Lab Report 5

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1) The contribution was thirty-three percent for every member of the group. We worked together on each part of the code writing and revising.

2) We added a void function called pbMotionHandler, pbMotionHandler does the same thing as pbIntrHandler but it clears the motion sensor instead of the buttons. We also added GPIOIntRegister, GPIOIntEnable, GPIOIntTypeSet, and IntPrioritySet for the motion sensor in setInterrupts.

3) We added a global variable to keep track which interrupt was set off. We also used the function GPIOIntStatus to check the port and then bit-wise and with the individual GPIO pin to see which button set off the interruption. We used the same function for motion but that was in the pbMotionHandler. Each check changed the value of colorchoice. In buzzPlay we had three if statements that had a loop to flash the led. Each if statement is checked to be either 1, 2, or 3 to flash either red, green, or blue.

4)

a) It offers sleep mode that stops processor clock, and Deep-sleep more that stops system clock and switches off PLL and flash memory.

b) Sleep mode consumes less power because it turns off the processor clock.

c) Deep-Sleep mode turns off the system clock and switch off PLL and flash memory reducing power consumption even more.

d) It tells the compiler that the value may change at any time without action from the code the compiler finds near the code.

5) The program used 13.5KB of Flash and 1.3KB of SRAM.

6) We spent a total of three and a half hours on the lab.