

User manual

The user's manual consists of two parts: the teacher's manual and the student's manual. To avoid redundancy, the teachers are encouraged to refer to the student's manual to see how the system would work from the student's point of view.

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Teacher's manual

Introduction

ReQuiz is a network-based system that tests students on their knowledge of regular expression syntax with automatically-generated questions. It consists of two parts: the server, which is installed and ran on the teacher's computer, and the client which is run on every student's computer.

System requirements

The minimum requirements to run ReQuiz are as follows:

- Processor with clock frequency at least 1 GHz
- 256 MB operating memory
- Windows XP, Windows Vista. Windows 7 or Windows 8
- 1 MB free disk space
- Network card
- Keyboard
- Mouse
- .NET Framework version 4.0 (<http://www.microsoft.com/download/en/details.aspx?id=17851>)

Installation

ReQuiz system consists of 3 files: ReQuizClient.exe, ReQuizServer.exe and ReQuizCommon.dll. The .NET Framework 4 must also be installed for ReQuiz to work. You only need to perform the installation procedure once.

- Using Windows Explorer, navigate to the folder the ReQuiz installation files are in.
- Using Shift+Click, select files **ReQuizServer.exe** and **ReQuizCommon.dll**.
- Right click and click Copy in the menu that opens.
- Navigate to the folder you want to install ReQuiz in, such as My Documents.
- Right click and select Paste in the menu to install ReQuiz.

Usage

The teacher's version (the server) can be launched by double-clicking the ReQuizServer.exe file.

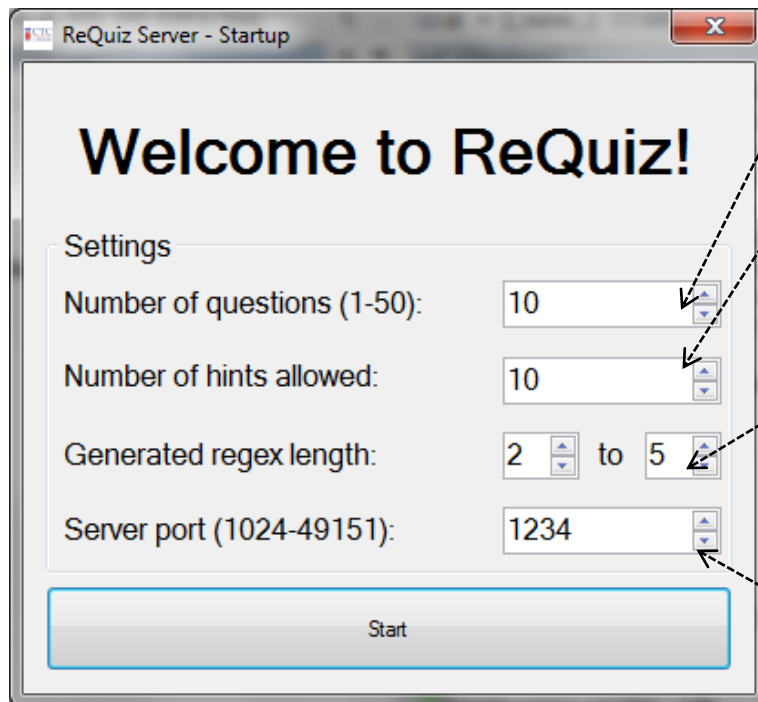
The ReQuiz Server interface is similar to the standard wizard interface you might find in Windows, where sequential forms appear to guide you through an action. You can also hover your mouse cursor over a control to get a hint on what it does.

Also refer to the student's manual to gain knowledge on the students' view of the system and how they would utilize it.

When you launch the system, you will be greeted with the startup screen. You have to use it to set up a new testing session.

Startup screen

The startup screen in Figure 1 allows you to set up the parameters of the generated questions and of the connection.



