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IOT based Smart Ceiling Technique for Meeting Hall

Prasad S R[1], Ramya K C[2], Shabareesha B V[3], Manjunatha N N[4], Kotireddy Keerthi Reddy[5], H Manoj T Gadiyar[6]
[1, 6]*Assistant Professor,* [2, 3, 4, 5]*Department of Computer Science and Engineering, Sri Dharmasthala Manjunatheshwara Institute of Technology, Ujire – 574240*

Abstract: ***This design is proposed using temperature sensor for automation of meeting hall using Arduino, with Internet of Things (IoT) for homes. Now a day there are various requirements of common man. IoT is going to play essential role in application such as smart home, industry, smart cities, we are implementing smart module for controlling fan speed based on room temperature and also making turn on or off fan by using IR sensor is connected to Arduino.ESP8266 wi-fi shows the current status of project in blynk app.***
Keywords: Sensor, Arduino, blynk app, ESP8266

I. INTRODUCTION

Now a day everyone is looking towards smarter and automated technologies. is used to control and automate processes. It is a single chip that executes a code. It checks whether Wi-Fi connection is established or not. If Wi-Fi is connected, then by using blynk app we can control the fan and by using goggle assistant also we can control fan means if we say turn on fan then that signal is given to arduino that will turn on fan. And if we say turn off fan then signal is send to arduino that will turn off fan. If Wi-Fi connection is not established then also we can turn on or off fan by using IR Remote. An IOT based smart ceiling technique for meeting hall is an innovative solution that uses IOT technology to create a more efficient ,comfortable and user-friendly experience of a meeting hall. Smart ceiling system can provide a rang of benefits form increased energy, efficiency and imporoved comfort to enchanced functionally and ease of use. the system can automatically turn off lights when the hall is empty, adjust the temperature and humidity levels to maintain a comfortable environment and provide voice activated controls to make the system easy to use for everyone. Energy saving in any system, deals with the minimization of energy wastage, to achive this the automatic control refers to any controlling mechanism which does not required any human intervention. Particular button is defined for turn on fan and other button is defined for turn off fan. The temperature sensed by DHT11 is visible in blynk when Wi-Fi is connected.

II. LITERATURE REVIEW

In [1] the First paper "IOT based Energy Efficient Smart Ceiling Fan for Home Automation", published by Shivani Ghadage, Pratiksha Dhekale, Ashwini Randive and Dhanraj Narsale have proposed complete research on design and construction of the fans which are used at homes can be switch ON or OFF manually and the speed of these ceiling fans are also controlled by using speed regulator. Several types of speed regulator are developed which can control the speed of fan by twisting it in a particular direction. the design and simulation of the fan speed control system using PWM technique based on the room temperature. A temperature sensor has been used to measure the temperature of the room and speed of the fan is varied according to the room temperature using PWM technique.

In [2] "IOT-based Home Appliance System", published by Amir Moradi and Sureerat Tang have proposed a the Automation that has become one of the key interests in the modern-day technology. Everybody tends to use automated devices in his or her daily activities due to several reasons ranging from safety to ease of handling. Initially, the automation systems were limited to industries as it required significant investments, but with the development of the technology, automation has become available to everyone. Home automation systems are very popular in the world these days. Many types of research have been carried out into this area, and some commercial products are also available, but the room for development is still very high and the technology advances daily. Unlike the normal system, the automated home will have additional benefits.

In [3] "IoT-based Occupancy Monitoring Techniques for Energy-Efficient Smart Buildings", published by Kemal Akkaya and Ismail Guvenc have proposed a Smart buildings are becoming a reality with the integration of Building Management Systems (BMS) with an underlying monitoring and communication infrastructure that consists of smart devices such as sensors, cameras, RFIDs, meters, and actuators.

These smart devices, along with the communication infrastructure, are referred to as Internet of Things (IoT). The BMS manage various crucial components of the buildings such as heating, ventilating, and air conditioning(HVAC), gas, lighting, security system, and fire system, and it can communicate with the IoT devices. With the availability of IoTs in commercial buildings, building occupants and environment can be monitored in real time. In this way, we can have real-time access to occupancy counts in different zones of the building and even locate most of the users carrying a wireless device This real-time occupancy status information can be used in a variety of applications controlled by the BMS.

