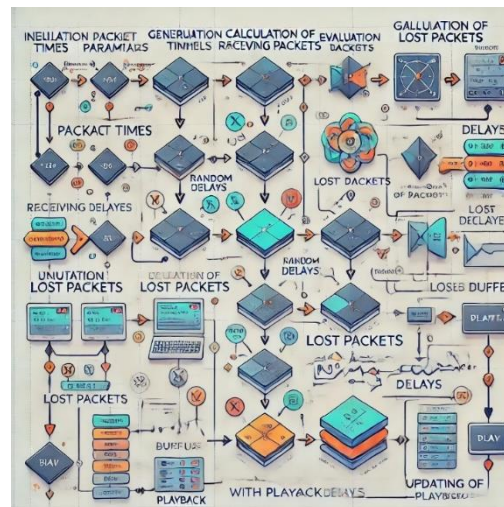


STREAMING LIVE MEDIA

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Our simulation is used to model the process of audio packets being transmitted. It is generating three curves

- i- A curve for packet generation given a start time and the number of packets to be transmitted.
- ii- A packet receiving curve by using a randomly generated set of network delays to each packet from the generation curve.
- iii- A playback curve by adding a playback delay to the received packets.

Simply the code work as the folowing chart

[Start]

|

[Initialize Variables]

|

[Generate Packet Generation Times] -- Loop i

|

[Calculate Receiving Times] -- Loop i

|

[Calculate Playback Times and Lost Packets] -- Loop i

|

[Determine Maximum Time]

|

[Set Canvas Dimensions]

|

[Initialize Maximum Buffer Count]

|

[Simulate Time Steps] -- Loop i

|

|---[Buffer Packets] -- Loop j

| |

| |---[Check Buffer Conditions]

| |

|---[Playback Packets] -- Loop j

| |

| |---[Check Playback Conditions]

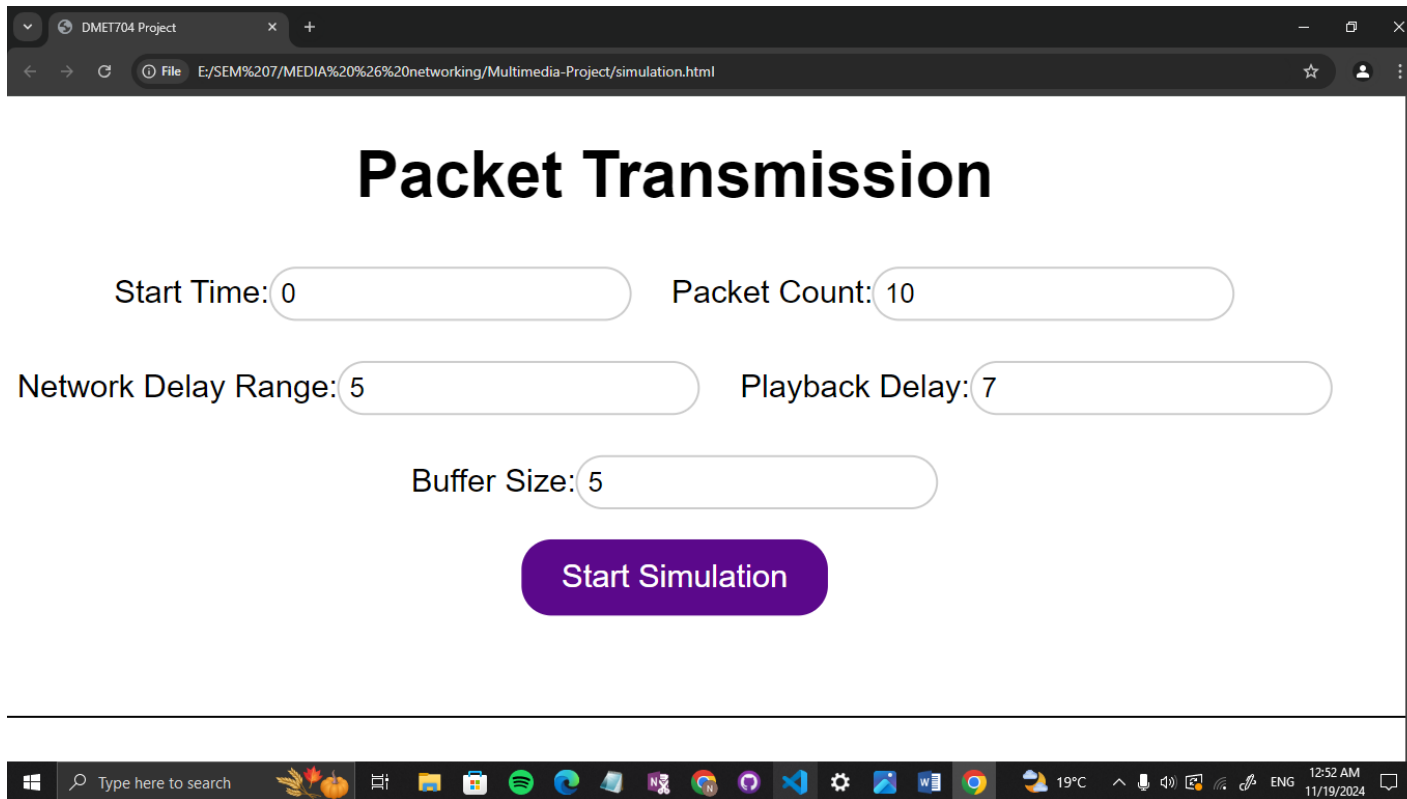
|

[Log Current Time and Buffer State]

