

## **AUTOMATED LAMP CONTROL**

**Joy Mendonca, Dhanaji Deshmukh, Pranam Sharma, Talal Salah Albatsh**

*Desh Department, Vishwakarma institute of technology (India)*

### **SUMMARY:**

*This paper talks about our take on automated lamp technology. We have made designed and made a technology with which the light will automatically turn on and off depending on the conditions. This will help conserving electricity and help our environment in many ways. We have used basic equipments such as a LDR to achieve this.*

### **I. INTRODUCTION**

Electricity is the basic necessity of today our lives depend on it. However, the drastic pace at which we continue to consume electricity will only make providing it difficult over the long term. Well, according to auditors and technical experts, we can save about 5% - 10% of the wastage every month easily if we use electricity wisely. Changes as small as switching off a lamp rather than keeping it on standby makes a lot of difference. But in today's busy lifestyle paying so much attention over that can be a task. So we came up with an automated lamp control which will turn the lights on and off based on the amount of natural light in that area. As we were working on the project we came across many applications for this simple device. As we all are aware the Indian government has came up with a rule that the headlight vehicles will be on at all times to prevent accidents at nights cause of the carelessness of drivers of forgetting to turn the headlight on but this has lead in draining of the battery very soon. Well, with our technology we can integrate it with the vehicles and it will turn the headlight on and off automatically. This technology can also be used in street lamps.

### **II. HARDWARE**

1. Arduino Nano
2. Light emitting diode (L.E.D.)
3. Light Dependent Resistance (L.D.R.)
4. Resistors

### **III. WORKING**

We mounted Arduino Nano which is a microcontroller to the PCB and attached it the LED and LDR with resistors in between the connections will be given bellow. We coded the Arduino nano chipset so that the value of LDR is read by the Arduino chip and as soon as the value falls below a certain limit the LED is given power. We surveyed and decided on a value of the intensity of light after which it is difficult for the human eye to see with ease can selected that to be our base limit.

### **IV. CODE**

```
const int ledPin = 13;

const int ldrPin = A0;

void setup() {

    Serial.begin(9600);

    pinMode(ledPin, OUTPUT);

    pinMode(ldrPin, INPUT);

}

void loop() {

    int ldrStatus = analogRead(ldrPin);

    if (ldrStatus <=300) {

        digitalWrite(ledPin, HIGH);

        delay(1000);

    }

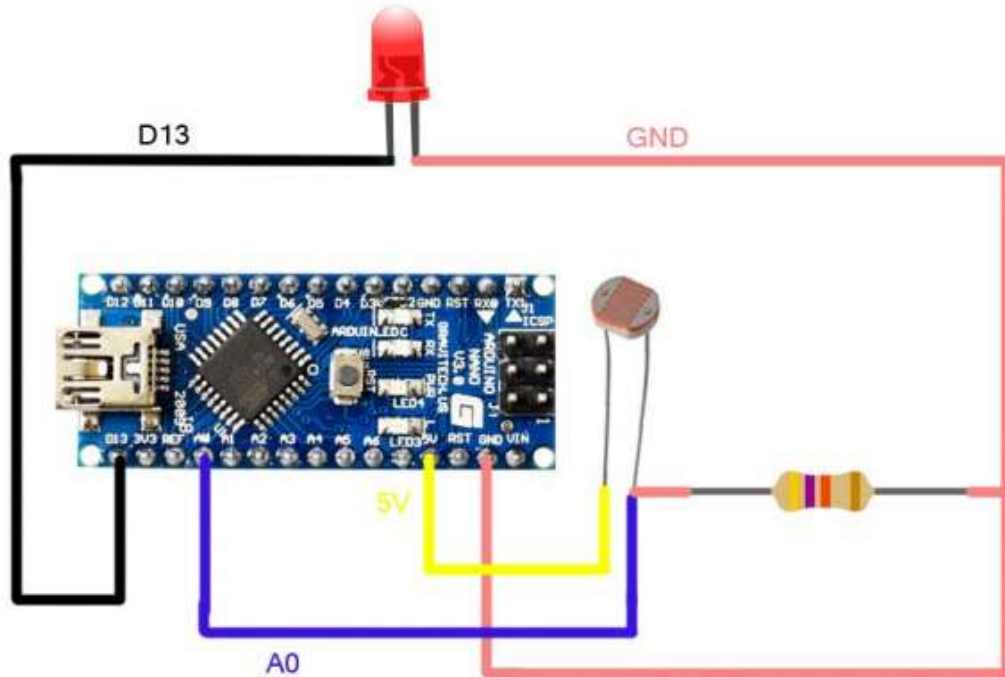
    else {

        digitalWrite(ledPin, LOW);

    }

}
```

### V. CONNECTIONS



### VI. CONCLUSION

In conclusions our project worked perfectly fine but is still in a prototype stage. With the right equipments and hardware we can use the principle of this project in various ways. Such as Automated Street Lamps, Automated Vehicles headlight, Mood Lighting, Home Lighting, etc.

### VII. ACKNOWLEDGEMENT

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