

sdmay19-08: IC Chip: Automated Clay Target Scoring System

Biweekly Report

1/26/19 - 2/13/19

Client: Dr. Henry Duwe

Faculty Advisor: Dr. Henry Duwe

Team Members:

Eva Kuntz – Software Architect Lead; Report and Communication Manager

Cole Huinker – Software Architect, Data Analysis, Computer Vision

Steven Sleder – OpenCV and Machine Learning Lead; Data Analytics Lead

Michael Ruden – Hardware Architect Lead; Prototype Manager

Keith Snider – Software Architect; Webmaster

Philip Hand – Hardware/Power

Past Week Accomplishments:

- Mobile Application:
 - Ability to add shooters to a Shooting Session.
 - Scoreboard finished and functional.
 - .gitignore setup completed.
- Hardware:
 - Started REST api development
 - Sent the order for the camera module to Dr. Duwe
- Machine Learning Model:
 - Finished training the model on a limited dataset on the Jetson TX2.

Pending Issues:

- The model is still not ready.

Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Eva Kuntz	Successfully implemented ability for user to add new shooters to a session and add multiple rounds to a session (See gitlab issues #21, #15). Experimented with video player in Xamarin.	20	120
Cole Huinker	Started Rest api (Flask/python)	15	110
Steven Sleder	Mostly waited for the model to finish training. Worked on reviewing and sanitizing everyone's' labelled data. Explored Amazon Webservice's EC2 training prices and usage. Changed to a different mAP implementation to output performance metrics.	7	112

Michael Ruden	Finalized the camera module for hardware, finalized the selection for on board computer	15	106
Philip Hand		19	95
Keith Snider	Organized our issues in gitlab. Discussed future features. Finished logic of Scoreboard. Updated ShootingSession logic.	21	108

Plans for the Upcoming Weeks:

- Eva Kuntz – Work with Keith to start an automated testing suite for the mobile application; Create a prototype of the video player in mobile app for client demo (Feb. 25th).
 - Cole Huinker – Have python server setup to that other devices can make calls to the api and classified data gets pulled.
 - Steven Sleder – Output performance metrics using mAP for the limited trained model.
 - Michael Ruden – If camera module arrives, start working on connection between camera module and the on board computer. Work on station 2 data labeling
 - Philip Hand – Finished up station 4 data labeling, created battery powered proposal
 - Keith Snider – Build Video Check Fragment
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