Assignment3 Socket Programming

Socket Programming—File Share P2P

You will implement a simple file share application using TCP Socket APIs. The peers could upload/download files to/from other peers. Functions include but not limited to:

1. Implement C/S model
    1) Server listens to a given port (>1024, e.g. 2680)
    2) The client initiates a TCP connection to the server (hostname or IP address of the server as the input, default port numbers e.g. 2680)
    3) The client send a request to download a file/text.
    4) The server respond with the file/text.
    5) The client save the file to local directory.
    6) Repeat step 3) 4) 5) until 'Esc' is pressed, client tear down the TCP connection.
2. (optional) Implement P2P model. Each peer implements both client and server thread.
3. UI design is very flexible. Please concentrate on the Socket API programming instead of time-consuming UI.

Language recommended: Java or C/C++.

Note:

1. For Socket Programming, please refer to textbook section 2.7 and 2.8.
2. For C/C++ programmers, the Winsock tutorial can be found at: http://msdn.microsoft.com/en-us/library/windows/desktop/ms740673(v=vs.85).aspx
3. For java programmers, the java Socket API tutorial can be found at: http://docs.oracle.com/javase/7/docs/api/java/net/Socket.html

Submission:

1. Please submit to ftp://lpshen:public@public.sjtu.edu.cn/upload/assign3
2. Due date: 24:00 31 March. 2016
3. Filename: assign3-xxxxxxxxxx.zip/rar(xxxxxxxxxx is your student ID) including source codes, compiled runnable files and a simple report.
4. The report at least includes:
    - ✓ File list and description.
    - ✓ How to run the application.
    - ✓ Problems and experiences (troubleshooting experiences, comments and suggestion for the project or lectures are welcome)
5. Any questions please send email to TA Mr. Wang wqsdot7public@163.com