

# SMARTFARMER-IOT ENABLED SMART FARMING APPLICATION

**TEAM ID: PNT2022TMID44735**

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## **Agri-IoT: A Semantic Framework for Internet of Things-enabled Smart Farming;**

With the recent advancement of the Internet of Things (IoT), it is now possible to process a large number of sensor data streams using different large-scale IoT platforms. These IoT frameworks are used to collect, process and analyse data streams in real-time and facilitate provision of smart solutions designed to provide decision support. Existing IoT-based solutions are mainly domain-dependent, providing stream processing and analytics focusing

on specific areas (smart cities, healthcare etc.). In the context of agri-food industry, a variety of external parameters belonging to different domains (e.g. weather conditions, regulations etc.) have a major influence over the food supply chain, while flexible and adaptive IoT frameworks, essential to truly realize the concept of smart farming, are currently inexistent. In this paper, we propose Agri-IoT, a semantic framework for IoT-based smart farming applications, which supports reasoning over various heterogeneous sensor data streams in real-time. Agri-IoT can integrate multiple cross-domain data streams, providing a complete semantic processing pipeline, offering a common framework for smart farming applications. Agri-IoT supports large-scale data analytics and event detection, ensuring seamless interoperability among sensors, services, processes, operations, farmers and other relevant actors, including online information sources and linked open datasets and streams available on the Web.

## **ALiteratureSurveyonSmartAgricultureMonitoringand Control System Using IOT**

;India is agriculture sector, on either side, is losing ground every day, affecting the ecosystem's output capacity. In order to restore vitality and put agriculture back on a path of higher growth, there is a growing need to resolve the issue. A large-scale agricultural system necessitates a great deal of upkeep, knowledge, and oversight. The IoT is a network of interconnected devices that can transmit and receive data over the internet and carry out tasks without human involvement. Agriculture provides a wealth of data analysis parameters, resulting in increased crop yields. The use of IoT devices in smart farming aids in the modernization of information and communication. For better crop growth moisture, mineral, light and other factors can be assumed.

## **An IoT Networks -based Smart Orchard Monitoring System by Employing Wireless Sensor ;**

In this study, an IoT-based smart orchard monitoring is proposed to gather and transmit environment data from a sensor node to a central node for necessary and relevant actuation in order to have good produce at the soonest amount of time. Wireless sensor motes are deployed based on a simple linear pattern across a square farm and only require the minimum set of specifications to monitor its surrounding. On the other hand, the central nodes will require more processing power, memory and power requirements. Sensor and central nodes communicate in a line-of-sight method and follows a deterministic routing table based on the sensor node's four neighbors. Throughput, latency, and energy consumption results are presented to allow designers and farmers consideration and freedom on how to select which routing protocol can be used to achieve their target objectives.

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# IoT Agriculture

## to improve

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Today agriculture is

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