse the line in a text file and return a list of strings

<parse the line and return a list.

5.12.1.4 void levels::resetHintNumber ( )

Restting the hint Number.

Reseting the Hint Number.

5.12.1.5 void levels::resetLives ( )

Reseting the lifes to it's initial count of 5.

Reseting the number of lives.

5.12.1.6 void levels::setPopeyeX1 (int *newX*)

Setting up popeye's X and Y positions.

Setting Popeye's new X position.

5.12.1.7 void levels::updateLevel (QString *user*)

Updating the level Number when user passes a level.

<To update the level number in the text file (stored as the 10th entry)

5.12.1.8 void levels::updateLevelOne (QString *user*)

Reseting the user's level to 1 if he looses the game.

<To update the level number in the text file (stored as the 10th entry)

5.12.1.9 void levels::updateScore (QString *user*)

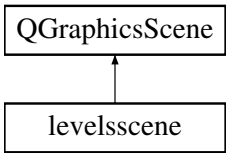
<To update the level number in the text file (stored as the 10th entry)

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

- levels.h
- levels.cpp

5.13 levelsscene Class Reference

Inheritance diagram for levelsscene:



Public Slots

- void checkAnswer ()

  Checking the User's input and moving popeye and the boat accordingly. If the User Clicks on the pickUp Spinach cans dissapear.
- void displayHint ()

  Displaying the 3 hints and repeating them if passed over all of them and decrement score accordingly.
- void pauseLevel ()

  Pause the level the user's in.
- void retryLevel ()

  Retry level and reset positons to initial hard coded positions.
- void hideScene ()

  Hide the scene.
- void updateCountdownTimer ()

  Function that will update the timer and then display it.

Public Member Functions

- levelsscene (QString user)

  The constructor the this class is called, everytime the user clicks on the Let's Go! Button and thus, the corresponding level is loaded from the appropriate text file. Each Level have different specs and object that are loaded to their appropriate positions.
- void **looseLife** ()
- void **gameOver** ()
- void youLost (bool)

  Decrementing lifes, score and showing appropriate pop up window when users' looses.
- void youWon ()

  Incrementing score, proceeding to the game1scene and showing appropriate pop up window when user wins.
- void setUpCountdownTimer ()

  < Timer controlling the countdown

Public Attributes

- QString **user**
- Popeye * popeye = new Popeye()

  Creating the references to the Objects.
- spinach * **spinach1** = new spinach()
- spinach * **spinach2** = new spinach()
- spinach * **spinach3** = new spinach()
- river * **river1** = new river()
- boat * **boat1** = new boat()
- rock * **rock1** = new rock()
- riverObstacle * **obstacle** = new riverObstacle
- smallRiver * **smallRiver1** = new smallRiver()
- smallRiver * **smallRiver2** = new smallRiver()

- levels * **l**
- QPushButton * **run**
- QPushButton * **hint**
- QPushButton * **pause**
- QPushButton * **retry**
- QPushButton * proceed

  QWidgets that will displayed on the screen.
- QTextEdit * **text**
- QLabel * **instructions**
- QGraphicsTextItem * **countDownText**
- int **countdown** = 120
- QTimer * countdownTimer

  < *value of the countdown at the start of the game that is = to 120 i.e. 2 mins for each level*

5.13.1 Constructor & Destructor Documentation

5.13.1.1 levelsscene::levelsscene (QString *user*)

The constructor the this class is called, everytime the user clicks on the Let's Go! Button and thus, the corresponding level is loaded from the appropriate text file. Each Level have different specs and object that are loaded to their appropriate positions.

< User can only pause after level 1 is completed

< if the levels has ot not other spinach cans

5.13.2 Member Function Documentation

5.13.2.1 void levelsscene::checkAnswer ( ) [slot]

Checking the User's input and moving popeye and the boat accordingly. If the User Clicks on the pickUp Spinach cans dissapear.

< Run push button function

<direction of movement, 0 to the right and anticlockwise

<check the argument of the Repeat(args) from the user

<get the number of iterations

<start reading after we get the number of iterations

< iterate j times over the user's Code

< i is either = 0 or 2 and at the end of the first for loop i is reseted to 2 if there is repetition

popeye cannot move in level 5; boat collides with him only

to check if popeye can pass on the bridge or if there is a river

<If popeye collides with the boat, they should both move in the same manner if Boat.Move is inputed

<In level 7 the boat can only move on a horizontal line

< Each Rotate will rotate popeye by 90 degrees

<if the colliding object is of type spinach

< decrement the number of lifes before showing it to the user and show appropriate syntax error

5.13.2.2 void levelsscene::hideScene ( ) [slot]

Hide the scene.

