**CSE434 Lab 2 Report**

**Group 82**

**Group Members:**

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Exercise 1.1: Experiment: Constant Bit Rate

Chart

Description automatically generated

Video rate as a function of time

As shown on the diagram on the above, the playback does not have any rebuffering and the playback was not frozen.

Exercise 1.2: Experiment: Constant Bit Rate with Interruption

Chart, line chart, histogram

Description automatically generated

Video rate as a function of time

Yes, I am able to cause rebuffering. As annotated on the diagram shown below in red, there is a massive drop for video rate (region in pink) showing that rebuffering occurring and the playback is frozen during that time.

Chart, line chart, histogram

Description automatically generated

Annotated Video rate vs Time

Exercise 1.3: Experiment: Mobile User

Location 1: Long Island Rail Road

Chart, line chart

Description automatically generated Chart, line chart

Description automatically generated

Scaling Factor 0.1 Scaling Factor 0.6

For long island rail road, the throughput rises constantly until the 50 second mark before seeing a massive dip in throughput and some rises, but the throughput never recovers back anywhere near the original peak throughput. For the scaling factor of 0.6, the throughput rises constantly and at a certain point in time, there will likely also be some dips and rise in throughput. The scaling factor of 0.1 is insufficient to stream video as there is too much instability in the throughput. The scaling factor of 0.6 is sufficient to stream video.

Location 2: Ferry

Chart, line chart

Description automatically generated Chart, line chart

Description automatically generated

Scaling Factor 0.1 Scaling Factor 0.6

For the ferry, the throughput rises constantly up to the time at 40 second where there starts to be dips and rises in network throughput. For the scaling factor of 0.6, the throughput also rises constantly and there will also likely be dips and rises after a certain point in time. In both cases, the throughput enough to stream the video.

Location 3: Car

Chart, line chart

Description automatically generated Chart, line chart

Description automatically generated

Scaling Factor 0.1 Scaling Factor 0.6

For the car, the throughput is increasing constantly for both scaling factor of 0.6 and 0.1 but the scaling factor of 0.6 increases in throughput slightly faster than 0.1. At a certain time for both scaling factor, there will likely be some dip and rises. In both cases, the throughput enough to stream the video.

Location 4: Bus

Chart, line chart

Description automatically generated Chart, line chart

Description automatically generated

Scaling Factor 0.1 Scaling Factor 0.6

For the bus, the throughput is rises constantly for scaling factor of 0.1 and then there are some dips and rises after the 35 second mark. On the other hand, the throughput of scaling factor of 0.6 rises relatively constantly and then it will also have some dip and rises after a certain time. In both cases, the throughput enough to stream the video.

Yes, I can see the impact of scaling factor. Since the lower the scaling factor, the lower the network quality. So, the scaling factor generally worsens the throughput if it is lower.