

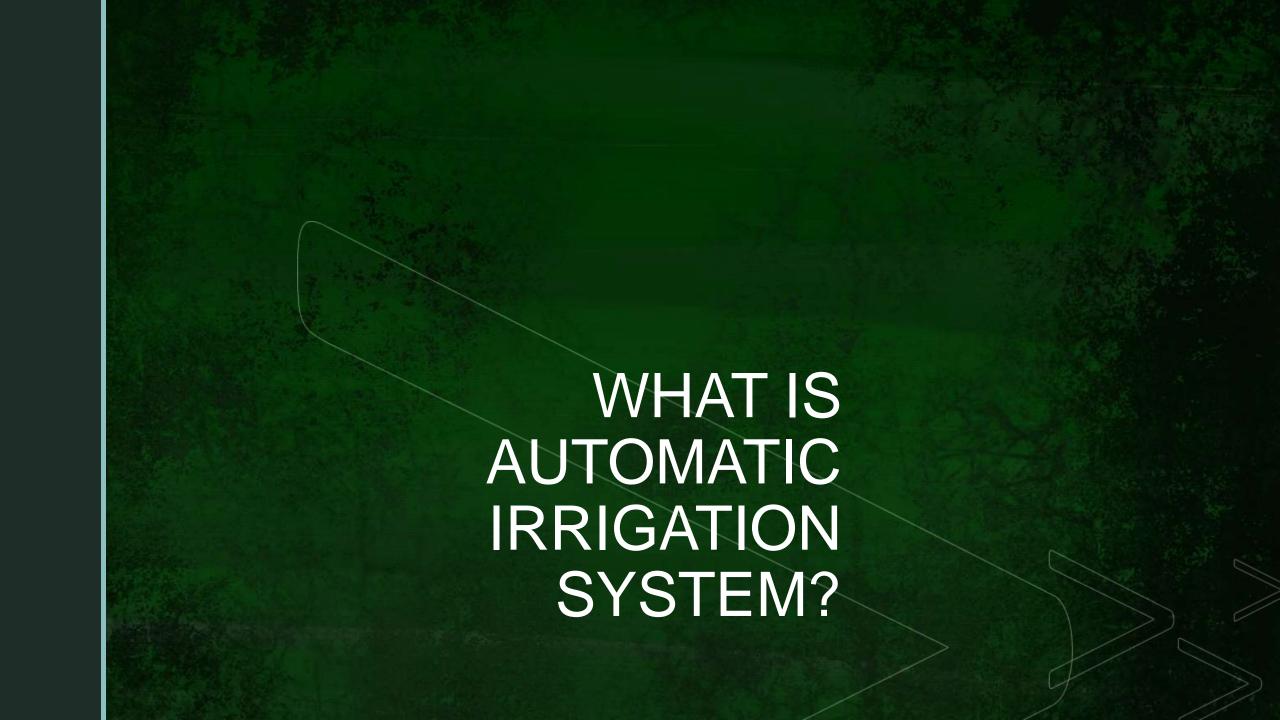
Presented By

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OBJECTIVES

- Moisture Level Monitoring
- Auto-Irrigation System
- Protect plant from instant damage
- Water Pump Status Check



SOCIAL VALUES



Water Efficiency



Cost Savings & Time Savings



Promotion of Green Spaces



Improved Plant Health



Food Security Enhancement



Economic Flourishing

Multidisciplinary approach

Electrical Engineering

Computer Science / Software Engineering

Mechanical Engineering

Environmental Science

Data Science

Human-Computer Interaction (HCI)