Hide the levelsscene.

5.13.2.3 void levelsscene::pauseLevel ( ) [slot]

Pause the level the user's in.

<Since everything is loaded from the text file; the lives, scores, timer and level number, the pause simply closes the scene and when the user re-logs in, he just continues where he left off when he clicks on the Let's Start! button

5.13.2.4 void levelsscene::retryLevel ( ) [slot]

Retry level and reset positons to initial hard coded positions.

<retry -> reset popeye's position

< if the levels has ot not other spinach cans

5.13.2.5 void levelsscene::setUpCountdownTimer ( )

< Timer controlling the countdown

Initializes TextItem that indicates the Countdown at the start of each level.

Setting up the timer

5.13.2.6 void levelsscene::updateCountdownTimer ( ) [slot]

Function that will update the timer and then display it.

update SLOT that controls the Countdown to display it when adjusted, every second

5.13.2.7 void levelsscene::youLost (bool *timeIsUp*)

Decrementing lifes, score and showing appropriate pop up window when users' looses.

<reset the user to level 1

<reset the user to level 1

5.13.2.8 void levelsscene::youWon ( )

Incrementing score, proceeding to the game1scene and showing appropriate pop up window when user wins.

<Increment the score according the count of lifes, the higher the lifes, the higher the score

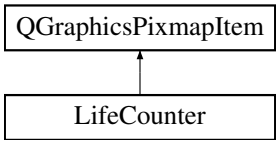
< Increment the score according to the player's time

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

- levelsscene.h
- levelsscene.cpp

5.14 LifeCounter Class Reference

Inheritance diagram for LifeCounter:



Public Member Functions

- LifeCounter (int life)

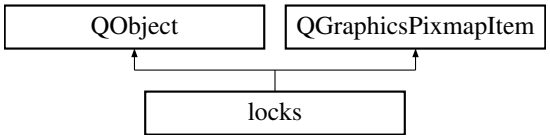
  Constructor.

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

- lifecounter.h
- lifecounter.cpp

5.15 locks Class Reference

Inheritance diagram for locks:



Public Member Functions

- locks (QObject ∗parent=nullptr)

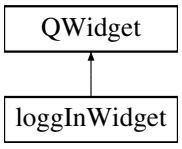
  Setting the lock Image.

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

- locks.h
- locks.cpp

5.16 loggInWidget Class Reference

Inheritance diagram for loggInWidget:



Public Slots

- void **startGames** ()

Public Member Functions

- **loggInWidget** (QString user="guest")
- void **setVerticalLayout** ()
- void **setGridLayout** ()

Public Attributes

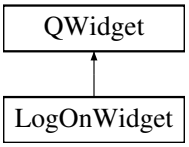
- QLabel * **userName**
- QLabel * **logIn**
- QPushButton * **games**
- QString **user**
- QVBoxLayout * **VerticalL**
- QGridLayout * **GridL**

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

- logginwidget.h
- logginwidget.cpp
- logginwidget.cpp.BACKUP.3062.cpp
- logginwidget.cpp.BASE.3062.cpp
- logginwidget.cpp.LOCAL.3062.cpp
- logginwidget.cpp.REMOTE.3062.cpp

5.17 LogOnWidget Class Reference

Inheritance diagram for LogOnWidget:



Public Slots

- void **GotoSignUpPage** ()
- void **LogInAsGuest** ()
- void **GotoSignInPage** ()

Public Member Functions

- **LogOnWidget** (QWidget *parent=nullptr)
- void **setVerticalLayout** ()
- void **setGridLayout** ()

Public Attributes

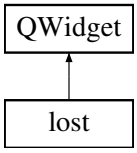
- QPushButton ∗ **SignUpButton**
- QPushButton ∗ **SignInButton**
- QPushButton ∗ **GuestButton**
- QLabel ∗ **TitleLabel**
- QLabel ∗ **InfoLabel**
- QVBoxLayout ∗ **VerticalLayout**
- QGridLayout ∗ **GridLayout**
- QGraphicsScene ∗ **Scene**

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

- logonwidget.h
- logonwidget.cpp

5.18 lost Class Reference

Inheritance diagram for lost:



Public Member Functions

- lost (QWidget ∗parent=nullptr)

