# Cost Effective Smart Hydroponic Monitoring and Controlling System using IOT

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**Abstract:** *High yielding and high grade of crops are essential in modern day agriculture, this can only be achieved by smart farming technology which is used for making farms more intelligent in sensing its controlling parameters. Manual monitoring is in practice which is a very trivial task because the plants may die out if there is no proper care is taken. The architecture of this hydroponic system which is fully automatic that can be integrated into the agricultural curriculum while introducing business skills. The automatic monitoring and control of the environmental events such as light intensity, pH, electrical conductivity, water temperature, and relative humidity is carried out by lodging sensors and actuators onto the system. The maintenance and automated monitoring are done by the intervention of the IoT that are used to transfer and retrieve data to the internet (mass storage) and a mobile app is used to communicate the current status of the hydroponic system to the user through the use of internet to their mobile phones. This futuristic system can use high data analytics and prolonged data gathering to improve the accuracy of reckoning.*

**Keywords:** IoT Module, Humidity Sensor, pH Sensor, Temp Sensor, Hydroponic Farming

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