Telecomm Lab 4

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While TCP has built-in mechanisms to prevent out-of order packets and lost packets, UDP take no precautions against data loss. Since TCP explicitly ACKs every packet, however, it is extremely inefficient for large file transfer applications, where many packets are being sent. In many cases, UDP is used with application-layer lost packet checking through packet numbering, where the client can simply send a (hopefully) single packet at the end of the transfer re-requesting any missed packets.

The protocol I implemented has two commands:

GET <filename>
GETCHUNKS <n1>[,<n2>][,<n3>][,...] <filename>

GET will obviously initiate download of a file.

The GETCHUNKS command is only partially implemented, since I ran out of time, however, it performs similarly to GET, but will only send packets whose numbers match those given in the first argument. This is used when the client re-requests whichever packets were lost in transfer.