Team sddec20-19 Report 4 (09/29/20 - 10/12/20)

Summary

This sprint saw further development in each of our two development groups. The raspberry pi group was able to set-up an open access for each of the team members to be able to access the pi and have it on ISU's network. From there, we attempted to integrate Yolov3 onto our raspberry pi. We found that there was no significant drop in processing speed for the Yolo system to detect objects and people. Our backend team did some research on developing API's to try to choose the best technology for our project, and began fleshing out a new api using the .NET/C# framework. We've decided that we really only need a few calls for the API, so we figured we just need something reliable that can handle large SQL statements.

Individual contributions

Member	Contributions	Hours	Semester Cumulative	Annual Cumulative
Brandon Johnson	Attended 2 team meetings, team advisor meeting, configured raspberry pi, and tested Yolo on the pi	5	17	46
Angela Shauer	Attended 2 team meetings, team advisor meeting, and built API for database	4	17	54
Lance Demers	Attended 2 team meetings, team advisor meeting, and built API for database	4	17	44
Connor Sullivan	Attended 2 team meetings, team advisor meeting, configured raspberry pi, and tested Yolo on the pi	5	17	45
Nathan Oran	Attended 2 team meetings, team advisor meeting, built API for database, and wrote this report	4.5	19	51.5

Pending Issues:

N/A

Plans:

At this point, we plan on setting up a simulation of Yolo on the raspberry pi in one of Iowa State's classroom. We will stage a few photos and take and process them using the pi. From there, we can begin to develop the seating chart mapping algorithm from the output yolo data. We will also develop the 3 necessary API endpoints to add and edit seating charts, then for the raspberry pi to receive a schedule of captures based on the database classroom data. Finally, we will create the GUI for professors to enter seating chart data and schedule attendance image capture.

Develop API.
We need to develop an API that will store new class, professor, classroom, and picture scheduling data. Additionally, the API needs to be able to return an entire day's schedule of picture taking and classes for a single classroom.

Processing Yolo Results.
We need a way to take the students detected in Yolo and translate their locations into the seating chart to map attendance.