CS150 - Networking

Note Title 4/30/2012

Announcements

- HW due Friday
- Review in 1 week
- Test next Wed.
- Emailed HW 8 grades this weekend

Last time

- Math Server:
  designed protocol to send lists of numbers to the server & ask for some basic calculations

Note: Similar to HW.

Today: Network Chat Room

Main difference: persistant connection

When a client connects, it stays connected.

In the meantime, the server must still listen for other connections.

In addition, the client must monitor the keyboard + the server connection.

Technique: multithreading

Protocol:

Needs to support multiple kinds of messages.

- Users can come or leave.
- Users can send public or private message.
- Server needs to inform all users about messages, users added, etc.

Client:

Join room: `'ADD %s\n' % screenName`

Broadcast message: `'MESSAGE %s\n' % content`

Private message: `'PRIVATE %s\n%s\n' % (name, content)`

Quit: `'QUIT\n'`

server

Server: mostly same

`'NEW %s\n' % screenName`
`'LEFT %s\n' % screenName`
`'GOODBYE\n'`

Server Code:

Use Threaded version of TCPServer.

Main difference:

allows handle to run once for each connection (at the same time)

Client:

Need to incorporate threading.

Problem: if we use raw_input to wait for a message the client won't recieve other's messages.

Simple example:

Client code:

- Use socket and thread
- Write a thread class to wait for server messages
- Main script will wait for user input

Both run at the same time.

more tomorrow