Agricultural Science

Wireless Communication

Multiple Stakeholders



Agricultural Community



Environmental Agencies



Educational Institutions



Startups and Entrepreneurs

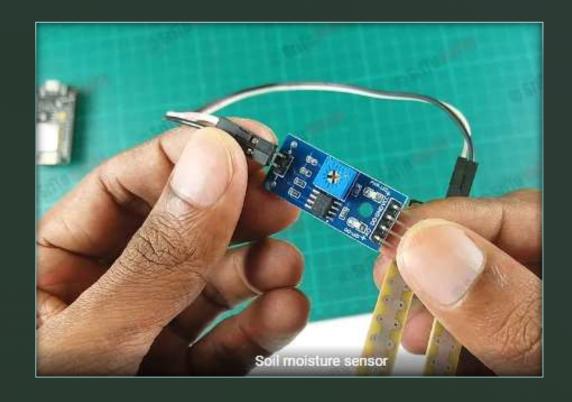
Safety

- Electrical Safety
- Water Safety
- Battery Safety
- Environmental Safety

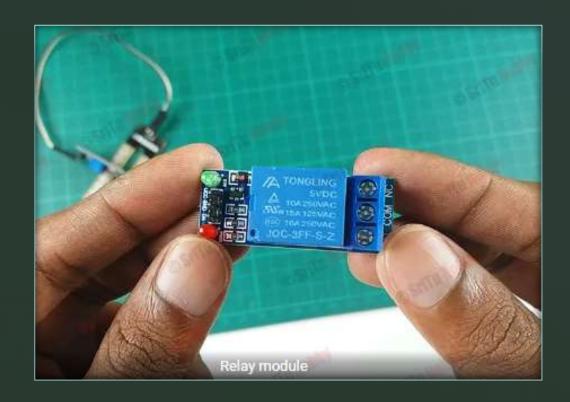
Nodemcu ESP8266 board



