

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

Biweekly Report

4/1/19 - 4/14/19

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:
 - Implemented Iridium db for local data storage.
- Hardware:
 - Started REST api development
 - Sent the order for the camera module to Dr. Duwe
- Machine Learning Model:
 - Improved the model accuracy significantly

Pending Issues:

- Have not yet fully integrated the camera with the model by passing the file pointer directly into Darknet.

Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Eva Kuntz	Started and finished final poster, created final report outline and assigned sections to team members in addition to writing the report; revised project requirements and worked on 'future plan' for next senior design team.	16	182
Cole Huinker	Installed gstreamer and OpenCV to run the camera on board.	15	168
Steven Sleder	Re-checked all of the training data to remove the bad class labels, restarted training, sat down with Cole and got the drivers installed for the camera to work on the Jetson board, and started watching detection on whole videos from out set	16	194

	to see at what point the detection performs the best. Re-started training and evaluated the output scoring in the upper 80% for live and dead targets.		
Michael Ruden	Integration of camera	14	152
Philip Hand	Created list of viable battery choices and the necessary procedures to take care of each battery as some can be sensitive and/or dangerous	13	148
Keith Snider	Scrapped local DB due to lack of documentation and unsupported. Figured out original attempt to saving session data through app lifecycle. Started Testing project	22	180
