

Literature Survey

SmartFarmer - IoT Enabled Smart Farming Application

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Multidisciplinary Model for Smart Agriculture using Internet-of-Things (IoT), Sensors, Cloud-Computing, Mobile-Computing & Big-Data Analysis.

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Abstract: Although precision agriculture has been adopted in few countries; the agriculture industry in India still needs to be modernized with the involvement of technologies for better production, distribution and cost control. In this paper we proposed a multidisciplinary model for smart agriculture based on the key technologies: Internet-of-Things (IoT), Sensors, Cloud-Computing, MobileComputing, Big-Data analysis. Farmers, AgroMarketing agencies and Agro-Vendors need to be registered to the AgroCloud module through MobileApp module. AgroCloud storage is used to store the details of farmers, periodic soil properties of farmlands, agro-vendors and agro-marketing agencies, Agro e-governance schemes and current environmental conditions. Soil and environment properties are sensed and periodically sent to AgroCloud through IoT (Beagle Black Bone). Bigdata analysis on AgroCloud data is done for fertilizer requirements, best crop sequences analysis, total production, and current stock and market requirements. Proposed model is beneficial for increase in agricultural production and for cost control of Agro-products.

Smart Agriculture Monitoring and Control System Using IOT

Authors: Abhilash Lad, Sumitra Nandre, Krishna Raichurkar, Sumit Zarkhande, Dr. Priya Charles.

Abstract: India is agriculture sector, on either side, is losing ground every day, affecting the ecosystem\'s output capacity. In order to restore vitality and put agriculture back on a path of higher growth, there is a growing need to resolve the issue. A large-scale agricultural system necessitates a great deal of upkeep, knowledge, and oversight. The IoT is a network of interconnected devices that can transmit and receive data over the internet and carry out tasks without human involvement. Agriculture provides a wealth of data analysis parameters, resulting in increased crop yields. The use of IoT devices in smart farming aids in the modernization of information and communication. For better crop growth moisture, mineral, light and other factors can be assumed. This research looks into a few of these characteristics for data analysis with the goal of assisting users in making better agricultural decisions using IoT. The technique is intended to help farmers increase their agricultural output.

IoT based Smart Agriculture

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Abstract: Agriculture plays vital role in the development of agricultural country. In India about 70% of population depends upon farming and one third of the nation's capital comes from

farming. Issues concerning agriculture have been always hindering the development of the country. The only solution to this problem is smart agriculture by modernizing the current traditional methods of agriculture. Hence the project aims at making agriculture smart using automation and IoT technologies. The highlighting features of this project includes smart GPS based remote controlled robot to perform tasks like weeding, spraying, moisture sensing, bird and animal scaring, keeping vigilance, etc. Secondly it includes smart irrigation with smart control and intelligent decision making based on accurate real time field data. Thirdly, smart warehouse management which includes temperature maintenance, humidity maintenance and theft detection in the warehouse. Controlling of all these operations will be through any remote smart device or computer connected to Internet and the operations will be performed by interfacing sensors, Wi-Fi or ZigBee modules, camera and actuators with micro-controller and raspberry pi.

IoT, big data science & analytics, cloud computing and mobile app based hybrid system for smart agriculture

Author: Sahitya Roy; Rajarshi Ray; Aishwarya Roy; Subhajit Sinha; Gourab Mukherjee; Supratik Pyne; Sayantan Mitra; Sounak Basu; Subhadip Hazra

Abstract: Here we presents AgroTick, an innovative hybrid system for smart agriculture. AgroTick is an IoT based system supported with mobile interface and designed using technology modules like cloud computing, embedded firmware, hardware unit and big data analytics. AgroTick is architected and designed to improve the efficiency of agriculture, build a well-connected farming network and create a knowledge sharing platform for farmers. In a longer run, AgroTick will address two key issues plaguing agriculture in India - harvesting rainwater and groundwater, and predicting effective utilization of the same.

Problem Statement

1. Mani can't manage his farming work because his farming land is far away from his home so he want to reduce the physical work.
2. Kathir is an physically challenged person so he can't water the plants so he want to automate water his plant from his mobile.
3. Surya is a busy man who needs to grow a plants in his garden so that he never forget to take care of them on time when necessary.
4. Anil lives in place where the water is limited hence he needs to water his plants on time by consuming minimum of them.
5. Vasanth doesn't know about farming, he needs a way to grow vegetables so and also he wants to make the growing a easy process.
6. Kesav wants to live a healthy life so he decided to grow different types of vegetables so that he can manage all the vegetables at a time.
7. A Raju works in a IT Company where it was located far away from his home and he grows plants in his gardner so he likes to grow his plants from his mobile from his office.
8. Raj runs a botanical garden so he wants to manage all his plants at a time so that every plant grows well without any issues.