

Comp 7005 Computer Systems Technology September 2009.

Assignment #1

Due: October 6, 1730 hrs. Work in groups of two.

Objective: To implement a simple client-server using the **TCP/IP protocol suite**.

Your Mission:

- Design and implement a server application that will listen for connections from clients and once the connection has been established it will respond to file transfer commands from the client(s).
- Design and implement a client application that will initiate a connection to a remote server, and will issue commands to the server to either send a file or to receive a file.
- Supply the server information as command line arguments.
- Implement two functions: **GET** and **SEND** in your application.
- That is, a client can use the **GET** function to request a named file from a server.
- Similarly it can use **SEND** to send a specified file to a remote server.

Constraints:

- The server will be designed to handle connections from multiple clients, i.e., a **concurrent server**.
- The server will listen on port 7001 for connection requests. The client will connect to the control port on the server using a dynamic port (port X).
- When a GET or SEND command is received by the server, the server will initiate a data connection from port 7000 to port X on the client machine.

To Be Submitted:

- Hand in complete and well-documented design work and listings of your programs.
- Provide a bound copy of all your design work, code **listings** and an **executable** on a disk.
- You are also required to demonstrate your working programs during the lab the day the assignment is due.
- Ensure that you clearly explain the testing procedures for your programs and provide test data as necessary.