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Smart Farming using IoT

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Abstract - *The soil should be maintained .The rapid growth in population has increased the demand of food. So, there is a need to bring advance in the field of agriculture. The crop yield mainly depends upon soil conditions. The parameters that has to be properly monitored to enhance the yield are soil moisture, weather conditions with good moisture and air in order to give good quality crop yield. Similarly use of proper amount of water for crop cultivation is necessary. The current situation is that there is not much crop development in agriculture sector. Food prices are* very much increasing *because crop rate is slow. Thus, there is a need to bring advancement in the field of agriculture*

1. INTRODUCTION

Agriculture is the backbone of Indian economy. We have only 4% of the world's freshwater resources to satisfy the agricultural needs for our 1.324 billion population and improper method of irrigation is the primary reason for water wastage in agriculture. Farmers are the people who ensures that food is available for everyone Alternate methods such as drip irrigation can be over-priced to be adapted. Agricultural work have been highly growth after technology is combined with it. To make sustainable agriculture and prevent water wastage, Smart Farming using IOT is developed.

1.1 Literature Survey

This paper describes an automated irrigation system which monitors crop field using soil moisture, temperature, humidity, light sensors.

The data from sensors are forwarded to webserver through wireless links. The data is encoded in JSON format in web-server database. The irrigation is automated if the moisture and temperature of the field fall below certain level. The farmers can monitor their field ubiquitously as the notifications are sent to their registered mobile numbers periodically. The irrigation is automated if the moisture and temperature of the field fall below certain level. The farmers can monitor their field ubiquitously as the notifications are sent to their registered mobile numbers periodically.

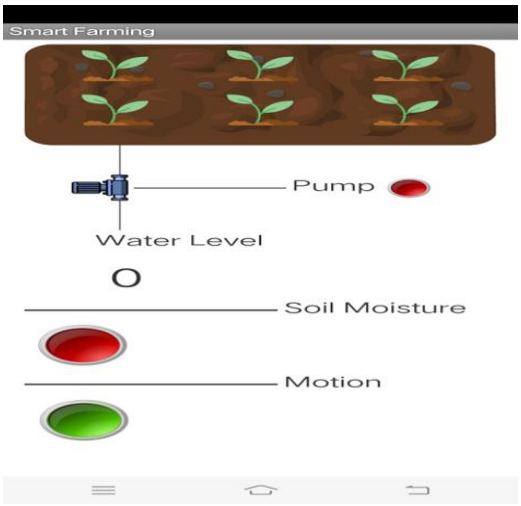
1.2 Problem Statement

The current situation is that most of the farmers are unaware of the latest technologies and practices that must be used in a farm to achieve better crop yield. The time of watering and the amount of water provided to the crop is different for different types of crops. Moreover, excess fertilizer usage not only makes crop dependent on artificial fertilizers but also degrades the land quality as well as polluting the ground water. In this paper a system for detecting soil moisture by using soil moisture sensors and an ESP8266-12 microcontroller by using the loss platform. The results show that the data obtained from the sensor can be visualized in real time

2. Review of Literature

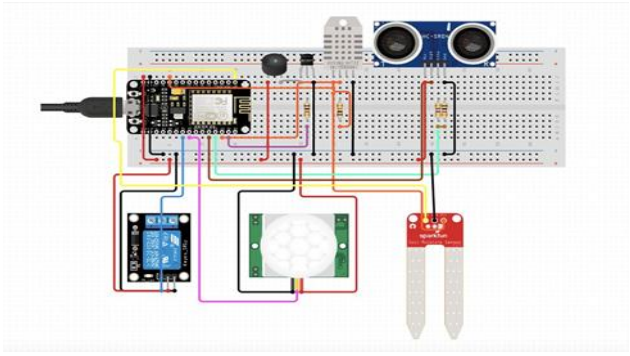
Finally, conclusions are drawn in Chapter Hussain, M.,Gawate, S. P., Prasad, P. S., and Kamble, P. A. (2015, April). Smart irrigation system with three level access mechanisms. In Computation of Power, Energy Information and Communication (ICCPEIC), 2015 International Conference on, IEEE, pp. 269-275. This paper describes a wireless three-level controlled smart irrigation system to minimize the overall watering and crops production cost. The proposed system supplies the water when the soil humidity goes below the threshold value.

Diagram -1 android application status



This is the main application where user can view the status of the agricultural field .As per information collected through software, status is displayed. Application will open only when voice command START is spoken correctly

Below is the circuit diagram of smart farming using iot.



Connection Diagram

3. CONCLUSIONS

Thus we have concluded a system to monitor temperature, humidity, moisture levels in the soil was designed and the project provides an opportunity to study the existing systems, along with their features and drawbacks. The proposed system can be used to switch the motor (on/off) depending on the favourable condition of plants i.e. sensor values, thereby automating the process of irrigation, which is one of the most time efficient activities in farming, which helps to prevent over-Irrigation .

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BIOGRAPHIES

I am ambitious and driven. I thrive on challenge and constantly set goals for myself in field of business analyst I am highly organized and always take notes

To be associated with progressive part that gives me scope to update my skills according to latest trends, especially in the area of Software Testing

As i am career oriented which gives me motivation to learn about data science. I am an excellent communicator ,always acceptance for challenges