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Weather Reporting System using IOT

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ABSTRACT: Weather forecasts are made by collecting as much data as possible about the current state of the atmosphere (particularly the temperature, humidity and wind) and using understanding of atmospheric processes (through meteorology) to determine how the atmosphere evolves in the future. However, the chaotic nature of the atmosphere and incomplete understanding of the processes mean that forecasts become less accurate as the range of the forecast increases. Traditional observations made at the surface of atmospheric pressure, temperature, wind speed, wind direction, humidity, precipitation is collected routinely from trained observers, automatic weather stations or buoys. During the data assimilation process, information gained from the observations is used in conjunction with a numerical model's most recent forecast for the time that observations were made to produce the meteorological analysis. Numerical weather prediction models are computer simulations of the atmosphere. They take the analysis as the starting point and evolve the state of the atmosphere forward in time using understanding of physics and fluid dynamics.

KEYWORDS: Internet Of Things, Wi-Fi, Weather Monitoring, cloud, Humidity, temperature, rain level sensor.

I. INTRODUCTION

Climatic changes and environmental monitoring have received much attention recently. Man wants to stay updated about the latest weather conditions of any place like a college campus or any other particular bulking. Since the world is changing so fast so there should be the weather stations. Here in this paper we present a weather station that is very useful for any places. This weather station is based on IOT. It is equipped with environmental sensors used for measurements at any particular place and report them in real time on cloud. The sensors constantly sense the weather parameters and keeps on transmitting it to the online web server over a WIFI connection. The weather parameters are uploaded on the cloud and then provides the live reporting of weather information. This paper also focusses on the IOT application in the new generation of environmental information and provides a new paradigm for environmental monitoring in future.

II. OBJECTIVES

The main objective to choose this topic for research is that because the climatic changes day by day and no one can predict regarding the environment until and unless there is an technology. Now a days because of global warming the all climatic conditions are changed that is any time any where raining starts, too hot etc. But now a days we can predict the weather condition using different and different technology. In this research paper we gave the information about the IOT techniques from which we get the weather information. Farmers face the biggest problem of weather, climate changes. Every year the farmers faces the problem that is more raining, more temperature, and because of that only they suicide. But this problem over come by the new techniques that predicts the latest weather conditions. This is the main objective taken into consideration we perform the research. Using IOT based weather reporting and monitoring system we get proper weather condition regarding temperature, humidity, rain value, moisture etc. so that this is beneficial and helpful for the farmers, industrialisers, and other people. The IOT based weather reporting and monitoring system is very useful and advanced. It predicts the appropriate condition of the weather, so that it prevents the bigger issues like flooding, tsunami etc.

III. METHODOLOGY

In this paper we have explained, that using Internet of Things (IOT) based system we can predict or get the weather information time to time. This system not given the only the place to place weather condition it tells the worlds weather condition on our mobile phone, TV, Radio stations using the internet. By using the internet we get the worlds weather condition time to time on mobiles.

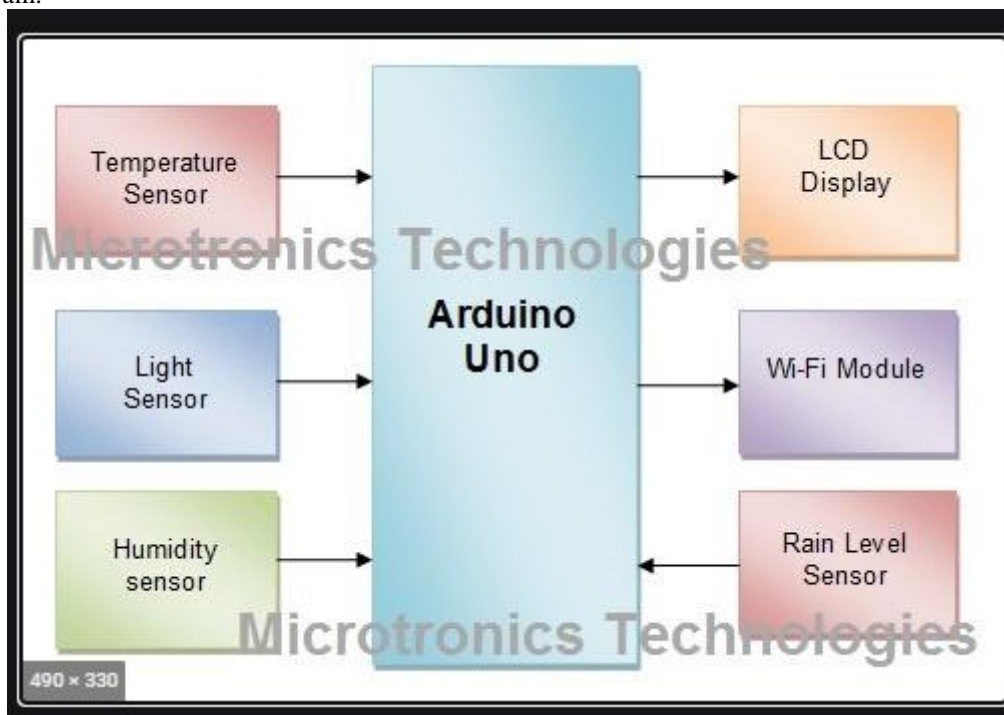
1. The Author KNV Satyanarayana, SRN Reddy proves that by using IOT based system and mobile app, we get the weather information on our mobile phone, TV, radio station as well. It is an easy way to measure the dynamic parameter of weather without human interpretation. The collected weather parameters in remote are can be uploaded to cloud as well as mobile app.