III. STUDY CARRIED OUT ON RELATED WORK

The study of existing system with respect to the proposed system is carried out referring to the paper mentioned below.

SL NO	*Author(S)*	*Algorithms/Techniques*	*Performances Measures*
1	Amir Moradi Sureerat Tang	Automated device model	Accuracy
2	Shivani Ghadage, Pratiksha Dhekale, Ashwini Randive, Dhanraj Narsale	PWN Techniques	Accuracy
3	G.Mahalakshma M.Vigneshwaran	PCB design, Wi-Fi, TCP/IP protocols, Web Server logic design	Accuracy

IV. METHODOLOGY

The proposed IOT Based Smart Ceiling Techniques for Meeting Hall is implemented using following steps

Step 1: Two infrared sensors are used for each entry and exit respectively

Step 2: PIR Sensor's Data OUT Pin is connected to Arduino Digital I/O Pin 8. An LED is connected to pin 13.

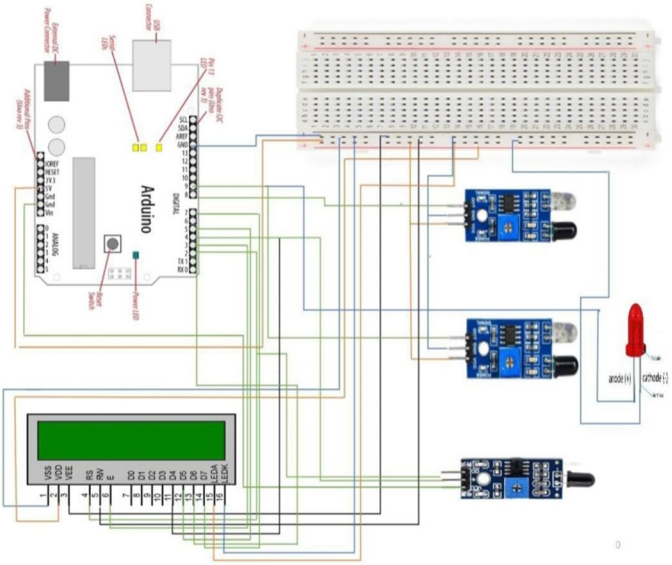
Step 3: Arduino to indicate whether the light is turned ON or OFF Based on the human movement.

Step 4: After uploading code to Arduino we connected flame sensor VCC to 5V of Arduino And d0 to Arduino digital pin 8 after that Arduino reads the signal and provide alert by Turning ON the buzzer.

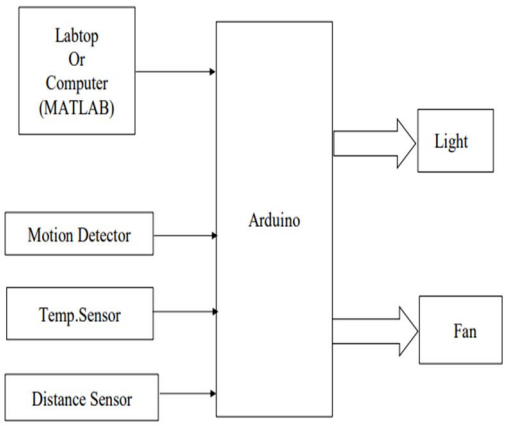
Step 5: At any time authorized user can check the result from the mobile application.

V. PROPOSED SYSTEM

System design is a one important phase in software or system development. System design can be defined as method of defining different modules required for software or system to fulfil all requirements.



VI. USER INTERFACE DESIGN



VII. CONCLUSION

The design and construction of fan speed control system to control the room temperature by turn on/off with the help of blynk app and IR Remote. The output was checked by the temperature at different levels with the help of DHT11 sensor and it is found that fan and bulb controls accordingly. Arduino is successfully programmed using C/C++ language to compare temperature with standard temperature and turn ON/OFF fan and bulb. It is very useful to the people who are disabled and there is no energy lose for peoples to turn ON/OFF fans and bulbs.

