PSUEDOCODE

# INITIALIZE GUI

Set up GUI using QT Framework

Go to **Create Socket** State

# Create Socket

Create a stream socket

ListenSocket = socket(AF\_INET, SOCK\_STREAM, O)

Check for any errors on socket call

Go to **Bind Address** State

# Bind address

Bind an address to the socket

Allocate memory for server struct

Initialize server struct with AF\_INET, port specified by user, and to accept connections from any client

Call bind(ListenSocket)

Check for any errors on bind call

Go to **Listen On Socket** State

# Listen on socket

Listen for connections, queue up to LISTENQ connect requests

Call listen(ListenSocket, LISTENQ)

Check if listen call failed

While true

Call select()

Check if there was a new client connection

Go to **Accept New Connection** State

# Accept new connection

Call accept(ListenSocket)

Check if it accept call failed

Save client’s descriptor

Go to **Update List of Connected** Clients State

Go to **Check clients for data** State

# Check clients for data

loop through all the clients

Check if client has data

Go to **Read Data** State

write the data read from the client socket to all other sockets except the one that sent it

# Read data

While (read data from the client socket)

Check if read call failed

Update bytes read

Go to **Echo Data to all other clients** State

# echo data to all other clients

Write data read from the client socket to all other sockets except the one that sent it

If no more readable descriptors

Go to **Listen on Socket** State