TITLE   **:** Smart Farmer- IOT

Enabled Smart Farming

Application

DOMAIN NAME   : Internet of things

LEADER NAME   : Bharathkumar D

TEAM MEMBER NAME : Chandru **s**

Dhayananth E.P

Harikrishnan N

MENTOR NAME   **:** Janani S

Abstract:

Internet of Things (IoT) plays a crucial role in smart agriculture. Smart farming is an emerging concept, because IoT sensors capable of providing information about their agriculture fields. The paper aims making use of evolving technology i.e. IoT and smart agriculture using automation. Monitoring environmental factors is the major factor to improve the yield of the efficient crop. 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.

INTRODUCTION:

The internet of things, or IoT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. An IoT ecosystem consists of web-enabled smart devices that use embedded systems, such as processors, sensors and communication hardware, to collect, send and act on data they acquire from their environments. IoT devices share the sensor data they collect by connecting to an IoT gateway or other edge device where data is either sent to the cloud to be analyzed or analyzed locally. Sometimes, these devices communicate with other related devices and act on the information they get from one another. The devices do most of the work without human intervention, although people can interact with the devices -- for instance, to set them up, give them instructions or access the data.

LITERATURE SURVEY:

The author describes[1] the farming of agriculture has started past 12000 years back, Neolithic age gave birth of civilization, Farming and later being continued as traditional farming

practices. India being an agrarian's country, Mostly Indian farming are dependent on rains, soil, dampness and environment challenges .Our farmers upgraded to modern state of art technology in cultivation. Globally the IoT systems has contributed its application in many fields and proven to be successful. It is the time that Indian farmer need to introduce the Smart Agricultural systems for higher crop yield. The productivity with compilation of data from sensors, actuators and modern electronic gadgets the farmer can monitor agricultural fields. Smart Agriculture can forecast weather data, switching ON the pump motor acknowledging the dampness of soil terms of moisture levels with help of sensors which are interfaced to process module Arduino-UNO. The Smart agriculture system can be operated from anywhere with help of networking technology. On joining process in research and development in Smart Agriculture& Artificial Intelligence can be cutting edge technology in data compiling and resource optimization .The pest & insects controls that protects damaging the crop and also optimisation resources utilisation can be breakthrough.

The author describes [2] The increasing global population demands improved production to provide food in all sectors, especially in agriculture. Still, at certain periods, demand and supply will not match. Managing and sustaining capital and manpower is still a demanding challenge for improving agricultural production. Smart agriculture is a better option for growing food production, resource management, and labour. This research provides an overview of predictive analysis, Internet of Things (IoT) devices with cloud management, security units for multi-culture in the agriculture sector with considering farmer's prior experiences. And also highlights

the challenges and complications expected while integrating modern technology in the traditional farming practice experience. Based on the statistical and quantitative approaches gives better revolutionary changes in the current agriculture system. Besides, drone activation from IoT encounters crop status and stages, irrigation, plant leaves, diseases in the green field. The sensors that are activated for various purposes in IoT are discussed. Modern agriculture with state-of-the-art IoT devices and concepts is the main objective of this research. The systematic evaluation provides current and future trends in the agriculture sector

The author describes[3] Today's different types of technologies, techniques and tools are used in the agriculture sector. To improve productivity, efficiency and reduce the time, cost and human intervention, there is a need for a new technology called the Internet of Things. To automate the agricultural activities like water management, soil monitoring, crop management, livestock monitoring etc. different types of sensor are used. Smart Greenhouses protect the plants from extreme weather. To control all these operations remote smart devices, computers connected with the internet, sensor, camera, micro-controller etc. are used. Growth in the agriculture sector affects the economic condition of the country. This paper focuses on the Role of IoT in Agriculture that defines Smart Farming.

The author describes [4] Internet of Things (IoT) technology has brought revolution to each and every field of the 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 report is to propose an IoT based Smart Farming System assisting farmers in getting Live Data (Temperature, Soil Moisture) for efficient environment monitoring which will enable them to increase their overall yield and quality of products. The IoT based Smart Farming System being proposed via this report is integrated with Arduino Technology mixed with different Sensors and a Wifi module producing live data feed that can be obtained online from Thingsspeak.com. The product being proposed is tested on Live Agriculture Fields giving high accuracy over 98% in data feeds.

REFERENCES:

1.Providing Smart Agricultural solutions to farmers for better yielding using IoT
July 2015
Conference: 2015 IEEE Technological Innovation in ICT for Agriculture and Rural Development (TIAR)

2.Suma, V. (2021). Internet-of-Things (IoT) based Smart Agriculture in India-An Overview.
Journal of ISMAC, 3(01), 1-15.

3.   Farooq, M. S., Sohail, O. O., Abid, A., & Rasheed, S. (2022). A survey on the role of iot in agriculture for the implementation of smart livestock environment. IEEE Access, 10, 9483-9505.

4.   Farooq, M. S., Riaz, S., Abid, A., Abid, K., & Naeem, M. A. (2019). A Survey on the Role of IoT in Agriculture for the Implementation of Smart Farming. Ieee Access, 7, 156237-156271.