Literature Survey

Smart Farmer – IOT Enabled Smart Farming Application(PNT2022TMID50299)

1) IoT in Agriculture : Smart Farming

From farm to fork, information and communication technology sector is being enhanced to facilitate the farmers, croppers and related users of intelligent services. Technological revolution integrates the development of smart devices and IoT services. To feed the ever growing global population, the agriculture industry needs to be extended. Internet of Things opens the door wide for smart farming solution to increase the agricultural production. IoT technologies helps the farmers as a service by providing historical and real time data for predicting soil quality, weather conditions and crop's health. Smart farming provides the enhanced facility for process automation and evaluation and waste reduction. As a result, all these factors drastically increase the quality and quantity of the food products and decrease the production cost. This paper outlines the promising solutions applied in the sphere of agriculture.

The newer scenario of decreasing water tables, drying up of rivers and tanks, unpredictable environment present an urgent need of proper utilization of water. To cope up with this use of temperature and moisture sensor at suitable locations for monitoring of crops [5]. In smart farming, threshold values of temperature and soil moisture can be programmed into a microcontroller based gateway to control water quantity. The system is powered by photovoltaic panels and can have a duplex communication link based on a cellular Internet interface that allows data inspection and irrigation scheduling to be programmed through a web page [6]. The technological development in Wireless Sensor Networks made it possible to use in monitoring and control of greenhouse parameter in precision agriculture [7]. Researchers found that the yield of agriculture is decreasing day by day. However, use of technology in the field of agriculture plays important role in increasing the production as well as in reducing the extra man power efforts. Some of the research attempts are done for betterment of farmers which provides the systems that use technologies helpful for increasing the agricultural yield. Wireless Sensor Networks is said to be mature technology and lot of work has been done for agriculture domain [8,9]. Use of cloud computing for agriculture sector for storing details of agriculture information has been explained in [10]

2) **Smart Agriculture: IOT based smart sensors agriculture by Anand Nayyar and Er. Vikram Puri, November 2016**

This paper describes Internet of Things (IOT) technology has brought revolution to each and every field of common man's life by making everything smart and intelligent. IOT refers to a network of things which make a self-configuring network. The development of Intelligent Smart Farming IOT based devices is day by day turning the face of agriculture production by not only enhancing it but also making it cost-effective and reducing wastage. The aim / objective of this paper is to propose a Novel Smart IOT based Agriculture assisting farmers in getting Live Data (Temperature, Soil Moisture) for efficient environment monitoring which will enable them to do smart farming and increase their overall yield and quality of products. Brief Introduction of Paper: This paper brings insights to construct a framework for robust working on fields and easy for farmers. One of main areas where IOT based research is going on and new products are launching on everyday basis to make the activities smarter and efficient towards better production is "Agriculture". Agriculture sector is regarded as the more crucial sector globally for ensuring food security. Talking of India farmers, which are right now in huge trouble and are at disadvantageous position in terms of farm size, technology, trade, government policies, climate conditions etc. conference for the name of your paper. In this newly created file, highlight all of the contents and import your prepared text file. You are now ready to style your paper

3) **IoT based Smart Soil Monitoring System for Agricultural Production (Divya J., Divya M.,Janani V)**

Both the economy and the existence of the Indian people depend on agriculture. The goal of this project is to develop an embedded-based irrigation and soil monitoring system that will lessen the need for manual field monitoring and deliver data via a mobile app. The technique is designed to assist farmers in boosting agricultural productivity. The equipment used to inspect the soil includes a pH sensor, a temperature sensor, and a humidity sensor. Farmers may choose to plant the best crop for the land based on the findings. Wi-Fi is used to transmit sensor data to the field manager, and a mobile app is used to generate crop recommendations. Use of an automatic watering system is necessary when the soil temperature is high. The crop picture is collected and sent.

4) Development of Smart Drip Irrigation System Using IoT (Anushree Math, Layak Ali, Pruthviraj U)

Agriculture is extremely important in the country of India. Therefore, it's essential to water the plants properly to maximise yield per unit of space and thus produce good output. The act of irrigation involves giving plants a certain amount of water at a specific time. This project's goal is to use a sophisticated drip irrigation system to water the plants on the National Institute of Technology Karnataka campus. The system's primary controller for accomplishing this is the open-source platform. To provide the most recent characteristics of the factors that continuously affect plant healthiness, a variety of sensors have been used. Depending on the data obtained from the RTC module, a solenoid valve is controlled to supply water to the plants at regular intervals. The entire irrigation system may be managed and monitored using the website. This website has a feature that lets you manually or automatically regulate how often plants are watered. Using a Raspberry Pi camera that provides live streaming to the webpage, the health of the plants istracked. Through a wireless network, the controller gets information about water flow from the water flow sensor. The controller examines this data to see if the pipe has any leaks. Weather forecasting is also done to limit the amount of water provided, making it more reliable and effective.

5) IOT Based Smart Agriculture System (G. Sushanth1, and S. Sujatha)

Since Internet of Things (IoT) sensors may provide information about agricultural area and then act on it based on user input, smart agriculture is a revolutionary notion. The goal of this research is to create a smart agricultural system that uses cutting-edge technologies including wireless sensor networks, the Internet of Things, and Arduino. The study makes advantage of upcoming technologies like smart agriculture and the Internet of Things (IoT) through automation. Crop efficiency can be increased by having the ability to monitor environmental conditions. This study's goal is to create a system that uses sensors to track temperature, humidity, wetness, and even the movement of animals that could harm crops in agricultural areas. If there is a discrepancy, the system will then use Wi-Fi, 3G, or 4G to send the farmer's smartphone.