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LITERATURE SURVEY

TITLE : Smart Farmer – IoT Enabled Farming Application

DOMAIN NAME : Internet of things

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Abstract: It is now possible to process a large number of sensor data streams using different large – scale IoT Platforms. In the context of Agri– food industry, a variety of external parameters belonging to different domains (ex; weather condition, regulations.) have major influence over the food supply chain, while flexible and adaptive IoT frameworks, essential to truly realize the concept of smart farming, for currently inexistent. IoT Refers to a network of things which make a self-configuring network. The development of intelligent smart farming IoT Based devices is day by day turning the face of agriculture production by not only enhancing is but also making it cost – effective and reducing wastage. The product being proposed is tested on live agriculture fields giving accuracy over 98

% Data feeds. Globally the IoT system has contributed its application in many fields and proven to be successful. The smart agriculture system can be operated from anywhere with help of networking technology. An IoT in an agriculture frame work include various benefits in managing and monitoring the crops. The

approach real-time analysis of data collected from sensors placed in crops and produces and results to farmer which is necessary for the monitoring the crop growth which reduces the time, energy of the farmer. The traditional farm land irrigation techniques require manual intervention. The sensors are combined with well-established web technology in the form of wireless sensor network to remotely control and monitor data from the sensor.

Keywords: WSN, IOT

INTRODUCTION

The main objective of this project is to improve the crop yield and thereby meet the demand. This project remotely measures and monitor water moisture levels in the soil to ensure that crops are getting optimal water resources and automatically trigger sprinkler systems to address low moisture levels in the soil to prevent crops damage or loss. This idea will improve the crop yield and manage them.

LITERATURE SURVEY

[1] The Agri – IoT data analytics platform is composed of multiple layers, both lower level (device, communication plans), intermediate layers (data, data analytics) and higher layers (application, end user plans). At each layer, various software components perform specific of reason, related to data acquisition, modelling, analysis or visualization since well – defined relevant software components already exist, developed in IoT and smart city – related projects we have focused on reusing those components, instead of re-inventing the wheel, according to the particular needs of smart farming, to cover most if not all of the smart farming requirements and scenarios as described here. The components can be selectively used according to particular agricultural applications requirements.

Agri – IoT can integrate, manipulate and process a huge variety of cross – domain streaming data sources in a flexible and extensible way, using

standardized methods for data acquisition following IOT principles, employing semantics.

[2] IoT based smart farming system is regarded as IoT gadget focusing on live monitoring of environmental data in terms of temperature, moisture and other types depending on the sensors integrated with it. the system provides the concept of plug and sense in which farmers can directly implement smart farming by as such putting the system on the field and getting live data feeds on various devices like smart phones, tablets etc. and the data generated via sensors can be easily shared and viewed by agriculture consultants anywhere remotely via cloud computing technology integration. The system also enables analysis of various sorts of data via big data analytics from time to time.

The term things in IoT refers to various IoT devices having unique identities and have capabilities to perform remote sensing, actuating and live monitoring of certain sort of data. The other term internet is defined as global communication network connecting trillions of computers across the planets enabling sharing of information.

[3]The internet of things is being revamping the agribusiness engaging the farmers by the expansive compilation of techniques, for instance, accuracy and conservative cultivation to go up against challenges in the field. Researchers have proposed different modalities for the agriculture sector with one or multiple technologies mentioned, e.g., irrigation system based on soil water measurement to decide irrigation amount of the water is described in.

This model uses the bluetooth model for the communication which has its own limitations. In the year of 2016, an author suggested scheduling in the power supply to the sensors which will help in improve energy efficiency. However, it shows lack of interoperability which is necessary when we talk about large agriculture fields.

[4]Experts have analyzed collected data for finding correlation between environment work and yield for standard work. They are concentrated on crop monitoring; information of temperature and rainfall is collected as initial spatial

data and analysed to reduce the crop losses and to improve the crop production. An IoT based crop field monitoring an irrigation automation system explains to monitor a crop field. A system is developed by using sensors and according to the decisions from a server based on sensed data, the irrigation system automated.

By using wireless Stransmission, the sensed data is forwarded towards to web server database. If the irrigation is automated then that means if the moisture and temperature fields fall below the potential range. The user can monitor and control the system remotely with the help of application which provides a web interface to user.

CONCLUSION

IoT based SMART FARMING SYSTEM for live Monitoring of Temperature and Soil Moisture has been proposed using Arduino and Cloud Computing. The System has high efficiency and accuracy in fetching the live data of temperature and soil moisture. The IoT based smart farming system being proposed via this report will assist farmers in increasing the agriculture yield and take efficient care of food production as the system will always provide helping hand to farmers for getting accurate live feed of environmental temperature and soil moisture with more than 99% accurate results.

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