Project Report

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Questions

1. What kinds of messages will be exchanged across the control channel?
   - FTP commands sent as ASCII text will be exchanged across the control channel
   - FTP commands such as ls, get, put, and quit

2. How should the other side respond to the messages?
   - The response for each command sent from the client to the server will be a SUCCESS/FAILURE message from the server to indicate the status of the command
   - The client will print out the filename and number of bytes transferred
   - Stores the sent information into 2 buffers, one always accepting input and one always writing to a file. Once the buffer becomes full the buffer will be emptied.

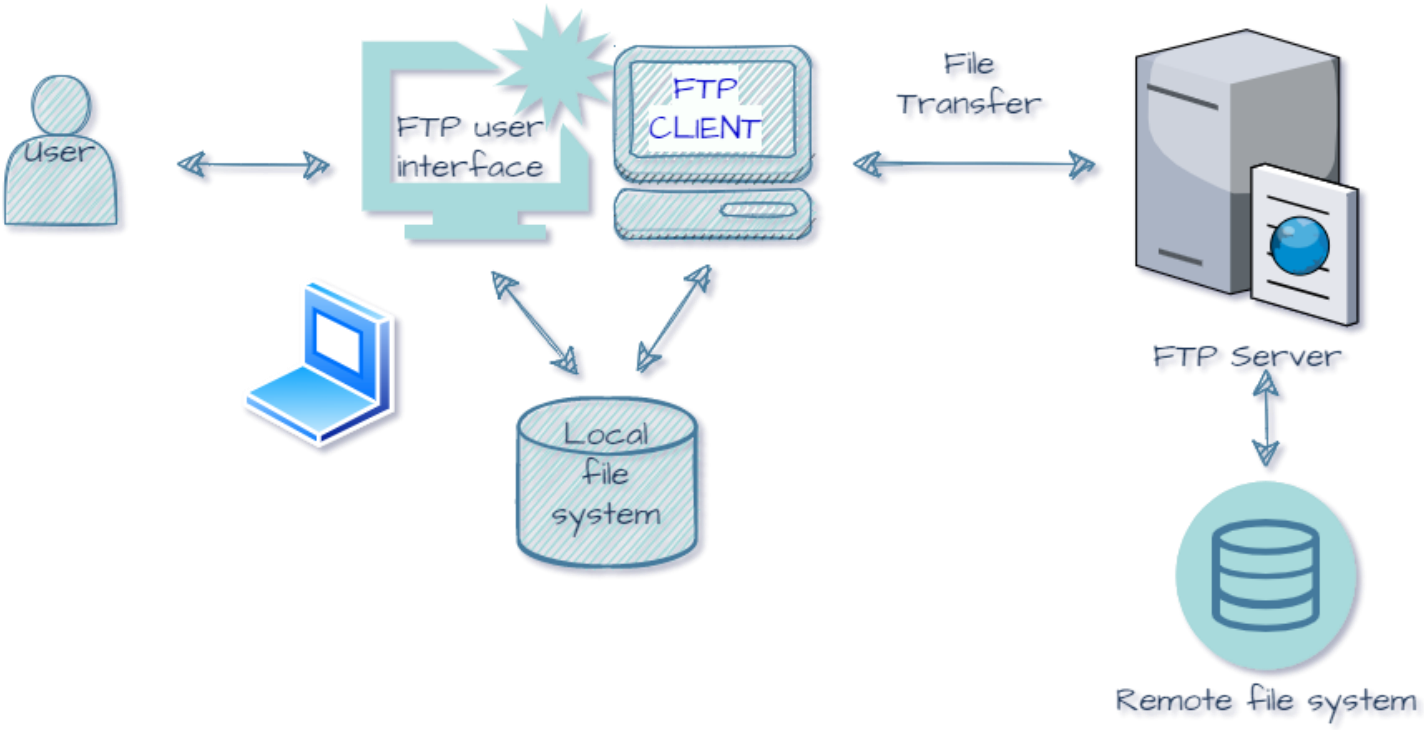
3. What sizes/formats will the messages have?
   - The regular size of the messages will be 40 bytes
   - If the messages are larger than 40 bytes then the transfer will continue until end of file
   - Messages will have their size appended to the beginning of each message. The size will also be padded to 10 bytes.

4. What message exchanges have to take place in order to set up a file transfer channel?
   - The server will create a new socket and bind it to an available port.
   - The server will send the new port number to the client.
   - The client will create a new socket and connect to the server using the new port number.

