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A Propose Paper on IOT based Smart Air Purifier

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I. LITERATURE REVIEW

SR NO	YEAR	AUTHORS NAME	SYSTEM INVENTED
1	2016	Khalid A. Fakeeh, PhD King Abdullaziz	"An IOT based Smart Power Management System for Technical University"
2	2008	EPA technical document	"Residential Air Cleaners"
3	2007	J. Monjardino, S. Mesquita, H. Tente, F. Ferreira, P. Gomes & N. Franco	"Evaluating ozone spatial distribution in Portugal using passive samplers"
4	2016	KAN ZHENG1, (Senior Member, IEEE), SHAOHANG ZHAO1, ZHE YANG1, XIONG XIONG1, AND WEI XIANG2	"Design and Implementation of LPWA-Based Air Quality Monitoring System"

II. PROPOSE SYSTEM OF IOT BASED SMART AIR PURIFIER

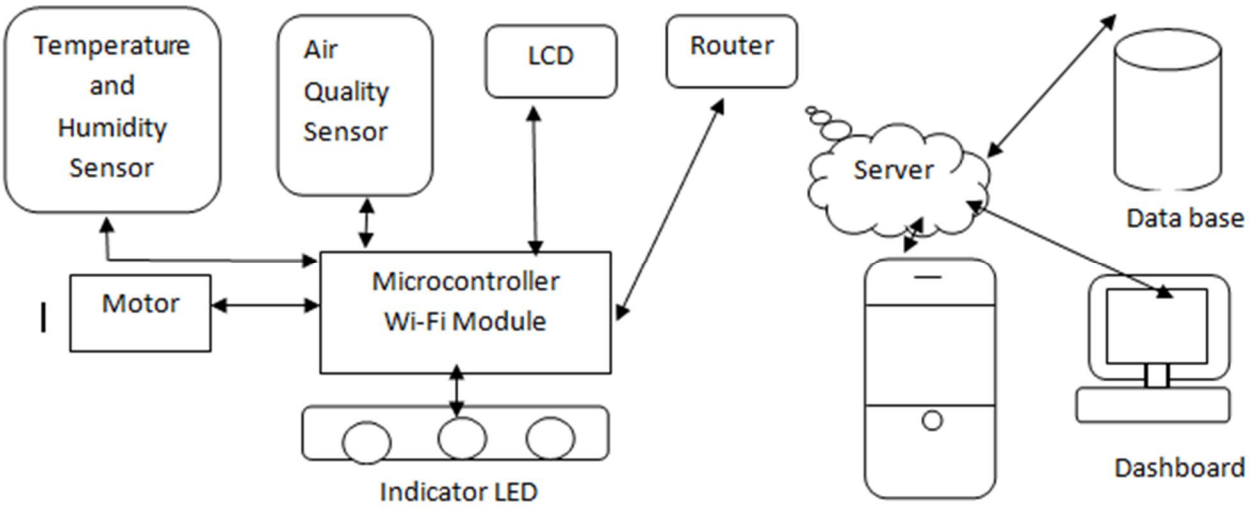


Figure1: IOT Based Smart Air Purifier.

A. Block Diagram Description Of Iot Based Smart Air Purifier

Health problems due to air pollution is increasing day by day. It is the need of an hour to find some solution to this problem. Hence, the above propose system shows how to prevent this because prevention is better than cure. The use of IOT Based Smart Air Purifier is a good option this. As it can be carried anywhere because it is completely portable.

Nowadays use of IOT has been increasing day by day; the importance and usage is on tremendous demand. There been lot of research gone into IOT based power management systems. The increase in power requirement has made the researchers and industrialist to design low power systems. The wastage of energy is a very serious issues; this paper proposes a method to reduce the wastage of power.

Power management is an important aspect towards the development of the nation. With the help of IOT in the purifier we can utilize the power efficiently and carrier it anywhere due to its portability.

1) *ATMEGA328P Microcontroller:* The high-performance Microchip takes the input from the humidity and temperature sensor as well as air quality sensor and according to the quality of air produces the output.

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2) *Humidity & Temperature Sensor Module:* It is use to measure relative humidity and temperature. This measured temperature will be given to the microcontroller and the ADC will convert it into Digital signal for further processing.
3) *Motor:* Tiny and lightweight with high output power, this tiny servo Helicopter or Robot is durable. If there is any pollutant in the air motor will be on to remove it.
4) *LCD:* LCD (Liquid Crystal Display) screen is an electronic display module and find a wide range of applications. A 16x2 LCD display is very basic module and is very commonly used in various devices and circuits. The result from the microcontroller will be displayed on it.

