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System Description

Traffic lights are signaling devices placed along roads

intersections, crosswalks, etc.

Control flow. Traffic lights usually include

Three signals that convey meaning to drivers and passengers

By color and symbol. Our system is traffic on demand

lamp. Such systems prioritize pedestrians because they

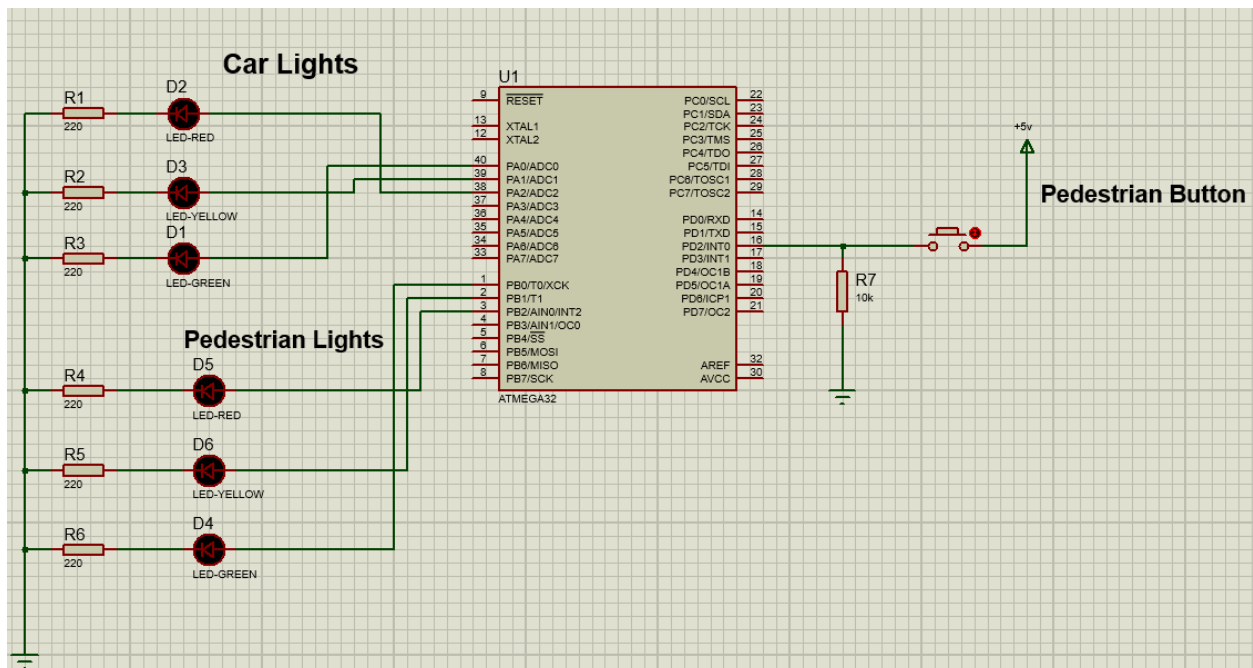
Requests to stop and pass the road can be made at any time

they want

System Design

Our system consists of :

- ATmega 32 microcontroller.
- One push button connected to INT0 for pedestrians.
- Three LEDs for cars : Red, green, and yellow.
- Three LEDs for pedestrians : Red, green, and yellow.



System Constraints

1. If the button is pressed while cars traffic is red, there is no change happens apparently, but the red cars traffic and green pedestrians' traffic will start count another 5 seconds
2. If the button is pressed while the cars traffic is blinking yellow, both yellow LEDs will start blinking for another 5 seconds.
3. When the program returns to the main context, it will turn on the LED which was on before context switching for its remaining time. EX : if the button is pressed after 2 seconds of LED red turned on, context switching will occur then returns back to the main context and the red LED will be turned on for the rest 3 seconds.
4. The green pedestrian LED will be turned on if and only if the red cars traffic is on

Flow chart

