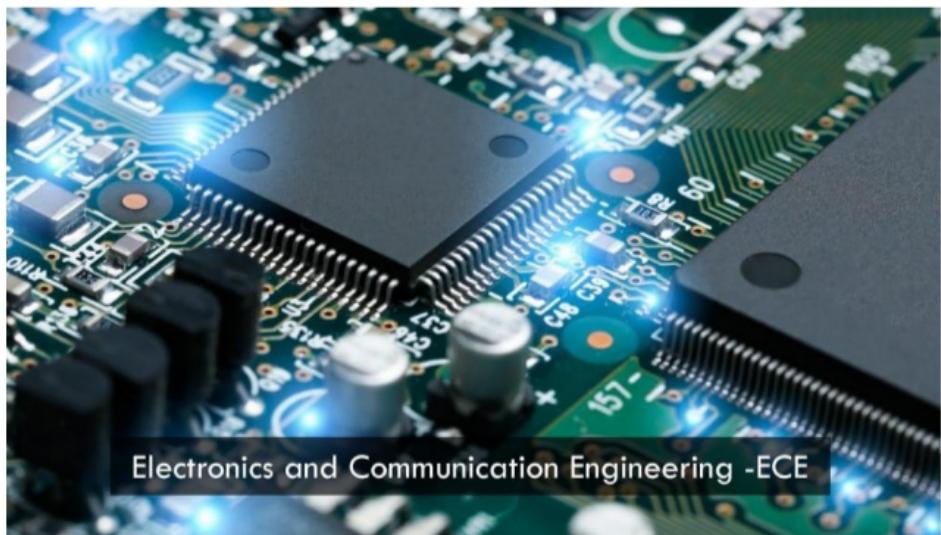




**SRI VENKATESWARA COLLEGE OF
ENGINEERING & TECHNOLOGY**
(Autonomous)



Applied Industrial Internet of Things

Garage Door Control System

ABOUT THE PROJECT

This project is based on “Garage Door Control System “this project is developed on software Arduino IDE (Integrated development environment) is software that is used to dump the program into board. **Arduino IDE’s primary use is to build** electronics-related projects. Arduino is an open-source platform simple and easy-to-understand platform for coding. In this project we us ESP8266 bord.

COMPONENTS REQUIRED

- **Arduino Uno**
- **Crystal(16MHz)**
- **LCD**
- **WIFI(Esp8266)**
- **H-Bridge(L293d)**
- **DC gear motor**
- **IR sensors**

-
- **Power Source**



SOFTWARE REQUIRED

- Arduino IDE

SOURCE CODE

```
#include <ESP8266WiFi.h>
#include <WiFiClient.h>
#include <ESP8266WebServer.h>

// Wi-Fi credentials
const char* ssid = "yourSSID";
const char* password = "yourPassword";

// Web server on port 80
ESP8266WebServer server(80);

// Pin definitions
const int doorSensorPin = D1; // Pin connected to
door position sensor
const int relayPin = D2; // Pin connected to relay
module

// Variables
bool doorOpen = false;
```

```
void setup() {
    // Initialize serial communication
    Serial.begin(115200);

    // Initialize digital pins
    pinMode(doorSensorPin, INPUT);
    pinMode(relayPin, OUTPUT);

    // Connect to Wi-Fi
    WiFi.begin(ssid, password);
    while (WiFi.status() != WL_CONNECTED) {
        delay(1000);
        Serial.println("Connecting to WiFi...");
    }
    Serial.println("Connected to WiFi");

    // Define web server routes
    server.on("/", handleRoot);

    // Start web server
    server.begin();
    Serial.println("HTTP server started");
```

```
// Initialize door status
doorOpen = digitalRead(doorSensorPin);
}

void loop() {
    server.handleClient();

    // Check door status periodically
    bool currentDoorOpen =
digitalRead(doorSensorPin);
    if (currentDoorOpen != doorOpen) {
        doorOpen = currentDoorOpen;
        Serial.println(doorOpen ? "Door is open" : "Door
is closed");
    }
}

// Handle root URL, toggle garage door
void handleRoot() {
    if (doorOpen) {



---


// Close the door
digitalWrite(relayPin, HIGH); // Activate relay
(close door)
delay(1000); // Adjust delay as needed
digitalWrite(relayPin, LOW); // Deactivate relay
doorOpen = false; // Update door status
```

