Socket Programming Project Report

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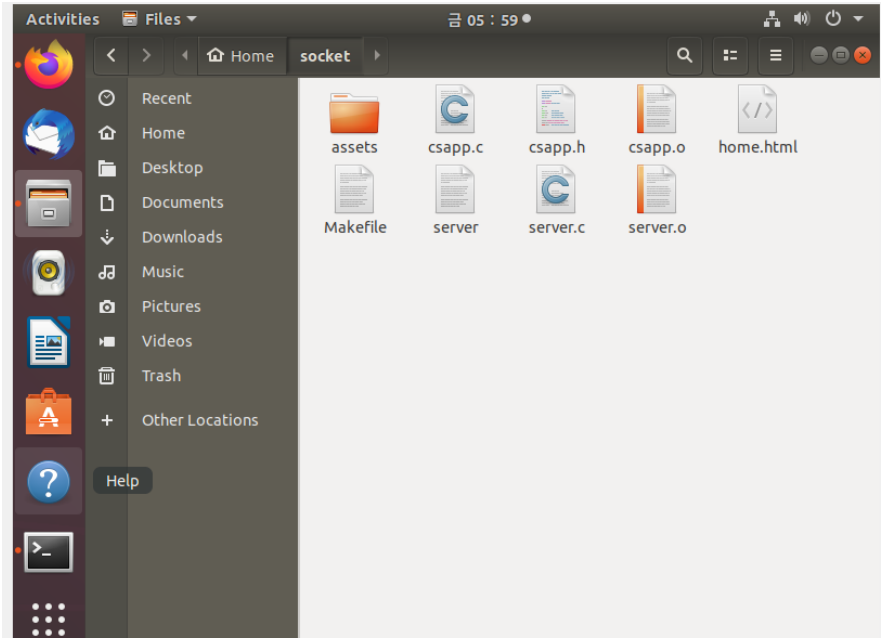
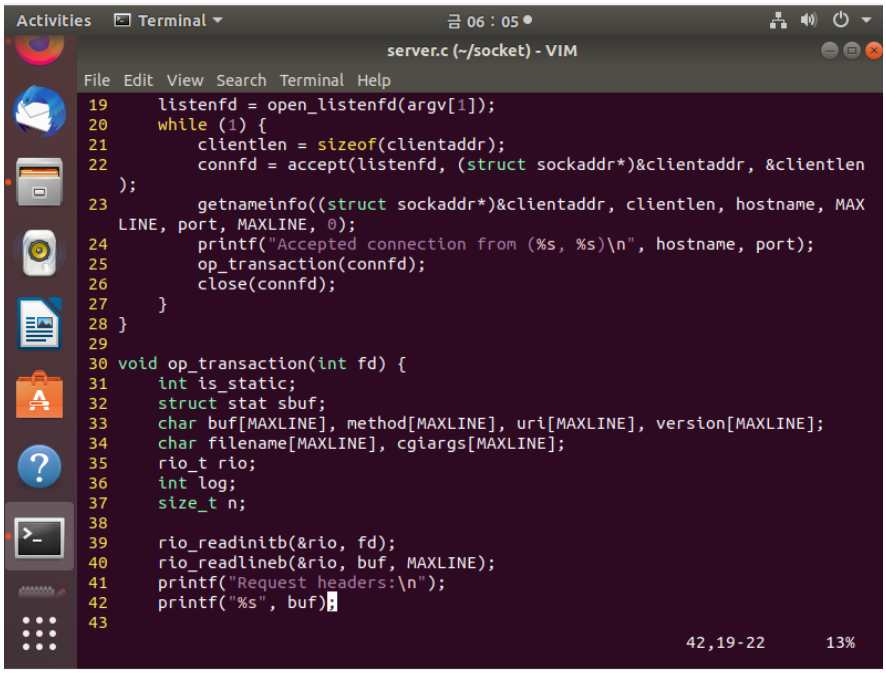
1. Description of server design

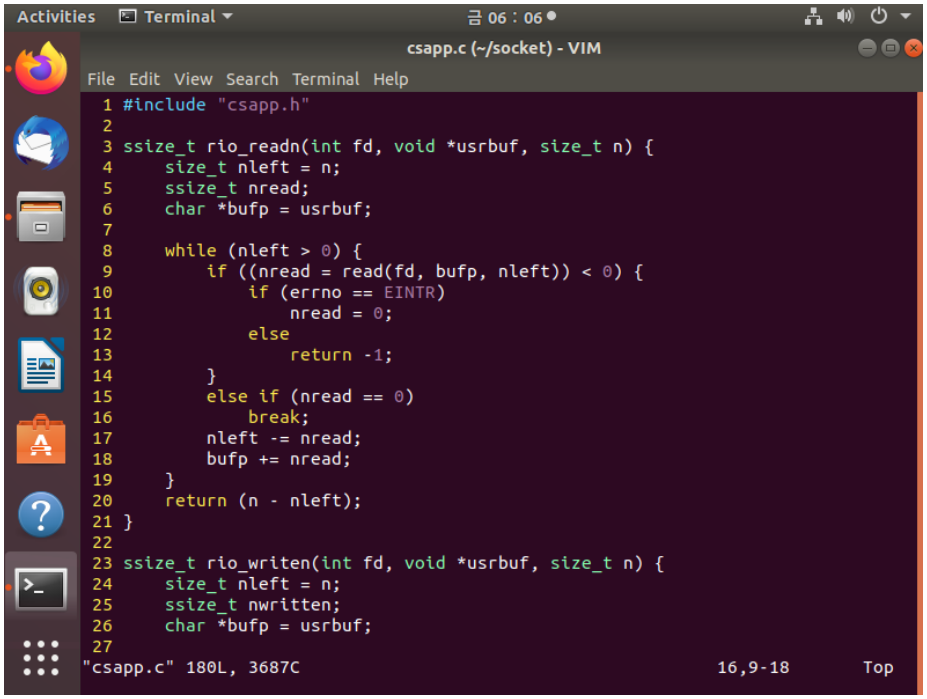
Project folder contains $server.c$, $csapp.c$, $csapp.h$, $home.html$, $Makefile$ and $assets$ folder.



