CCSE 5462: Lab6 (100 points)
TicTacToe – MultiPlayer – Bad Net
Demo in class or by appointment: March 16
Electronic Code Submit Deadline: 9pm, March 16

Important: You should work in teams of 2 for this lab. See me if you can't find a partner.

We will demo in class or in lab. For in class demos, we will go around the room. Be prepared to demo at the start of class. The submitted code will be used only to verify that you did not copy from others, to compile and re-run your program, to make sure you were indeed demonstrating your own code, and to grade for documentation of your code. You may be asked to connect your client/server to a client/server from another pair of students!
   • For socket programming use can either use the CSE linux system (csegrid) or your own machines. For your own machines, demo can be done in classroom.

In this lab, you will take Lab 5 and enhance it to handle 2 different network issues:
   • Lost packets
   • Duplicate packets
You will modify the tictactoeServer and the Client so that:
   • They handle the case where a packet that is received is a duplicate of a previous move
   • They resend packets/moves when they haven't received a move in 'n' seconds (assume the network lost the packet)
   •
The command line parameter to run the tictactoeServer program are:
        • portnumber that the programs will communicate on,
The command line parameters to run the tictactoeClient program are:
        • portnumber that the programs will communicate on,
        • ip address of player 1

You must run your program through troll. There is a lecture/video on how to set this up.

Submit well-documented and well indented code along with a README file explaining how to run the program. You must also submit a makefile. Submit it using GitHub, in a subdirectory called Lab6

The format of what is sent between client/server is to be defined in class.

The grading rubric is as follows:
   1. Program correctness and robustness: 70% – it has to work to get these points
   2. Coding style (e.g., comments, indentations): 20%
   3. Documentation (the README file) and design document 10%

What you should get from this lab?

Tools:

- More socket timeout work (setsockopt())

Concepts:

- How to handle duplicates and lost packets in your code
- How to know when a packet might have been lost (think back to 3761 class)