  Setting the lost pop up window content, displaying the total number of lifes left and any syntax error when needed.
- lost (int lifes, QWidget ∗parent=nullptr)
- lost (int lifes, QString command, QWidget ∗parent=nullptr)

5.18.1 Constructor & Destructor Documentation

5.18.1.1 lost::lost (int *lifes,* QWidget ∗ *parent* = `nullptr`)

<If the lives count is less than 0 the user would have lost completely and therefore would have to restart the game

5.18.1.2 lost::lost (int *lifes,* QString *command,* QWidget ∗ *parent* = `nullptr`)

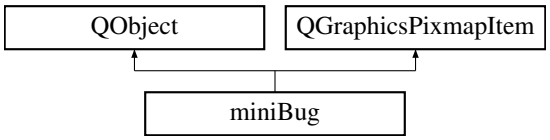
< not checking for the in entered in the Move(#) function

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

- lost.h
- lost.cpp

5.19 miniBug Class Reference

Inheritance diagram for miniBug:



Public Slots

- void move ()

  responsible of moving the miniBug on each timer timeout

Public Member Functions

- miniBug (Game2Scene ∗, Bug ∗, int)

  Constructor.

Public Attributes

- QPixmap ∗ icon

  Pixmap holding the image.
- Game2Scene ∗ scene

  The scene where the miniBug is located.
- Bug ∗ bug

  The parent Bug.
- QTimer ∗ timer

  QTimer used to move the miniBug periodically.
- int steps

  Number of steps taken already used in determining the range.
- int dir

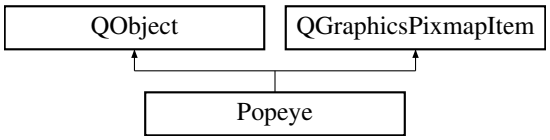
  Integer holding the direction of the miniBug.

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

- minibug.h
- minibug.cpp

5.20 Popeye Class Reference

Inheritance diagram for Popeye:



Public Member Functions

- Popeye (QObject ∗parent=nullptr)

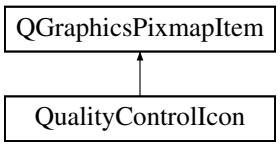
  Setting Popeye's Image.
- void **collision** ()

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

- popeye.h
- popeye.cpp

5.21 QualityControlIcon Class Reference

Inheritance diagram for QualityControlIcon:



Public Member Functions

- QualityControlIcon ()

  Constructor.

Public Attributes

- QPixmap ∗ icon

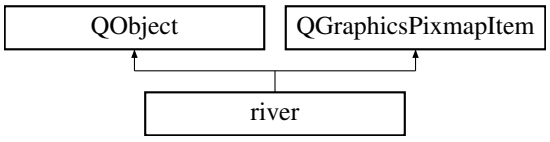
  Pixmap holding the image of the QC icon.

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

- qualitycontrolicon.h
- qualitycontrolicon.cpp

5.22 river Class Reference

Inheritance diagram for river:



Public Member Functions

- river (QObject ∗parent=nullptr)

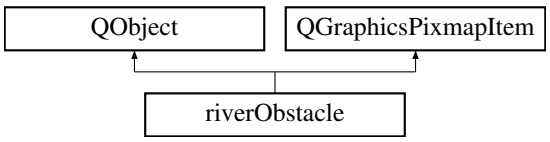
  Setting the river's Image.

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

- river.h
- river.cpp

5.23 riverObstacle Class Reference

Inheritance diagram for riverObstacle:



Public Member Functions

- riverObstacle (QObject ∗parent=nullptr)

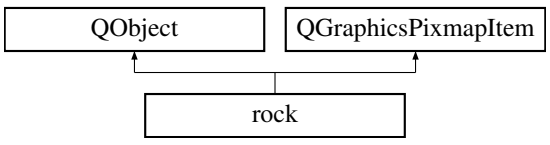
  Setting the river obstacle's Image.

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

- riverobstacle.h
- riverobstacle.cpp

5.24 rock Class Reference

Inheritance diagram for rock:



Public Member Functions

- rock (QObject ∗parent=nullptr)

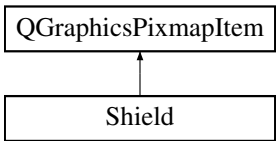
  Setting the rock's Image.

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

- rock.h
- rock.cpp

5.25 Shield Class Reference

Inheritance diagram for Shield:



Public Member Functions

- Shield ()

  Constructor.

