# CSCI 367 - Computer Networks I

# Assignment 03 – TCP Transport Layer Version

# Client-Server – Message Recorder

# Program Specification

Create a TCP client-server application that uses TCP/IP and the Sockets API.

* The server listens for client connections.
* The client connects to the server.
* The server sends the client the following message:
  + Would you like to send a message (y/n)?"
  + The client responds, y or n.
* The server should then acknowledge the client’s response.
* If the client responded with y, the client sends a message.
* The server receives the message and saves the message to an ASCII text file.
  + The message written to the ASCII text file should be prepended with the following two fields:
    - Date-Time Stamp
    - Client’s IP address
* After recording the message information, the server sends back a status message represented as an ASCII text string to the client application:
  + SUCCESS
  + FAIL
* The client should then acknowledge the server’s status message.
* The server should prompt the user to see if he/she wants to send another message:
  + "Would you like to send a message (y/n)?"

# Program Execution

Compile your source code files.

* If your source code has no syntax errors, an executable file is produced.
* Execute the program and check the accuracy of the program outputs.
* Below is a sample run showing the server and client output, along with the ASCII text file content.

Client

Graphical user interface, text, application, email

Description automatically generated

Server

Graphical user interface, text, application

Description automatically generated

ASCII Text File

Graphical user interface, application, Word

Description automatically generated

# Submission

1. Upload your source code and header ﬁles to Canvas.
2. Upload your packet captures to Canvas as a text file named Packet\_Captures.txt.
3. For this lab, Canvas has been conﬁgured to permit only files that end with the .c, .h and .txt file extensions.

# Comments

At the top of the source code files, add the following commenting:

/\*

# Name:

# Description:

# Date:

# Specification:

\*/

# Windows versus Linux

The computers in the CS building are dual boot machines. That means that at start up you have the option to launch and log into a Windows account, or a Linux account. For all future labs, you are welcome to log into whichever one you are most comfortable with. If you have never used Linux, you can stick to Windows for this lab. To switch operating systems, you must reboot the computer. At start-up, you are given the option to start Linux or Windows. Use the keyboard arrow keys to select whichever you want.