The screenshot shows the 'ReQuiz Server - Startup' window. It has a title bar with a close button. The main content area has a large 'Welcome to ReQuiz!' heading. Below it is a 'Settings' section with four rows of controls: 'Number of questions (1-50):' with a text box containing '10' and a spin button; 'Number of hints allowed:' with a text box containing '10' and a spin button; 'Generated regex length:' with two spin boxes containing '2' and '5' separated by 'to'; and 'Server port (1024-49151):' with a text box containing '1234' and a spin button. At the bottom is a large 'Start' button.

The amount of questions to be generated. Each student will receive the same set of questions, however, they will be displayed in a random order.

Each question has a hint that a student can use. Usage of a hint penalizes the student by 1 mark. You can set up the number of hints that a student can use here.

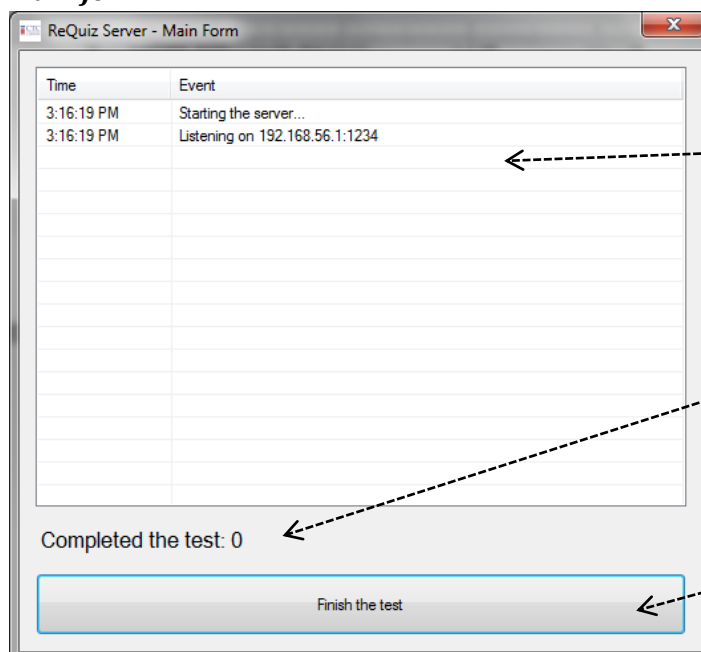
Minimum and maximum length of the randomly generated regular expressions. Due to the nature of the program, the generated regular expressions won't be of the exact specified length, however, this feature can still be used to adjust the difficulty of the quiz.

If unsure, leave at its default value. This is the port on your computer that the server would start in and this value should be changed only in case the default setting doesn't work.

FIGURE 1

After pressing the Start button, the server will start and the main form will appear.

Main form



The screenshot shows the 'ReQuiz Server - Main Form' window. It has a title bar with a close button. The main area contains a table with two columns: 'Time' and 'Event'. The table has two rows of data: '3:16:19 PM' and 'Starting the server...', and '3:16:19 PM' and 'Listening on 192.168.56.1:1234'. Below the table is a label 'Completed the test: 0'. At the bottom is a 'Finish the test' button.

The log of events happening on the server (e.g. user connected, user requested questions)

Number of students that have finished the quiz and submitted their answers

Stops the server and outputs the marks that the students have attained

FIGURE 2

The main form (Figure 2) allows you to control the progress of the testing. When the test starts, tell your students the IP address of the server so that they can connect to it using their clients.

As the test goes, you will see the events that are happening on the server, such as when a student connects (Figure 3).

15:00:57	Inbound connection from 127.0.0.1:53313
15:00:57	127.0.0.1:53313 identified as aiskovs
15:00:57	aiskovs requests the questions
15:00:57	Sent the questions to aiskovs
15:00:57	Closing connection to 127.0.0.1:53313

FIGURE 3

When all students have finished the test, click the Finish the test button. After the confirmation (Figure 4), you will be taken to the Results screen (Figure 5).