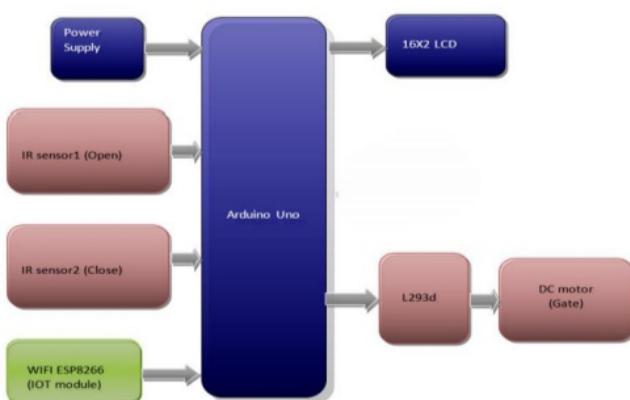
```

} else {
    // Open the door
    digitalWrite(relayPin, HIGH); // Activate relay
    (open door)
    delay(1000); // Adjust delay as needed
    digitalWrite(relayPin, LOW); // Deactivate relay
    doorOpen = true; // Update door status
}

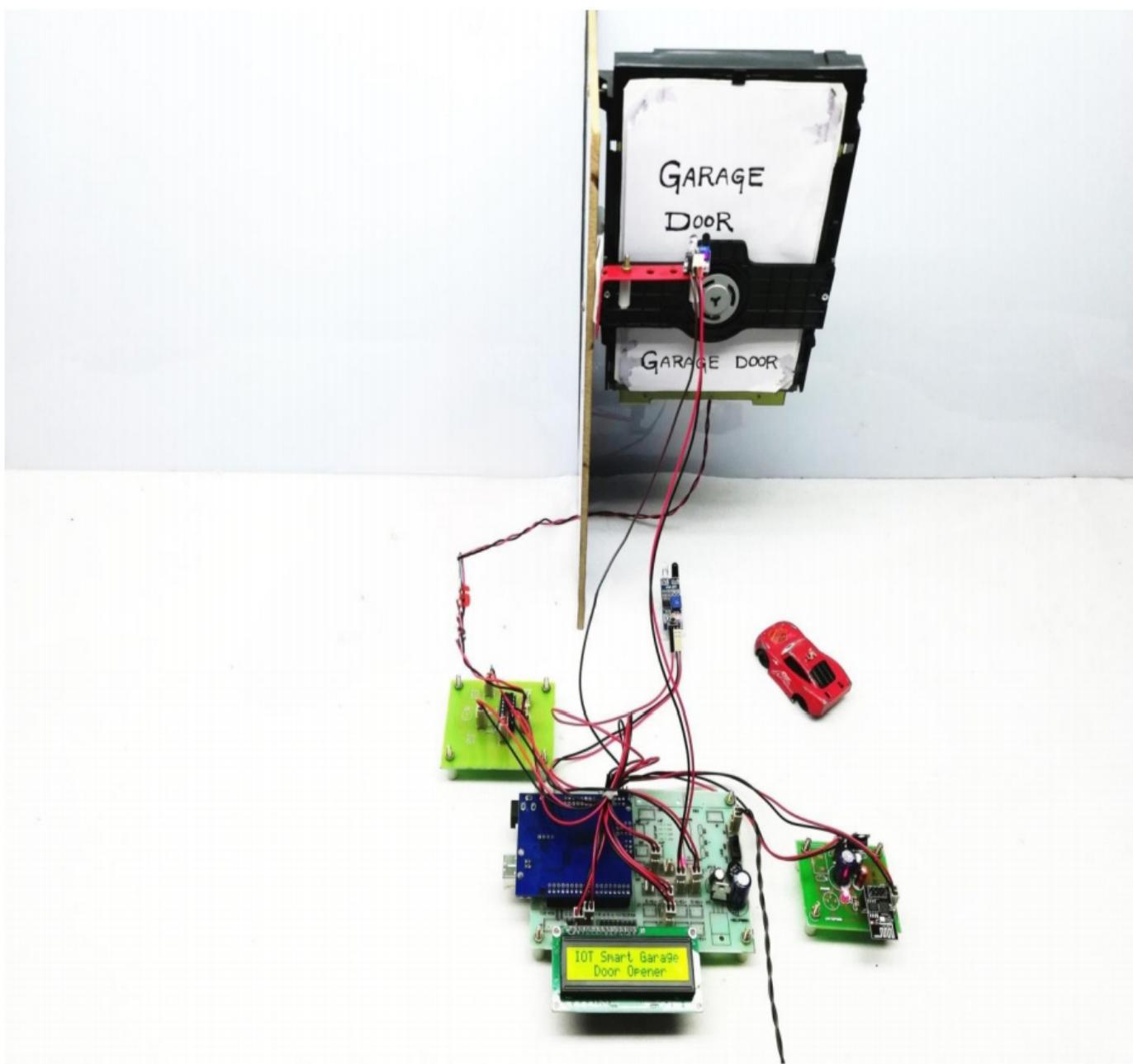
// Respond to the client
server.send(200, "text/html", doorOpen ? "Door
opened" : "Door closed");
}

