

Virginia Tech
Bradley Department of Electrical and Computer Engineering
ECE-3574: Applied Software Engineering * Fall 2012

Homework 4

Submission Details

You must submit the solutions for this homework as an electronic submissions using Scholar (under ECE3574 → Assignments → Homework 4). The submission must be a gzipped tar file (.tar.gz) with your source code. Include all necessary project files, but no binary or compiled files. Your program will be run to evaluate its correctness, and the source code will be reviewed for adherence to the Qt programming style. Your program must run on Ubuntu 12.04 and compile/build using the GNU C/C++ compiler and the qmake/make tools. The following information must be included at the top of each of your source files as comments: your full name, your student ID number, your email address, class (ECE 3574), and the title of the assignment (Homework 4). The submitted file must be given a name in the following form:

LAST_FIRST_hw4.tar.gz where LAST is your last or family name and FIRST is your first or given name. You are only allowed to make one submission. Paper, email or Drop Box submissions will not be accepted. All work must be submitted by the announced due date/time. **Late submissions will not be accepted!** (Don't do it! You have been warned!)

Questions

Use the Homework 4 forum in the Discussion Board area of the class web site to ask questions about this assignment. Do not post questions that contain specific information about the solution.

Honor Code

As stated in the syllabus, in working on homework and projects, discussion and cooperative learning are allowed. However, copying or otherwise using another person's detailed solutions to assigned problems is an honor code violation. See syllabus for details.

Homework:

The First Graphical Application

Write an application, which has four buttons (QPushButton) and a text edit box (QTextEdit) as shown in Fig 1.1

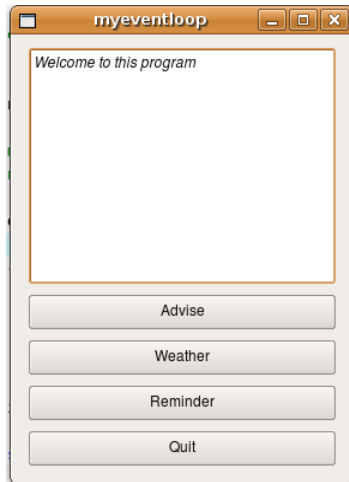


Fig 1.1

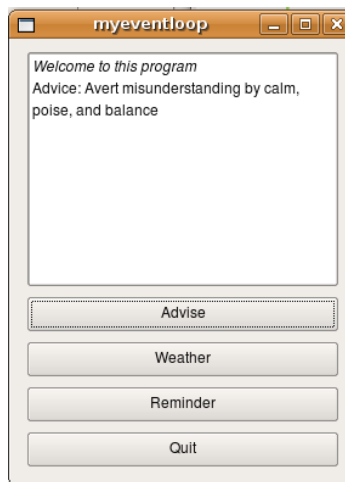


Fig 1.2



Fig 1.3

- The first button should be labeled “Advise”. It should select a random piece of text (e.g., a fortune cookie) from a file named “advice.dat” and append the contents to the QTextEdit window as shown in Fig 1.2. The word “Advice” should be prefixed at the beginning of the text.
- The second button should be labeled “Weather”. It should select a random sentence about the weather from a file named “weather.dat” and append the contents to the QTextEdit window as shown in Fig 1.3. The word “Weather” should be prefixed at the beginning of the text.
- The third button should be labeled “Reminder”. It should pop up a message dialog with a randomly generated (fictitious) meeting time and descriptive message from a file named “reminder.dat” as shown in Fig 1.4

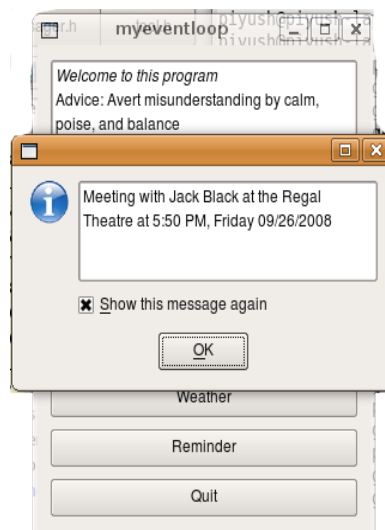


Fig 1.4

The pop-up window for the Reminder button should also have a checkbox which by default is marked. When the checkbox is not marked it should no bring up the current reminder again until the next time the program is run.

d) The fourth button should be labeled “Quit”. It should pop up a dialog box that asks the user to respond whether he or she really wants to quit the program. If the user selects yes, it should terminate the program. Otherwise it should close the dialog box and return to the program, as shown in Fig 1.5.

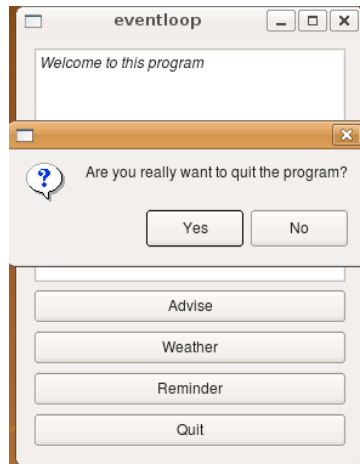


Fig 1.5

NOTE

1. You must use signals and slots to connect the button clicks with the appropriate functions
2. You must not use the “sender” function (inside a slot) to identify the source of the signals from the button clicks. Use the QSignalMapper instead.
3. You must not use a graphical form editor like Qt Designer for this homework. You need to write all the code yourself.
4. The format of the files are: generally, one sentence/message per line. However, messages can span on multiple lines by having a \ (backslash) as the last non-whitespace character on each line in the file, except the last line. In other words, the trailing backslash character denotes the current message continues on the next line.
5. Pop-up windows must be modal. While a pop-up is displayed if the user presses a button in the main window it will not affect the state of the program.

Grade breakdown

The main window	30
Advise button	15
Weather button	15
Reminder button	20
Quit button	10
Style	10