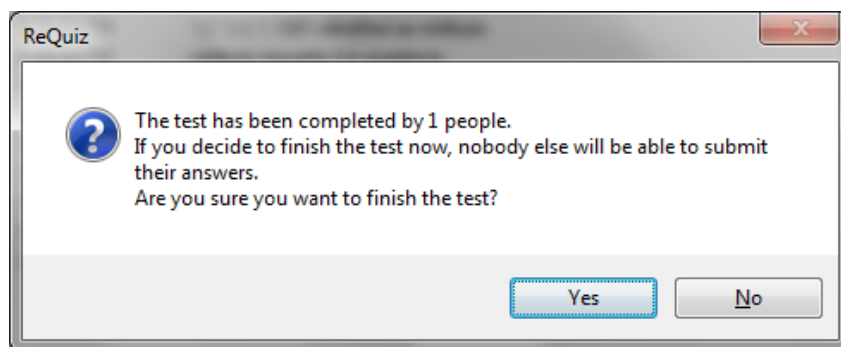


FIGURE 4

Results screen

Username	Hints used	Total Mark
aiskovs	0	2

Shows results of the quiz for every user that participated in it.

Requests the path to save the resultant marks to and saves them there as a CSV file.

Exits the application. Requests confirmation to exit if you have not saved the marks.

FIGURE 5

This screen allows you to view the results of the quiz for every student that has participated in it.

ReQuiz also allows exporting the marks attained in the quiz into a comma-separated value (CSV) file that can be opened in the major spreadsheet programs such as Microsoft Excel or LibreOffice Calc. To do that, click the Export the marks button. A standard Save File dialog (Figure 6) will appear to choose the location to save the file to.

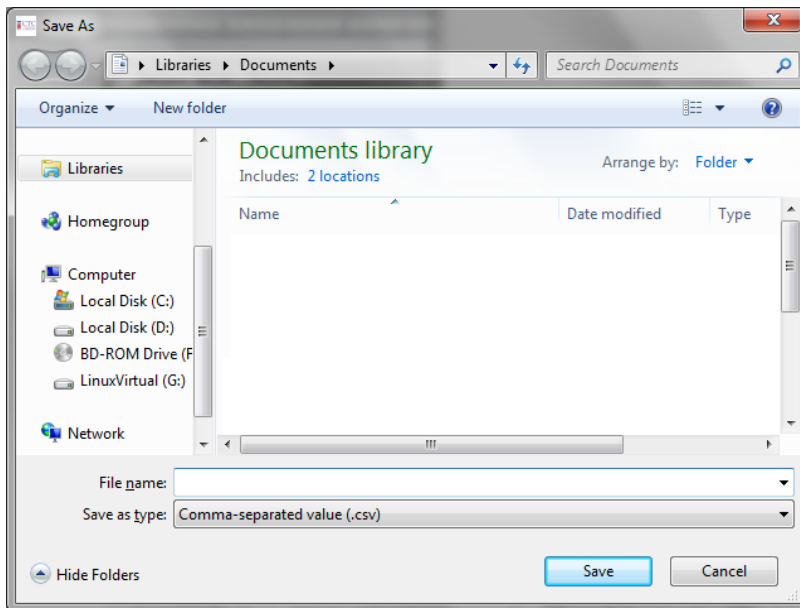


FIGURE 6

Select the location, enter the file name and click Save: this will save the marks into the specified file. The CSV file can then be opened with almost any spreadsheet program for you to perform further analysis on it.

If you try to exit without saving the marks, a dialog will appear to confirm your intentions (

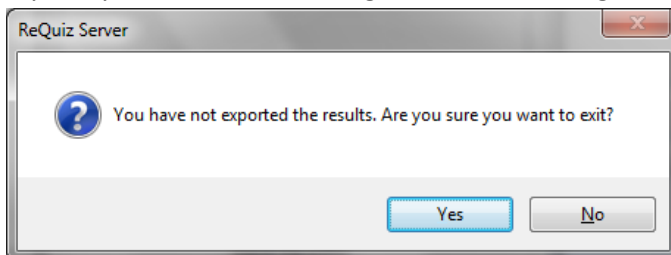


Figure 7).

