Indonesian Journal of Electrical Engineering and Computer Science
Vol. 9, No. 3, March 2018, pp. 555~557
ISSN: 2502-4752, DOI: 10.11591/ijeecs.v9.i3.pp555-557

Internet of Things Based Weather Forecast Monitoring System

Atul Kulkarni[1], Debajyoti Mukhopadhyay[2]
[1]Information Technology, AMET University, Chennai, India
[2]Department of computer science, Maharashtra Institute of Technology, Chennai, India

Article Info

Article history:

Received Nov 1, 2017
Revised Jan 7, 2018
Accepted Jan 25, 2018

Keywords:

Hybrid system
Resource
Weather forecast

ABSTRACT

Weather forecasting is a significant function in meteorology and has been one of the most systematically challenging troubles around the world.This scheme deals with the structure of a weather display method using small cost components so that any electronics hobbyist can construct it. As a replacement for using sensors to collect the weather data, the development gets the information from weather stations placed around the world through a global weather data supplier. Severe weather phenomena challengedifficult weather forecast approach with the partial explanation. Weather events have numerous parameters that are not possible to detail and compute. Growing on communication methods enables weather predictsspecialist systems to combine and share possessions and thus hybrid systems have emerged. Still, though these improvements on climate predict, these expert systems can't be entirely reliable while weather forecast is central problem.

Corresponding Author:

Atul Kulkarni,
Information Technology, AMET University,
Chennai, India.

1. INTRODUCTION

Weather is most useful environmental constraints in each stage of our life.Weather forecasts an important function in our daily lives. An excellent weather monitoring system help in the recovered development and any planning that may be necessary in case of difficult weather [1]-[3].

IOT has been used some industries like healthcare, farming, Home automation and have changed the range into a contract a smart city and also used to forecasting of weather. Weather prediction is very useful to various markets like power industries and farming transport department, and thus weather furcating is part of the economic growth [4]-[6]. Performance Investigation of a Closed Cycle Magneto-Hydrodynamics Powerplant with Liquid Metal as Heat Source [7]. Integrated environmental management for sustained development [8], [9] Presents IPv6 neighbour discovery method including IoT devices' automatic lightweight address setting and enhanced RPL-based lightweight routing protocol in the IoT-based wireless inter-device communications environment. Results of an inverter with SPWM in [10] control strategy have better voltage control, and simulation results of system demonstrate that the PV system has the fast and efficient response under changing irradiance levels. An autonomic characteristic gives in [11] to IoT aiming at system feature and security information of IOT and uncertainty, prediction and fuzziness of its change. Focusing on self-assessment of the safety hazard, the self-assessment algorithm of IoT security risk based on a three-dimensional average cloud was studied based on the dynamic fusion result of different security factors. An attempt has been made to make a practical model of 'IoT Based Smart Energy Meter.' The propagated model is used in [12] to calculate the energy consumption of the household and even make the power unit reading to be handy.

2. PROPOSED METHODOLOGY

Remote sensing technology opened for examining the weather forecasting. It helps to change to gather and analyse weather data and use to build the database for weather forecasting (Figure 1).

