ITIDA egFWD

Udacity in collaboration with Sprints.ai

Embedded Systems Professional Nanodegree Program

Traffic Lights Project Overview

Done By:

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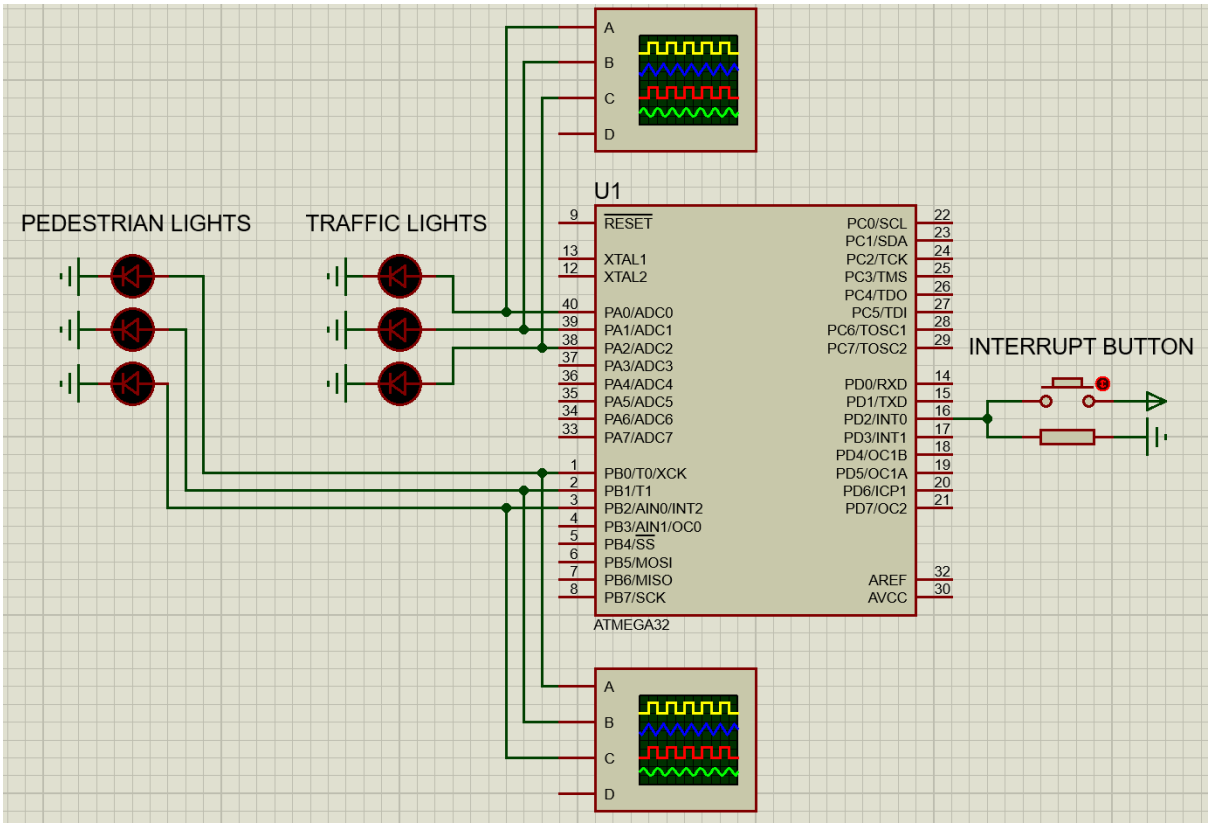
1. System Description:

This project simulates the process of modern traffic lights system. A modern traffic light system contains a traffic light for the cars, and one for the pedestrians. The project shows what should happen when a pedestrian tries to cross the road and their interaction with the system.