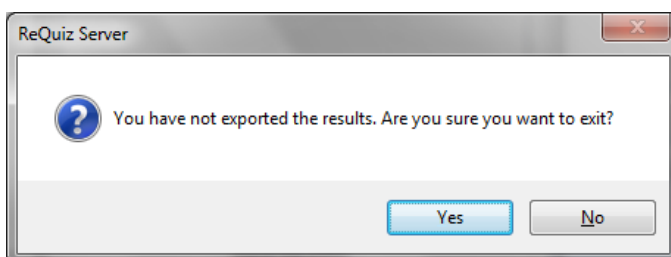


FIGURE 7

Limitations

There are certain features that the ReQuiz server does not currently have:

- Ability to view generated questions and adjust them before starting the testing server
- Change the generated question types/their distribution
- Support for character groups ([A-Z]) in questions

- Large scale usage (>100 people simultaneously)

Troubleshooting and frequently asked questions

1. *“Invalid data received probably due to faulty client version”*

3:33:40 PM	Inbound connection from 127.0.0.1:1987
3:33:47 PM	Invalid data received from 127.0.0.1:1987 probably due to faulty client version
3:33:47 PM	Closing connection to 127.0.0.1:1987

FIGURE 8

This error message can sometimes appear in your log if there was a network failure while the student was submitting answers/receiving questions. This error can also be caused if the data sent to the server does not follow the ReQuiz protocol. Asking the student to try the action again will almost certainly fix the problem.

2. *“...tried to submit the answers again”*

8:31:22 PM	127.0.0.1:53350 identified as aiskovs
8:31:55 PM	aiskovs tried to submit the answers again
8:31:55 PM	Closing connection to 127.0.0.1:53350

FIGURE 9

This message means that the server has detected that a student tried to submit the answers to the quiz again. No penalty would be issued to the student and his/her original results would be the ones that would be kept on the server.

3. *The interface of the startup form changes the number I enter when I move the cursor away from it*

There are certain ranges that the parameters you enter must be in. Entering an invalid number causes the value to revert to the closest allowed:

- Number of questions generated must be between 1 and 50
- Number of hints allowed must be between 0 and the number of questions generated
- Minimum length of regular expression must be between 2 and the maximum length
- Maximum length of regular expression must be between the minimum length and 10
- The port number must be between 1024 and 49151 for technical reasons.

Student's manual

Introduction

ReQuiz is a network-based system that tests students on their knowledge of regular expression syntax with automatically-generated questions. It consists of two parts: the server, which is installed and ran on the teacher's computer, and the client which is run on every student's computer.

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- .NET Framework 4 must be installed for ReQuiz to work. If you are using Windows 7, chances are, you already have it, if not, it can easily be obtained from <http://www.microsoft.com/download/en/details.aspx?id=17851>.
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- Right click and click Copy in the menu that opens.
- Navigate to the folder you want to install ReQuiz in, such as My Documents.
- Right click and select Paste in the menu to install ReQuiz.

The student's version (the client) can be launched by double-clicking the ReQuizClient.exe file.

Usage

ReQuiz has floating hints that can help you in case you don't know what a control does: just hover your cursor over it to make a tip appear.

When you start the program, you will be greeted with the startup screen (Figure 1).

