Recitation 11 4/4/2012

Topic: Client-Server protocol

Announcements:
PSET 3 Beta Due Saturday

Client-Server Protocol
In computing, a client-server protocol is a protocol in which there is a single server which listens for connections and one or more clients which connect to it. Typically they are on separate machines (though not always).

Define parts:
1. Client- any system/function that sends a request to a server.
2. Server- a computer program running to serve the requests of other programs. It handles and responds appropriately depending on what the client has requested. A single server can have multiple clients.

Connections
Since the client and the server are separate entities, they need to first connect in order to communicate. Since the client and server are typically in separate location, this is often achieved via a network. The server listens for connections, usually on a specific port, and then reads the requests and then serves back. The example today connects over Unix domain socket.

Protocols
While a connection is enough to communicate, the client and server must still understand the same protocol.
A communications protocol is a system of digital message formats and rules for exchanging those messages in or between computing systems and in telecommunications. Common protocols are TCP and UDP.

In summary, a client connects to a server and sends it a message using a mutually known protocol and the server takes in the request, formulates a response, and serves back the response to the client using the same protocol.

Example: Fortune Server and Client
4 Examples
1. Shows how to connect to server and get response. Fill out client1() by connecting, sending a request, printing result.
2. Same as above but this time they have to send a zodiac name and print out the horoscope
3. This exhibits a all-caps function. We want them to loop around so there is constantly things going back and forth. **If short on time then skip this one.**
4. Bank Example. There are two commands EXIST and Balance. You must enter and ID with each of them to get the information. This exhibits a “protocol”. Command must be in command:argument format.