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Computer Networks(CSI4106)

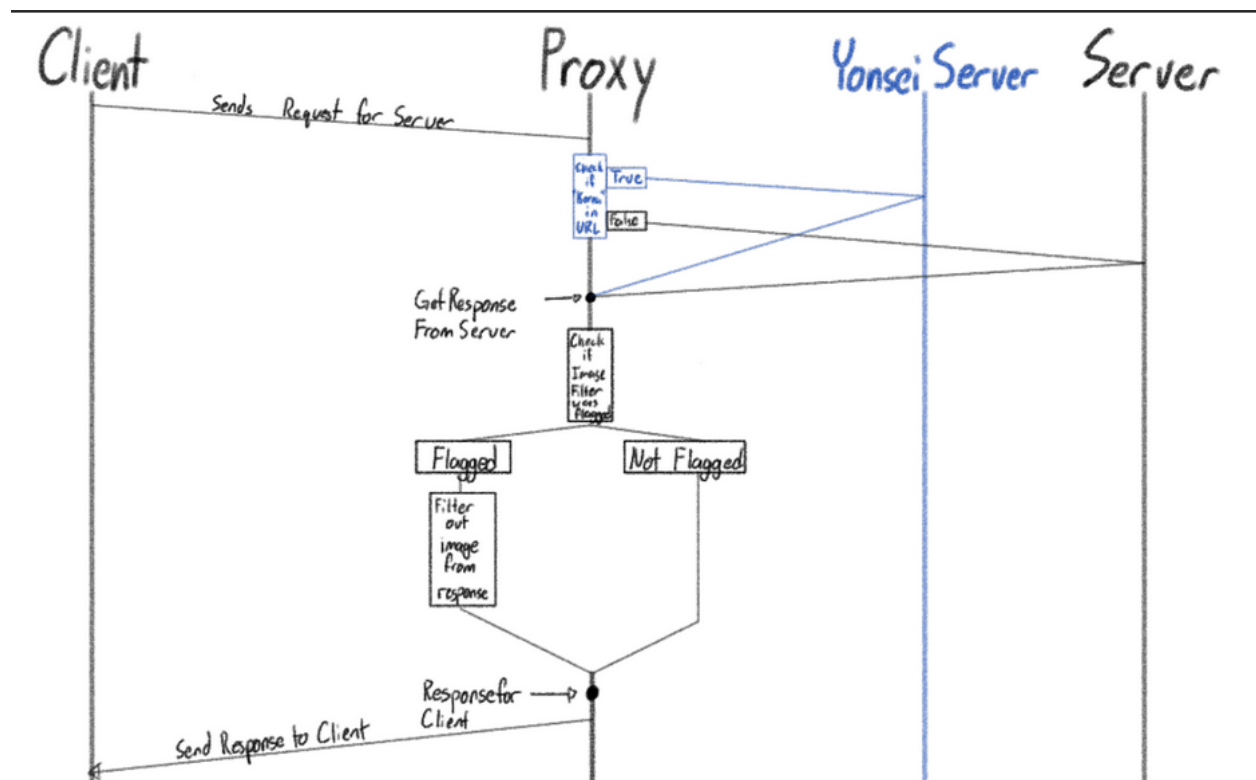
5 November 2023

Project 3 Report

Programming Language/Environment: Python 3.10.2

Reference: <https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers>

Flow Chart:



Logical Explanation:

The code starts off by creating the socket that listens for the Client's requests. Afterwards there is a while loop that helps threading so that the proxy server can handle multiple requests at a time. When the proxy server gets a request that it can handle, it checks for the two features. If the url that gets parsed contains a flag that tells the proxy to turn off images, it will change the global variable "imageFilterBool" to True. If the proxy finds a flag that tells the server to turn on the images, it will change the global variable "imageFilterBool" to False. Next, it looks to see if the String "Korea" (case insensitive) is present in the url. If we see "Korea" (case insensitive) in the url, then the proxy will edit the request sent from the client, so that the request will be sent to the yonsei server rather than the original server that was requested. After determining the proper location, the proxy creates another socket for the purpose of communicating with the destination server. The proxy then sends the client's request to the destination server and then receives a reply from the server. The proxy then checks to see if the global variable "imageFilterBool" is True, indicating that the image should be filtered out. If it is true and an image is present in the reply that the proxy got from the server, then the proxy will modify the response from the server so that the image will not show and then send it back to the client. However, if there is no image to filter or the "imageFilterBool" variable is set to False, the proxy will send back the unedited response from the server to the client.

Once all this is done, the proxy will close both the socket for the client and the socket for the destination server. Lastly, the proxy will print a log of the events that happened from client, proxy, server and back backwards from server, proxy, client for the sake of the user.