Startup screen

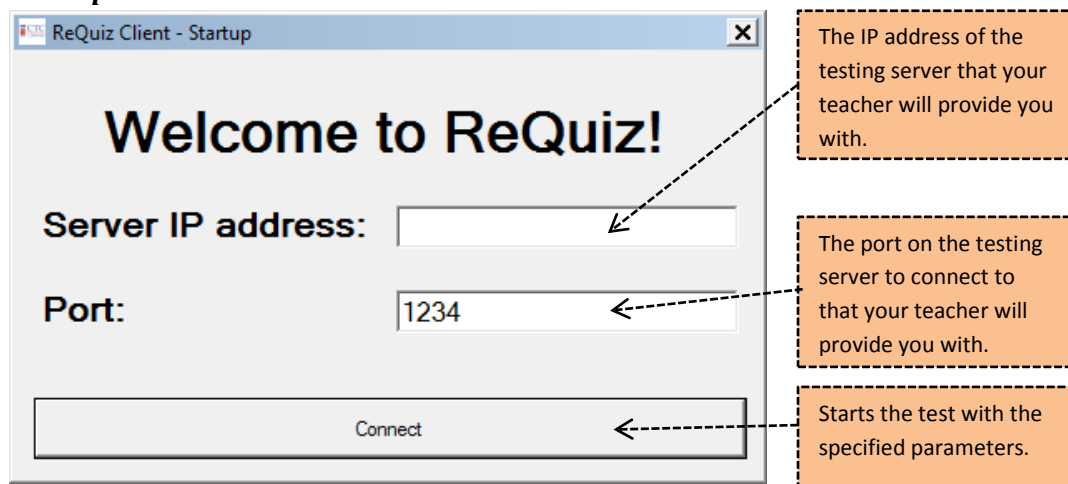


FIGURE 1

Use the screen to enter the connection parameters that your teacher will tell you. Click Connect to start the testing process.

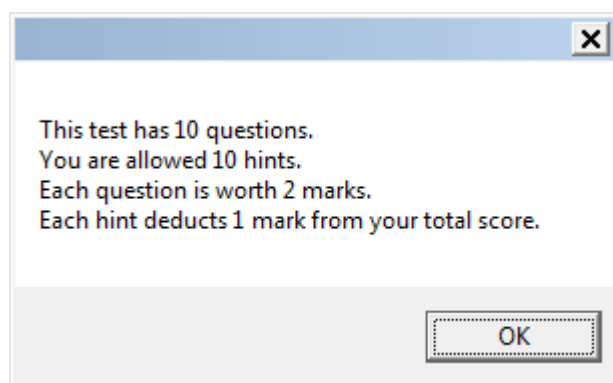
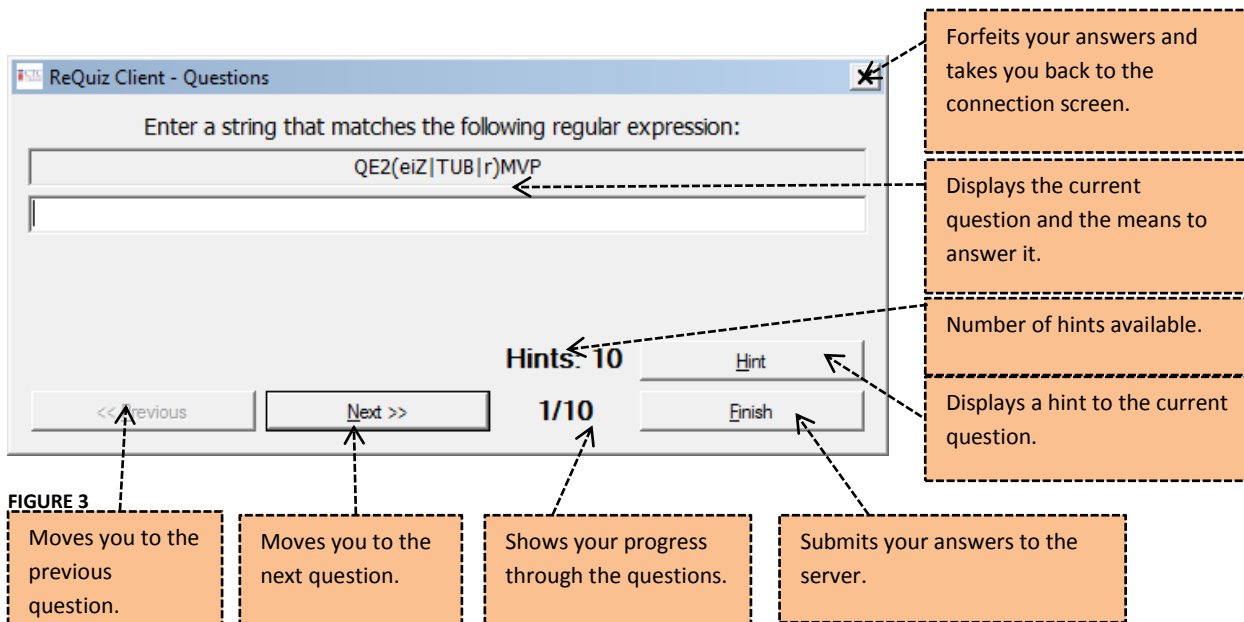


FIGURE 2

After the program fetches the test questions from the server, you will be provided with some short information on the test (Figure 2). Click OK to continue to the actual test.

