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Final Project Proposal

For my final project I would like to make a somewhat functional stop light. The idea would be that there is a timer module that counts from 0 to 60 which would be the entire time of the cycle. The light would be green (led 3) for 30 seconds and then yellow for 10 seconds (led 2) and then red for 20 seconds (led 1). If at anytime there is pressure applied to FSR the timer will know that someone needs to cross the road and will automatically set the global variable timer to second 31 which will trigger the yellow signal which will lead to the red light. I also will implement a forced emergency signal which will stop everything and flash the red light for a few seconds. This could be thought of as when a police car or other emergency vehicle needs to pass through the intersection we want all traffic to stop. The red light will blink on and off for about 10 seconds and then the light will return to normal operations. This will implement the timer module, the interrupts of the PIC32 and finally the redirection of pins using PPS.

This would be useful for a road where there is only traffic across one way, in other words a one-way street where there may be an emergency station on the street. Also, in case a pedestrian needs to cross the road all they have to do is step on the pad (FSR) and it’ll make the light turn red for them.