

IoT-Based Smart Agriculture Monitoring System

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Abstract: Smart agriculture is an emerging concept because IoT sensors are capable of providing information about agriculture fields and then acting based on user input. In this Project, it is proposed to develop a Smart agriculture System that uses the advantages of cutting-edge technologies such as Arduino, IOT, and Wireless Sensor Networks. 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 the development of a system that can monitor temperature, humidity, moisture, and even the movement of animals which may destroy the crops in agricultural fields through sensors using Arduino board and in case of any discrepancy send a WhatsApp notification as well as a notification on the application developed for the same to the farmer's smartphone using Wi-Fi/4G/5G. 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.

Keywords: Smart agriculture

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