

Lab 4 grading sheet

1) Name Last_____ First_____ EID_____

2) Name Last_____ First_____ EID_____

Use same spelling as listed on Blackboard

1. All source files that you have changed or added (like main.s) should be committed to SVN

2. Deliverables 20%:

0) This sheet

Combine the following components in this order into one pdf file and commit it to Lab4 folder in SVN before your checkout time. Have this file open on the computer during demonstration.

1) A screenshot showing the system running in simulation mode. In the screenshot, please show the dumped data in a memory window and the I/O window, as illustrated Figures 4.1 4.2.

2) Estimation of the execution time of your debugging instrument `Debug_Capture` (part b)

3) Results of the debugging instrument (part e) and the calculation of the flashing LED period in msec.

3. Performance 35%:

Does it handle correctly all situations as specified?

4. Adhere to coding standard 5%

Good Names have meaning, Variables have units in comments

Consistent indentation, Consistent style

1)

2)

5. Demonstration 40%:

You will show the TA your program operation on the actual TM4C123 board. You should be able to connect PF2 to an oscilloscope to verify the main loop is running at about every 62 ms. The TA may look at your data and expect you to understand how the data was collected and what the data means. Also be prepared to explain how your software works and to discuss other ways the problem could have been solved. Why did you have to change the delay function after the PLL was activated? How did you change it? Why? The TA will pick an instruction in your program and ask how much time does it take that instruction to execute in μsec . Does it always take same amount of time to execute? You will be asked to create a breakpoint, and add the port pin to the simulated logic analyzer. Is `Debug_Capture` minimally intrusive or non-intrusive? What do you mean by intrusiveness? Is your code “friendly”? How do you define masking? How do you set/clear one bit in without affecting other bits? What is the difference between the **B**, **BL** and **BX** instructions? How do you initialize the SysTick? You should understand every step of the function `SysTick_Init`. How do you change the rate at which SysTick counts? Describe three ways to measure the time for a software function to execute? How do you calculate the sizes of the port data and the timestamp data? If you used 32-bit data for `DataBuffer` what would be the advantages of 8-bit data? If you used 8-bit data for `DataBuffer` what would be the advantages of 32-bit? Could you have stored the time-stamp data in 8-bit, 16-bit, or 24-bit arrays? Why does the pointer to the time-stamp array need to be incremented by four, if you want to point to the next element in the array? How do you allocate global variables?

1)

2)

Total: