

# On-demand Traffic light control

Author: [Omar Elmasri](#)

## Table of Contents

1. System Description.....1

2. System Design.....1

3. State-machine.....2

4. System Contstains.....2

## 1. System Description

System implements a state machine to manage different behavior and implement an iterator like pattern to manage state timed transitionTimed transition is implemented using a 16-bit hardware timer. The system is based on AVR core, ATmega32 MCU. System utilize AVR-GCC toolchain and AVR-Development libraries hosted on Fedora 36. System was simulated using [Simulide](#) on Ubuntu 22.04.

## 2. System Design

Layered architecture

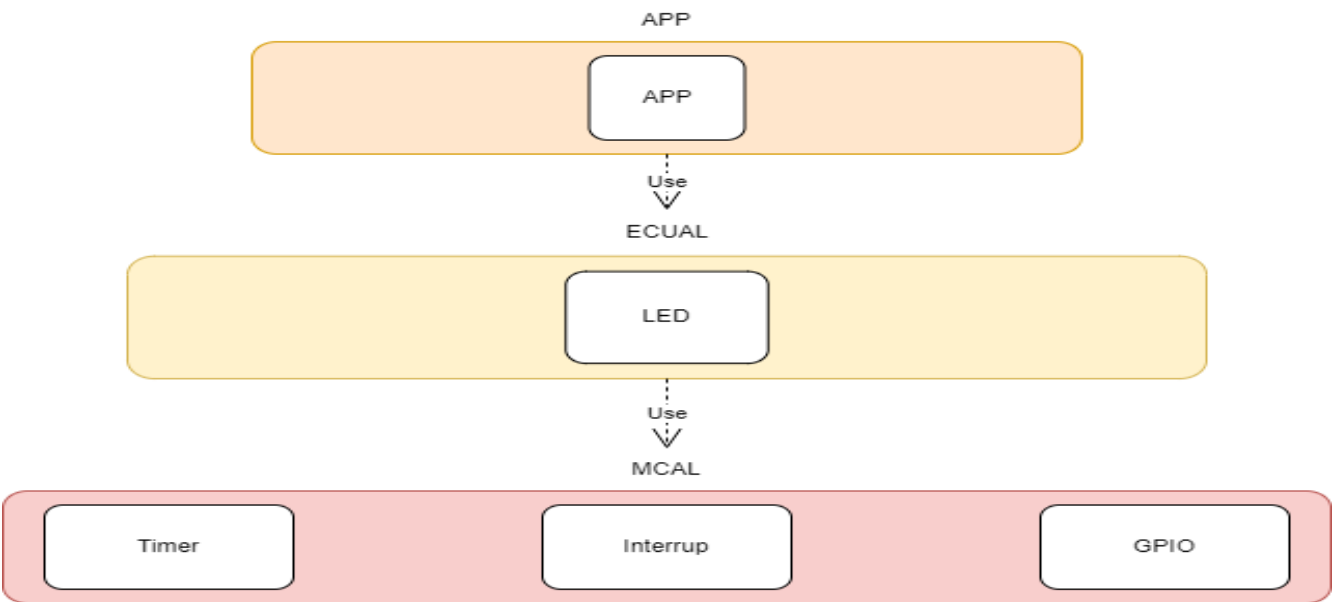


Figure 1: Layeres

### 3. State-machine

System state machine and transitions.

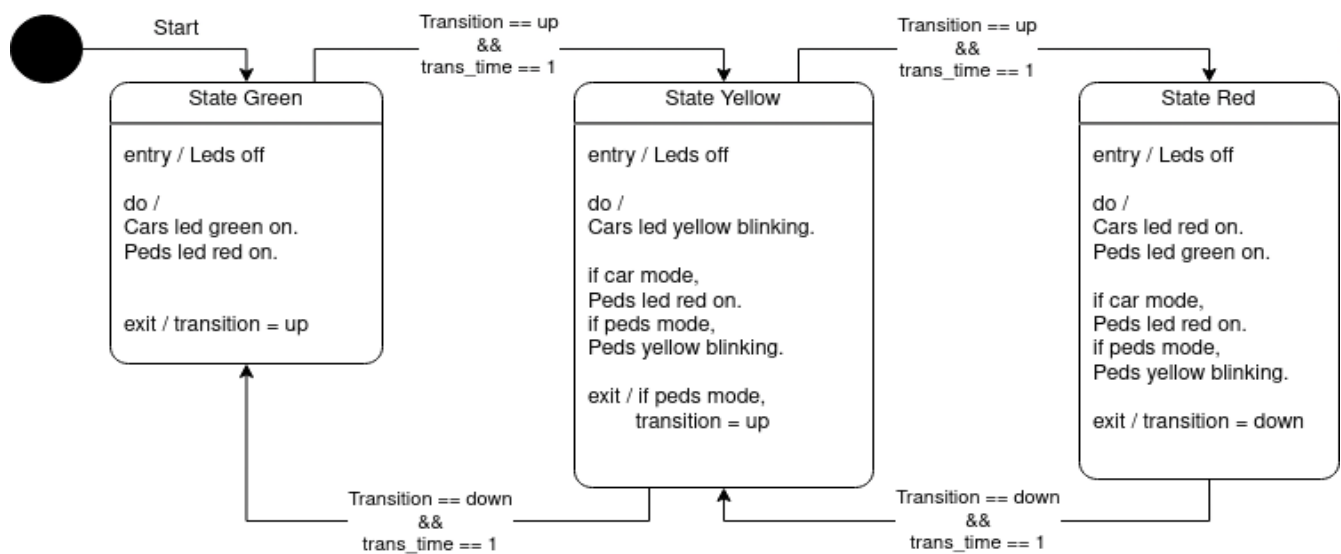


Figure 2: State-machine

### 4. System Contstains

None