

Trevor Decker

IRL 07

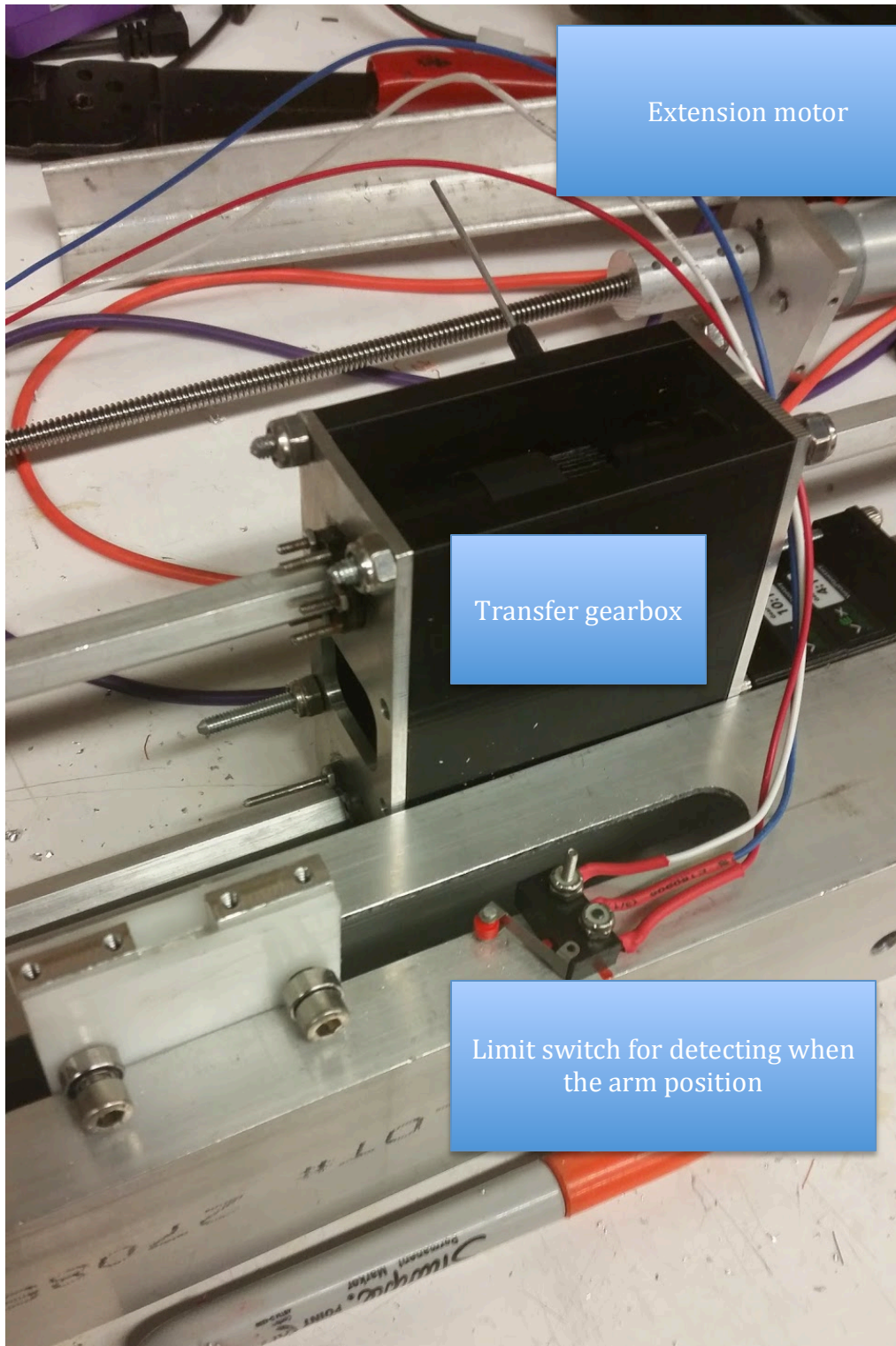
Team B the Monkey Bots

Team mates:

Steph Chen

Ian Rosado

Ian Hartwig



**Figure 1 shows the extension motor, the transfer gearbox/motor, and one of the arms safety limit switches.**

### **Individual contribution**

This week I worked on the assembly of our robot for the weekly demo. Figure 1 shows the robot before it was assembled. In preparation of the assembly I attached limit switches to the robot so that we could detect when the arm had extended too far. I also wired the extension arm and transfer gearboxes (both pictured in figure 1). Additionally this week I lathed down the acme rod to motor coupler, wired the and finished the design for the cleaning unit.

### **Team work**

I worked with Steph on the website and helped her find what parts of the robot needs to be modified so that the arm can extend smoothly. Steph worked on machining parts for the extension arm and pivot gear boxes.

I worked with Ian R to begin the assembly of our cleaning unit. Ian R worked on machining parts for the pivot gear boxes and assembly of the cleaning unit.

I worked with Ian H to complete assembly and testing of the arm/pivot gear boxes. I also worked with Ian to begin programming the st discovery board we plan to use for controlling the robot. Ian H primarily worked on the pivot gear boxes.

### **Challenges**

The main challenge that we are facing is the limited amount of time we have left in the semester. The robot has to be ready in 3 weeks.

We have also run out of budget, due to several parts breaking during manufacturing and higher then expected shipping prices we have exhausted our budget.

The gripper design needs to be finished.

During manufacturing one of the worm gears that we planed to use for the pivot units cracked.

The delrin we planed to use for the rollers on the cleaning unit are slightly more then 1/8 in so we needed to redimension the cleaning unit.

### **Plans for next week**

For next I plan to have the extension arm fully wired, and be able to read both digital and analog sensors. I also plan to be able to send pwm signals to motors.

For next week team B plans to be able to rigidly attach the arm to the 8020 window frame and clean a 12" horizontal section of the window (autonomously)