COSC 480 – Miniproject #2
Fall 13

Objective: Simple project – create a slider controlled RGB LED via Raspberry Pi.

Implementation Details: Using Raspberry Pi and the Linux OS that you've installed, prototype a simple RGB LED circuit that is controlled via a slider. This slider should have three values, one for each of the primary colors for the LED. This is as far as you need to go with the implementation.

In addition, please design (but not implement) a circuit that will allow for a three slider control to mix the colors of our RGB LED. Provide this design as noted in "Documentation."

Documentation: For documentation, you will create a specification document for your implementation. This document should have 5 sections: introduction, including what this implementation is designed to do; parts list (include part numbers if available) for your implementation; a discussion of any faults or flaws in your implementation; a wrap-up specifically noting how it accomplishes the targeted design and what challenges you and your team ran in to as part of this implementation. In addition, you must provide electronic schematics of your implemented design. There are several programs that will assist you in creating your design (my personal favorite is Fritzing). You may not turn in hand drawn diagrams.

Expectations: Your project will need to be neat, concise, well documented (see documentation above) and above all, correct (in both design and implementation). Messy implementations with unnecessary "tricks" will have point deductions assessed. Your design, implementation, and demonstration are worth 65 points, and your documentation is worth 35 points. Points will be awarded for efficiency and creativity in design, but your focus should primarily be in designing and implementing a working prototype that hits all of the requirements under "Implementation Details."

Demonstration: During the class period on the due date, you will demonstrate your implementation to me. I will ask questions on the implementation to the group and to specific members to ensure that everyone understands how the implementation works. As you expect, your grade will be heavily influenced by your team's ability to demonstrate the target function or functions.

You must work in teams of two for this assignment.

Learning Targets: Raspberry Pi, electronics prototyping, Linux gui creation.

DUE: Demonstrations in-class on 9/30, documentation due via Blackboard by 11:59pm 9/30.