Lab 3  
CMPE 118, Fall 2013

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](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](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.

<table>
<thead>
<tr>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
<th>SATURDAY</th>
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<tbody>
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<td>Oct 21st</td>
<td>1 22nd</td>
<td>23rd 3</td>
<td>24th 4</td>
<td>25th 5</td>
<td>26th 6</td>
<td>27th 7</td>
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<td>– Scheduled Time</td>
<td>Handed out</td>
<td>Pre-Lab Due 6pm</td>
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<td>– Task</td>
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<td>30th 31st</td>
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| 29th 9 | 30th 31st | Nov 1st | 2nd | 3rd |

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: Controlling DC Motor Check: Tutor/TA Signature: ______________________
Show off your program with block diagram
LEDS should show the gradiency

Part 2: Understanding DC Motors Check: Tutor/TA Signature: ______________________
Show off your scope traces from each section
Explain your new insights about waveforms, zeners, and software control

Part 3: Directional motor control Check: Tutor/TA Signature: ______________________
Show off your directional program with block diagram
LEDS should show gradiency in both directions

Part 4: Stepper Motor Check: Tutor/TA Signature: ______________________
Show off each mode (Full Wave Drive, FullStep Drive, Half Step Drive
Explain the difference between each mode

Part 5: Stepper Motor Driver Check: Tutor/TA Signature: ______________________
Show off your stepper motor with the stepper module and board
Explain the differences and how well the new types of drives work

Part 6: R/C Servo Check: Tutor/TA Signature: ______________________
Servo follows potentiometer
Explain the limits

3 Pre-Lab Due Wednesday October 23rd 6pm

5 Very illustrative Block Diagrams (one for each section but 2)
1 PWM State Diagram
Answer to Part 0.2

4 Lab Write-Up Due Monday October 14th 6pm

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

Answers: 1.7, so many for part 2, 3.5, 4.6, 4.7, part 5 comparison, 6.4, 6.5

5 Revised Block Diagrams: Block diagrams (one for each section but 2)
Code: Part 1 DC Motor Program, Part 3 Directional DC Motor Program, Wave Drive and Half Step Drive, Part 6 Servo driving
Scope Traces: 8 from section 2

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