Smart Parking System

Team Members
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Project Description

The goal of the project is to implement a model of parking system that helps navigation and conserves power.

Understanding of the Project

- Searching for parking space takes up lot of time and is not an enjoyable experience.
- Using IR Sensors and LED, drivers can see how many parking spaces are available, with red and green light signs indicating whether the parking space is currently used or is free for parking.
- There is an unnecessary use of electrical lighting when a parking garage is empty.
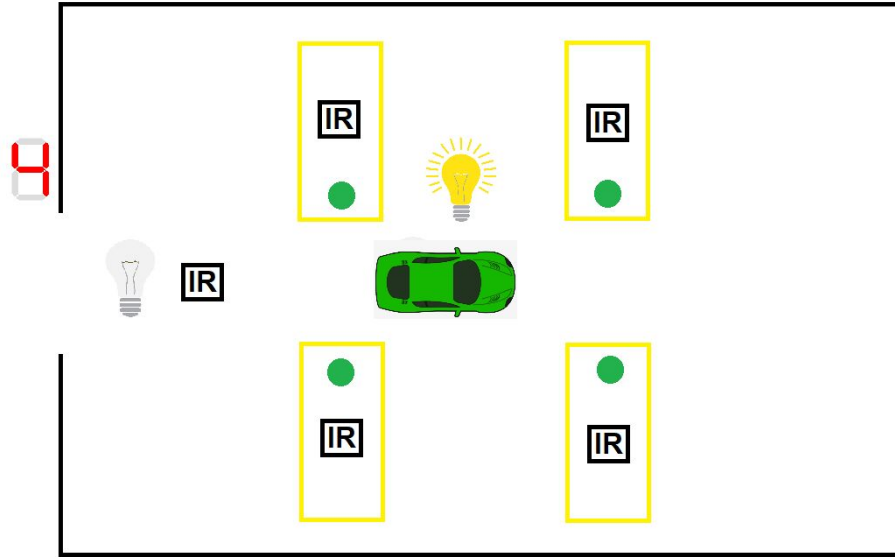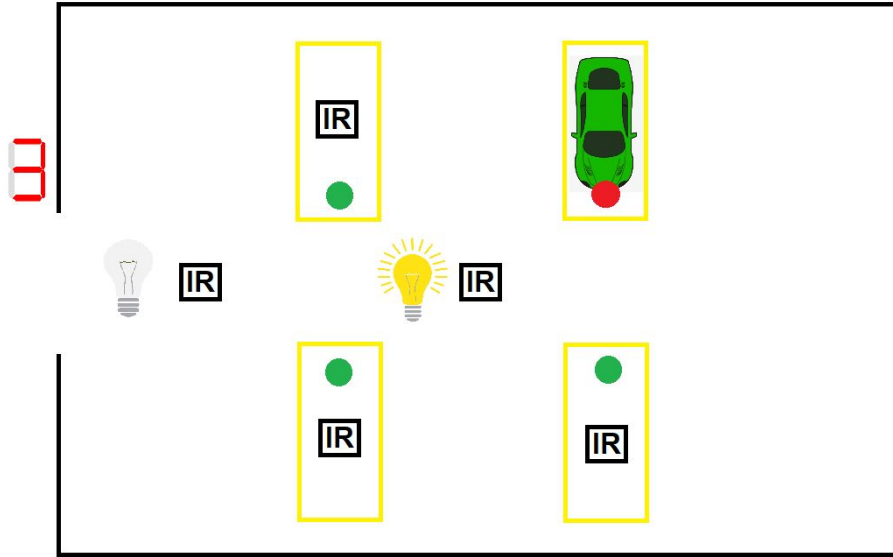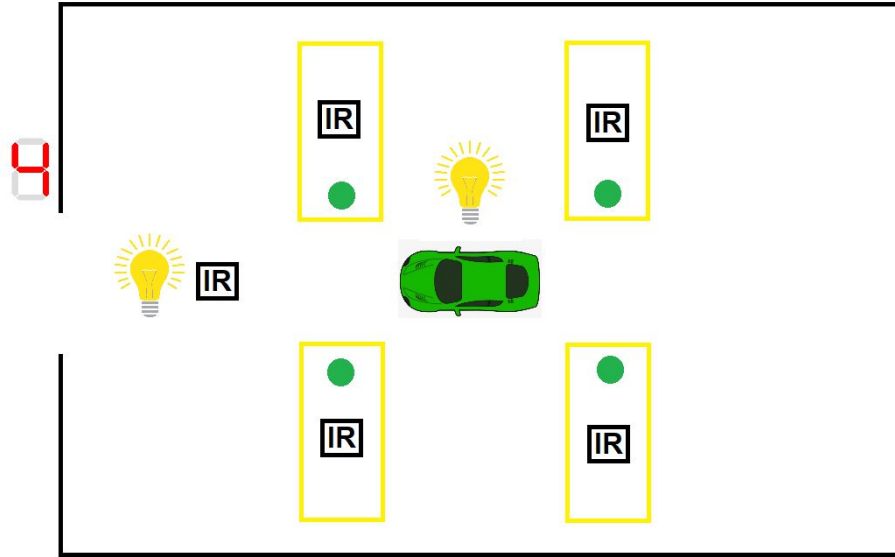- We can avoid these losses by automatic lighting control.

