Traffic Light control   
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1. **System Description**

1.1 System Overview  
This system provides a traffic control system. It includes a pedestrian interface that allow pedestrians to pass.  
1.2 System Functionality  
The system can detect when the button is pressed. Afterwards, based on current state it  
would decide what to do. It allows pedestrians to walk by making sure cars are stopped first.   
 **2. System Design**2.1 System Requirements  
The system consists of:  
• AVR Atmega32 (1MHz)  
• 2 Green LEDs  
• 2 Yellow LEDs  
• 2 Red LEDs  
• 6 300 Ohm resistors  
• 1 10k Ohm resistor  
• 1 Push Button  
2.2 Work Environment  
The program has been tested on Proteus simulator. It should be used in traffic light control systems on streets with a pedestrian push button included to allow for full system functionality.  
2.3 Input & Output Formats  
The only system input is in the form of the pedestrian push button. When it comes to output  
it handles 6 LEDs at once given the current state, time and push button press state.

**3. System Constrains**

3.1 The system doesn’t support multiple users at a time. Many users must share the passing time.

3.2 The time provided by the HW is hardcoded so if the time base 5 seconds interval is too long or too short, the timing must be customized at the development phase of the project.

**4. UML sequence diagram**