

SWE2007-42: Software Experiment2 (Fall 2018)

Programming Assignment #4

Due: Dec. 20th, PM 23:59

1. Purpose

The purpose of the 4th assignment is making programs such as File Transfer application, which are able to transfer a file between Client & Server and show Existing File List of Sever on a path to Client (Supporting Functions 'cd' or 'ls'). The scope of the program is described as following "2. Scope and Rating".

2. Scope and Rating (you can include any standard header files that you want but should not use "exec" system call family - if use those, you get no point)

- A) There are one Server and one Client.
- B) Using TCP Socket, be able to connect a Client to the Server (e.g. IP: 127.0.0.1, Port: 10000).
- C) [10 Pts] If establishing the connection on success, print a message "Connection Success" at terminal windows of Client and Server.
- D) [20 Pts] Client supports 'ls' function at Server. In initial connection, the initial path should be 'home' directory.
- E) [20 Pts] Client supports 'cd' function at Server. And print "current directory (path)".

Server Terminal Window	Client Terminal Window (~/.home/dodo)
<pre>\$./server 10000 [[Server Starting]] [[Connection Success]]</pre>	<pre>\$./client 127.0.0.1 10000 [[Client Starting]] [[Connection Success]] Server Current Directory: ~/.home\$ > cd mkris Server Current Directory: ~/.home/mkris\$ > ls [[ls Result]] Youngsoek_Genius Youngseok_Smart handsome.c Server Current Directory: ~/.home/mkris\$ ></pre>

- F) [25 Pts] Client is able to send a file from Client to Server and save the file on a directory of Server, which you want. (e.g. send [Sending file name including full path] [Receiving full path])

Server Terminal Window	Client Terminal Window (~/.home/dodo)
<pre>[[File Receiving Start]] [[File Receiving Finishing]]</pre>	<pre>Server Current Directory: /home/mkris\$ > send ~/.home/dodo/cute.c ~/.home/mkris [[File Sending Start]] [[File Sending Finishing]] > ls [[ls Result]] Youngsoek_Genius Youngseok_Smart handsome.c cute.c Server Current Directory: ~/.home/mkris\$ ></pre>

G) **[25 Pts]** Client is able to receive a file from Server to Client and save the file on a directory of Client, which you want (e.g. receive [Sending file name including full path] [Receiving full path])

Server Terminal Window	Client Terminal Window (~/home/dodo)
[[File Sending Start]] [[File Sending Finishing]]	> receive ~/home/mkris/handsome.c ~/home/dodo [[File Receiving Start]] [[File Receiving Finishing]] > receive ~/home/mkris/dodo_handsome.c ~/home/dodo [[The file not existing]] >

3. Penalty

- ✓ 15 points deducted per day. After 3 days, you will get 0 point.
- ✓ You should submit source code files (**Server named "server.c", Client named "client.c"**) on i-campus. **Otherwise, you will get -30 points**
- ✓ The source code should be compiled successfully (compile option: "-Wall -W"). Otherwise, you will get 0 point.

※ In this class, there will be assignments the instead of tests (mid-term and final-term). Thereby, the assignments are very important and the question of program implementation issues would be not accepted.