

Crop Prediction and Disease Detection Using IOT Technique

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Abstract: Today energy resources have become scarcer and thus more valuable. In conjunction with the increase over last century, the necessity for locating new, more efficient, and sustainable strategies of agricultural cultivation and food production has become a lot of crucial. To facilitate this process, we tend to be designing, building, and evaluating a system for preciseness agriculture that provides farmers with helpful knowledge concerning the disease prevention, the water supply, and also the general information of the diseases in a user friendly, simply accessible manner. Our system aims to create cultivation and irrigation more efficient as the farmer is ready to form higher enlightened choices and therefore save time and resources. the range of location and climatic effects upon agricultural cultivation, along with different environmental parameters over time makes the farmer's decision-making method additional difficult and needs further empirical knowledge. Applying wireless sensor networks for observation weather parameters and combining this info with a user-customized service could modify farmers to use their data in an economical manner so as to extract the most effective results from their agricultural cultivation. The system will scale supported every farmer's demands and also the ensuing ensemble of collected info could represent a valuable resource for future use, additionally to its use for real-time decision making. the planning of the preciseness agriculture system contains a paradigm resolution concerning the sensor platform and a customizable service which will be utilised in several ways that and by several entities.

Keywords: Agricultural vegetation, anisotropic propagation effects, multibaseline (MB) synthetic aperture radar(SAR), phenology, SAR tomography, vegetation water content (VWC).

I. Introduction

As the world is trending into new technologies and implementations it's a necessary goal to trend up in agriculture additionally. several researches are worn out the sphere of agriculture. Most comes signify the utilization of wireless sensor network collect knowledge from different sensors deployed at varied nodes and send it through the wireless protocol. The collected knowledge give the data regarding the assorted environmental factors. monitoring the environmental factors isn't the entire resolution to extend the yield of crops. There are variety of different factors that decrease the productivity to a larger extent. In india around 80th of individuals rely on farming. smart Agriculture is one among the solutions to the present problem. To highlighting features of this project includes water

Management, forecasting, canal controlling in each automatic and manual modes and all these information are keep and displayed in a mobile application. The alert SMS and notification is causing to the user based on the fixed criteria. By controlling of these operations by a mobile which is connected to internet and it will give better performed by interfacing sensors, WLAN etc.

II. Problems Statement

Due to the weather condition, water level increasing Farmers get lot of distractions which is not good for Agriculture. Water level is managed by farmers in Automatic using that mobile application. It will make more comfortable to farmers. Furthermore, research in agricultural science is strongly related to local areas. Climate and soil properties vary from one place to another and from time to time. Climate change and transformation of the plants and soil occur as time passes, thus making successful and sustainable cultivation a tough process for someone who does not know the specific aspects of the locality and how the process needs to evolve over time in this specific geographical and microclimatic area.

III. Existing Solutions

The productivity of agriculture is very low because since past two decades yields prediction in order to compute agriculture growth of a particular country as well as future direction towards investment plans on agricultural fields has been generalized by formers based on their previous experiences.

It leads to situation where farmers fail to evaluate the yield data. In the implementations the developers' uses the single algorithm with the single data set so it gives single output because it find outs the relationships with the single dataset.

IV. Proposed System

This project is implemented using Arduino as a controller. Here we are using Hardware like moisture sensor and Motor On and off switch. In this work the experiments are performed important and well known classification algorithm KNN are applied to the dataset. There accuracy is obtained by evaluating the datasets.

In propose system the farmer will enter his crop name in the system and when system detect the climate or weather change ,then System will automatically predict and notify the farmer that which disease will infect to your crop as well as the system will also gives a different methods to prevention.

This project helps us to manage the moisturize level and where we can use in the Society easily. The percentage of moisturize is maintained by sensor which is presented inside the soil and the data will store in the database using mobile application.

V. Architecture Of The System

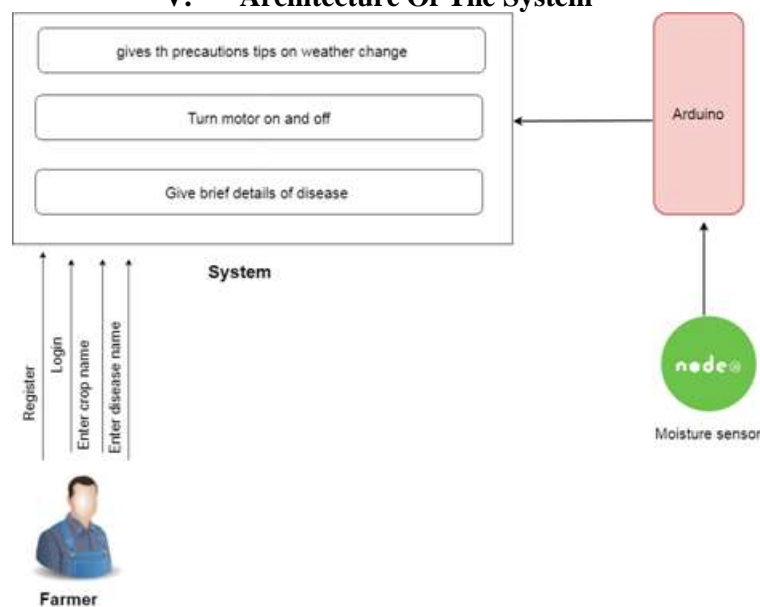


Fig1.Architecture Of The System

Discription of modules:

Module 1:

The farmer will enter his crop name in the system and when system detect the climate or weather change ,then System will automatically predict and notify the farmer that which disease will infect to your crop as well as the system will also gives a different methods to prevention.

Module 2:

When sensor sense the moisture in the soil, according to that motor will be work automatic and manual. If the moisturizer level is low automatically motor gets switched on if it's up to fill ,then it will shut down the motor.

Module 3:

The farmer will enter the disease name and system will return all the information related to that disease (including their prevention methods, cure methods and images)

Output:

Predict the weather and provide disease prevention methods, turn motor on/off by sensing the moisturize level, disease information.

VI. Conclusion

In the propose, a Novel System Enabled: IoT Based Agriculture Stick for Live observance Soil Moisture has been proposed using Arduino or Raspberry pi 3. The sensors has high efficiency and accuracy in fetching the live data of soil moisture. The system enables effective soil, water, moisture, parameters has been monitoring and updating using IOT. This enables effective soil maintenance and Disease prevention mechanism.

This overcomes the manual operations required to monitor and maintain the agricultural farms in both automatic and manual. The system enables the farmer to search about the different disease.

Our project may be improvised by employing a sensor to notice the soil pH value such usage of unnecessary Fertilizers may be reduced. A meter may be installed to estimate the quantity of water used for irrigation and so giving cost estimation. Further, it conjointly reduces the investment of farmers.

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