

Lab 3 grading sheet

Students name 1) Last _____ First _____ EID _____
Use same spelling as listed on Blackboard

Students name 2) Last _____ First _____ EID _____

Circle instructor: Valvano TTh5
Telang MWF2
Yerraballi TTh3:30 or MW3
Gerstlauer TTh2

1. Deliverables 20%:

0) This sheet

Combine the following components into one file (pdf, doc, or docx) and upload it to Blackboard before your checkout time. Have this file open on the computer during demonstration. In lieu of uploading the one file you can print these items and staple them together.

- 1) Circuit diagram, using PCBArtist or hand drawn
- 2) Switch measurements (Table 3.1)
- 3) LED measurements (Table 3.2)
- 4) Assembly source code of your final program

2. Performance 40%:

Does it handle correctly all situations as specified?
How pretty is the software?

1)

2)

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3. Demonstration 40%:

You will show the TA your program operation on the actual 9S12 board. The TA may look at your data and expect you to understand how the data was collected and how the switch and LEDs work. Also be prepared to explain how your software works and to discuss other ways the problem could have been solved. Why the 7406 was used to interface the LED? I.e., why did we not connect the LED directly to the 9S12. Why do you need capacitor for 7406 chip? If there is a capacitor across +5V to ground on the microcontroller board, why is a separate capacitor needed at this chip? Why was the delay increased from 1 to 62 ms? How would you modify the software to change the rate at which LED flickers? What operating point (voltage, current) exists when the LED is on? Sketch the approximate current versus voltage curve of the LED. Explain how you use the resistor value to select the operating point. What is the different between a positive logic and negative logic interface for the switch or the LED? We may test to see if you can measure voltage, current and/or resistance with your meter (so bring your meter to the demonstration).

1)

2)

Total:

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