Assignment #8 - Two Unique Servers (Updated version)

Assignment Due Date, Time, and Format

This assignment is due in two increments. The first increment is due on Saturday, April 16th, before midnight. The second increment is due on Sunday, April 24th, before midnight. Submit a single zip file for each increment. For the first increment, the zip file should contain your C source code files and header files. For the second increment, the zip file should contain your C source code files, header files, a readme.txt file, and possibly a makefile. Do not submit any other files.

For the first increment, name your zip file JonesSmith7.zip, where "Jones" and "Smith" are your last names and "7" is the assignment number. Submit the zip file by way of the COSC 4653 Assignment #7 link on Blackboard.

For the second increment, name your zip file JonesSmith8.zip, where "Jones" and "Smith" are your last names and "8" is the assignment number. Submit the zip file by way of the COSC 4653 Assignment #8 link on Blackboard.

Your C programs should compile, link and run with no error messages.

This is an individual or partner assignment. Do not exchange your solution with other students who are not in your partnership. For a partner assignment, only one partner needs to submit the zip file to Blackboard, but both partners are responsible for submitting the file on time.

Assignment Objectives

- Practice implementing an application involving multiple homogeneous clients and two heterogeneous (unique) servers
- Perform the network communication using either TCP or UDP packets

Assignment Summary

In this assignment you shall develop a set of three programs in C that

comprise an application involving one or more homogeneous client programs and two heterogeneous server programs, with each running on separate computers. The server programs will each satisfy a separate set of requirements, and will each be used by a client or the other server. Before starting your design and implementation, meet with the instructor to get his approval for your ideas.

In the first increment, implement enough of the application (for all three programs) so that all architectural elements are complete (modules, user-defined header files, type definitions, global data structures, and user-defined function prototypes) and the three programs (the client and the two servers) are able to initialize themselves but need not perform any network communication yet.

In the second (final) increment, implement the remaining requirements for the application. Also, create a readme.txt file. The section below describes the format of that file.

Plan to perform a demonstration of your application on Tuesday, April 26th, in class.

Format of your readme.txt File

Put the numbers and the field names shown below into your readme.txt file along with your specific information for that field.

1. STUDENT NAMES: Your first and last names
2. COURSE NAME: COSC 4653 - Advanced Networks
3. ASSIGNMENT: #8 - Two Unique Servers
4. APPLICATION DESCRIPTION: Two or more paragraphs describing what your application does overall and what each client and server program does
5. SOURCE CODE FILES: A list of the names of all of your C++ source code files (both .c and .h)
6. BUILD DIRECTIONS: Directions on how to compile and link your program from the command line. Optionally, you may refer to a makefile
7. RUN DIRECTIONS: Directions (i.e., steps) on how to run your application from the command line. This includes the information to enter on the command line to start each program
8. OPERATIONAL STATUS: The operational status of each program (i.e., what works and what doesn't work) based on the requirements for the assignment

Design and Implementation Constraints

- Follow the same design and implementation constraints listed for previous assignments implemented in C in this course