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18-578  
Team F  
Individual Lab Report 6

## **Individual Progress**

After last system demonstration, we realized that a code clean up was in order. It was hard to understand the code given the formatting and such. I directed SooHyun and David to clean up the code for the next system demonstration.

I resolved technical issues as necessary for the programming of the system. One such issue was that the power supply current limited the system. This was a rather simple fix, but we also had the usb port on a SooHyun computer get fried. So this caused the system to not work, which seems strange on the surface.

I have been working on making progress on the CMUcam4. Midway between system demonstrations, I received a new CMUcam4. Figure 1 is an image from the new CMUcam4. When I tried to integrate the state machine with the CMUcam4, there were issues. Typically, we can just cycle through switching color models as needed. Instead, it is giving an error after the first color track. I describe this further in the Challenge section.

I was tasked with being responsible for getting the system together for the demonstration. I was in the lab at 8 am until the demonstration time working on the system. Richard was there to assist me in getting the system ready. There were mechanical issues and CMUcam4 issues, some of which are described in the Challenges section.

To prepare for the next series of tasks, I designed what the perf board layout will be. Figure 2 illustrates this.

## **Challenges**

Basic technical bugs have been a frustration. Little things here and there that slow down the development process.

It has also been hard because we've had to wait for parts. Some parts didn't work together as well as anticipated. Unfortunately, Richard had a family emergency on Tuesday, thus no new parts could have been manufactured the day prior. Also unfortunately due to the family emergency, he won't be able to manufacture parts until next Monday.

Another challenge is that I've had to operate at hours when there aren't many in the lab. So this means weekends and very early mornings. To add to the frustration, Tuesday night is usually the big weekly push to get things done.

Unfortunately Curtis was working on the shooting mechanism until 10 pm, which unfortunately made us sit around for a few hours waiting to use it.

The new CMUcam4 has had some issues. This has made me very frustrated. As mentioned earlier, integration of the CMUcam4 and the state machine has been difficult. I tried many things to try to determine what the issue may be, but it has proven to be difficult. When I switch to basic camera test code, it seems to work, but not quite as expected. If I communicate serially with the Parallax Serial Terminal, the image is great. The targets are crisp and perfect. However, the same RGB values seem to be getting sent and the image isn't the same. This is problematic since it is unclear as to what could be the issue. I will need to continue debugging this issue.

### **Teamwork**

As usual, we split up the work. I took the lead on the CMUcam4, Richard worked on the Mechanical parts, and David and SooHyun did the programming.

We really came together as a team to make progress this past week. Given Richard's situation, I believe we'll come together even more to strive for success.

### **Future Work**

So basically this past week has been a building week for us. All the work has been towards our finished product. We will continue with the same job roles, except this week I will also work on the technical aspects of the perf board.

As mentioned earlier, I need to work on the CMUcam4 to determine what the issues are with it.

