

IS F462 Network Programming Assignment 1

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P2. Implement a client-server system within an operating systems using IPC mechanisms such as message queues.

1. Setup the client menu and write functions for each request i.e ADD_FILE, ADD_CHUNK, CP, MV, and RM.
2. The client is prompted to send a particular request to the server.
3. The request is sent to the message queue shared by the data server, the metadata server as well as the client.
4. The metadata server fetches the request from the message queue and calls the respective function accordingly.
 - ADD_FILE : The metadata server stores the filepath in a user defined structure as a part of array of such structures. All chunks will be associated with this filepath.
 - ADD_CHUNK : The metadata server doesnt store deta regarding the chunks, only sends back addresses of data servers to client.
 - CP : The metadata server creates a new struct with a different path but the same filename.
 - MV : The metadata server changes the filepath in the existing structure.
 - RM : The metadata server deletes the structure.

The main logic applied is that all both servers check whether the message queue is empty or not. This is done in an infinite loop. Whenever a message is received (of a particular type), it triggers an event. Message type are different for different kinds of requests.

// Deliverables

The code is not complete. Although i was able to establish a way to communicate using message queue, a lot of problems were encountered which were mainly C language based as im not very proficient in it. There is no functionality of the data server. To run the program, start the m_server file first and then the client.