SENG2040 – ASSIGNMENT

SENG2040 RELIABLE UDP

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WHOLE FILE ERROR DETECTION

- We are getting hash of the original file when opening the file in the client.
- Then we are sending that hash to the server in the last packet.
- And extracting that hash in server in from last packet and writing the whole data in a file.
- After writing the data, we are opening the file again and reading its content and generating hash again in server. And comparing it to the client. If the hash matches, data is not corrupted and successfully transferred, else data is corrupted or whole data is not sent properly.

https://stackoverflow.com/questions/10324611/how-to-calculate-the-md5-hash-of-a-large-file-in-c

WHOLE FILE ERROR TEST METHOD

- When the server receives it file from the client, it will also receive clients hash in last packet while receiving data.
- Then the server will extract the header and copy its contents to a file.
- Then the server will read the file and generate the hash again.
- It will compare the generated hash to the client hash.
- If the generated hash matches client hash, then data is successfully transferred

```
            FileName
Header      File Size
            Status


Body          Data

              Hash
```
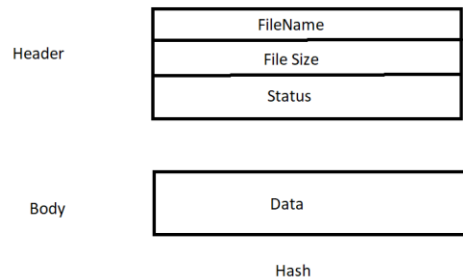
In our headers we have our filename file size and status that whether the file is sent or not. It is followed by data of the file. In the End, hash is sent to verify that the data is sent correctly. The server receives the file after completing the receiving part it creates the hash with the received file content, and if that matches with received file content, it tells us have we have received the file contents correctly.

TRANSFER SPEED CALCULATION AND RESULTS

<<Describe how you calculate transfer speed>>

<<Run tests to fill table below. Select a range of file sizes, ensure that you have tests that take times ranging from a few seconds up to approximately 60 seconds or more.>>

Filename	Size	Transfer Time	Transfer Speed (bytes/ms)
Test.txt	1933 bytes	1.02 ms	1895.09
Ttaken.txt	3000 bytes	1.43 ms	2097.90
rough.bin	3000 bytes	1.70 ms	1764.70
a01test.bin	12000 bytes	4.80 ms	2500.00
test009.txt	8000 bytes	2.81 ms	2846.97
Experiment01.txt	4500 bytes	1.75 ms	2571.42
101.txt	14980 bytes	4.79 ms	3127.34
720exp.txt	31007 bytes	16.80 ms	1845.65

WORK ESTIMATE AND BREAKDOWN

For each team member, provide an estimate of the hours worked and tasks completed in the table format shown below.

Table 1 - Team Member Work Breakdown

Team Member	Hours	Task
Amritpal Singh	16	Worked with transferring file
Deep Patel	14	implementation, encryption, and time calculation