Approach
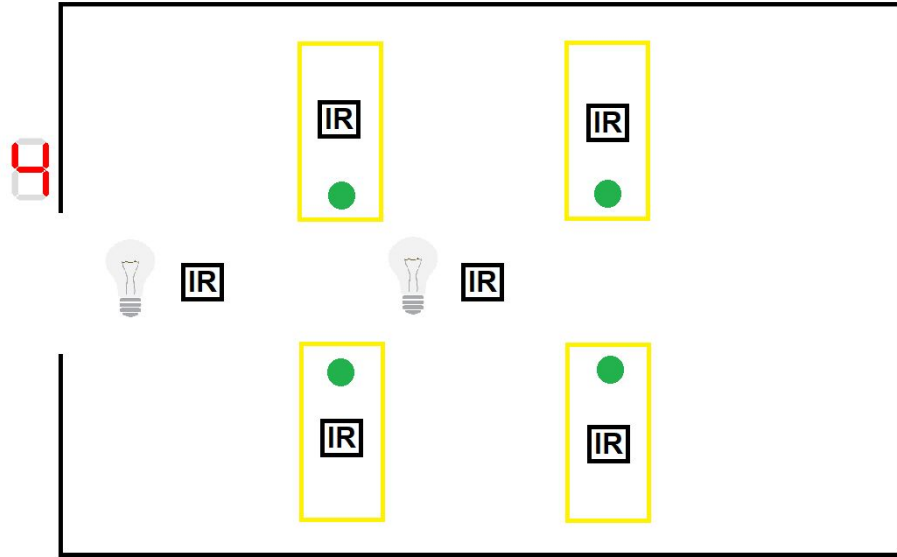
Approach
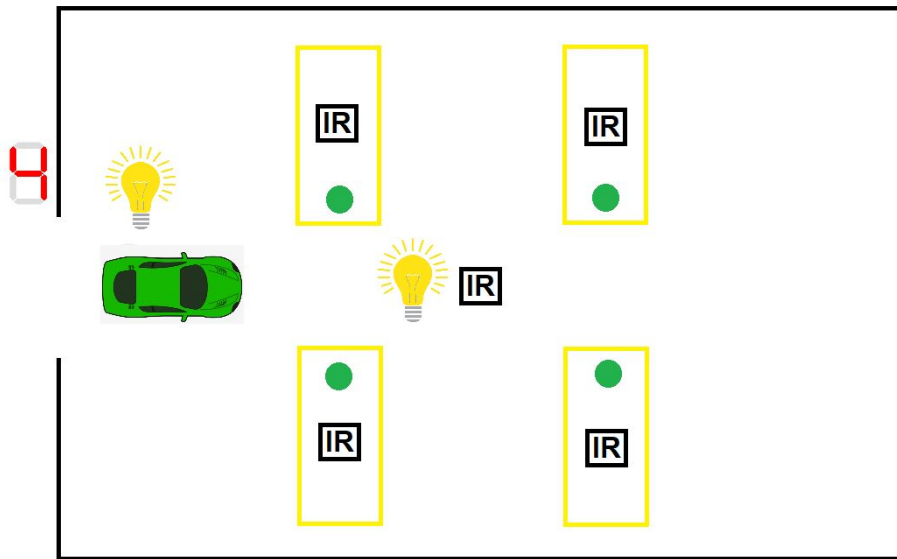
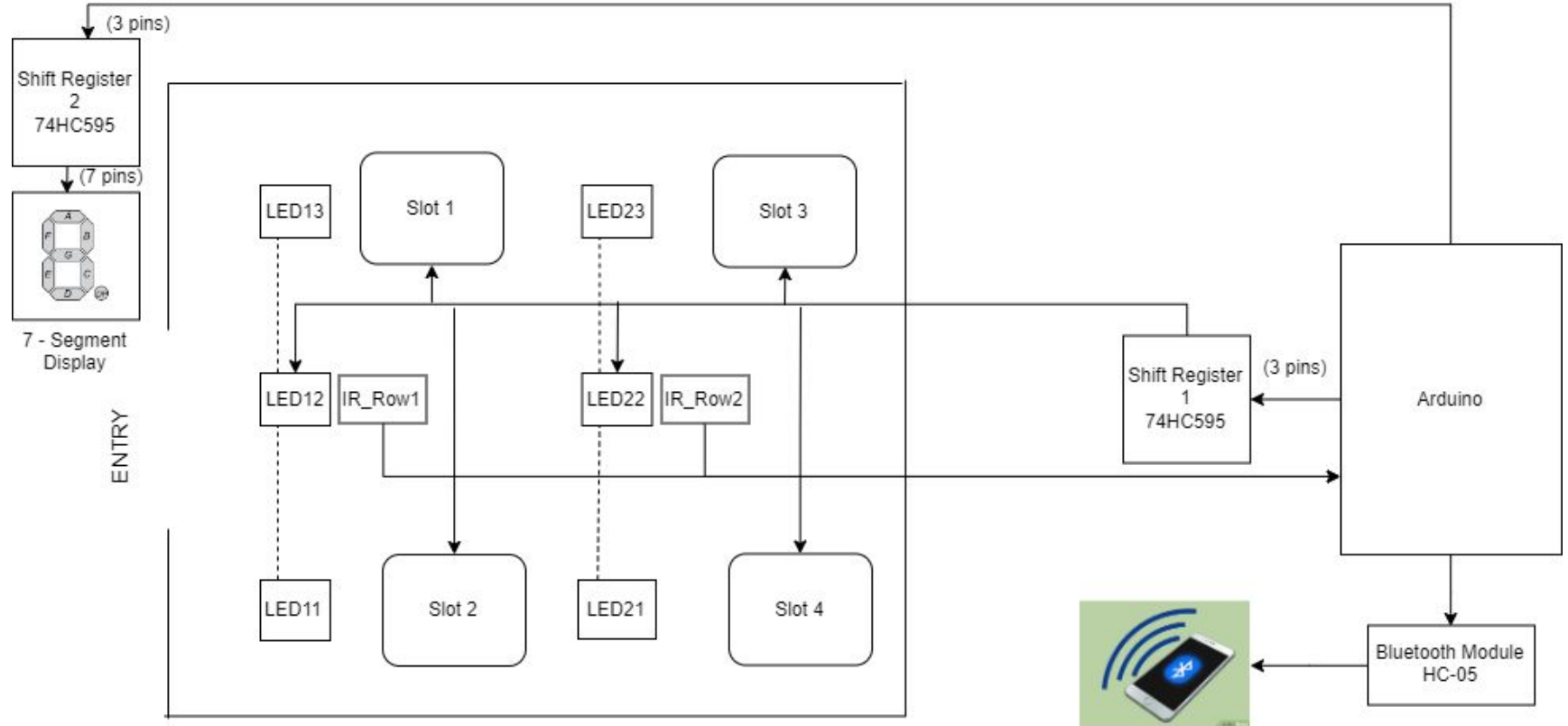# Approach

