



Plants Watering System in IoT

Discover the power of IoT in gardening with automated plant watering systems. Enhance your gardening experience and ensure healthy plants.

Components for Setting up the System

Sensors

Soil Moisture sensor

Microcontroller

An Arduino or Raspberry Pi for data collection and control and Jumper wires

Actuators

Valves or pumps to control water flow

Communication Module

Wi-Fi or Bluetooth module for connectivity





Working of the System

- 1 Data Collection**
Sensors monitor moisture, temperature, and light levels
- 2 Data Processing**
Microcontroller analyzes the sensor data and triggers actions
- 3 Actuation**
Actuators control water flow based on the predefined thresholds

Problem

1. Overwatered Plants

Can lead to crop damage

Wasting water and money

2. Underwatered Plants

leaves dropping

Affects the agricultural trade

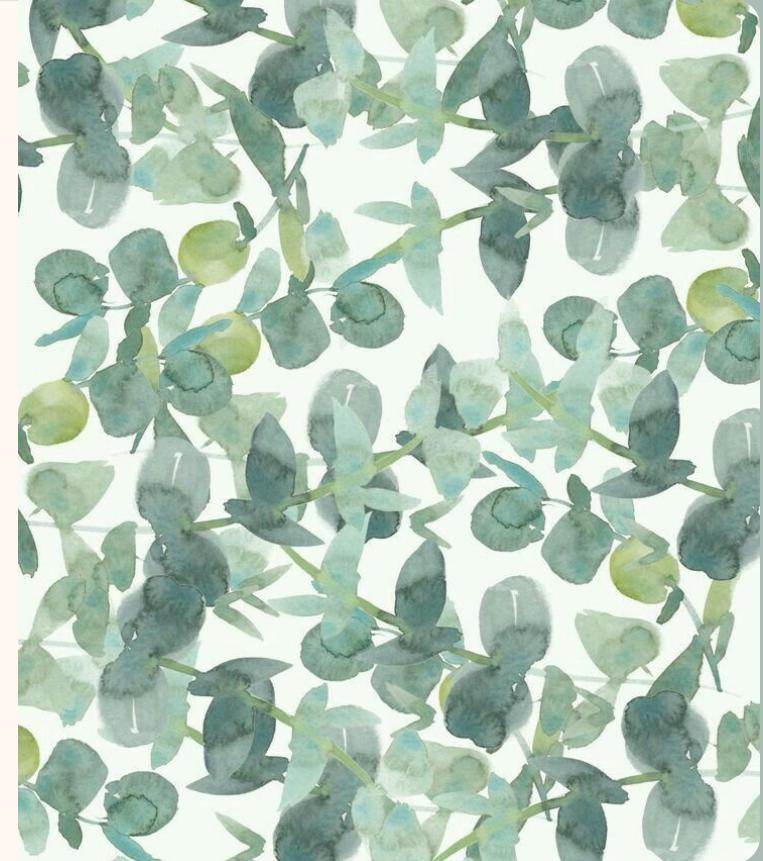


Solution

Soil Moisture Sensor

Detect moisture in the soil

Scheduling an automatic irrigation system





Advantages of IoT Based Plant Watering System

1

Efficiency

Precise watering based on real-time data, reducing water wastage

2

Convenience

Remotely monitor and control the system via smartphone or computer

3

Improved Plant Health

Optimal moisture levels promote healthy growth and prevent plant diseases



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Challenges Faced during Implementation

1

Sensor Accuracy

Ensuring accurate readings from the sensors for reliable decision-making

2

Power Supply

Providing continuous power supply to the system for uninterrupted operation

3

Data Security

Implementing robust security measures to protect data from unauthorized access



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Challenges Faced during Implementation



Future Scope and Potential of the System



Smart Gardening

Integration with other smart devices for a fully automated garden



Water Conservation

Efficient water management through analytics and intelligent watering algorithms



Smart Farming

Scaling up the system for use in larger agricultural operations

The sensor of the Plant Watering System





Conclusion

Embrace the revolution of IoT in gardening and experience the convenience, efficiency, and improved plant health offered by an IoT-based plant watering system.

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