Questions form

This is the main question screen (Figure 3) that shows your progress through the questions and the number of hints used. Use the graphical interface to answer the question.



To navigate between questions, use the Next or Previous buttons. Keyboard shortcuts are also available: press Enter or Alt+N to go to the next question and Alt+P to go to the previous question.

If you require a hint during the test, click the Hint button or press Alt+H. A confirmation screen will appear (Figure 4). Click Yes and a hint will be shown (Figure 5).

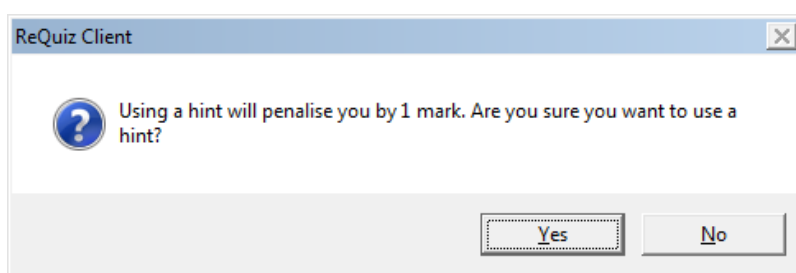


FIGURE 4

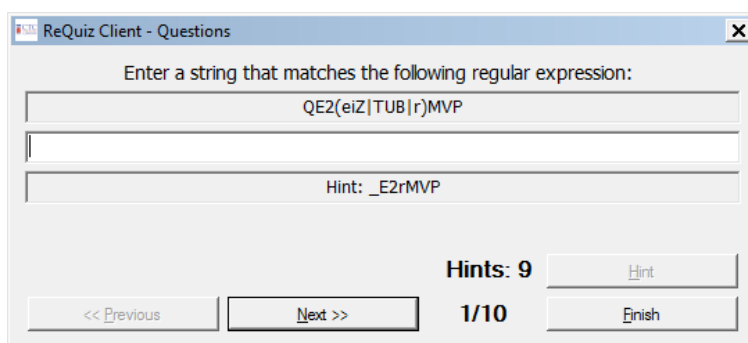
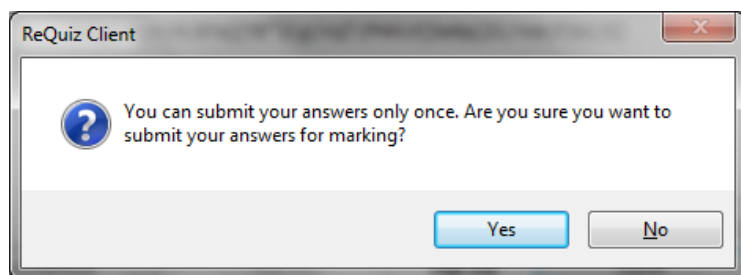


FIGURE 5

The hint will make the question easier but will cost you 1 mark. Use hints sparingly.

After you've completed your test, click the Submit button or press Alt+S. A confirmation screen will appear (Figure 6).

FIGURE 6



Click Yes if you really want to submit your answers. Your answers will be submitted to the server that will mark it, report them to your teacher and show them to you on the results screen (Figure 7).

