

Lab 08: Zephyr Timers

Medical Electrical Equipment (BME590L)

2023-03-27

1 Refactor: Timers

- Refactor your blinking LED firmware from last week to use timers instead of sleep statements.
- Remember that `k_timer_start()` can be called after it has been started with a new duration/period to restart it with new timing.
- Be carefully using GPIO "toggle".
 - Okay for the heartbeat
 - Not okay for "event" LEDs as you might lose the explicit state of each LED.
 - Instead, explicitly "set" all 3 LEDs for each event.
 - * The mutually exclusive state of the LEDs means that one function should set all 3 states explicitly at once.
 - * Capture the state of the LEDs and their blinking frequency in a struct.

2 What to Submit & Grading

This lab exercise is due Monday, March 06 at 08:30.

- Upload a zip archive of your project to Gradescope. Your zip archive should include all of your project files to build your application.
- If you are using a git repository, the zip archive you can download through the web interface should be appropriate.
- If you are generating a zip archive from a local directory, please make sure that your uploaded zip archive does not include:
 - A `build/` directory.
 - A `.git/` directory.
 - Any Zephyr / Nordic SDK installation files (e.g., `ncs/`).
- Code will be graded on functionality **and** efficiency of code logic **and** code "readability". "Readability" does not mean a lot of verbose comments; it means that the structure of the code, the naming of variables, etc. convey meaning and logical flow.