

## IOT BASED “INTELLIGENT LIGHT SENSING BACKLIT KEYBOARD”

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**Abstract** — In this project, we describe a system which is based on Internet of things(IoT). A system is provided for use in a laptop for adjusting brightness of display and keyboard. The method is that to collect the value form light sensor and analysis them and adjust brightness of keyboard and display. For saving some energy and increase battery hour.

**Keywords**- IoT, Light sensor, Display and keyboard.

### I. INTRODUCTION

Now a day's few laptops are having backlit keyboard and some laptop is don't have these facility keyboards these are the two types of the laptops in the market.

As we seen the type of laptops having two types of keyboards. According to first type of laptops having no backlit keyboard in these type user faces the problem in night in dark room while using the keyboard.

According to second type of laptops having backlit keyboard in these type user faces the problem is that when user is on backlit is continuously on in dark room and light room also we have to off light manually.

### III. PROPOSED SYSTEM

User start the device then LDR start calculating the value of light intensity. These values of intensity are compared with the define threshold value. LDR output value changing according to the intensity of light. After comparing with threshold value brightness of keyboard and display is adjust. User manually also increase and decrease the brightness of keyboard and display. is at least partially translucent or transparent or has holes through which light may shine. This way, the light from the light-emitting panels radiates upward through, and preferably around the outer surface of, the translucent keycaps, rather than up through an aperture or light pipe in the center of the keycaps.

### IV. DIAGRAM OF PROPOSED SYSTEM

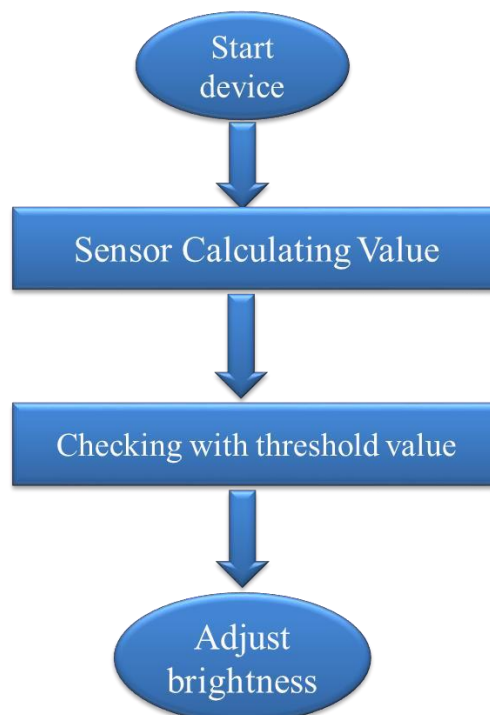


Fig.1

## V. SYSTEM DESIGN

**Module 1:** Light sensor calculating the intensity of light.

**Module 2:** Light intensity value comparing with the threshold value.

**Module 3:** According to light intensity adjusting the brightness of keyboard.

## VI. ALGORITHM

### Mathematical formulation: -

- The resistance of the Light Dependent Resistor (LDR) varies according to the amount of light that falls on it. The relationship between the resistance RL and light intensity Lux for a typical LDR is:

$$RL = 500/Lux \dots \dots \dots (1)$$

- If the LDR connected to 5V through a 3.3K resistor, using the voltage divider rule, the output voltage of the LDR is:

$$Vo = 5 * RL / RL + 3.3 \dots \dots \dots (2)$$

- Substituting RL from equation 1 into equation 2, we obtain the light intensity,  
 $Lux = 2500 / Vo - 500 / 3.3$

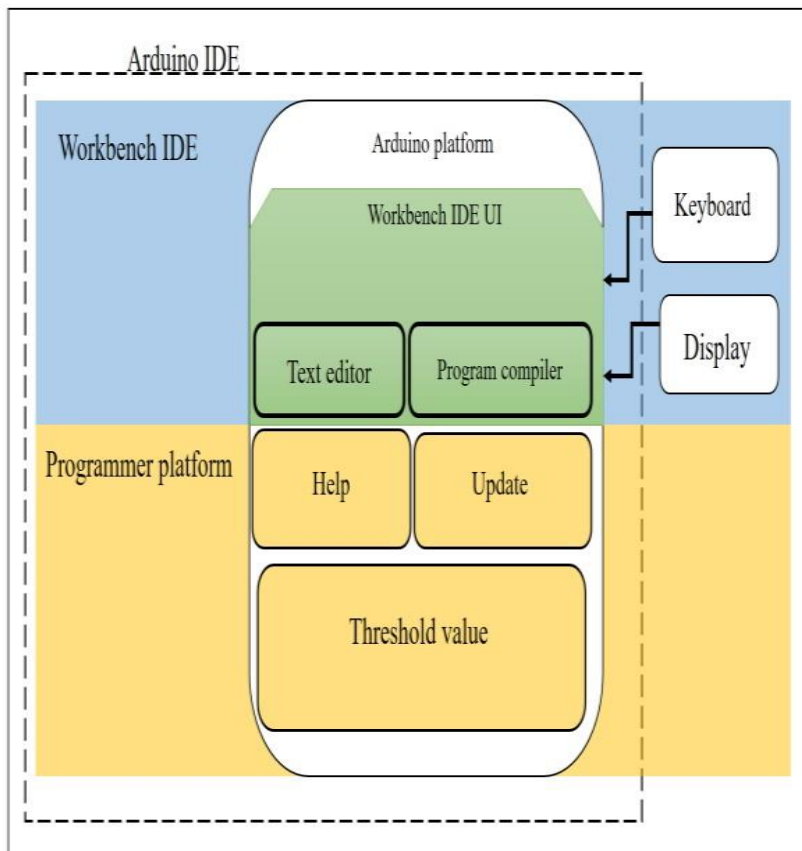
### Success Conditions:

- Backlight will be ON after intensity value less than the threshold value.
- Backlight will be OFF after intensity value greater than the threshold value.

### Failure Conditions:

- Voltage from the Arduino to the LED strip will not be get sufficient.
- Damage in LED strip or LED bulb.
- Damage in an Arduino controller.

## VII. SYSTEM ARCHITURE



**Fig.3**

## V. RESULT



Image:1

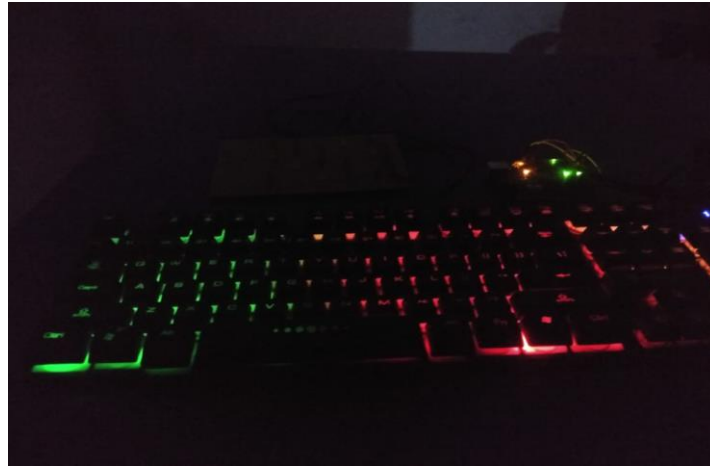


Image:2

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## VI. CONCLUSION

According to follow procedure users can control the backlit and display backlit automatically, User start the device then LDR start calculating the value of light intensity. These values of intensity is compared with the dene threshold value. LDR output value changing according to the intensity of light. After comparing with threshold value brightness of keyboard and display is adjust. User manually also increase and decrease the brightness of keyboard and display.

## VII. REFERANCES

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