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Review on Light Controlling System by Remote

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ABSTRACT: This project provides lighting control through remote and automation for homes and offices. These things are very necessary in today's lifestyle. Wireless control is a primary concern for everyone. This project describes the design of an effective remote control system that can monitor a home. Apart from the concern of remote control we also take care of home automation.. Generally the art of controlling home appliances automatically and sometimes remotely is called home automation system. This system increases comfort in life and improves quality of life.

KEYWORDS: Arduino nano, Jumper wires, bulb holder.

I. INTRODUCTION

Since we are in the era of never-ending growth of internet and its applications, the topic of lighting control system is becoming most popular due to its numerous advantages. In this light controlling and home automation system we are using Arduino Nano and controlling it with a remote controller (remote). We have given C language program to Arduino Nano and it will give signal to remote to turn on and off specific switch or bulb. We use remote based because it is more durable to use and has no difficult features and Arduino device controlling hub to do 'on' and 'off' operations for this system we use relay this system is useful for people who want to control home appliances from one place to another. Can't go often.

II. LITERATURE SURVEY

In this review paper author describes the light control system with remote by using Arduino nano. [1] N. Sriskanthan, F. Tan and A. Karande, "Bluetooth based home automation system", *Microprocessors and Microsystems*, vol. 26, no.6, (2002), pp. 281-289. [2] K. Gill, S.-H. Yang, F. Yao and X. Lu, "A Zig-Bee-based home automation system", *IEEE Transactions on Consumer Electronics*, vol. 55, no. 2, (2009), pp. 422-430. [3] N. Kushalnagar, G. Montenegro and C. Schumacher, "IPv6 over low-power wireless personal area networks (LoWPANs): overview, assumptions, problem statement, and goals", RFC 4919, (2007). [4] M. Kovatsch, M. Weiss and D. Guinard, "Embedding internet technology for home automation", In *Proceedings of the 15th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA '10)*, (2010) September.

III. PROPOSED SYSTEM DEVELOPMENT

➤ Relay Module :

The relay driver section contains a BC547 transistor and a 5 volt relay to control the light bulb. A transistor is used to drive the relay because the Arduino does not provide enough voltage and current to drive the relay. So we added a relay driver circuit to obtain sufficient voltage and current for the relay. Arduino sends commands to this relay driver transistor and then the light bulb will turn on/off accordingly.



Fig.1 Relay module

➤ **Microcontroller Module (Arduino Uno) :**

ATmega328P datasheet is used for Arduino uno microcontroller board. It has 6 changing physical quantities inputs and 14 digital input/output pins (of which 6 can be used as PWM outputs).



Fig.2 Arduino Uno

Block diagram :

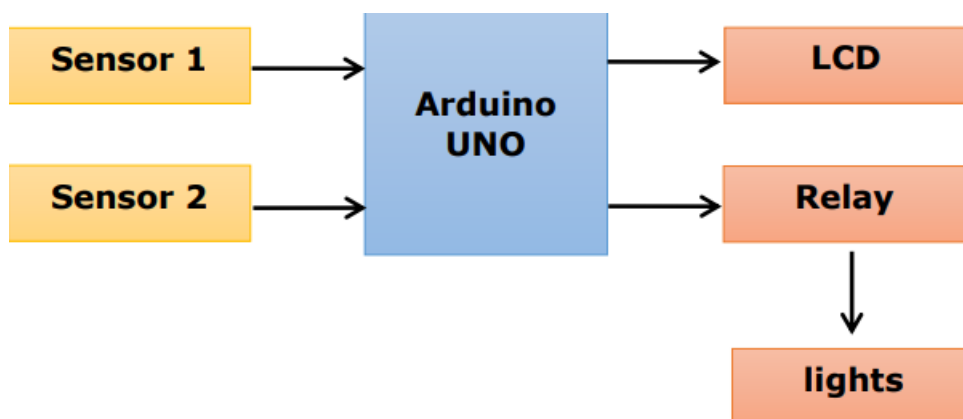


Fig.4 Block Diagram Of Proposed System

- We use two sensors which provide input output signal to Arduino.
- In Arduino we include the program to process the input signal.
- When input is received in Arduino Arduino processes it and gives output signal to LCD as well as Relay.
- The time relay is open or closed when the input signal passes to the relay and the output signal passes or stopstowards the lights.



- When that signal is high the time relay will close the circuit and the LED will flash and when the output signal is lowTime will lead off.

Advantages

- The tasks to be performed in our homes are very easy and you can easily perform many actions from the remote.
- Security by automatic door lock.
- Raise awareness through security cameras.
- Saves time.
- Convenience and cost efficiency.
- Allows you to be worry free.

