

Industrial Parameters Monitoring System

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Abstract: This project is established from IoT. The principle behind this project is to be able to construct a control system which effectively does the job of monitoring industrial parameters making the use of IoT. It aims to monitor temperature, pressure and humidity of an industrial environment. IoT or internet of things is a tool which has extensive use in today's technological era. It is made by clubbing communication & embedded systems which are then used for potent transmission and reception of data. Using IoT different systems can implement industry standard protocols. By this system small scale industries can monitor their plants wirelessly through devices such as mobiles and tablets. From the mode of this paper we aspire to summarize IoT's importance which does handy monitoring of small scale industrial applications.

I. Introduction

In today's world it is vital to have an industrial monitoring system for proper monitoring and controlling of various equipments and installations.

It is used to get information about dynamic conditions of machines and industrial apparatus. Industrial monitoring is used to lessen the expenses, improving quality and proper management of industry worldwide.

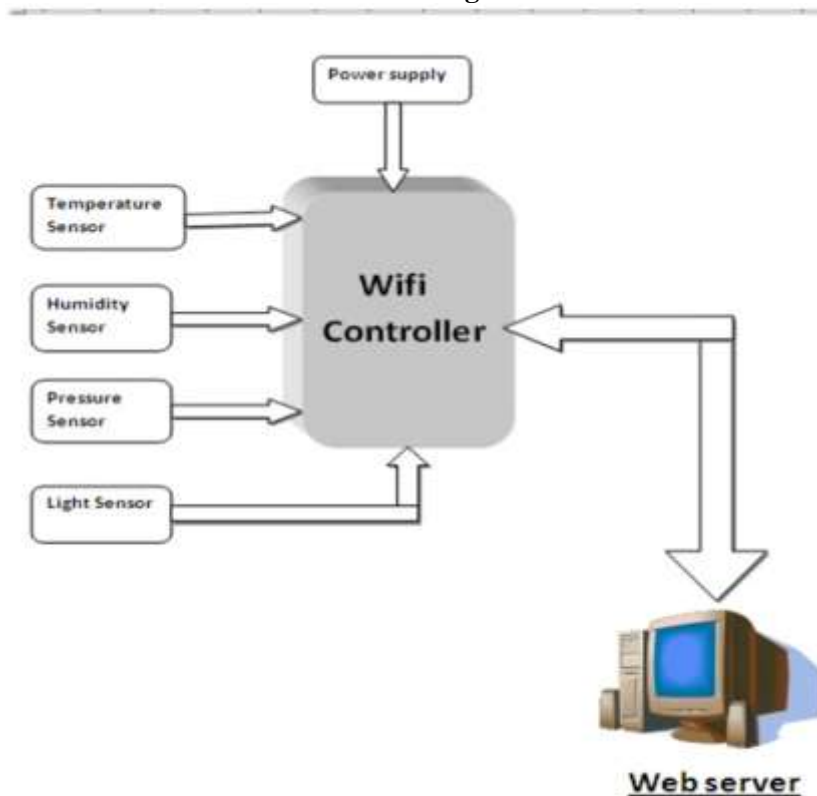
There are a load of other methods used for monitoring industrial systems such as ZIGBEE, PLC-SCADA, WSN etc.

But we use Internet of Things as it is the most favorable technique because of easy functioning and reasonable cost. The IoT is a term derived by British technology trailblazer Kevin Ashton.