|

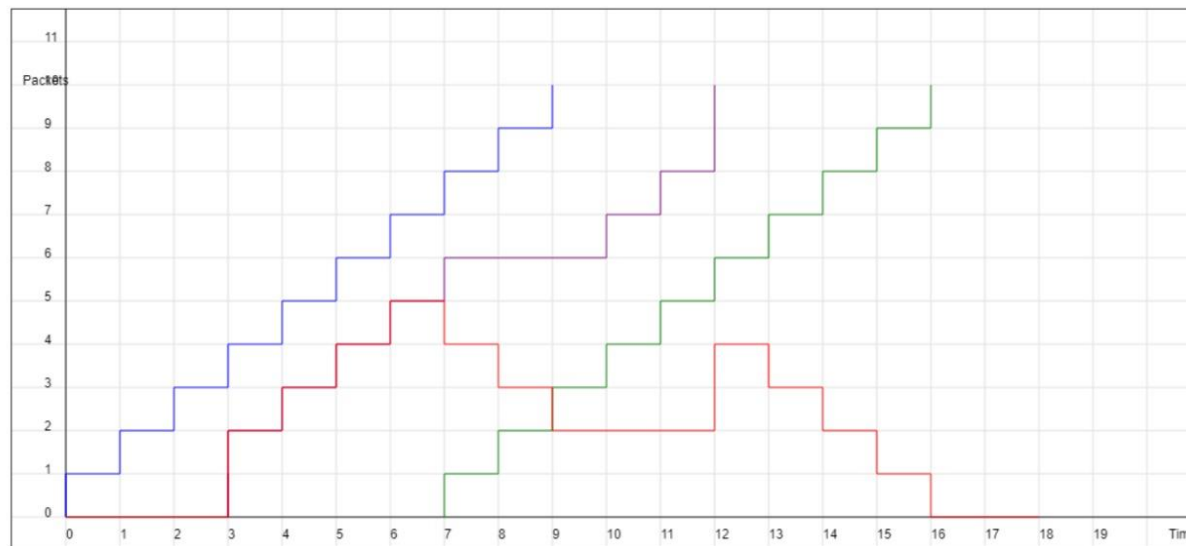
[End]

The front end provides HTML page which takes all details from the user



The screenshot shows a web browser window with a single tab titled 'DMET704 Project'. The address bar displays the file path: 'E:/SEM%207/MEDIA%20%26%20networking/Multimedia-Project/simulation.html'. The main content area features a large heading 'Packet Transmission'. Below the heading, there are five input fields for configuration: 'Start Time' with value 0, 'Packet Count' with value 10, 'Network Delay Range' with value 5, 'Playback Delay' with value 7, and 'Buffer Size' with value 5. A prominent purple button labeled 'Start Simulation' is centered below these fields. The browser's taskbar at the bottom shows various application icons, a search bar, and system status information including temperature (19°C) and time (12:52 AM, 11/19/2024).

Here is a sample of the output using the previous inputs



Simulation Results

Average Buffer Size: 2.642857142857143

Minimum Buffer Size: 5

Lost Packets: 5

Another values taken from the user

Packet Transmission

Start Time: 0

Packet Count: 13

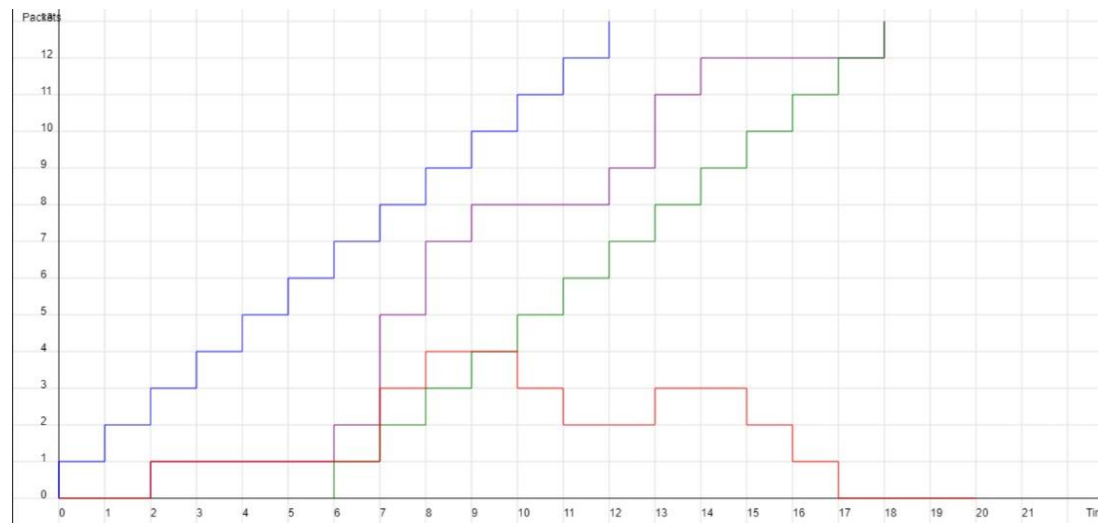
Network Delay Range: 5

Playback Delay: 6

Buffer Size: 8

Start Simulation

Here is a sample of the output using the previous inputs



Simulation Results

Average Buffer Size: 1.8823529411764706

Minimum Buffer Size: 5

Lost Packets: