**ABSTRACT**

- Shared Multimedia analysis is being used in fields such as Medical research, Intelligence, Web Analytics.
- Eye-Tracking aids in these fields by providing Eye Gaze information, so that participants get a better understanding of each other’s perspective.
- The framework focuses on video analysis between the users by synchronizing video playback and displaying a dynamic Heat Map of the eye-gaze information.

**BACKGROUND**

- Understanding human visual perception is one of the key areas of cognitive mapping and behavior studies.
- Majority research is directed to understand how information is retrieved from visual media by pairing eye-tracking and brain mapping technologies.
- Research is also conducted to understand how different kinds of visual media are perceived differently by different users.
- Earlier research was directed to create an application which is used to analyze images between remote users.

**SYSTEM DESIGN**

- **Hardware:**
  The hardware used for Eye-Tracking is manufactured by Sensomotoric Instruments. It is an Remote Eye-Tracking Device, which is installed on the system being used by client.
- **Client-side:**
  The client-side I runs a python-flask server, which sends data to the main NodeJS server, if the user has an eye-tracker installed on his system. The client accesses the web framework by opening up the Server-Side Rendered page.
- **Server-Side:**
  Server-Side was developed using Express NodeJS framework, and Rendered using VueJS. Communication between all the clients and server was based on web-sockets, which was done with the help of socket.IO
- **Architecture:**

**TECHNOLOGIES USED**

- Node
- Express
- Socketio
- Flask
- Vue.js
- Sensomotoric Instruments
- Python

**RESULT**

- Evaluations for the framework were based on testing the latency as the number of eye-trackers and clients increase on the framework.

**CONCLUSION AND FUTURE WORK**

- The Framework successfully shares eye-gaze information with amongst all the clients with synchronized video playback.
- Latency was observed when number of eye-tracker equipped clients were connected to the framework, which can be avoided by optimizing server-side code.
- Additional features such as voice communication between clients, and choice of color coding for rendered Heat maps can be added to the existing framework.

**REFERENCES**
