IBM – NAALAIYA THIRAN

IOT ENABLED SMART FARMING APPLICATION

LITERATURE SURVEY

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1.

IoT Enabled Smart Farming and Irrigation System

Author : M. Rohith, R Sainivedhana, N. Sabiyath Fatima

https://ieeexplore.ieee.org/document/9432085

This paper is about IOT based smart farming and irrigation system. The system consists of three sensors which sense the values of humidity, moisture and temperature of plants. This is done using Arduino board, voltage regulator and relay which controls the motor. WIFI module is used to inform the user about the exact field condition. The various sensors send the values to the Arduino board which has been coded with if else conditions will further pass the commands to the relay which turns on or off the motor according to the conditions given. The ultimate significance of this paper is that most of the manual work is reduced and watering process is automated with the help of devices as a result of which healthy plants can be grown, Water and electricity usage are saved by this paper.

2.

Smart Farming using IoT, a solution for optimally monitoring farming conditions

Author : Jash Doshi, Tirthkumar Patel, Santosh kumar Bharti

https://www.sciencedirect.com/science/article/pii/S1877050919317168

The new developments of Smart Farming with the use of IOT, by day turning the face of conventional agriculture methods by not only making it optimal but also making it cost efficient for farmers and reducing crop wastage. The aim of this project is to assist farmers by getting live data from the agriculture land. The product proposed in this paper uses ESP32s Node MCU, breadboard, DHT11 Temperature and Humidity Sensor, Soil Moisture Sensor, SI1145 Digital UV Index / IR / Visible Light Sensor, Jumper wires, LEDs and live data feed can be monitored on serial monitor and Blynk mobile. This will allow farmer to manage their crop with new age in farming.

3.

IoT-Enabled Smart Agriculture: Architecture, Applications, and Challenges

Author : Vu Khanh Quy, Nguyen Van Hau, Dang Van Anh, Nguyen Minh Quy, Nguyen Tien Ban, Stefania Lanza, Giovanni Randazzo and Anselme Muzirafuti

https://www.mdpi.com/2076-3417/12/7/3396/pdf

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, the paper has a 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. The promotion of IoT solutions aims 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.

4.

Survey on Smart Agriculture Using IOT

Author : Shweta A M, Dr V. Nagaveni

https://zenodo.org/record/2579857/files/SURVEY%20ON%20SMART%20AGRICULTURE%20USING%20IOT.pdf

In this paper irrigation process is done automatically using different sensors which reduces the manual working of farmers. Here a system is proposed to monitor crop-field using sensors for soil moisture, humidity and temperature. By monitoring all these parameters the irrigation can be done automatically. Hence by implementing this project, it is helpful in decreasing the labor cost, time and it also helps in continuous monitoring of the farm.

5.

Literature Review on IOT Based Smart Security and Monitoring Devices for Agriculture

Author : Keerthana B, Nivetha P ,Boomika M, Mathivatahni M, Niranjanaa

In this paper, they have used "Graphical User Interface" based software is used which helps in controlling   the hardware system and the system will be entirely isolated environment, equipped with sensors like temperature sensor, humidity sensor. The controllers will be managed by a master station which will communicate with the human interactive software. The system will provide smart interface to the farmers. This smart system can increase the level of production than the current scenario. This system will realize smart solution for agriculture and efficiently solve the issues related to farmers. The environment will not be the barrier for production and growth of any plant and can overcome the problem of scarcity of farming production.