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SMART STREET LIGHTNING SYSTEM USING IOT

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ABSTRACT

We are pleased to present Smart Street Lightning System that will ease out the process of handling light automatically with respect to environmental condition like foggy, haze conditions etc.

As the world is growing a bit faster people are being attracted to this word smart. India is one of the fastest growing economies in the world taking this as a factor we are implementing a switch to smart technique - Namely Smart street light system. The manual streetlight system lights powered from sunset to sunrise with maximum intensity even when power is available. The Saved energy can be utilized in various purposes like residential, commercial etc. This is done by using the LDR sensor. Considering the intensity of light, we can turn a light on/off. Every city need to have street light system which is essential. In order to save the energy, we are using the project through an IOT module.

1. Introduction

We have deigned the smart streetlight system only by using an LDR and make connected with a direct supply.

We have proposed a method which preserves the energy by depending on the intensity of the light that is present in the climate.

This works by depending on the intensity of the light that falls on the photo resistor and then it generates the required amount of intensity and the bulb switches on/off. Since by the use of the relay in the circuit the monitoring of the bulb takes place.

The amount of power that is being supplied there the relay acts as a switch and the bulb glows on. The light switching takes place depending on the beam of incident light falling on the LDR.

The moment when the light falls on the LDR the switching of the bulb takes place whether to glow or not. By this the consumption of the energy is being saved and makes the system effective and the cost consumption of the bulb's is less.

Precisely when the LDR perceives force of light its opposition will get diminished, on the off chance that it sees gloom its hindrance will enlarge, along these lines high power light can be given during the needful condition.

Keywords GPS, PIC MICROCONTROLLER , LDR ArdiunoIDE.

PROBLEM STATEMENT

Automatic switching of street light considering the intensity of sunlight. Brightness control of lights on detecting movment and error reporting to electric subsection.

