MEPCO SCHLENK ENGINEERING COLLEGE
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IDEATION PHASE

TITLE :Smart Farmer-IOT Enabled Smart Farming Apllication

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LITERATURE SURVEY

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 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

INTRODUCTION :

In order to meet the current global needs of humanity, new solutions and technologies are constantly being proposed and implemented. This has led to the advent of the Internet of Things (IoT) . IoT is defined as the network of all objects that are embedded within devices, sensors, machines, software and people through the Internet environment to communicate, exchange information and interact in order to provide a comprehensive solution between the real world and the virtual world. In recent years, IoT has been applied in a series of domains, such as smart homes, smart cities , smart energy , autonomous vehicles , smart agriculture, campus management], healthcare, and logistics. An illustration of rich and diverse IoT applications for smart agriculture. In the smart agricultural sector, automation solutions and technologies, mechanical machines, knowledge, decision-making tools, services, and software are integrated seamlessly to help farmers improve productivity, product quality, and profitability .

LITERATURE SURVEY :

The author describes [1] 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 labor. 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 [2] Farming is the backbone of the economy and it is the fundamental method for occupation. The large population of the world depends on farming for living day to day life. Around 70% of the Indian population depends on cultivation. Most of the cultivation cannot be productive only by physical activities so have to be handled by innovative technologies. Therefore, they use IoT innovation and SMS notification to address the critical part of farming. The past method of incorporating a keen water supply system with smart ideas. This undertaking is a follow up to a past method whose highlight features incorporates a keen water system with excellent control and insightful basic leadership in terms of exact continuous field information which regulates temperature, moisture and soil dampness of a particular crop. Controlling of every one of these activities will be monitored by PC with Internet and the tasks being performed by interfacing sensors and Arduino. With the observation results decisions are to be made. The author describes [3] 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 Wi-Fi 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] Suma, V. (2021). Internet-of-Things (IoT) based Smart Agriculture in IndiaAn Overview. Journal of ISMAC, 3(01), 1-15.

[2] Dahane, A., Benameur, R., Kechar, B., & Benyamina, A. (2020, October). An IoT based smart farming system using machine learning. In 2020 International Symposium on Networks, Computers and Communications (ISNCC) (pp. 1-6). IEEE.

[3] 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.