

# On-demand traffic control

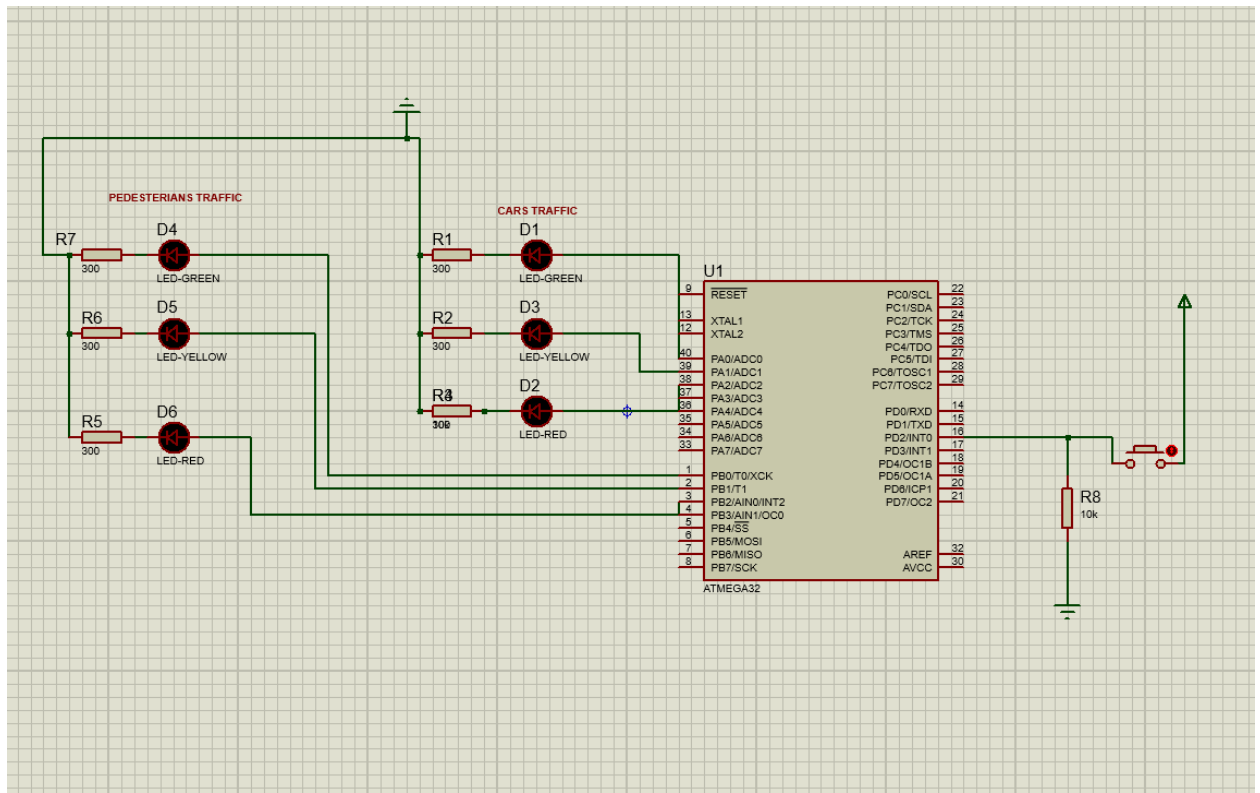
## Project documentation

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## Outline

1. System description
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3. Flow chart
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## 1.1 System overview:



This figure shows two traffic lights one controls the cars movements and the other controls the pedestrians movement.

## 1.2 How system operates

The system gives priority to pedestrians to pass the street and stops the cars for five seconds. If the system in Normal mode the red light of pedestrians traffic will be red until someone want to pass the street he press on the button to change from normal mode to pedestrians mode which gives him priority to pass the street. Our system detects the button press and changes to pedestrian mode.

#### Normal mode:

1. when system starts normal mode is active by default, First green car traffic is on for five seconds while the red light of pedestrians is on also.
2. After five seconds yellow car traffic blinks for five seconds while red pedestrian is still on.
3. After five seconds only red car traffic is on and the pedestrian red is still on as well.
4. After five second yellow car traffic blinks for five seconds while pedestrian red traffic is still on. Then car green traffic is only on and this cycle is repeated again.

