Lab 3  
CMPE118, Fall 2014

Turn in this sheet with your Lab Write Up. One Lab Write up per partnership. You will find the lab instructions on the class webpage: classes.soe.ucsc.edu/cmpe118/Fall13/TheHallway.html

1 Schedule and Contact Info

Choose a partner and submit your choice to: http://tinyurl.com/Lab3Partner Please fill your schedule with your partner in the calendar and proposed tasks. Class averages 30 hours per person a lab so schedule accordingly. Write actual Time spent below the scheduled task, preferably in a different color.

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Your Name: ___________________________  Partner’s Name: ___________________________
Your Email: ___________________________  Partner’s Email: ___________________________
Your Phone #: ___________________________  Partner’s Phone #: ___________________________
Lab 3 Turn-In Requirements

2 Check OFFs

Part 1: Driving RC Servo Check: Tutor/TA Signature: ________________
Demonstrate that the potentiometer controls the servos and LEDs

Part 2: Interfacing with DC Motor Check: Tutor/TA Signature: ________________
Demonstrate that the potentiometer controls the motor speed and LEDs. Show a scope trace of an inductive kickback response.

Part 3: Understanding DC Motors Check: Tutor/TA Signature: ________________
Show scope traces from each experiment to staff and be prepared to answer questions.

Part 4: DC Motor/H-Bridge Check: Tutor/TA Signature: ________________
Demonstrate that the potentiometer controls the motor speed and direction (and LEDs reflect these states).
Part 5: Stepper Motor Driver Check: Tutor/TA Signature: ________________
Show off your stepper motor with the stepper module.
Reproduce experiment you used to find maximum step rate.

Part 6: Interfacing with Stepper Board Check: Tutor/TA Signature: ________________
Demonstrate working setup and show off code.

3 Pre-Lab Due Wednesday October 29th 6pm

Part 1: Potentiometer Schematic and Block Diagram for whole set-up
Part 2: Block diagram and initialization code
Part 3: Block diagram and schematic of breadboard circuit
Part 4: Block diagram
Part 5: Block Diagram, 3 state machines
Part 6: Block diagram

4 Lab Write-Up Due Monday November 3rd 6pm

Make sure to include Intro, Methodology, Results, and Conclusion sessions.
We appreciate insightful and succinct reports.

Part 1: Scope Traces of the output of servo control pin
Part 2: Block diagrams, final program, labelled scope traces
Part 3: Annotate scope traces
Part 4: Block Diagram and Code
Part 5: Block diagram and code
Part 6: Block diagram and code

Partner Evaluation: Submit through http://tinyurl.com/Lab3PartnerEval