PROJECT 2 REPORT

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I have neither given nor received unauthorized assistance on this work

Signed: Preetham Karanth Kota Date: 10/07/2022

# Technologies Used:

* Designed and developed the application for the said requirement using Python
* Used XMLRPC library provided by python for remote procedure call between client and server
* Implemented the said application in Linux environment. Any Linux machine would suffice to run this application
* Used Multithreading concept

# Things Learnt:

* Got good know how about server client model and vector clock and logical clock in general
* Got to know basics of RPC and its application and usage
* Hands on python programming language and multi-threading

# Project

Implemented a multi-threaded file server that supports UPLOAD, DOWNLOAD, DELETE, and RENAME file operations. Use different folders to hold files downloaded to the client or uploaded to the server.

## Implementation:

* Used Linux i.e. ubuntu to develop and design this particular software.
* There is a Master node which takes input like “from node” and “to node” to which message is to be sent and takes the action accordingly.
* The nodes node\_A,node\_B,node\_C are 3 individual servers which are listening in a loop and doesn’t join or stop. Has threads to send and receive messages to each other based on the indication from the master node.
* The said node updates its vector clock and prints the vector clock before and after an event occurs at its end
* Open any Linux terminal and run the command "python3 master\_node.py" to get the Master node running
* Open any Linux terminal and run the command "python3 node\_A.py" to get the node A running
* Open any Linux terminal and run the command "python3 node\_B.py" to get the node B running
* Open any Linux terminal and run the command "python3 node\_C.py" to get the node C running
* Enter 1 to continue at Master node terminal. Enter the Sending node,recieving node and type the message to be sent when promted on the terminal
* Once done you can check the respective nodes about their vector clock printed before and after the said event happens along with the message

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Fig 1 : Prompt of master node taking input to direct the messages from one node to another

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Fig 2: Vector clock printed at node A before and after sending/receiving message from another node.

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Fig 3: Vector clock printed at node B before and after sending/receiving message from another node.

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Fig 4: Vector clock printed at node C before and after sending/receiving message from another node.