

WEEKLY REPORT 06**March 15 - April 5****Group number:** 10**Project title:** Learning Holiday Light Project**Client &/Advisor:** Dr. Thomas Daniels**Team Members/Role:**

Jacob Grace

Joseph Nunez

Thien Nguyen

Steven Williams

Valery Smith/Signal Processing Specialist

Chad Griggs

Weekly Summary

This report covers the week of spring break and the following where a report was not needed due to the design document being due. The first draft of the design document was finished on March 28th. Software team continued to research calibration ideas as well as researching a way to model the tree. Network issues were discovered and troubleshoot. A phone is being used a tether to simulate a user's home wifi. The LCD has been fixed and can now display the IP address without using an HDMI monitor. This will be helpful in testing and incorporated into the final design. And lastly, after a lot of cleaning of the previous group's LED control and lots of rework including reinstalling libraries, we can now control individual LEDs using the Neopixel Python library.

Pending Issues

The case for the hardware is much too flimsy and flexes when the power cable is connected and disconnected. Steps are being taken into reinforcing the areas surrounding the plug to prevent any damage being done to the case.

During a team work session, a wire touched the exposed connector where 120VAC comes into the power supply. A couple wires were fused together; these wires were deemed a total loss. A couple of the first LED's on the first strand have been fried, this needs to be investigated. We have the option of cutting them out and soldering the connector back on, but it needs to be determined just how many have been lost. Safety is also a concern now. We are looking into solutions to cover the exposed connector. We also might need more wires, probably female-female jumper wires.

Plans for Upcoming Week

We will continue to research methods to strengthen the case around the power connector as well as covering the exposed wire to make sure no more accidents happen.

We will continue to develop the method in which the LEDs are controlled now that we have that part working.

Valery's plans/goals for next week are to get pictures of each position the lights will be in for calibration this will allow us to remotely develop a calibration algorithm.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Jacob Grace	<p>This week I continued to research/test image recognition. I am trying to come up with a way to make a digital model, but I am starting to believe this may not be possible without a UI.</p> <p>Worked in the lab with the team building and testing multiple aspects of the project</p>	8	28
Joseph Nunez	<p>Worked on the design document and did some re-phrasing. Changed gears on the Web Application; researched ways to show a model of the tree on the web app for calibration, this may be a 3d model or a 2d "unroll" of the shape. Also researched some basic image recognition however the software team will need to decide what we do.</p>	4.5	20
Thien Nguyen	<p>Recommended ideas for reinforcing the container. Suggested phone tether for home network connection. Reinstalled the NeoPixel library with Valery. From there, can use the individual pixels for calibration.</p> <p>Will need to work with Jacob for Calibration.</p> <p>Team is now concerned about safety because I was the one that triggered the exposed electrocution.</p>	8	22
Steven Williams	<p>Troubleshooted network issues with RasPi and came up with a solution (using a phone as a tether to simulate user's home wifi network). Worked on the design document as well</p>	5	28
Valery Smith	<p>Week prior to this I soldered the I2C backpacks to the LCD screens, and worked on the design document.</p> <p>This week I met with the group both on Sunday and Tuesday. Sunday I wired and wrote code for the LCD screens to display the IP address. This includes the potentiometer. Tuesday I worked to get a working library for the lights. We went with Adafruit's Neopixel. Also made sure Python3 works on the Pis.</p>	8	32.25
Chad Griggs	<p>Continued work on design document. Met</p>	9	25.5

	<p>with team to work on controlling the LEDs. Looked into solutions for improving the case as well as covering bare connections. Tested the components inside the box to make sure nothing was destroyed as well as helped test the LEDs that may have been burnt up.</p>		
--	---	--	--