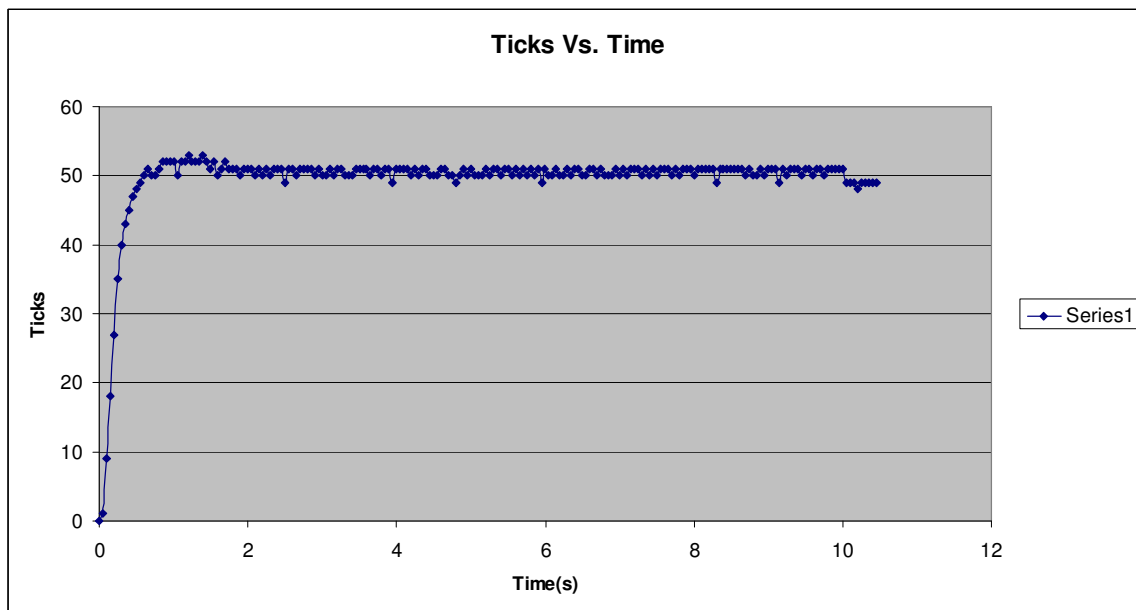


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Weekly Report 8

This week I put switches in the robot to toggle the main power. I also developed PD controllers for the drive motors. I ran a uart to my ftdi cable for data acquisition to HyperTerminal. I then copied and pasted the data into excel. Here is well tuned controller feedback graph.



The settling time was ~.3 seconds and there was nearly no overshoot. The graph shows ticks of my homemade encoders over a period of 50 ms. The controller was designed to stay at 50 ticks. I have since overhauled my controllers by switching to fixed point math. I also am now using an output compare interrupt to trigger the PD corrections.

I have also modified my motor power supply by regulating it to 12V. This allows me to use a wall power supply instead of batteries for testing, and the robot will be under constant voltage when I tune my new PD/PID controllers.

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