Abstract

This project is about a web server's deployment, where browsers will be able to connect and explore the computer's local system. On web, communication between browser and server via sockets is achieved by messages exchange based on http protocol. Messages from browser to server called requests. In every request message, browser sends back a response.
For this project propose, the server will expose a page for each computer's directory, e.g. http://localhost:11880/home, http://localhost:11880/usr/bin etc. So, the client is able to explore system folders and file or search a specific folder or file (image 1).

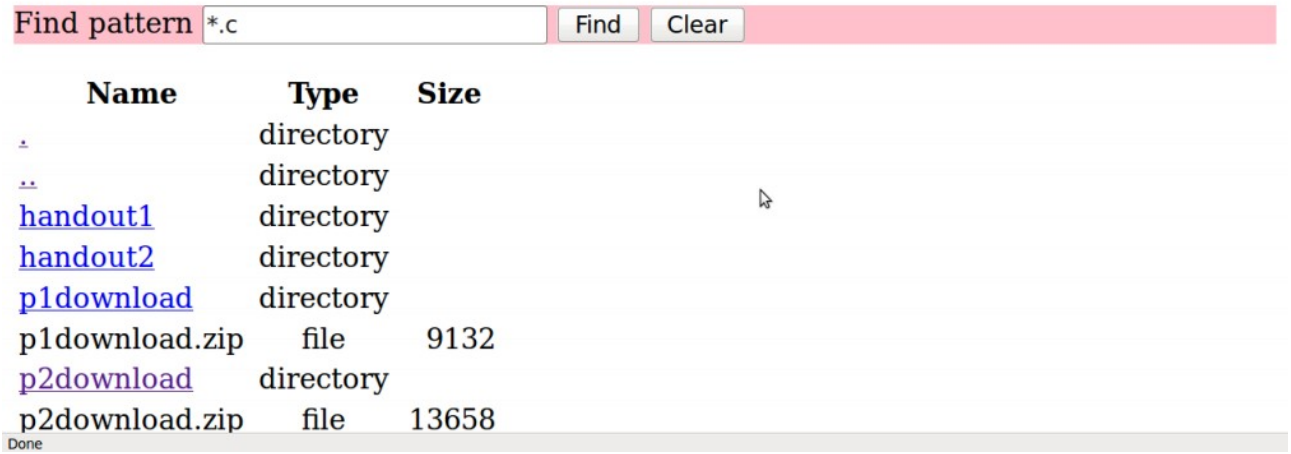

image: 1

Perfomance optimization

The first mechanism which implemented for perfomance increase is the thread pool mechanism. A thread pool is a mechanism where a number of threads-workers are waiting for new tasks. When a thread is execute a task, is active while a thread which waiting for a task is idle.
The second mechanism is a cache memory in order to save HTML pages which created. After that, if the client requests the same page in the near future, the server will serve the page from the cache. If will not find the requested page in cache, a new page is created and saved in cache. If the cache is full, a page is deleted with Least Recently Used choose method and the new page is saved after.

Files explanation

- **makefile** is the file which automates the compiler's call
- **strutils.h, strutils.c** are C libraries for strings manipulation
- **linkedlist.h, linkedlist.c** implementation of linked list in C, based on C++ Standard Template API
- **hastable.h, hashtable.c** implementation of C's hash table class
- **urlcode.h, urlcode.c** are functions for http requests decoding

- **sysexplorer.c, sysexplorer.h** are the main files where the project deployed