WEEKLY REPORT 05

March 8 – March 15

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

(Short summary about what the group did for the week. This should be about a paragraph in length. These are just a few questions to help you get started. What was the overall objective for the week? In general, what tasks were completed? Were there any changes made to the project?)

This week we focused on design and finishing the power system. We began testing the power system, and will need to test more next week. We added LCD screens to the design, so that we can view the IP addresses and the temperature without an HDMI. We also discovered network issues.

Pending Issues

Network connection and registration - ras pi is not netregged
heating issues - voltage regulator, power supply, etc are warm. Must figure out air flow and heat mitigation

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Currently, the Pi does not receive enough voltage from its current source (GPIO pins); temporary we remedied this with the Micro-USB, but we would need to seek a way to use the power from a single outlet rather than having two plugs (micro-USB and Power Supply).
This may be related to the voltage regulator?

The Strand of Lights is not getting the signal from the GPIO Pin on the PI.

The Pi does not have a static local IP Address (Low Priority);
However, it cannot connect to the ISU Network (NETREG Issue). It can connect to other devices fine.

Plans for Upcoming Week

(Please describe duties for the upcoming week for each member. What is(are) the task(s)?, Who will contribute to it? Be as concise as possible.)

Valery's goal for the next school week is to get a good set of pictures (400) to use for testing and designing image processing.
Steven’s goal for the next school week is to identify the network issues plaguing the Pi, looking into getting a static IP, adding a heat sink to the voltage regulator and investigating power issues if they persist.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Jacob Grace	I have been doing research on how to perform image recognition with the Pi. I found a site that walks you through setting up the Pi to detect objects. I plant to use this idea an adapt it to discover light positions on the tree. I also found an example of measuring distances with the Pi camera, I want to try to adapt this to the project so we could measure light distances (if necessary)	4	20
Joseph Nunez	Worked on the web application that will be loaded onto the Pi to offer individual control of the LEDs. this will expand into being able to drag and drop sequences, patterns, and images to be displayed on the tree.	4	15.5
Thien Nguyen	Troubleshoot Pi's voltage issue with Valery. The designated GPIO was not giving the current for the lights.	2.5	
Steven Williams	Met with client and TA. Finished soldering power system and box construction. Troubleshooted	6	

	power issue and network connection issues		
Valery Smith	Met with client and with TA. Attempted to run a light program and ended up debugging with Thien. We're unable to find a pin on the pi at was out putting an oscillating signal. Also worked on understanding design and design diagram. Decided to add LCD screens to pis and ordered parts for those.	4.75	~24.25
Chad Griggs	Continued work for design document which includes test plan and diagrams	2.5	