TEMPERATURE AND HUMIDITY MONITORING AND ALERT MANAGEMENT SYSTEM

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Abstract — In the Temperature and Humidity Sensor Project, a solution is provided to monitor and get an alert of increase in temperature or humidity. This project is based on an Arduino and Ethernet Shield which communicates with DHT22 temperature sensor. The Data Center at an organization can receive information about temperature and humidity from anywhere in the world by using the Blynk application and an Internet connection on their phone. This creates a uniform interface which can be accessed locally or remotely using smart phones or laptops. The DHT22 sensor is calibrated according to the dimensions. If the temperature or humidity increases above a specified value, an alert via an email will be sent to the email ID specified in the program. The Arduino Ethernet Shield connects the Arduino to the internet in mere minutes. The Ethernet shield module is plugged onto the Arduino board, and it connects it to the network with an RJ45 cable.

Keywords — Temperature sensor, Humidity, Arduino, Ethernet Shield, DHT22 sensor, Blynk.

INTRODUCTION

The Temperature and Humidity Monitoring Project has been made to check the accuracy of temperature at a data center. The control and monitoring of the room temperature is done using a DHT22 sensor that is based on Arduino Uno. Thus, designed to make it easier to regulate and monitor the temperature and humidity of the data center. This smart project focuses on automation which relates to comfort instead of manual work.

Proposed System:

Interface:
The Temperature and Humidity Sensor Project will be controlled using an application named Blynk (Available for Android or IOS) using Arduino, an Ethernet Shield and its libraries. User can securely login over Blynk to control and monitor the room temperature and humidity. The code involves:
The Arduino sketch.
The Arduino sketch handles the communications by setting up the network. The sketch runs the program and communicates one line at a time over the server. Users can login remotely on this web server.

Use of DHT22 Sensor:
DHT22 capacitive humidity sensing digital temperature and humidity module is one that contains the compound that has been calibrated digitally to signal output of the temperature and humidity sensors. The sensor includes a capacitive sensor, wet components and a high-precision temperature measurement devices, and connected with a high-performance 8-bit microcontroller. The product has excellent quality, fast response, strong anti-jamming capability, and high cost. It is definitely long-lasting and has great endurance.
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CONCLUSION

It is evident from this project work that Temperature and Humidity Sensor Project can be cheaply made from low-cost locally available components and be used to monitor and control the temperature and humidity at the data center. And better still, the components required are so small and few that they can be packaged into a small container. The designed project was tested a number of times and certified to achieve the aim of the project. This Temperature and Humidity Sensor Project can also be done using the esp8266 or various other sensors. Hence, this system is scalable and flexible.

REFERENCES: