نظام الإبلاغ عن الطقس القائم على إنترنت الأشياء

IoT-Based Weather Reporting System

مشروع التخرج هو أحد متطلبات الحصول على درجة البكالوريوس في تخصص شبكات المعلومات في تكنولوجيا المعلومات

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Abstract

The Internet of Things (IoT) is a modern innovation in today's world of the Internet, establishing an interconnection between devices and individuals and exchanging information through a shared platform.

This project proposes a low-cost weather station based on IoT that can provide critical weather information in real time, such as temperature, humidity, pressure & altitude and rain.

The use of low- cost but reliable controllers from ESP8266 and Arduino UNO makes it accessible for a wide range of clients. The availability of information on a Thing Speak web server guarantees the authorized person to access data from anywhere in the world.

The DHT11 digital temperature and humidity sensor is used for the measurement of temperature and humidity. The BMP180 barometric pressure sensor is used for the measurement of pressure and altitude. With the aid of a circuit, all weather data was de-bounced, and this de-bounced data was uploaded directly to the Thing Speak server.

This proposed design will solve the problem of the unavailability of weather information at different locations. Low-cost design, while ensuring reliable and accurate measurements, will encourage the use of the proposed design in many research and educational institutions as well. And Predicting weather has become very difficult due to constant changing in weather patterns over the months. IoT based plays a critical role in measuring environmental factors.

IoT extends internet connectivity beyond mobile phones and desktops.