Disadvantages

- Security Issues: As with all computing devices, security will become a bigger issue as more and more people use smart home devices.
- Cost: Extremely expensive.
- Accept more.
- Installation costs can be high. Since the entire house needs to be wired, the investment that needs to be made is very important.

Applications

- Light control.
- HVAC.
- Lawn/Garden Management.
- Smart Home Appliances.
- Improved home safety and security.
- Indoor air quality and water quality monitoring.
- Natural language-based voice assistant.
- Better infotainment delivery

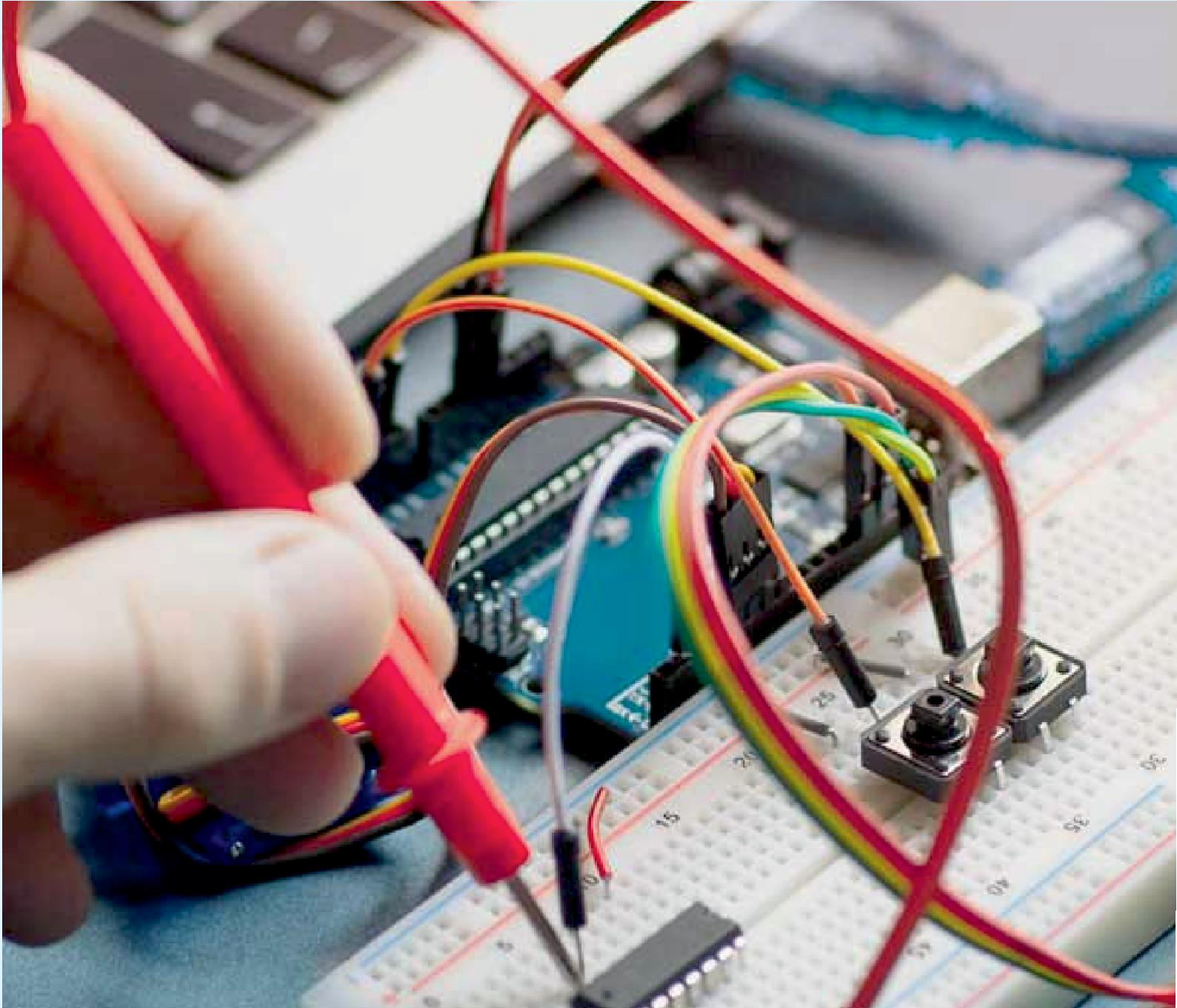
IV. CONCLUSION

The project provided wireless control and automation for “lighting control on systems” homes and offices. These things are very necessary in today's lifestyle. This project describes the design of an effective remote controlling system that can monitor a home. This project offers the best solution for wastage of electrical energy. Also, manual operation is completely eliminated. Home appliances can be turned on/off using IR without going near a switch board or regulator. We controlled all the loads simultaneously from a single location (control room) without connecting any physical wires between the load and the control room.



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