Approach

Approach

Applications

Automatic Lighting Control

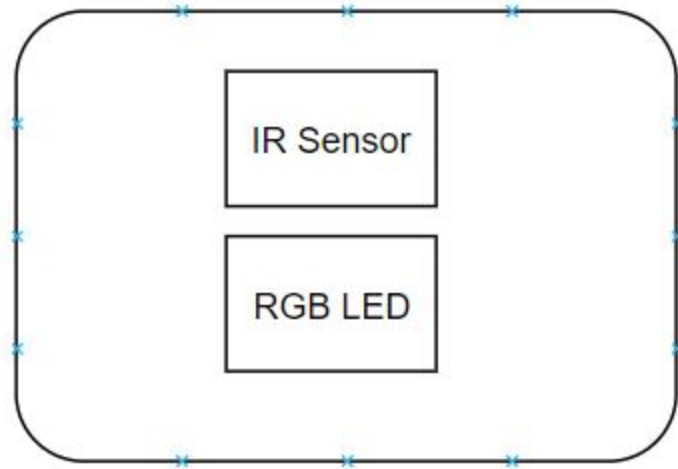Can be used in auditoriums, to save energy when there are limited number of occupants

Slot Matrix

Can be used in halls to simplify navigation

Block Diagram

Block Diagram For Each Slot

IR Sensor

RGB LED

Slot

Components Required

1. Arduino Microcontroller

2. IR Sensor

3. LED

4. RGB LED

5. 7-Segment Display

6. Bluetooth Module

7. Shift Register

Timeline

1. 13th April
    i. Display counter value on seven segment display controlled by Shift Register.
2. 16th April
    i. Setting up circuit for the 4 slots.
    ii. Implement the circuit for the IR Sensor for each row
3. 20th April
    i. Control 6 LEDs using Shift Register.
4. 24th April
    i. Constructing the external frame for the parking lot.
    ii. Designing application to display and update slot matrix in real-time.

Conclusion

Using the system we propose, we can get real-time data about the availability of parking slots.
This helps in guiding the users efficiently and optimizing the parking space usage.