## Figures

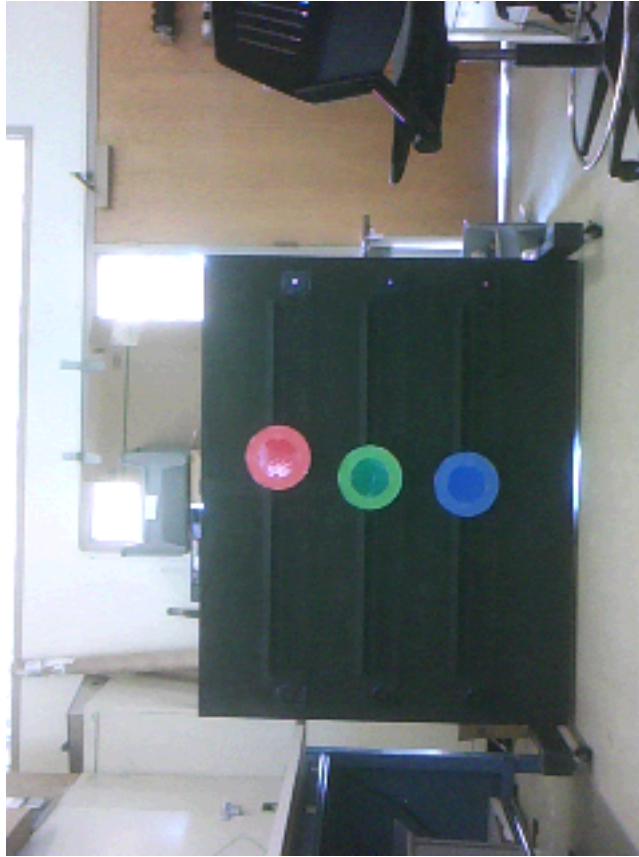


Figure 1. Image from new CMUcam4

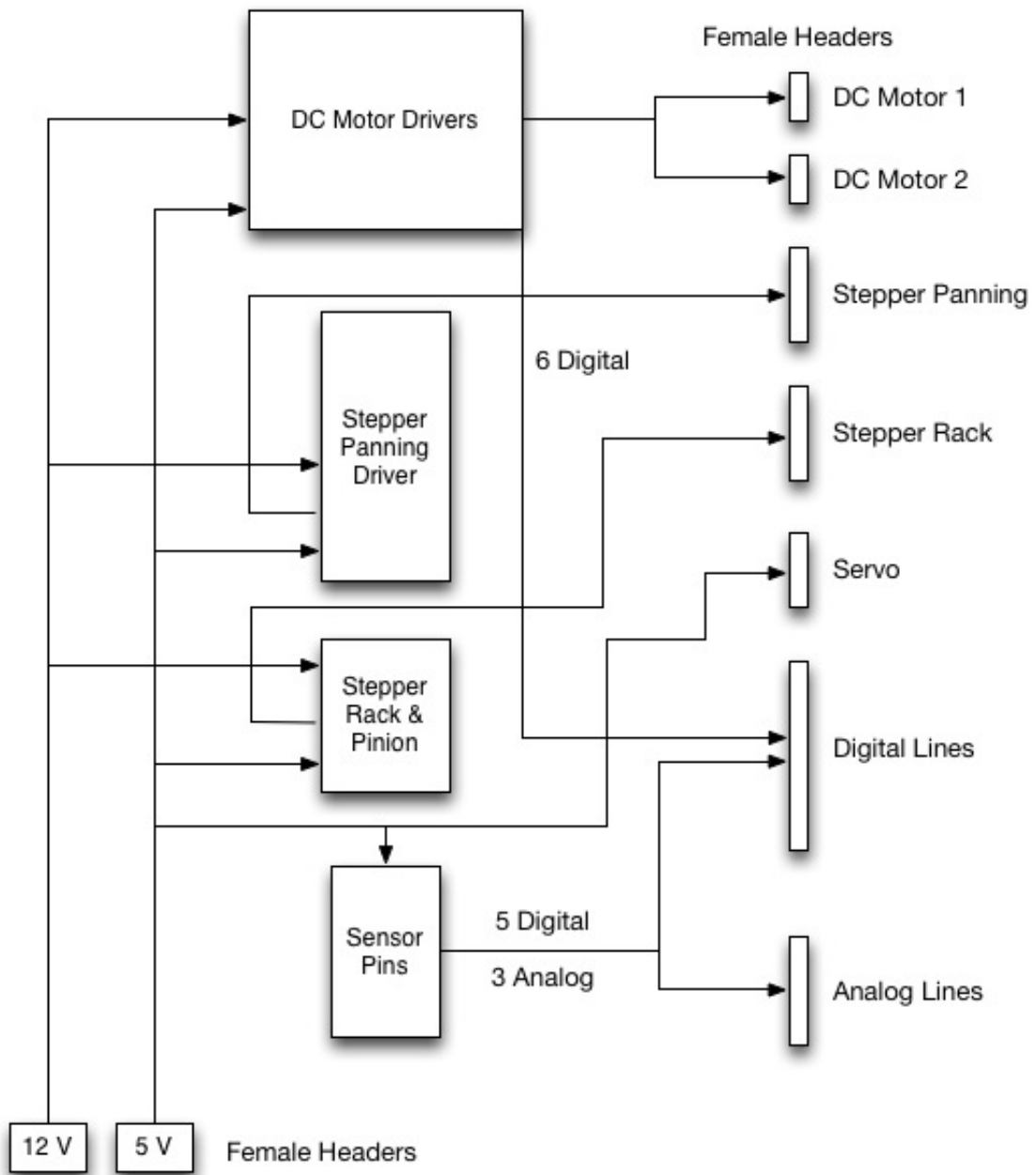


Figure 2. Perf Board Layout

## Code

As requested in my last ILR review, the code is in flow chart form. This is very basic.