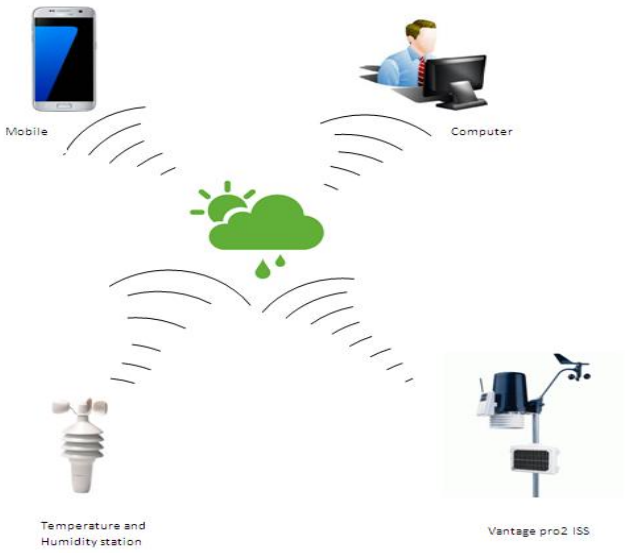

Figure 1. Weather Forecasting

Smartphones have collected to huge of applications to assist us out, the guide to any exact location, all comes useful. Growing on communication methods enables weather predicts specialist systems to combine and share possessions and thus hybrid systems. This scheme deals with the structure of a weather display method using small cost components so that any electronics hobbyist can construct it, you how you benefit from other's practice:

a. IoT enabled weather systems to collect data from vehicles on the road, vehicles moving on the road will wirelessly communicate the weather data that is inclusive of air temperature, visibility or light and other data needed. This data helps to build more accurate forecast and monitoring at different time horizon.
b. Sensors deployed on roads, car. The sensors with IoT technology contributes to collect weather data.

IOT technology is beneficial to transport, farmers and their farmers may use to progress their crop productiveness and cost benefits with cultivating essential steps to expand weather hazards. So easy to escape of weather forecast will higher efficient and low risk to natural weather with dangers.

3. CONCLUSION

High-temperature forecasts are used by Value Company to approximationexact over pending days. There is a diversity of end users to weather forecasts. Weather warnings are important forecasts since they are used to keep life and possessions. We know the how install remote conditions were sensing technology on vehicles. All this has been through possible by advances in satellite technology, a full acceleration in worldwide communication, and crushing increases in computing power.

REFERENCES

[1] Bregman J I, Mackenthun K M. *Environmental Impact Statements, Chelsea: MI Lewis Publication.* 2006.
[2] The Raspberry Pi Foundation's website contains about the Raspberry Pi: http://www.raspberrypi.org.
[3] Casas D M, et al. *Data Mining for Short Term Rainfall Forecasting, Notes in Computer Science.* 2009; 55(18); 487-490.
[4] Witten IH, Frank E. *Machine Learning Tools and Techniques. Second edition.* 2005.
[5] Weather forecasting: Wikipedia, the http://en.wikipedia.org/wiki/Weather_forecasting.
[6] Maxim Integrated Products. MAX220-MAX249 +5V-Powered and Multichannel RS-232 Drivers/Receivers, 2001.
[7] Sivaram A. R, Kanimozhivendhan G, Rajavel R, Raj V D. Performance Investigation of a Closed Cycle Magneto-Hydrodynamics Powerplant with Liquid Metal as Heat Source. *Indian Journal of Science and Technology*. 2015; 8(21).

[8] Rajaraman J, Thiruvenkatasamy K. Integrated environmental management for sustained development. *International Journal of GEOMATE*. 2013; 5(2-10); 735-743.
[9] Hayoung Oh and Sangsoon Lim. Light-weight Routing Protocol in IoT-based Inter-Device Telecommunication Wireless Environment. *International Journal of Electrical and Computer Engineering (IJECE)*, Vol 6, No 5, October 2016, pp. 2352-2361.
[10] Ganesh Dharmireddy, Moorthi S and Sudheer Hanumanthakari, A. Voltage Controller in Photo-Voltaic System with Battery Storage for Stand-Alone Applications, *International Journal of Power Electronics and Drive Systems (IJPEDS)*, Vol. 2, No. 1, March 2012, pp. 9-18.
[11] Ruijuan Zheng, Mingchuan Zhang, Qingtao Wu, Chunlei Yang, Wangyang Wei, Dan Zhang and Zhengchao Ma, An IoT Security Risk Autonomic Assessment Algorithm, *Indonesian Journal of Electrical Engineering and Computer Science*, Vol 11, No 2, February 2013, pp. 819-826.
[12] R. Jayanthi, S.T. Rama, IOT Based Smart Energy Tracking System, *International Journal of MC Square Scientific Research (IJMSR)*, Vol. 9, No. 1, 2017, pp. 98-108