$server.c$ includes main function and all process function to establishing server. $op\_transaction$ function parse the HTTP request from client file descriptor and transfer to server or print out error message if it is invalid request message.



$csapp.c$ includes rio functions which make more easier to parse HTTP request strings to applications, and server/client socket $open$ function which returns descriptor.



$csapp.h$ is header which includes library, global variables and function prototype.

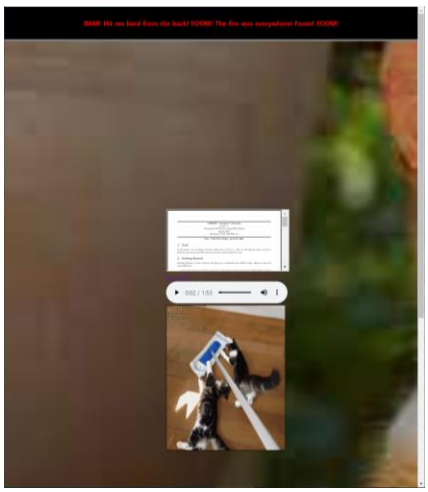
$home.html$ is main page for this project. Clients will visit this first when they connect to server.

$assets$ folder contains other web objects on $home.html$ such as image files, pdf files and mp3 files.

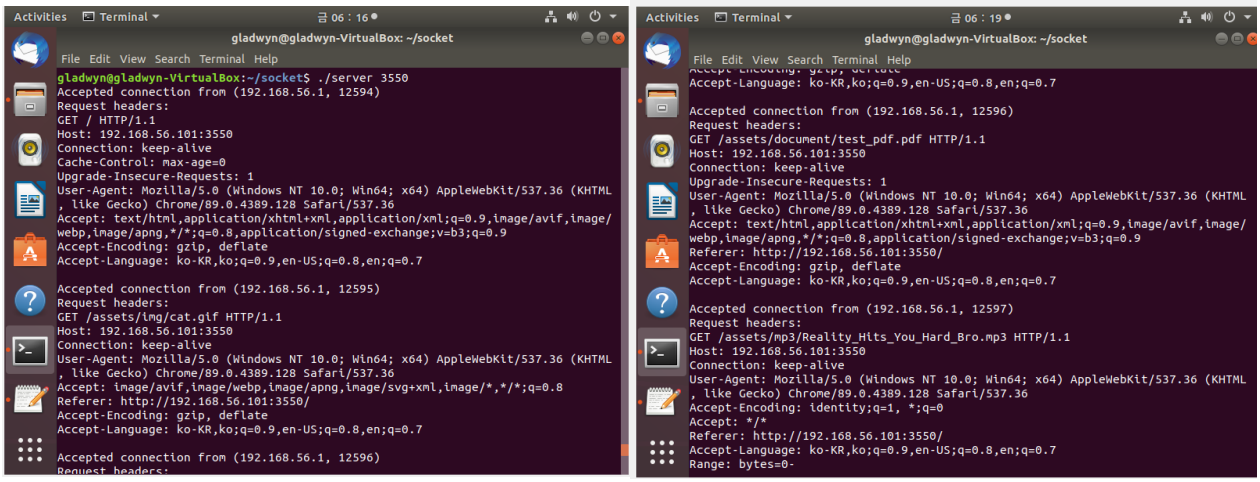
2. Difficulties while progressing

Understanding of rio functions was very confused. I had to do some test running for understanding rio functions' mechanism. Also, after finished programming socket, since the workspace is on virtual machine, I need to set port-forwarding to avoid connection time out by accessing wrong address even if I entered correct one. To set this, I spent almost same amount of time for programming socket.

3. Outputs



<Sample Server Home Page>



<Shell log after connection>

When client tried to connect to server, the shell running server print information about client and HTTP request message. After that, there are some more HTTP request which requesting other objects on main HTTP page. It requested jpeg and gif files for background and center image, pdf file for pdf viewer and downloading, and mp3 file to play in this page.