SmartFarmer - IoT Enabled Smart Farming Application

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Abstract:

The growth of the global population coupled with a decline in natural resources, farmland, and the increase in unpredictable environmental conditions leads to food security is becoming a major concern for all nations worldwide. These problems are motivators that are driving the agricultural industry to transition to smart agriculture with the application of the Internet of Things (IoT) and big data solutions to improve operational efficiency and productivity. The IoT integrates a series of existing state-of-the-art solutions and technologies, such as wireless sensor networks, cognitive radio ad hoc networks, cloud computing, big data, and end-user applications. This study presents a survey of IoT solutions and demonstrates how IoT can be integrated into the smart agriculture sector. To achieve this objective, we discuss the vision of IoT-enabled smart agriculture ecosystems by evaluating their architecture (IoT devices, communication technologies, big data storage, and processing), their applications, and research timeline. In addition, we discuss trends and opportunities of IoT applications for smart agriculture and also indicate the open issues and challenges of IoT application in smart agriculture. We hope that the findings of this study will constitute important guidelines in research and promotion of IoT solutions aiming to improve the productivity and quality of the agriculture sector as well as facilitating the transition towards a future sustainable environment with an agroecological approach.

Objective:

1. Need for technology to monitor important parameters to improve the cultivation process.
2. Need for technology to monitor weather of particular area.
3. Development of certain technique to reduce the workforce, energy and time taken for cultivation.

4. Can be monitores from any part of the world.

Literature survey:

S.No.	Author	Paper title	Journal / Conference Title	Page No. & Volume No.	Year of Publication	Description
1.	Mrs . T. Vineela , J. Naga Harini, Ch.Kiran Mai, G.Harshitha, B. Adilakshmi	IOT Based agricultural monitoring and smart irrigation system using Rasberry PI.	International Research Journal of Engineering and Technology (IRJET)	Volume 5, Issue 01.	Jan 2018	IOT Based agricultural monitoring and smart irrigation system using Rasberry PI which is used to fing the integrity of the soil for better irrigation.
2.	Nikesh Gondchawar and Prof. Dr. R.S. Kawitkar.	IOT Based smart Agriculture.	International Journal of Advanced Research in computer and communication Engineering	Volume 5, Issue 6	Jun 2016	IOT Based smart Agriculture is used for advanced farimg methods by determining the humidity , quality of soil using different types of sensors in IOT.
3.	Ranjitha K	Smart Farm Management using Rassberry PI and Internet of Things(IOT).	International Journal of Innovative Research in Computer and Communication Engineering.	Volume 6 Issue 6	Jun 2018	Smart Farm Management using Rassberry PI and Internet of Things(IOT) is used to manage the farm used for agriculture by monitoring the elements of agriculture.

Drawbacks of existing system:

1. In the existing system the information are less secure. The informationare used and sold to third party applications.
2. In the existing system there is no cloud services so that we cannot access our data all over the world.
3. In the existing system there is no traffic control on browser so that if multiple users are using the application on the same time there is chance of malfunction and reduce the performance of the mobile or PC.

Proposed System:

In this proposed System, User are provided with three options for data entry namely Income, Expense and Wish List. If you select income or expense you would be provide with its types and subtypes. For wish list only items can be inserted. This information would be saved onto cloud database by their particular classification. The saved data can later be changed if the user needs to do as such. Altering here means adding description changing wish list updating data etc. User can also view the result. They can also filter to see the required content only.