#### Pedestrian mode:

1. If pressed during the first case it skips the time car green traffic has to stay and starts blink both yellow traffic for five seconds
2. If Pressed during the second case it resets the timer of car yellow traffic has to blink and both yellow traffic starts to blink for five seconds
3. If pressed during the third case the time red car traffic has to stay is reset and pedestrian green traffic is on for five seconds

## 2.System Design

System components:

1 AVR Atmega32(1MHZ)

2. 2 Green LEDS

3. 2 RED LEDS

4. 2 YELLOW LEDS

5. 6 300 ohm resistances

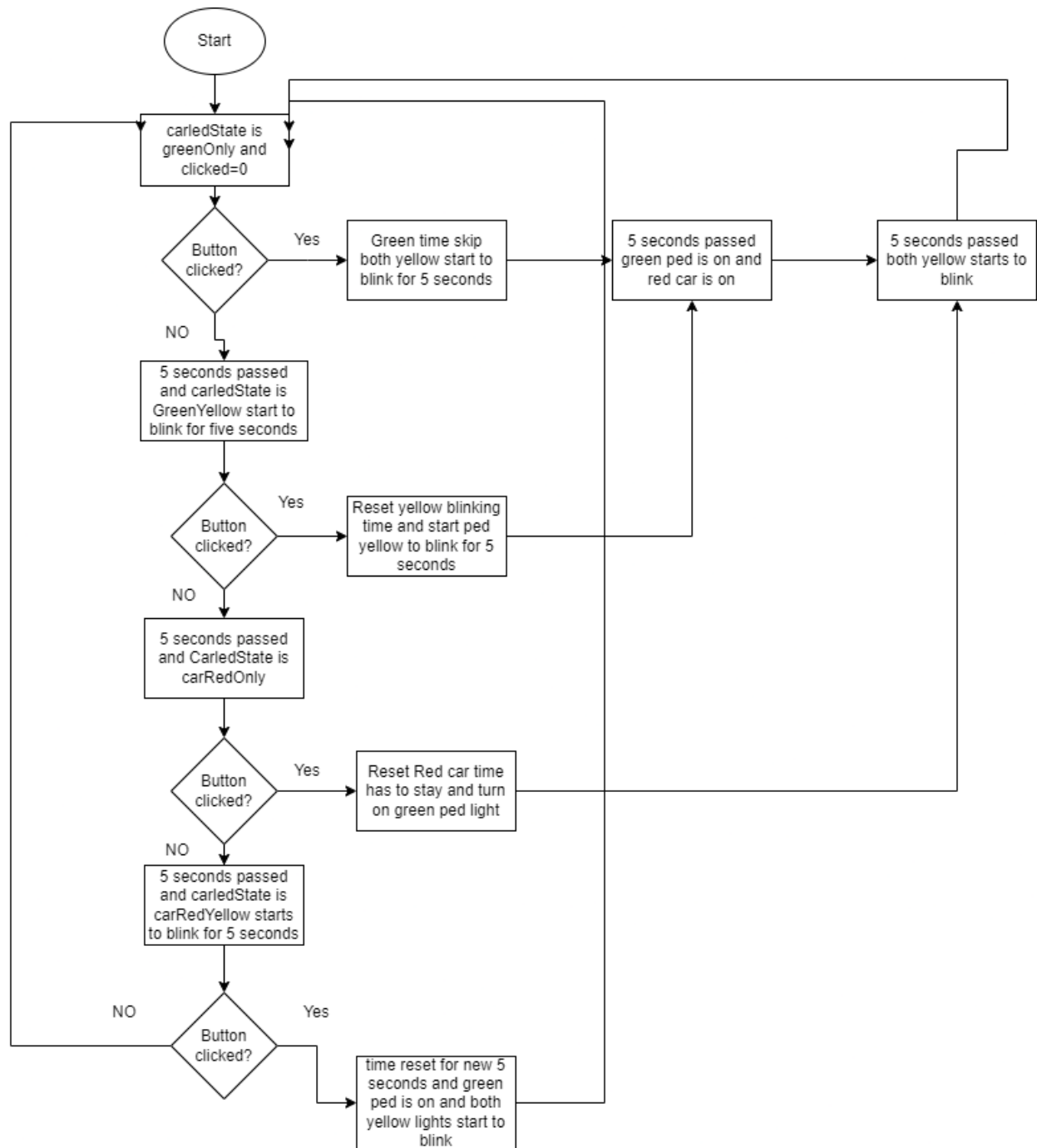
6. 1 10k ohm resistance

7.source of power

8.Push button

The system is designed and simulated on Proteus 8 simulator provided by Lab Center.

### 3.Flow chart



#### 4. System constraints:

1. While pedestrian mode is active any click on the button has no effect.
2. double clicks does no errors because it is handled
3. long click does no errors its effect takes place once the button is clicked doesn't matter if you still holding it or left it