Results screen

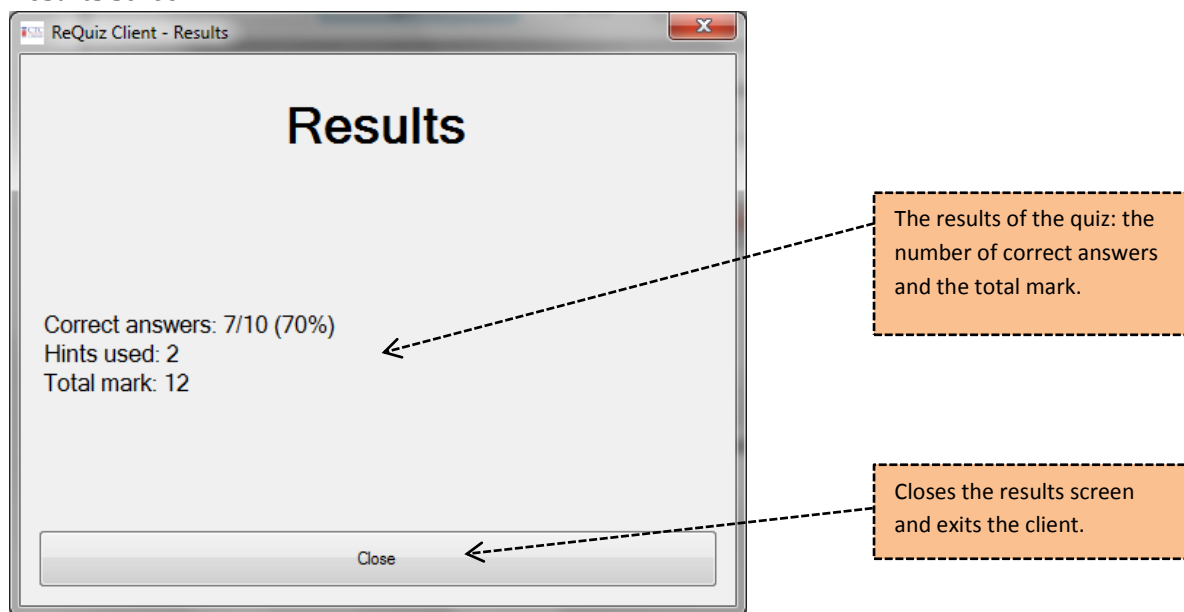


FIGURE 7

Click Close after you have viewed the results to close the form and exit the application.

Please note that you can only submit the answers once – the server will detect it if you try to submit the answers twice and will report this to your teacher (Figure 8).

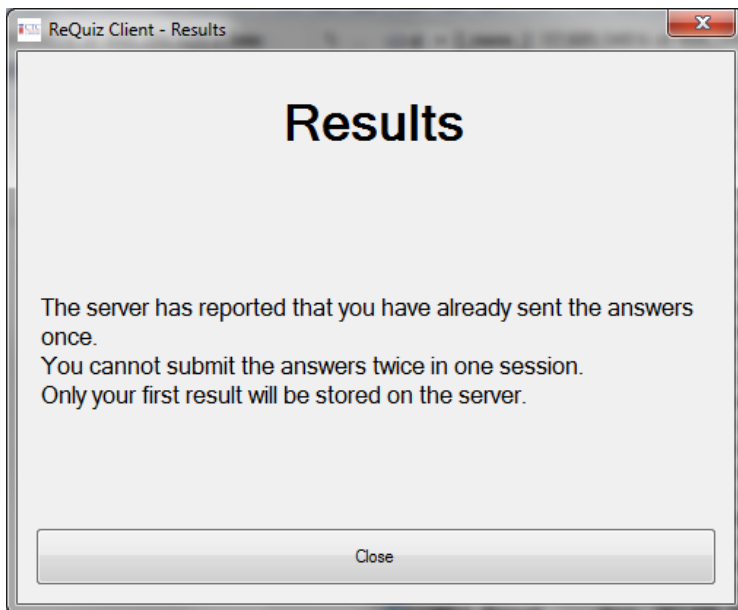


FIGURE 8

Limitations

The current limitations of the ReQuiz client are:

- Does not show which questions were answered right/wrong and the correct answers to them
- Cannot configure font sizes/scale the window

