Journal Report 5
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Steven Le
Computer Systems Research Lab
Period 1, White

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## Daily Log

### Monday September 30

I spent today fixing a few bugs in the code where it was only running height detection on one file repeatedly, managed to fix it eventually by tracing through the code.

### Tuesday October 1

Today, I managed to run the code on the entirety of my images folder. However, I realized that I had to differentiate between each plant that I had (I was growing 6). I went back to my old edge detection code, and alternated adding a-c to the output image names in order for the height detection code to differentiate between different plants. Spent the rest of the time letting the code run on the new images.

### Thursday October 3

An update for VMware came out, so I had to take a while to download it before my system would let me use the openCV virtual machine again. Later on I played with the matplotlib library in order to graphically display an image of my data. I displayed height data on a daily basis, and noticed a mostly upward trend, which fit with my postulation.

## Timeline

| Date | Goal | Met |
|---|---|---|
| Today minus 2 weeks | Finish edge detection on all images gathered | Yes, was successful in creating clean images that were run through edge detection, and outputting them as jpgs. |
| Today minus 1 weeks | Gather height data from the edge detection and detect growth over all the images collected | Was able to detect the height of a plant in an image in meters, but have not progressed with actual growth over time. |
| Today | Be able to output height for all images, and also display some sort of visualization for height over time | Yes, was able to display the detected height of all my images eventually. |
| Today plus 1 week | Work further on processing height data with data analysis, such as regressions. | |
| Today plus 2 weeks | Start on the web application design to implement the data processing and edge detection into | |

## Reflection

I encountered more bumps in the road this week than previously. I realized in order to get any meaningful results, I had to differentiate between the six plants I had monitored. Luckily, I remembered that when I was taking images, I took the pictures in the same order every time, so it wasn't a hassle figuring out which images were of the same plant. However, I reazlied I had no timestamps for my images at all, so I just assumed they were taken 2 days apart. When I grow my new plants, I will make sure for my code to also keep track of the date to produce more meaningful data.

However, I want to expand on this feature of my project further. I think I want to start by running a linear regression for each plant, and researching further ways I can use my data. The eventual application will let a user change which plant they wish to inspect, and can view things such as projected growth with ease. To this end, I've given myself another week to think of more ways to present my data in a more nuanced way before I get started with app design.