

# Hw05: 2-Way Chat

## Focus

- Networking
- Multiplexing

## Spec

Application: Allow two users on different machines to chat with each other

- We need a server that will sit there waiting for a client to connect.
- After receiving a connection, both client and server will act alike, chatting with each other. Each will accept input from its user sending to the peer, and from the peer, displaying to the user.
- On termination of the conversation, the server should resume waiting for another client.

## Interface

- While it would be nice to have a pretty GUI for this program, we will do without one.
- Instead we will simply have each process take input from standard input and display the received message to standard output.
- To start either the client or the server, you will want to provide a name for the user on the command line which will be displayed with each of their messages..
- The server should also accept an *optional* port number on the command line, so that we can run it flexibly using whatever port number is convenient.
- The client application will need to accept both the IP address of the server to connect to, as well as the port number (both should be optional) that the server will be listening on. (You could assume that the server is running on localhost 127.0.0.1).

Perhaps the key design decision to make for such a project would be how the client and the server each are responsive to their input sources, the local user and the network connection.

We have explored several choices, including sequentially reading from each input, polling, etc. For this project use the select (or pselect) system call.

## **Turn in:**

As usual, in addition to your source files, provide a makefile and a Readme.