**Computer Network**

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Project 1

Concurrent Web Server using BSD sockets

**Description of Webserver**

Happyweb Webserver based on TCP connection with client. When webserver run, server process get the path of page that send to client, and socket PORTNUM.

The web server is implemented in single codefile and consists of four functions: main, webserv, protocol\_parser, and sendpage.

First, the main function consists of parent : setting the listening socket using the port number received as an argument, and waiting for the client to connect, and child : is forked to execute a webserv function, and to execute a response to receive a request.

The webserb function is a child process that is forked from the parent.

Webserb call the protocol\_parser function that is used to split the strings entered into the request with the strtok () function to extract the token. It consists of a sendpage function that uses the token to parse the client's request and send the page requested by the client. It sends a server error message for the exception request.

The sendpage function takes a socket number, a file name, an http version, and codemsg as argument. It creates an HTTP header using it, and sends it to the client along with the html file stored in the input path..

Finally, as described above, protocol\_parserd is a structure in which requests received from clients are divided into individual tokens (using the strtok function, which breaks strings into certain criteria), and the received webserv function performs client requests.

Since the other types of file transfer in Instructions 2.3 are difficult to make, I have created a simple webserver that sends index.html files and images when a request for the host's ‘index.html’ is received.

Difficulties to make webserver.

It was difficult to understand the process of creating a socket, and it was also difficult to get a request from a client. However, I was able to solve some problems by studying books on Linux TCP socket programming in the library. The most difficult part was that I did not know how to use C language and Linux. Since I am doing multiple majors in computer engineering, I have not had much basic knowledge compared to other students. In particular, C has never been used with until now and it really takes a lot of time to understand the whole of them

Explain sample

In case of “./happyweb webDir 8080” happyweb is server runfile name, webDir is directory of index.html, and 8080 is PORTNUM.

Client can connect happyweb webserver by writing <http://[hostIP]:[PORTNUM]/index.html>” on the web browser address bar.

And can see a cute cat picture.