

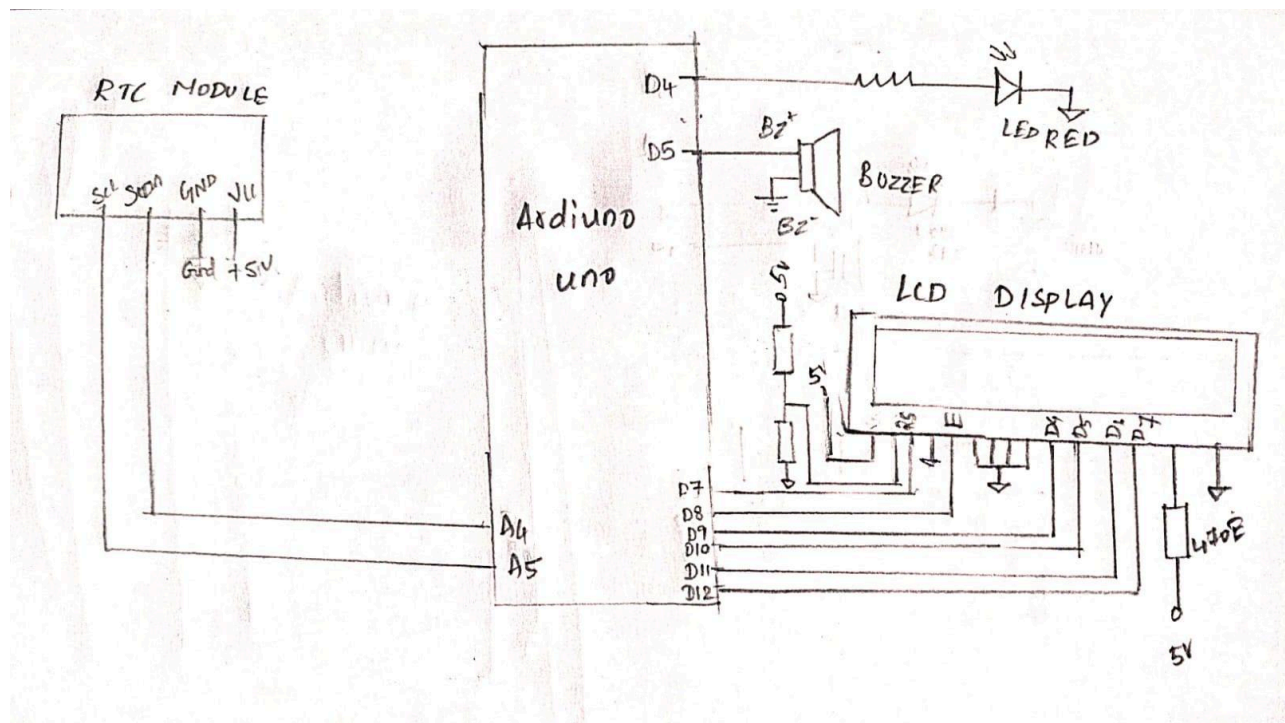
RTC based corridor light and buzzer system

RTC based corridor light system

a) RTC based corridor light operation (6pm to 6 am)

b) Monday to Friday: buzzer alarm at 4:30 am for 2 sec , Sat & Sun at 5:30am

Schematic Diagram:



Code:

```
#include <Wire.h>
#include <LiquidCrystal.h>
#include <TimeLib.h>

LiquidCrystal lcd(7, 8, 9, 10, 11, 12);

int lightPin = 4;
int buzzerPin = 5;
```

```
void setup() {  
    Serial.begin(9600);  
  
    lcd.begin(16, 2);  
    lcd.print("Initializing...");  
    delay(2000);  
  
    pinMode(lightPin, OUTPUT);  
    pinMode(buzzerPin, OUTPUT);  
  
    setTime(10, 39, 50, 13, 2, 2025);  
  
    Serial.println("Setup complete.");  
}  
  
void loop() {  
  
    int hr = hour();  
    int min = minute();  
    int sec = second();  
    int dayOfWeek = weekday();  
  
    int currentDay = day();  
    int currentMonth = month();  
    int currentYear = year();  
  
    int shortYear = currentYear % 100;  
  
    Serial.print("Time: ");  
    Serial.print(hr);  
    Serial.print(":");  
    if (min < 10) {  
        Serial.print("0");  
    }  
    Serial.print(min);
```

```
Serial.print(":");
if (sec < 10) {
    Serial.print("0");
}
Serial.println(sec);

Serial.print("Date: ");
Serial.print(currentDay);
Serial.print("/");
Serial.print(currentMonth);
Serial.print("/");
Serial.println(shortYear);

if (hr >= 18 || hr < 6) {
    digitalWrite(lightPin, HIGH);
    Serial.println("Light turned ON.");
} else {
    digitalWrite(lightPin, LOW);
    Serial.println("Light turned OFF.");
}

if ((dayOfWeek >= 2 && dayOfWeek <= 6) && hr == 4 && min == 30) {
    digitalWrite(buzzerPin, HIGH);
    Serial.println("Buzzer ON (Weekday morning).");
    lcd.clear();
    lcd.setCursor(0, 0);
    lcd.print("Weekday Morning");
    delay(2000);
    digitalWrite(buzzerPin, LOW);
    Serial.println("Buzzer OFF.");
}

if ((dayOfWeek == 7 || dayOfWeek == 1) && hr == 5 && min == 30) {
    digitalWrite(buzzerPin, HIGH);
    Serial.println("Buzzer ON (Weekend morning).");
    delay(2000);
}
```

```

    digitalWrite(buzzerPin, LOW);
    Serial.println("Buzzer OFF.");
}

if (!(dayOfWeek >= 2 && dayOfWeek <= 6 && hr == 4 && min == 30)) {
    lcd.clear();
    lcd.setCursor(0, 0);
    lcd.print("Time: ");
    lcd.print(hr);
    lcd.print(":");
    if (min < 10) {
        lcd.print("0");
    }
    lcd.print(min);
    lcd.print(":");
    if (sec < 10) {
        lcd.print("0");
    }
    lcd.print(sec);

    lcd.setCursor(0, 1);
    lcd.print("Date: ");
    lcd.print(currentDay);
    lcd.print("/");
    lcd.print(currentMonth);
    lcd.print("/");
    lcd.print(shortYear);
    lcd.print(" ");
    lcd.print(getDayName(dayOfWeek));
}

delay(1000);

```

```

String getDayName(int dayOfWeek) {
    switch (dayOfWeek) {
        case 1: return "Sun";
        case 2: return "Mon";
        case 3: return "Tue";
        case 4: return "Wed";
    }
}

```

```
case 5: return "Thu";  
case 6: return "Fri";  
case 7: return "Sat";  
default: return "";  
}  
}
```

Implemented By :

Ranadheer Varma Mantena

Arul Kumar B M

Sree Kiran Ganta

Vinitha L

Thamarai B

Pandi C

Radhamani D

Amol Ashok Chougule