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Design Document

For our project, we decided to code in the language Python because we did feel the most comfortable with that language. We had the client ‘cli.py’ and the server ‘serv.py’, in both of them we accessed the Python standard library and used the module ‘socket’. The ‘socket’ module helps provide low-level networking operations that allow us to create and manage network sockets.

The client script module is used in a couple of different ways. It is used to create a TCP socket.. Then the client connects to the server using the ‘connect’ method. We also implement data transmission where the client sends and receives data.

The server script module is also used in a couple of ways as well in ‘serv.py’. For example the server creates a socket for the incoming connections. Soon after that is where the server binds the socket to a specific address and port, then listens for any incoming connections. Then we have the acceptance section where the server will accept incoming connections by using the ‘accept’ method. We also implemented data transmission where the server sends and receives data similar to the client using ‘send’, ‘recv’, and ‘sendall’.

The interaction between server and client is pretty self-explanatory. It first starts with the server waiting on incoming connections, the client will then initiate a connection to the server. Once connection is established then the server and client can send and receive data and commands. The client would request operations like ‘get’, ‘put’, and ‘ls’. The server responds to the client by sending file data, sizes, or lists. This will continue until the user decides to quit.