CS3530: CN Project
Progress Report - Group 2

Resources collected

We found some repositories which are linked below:

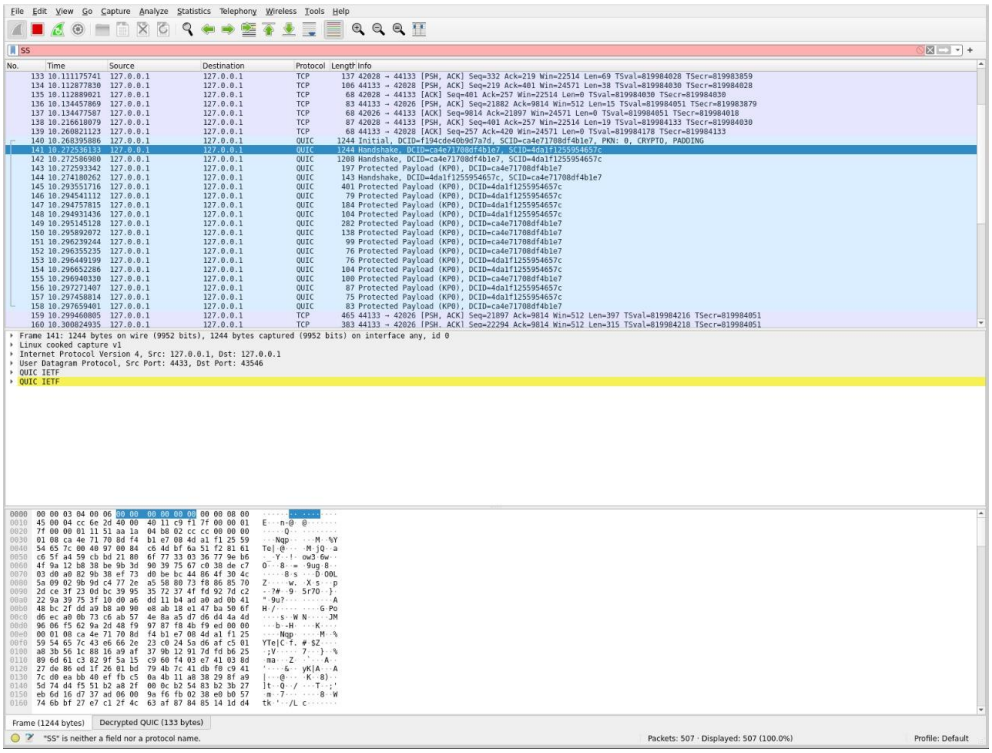
1. Head tracker using saliency map: https://github.com/phananh1010/PanoSalNet
2. QUIC implementation in python https://github.com/aiortc/aioquic

Experimentation with QUIC

We experimented with the code and established connection between server-client and tested the verification using wireshark.

As mentioned above we used aioquic open source library to establish the QUIC connection between client and server for which we wrote small python codes with help of examples provided by them which required understanding of aioquic and asyncio. Now the next step is to modify these codes and stream a video using DASH.

Here is the output of packet capture:



Experimentation with Dash

Simulation steps

a. Split the video and create manifest file using ffmpeg -

```
ffmpeg -i classroom.mp4 -map 0 -map 0 -c:a aac -c:v libx264 -b:v:0 800k
-b:v:1 300k -var_stream_map "v:0,name:800k v:1,name:300k" -f dash
-dash_segment_type mp4 -single_file 1 classroom_manifest.mpd
```

b. We can simply stream it to a server using a HTML file where we can add a source for video as a manifest file created from the above command.

Used DASH to stream normal video to client from server using TCP - for basic understanding

Objectives of this project

1. Main objective is to replicate the modules, integrate and experiment with the architecture proposed by our reference paper.
2. Extended goal will be to experiment with different modules for performance gains.
3. Improve head tracking using saliency map of VR video and current head position to predict the head movement.

Our code and progress can be found here: https://github.com/PushkalM11/CN-Project