Public Attributes

- QPixmap ∗ icon

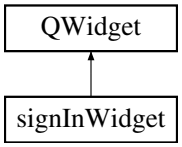
  Pixmap holding the image of the shield.

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

- shield.h
- shield.cpp

5.26 signInWidget Class Reference

Inheritance diagram for signInWidget:



Public Slots

- void **loggedIn** ()
- void **homepage** ()

Public Member Functions

- **signInWidget** (QWidget ∗parent=nullptr)
- void **setVerticalLayout** ()
- void **setGridLayout** ()

Public Attributes

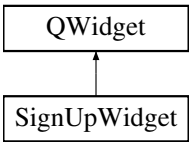
- QLabel * **userName**
- QLabel * **password**
- QLabel * **signIn**
- QLineEdit * **LuserName**
- QLineEdit * **Lpassword**
- QPushButton * **submit**
- QPushButton * **back**
- const QString **esc** ="7727"
- QVBoxLayout * **VerticalL**
- QGridLayout * **GridL**

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

- signinwidget.h
- signinwidget.cpp

5.27 SignUpWidget Class Reference

Inheritance diagram for SignUpWidget:



Public Slots

- void **VerifySubmitSlot** ()
- void **GoBackToLogOnSlot** ()
- void **homepage** ()

Public Member Functions

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

Public Attributes

- QLabel * **FirstName**
- QLabel * **LastName**
- QLabel * **UserName**
- QLabel * **Password**
- QLabel * **ConfirmPass**
- QLabel * **ProfilePicture**
- QLabel * **Gender**
- QLineEdit * **First**
- QLineEdit * **Last**
- QLineEdit * **User**
- QLineEdit * **Pass**

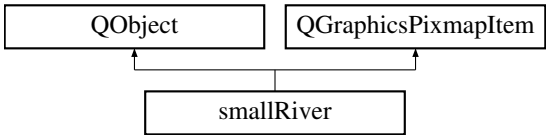
- QLineEdit * **Confirm**
- QPushButton * **Submit**
- QPushButton * **back**
- QRadioButton * **Male**
- QRadioButton * **Female**
- QRadioButton * **ProfilePic1**
- QRadioButton * **ProfilePic2**
- QRadioButton * **ProfilePic3**
- QRadioButton * **ProfilePic4**
- QGroupBox * **groupBox**
- QGridLayout * **GridLayout**
- QVBoxLayout * **VerticalLayout**
- QGroupBox * **previewGroupBox**
- QGridLayout * **previewLayout**
- QCalendarWidget * **calendar**
- const QString **esc** ="7727"

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

- signupwidget.h
- signupwidget.cpp

5.28 smallRiver Class Reference

Inheritance diagram for smallRiver:



Public Member Functions

- smallRiver (QObject *parent=nullptr)

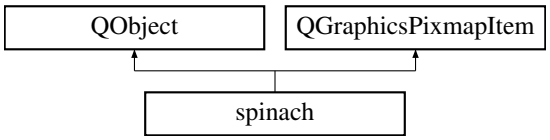
  Setting the small river's Image.

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

- smallriver.h
- smallriver.cpp

5.29 spinach Class Reference

Inheritance diagram for spinach:



Public Member Functions

- spinach (QObject *parent=nullptr)

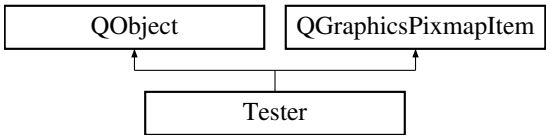
  Setting the spinach can's Image.

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

- spinach.h
- spinach.cpp

5.30 Tester Class Reference

Inheritance diagram for Tester:



Public Member Functions

- **Tester** (int, int)
- void **decrementLives** ()
- void **loseLife** ()
- void **drinkCoffee** ()
- void **showStats** ()

Public Attributes

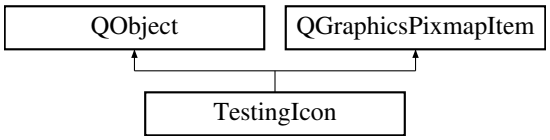
- QPixmap * **icon**
- QTimer * **timer**
- int **lives**
- int **souls**
- int **startingX**
- int **startingY**

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

- tester.h
- tester.cpp

5.31 TestingIcon Class Reference

Inheritance diagram for TestingIcon:



Public Slots

- void **reActivate** ()

Public Member Functions

- void **deActivate** ()

Public Attributes

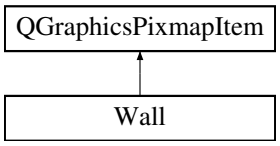
- QPixmap ∗ **icon**
- bool **isHidden**
- QTimer ∗ **timer**

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

- testingicon.h
- testingicon.cpp

5.32 Wall Class Reference

Inheritance diagram for Wall:



Public Attributes

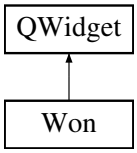
- QPixmap ∗ **icon**

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

- wall.h
- wall.cpp

5.33 Won Class Reference

Inheritance diagram for Won:



Public Member Functions

- Won (QWidget ∗parent)

  Setting the win pop up window content.
- Won (int, int)

5.33.1 Constructor & Destructor Documentation

5.33.1.1 Won::Won (int *level,* int *lives*)

<If level is 8 and user won therefore he would have the entire game.

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

- won.h
- won.cpp

Chapter 6

File Documentation

6.1 boat.cpp File Reference

Contains Popeye class definition.

```
#include "boat.h"
```

6.1.1 Detailed Description

Contains Popeye class definition.

Author

Camille Farhat & Ali Haidoura

6.2 boat.h File Reference

contains boat class definition

```
#include <QObject>
#include <QGraphicsPixmapItem>
```

Classes

- class boat

6.2.1 Detailed Description

contains boat class definition

Author

Camille Farhat & Ali Haidar

6.3 bug.cpp File Reference

contains Bug class definitions

```
#include "bug.h"
#include "tester.h"
#include "minibug.h"
#include <QTransform>
```

6.3.1 Detailed Description

contains Bug class definitions

Author

Ali Al Akbar Haidoura

6.4 bug.h File Reference

QGraphicsPixmapItem representing the bugs.

```
#include <QGraphicsPixmapItem>
#include <QTimer>
```

Classes

- class Bug

6.4.1 Detailed Description

QGraphicsPixmapItem representing the bugs. Bug objects move horizentally, shoot at the player when in sight also contains collision logic

Author

Ali Al Akbar Haidoura

6.5 bullet.cpp File Reference

contains Bullet class definitions

```
#include "bullet.h"
#include "wall.h"
#include "bug.h"
#include "minibug.h"
#include <QTransform>
```

6.5.1 Detailed Description

contains Bullet class definitions

Author

Ali Al Akbar Haidoura

6.6 bullet.h File Reference

QGraphicsPixmapItem representing the bullets.

```
#include <QGraphicsPixmapItem>
#include <QTimer>
#include <QDebug>
#include "game2scene.h"
```

Classes

- class Bullet

6.6.1 Detailed Description

QGraphicsPixmapItem representing the bullets.

Author

Ali Al Akbar Haidoura

6.7 coffeecup.cpp File Reference

Contains CoffeeCup Class definitions.

```
#include "coffeecup.h"
```

6.7.1 Detailed Description

Contains CoffeeCup Class definitions.

Author

Ali Al Akbar Haidoura

6.8 coffeecup.h File Reference

QGraphicsPixmapItem representing the Coffee Cup.

```
#include <QGraphicsPixmapItem>
```

Classes

- class CoffeeCup

6.8.1 Detailed Description

QGraphicsPixmapItem representing the Coffee Cup.

Author

Ali Al Akbar Haidoura

6.9 game1scene.cpp File Reference

contains Game1's class definition

```
#include <QObject>
#include <QGraphicsPixmapItem>
#include <QGraphicsScene>
#include <QtEvents>
#include <QTimer>
#include "popeye.h"
#include "locks.h"
#include "game1scene.h"
#include "gameswidget.h"
#include "gameover.h"
```

6.9.1 Detailed Description

contains Game1's class definition This is the scene where we see Popeye, Olive and the locks. Each time time popeye passes a level, the corresponding lock is hiden and popeye's position is updated. The let's Go Button is the button that lunches the user to the corresponding level.

Author

Camille Farhat & Ali Haidoura

6.10 game1scene.h File Reference

The Game's scene.

```
#include <QObject>
#include <QGraphicsScene>
#include <QGraphicsPixmapItem>
#include <QtEvents>
#include <QTimer>
#include <QtWidgets>
#include "popeye.h"
#include "locks.h"
#include "levelsscene.h"
```

Classes

- class game1scene

6.10.1 Detailed Description

The Game's scene. This is the header file for our first game's scene. It publicly inherits from QGraphicsScene.