B. Working

The working of IOT Based Smart AIR Purifier is discussed here. It basically consists of two modes, and they are as follows:-

1) *Automatic Mode:* In Automatic mode of system continuously checks the surrounding temperature, humidity and Air Quality condition by the taking the values from DHT11 sensor and Air Quality sensor attached to the ESP8266. And triggers the Motor for fragrance purposes.
2) *IOT Mode:* In IOT Mode user can set the particular time to trigger the System and makes system works without the sensors or by making the immediate trigger for motor control by a web based application.

C. Hardware Requirement

1) ESP8266 Wi-Fi Module
2) Gas / Air Quality Sensor
3) Gear Motor
4) DHT11 Module
5) LCD Display
6) Power Supply

D. Software Requirement

1) PHP
2) MY SQL
3) Embedded C++
4) Fast 2 SMS API
5) Wonder Ground Weather API
6) IFTTT Automation tool / Cronjob Scheduler

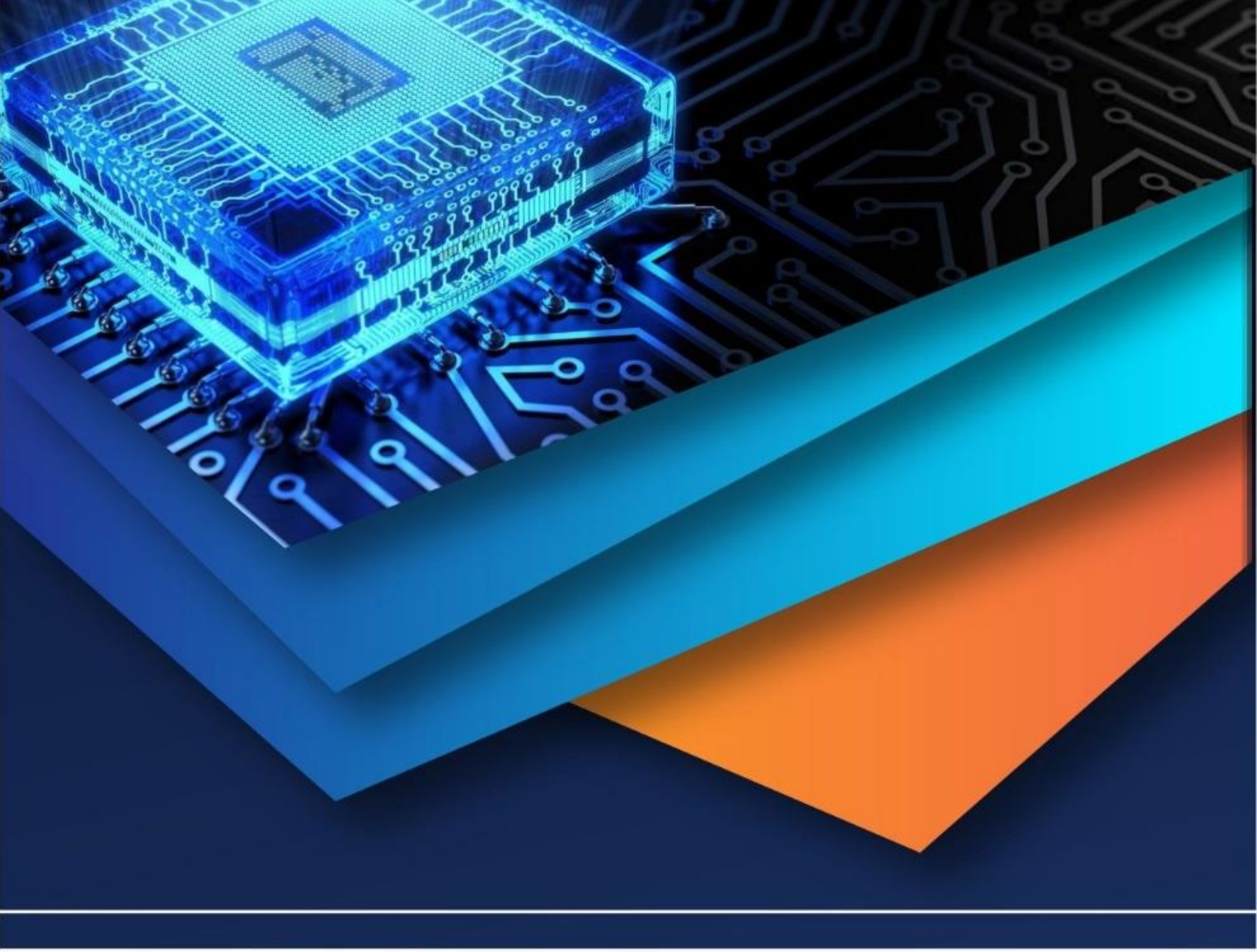
III. CONCLUSION

In this paper, we present the propose system of IOT based smart air purifier. Here we are implementing air purifier which is IOT based and can be carried anywhere that is it completely portable. This can operate indoor as well as outdoor, which plays an important role to avoid the air pollution.

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