

# **IoT weather reporting system**

## **Abstract:**

The IOT based Weather Monitoring and Reporting System project is used to get Live reporting of weather conditions. It will Monitor temperature, humidity, moisture and rain level. Suppose Scientists/nature analysts want to monitor changes in a particular environment like a volcano or a rain-forest. And these people are from different places in the world. In this case, SMS based weather monitoring systems have some limitations. Since it sends SMS to a few numbers. And time for sending SMS increases as the number of mobile numbers increases. In order to know the information about the weather of a particular place then they have to visit that particular site. Where everyone can see it.

## **Introduction:**

Climatic change and environmental monitoring have received much attention recently. Man wants to stay updated about the latest weather conditions of any place like a college campus or any other particular building. Since the world is changing so fast, so should the weather stations. Here in this project we present a weather station that is very helpful for any places. This weather station is based on IOT (internet of things). It is equipped with environmental sensors used for measurements at any particular place and reports them in real time on cloud. To accomplish this we used Arduino Uno and different environmental sensors like DHT11, soil moisture sensor and rain drop sensor .The sensors constantly sense the weather parameters and keep on transmitting it to the online web server over a wifi connection. The weather parameters are uploaded on the cloud and then provides the live reporting of weather information. This project also focuses on the IOT application in the new generation of environmental information and provides a new paradigm for environmental monitoring in future. The system has been developed particularly in the view of building smart city by giving the weather update of any particular place like a particular office or room.

## **Advantages:**

- IOT weather mentoring system project using Arduino Uno is fully automated.
- It does not require any human attention.
- We can get prior alert of weather conditions.
- The low cost and efforts are less in this system.
- Accuracy is high.
- Self Protection.
- Smart way to monitor Environment Efficient.

### **Applications:**

- Weather forecasting plays a very important role in the field of agriculture.
- It is also helpful at places like volcanoes and rainforests.
- It is quite difficult for a human being to stay for a longer time at such places.

### **Constraints:**

- **Cost:**

System is relatively cheap, so as an initial thought:

- Arduino \$20.
- DHT11 \$8 ( 5pcs ).
- Rain Level Sensors \$8 ( 5pcs ).
- Soil Moisture Sensor \$8.
- WIFI Module \$20.
- LCD Display \$8.

**Note: All these prices are from amazon.**

- **Design/Implementation time:**

- It needs relatively little time to design and implement, may be less than one week.

- **Performance:**

- System performs well relative to its price and design time.