6.11 game2scene.cpp File Reference

Contains Game2Scene Class definitions.

```
#include "game2scene.h"
#include "levelparser.h"
#include "bug.h"
#include "wall.h"
#include "coffeecup.h"
#include "qualitycontrolicon.h"
#include "testingicon.h"
#include "shield.h"
#include "bullet.h"
#include <QDebug>
#include <QGraphicsItem>
```

6.11.1 Detailed Description

Contains Game2Scene Class definitions.

Author

Ali Al Akbar Haidoura

6.12 game2scene.h File Reference

The scene in which all the logic and items of Game2 are located.

```
#include <QGraphicsScene>
#include <QGraphicsView>
#include <QTimer>
#include <QLabel>
#include <QPushButton>
#include "tester.h"
#include "qualitycontrolicon.h"
#include "lifecounter.h"
#include "testingicon.h"
#include "bug.h"
```

Classes

- class Game2Scene

6.12.1 Detailed Description

The scene in which all the logic and items of Game2 are located.

Author

Ali Al Akbar Haidoura

6.13 gameswidget.cpp File Reference

contains Game1-2 Links

```
#include <QtWidgets>
#include <QObject>
#include <QPixmap>
#include <QGraphicsItem>
#include <QGraphicsPixmapItem>
#include <QGraphicsScene>
#include <QGraphicsView>
#include <QApplication>
#include <QDir>
#include "game1scene.h"
#include "gameswidget.h"
#include "levelparser.h"
```

6.13.1 Detailed Description

contains Game1-2 Links

Author

Camille Farhat & Ali Haidoura

6.14 hints.cpp File Reference

Shows the appropriate hints in a pop up window.

```
#include "hints.h"
#include "levels.h"
#include <QLabel>
#include <QVBoxLayout>
```

6.14.1 Detailed Description

Shows the appropriate hints in a pop up window.

Author

Camille Farhat & Ali Haidoura

6.15 hints.h File Reference

The Level's scene's Hints.

```
#include <QWidget>
```

Classes

- class hints

6.15.1 Detailed Description

The Level's scene's Hints. Pop up window that will display the hints.

6.16 instruction.cpp File Reference

Shows the initial instructions to start the game in a pop up window.

```
#include "instruction.h"
#include <QLabel>
#include <QLayout>
```

6.16.1 Detailed Description

Shows the initial instructions to start the game in a pop up window.

Author

Camille Farhat & Ali Haidoura

6.17 instruction.h File Reference

The Level's scene's levels pop up used for displaying instructions.

```
#include <QWidget>
```

Classes

- class instruction

6.17.1 Detailed Description

The Level's scene's levels pop up used for displaying instructions. Pop up window that will display the Initial Instructions before starting the Game.

6.18 levelparser.cpp File Reference

Contains LevelParser Class definitions.

```
#include "levelparser.h"
#include <QDebug>
#include <bug.h>
#include "wall.h"
#include "tester.h"
#include "testingicon.h"
#include "shield.h"
#include "coffeecup.h"
#include "qualitycontrolicon.h"
```

6.18.1 Detailed Description

Contains LevelParser Class definitions.

Author

Ali Al Akbar Haidoura

6.19 levelparser.h File Reference

Parses the game2 levels from the text files.

```
#include <QString>
#include <QDir>
#include "game2scene.h"
```

Classes

- class LevelParser

6.19.1 Detailed Description

Parses the game2 levels from the text files.

Author

Ali Al Akbar Haidoura

6.20 levels.cpp File Reference

Setting up the different specs for each level to load them dynamically everytime a user starts a level.

```
#include "levels.h"
```

6.20.1 Detailed Description

Setting up the different specs for each level to load them dynamically everytime a user starts a level.

Author

Camille Farhat & Ali Haidoura

6.21 levels.h File Reference

The Level Object.

```
#include <QWidget>
#include <QString>
#include <QTimer>
#include <QtWidgets>
#include <QObject>
#include "spinach.h"
#include "popeye.h"
```

Classes

- class levels

6.21.1 Detailed Description

The Level Object. Creating a Level Object that will be passed to every scene to load the respective level.

6.22 levelsscene.cpp File Reference

Contains Game1's class definition.

```
#include "levelsscene.h"
#include "levels.h"
#include "hints.h"
#include "lost.h"
#include "won.h"
#include "instruction.h"
#include "boat.h"
```

6.22.1 Detailed Description

Contains Game1's class definition. This file is creating the enviorment of our game. Setting everything from background image to the timer, popeye, the spinach cans, the boat and the river obstacles and other level-specific specifications. The user will be writing code into the text editor. This code will be chekcked and popeye will move accordingly.

