CSE 360: Computer Architecture
Section: 3, Summer-2020

A Project Report

on

Simulate modern traffic control system

Submitted by:
Group: 4
Group Members:

BIPLOP SUTRA DHAR   2017-1-60-121
AMIT ROY   2017-3-60-021
SHEKHOR CHANDRA SAHA   2017-3-60-025

Submitted to:
Nawab Yousuf Ali
Associate Professor, Dept. of CSE

Date of Submission:03-11-2020

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

EAST WEST UNIVERSITY

1. Problem Statement

. Simulate modern traffic control system.

2. Requirements

The system on which the project is implemented has the following properties:

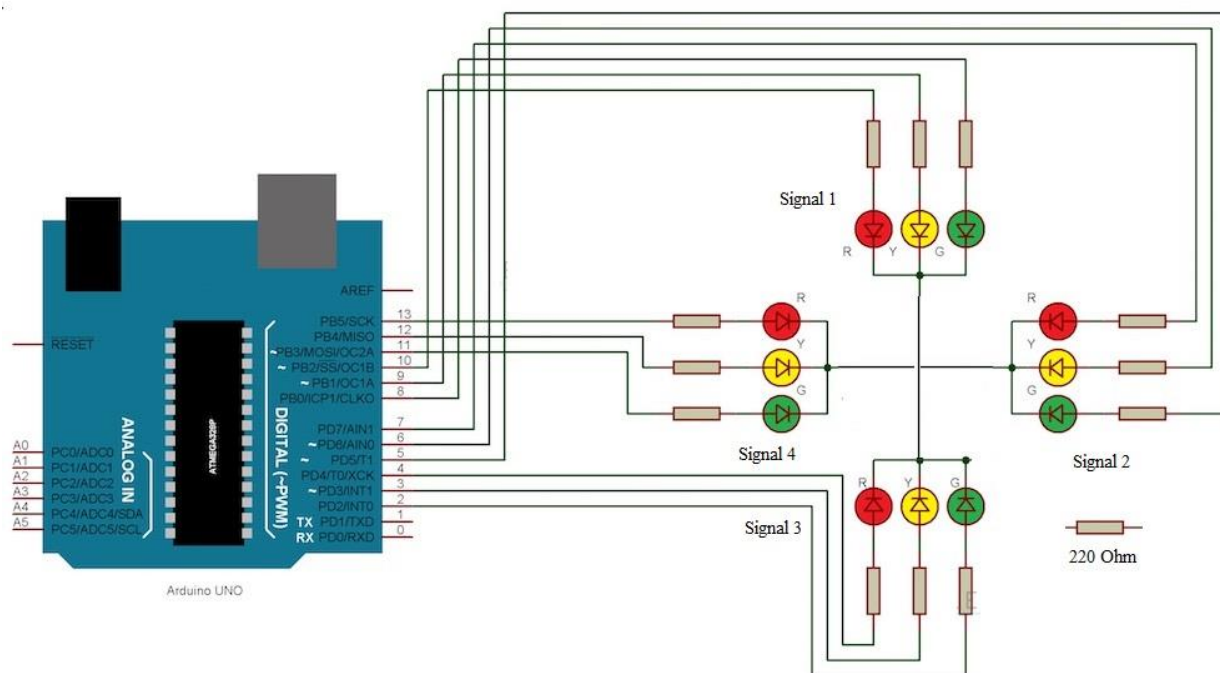Processor: Intel Core i7,3.60 GHz
RAM: 8.00 GB
Operating System: Windows 10, 64-bit
Software: Arduino IDE
Hardware Tools:
1. Arduino Uno
2. Bread Board
3. Led Green (4 Pieces)
4. Led Yellow (4 Pieces)
5. Led Red (4 Pieces)
6. Resister 220 Ohm (12 Pieces)
7. Jumper wire
8. Cock Sheet
9. 9V Dc Battery.

3. System Design

:

