

Embedded Systems Professional Track
EgFWD - Udacity

On-demand Traffic Light control

Project Documentation

By:

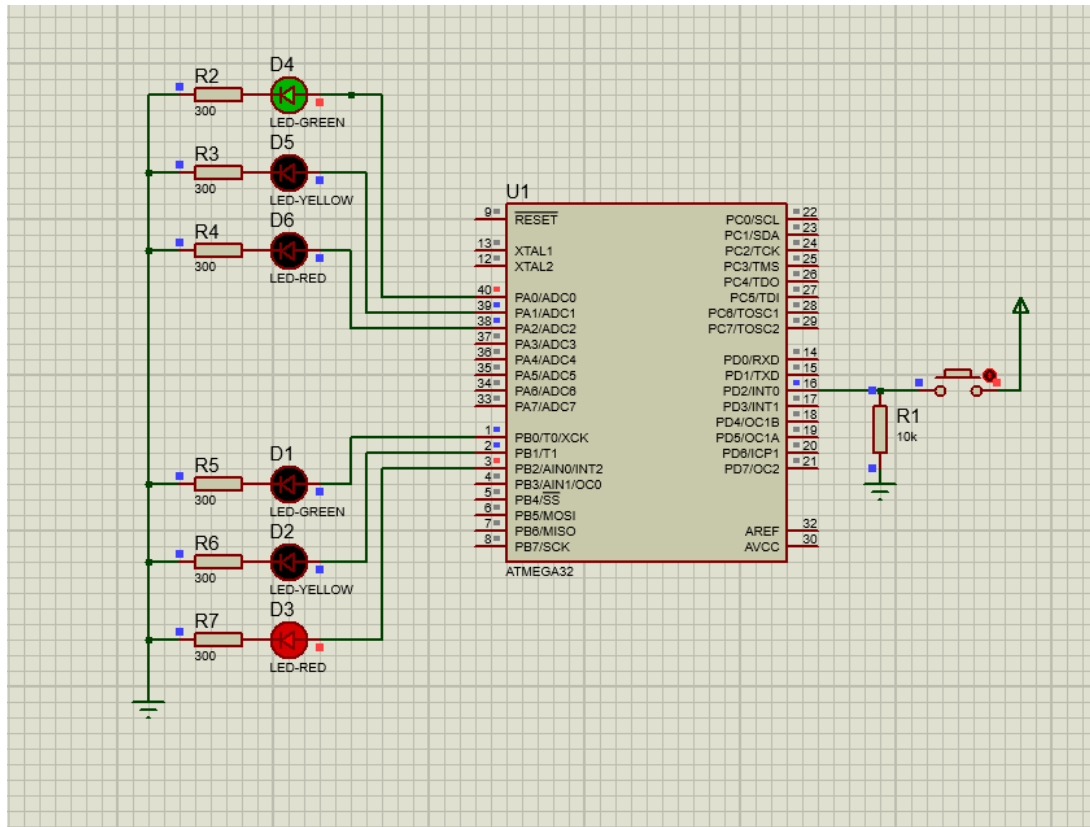
Fahd Seddik

Table of Contents

Table of Contents	II
1. System Description.....	3
1.1 System Overview	3
1.2 System Functionality.....	3
2. System Design	4
2.1 System Requirements	4
2.2 Operating Environment	4
2.3 Input & Output Formats	4
3. Flow Chart	5

1. System Description

1.1 System Overview



The system aims to provide an on-demand traffic control system. It includes a pedestrian button to allow for 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. Refer to [Flow Chart](#) for more information. For source code, visit the [GitHub repo](#).

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 Operating Environment

The program has been tested on [Proteus](#) simulator provided by LabCenter. 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. Flow Chart