Class: EE3501

Assignment: Lab 3

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Lab Results:

Graphical user interface, application

Description automatically generated

Figure 1: Push to activate light code

Graphical user interface, text, application

Description automatically generated

Figure 2: Toggle button code

Discussion:

1) Refer to Chapter 14 of your Embedded Systems textbook and define the term memory mapped I/O. You may also use online resources. (2 points)

Memory Mapped I/O is how a CPU and an attached device exchange data along a common bus. The processor and the IO device share the same memory location.

2) Refer to the STM32L476VGT6 Reference Manual located in the Resources subfolder of the Laboratories folder in D2L. Within the manual, locate the memory map for the MCU and state the base address of GPIO port A and PortE. (2 points)

GPIOA: 0x4800 0000 - 0x4800 03FF

GPIOE: 0x4800 1000 - 0x4800 13FF

3) Refer to the Board pinout on the DISCO-L476VG manual/schematic, and state what bit location on the GPIO corresponds to LED1 output, and what bit location on GPIO corresponds to USER\_BUTTON input. (2 points)

Bit location for LED1 Output: PE8 and USER\_BUTTON input: PA0

4) State what you have learned from the experiment. (4 points)

One of the bigger lessons was the toggle switch since I didn’t expect it to be as much editing from the original code by I ended up changing more than 80% of it.