Author

Camille Farhat & Ali Haidoura

6.23 lifecounter.cpp File Reference

Contains LifeCounter Class definitions.

```
#include "lifecounter.h"
```

6.23.1 Detailed Description

Contains LifeCounter Class definitions.

Author

Ali Al Akbar Haidoura

6.24 lifecounter.h File Reference

QGraphicsPixmapItem representing.

```
#include <QGraphicsPixmapItem>
```

Classes

- class LifeCounter

6.24.1 Detailed Description

QGraphicsPixmapItem representing.

Author

Ali Al Akbar Haidoura

6.25 locks.cpp File Reference

Contains Lock class definition.

```
#include "locks.h"
#include <QGraphicsPixmapItem>
```

6.25.1 Detailed Description

Contains Lock class definition.

Author

Camille Farhat & Ali Haidar

6.26 locks.h File Reference

Contains Lock class definition.

```
#include <QWidget>
#include <QGraphicsPixmapItem>
#include <QObject>
```

Classes

- class locks

6.26.1 Detailed Description

Contains Lock class definition.

Author

Camille Farhat & Ali Haidar

6.27 lost.cpp File Reference

Shows the appropriate loose message in a pop up window.

```
#include "lost.h"
#include <QLabel>
#include <QVBoxLayout>
```

6.27.1 Detailed Description

Shows the appropriate loose message in a pop up window.

Author

Camille Farhat & Ali Haidoura

6.28 lost.h File Reference

The Level's scene's loose pop up.

```
#include <QWidget>
```

Classes

- class lost

6.28.1 Detailed Description

The Level's scene's loose pop up. Pop up window that will display the number of lifes remaining and that the player lost.

6.29 minibug.cpp File Reference

Contains miniBug Class definitions.

```
#include "minibug.h"
#include "bullet.h"
```

6.29.1 Detailed Description

Contains miniBug Class definitions.

Author

Ali Al Akbar Haidoura

6.30 popeye.cpp File Reference

Contains Popeye class definition.

```
#include "popeye.h"
```

6.30.1 Detailed Description

Contains Popeye class definition.

Author

Camille Farhat & Ali Haidoura

6.31 popeye.h File Reference

Contains Popeye class definition.

```
#include <QObject>
#include <QGraphicsPixmapItem>
```

Classes

- class Popeye

6.31.1 Detailed Description

Contains Popeye class definition.

Author

Camille Farhat & Ali Haidar

6.32 qualitycontrolicon.cpp File Reference

Contains QualityControlIcon Class definitions.

```
#include "qualitycontrolicon.h"
```

6.32.1 Detailed Description

Contains QualityControlIcon Class definitions.

Author

Ali Al Akbar Haidoura

6.33 qualitycontrolicon.h File Reference

QGraphicsPixmapItem representing the quality control icon.

```
#include <QGraphicsPixmapItem>
```

Classes

- class QualityControlIcon

6.33.1 Detailed Description

QGraphicsPixmapItem representing the quality control icon.

Author

Ali Al Akbar Haidoura

6.34 river.cpp File Reference

Contains river class definition.

```
#include "river.h"
#include <QGraphicsPixmapItem>
```

6.34.1 Detailed Description

Contains river class definition.

Author

Camille Farhat & Ali Haidoura

6.35 river.h File Reference

Contains Popeye class definition.

```
#include <QObject>
#include <QGraphicsPixmapItem>
```

Classes

- class river

6.35.1 Detailed Description

Contains Popeye class definition.

Author

Camille Farhat & Ali Haidar

6.36 riverobstacle.cpp File Reference

Contains River Obstacle class definition.

```
#include "riverobstacle.h"
#include <QGraphicsPixmapItem>
```

6.36.1 Detailed Description

Contains River Obstacle class definition.

Author

Camille Farhat & Ali Haidar

6.37 riverobstacle.h File Reference

Contains River Obstacle class definition.

```
#include <QObject>
#include <QGraphicsPixmapItem>
```

Classes

- class riverObstacle

6.37.1 Detailed Description

Contains River Obstacle class definition.