```

BLOCK DIAGRAM

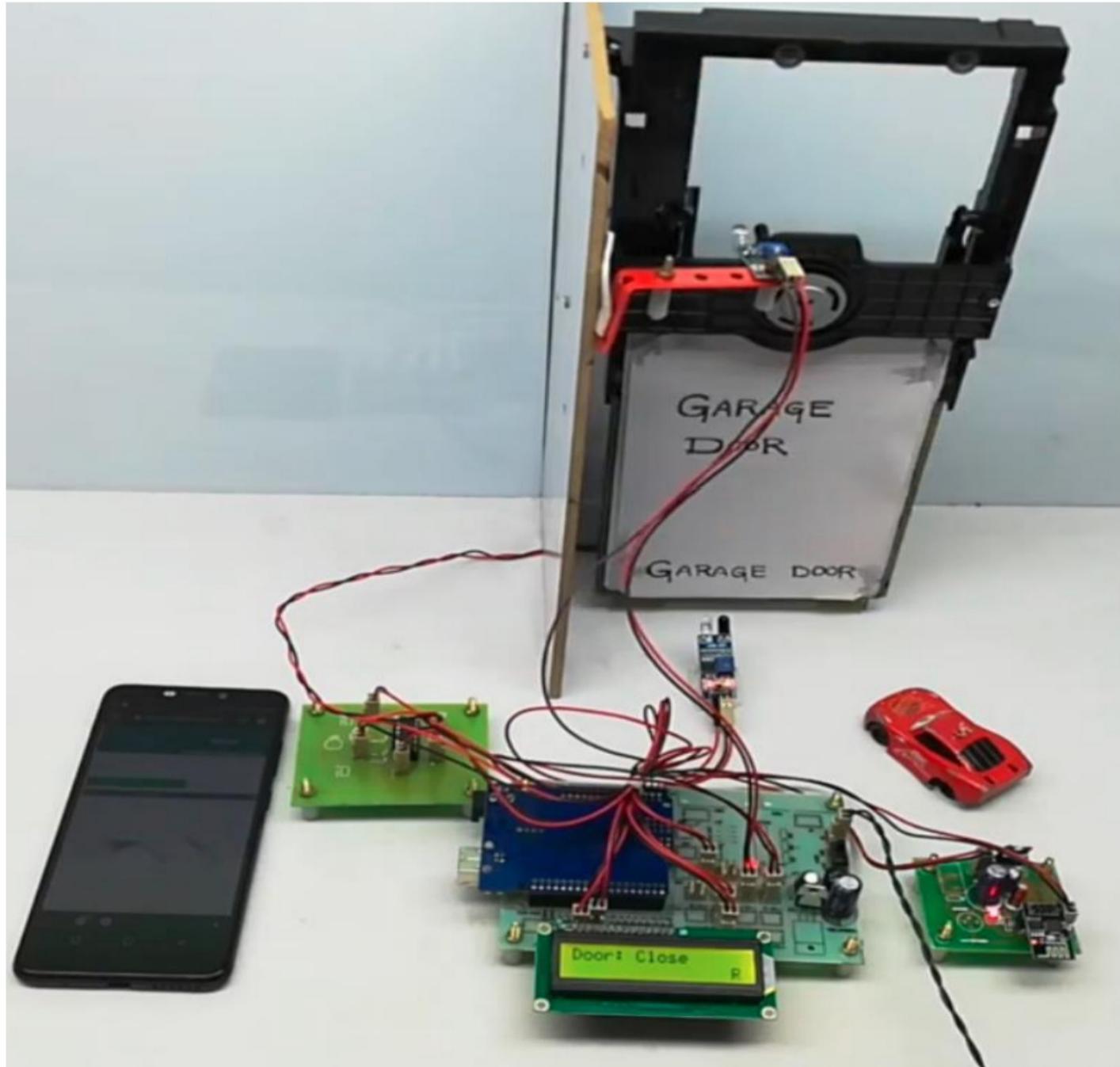


HARDWARE COMPONENTS ARRANGEMENT:

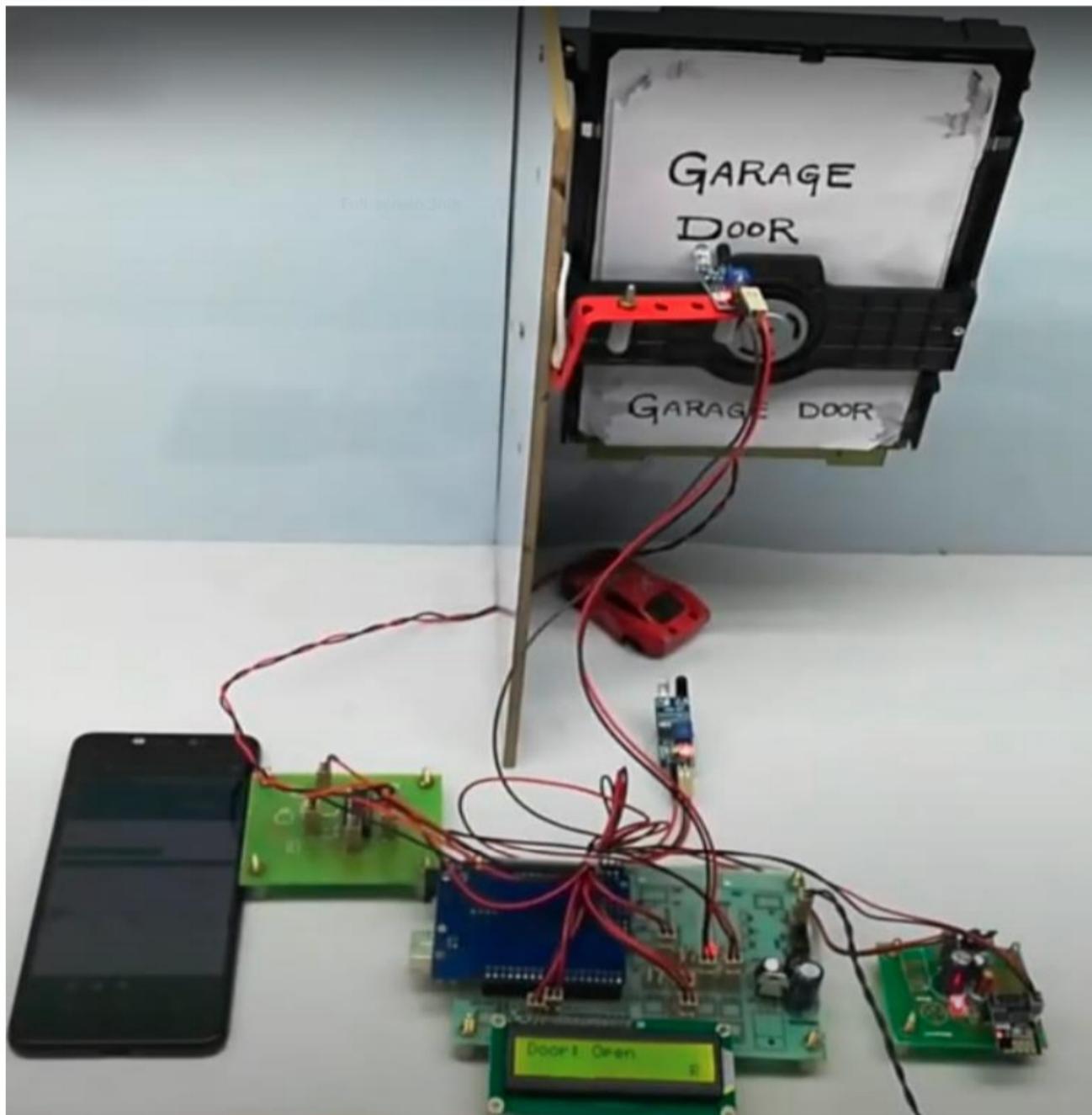


OUTPUT

BEFORE SIMULATION



AFTER SIMULATION:



VIDEO DEMO:

Hardware demo:

https://drive.google.com/file/d/19ukibc35o0A12LM3mCAsWgOafy2y-yP-/view?usp=drive_link

SOFTWARE DEMO:

https://drive.google.com/file/d/1A0HQT5zs08QSKmbJrMkbTuJo9ndt2rT4/view?usp=drive_link

CONCLUSION:

Nowadays especially for people who have difficulty opening the door, the garage door enables the user to open the remote or close the door. In the detection of fingerprints, safety features on the remote are used to prevent unauthorized use and entry. An automatic air-opening door opens or closes the door with the help of an electrically controlled deadbolt or lock or open door