Troubleshooting and frequently asked questions

1. *“You have entered an invalid IP address and/or port”*

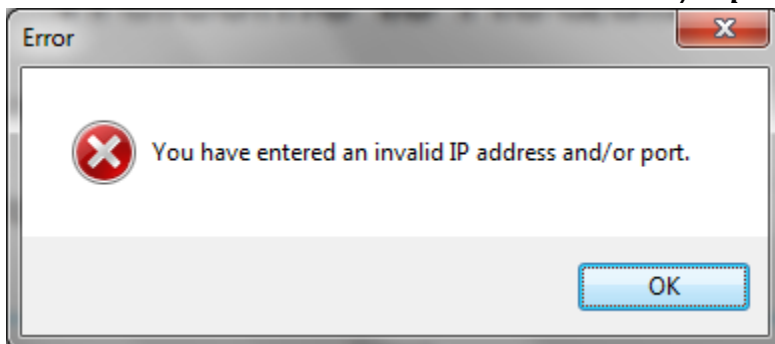


FIGURE 9

This error message appears if you have entered an invalid IP address (e.g. containing non-numeric characters or out-of-range octets). Recheck the port and the IP address entered and make sure you copy it exactly as it was provided by your teacher.

2. “No connection could be made because the target machine actively refused it”

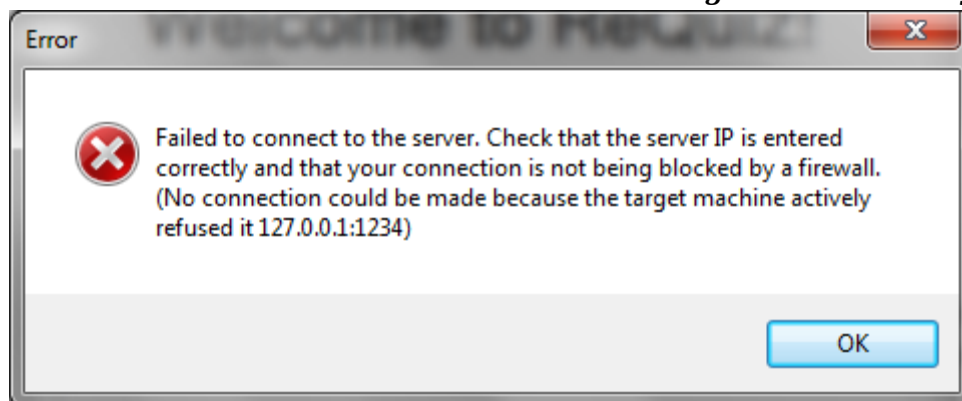


FIGURE 10

This error message appears if ReQuiz can connect to your teacher's computer, but the server is not running on it. Make sure you have entered the correct port and IP address.

3. “Connected host has failed to respond”

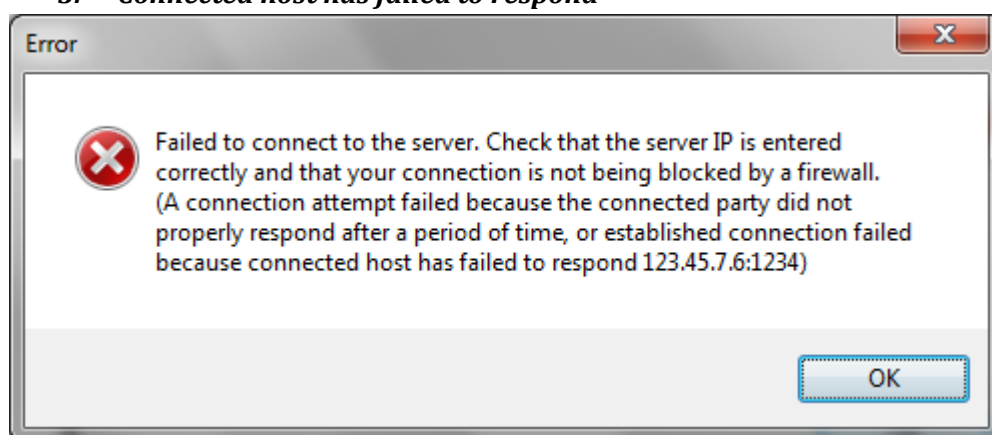


FIGURE 11

This error message appears if ReQuiz cannot reach the IP address you have entered. Re-check the entered IP address. If the problem persists, contact your network administrator, as your connection could be blocked by a firewall.