SMART FARMER – IOT ENABLED SMART FARMING APPLICATION

LITERATURE SURVEY

SI.NO	TITLE OF PAPER	AUTHORS	ABSTRACT
1	*Smart Agriculture Using Internet of Things with Raspberry Pi*	• Zuraida Muhammad • Muhammad Azri Asyraf Mohd Hafez • Nor Adni Mat Leh • Zakiah Mohd Yusoff • Shabinar Abd Hamid	The term used for networking of objects, equipment, vehicles, and other electronics device into the network for information exchange purpose is called Internet of Things (IoT). Nowadays, IoT is widely used for connecting device and collecting data information. Therefore, the use of IoT is very relevant for agriculture. The project is about smart agriculture system that is implemented with IoT. The system is combined with irrigation system in order to cope with the unpredictable weather in Malaysia. Raspberry Pi 4 Model B is used as the microcontroller of this system. DHT22 and soil moisture sensor is used to detect the temperature and humidity in surrounding and moisture level of the soil respectively where the output will be displayed on smartphone and computer. So, Smart Agriculture Systems using Internet of Things with Raspberry Pi brings a tremendous

			impact on the farmer's working method. Plus, it will also bring a positive effect on the crop production in Malaysia. Where about 24.44% water savings rate in a year can be achieved when using IoT-based irrigation systems compared to traditional irrigation systems. This would save the expenditure for hiring workers and avoid water wastage in daily needs.
2	*IoT based smart soil monitoring system for agricultural production*	• N. Ananthi • J. Divya • M. Divya • V. Janani	Agriculture plays the major role in economics and survival of people in India. The purpose of this project is to provide embedded based system for soil monitoring and irrigation to reduce the manual monitoring of the field and get the information via mobile application. The system is proposed to help the farmers to increase the agricultural production. The soil is tested using various sensors such as pH sensor, temperature sensor, and humidity sensor. Based on the result, the farmers can cultivate the appropriate crop that suits the soil. The obtained sensor values are sent to the field manager through the Wi-Fi router and the crop suggestion is made through the mobile application. Automatic irrigation system is carried out when the soil temperature is high. Crop image is captured and it is sent to the field manager to suggest pesticides.

3	*IOT Based Smart Agriculture System*	• G. Sushanth • S. Sujatha	Smart agriculture is an emerging concept, because IOT sensors are capable of providing information about agriculture fields and then act upon based on the user input. In this Paper, it is proposed to develop a Smart agriculture System that uses advantages of cutting edge technologies such as Arduino, IOT and Wireless Sensor Network. The paper aims at making use of evolving technology i.e. IOT and smart agriculture using automation. Monitoring environmental conditions is the major factor to improve yield of the efficient crops. The feature of this paper includes development of a system which can monitor temperature, humidity, moisture and even the movement of animals which may destroy the crops in agricultural field through sensors using Arduino board and in case of any discrepancy send a SMS notification as well as a notification on the application developed for the same to the farmer's smartphone using Wi-Fi/3G/4G. The system has a duplex communication link based on a cellular-Internet interface that allows for data inspection and irrigation scheduling to be programmed through an android application. Because of its energy autonomy and low cost, the system has the potential to be useful in water limited geographically isolated areas.

4	*Mobile Integrated Smart Irrigation Management and Monitoring System Using IOT*	• S. Vaishali • S. Suraj • G. Vignesh • S. Dhivya • S. Udhayakumar	Agriculture has been the most important practice from very beginning of the human civilization. Traditional methods that are used for irrigation, such as overhead sprinkler and flood type, is not that much efficient. They results in a lot of wastage of water and can also promote disease such as fungus formation due to over moisture in the soil. Automated irrigation system is essential for conservation of the water and indirectly viability of the farm since it is an important commodity. About 85% of total available water resources across the world are solely used for the irrigation purpose. In upcoming years this demand is likely to increase because of increasing population. To meet this demand we must adopt new techniques which will conserve need of water for irrigation process. In automation system water availability to crop is monitored through sensors and as per need watering is done through the controlled irrigation. The almost infinite capabilities of storage and processing, the rapid elasticity makes cloud computing an attractive solution to the large amount of data generated. The idea is to focus on parameters such as temperature and soil moisture. This is a Mobile Integrated and smart irrigation system using IOT based on application controlled monitoring

			system. The main objective of this project is to control the water supply and monitor the plants through a Smartphone.
5	*Automated Irrigation System- IoT Based Approach*	• Dweepayan Mishra • Arzeena Khan • Rajeev Tiwari • Shuchi Upadhay	Agriculture is a major source of earning of Indians and agriculture has made a big impact on India's economy. The development of crops for a better yield and quality deliver is exceptionally required. So suitable conditions and suitable moisture in beds of crop can play a major role for production.. Mostly irrigation is done by tradition methods of stream flows from one end to other. Such supply may leave varied moisture levels in filed. The administration of the water system can be enhanced utilizing programmed watering framework This paper proposes a programmed water system with framework for the terrains which will reduce manual labour and optimizing water usage increasing productivity of crops. For formulating the setup, Arduino kit is used with moisture sensor with Wi-Fi module. Our experimental setup is connected with cloud framework and data is acquisition is done. Then data is analysed by cloud services and appropriate recommendations are given.