2. System Design:

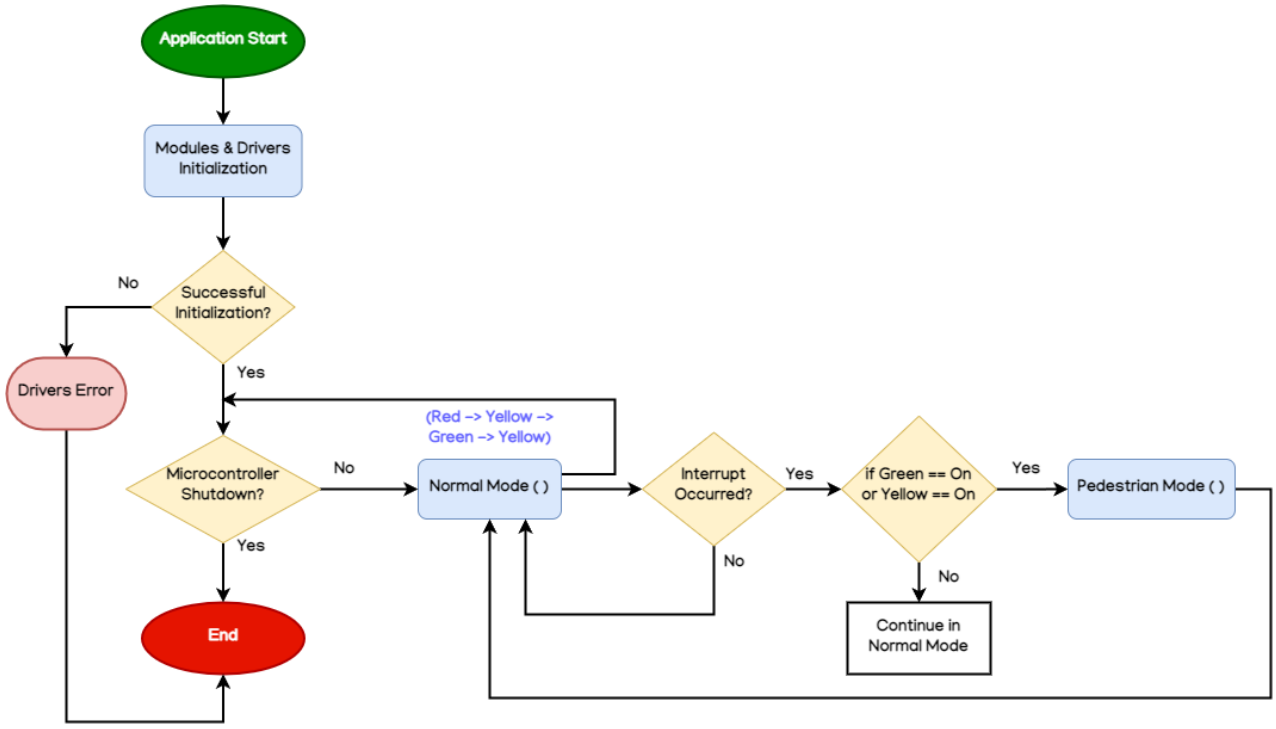


The system consists of the following components:

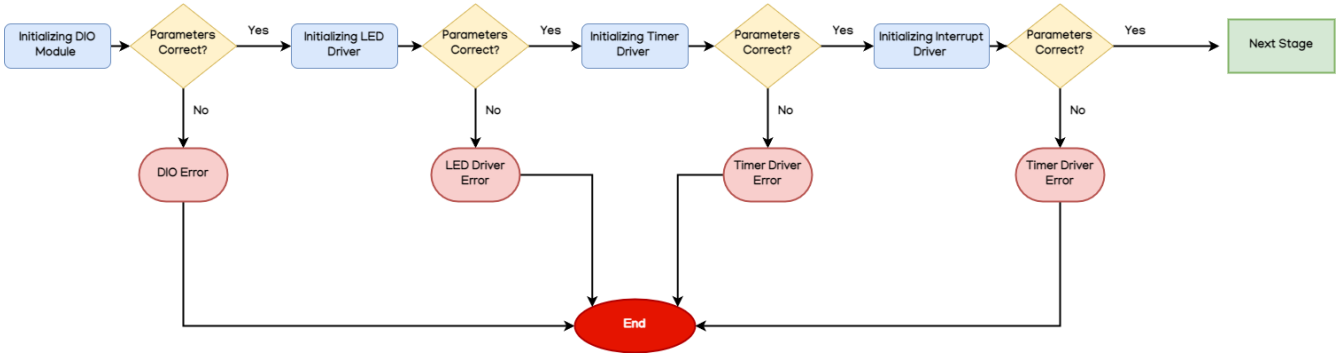
- ATMega32 Microcontroller
- Red, Yellow, Green LED Lights
- Electrical Resistors
- Buttons
- Electrical Power Source
- Electrical Ground Source

3. System Flow Chart:

- All System Flowchart



- Modules & Drivers Initialization Flowchart



4. System Constraints:

- PORT A will contain LEDs for the Car Traffic Lights
- PORT B will contain LEDs for the Pedestrian Traffic Lights
- If the Interrupt button was pressed when Green or Yellow Car Traffic Lights was on, Pedestrian Mode is triggered.
- Long press is the same as a short press.
- Double press won't do anything different then a normal press.