Author

Camille Farhat & Ali Haidar

6.38 rock.cpp File Reference

contains rock class definition

```
#include "rock.h"
#include <QGraphicsPixmapItem>
```

6.38.1 Detailed Description

contains rock class definition

Author

Camille Farhat & Ali Haidoura

6.39 rock.h File Reference

contains rock class definition

```
#include <QObject>
#include <QGraphicsPixmapItem>
```

Classes

- class rock

6.39.1 Detailed Description

contains rock class definition

Author

Camille Farhat & Ali Haidar

6.40 shield.cpp File Reference

Contains shield Class definitions.

```
#include "shield.h"
```

6.40.1 Detailed Description

Contains shield Class definitions.

Author

Ali Al Akbar Haidoura

6.41 shield.h File Reference

QGraphicsPixmapItem representing the shield icon.

```
#include <QGraphicsPixmapItem>
```

Classes

- class Shield

6.41.1 Detailed Description

QGraphicsPixmapItem representing the shield icon.

Author

Ali Al Akbar Haidoura

6.42 signinwidget.h File Reference

User sign in widget.

```
#include <QWidget>
#include <QtWidgets>
#include <QObject>
#include <QDir>
#include <QFileDialog>
#include <iostream>
#include <QFile>
#include <fstream>
```

Classes

- class signInWidget

6.42.1 Detailed Description

User sign in widget. This is the header file for our the sign in widget where the user enters his username and password to Log in

6.43 signupwidget.h File Reference

User sign up widget.

```
#include "logonwidget.h"
#include <QWidget>
#include <QtWidgets>
#include <fstream>
#include <QFileInfo>
#include <QCalendarWidget>
```

Classes

- class SignUpWidget

6.43.1 Detailed Description

User sign up widget. This is the header file for our the sign up widget where the user enters his information before signing in

6.44 smallriver.cpp File Reference

contains Small River class definition

```
#include "smallriver.h"
#include <QGraphicsPixmapItem>
```

6.44.1 Detailed Description

contains Small River class definition

Author

Camille Farhat & Ali Haidoura

6.45 smallriver.h File Reference

contains Small River class definition

```
#include <QObject>
#include <QGraphicsPixmapItem>
```

Classes

- class smallRiver

6.45.1 Detailed Description

contains Small River class definition

Author

Camille Farhat & Ali Haidar

6.46 spinach.cpp File Reference

Contains Spinach class definition.

```
#include "spinach.h"
#include <QObject>
```

6.46.1 Detailed Description

Contains Spinach class definition.

Author

Camille Farhat & Ali Haidoura

6.47 spinach.h File Reference

Contains Spinach class definition.

```
#include <QObject>
#include <QGraphicsPixmapItem>
```

Classes

- class spinach

6.47.1 Detailed Description

Contains Spinach class definition.

Author

Camille Farhat & Ali Haidar

6.48 tester.cpp File Reference

Contains tester Class definitions.

```
#include "tester.h"
#include <QTimer>
```

6.48.1 Detailed Description

Contains tester Class definitions.

Author

Ali Al Akbar Haidoura

6.49 tester.h File Reference

QGraphicsPixmapItem representing the Tester character.

```
#include <QGraphicsPixmapItem>
#include <QKeyEvent>
#include <QObject>
#include <QTimer>
```

Classes

- class Tester

6.49.1 Detailed Description

QGraphicsPixmapItem representing the Tester character.

Author

Ali Al Akbar Haidoura

6.50 testingicon.cpp File Reference

Contains testingIcon Class definitions.

```
#include "testingicon.h"
```

6.50.1 Detailed Description

Contains testingIcon Class definitions.

Author

Ali Al Akbar Haidoura

6.51 testingicon.h File Reference

QGraphicsPixmapItem representing the testingIcon.

```
#include <QGraphicsPixmapItem>
#include <QTimer>
#include <QObject>
```

Classes

- class TestingIcon

6.51.1 Detailed Description

QGraphicsPixmapItem representing the testingIcon.

Author

Ali Al Akbar Haidoura

6.52 won.cpp File Reference

Shows the appropriate win message in a pop up window.

```
#include "won.h"
#include <QLabel>
#include <QLayout>
```

6.52.1 Detailed Description

Shows the appropriate win message in a pop up window.

Author

Camille Farhat & Ali Haidoura

6.53 won.h File Reference

Shows the appropriate win message in a pop up window.

```
#include <QWidget>
```

Classes

- class Won

6.53.1 Detailed Description

Shows the appropriate win message in a pop up window.

Author

Camille Farhat & Ali Haidar