



الجامعة الإسلامية العالمية شيتاغونغ
International Islamic University Chittagong

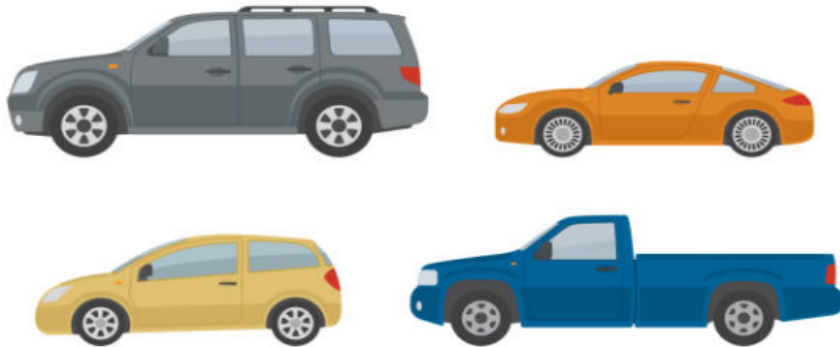
Department of Computer Science and Engineering

PROJECT PROPOSAL

Course Code: EEE-2422

Course Title : Electrical Drives and Instrumentation Lab

Project Name: Automatic Car Parking System



Submitted To:

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Designation: Adjunct Lecturer

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Project Name: Automatic Car Parking System

Objective:

1. To efficiently manage parking slots availability.
2. To automatically open and close the parking area gate.
3. To control entry and exit using sensors and displays.
4. To display real-time slot status.
5. To minimize human intervention.

Apparatus:

Sl No	Apparatus Name	Quantity
1	Arduino Uno	1
2	IR Sensor	2
3	LCD Display With I2C Module	1
4	Breadboard	1
5	Servo Motor	1
6	Jumper Wires	Male to female-7, Male to male- 5

Circuit Diagram:

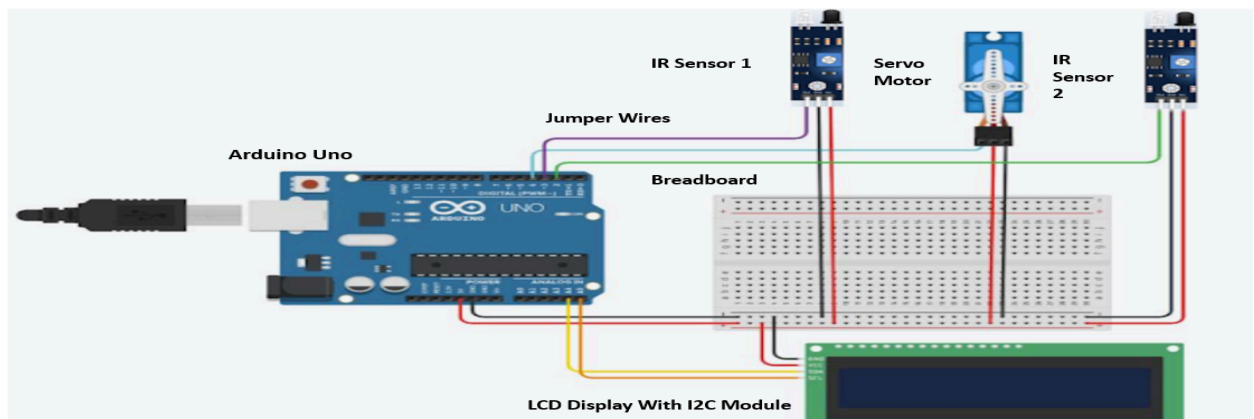


Figure: Circuit Diagram of Automatic Car Parking System

Working Principle:

The Automatic Car Parking System works by using IR sensors to detect car presence and manage gate control. When a car approaches, IR Sensor 1 detects it and signals the Arduino Uno to open the gate using a servo motor. Once the car enters and occupies the parking slot, IR Sensor 2 detects it and updates the status on the LCD display via I2C module, showing whether the slot is available or occupied. After entry, the gate automatically closes. When the car leaves, IR Sensor 2 detects the absence, and the display updates to show the slot is available. IR Sensor 1 again detects the car at the exit, triggering the gate to open, and then close automatically. This system ensures real-time slot monitoring, automatic gate operation, and reduced human intervention using simple electronics and microcontroller logic.

Cost Calculation:

SL No	Apparatus Name	Quantity	Individual Cost
1	Arduino Uno	1	400/- tk
2	IR Sensor	2	65*2= 130/- tk
3	LCD Display With I2C Module	1	300/- tk
4	Breadboard	1	120/- tk
5	Servo Motor	1	150/- tk
6	Jumper Wires	Male to female-7, Male to male- 5	50/- tk
Total Cost			1150/- tk