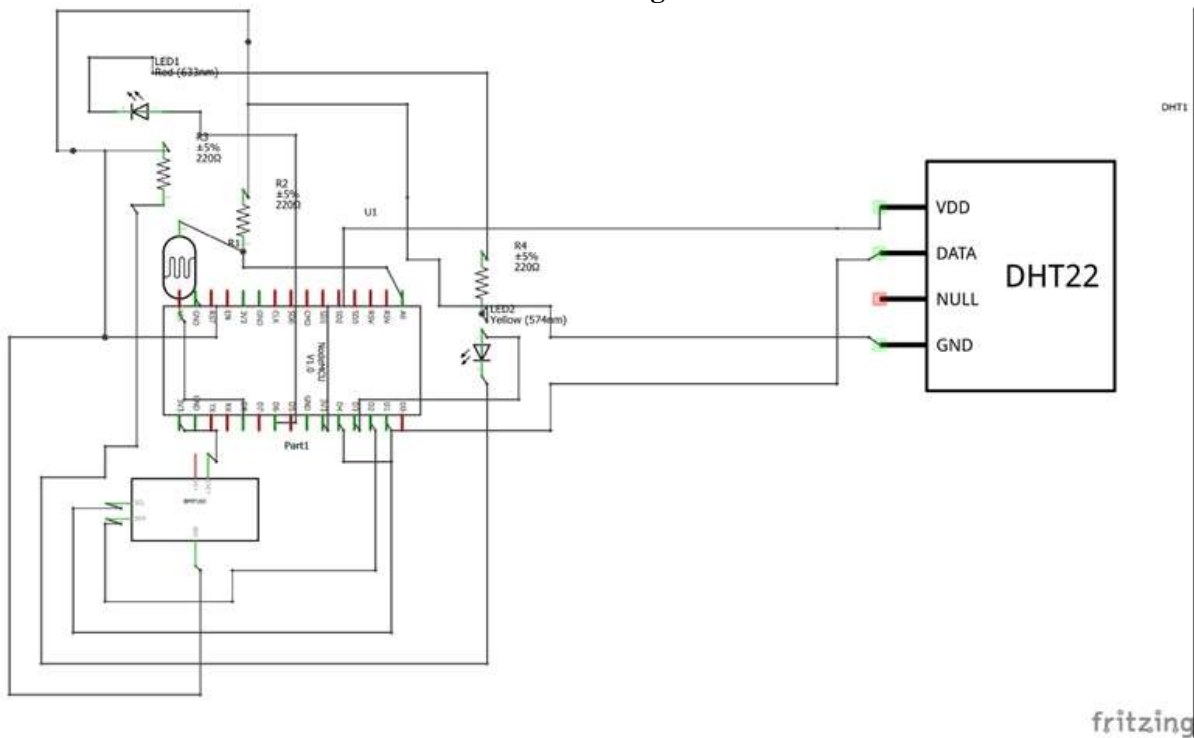
He told everyone that using sensors we can connect any physical object in the world to the internet.

Because of his efforts world is able to use the technology called IoT

II. Block diagram:



III. Circuit Diagram :



IV. Hardware Requirement:

NodeMCU: It is open source IoT platform. It include firmware which runs on ESP8266 wifiSoC from espressif system and hardware which is based on the ESP12 module.

BMP180: It is the next generation of sensors from bosch and replaces the BMP085. This sensor is soldered on PCB with a regulator of 3.3 volts, I2C level shifter and pull up resistors on the I2C pins.

V. System Methodology

This system consists of a microcontroller (NodeMCU) and three sensors namely dht22 for temperature and humidity, bmp180 for pressure and LDR for light. After turning on the system the nodemcu starts to search for a wifi network. When the ssid and the provided password connects with the available wifi network the system does the job of initializing all the sensors. Output of these sensors are sent to the thingspeak cloud. The data gets uploaded to the cloud after an interval of 15 seconds. The values can be seen on graph as well as gauge. When the values go beyond the desired ones, a trigger gets activated and sends an email to the corresponding email id. For every output a trigger is set. If the cloud doesn't receive values exceeding 10 minutes the trigger gets active and sends an update.

VI. Conclusion

Thus we can conclude that we have studied industrial parameters monitoring system using IoT. We can also come to the conclusion that IoT is the most effective and inexpensive method to monitor the industrial systems. As soon as the system gets update it will upload on the cloud or send to the email id of the user.

References

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