**system description**

**Traffic lights are signaling devices positioned at road intersections, pedestrian crossings, and other locations to control the flow of traffic.**

**Traffic lights normally consist of three signals, transmitting meaning to drivers and riders through colors and symbols including arrows and bicycles.**

**The regular traffic light colors are red, yellow, and green arranged vertically or horizontally in that order.**

**Although this is internationally standardized, variations exist on national and local scales as to traffic light sequences and laws.**

**like traffic lights system with an on-demand crosswalk button.**

**Crosswalk buttons let the signal operations know that someone is planning to cross the street, so the light adjusts, giving the pedestrian enough time to get across.**

**system design**

**I am designing a traffic lights system with an on-demand crosswalk button with an Atmega32 microcontroller to control LEDs and time between them**

**so, I split the project into layers to make it easy to control and debug my system**

* **Layered architecture**
* **Microcontroller layer**
* **MCAL layer content (DIO Driver & Timer Driver)**
* **ECUAL Layer content (LED Driver & Interrupt Driver & Delay Driver)**
* **Application Layer**

**Timeline

Description automatically generated**