sddec18-10: Holiday Reverse Programmable Light Strings
Week 7 Report
April 2 - April 8

Team Members
Mir Aamid Ahbab — *Electrical Engineer/Microcontroller*
Rajiv Bhoopala — *Web Application/Server*
Justin Falat — *Android Dev*
Aaron Hudson — *Web Server/IPC communication*
Michael Scholl — *Android Dev/OpenCV*
Robert Tyynismaa — *Android Dev*

Summary of Progress this Report
Looked at implementing a YUV to RGB algorithm within the android app for photo manipulation and light identification. Worked on getting the Raspberry Pi set up on the ISU network, this involved decided whether or not the Pi should be given a static IP. We were given an IP address for the Pi but it was not obtaining it correctly so the IP will be static. Began writing PHP scripts for the server so that it can interact with the web application. Also decided that the best way (for now) of storing the byte stream is going to be in a text file in a temp file system.

Pending Issues
Need to make sure the Pi gets a static IP address for communication purposes.

Plans for Upcoming Reporting Period
Mir - Soldering circuit together and testing functionality with a multimeter
Rajiv - Continue testing android application in conjunction with Raspberry Pi, trying to setup some sort of communication.
Justin - Test different methods of image subtraction while working with Robert to zero in on what format the images from the camera will be in.
Aaron - Getting communication to work with the android app and either the server or the vm. Also looking at the PWM controller code.
Michael - Would like to code the OpenCV aspect directly into the android application rather than try and work separately considering what i've learned. Some of the commands and functions might not work on the android application is what I have learned from research.
Robert - Implement the freezing of the camera settings and begin implementing the function for converting Android's YUV data to RGB array.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Mir Aamid Ahbab	Circuit fully designed, and ready for solder, Learning to Solder	2.5	18.5

Rajiv Bhoopala	Researched communication between android application and Raspberry Pi. Using barebones Android application to test it.	4	28
Justin Falat	Continued researching different ways of accomplishing image subtraction for LED detection based on format of image from camera (ideally RGB array).	4	26
Aaron Hudson	Continued setting up Raspberry Pi with php scripts to receive ajax/volley requests and store the byte stream to a text file.	4	25
Michael Scholl	Worked on creating what we need with OpenCv and python because Java was becoming increasingly difficult to find the correct commands. Have a basic version in Python but would like to create something directly into the App.	2.5	27.5
Robert Tyynismaa	Researched calls necessary to freeze camera settings as well as a formula for converting the image received in an android to an RGB array.	3	30.5