EE/CprE/SE 492 SDDec19-10

Programmable Holiday Lights

Week 4 Report

10/11/19 - 10/25/19
Client: Dr. Tom Daniels and Wife
Advisor: Dr. Tom Daniels

Team Members:
Jake Grace - Software Lead
Joe Nunez - Meeting Scribe
Chad Griggs - Report Manager
Valery Smith - Signal Processing Specialist
Thien Nguyen - Front End Dev/Web Master
Steven Williams - Hardware Lead

Past Week Accomplishments:

- Installed slip ring, buck converter, rounded edges of lazy susan base more to be not-as-oblong
- Reinforced the metal of the box with aluminum so it can be plugged/unplugged more effectively.
- Added Calibration webpage take takes pictures
- Added cooling vents to the box - still need to modify the lid to provide adequate cooling
- Discussed Daniels' idea for the light mapping and additional variables that may need to be taken into account.

Pending Issues

- Finish adding air holes in the box
- Code to convert 2d coordinates to 3d may be incorrect

Plans for Coming Weeks

- Describe algorithm for lights, start building program for it
- Fix/Finish code to convert 2d coordinates to 3d.

Individual Contributions

Team Member	Weekly Contribution	Weekly Hours	Total Hours
Jake Grace	Provided moral support. Worked out color ranges for possible calibration colors. Was able to retrieve coordinates for lights on the tree. Researching/testing different detection methods and camera resolutions. Fixed server bug causing communication issues between python and PHP	6	24
Joe Nunez	Met with Dr. Daniels to go through and work on the 2d to 3d conversion code. Wrote code to simulate 2d coordinates on a triangle to convert to a 3d cone. Met with the group and continued work on the conversion code where I found some minor issues that I'll have to work with Dr. Daniels on.	6	24
Thien Nguyen	Helped Jake understand HSV for Image Analyzing. Assisted Steven on producing a new lid cover.	3	14
Chad Griggs	Met with group, worked on finishing up the box and swapping out the lid	5	20
Valery Smith	Organized meeting with Daniels. Added page to website for calibration. Worked with to get calibration php page to run python script (took forever). Wrote python script to take test image for calibration page.	4.5	26.5
Steven Williams	Updated lazy susan, installed slip ring and cables, added support to box, and added cooling vents. Designed a pattern for box lid holes and discussed Daniels' algorithm	10	35