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ARDUINO BASED WEATHER STATION

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INTRODUCTION

- It provides information on the variations in humidity, temperature, and CO levels in the exact region where the embedded monitoring device is installed.
- The data collected will be saved on the cloud.
- The cloud data can be used for parameter analysis and continuous monitoring

PROBLEM STATEMENT

- Weather monitoring system being very hand for better performance of the solar plants has the issue of higher cost.
- The hard drive based data logging facility requires a separate computer setup for its operation and many a times, the data stored cannot be manipulated in a useful mean.
- We use the Arduino to develop a weather monitoring system based on temperature and humidity variables obtained from a DHT11 sensor.

OBJECTIVES

- Weather stations are facilities on land or at sea that measure atmospheric conditions.
- In this project the Arduino based weather station measures temperature and humidity using dht11 sensor.
- In order to develop a low-cost weather station.
- It is very compact and user friendly

EXISTING SYSTEM

- The existing weather monitoring systems generally use weather stations that use multiple instruments such as thermometers, barometers, wind vanes, rain gauge etc. to measure weather and climate changes
- The new system uses 3 sensors to measure atmospheric and environmental factors such as temperature, humidity, light intensity, dew point and thermal index.

MODULES IDENTIFIED

- The data collection module is interfaced with a set of sensors that collects temperature and humidity.
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- The developed weather station was able to measure the temperature and humidity of a controlled environment, giving the reading at interval of five minutes.

PROJECT OUTCOME

- It can provide weather readings which slightly varies from actual weather station.
- From your own house.
- As well as remote areas around the world.
- Because they are so simple to use, you can personalize it however you want.

REFERENCE

- Danladi A., Stephen M., Aliyu B. M., Gaya G. K., Silikwa N. W., Machael Y. (2017). Assessing the influence of weather parameters on rainfall to forecast river discharge based on short-term, Alexandria Eng. J. (2017),<http://dx.doi.org/10.1016/j.aej.2017.03.004>
- D-Robotics (2010). DHT11 Humidity & Temperature Sensor, D-Robotics UK. Retrieved on 18 February 2018 from www.droboticsonline.com.

CONCLUSION

- The paper demonstrates a simple and low cost system design to measure climate components in perfect competence.
- The availability of such system is extremely preferred particularly, with the establishments, companies that depend considerably on taking decisions based on inputs variations; consequently, weather prediction processes will be taken into considerations.

Thank you