4. Implementation

```
int signal1[] = {8, 9, 10};
int signal2[] = {11, 12, 13};
int signal3[] = {5, 6, 7};
int signal4[] = {4, 3, 2};
int greenDelay = 10000;
int yellowDelay = 5000;
void setup() {
 // Declaring all the LED's as output
 for (int i = 0; i < 3; i++) {
  pinMode(signal1[i], OUTPUT);
  pinMode(signal2[i], OUTPUT);
  pinMode(signal3[i], OUTPUT);
  pinMode(signal4[i], OUTPUT);
 }
}
void loop() {
 //signal 1
 digitalWrite(signal1[2], HIGH);// Green
 digitalWrite(signal1[0], LOW);// Red
 digitalWrite(signal2[0], HIGH);// Red
 digitalWrite(signal3[0], HIGH);// Red
 digitalWrite(signal4[0], HIGH);// Red

 delay(greenDelay);
 digitalWrite(signal1[2], LOW);// Green
 digitalWrite(signal1[1], HIGH);// Yellow
 digitalWrite(signal2[1], HIGH);// Yellow
 digitalWrite(signal2[0], LOW);// Red

 delay(yellowDelay);
 digitalWrite(signal1[1], LOW);// Yellow
 digitalWrite(signal2[1], LOW);// Yellow
 digitalWrite(signal1[0], HIGH);// Red
```

```
//signal 2
digitalWrite(signal2[2], HIGH);// Green
delay(greenDelay);
digitalWrite(signal2[2], LOW);// Green
digitalWrite(signal2[1], HIGH);// Yellow
digitalWrite(signal3[1], HIGH);// Yellow
digitalWrite(signal3[0], LOW);// Red
delay(yellowDelay);
digitalWrite(signal2[1], LOW);// Yellow
digitalWrite(signal3[1], LOW);// Yellow
digitalWrite(signal2[0], HIGH);// Red


//signal 3
digitalWrite(signal3[2], HIGH);// Green
delay(greenDelay);
digitalWrite(signal3[2], LOW);// Green
digitalWrite(signal3[1], HIGH);// Yellow
digitalWrite(signal4[1], HIGH);// Yellow
digitalWrite(signal4[0], LOW);// Red
delay(yellowDelay);
digitalWrite(signal3[1], LOW);// Yellow
digitalWrite(signal4[1], LOW);// Yellow
digitalWrite(signal3[0], HIGH);// Red


//signal 4
digitalWrite(signal4[2], HIGH);// Green
delay(greenDelay);
digitalWrite(signal4[2], LOW);// Green
digitalWrite(signal4[1], HIGH);// Yellow
digitalWrite(signal1[1], HIGH);// Yellow
digitalWrite(signal1[0], LOW);// Red
delay(yellowDelay);
digitalWrite(signal4[1], LOW);// Yellow
digitalWrite(signal1[1], LOW);// Yellow

}
```
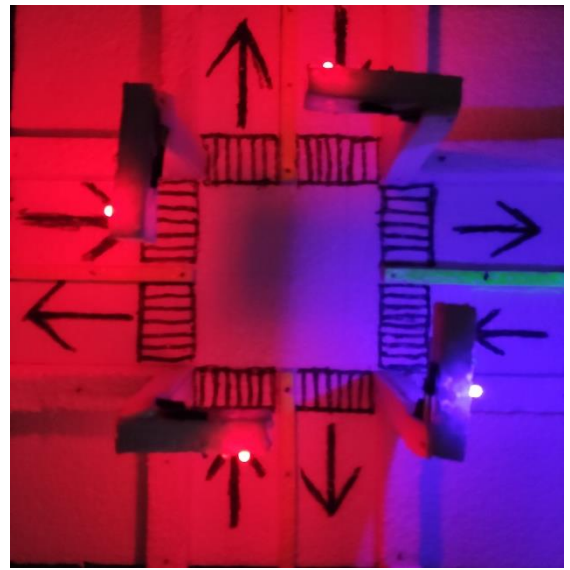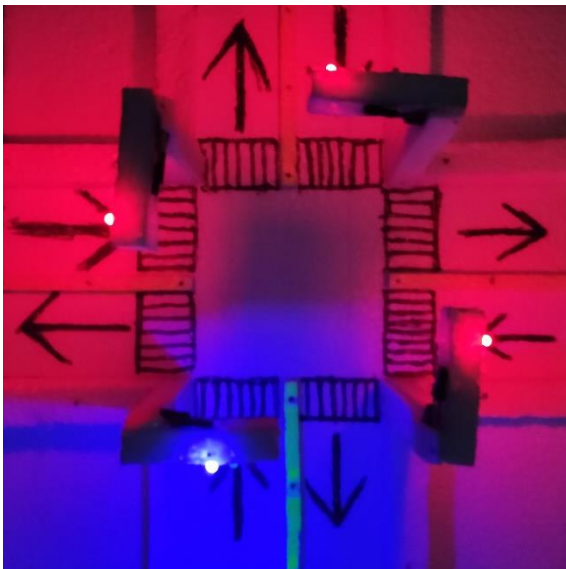
5. Testing Results
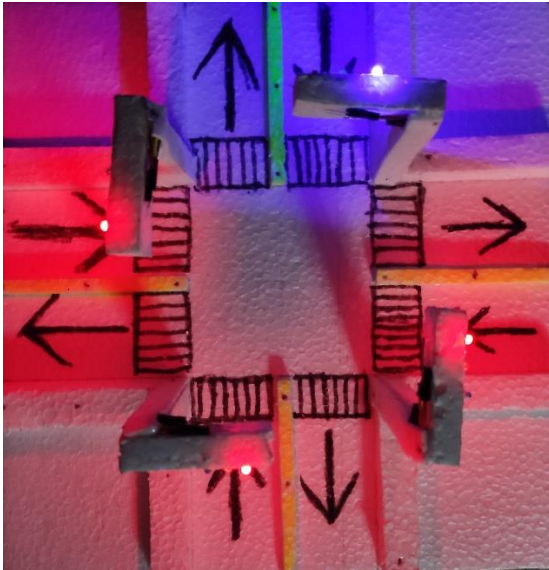
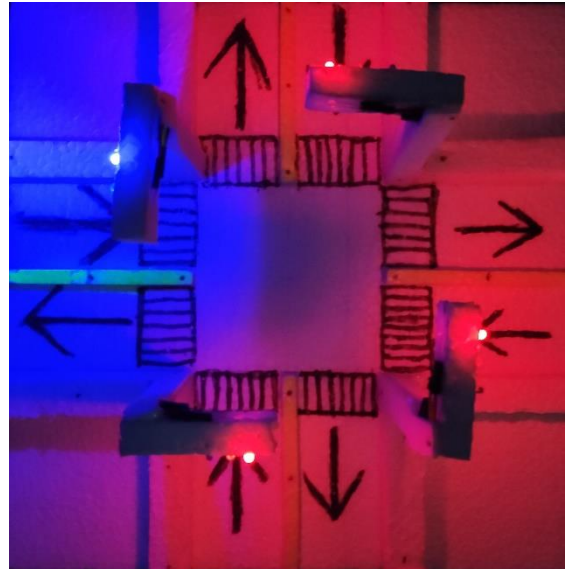For Signal: 01

For Signal: 02

For Signal: 03

For Signal: 04

6. Future Scope

- ➢ There are some limitations of our project. The first limitation is that the system only works for 4 ways. If increase or decrease ways then it won't be work. If use it we have to modify the code and some led lights.