An-Najah National University

Faculty of Engineering

جامعة النجاح الوطنية

كلية الهندسة

Computer Engineering Department

Computer Networks 1(10636454)

Homework2

Dr. Raed Alqadi

Instructor Name: Dr. Raed Alqadi
Academic Year:2018/2019
Semester: Spring
Credit Hours: 3
Date: April 28

Student Name: Ahmad
Registration Number:
Section: 2
Total Project Mark:
Project +HW Weight: 15%

Student Grades

Part	Description	Points	ILO's		Part Grade
Part 1	Java Peer to Peer chat		2		
Part 2	QT Peer to Peer chat		2		
Student Grade (of 30)					

Project Notes:

1- Submit every part of the Program (Software on time)
2- Use good programming practices and style.
3- Read the specs of the program on the next page carefully.

Project: Network Programming

In this project a TCP client application and a TCP server application to upload/download files. You can write the program either by using Java or C++ QT (Your choice). You can also write one application in Java and the other in QT if you want.

Project Parts (Assignments):

1. **Part 1:** Write a TCP server with GUI shows a list files that are uploaded. A client can download or upload a new file. All clients can see the list o available files. When a file is uploaded or downloaded, it must be broken to packets of maximum size of 1K byte of data. The packet will include a header with type field plus number of bytes sent so far. Types include, REQUEST_UPLOAD, REQUEST_DOWNLOAD, FILE_NAME, DATA, LAST_PACKET. You can add additional fields if needed.
   The Server should show the list of the files uploaded so far in the GUI.
   When a new file is uploaded, it should appear at the List of files uploaded.

2. **Part 2:** Write a TCP client with GUI that shows the list of files currently available the server. The client must perform the following:
   - **a.** Connect to the server.
   - **b.** Get the list of files available at the server and show them on the GUI.
   - **c.** Determine whether the operation is UPLOAD or download and send a request/notification to the server.
   - **d.** If Upload send the file name first in a packet.
   - **e.** If upload it should send the data packets with max size of 1K.
   - **f.** If Download it will receive the packets one at a time.
   - **g.** There last packet should tell the server or client that this is the last packet. Use the type field.