WEEKLY REPORT 03

February 15 – March 1

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
      Chad Griggs

Weekly Summary

This weekly report is for the last two weeks. Over the course of the last two weeks several things were accomplished. The project plan version 1 was finished last week. Finishing some concerns from the time of the last report, we research calibration methods, turned on and tested the LEDS and pi. Recently, after obtaining a picam and another pi from ETG a program was developed to take pictures. Other hardware tasks completed include organizing the layout of the control box and drilling holes for mounting the units inside the box. The voltage and power requirements for pi and the LED data control signals has been determined.

Pending Issues

- Need to develop case for piCamera system (purchase or 3D print - CAD work, depends on power system)
- Need to develop solution for powering piCamera (wired, battery, solar panel)
- Networking requirements for devices (static IPs, network folder mapping, data types)

Plans for Upcoming Week
Display patterns on tree
Determine data structure for storing coordinates
Finish mounting units in box, solder/connect wiring

Light Strands Coding (Software Team)
- Analyze the previous team's Light Strand code; use their libraries.
- From scratch, remake how the individual lights will turn on. API-Style?
  - This.light(RGB, Intensity)

Create the Server (backend) & front-end page for Pi and Client to communicate (Software Team)
- Should allow for commands to signal Pi to do something; or upload images.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Jacob Grace	Analyzed previous groups code with Thien. Tested pi and light string functionality. Set up basic http server and designing the API to be used to change the lights. Continued research on the best way to perform the image recognition now that I realized we should stay on the Pi and not a remote server for calculation. Learned Python	6	12
Joseph Nunez	Researched alternate auto calibration techniques. Attended Thursday's meeting and took notes for the group regarding meeting topics and new ideas. Reviewed the previous team's code to determine where the auto calibration may fit in and discussed new purchases with the team such as another camera.	4	7.5
Thien Nguyen	With Jacob, analyzed the previous team's Light Strands Code and how they functioned on tree. Discussed w/ SW-Team on how to approach server. Website + Doc. Format.	5	9.5
Steven Williams	Created diagrams for mapping hardware layout, obtained mounting hardware, created holes and mounted hardware. Tested power supply	6	11.5

Valery Smith	Documented calibration ideas, checked out camera and 2nd pi, installed share drive software on both pis, wrote camera program, tested share drive and camera. Set up tree and ran old team's code	7.75	13.25
Chad Griggs	Created diagram for project plan. Researched calibration methods.	6	11.5