Simple Web

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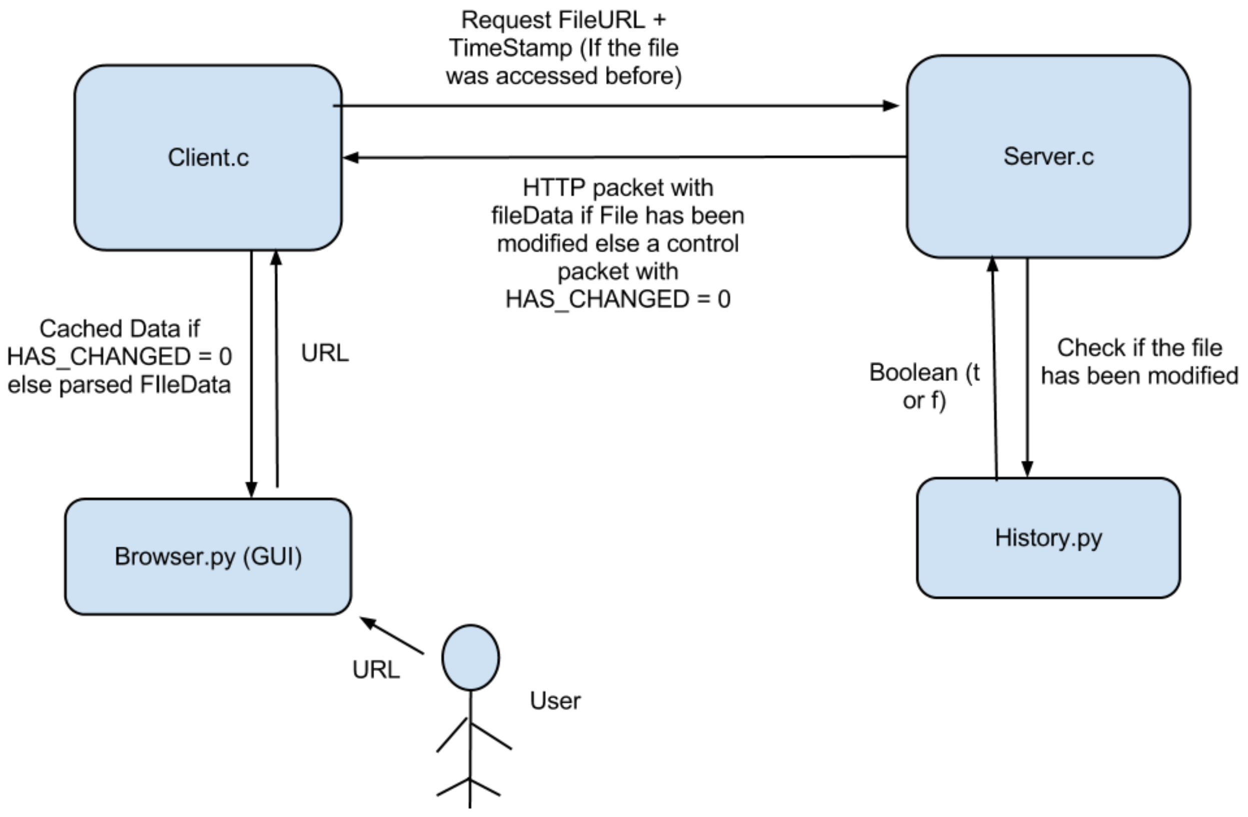
1 Problem Statement

To design and implement a simple Web .Support for pseudo-HTML with plain ASCII text, links and dialogue capability.

2 WorkFlow


Request FileURL + TimeStamp (If the file was accessed before)
Client.c
Server.c
HTTP packet with fileData if File has been modified else a control packet with HAS_CHANGED = 0
Cached Data if HAS_CHANGED = 0 else parsed FIleData
URL
Boolean (t or f)
Check if the file has been modified
Browser.py (GUI)
History.py
URL
User

3 How it works?

The Simple Web project tries to implement the HTTP protocol using its own markup language called the markem language. Using a DATAGRAM circuit, we implement a file transfer protocol. This will help in communication between the user and the client. The browser as such is limited in it features in that it can only show text , images and links. As for formatting of text, as of now only color is being proposed as a possible style option. For the browser to work, the client will send a request for a file using a certain format.The server processes the request and sends the reply back to the client in terms of the specified HTTP protocol. This can be done either by framentation / direct message passing.This part of the code is written in C. Once we have the file, we scan the file for text and images.This parsing will be done using Python libraries and then displayed using Tkinter - another python library. Some of the assumptions made for the same are :

- Any file or image being viewed is not saved in temp, but is instead saved in the directory for as long as the viewer is in the browser. We could have instead saved the file in some temporary folder and deleted it after the page has been viewed.But this will not be implemented here.
- The basic datagram socket with UDP send / receive will be used to transmit the message . In addition, since the major criteria is the implementation of the HTTP protocol, we would limit ourselves to stop-and-wait protocol.
- The images cannot be created as links in any file. Also the example files must have a appropriate language.A file with incorrect tags will not be parsed in the right manner. No type-checking / defaulting will be done in such a case.
- The browser will be mundane and will not support any sort of keyboard shortcuts. This is more due to time constraints than any other reason.

3.1 How to Run :

- Run the make file, that will create all the necessary executables
- Run the server by doing a **./server ¡portNumber¿**
- Run the browser by doing a **python sweb.py ¡portNumberServer¿ ¡IPAddressServer¿**
- Enter the fileURL in the dialogBox
- Once the file is loaded, other queries can be made, by
  - Again requesting for a URL in the diaglogBox
  - Clicking on the links in the current markem page.