

Programming Assignment 2
Maintaining file consistency in your Gnutella-style P2P system
CS550- Advanced Operating System
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Manual:

- a. Unzip the project file to a location [(\$ProjectFolder)]
- b. Open 10 terminals and navigate them to [(\$ProjectFolder)/code]
- c. If python 3.0+ is not installed in the system (to check write *python3* into the terminal), run ***make get-dev*** in one of the terminal.
- d. Type ***make peer_1*** , ***make peer_2***, ***make peer_3***, ***make peer_4*** , ***make peer_5***, ***make peer_6***, ***make peer_7*** , ***make peer_8***, ***make peer_9*** and ***make peer_10*** in separate terminals. If any error occurs saying '###ERROR: Can not host. Exiting...' then open file [(\$ProjectFolder)/code/params.py] and change the port list.
- e. Now assuming everything running smoothly. Peer terminal will prompt the user to enter the Commands.
- f. By default, PUSH is set. To change to PULL , open file [(\$ProjectFolder)/code/params.py], set PUSH to False and redo steps b to d.
- g. SEARCH command:
 - a. Enter "SEARCH" when prompt shows ">>>".
 - b. Enter File Name with extension when prompt shows ">>>".
 - c. Now, terminal will show the ports of peers holding the file.
 - d. Select using index of ports. Enter it when prompt shows ">>>".
 - e. Terminal will show the response accordingly.e.g. steps g.a to g.e are shown in fig 1 and 2.

```
>>>Please enter the Command.
>>>SEARCH
>>>Please enter the file name.
>>>file5_5.txt
>>>INFO: Sending Request to...
> 6127
>>>Waiting for the response.
>>>INFO: Following Peers have file
> 1: @ 6130
>>>Select the peer to download the file from e.g. 1 if first peer:
>>>█
```

Figure 1 SEARCH command

```
> 1: @ 6130
>>>Select the peer to download the file from e.g. 1 if first peer:
>>>1
>>>INFO: Downloading file file5_5.txt.
>>>INFO: File downloaded.
>>>Please choose from the following Command List when prompted.
> SEARCH to update file List
> UPDATE to update file List. Delete or add new "Master" file in runtime.
>>>Please enter the Command.
>>>█
```

Figure 2 Search Command

- h. UPDATE command:
 - a. Enter "UPDATE" when prompt shows ">>>".
 - b. Terminal will show the response accordingly.
- i. REFRESH command: (only available when PULL is set to False in params.py)
 - a. Enter "REFRESH" when prompt shows ">>>".
 - b. Enter File Name with extension when prompt shows ">>>".
 - c. Terminal will show the response accordingly.
- j. To exit safely, use ctrl+z or multiple ctrl+c in all peer terminals

Note:

1. [(\$ProjectFolder)/code/params.py] file contains all the ports and shared directory list, make sure no ports are same.
2. If more client needs to be added then, add more ports and shared directory in params.py