

# On-demand Traffic Light

## System description

There are two modes in this project first is normal mode where green or yellow leds are on in the cars traffic light and second is the pedestrian mode where the red led is on in the cars traffic light

- In normal mode the car traffic light work normal, green led is on for 5 seconds then yellow led blinks for 5 seconds then red for 5 seconds and then go back to yellow then green and it stays in this loop until the interrupt occurs and pedestrian mode starts
- In pedestrian mode there are two cases, In case one the button is pushed while the car traffic light is green or yellow, the pedestrian red led on then both lights will blink yellow for 5 seconds, pedestrian green and car red leds will be on for 5s, In case two the button is pushed while the car traffic light is red, car red and ped green leds are on.

## System design

The system is divided into 4 layers

1- MCAL

2- ECUAL

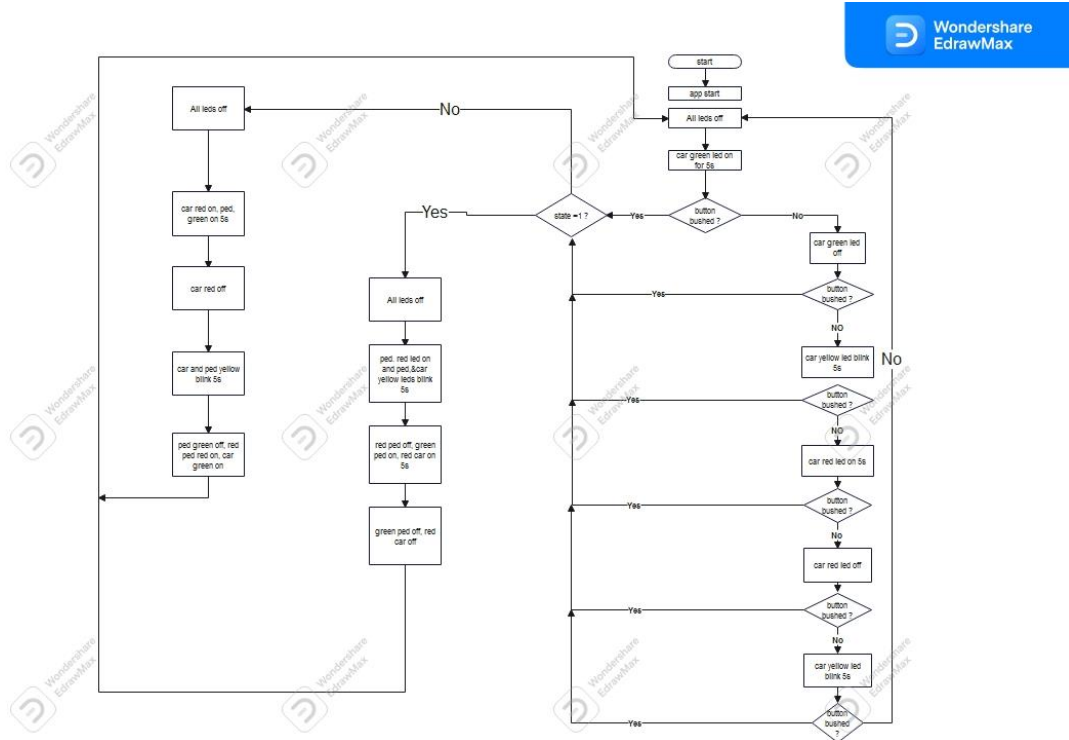
3- Application

4- Main

## System drivers

- DIO
- Buttons
- IEDs
- Timers
- Control

## System flow chart



## System constraints:

- If a pedestrian played with a button, it will be trouble because the system runs in an infinite loop.
- Pedestrians have the priority over the cars.