

# Traffic Light

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## 1 System Description

### 1.1 Hardware

We need one push-button wired as active high, 6 LEDs, and an ATmega32 Micro controller.

### 1.2 Software

I used static architecture and split the code into layers each has its own drivers.

- MCAL:
  - **GPIO** driver to that control Digital pins.
  - **EXTINT** driver to configure interrupt.
  - **TIM0** driver to use delays.
- ECUAL:
  - **Button** driver to control the button.
  - **LED** driver to control the led.
- Utilities:
  - **types** library that provides typedefs to data types.
  - **register** library that provides addresses with registers.
  - **bit\_manipulation** library contain bit manipulation expressions.
- App:
  - Contains app flow.

## 2 System Design



