**Abstract:**

This project aims to create a virtual HTTP multi threaded web server. A multi threaded web server is capable of handling multiple simultaneous requests in parallel .The server aims to create a web server capable of handling GET responses and return RESPONSE. In the main thread server should listen to a fixed port and on reception of a TCP request, creates a TCP connection through another port and services the request in a separate thread. The project will incorporate several modules to add all the basic features. The web server will aim to server cgi scripts.

For the incoming HTTP requests we will be using a queue data structure (First Come First Serve, that is no priority for incoming requests). The serve will dequeue the first request, assign a thread to it ( from the pool) and then do the work.

In the main thread, the server listens to a fixed port. When it receives a TCP connection request, it sets up a TCP connection through another port and services the request in a separate thread. The server will use a port a fixed port, and if the port is not specified it will not work as it will not have a server listening in on that port.

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**i) Modules:**

1. **HTTP request and response module:**

This module will receive request and then respond to the request on a different thread.

**2) Client request and read:**

This module will be working on the client side. This module will receive data from the client side (web browser) and send it to the web server. It will also receive data from the web server.

**3) Send and generate request:**

This module will work on the client side. It will generate the request and then send it to the web server

**4) Helper modules:**

Some modules like find the string, count of occurence and copy the strings will be based in a separate module to help facilitate the working of the program and make it easier to read.

**ii) Concepts:**

i) HTTP

ii) Client- Server concepts

iii) TCP protocols

**iii) Platform: Windows**

**Language : C**