IOT based Smart Irrigation System

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Submitted To

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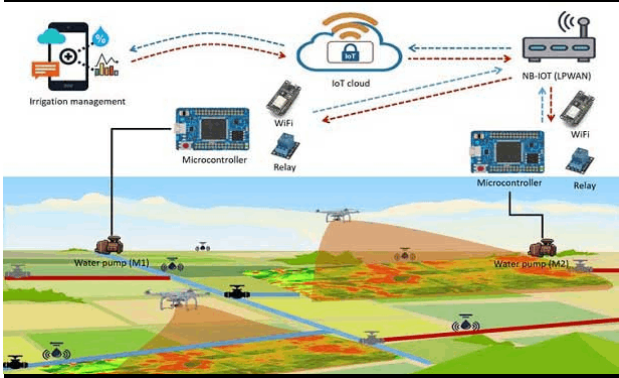
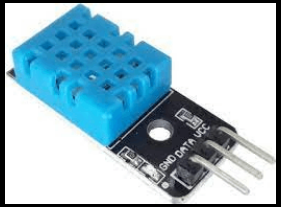
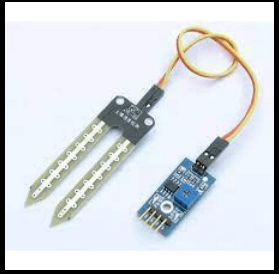
Introduction

Smart Irrigation System is an IOT-based system that helps to optimize the irrigation process. It uses sensors and data analysis to provide the right amount of water to plants, reducing water waste and increasing crop yield. The system can be controlled remotely through a mobile app or web interface.





DHT Sensor



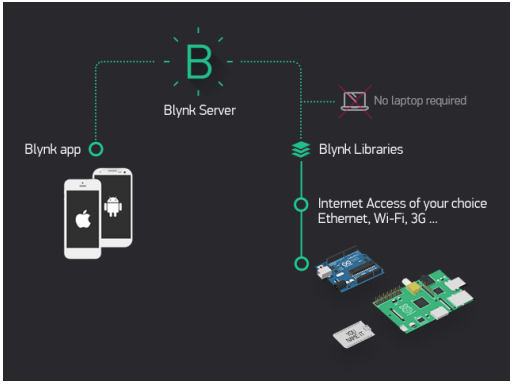
Soil Moisture Sensor

IOT Sensors

IOT Sensors are the backbone of the Smart Irrigation System. They measure soil moisture, temperature, humidity, and other parameters that affect plant growth. The data collected by the sensors is sent to the cloud for analysis and decision-making. The sensors can be powered by solar panels, reducing the need for batteries or electrical wiring.

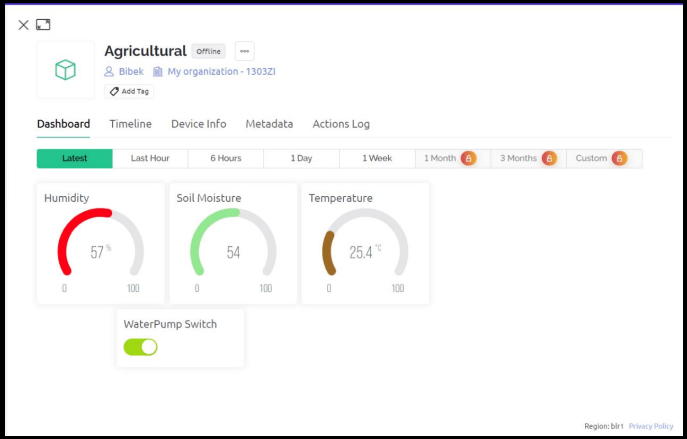
For the purpose of this project, we have used following sensors:

1) DHT Sensor
2) Soil Moisture Sensor



Data Analysis

Data Analysis is a crucial part of the Smart Irrigation System. The data collected by the sensors is analyzed using machine learning algorithms to determine the optimal amount of water to be applied to each plant. The system takes into account the soil type, crop type, weather conditions, and other factors. The analysis is done in real-time, ensuring that the plants get the right amount of water at the right time.



Blynk Remote Control Dashboard for our project

Remote Control

Remote Control is a key feature of the Smart Irrigation System. The system can be controlled remotely through a mobile app or web interface. The user can monitor the status of the sensors, adjust the watering schedule, and receive alerts in case of any issues. This feature makes the system easy to use and saves time and effort for farmers.

Benefits

The Smart Irrigation System provides several benefits to farmers.

It reduces water waste, saves time and effort, increases crop yield, and ensures healthier plants.

It also reduces the need for manual labor and prevents over-irrigation, which can lead to soil salinity and waterlogging.

The system is cost-effective and environmentally friendly.

Conclusion

In conclusion, the Smart Irrigation System is a game-changer for the agriculture industry. It provides a sustainable and efficient solution for irrigation, ensuring better crop yield and healthier plants. The system is easy to use, cost-effective, and environmentally friendly. It is a step towards a more sustainable and greener future.

Thanks!