ON DEMAND TRAFFIC LIGHT CONTROL

15/9/2022

OVERVIEW

1. Project Description

We have:

1. ATmega32 microcontroller
2. One push button connected to INT0 pin for pedestrian
3. Three LEDs for cars - Green, Yellow, and Red, connected on port A, pins 0, 1, and 2
4. Three LEDs for pedestrians - Green, Yellow, and Red, connected on port B, pins 0, 1, and2

we have Also 2 modes:

1. **Normal mode:**
   If the pedestrian push button isn't pressed, Cars' LEDs will be changed every five seconds starting from Green then yellow then red then yellow then Green, car's yellow led will blink five seconds before moving to Green or Red LEDs.

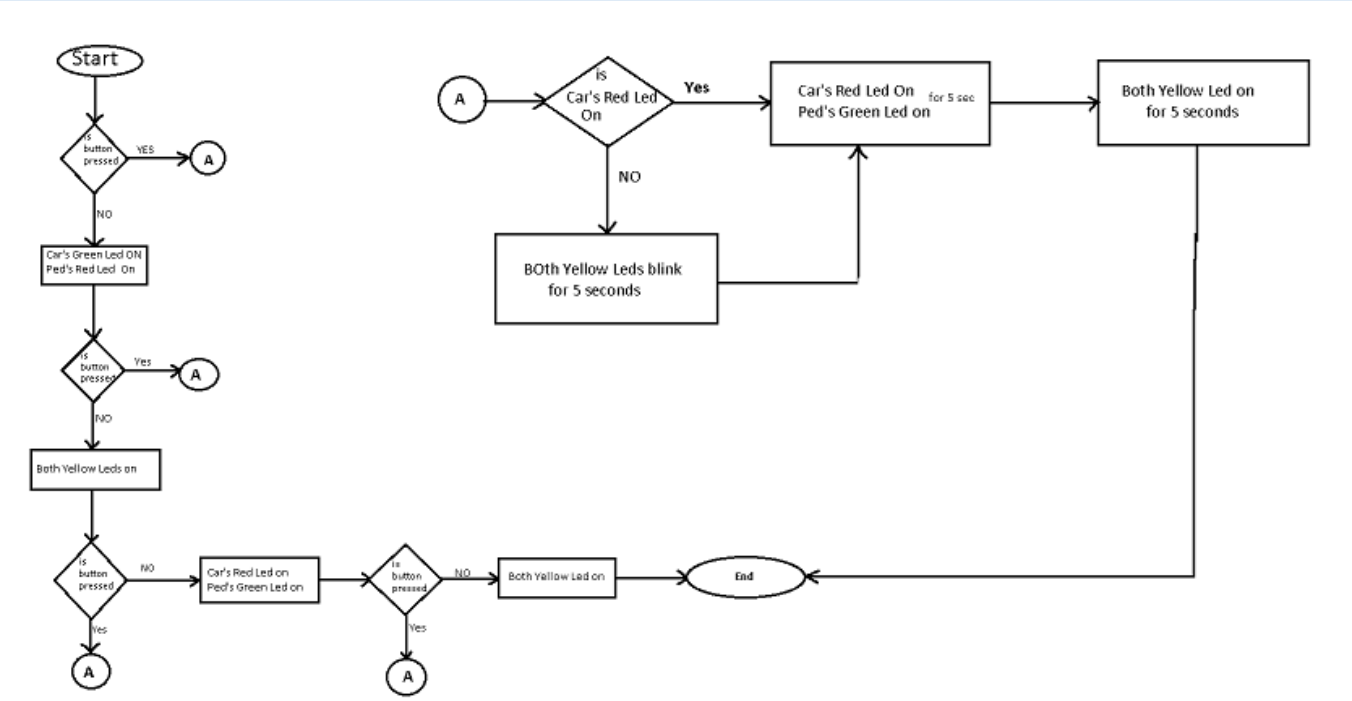
2. **Pedestrian mode:**
   we have two cases:
   when pedestrian push button is pressed, case 1 if the car's red led on, car's red led will on for another 5 seconds and pedestrian's green led on for 5 seconds, case two if the car's yellow or green leds on, the two yellow leds will blink for 5 seconds, then the car's red led, and pedestrian's green led will be on for 5 seconds.
   then after each case, the two yellow leds will blink for five seconds, then the car's green led, and pedestrian's red led will be on for 5 seconds.

2. System design

APPLICATION
ECUAL
MCAL
UTILITIES
MICROCONTROLLER

APPLICATION		
LED	BUTTON	
DIO	TIMER	Interrupt
UTILITIES		
MICROCONTROLLER		

3. System flow chart



4. System constrains

1- Long and more than one short press ignored.