James Soto

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CS-350 Emerging System Architecture and Technology

Milestone Three Timer Interrupt

• What is the purpose of the timerCallback() function?

The purpose of the timerCallback() function is to be called by the timer driver when the timer has expired. The function is responsible for taking any necessary action, such as toggling an LED on or off or sending a signal to another device. In the context of this assignment the function is called every 500ms by the timer and controls the blinking LEDs according to the Morse code pattern for SOS and OK.

• What does period mean in this context?

In this assignment, period refers to the amount of time between timer interrupts. In this code, the period is set to 500,000 microseconds. That means every 500ms, the timer will "tick" and the callback function will be invoked.

• How does the Timer\_CONTINUOUS\_CALLBACK parameter impact the driver?

The Timer\_CONTINUOUS\_CALLBACK parameter tells the timer driver to call the timerCallback() and run continuously. It will also call the callback function every time the timer period expires.

• What is gpioButtonFxn0() used for?

The gpioButtonFxn0() function is used to handle button presses. The function toggles between SOS and OK messages when toggled, only displaying one message at a time until the button is pressed again.

• What is the purpose of GPIO\_CFG\_IN\_INT\_FALLING?

The GPIO\_CFG\_IN\_INT\_FALLING flag tells the GPIO driver to generate an interrupt when the voltage on the GPIO pin falls below a certain threshold, as in when the signal goes from high to low. This flag is used in the gpioButtonFxn0() function to detect when the button is pressed.