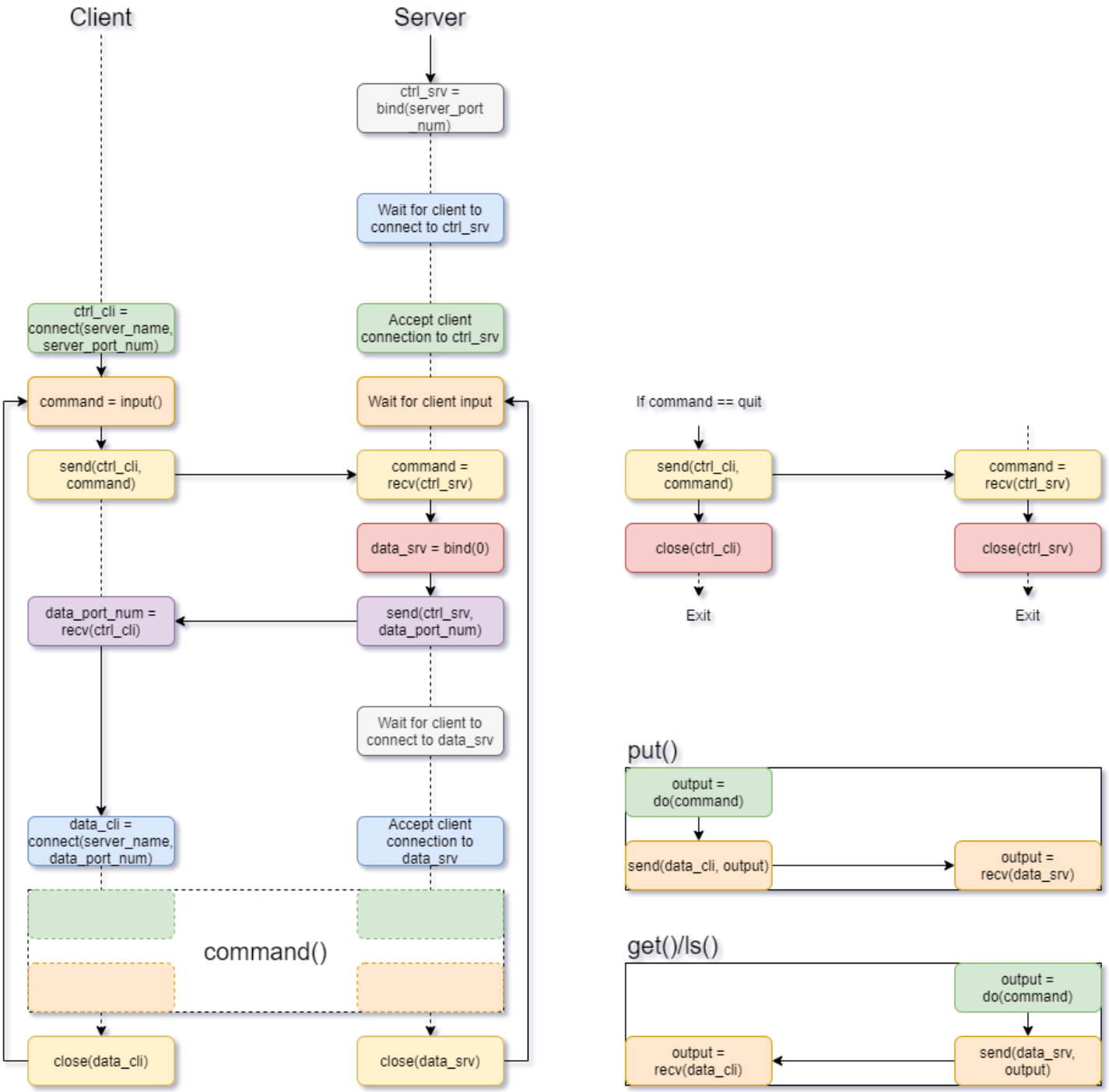
5. How will the receiving side know when to start/stop receiving the file?
   - It will start receiving the file once it detects data in the buffer.
   - It will stop once it has read however many bytes of data it is allowed to, as indicated at the beginning of each file.

6. How to avoid overflowing TCP buffers?
   - There are two buffers, one is always empty while its wait for the other is full. The buffers will copy data from one buffer to the other when one gets full.
   - The flow control may also be used so that the sender won’t overwhelm the receiver

General Protocol Design



Detailed Protocol Design



Pseudocode

Is located in: /pseudocode/client_pseudocode.txt