Computer Network Assignment2

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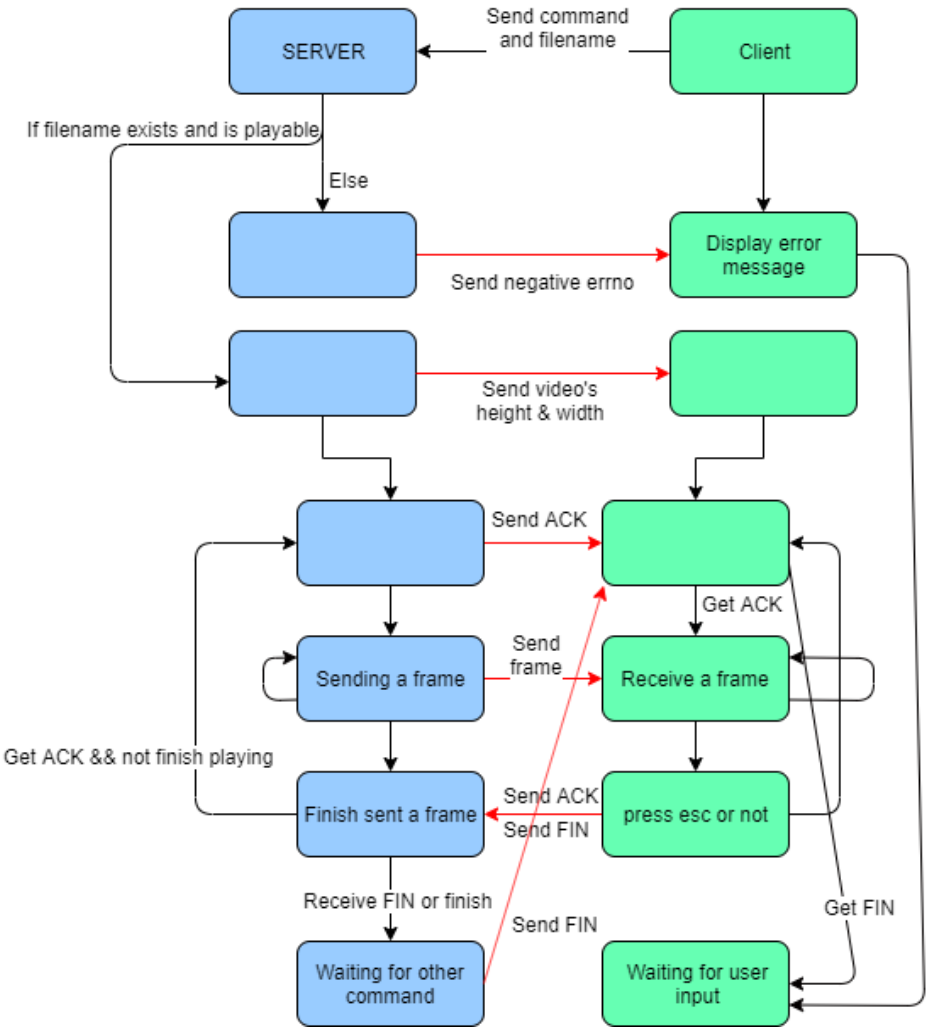
(Program related)NOTE:

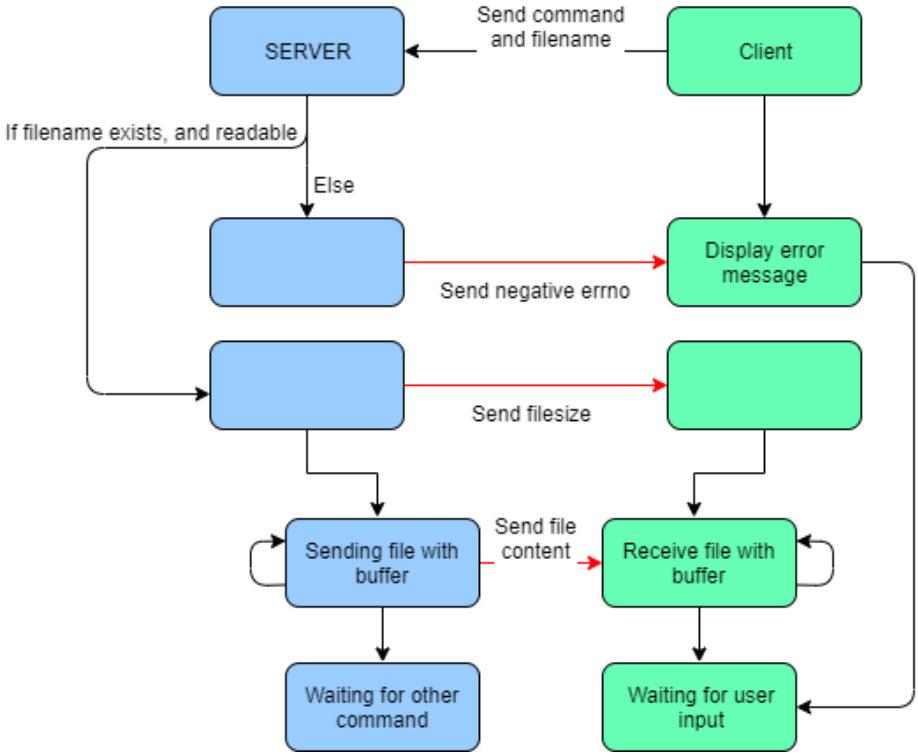
My server program will create a “server_dir” folder in location where you call and cd into it. To test file transfer or video streaming, you should place some file into it in advance. Also, you should choose another proper location while calling client program.

1. Flowchart of video streaming and explanations



2. Flowchart of file transferring and explanations

Take get command for example



The put command is similar to the mechanism above, except that the file existence is checked before sending the command.

3. What is SIGPIPE, how to handle it

SIGPIPE is a signal generated by OS when you try to write data to a broken socket twice. If you didn't handle this signal, the program would terminate before write() return, thus we can handle it by calling signal(SIGPIPE, SIG_IGN). It would cause the program ignore the SIGPIPE signal, and we can still deal with it by the return value of write() and the errno.

4. Blocking I/O vs. Synchronized I/O

They are different idea while discussing I/O. Blocking I/O is focus on what happen if you call read/write function, blocking might take a long time prepare data before return but it can be sure that the data is well prepared, while nonblocking wouldn't block but directly return and tell the caller what happen now whether data has prepared or not.

Synchronized I/O is focus on the variable is correct or not while program has passed thru the line assigning that variable. Most of time, the variable mentioned above is related to read/write operation, since they take uncertain time to complete.