

COMPENG 4DN4

LAB 3: ONLINE FILE SHARING

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In my implementation of the lab, the Client and Server classes are made for TCP connections and UDPClient and UDPServer are made to handle the UDP connections for service discovery.

When the Server class is run, it creates a TCP server listen socket, then runs the UDP server class in the separate thread. Finally the TCP listens for connections. In the second thread, the UDPServer initializes the same way, by creating a socket, then listening for connections. The UDPServer responds to all connections with its IP address and port number. The TCP Server responds with different things depending on the command it receives from the client. When it receives a "get" command, it responds by sending the requested file back to the client. When it receives a "put" command, it responds by placing the received file in the shared folder. When it receives a "rlist" command it response to the client with the contents of the shared folder.

When the client runs it creates a socket and prompts the user for a command. "scan" runs the UDPClient class and runs a service discovery search. "llist" displays the files stored in the local directory. "connect" connects to the server. Once connected to the server, "rlist", "put", "get" and "bye" can be used. "rlist" asks the server for the list of files stored on the shared folder. After entering "put" the user is prompted to enter a file name that is in the local directory. The client then sends this file to the server for it to place it in the shared directory. A similar prompt is shown when the user enters "get" asking for a file stored on the shared folder. If it exists, the file is downloaded from the shared directory to the local directory. "bye" closes the client.

As the only member of the group, I implemented all the classes, with the help of the examples shown in lecture.

NOTE: During the demo I did not have a file to demonstrate step 11) where I show if the server exits during a push command from the client, there will be no remnants of the file in the shared directory. That file is shared with this submission. At the end of the video, it can be seen that there is no new file in the shared directory.