Automated Plant Watering System

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Our project introduces an innovative automated watering system designed to optimize water usage and promote plant health. By utilizing sensors and remote monitoring, it ensures plants receive the perfect amount of water, reducing manual effort and conserving resources. Embrace smarter gardening with our efficient and reliable solution!

OBJECTIVE

To create an automated watering system that optimizes water usage, ensures healthy plant growth, and minimizes the need for manual intervention by leveraging remote monitoring and data analytics.

COMPONENTS

- Arduino Uno R3ATMega 328P
- Soil Moisture Sensor
- ESP 8266 WiFi Module
- I2C Module
- Water Pump (mini)

PROBLEM STATEMENT

- Maintaining optimal water levels for plants is challenging, often resulting in over-watering or under-watering, which affects plant health and wastes water.
- Manual watering is labor-intensive and requires constant monitoring, making it difficult for busy individuals or large-scale operations to ensure consistent care.

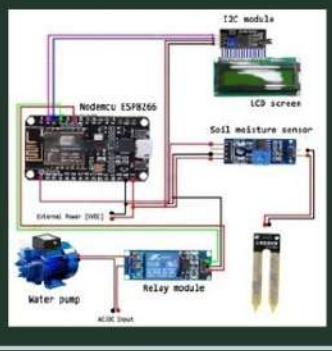
PROJECT DESCRIPTION

- Automatically Watering the plant whenever required.
- Monitor the soil moisture and ease the burden of getting water to plants when they need it.
- Do not need to worry about your plants whenever you go on vacation.
- Prevent wastage of water due to supply more than required.

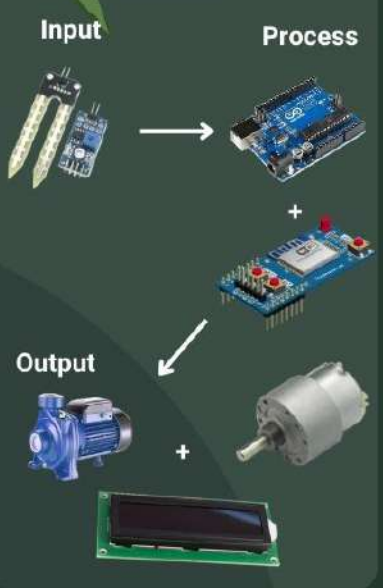
SOLUTION

- Our automated watering system uses soil moisture sensors and a Wi-Fi module to provide real-time monitoring and send notifications to a mobile device.
- This allows users to remotely manage watering schedules, ensuring plants receive the right amount of water for healthier growth and water conservation, while reducing manual intervention.

CIRCUIT



METHODOLGY



PRODUCT

CONCLUSION

- **Improved Plant Health:** Consistent and optimal watering led to healthier plant growth.
- **Water Conservation:** Achieved efficient water usage and minimized waste.
- **Labor Reduction:** Significantly reduced manual watering efforts.
- **User Satisfaction:** Users valued the convenience of remote monitoring and notifications.
- **Scalability:** Suitable for both small home gardens and large-scale operations.

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