

Project 2: Reliable Data Transmission (RDT)

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Introduction:

In this project I implement a higher level RDT layer using the skeleton code and unreliable channel provided by the class. This RDT layer will deliver the data from client to server without any errors, even when running through the unreliable channel that may cause errors to occur.

Instructions:

To run the program include the 4 files rdt_layer.py, rdt_main.py, segment.py, and unreliable.py in the same folder

In the terminal type one of the follow -

```
py rdt_main.py
python rdt_main.py
python3 rdt_main.py
```

Comments/Questions:

None

Screenshots:

```
DataReceivedFromClient: The quick brown fox jumped over the lazy dog
$$$$$$$$ ALL DATA RECEIVED $$$$$$$$
countTotalDataPackets: 14
countSentPackets: 34
countChecksumErrorPackets: 1
countOutOfOrderPackets: 0
countDelayedPackets: 3
countDroppedDataPackets: 2
countAckPackets: 22
countDroppedAckPackets: 2
# segment timeouts: 3
TOTAL ITERATIONS: 15
```

```
DataReceivedFromClient:
...We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too.

...we shall send to the moon, 240,000 miles away from the control station in Houston, a giant rocket more than 300 feet tall, the length of this football field, made of new metal alloys, some of which have not yet been invented, capable of standing heat and stresses several times more than have ever been experienced, fitted together with a precision better than the finest watch, carrying all the equipment needed for propulsion, guidance, control, communications, food and survival, on an untried mission, to an unknown celestial body, and then return it safely to earth, re-entering the atmosphere at speeds of over 25,000 miles per hour, causing heat about half that of the temperature of the sun--almost as hot as it is here today--and do all this, and do it right, and do it first before this decade is out.

JFK - September 12, 1962

$$$$$$$$ ALL DATA RECEIVED $$$$$$$$
countTotalDataPackets: 379
countSentPackets: 664
countChecksumErrorPackets: 32
countOutOfOrderPackets: 20
countDelayedPackets: 69
countDroppedDataPackets: 27
countAckPackets: 274
countDroppedAckPackets: 29
# segment timeouts: 110
TOTAL ITERATIONS: 226
```