Design Document for Assignment 1

William Kudsk

CRUZID: wkudsk

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1. Goal:

The goal of this assignment is to create an http server that can connect to a client

2. Assumptions:

That the client will send me an end of file message once I am done receiving data for a PUT if no content length is specified.

That there is no / at the beginning of the resource name

3. Design:

I need to create a TCP socket so I need to create, bind, and then listen for a client. I accept a client, once I get the header from the client I parse it for the type of function call (GET or PUT), the resource name, and if there is a content length I need that as well. If anything is malformed I send the appropriate error to the client.

For a get: I open the file and send it to the client. If I can't find the file I send a 404 error.

For a put: I open the file. If there isn't a file I create it. I send a status message giving the client the go ahead to send data. If I have a content length, I read until the end of the content length. If I don't, I read until I receive an end of file flag from the client.

Close whatever I have open and repeat for a new client connection

4. Pseudocode:

createsocket()

bindsocket()

listensocket()

```
while(1)
{
        accept()
        recv(Header)
        header.split() -> function, resource name, content length (if there is one)
        if(function == GET)
        {
                open(resource name)
                send(resource name -> contents)
                close(resource name, socket)
        }
        if(function == PUT)
        {
                open(resource name) | create(resource name)
                send(200 | 201)
                while(content length | no end of file)
                {
                        recv(contents)
                        write(resource name, contents)
                }
                close(resource name, socket)
        }
}
```