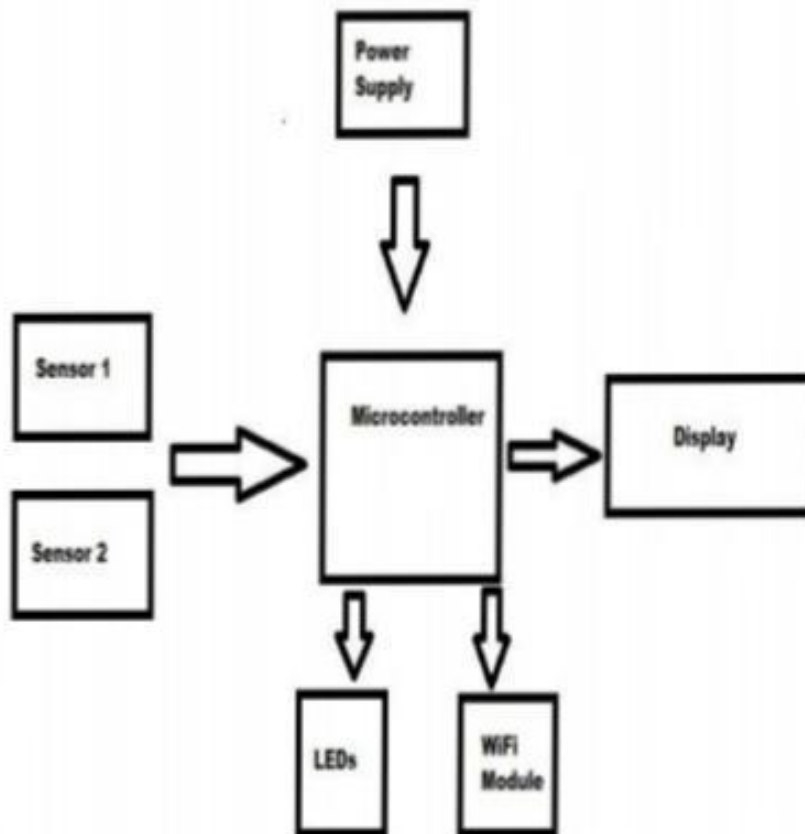
2. LITERATURE SURVEY

A gathering of researcher from establishment Sir M. Visvesvaraya[4] had created keen road light GPS beacon utilizing Xbee remote module. They will likely screen the wellbeing of Street lights and ahead checked outcome to the oversee station. Inside the light module, itincorporates light ward resistors (LDR) module, microcontroller module and Transmission module. The light module will speak with the oversee Center through wi-fi the utilization of Xbee. Various methods have been proposed by various scholars one such technique that came recently is the use of the DHT11 sensor [3]. As the name recommends the DHT 11 is a temperature and humidness sensor with an extraordinary exact stickiness and temperature alignment. It is incorporated witha 8bit small scale controller guarantees the unwavering quality and long haul dependability. Has a quick reaction and quality and superior. The single-wired sequential interface framework has been incorporated to turn out to be speedy and very simple. Little size, low power, signal transmission go up to 20 meters, empowering a wide assortment of uses even in the most requesting locales or territories. Anothersuch kind of a method recentlyutilized was with the assistance of a Light sensor, SmokeSensor, Carbon outflow sensor, Noise Sensor. [4] First the Chips would be made to be placed in onthe lights. These chips can contain a small scale controller together with shifted gadgets like ozone depleting substance sensor, haze sensor, quality gadget, clamor gadget and GSM modules for remote information transmission and gathering among concentrator and PC.the data from the chipswouldbe gotten on an outside concentrator (PC) and consequently the PC would likewise transmitthe predominant activity tothe chip. inaccordancewith the overviewof variety inside the forceof daylight in the field space, prudent programming would be done to affirm least utilization of vitality. The discharges inside the climates would be distinguished together with the utilization of vitality and any stealing of power.

3.DESING METHODOLOGY

Expected power sparing in different manners. • 0% utilization state from 7am to 7pm. • 97% sparing at the hour of nightfall state from 7pm to8pm. • 7% vitality sparing in light of voltage revision state from 8pm to 11pm . • 55% utilization on account of diminishing method utilized state from 11pm to 1am. • 34% utilization in light of darkening just as stunning strategy state from 1am to 2am. • 55% utilization as a result of diminishing procedure utilized state from 2am to 6am. • 96% sparing at the hour of nightfall state from 6am to7am. The above smart system is unique and by using any of the technique mentioned below the energy preservation is done and that can be utilized in various ways for other resources. The effective utilization of the resource is done to various ways and when the consumption power is less and providing better feature than the existing one the energy can be transformed into other sectors for better development of the city. The above flow chart represents flow sequence of the system.

4.SYSTEM OVERVIEW:



Following is the flowchart for the following.L

5.IMPLENTATION:

The technology behind smart streetlights can vary depending on its features and requirements, but typically, it involves a combination of cameras and sensors. When implemented on standard streetlights, these devices can detect movement that enables dynamic lighting and dimming. It also allows neighbouring fixtures to communicate with each other. If a pedestrian or car is detected, all surrounding lights will brighten until movement is no longer captured. Additional capabilities of smart streetlights may require more technology, such as image sensors, seismic sensors, sound sensors, speakers, weather and water detection sensors, and wireless transmitters. After smart streetlights are installed, most vendors offer software that can help cities monitor and manage the technology. This software can also be used to gather any data collected by the streetlights and adjust its features, such as dimming time.

3. CONCLUSION

Smart light system has been designed implemented and then tested. The concept is based on fog sensor detection and sense the brightness in the surrounding environment and handle the light accordingly. The Internet of Things, called the IoT for short, is a new interconnection of technology heralded as the next industrial revolution—implying radical

change, disruption, and an entirely new paradigm for the planet. Specifically, the Internet of Things is an extension of the existing connections between people and computers to include digitally-connected "things", with these we are using API to get current data of environment. The system is cost effective and simple in designing as compared to sensor based system. It is more efficient and reliable as compared to the existing systems.

4. FUTURE SCOPE

The Project "Smart light System" can be used in various part of sectors with some modification like further it can be used to handle intensity of light for the same we have to implement some processing algorithm. This utility is very useful in automation in lights handling in automobile and can be further extended in other fields.

As mentioned current model supports only fog condition further it can be easily modified with certain another conditions in environment. we can also add real time monitoring in it, using webcam and mic to make our system interactive.

5. REFERENCES

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