IoT Based Monitoring Temperature and Humidity

Authors : Jay P. Sipani, Riki H. Patel, Trushit Upadhyaya

Abstract : Today there is a demand to monitor environmental factors almost in all research institutes and industries and even for domestic uses. The analog data measurement requires manual effort to note readings, and there may be a possibility of human error. Such type of systems fails to provide and store precise values of parameters with high accuracy. Analog systems are having drawback of storage/memory. Therefore, there is a requirement of a smart system which is fully automated, accurate and capable enough to monitor all the environmental parameters with utmost possible accuracy. Besides, it should be cost-effective as well as portable too. This paper represents the Wireless Sensor (WS) data communication using DHT11, Arduino, SIM900A GSM module, a mobile device and Liquid Crystal Display (LCD). Experimental setup includes the heating arrangement of DHT11 and transmission of its data using Arduino and SIM900A GSM shield. The mobile device receives the data using Arduino, GSM shield and displays it on LCD too. Heating arrangement is used to heat and cool the temperature sensor to study its characteristics.