SMART AGRICULTURE SYSTEM USING IOT TECHNOLOGY

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LITERATURE SURVEY

TITLE : SMART AGRICULTURE USING INTERNET OF THINGS USING RASPBERRY PI

AUTHOR: Zuraida Muhammad (2020)

The project is about smart agriculture system that is implemented with IOT. The system is combined with irrigation system to cope with the unpredictable weather in Malaysia. Raspberry Pi 4 Model B is used as the microcontroller of this system. DHT22 and soil moisturizer sensor if used to detect the temperature around and humidity in surrounding and moisture level of the soil respectively where output will be displayed on the smart phone and the computer.

TITLE:IOT BASED SMART AGRICULTURE SYSTEM

AUTHOR: **S Sujatha (2018)**

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 sensor using Arduino board and case of any discrepancy send a SMS notification as well as a notification on the application developed for the same to the farmer's smart phones using Wi-Fi or 3G or 4G. The system has duplex communication link based on a cellular Internet interface that allows for data inspection and irrigation scheduling to be programmed through an android application.

TITLE:INTERNET OF THINGS FOR SMART PRECISION AGRICULTURE

AUTHOR: Nurzaman Ahmed(2016)

To focus on the specific requirements, we propose a scalable network architecture for monitoring and controlling agriculture and farms in rural areas. With the use of fog computing and Wi-Fi based long distance network in IOT, it is possible to connect the agriculture and farming bases situated in rural areas efficiently. Compared to the existing IOT-based agriculture and farming solutions, the proposed solution reduces network latency up to a certain extent. In this, a cross-layer-based channel access and routing solution for sensing and actuating is proposed. We analyze the network structure based on coverage.

TITLE:DEVELOPMENT OF SMART DRIP IRRIGATION SYSTEM USING IOT

AUTHOR: Anushree Math(2018)

The objective of this endeavour is to irrigate the plants using the smart drip irrigation system. To achieve this, open source platform is used as a central controller of the system. Various sensor have been employed which continuously provide the existing parameters of factors governing healthiness of plants. Based on the information obtained from the RTC module water is supplied to plants at regular intervals of time by controlling a solenoid valve. The entire system can monitored and managed by the webpage.

TITLE:MOBILE INTEGRATED SMART IRRIGATION MANAGEMENT USING IO

AUTHOR:Vaishali S & Suraj S(2017)

Traditional methods that are used for irrigation, such as overhead sprinkler and flood type, is not that much efficient. They result in a lot of wastage 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 the automation system water availability to crop is monitored through sensor and as per need watering is done through controlled irrigation.

TITLE:ANDROID AND IOT BASED AGRICULTURE SYSTEM

AUTHOR: Megha F.Yaligar & Shalini H Nagur(2019)

To design a smart wireless sensor for agriculture environment, the WSN is designed for supervising and controlling for various factor such as humidity, soil, moisture, temperature, routers that propagate the network over larger distance and coordinator that communicates with the computer, which in turns illustrate the data and transmit it using internet of things, which can reduce the human labor. User can able to grow more number of plants in their home by using this information. Using this application user can save money and time in creating application for own new application.

TITLE:SMART WIRELESS SYSTEM TO AUTOMATE PRODUCTION OF CROPS AND STOP INTRUSION USING DEEP LEARNING

AUTHOR: Shrihari M (2020)

The idea of automating the production of crops has existed since the early 90's and one of the major issues both scientists and farmers face is the question of irrigation. An irrigation system is dynamic system that is predominantly dependent on external covariant. This paper provides a methodology by utilizing a custom built mathematical model which includes wireless sensor as a data source that is processed on google cloud they are providing a smart IOT enabled architecture that can be scaled even on large farms. The system is equipped with android application through an remote.

TITLE:DEVELOPMENT OF IOT FOR SMART AGRICULTURE

AUTHOR: Kamlesh Lakhwani & Niket Agarwal(2019)

This is a cloud-based IOT architecture. This project is applicable to various precision agriculture applications. The research proposed a three-layer architecture. The first layer collects the environmental information and supplies for needed actions. The second layer is a gateway layer ,the layer connects the front-end and back-end via internet or network in which the data can be stored and processed. Researchers built a prototype of this architecture to test and illustrate its performance. The efficiency of the proposed architecture is demonstrated by the performance evaluation results.

COMPARATIVE ANALYSIS OF LITERATURE SURVEY:

S.No	Year	Researcher	Title	Technology Used	Remarks
01	2020	Zuraida Muhammad	Smart agriculture using internet of things using raspberry pi	Raspberry-Pi	Implementing an IOT based smart agriculture system helps in obtaining quality crops and it also reduces the human involvement in agricultural activities.
02	2018	S Sujatha	IOT based smart agriculture system	Internet of Things	In heavy rainfall areas there is about 30% of chances to transmit information through 3G, 4G or Wi-Fi network.
03	2016	Nurzaman Ahmed	Internet of things for smart precision agriculture	Internet of Things	To reduce congestion in the proposed large scale network along with the fog computing solution, technologies like IEEE 802.11 having more physical data rate capacity can be used.
04	2018	Anushree Math	Development of smart drip irrigation system using IOT	Internet of Things	This work attempts to save the natural resources by continuously status of soil, controlling of water flow and thereby reduce the wastage.
05	2017	Vaishali S & Suraj S	Mobile integrated smart irrigation management using IOT	Internet of Things	Rapid elasticity makes cloud computing an attractive solution were 90% of data generated.
06	2019	Megha F.Yaligar & Shalini H Nagur	Development of Agricultural system	Internet of Things	Using this application user can save money and time.

07	2020	Shrihari M	Smart wireless system automate production of crops and stop intrusion using deep learning	Cloud Computing, IOT	In case of natural disaster, Video streaming can’t be accessible at sometimes.
08	2019	Kamlesh Lakhwani & Niket Agarwal	Development of IOT for Smart Agriculture	Internet of Things	Rapid development of micro electric technology make 10 – 20% which can actively explore a technological development of modern agriculture. This method accuracy reaches up to 75% of highest result.