

# *LPC4088 Button Interrupts*

*CM0506 Small Embedded Systems*

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*Seminar 4a*

NOW WE HAVE GOT THE HANG OF TIMER INTERRUPTS, we can turn our attention to interrupts generated by the push button.

## *Interrupt generation*

Looking at the processor manual [NXP, 2014, section 8.2.2, pg144] GPIO Ports 0 and 2 can generate inputs. From the schematic [Emb, 2014b] we can see that the user button is connected to Port 2 pin 10. From the Experiment Base-board schematic [Emb, 2014a]

The functions to control the LEDs take this as a parameter,

These, along with the prototype for `ledInit()` can be put in the header `led.h`.

### Exercise 1: Git download of initial code

Retrieve the project from the GIT repository.

```
$ git clone https://github.com/dr-alun-moon/timers
$ cd timers
$ git checkout ex.1.1
```

Examine the files for the LED driver `led.h` and `led.c`.

1. Can you follow the way the code is structured?
2. Why are the SET and CLR registers used to turn different LEDs on?

## *References*

*LPC4088 Experiment Base Board rev A*. Embedded Artists, September 2014a.

*LPC4088 Quickstart Board rev B*. Embedded Artists, August 2014b.

*UM10562 LPC408x/407x User manual*. NXP, rev. 3 edition, March 2014.