

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

Week 8 Report

11/4/2018 - 11/12/2018

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

Philip Hand – Device Connectivity Lead

Keith Snider – Software Architect; Webmaster

Weekly Summary:

Over the past week our team collected more data by observing the ISU Trap and Skeet Club at Izaak Walton Range. Additionally, time was spent reviewing and revising hardware and software test plans.

Past Week Accomplishments:

- Mobile Application
 - Started work on designing mock data for testing mobile application.
 - Revised and added to hardware and software testing plan.
- Data Labeling and Collection
 - Cole and Dr. Duwe went out to the Izaak Walton range in Ames to collect video data.
 - We collected video from stations 2 and 4.
 - We started the process of splitting the data and labeling.
- Yolov3 Model
 - Calculated anchor values for frame sizes
 - Transition to training on new dataset
 - Create demo for customer

Pending Issues:

- Label videos from new data collection session.
- Continue work on selecting hardware components.

Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Eva Kuntz	Created test plan for hardware and software to address non-function requirements; Revised functional requirements.	8	64

Cole Huinker	Collected video Data. Started the process of splitting up and labeling the data.	8	61
Steven Sleder	Playing around with various Python wrappers for trained YOLOv3 weights, calculated bounding box anchors	8	64
Michael Ruden	Start working on hardware development.	7	48
Philip Hand	Breaking up videos using Frame Ripper	7	46
Keith Snider	Designed mock data for testing mobile application.	7	53

Plans for the Upcoming Week:

- Eva Kuntz – Mobile application.
 - Helped Keith with designing mock data transmission.
 - Created test plan for non-functional hardware and software requirements.
 - Revised test plan for addressing functional requirements for both hardware and software components.
 - Cole Huinker – Data labeling and drawing boxes.
 - Finish labeling the video data.
 - Start drawing boxes in the still frames for the new dataset.
 - Continue to work on the Android app.
 - Steven Sleder – More data labelling and continue working on hooks for the model in a deployment environment
 - Michael Ruden – Data labeling and hardware development.
 - Philip Hand – continue to use frameripper program and labeling data
 - Keith Snider – Starting designing mock data transmission
-