EE/CprE/SE 492 BIWEEKLY REPORT

9/14/2020 - 9/28/2020

Group number: 27

Project title: Big Classroom Support

Client &/Advisor: Dr. Lotfi

Team Members/Role:
Brendan Niroula - Leader
Ali Al Ahbabi - Front End Development
Jian Kai Lee - Back End Development
Zechen Huang - Facial Recognition Specialist

_____

## Weekly Summary

The objective of this week was to take a frame from the smart glasses live stream and send it to the back end, merging our backend server with our facial recognition server and to stream directly to the server from the smart glasses. We successfully merged the servers and are streaming to the server. We successfully lower the processing speed for face recognition. A change to the project is we are now taking a picture via the smart glasses then sending to the server instead of taking a frame of the live stream. Initiating the request for a picture will come from the android phone to the backend server, then to the smart glasses.

## Past Week Accomplishments

UI updates, streaming directly to the server, screen capture during livestream - Brendan Niroula
- Updated UI on the smart glasses to be themed more towards our project.
- Captured a screenshot of the live stream and successfully sent to the server.
- Now streaming directly to the server.

Rewrite code related to http requests and fix few bugs - Ali Al Ahbabi
- Rewrite http request to rename the profile photo same as the user email which will help to identify the photos for our algorithm
- Fix a bug in the android app where sign up page goes into infinity screen

Assist Zechen face recognition system migration- Jian Kai Lee
- Researched and worked on storing the live stream in file
- Assist Zechen to combine both backend and face recognition
- Tested backend functionality after combined

Finished server integration and optimise face recognition speed - Zechen Huang

- Server is integrated now
- Face recognition is fast enough to respond in 150ms
- Some limitation functionality for face recognition like limiting the uploaded image size added

## Pending Issues
- Issue where taking a picture during live stream causes live stream to pause

## Individual Contributions

| Name | Individual Contributions | Hours This Week | Cumulative Hours |
|---|---|---|---|
| Brendan Niroula | UI updates, screen capture during live stream, stream to server. | 6 last week and 6 this week | 101 |
| Ali Al Ahbabi | Rewrite code related to http requests and fix few bugs | 6 Last week and 6 this week | 92 |
| Jian Kai Lee | Assist Zechen face recognition system migration | 6 Last week and 6 this week | 96 |
| Zechen Huang | Optimize the face recognition server | 8 Last week and 8 this week | 98 |

## Plans for the upcoming week
- Process request from the server for a screenshot instead of a button on the smart glass device- Brendan
- Update UI to not include button to send picture - Brendan
- Send Captured Image to Android and change Database design  - Jian Kai Lee
- Try to use opencv to transform the image to a labeled image- Zechen Huang
- Assist Ali with new apis - Zechen Huang
- Add a feature in the app to request a screenshot from a specific glasses that is identified by an ID -Ali

## Summary of weekly advisor meeting

- Decision to initiate screen capture from the Android phone to the server then to the smart glasses