EE/CprE/SE 492 WEEKLY REPORT 1
8/27– 9/10
Group number: 10
Project title: Holiday Arboreal Light Project
Client &/Advisor: Tom Daniels x 2
Team Members/Role:
       Aaron - Raspberry Pi and Inter-process Communications
       Rob - Android Developer
       Rajiv - Web App Dev/Android Dev
       Justin - Web App Dev/Android Dev
       Michael - Image processing/data storage

Weekly Summary:

The bulk of what was accomplished during this report period was the PIRM presentation and figuring out the plan of attack for what we need to work on in the coming period. The group established roles for everyone and what needs to be done in the upcoming period.

Past Week Accomplishments:

Roles were established and a timeline was established for the semester, with tasks doled out appropriately.

Pending Issues (if applicable):

Individual Contributions (optional but must include hours worked):

Name	Individual Contributions	Hours this week	Cumulative hours
Aaron	Worked on PIRM presentation. Looked into proper PWM controller library. Tested Arduino controller with tree to make sure everything still works.	6	6
Rob	Worked on PIRM presentation. Worked on mobile app, locking camera settings and converting images to grayscale	6.5	6.5
Rajiv	Worked on PIRM presentation. Worked on setting up a web page with button on raspberry pi server with Justin	6	6
Justin	Worked on PIRM presentation. Looked into setting up a web page with a button on the pi	6	6

	server.		
Michael	Worked on PIRM presentation. Worked to analyze previously recorded video using a python script. Then taking the light values of the image to compare to a background. Also tried a way of analyzing the images based on changes from the previous image. Then worked to try and get the tree lit up again using the arduino.	8	8

Comments and Extended Discussion (optional):

Plans for Upcoming Week:

Name	Plan for the week
Aaron	Implement PWM controller library on RPi. Work on loading pre-made patterns onto the lights.
Rob	Continue to work on mobile app, fine tuning the image conversion and getting images to other members to test light detection
Rajiv	
Justin	
Michael	I would like to get the tree working so that I can get images of just individual lights being turned on and off. Now this either means using the Arduino or PI but it doesn't matter. Then from there working on the video analysis code.

Summary of Weekly Advisor Meeting:

- Android only in learning process, once setup is done then the phone is not needed anymore
- Web app does all of the loading to the tree and designing different patterns
- Learning pattern signal sent from android to pi to begin the pattern for the learning of the light locations
- Light up the edge of the tree for rotations (web app) down edge of the current visible side of the tree
- Most computational processing and coordinate logic for each LED will most likely be done on the web app side
- Use video, low compression. Extract frames with FFMpeg
- Sending video vs images, video may be smaller than images but challenges in processing
- Sync issue - how does the start of the video line up with the pattern
- Possible to do it synchronous, send confirmations
  - Analysis on Pi in that instance