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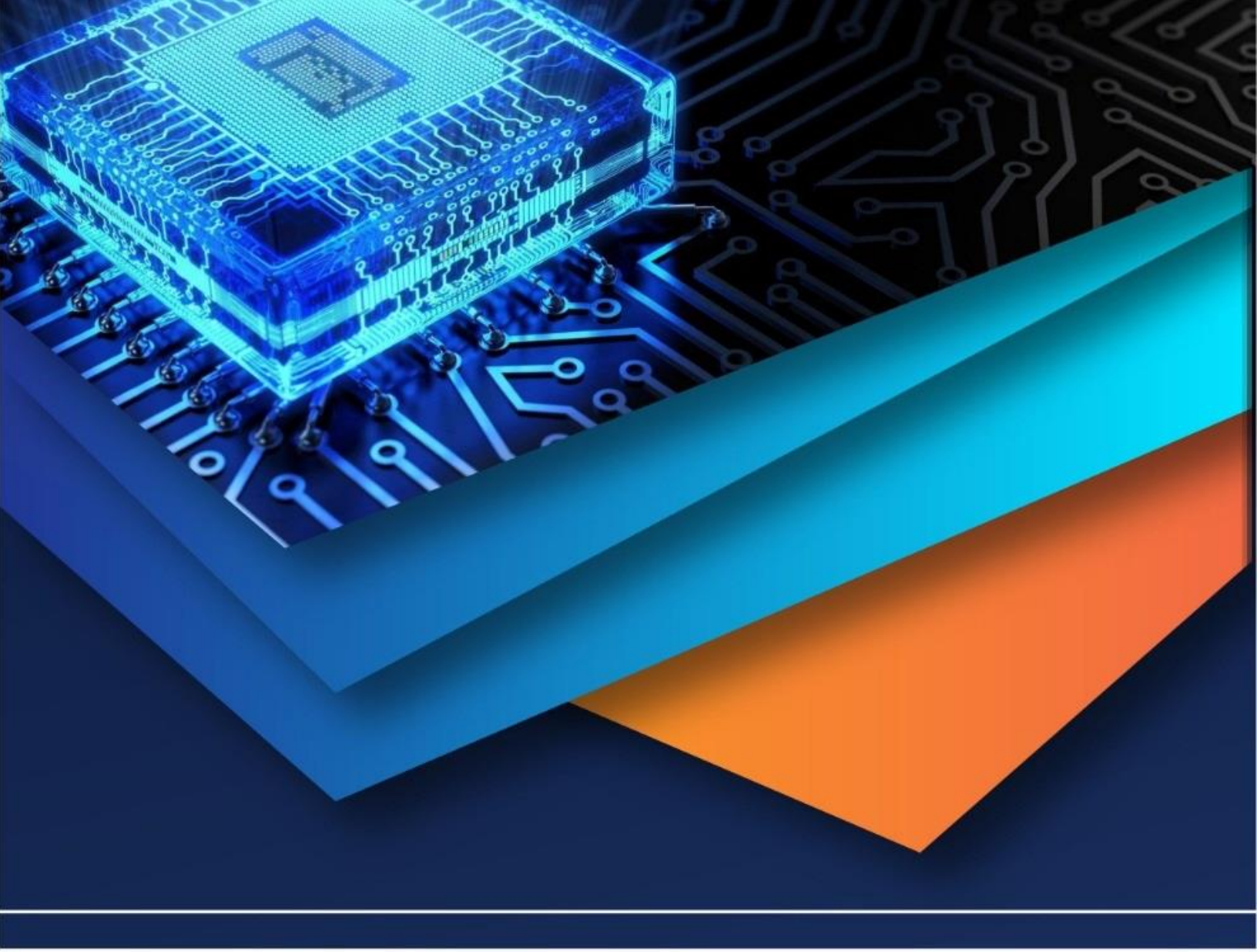

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