CODE EXPLANATION :

#include <SPI.h>

#include <MFRC522.h>

#include <Servo.h>

#define SS\_PIN 10 // Slave Select Pin for RFID reader module

#define RST\_PIN 9 // Reset Pin for RFID reader module

#define SERVO\_PIN 6 // Pin for servo motor

MFRC522 mfrc522(SS\_PIN, RST\_PIN); // Create MFRC522 instance

Servo lockServo; // Create Servo instance

void setup() {

Serial.begin(9600); // Initialize serial communications

SPI.begin(); // Init SPI bus

mfrc522.PCD\_Init(); // Init RFID module

lockServo.attach(SERVO\_PIN); // Attach the servo to the specified pin

}

void loop() {

// Look for new cards

if (mfrc522.PICC\_IsNewCardPresent() && mfrc522.PICC\_ReadCardSerial()) {

// Print UID of the card

Serial.print("Card UID: ");

for (byte i = 0; i < mfrc522.uid.size; i++) {

Serial.print(mfrc522.uid.uidByte[i] < 0x10 ? " 0" : " ");

Serial.print(mfrc522.uid.uidByte[i], HEX);

}

Serial.println();

// Check if the card is authorized (replace with your card UID)

if (isAuthorizedCard()) {

Serial.println("Access granted!");

unlockDoor();

delay(5000); // Keep the door unlocked for 5 seconds

lockDoor();

} else {

Serial.println("Access denied!");

}

delay(1000); // Avoid reading the same card multiple times

}

}

bool isAuthorizedCard() {

// Replace the following line with the UID of your authorized card

byte authorizedCardUID[] = {0xDE, 0xAD, 0xBE, 0xEF};

for (byte i = 0; i < mfrc522.uid.size; i++) {

if (mfrc522.uid.uidByte[i] != authorizedCardUID[i]) {

return false;

}

}

return true;

}

void unlockDoor() {

lockServo.write(90); // Open the lock by rotating the servo

}

void lockDoor() {

lockServo.write(0); // Close the lock by rotating the servo

}

Ragini Singh

Sakshi Mishra

Indubhusan Sahoo