2. The Model Output Statistics (MOS) technique which consist of determining a statistical relationship between predictand and variables forecasting by a numerical model at some projection time. This technique together with screening regression, has been applied to predictand of maximum temperature, cloud amount and conditional probability of frozen precipitation.

IV. BLOCK DIAGRAM

The implemented system consists of a microcontroller as main processing unit for the entire system and all the sensor and devices can be connected with the microcontroller. The sensors can be operated by the microcontroller to retrieve the data from them and it processes the analysis with the sensor data and updates it to the internet through Wi-Fi module connected with it.

Block Diagram:



Wi-Fi module:

Here we using wi-fi module which having TCP/IP protocol integrated on chip. So that it can provide any microcontroller to get connected with Wi-Fi network. AT commands and the microcontroller should be programmed to send the AT commands in a required sequence to configure the module in client mode. The module can be used in both client and server modes

V. CONCLUSION

From the above methods we conclude that by keeping the weather station in the environment for monitoring enables smart environment. To implement this need to use the sensor devices in the environment for collecting the data and analysis. By using such IOT based system, we can bring best environment into real life. The smart way to monitor environment an efficient low cost IOT system is presented in above paper. It also sent the sensor parameters to the cloud. To protect the public health from pollution this model provides the best low costs solution for monitoring environment. Using IOT based weather reporting and monitoring system we get proper weather condition regarding temperature, humidity, rain value, moisture etc. so that this is beneficial and helpful for the farmers, industrialisers, and other people. The IOT based weather reporting and monitoring system is very useful and advanced. It predicts the appropriate condition of the weather, so that it prevents the bigger issues like flooding, tsunami etc.



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REFERENCES

1. Rao, Y. N., Chandra, P. S., Revathi, V., & Kumar, N. S. (2020). Providing enhanced security in IoT based smart weather system. Indonesian Journal of Electrical Engineering and Computer Science, 18(1), 9. <https://doi.org/10.11591/ijeecs.v18.i1.pp9-15>.
2. Pauzi, A. F., & Hasan, M. Z. (2020). Development of IoT Based Weather Reporting System. IOP Conference Series: Materials Science and Engineering, 917, 012032. <https://doi.org/10.1088/1757-899x/917/1/012032>
3. Guillen-Navarro, M. A., Pereniguez-Garcia, F., & Martinez-Espana, R. (2017). IoT-based System to Forecast Crop Frost. 2017 International Conference on Intelligent Environments (IE), 1. <https://doi.org/10.1109/ie.2017.38>
4. Internet of things based smart environmental monitoring using the Raspberry-Pi computer. (2015). IEEE, 1. <https://doi.org/10.1109/ICDIPC.2015.7323023>
5. Sriyanka, & Patil, S. R. (2017). Smart Environmental Monitoring through Internet of Things (IoT) using RaspberryPi 3. 2017 International Conference on Current Trends in Computer, Electrical, Electronics and Communication (CTCEEC), 1. <https://doi.org/10.1109/ctceec.2017.8455056>
6. Shah, J., & Mishra, B. (2016). IoT enabled environmental monitoring system for smart cities. 2016 International Conference on Internet of Things and Applications (IOTA), 1. <https://doi.org/10.1109/iota.2016.7562757>



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