sdmay18-03: Use of imaging devices and machine learning software to assist in autonomous ve
Week 4 Report
September 20 - September 27

Team Members

John Orefice — *Communication Lead*
Souparni — *Meeting Facilitator*
Fahmida — *Tester*
Ashley — *Document Manager*
Eric — *Webmaster*
Bowen — *Hardware Maintainer*

Summary of Progress this Report

The bulk of this working period was spent on finding ways to narrow down the scope of our project and also on deciding how we would divide the important tasks between the six of us. The initial plan required us to identify a large number of objects without having any efficient way to attain sufficient data sets for them. We have met with both our Dr. Stoytchev and SmartAg and have decided that we can focus on detecting a single object for now, and if it seems feasible we can expand on this library later in the semester. Based on this discussion we decided to list out the functional requirements, non functional requirements and the current risks to our project. We then updated this information accordingly in the first draft of our project to make certain all the relevant parties associated with our project are in agreement about the final outcome of our project.

Pending Issues

We are having trouble integrating DarkNet with OpenCV to get the image detection working in real time.
We are still unsure about how we will handle determining the distance to an object by using the 360 degree cameras SmartAg provided us.

Plans for Upcoming Reporting Period

We plan to brainstorm methods for distance determination as well as how to integrate OpenCV with the Darknet so we can begin testing its performance.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
John Orefice	Helped to finalize the scope of the project. Researched the basic concepts behind neural nets. Learned the basics of OpenCV and tried to get it to connect with darknet.	6	23.5
Souparni	Researched and tested OpenCV projects to become familiar with how it works. Look at ways to refine the project scope, shortlisted project ideas, and updated project plan. Set up darknet to recognize objects from images.	5	22.5

Fahmida	Researched resources on neural nets. Researched datasets for object detection (PASCAL VOC, MS Coco). Refined project plan by listing the current risks for our project.	3	20
Ashley	Researched image acquisition systems.Worked to refine project plan.	4	18
Eric	Updated the project website and uploaded the initial status reports.	2	18
Bowen	Installed OpenCV and learned basic operations. Researched neural networks. Helped to narrow down project scope.	2	17.5