Embedded Systems - Lab 3

Task 1

Your goal is to write a proramme that turns on a LED diode when the button is pressed, and turns it off, once the button is released.

Hint: It is enough to configure, read and write appropriate registers.

References

1. AT91SAM9263 Preliminary
    - Chapter 31: Parallel Input/Output Controller

Task 2

This time you program an LED diode to switch on and off at a specified frequency. For example, the LED is off for 3 seconds, and on for 1 second and so on... Timings should be user defined.

Please prepare two macro definitions:

- ON_TIME - time in seconds of the LED on interval.
- OFF_TIME - time in seconds of the LED off interval.

In order to realise this programme you should use the PIT timer. It is advisable for you to write a single function `int PIT_delay(float delay)` that would realize the defined delay. It should return -1 in case of failure, 0 otherwise. The input parameter defines the delay in seconds. PIT timer is driven by a 100 MHz clock.

Hint: It is enough to configure, read and write appropriate registers. No interrputs are necessary

References

1. AT91SAM9263 Preliminary:
    - Chapter 16 : Periodic Interval Timer
    - Chapter 31: Parallel Input/Output Controller