

Lab 9 grading sheet

1) Name Last _____ First _____ EID _____ Circle professor VJR,NT,MT, JV, RY

2) Name Last _____ First _____ EID _____ VJR,NT,MT, JV, RY

Use same spelling as listed on Canvas

1. All source files that you have changed or added (like UART.c ADC.c and Lab9.c) should be committed to SVN. Please do not commit other file types.

2. Deliverables 20%:

0) This sheet

Combine the following components in this order into one pdf file and commit it to Lab9 folder in SVN before your checkout time. Have this file open on the computer during demonstration.

- 1) The circuit diagram: including LCD, UART connections, and slide pot.
- 2) Two photographs of a scope trace showing serial transmission data, like Figures 9.5 and 9.6.
- 3) Final versions of the software

3. Performance 35%:

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

4. Adhere to coding standard 5%:

Good Names have meaning
Variables have units in comments
Consistent indentation
Consistent use of braces
C99 style

1)

2)

5. Demonstration 40% (TAs will ask similar, but not exactly identical questions):

You will show the TA your program operation on the two TM4C123 boards. Your TA will connect a scope to either transmitter heartbeat and TxD→RxD or receiver heartbeat and TxD→RxD and expect you to explain the relationship between your executing software and the signals displayed on the scope. Also be prepared to explain how your software works and to discuss other ways the problem could have been solved. How do you initialize UART? How do you input and output using UART? What is the difference between busy-wait and interrupt synchronization? What synchronization method does the transmitter UART use? What synchronization method does the receiver UART use? What sets RXFE, TXFF, RXRIS, RTRIS and when are they set? What clears RXFE, TXFF, RXRIS, RTRIS and when are they cleared? What does the PLL do? Why is the PLL used? There are both hardware and software FIFOs in this system. There are lots of FIFO code in the book and on the web that you are encouraged to look at, but you are responsible for knowing how your FIFO works. What does it mean if the FIFO is full? Empty? What should your system do if the FIFO is full when it calls PUT? Why? What should your system do if the FIFO is empty when it calls GET? Why?

1)

2)

Total:

There will be a 10 points penalty if you do not use your Lab 7 software.