

On-demand Traffic Light control

Embedded Systems Professional Track
EgFWD - Udacity

Project Documentation

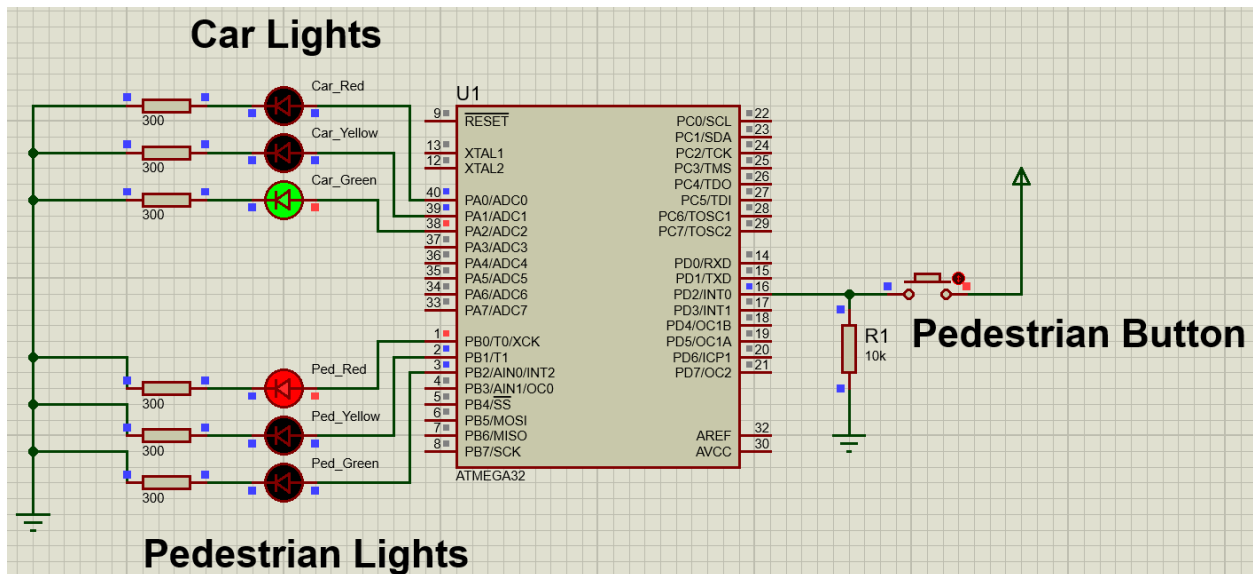
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1. System Description:



This Project aims to simulate an On-Demand traffic light control system, which has a Pedestrian button to allow them to pass when needed.

This system can detect a button if pressed or not, when it is pressed by the pedestrian, it would decide the function to do based on the current state of the traffic lights, it stops the cars when the pedestrian wants to pass the road.

2. System Design:

2.1 System Requirements:

This system consists of:

- Atmega32 microcontroller
- 2 Red LEDs
- 2 Yellow LEDs
- 2 Green LEDs
- 1 Push Button
- 6 300-ohm Resistors
- 1 10k-ohm Resistor

2.2 Interface:

The interface of this system is the input device which is pedestrian push button, and the output devices which are the 6 LEDs which is based on current state.

2.3 Used Programs:

This system code was written on Microchip studio used for debugging AVR and SAM microcontrollers. And it was tested on Proteus simulation which is provided by LabCenter.

