**5-1 Milestone Three Document**

The timerCallback() function serves as an interrupt service routine (ISR) that is called by the timer driver when the timer reaches its set period and triggers an interrupt. This function is where you place the code that needs to be executed in response to the timer interrupt, allowing for time-sensitive tasks to be performed regularly without the need to continuously check a condition in a loop.

In the context of the timer configuration, "period" refers to the duration of the timer cycle, i.e., the time interval between consecutive timer interrupts. The timer is configured to elapse after a specified number of microseconds (denoted by params.period = 1000000;), meaning that the timer interrupt will trigger once every 1,000,000 microseconds (or 1 second). The timer period defines how often the timerCallback() function will be called.

The Timer\_CONTINUOUS\_CALLBACK parameter configures the timer to operate in continuous mode with callbacks. This means that after the timer is started and the first period elapses, causing the timerCallback() function to be called, the timer will automatically reload its period value and continue counting down to trigger the callback again.

The gpioButtonFxn0() function is a callback function associated with a specific GPIO pin configured as a button input. It is executed in response to a GPIO interrupt, which is triggered by a change in the state of the GPIO pin. This function can be used to implement the logic that should be executed in response to the button press, such as toggling an LED.

GPIO\_CFG\_IN\_INT\_FALLING is a configuration option for a GPIO pin that sets the pin to input mode with an interrupt enabled for the falling edge of the signal. This means that an interrupt will be generated when the signal on the GPIO pin transitions from a high (logical 1) to a low (logical 0) state. This configuration is commonly used for button inputs.