



Embedded Systems Project

On-demand Traffic light control

1. System Description

An on-demand traffic light control system is a system that controls the traffic to allow pedestrians to pass the road when demanded. The pedestrians push a button to request to cross the road, then the system stops the cars until the pedestrians cross, then cars are allowed to move again.

2. System Design

The system consists of three LEDs (Red, Yellow and Green) to represent traffic lights for cars, and another three LEDs same as the previous ones, but to represent the pedestrians' traffic lights. There's also a push button that requests the cars to stop to allow the pedestrians to cross the road. And an AVR chip (ATMEGA32) working at 1MHz.

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4. System Constraints

- Pedestrians can only cross 5 seconds at a time
- Cars stop every 10 seconds although no requests were made by a pedestrian