Soil moisture sensor



Relay module







Tp4056 double charging module

REQUIRED COMPONENTS

Glue Gun
REQUIRED COMPONENTS

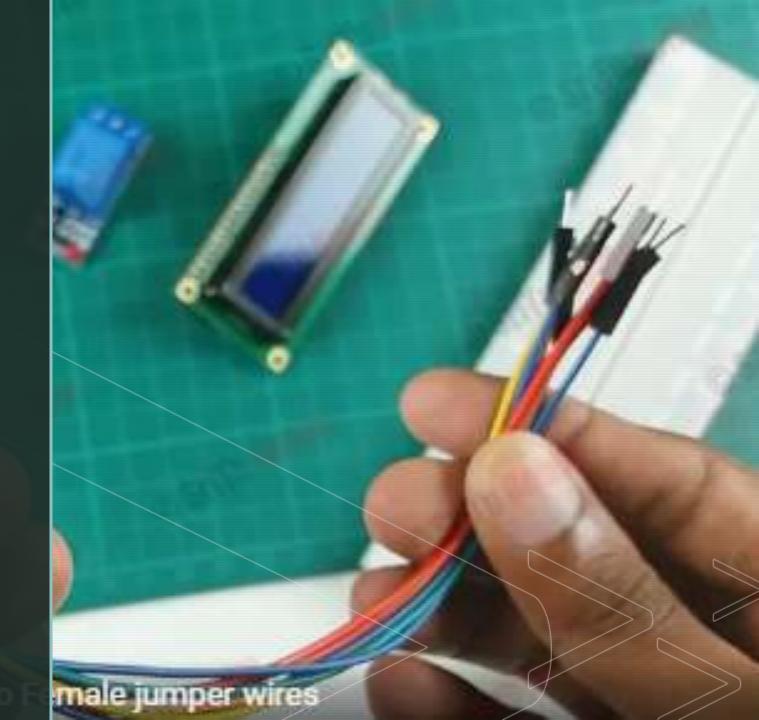


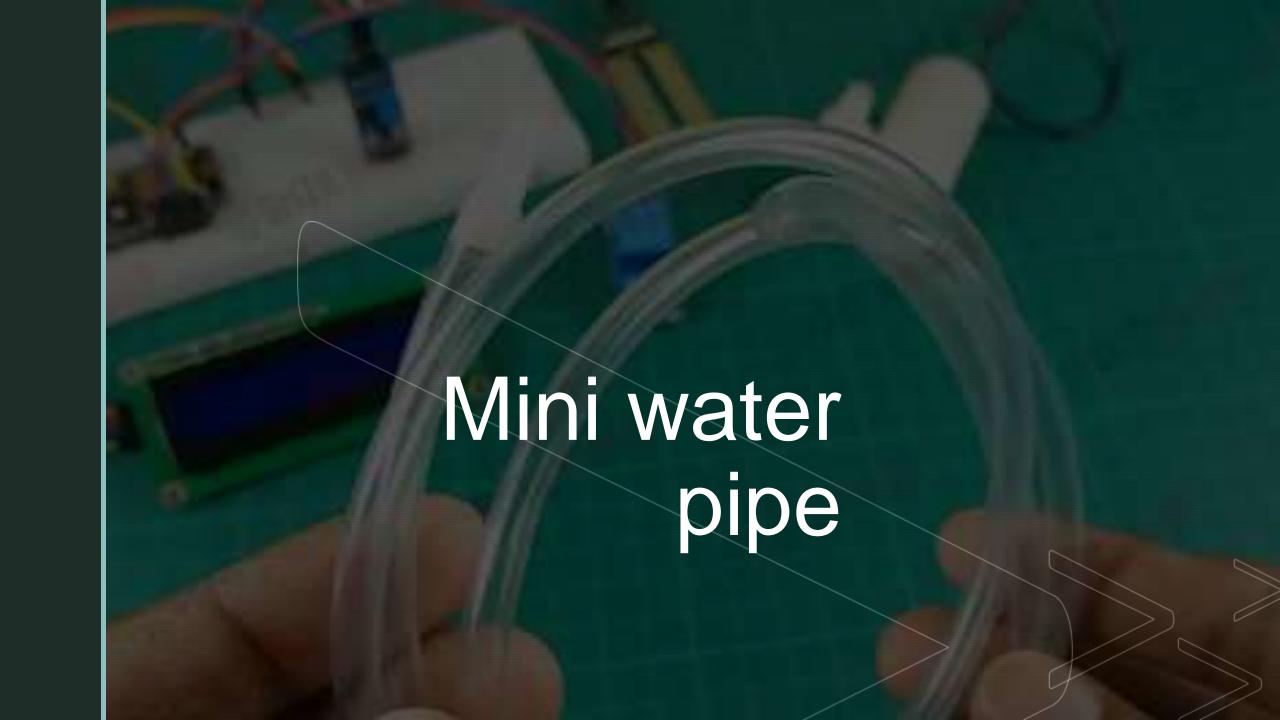


Mini water pump

Required Components

Wires





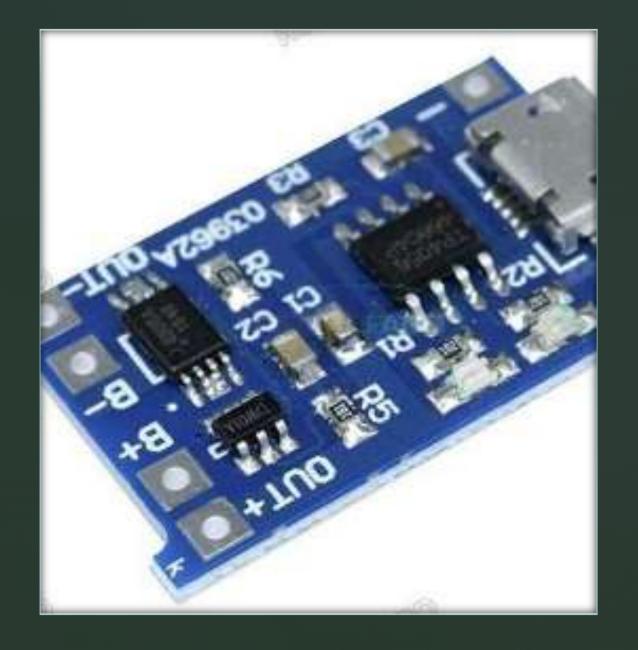
3.7 volt 18650 Rechargeable battery



Battery Holder



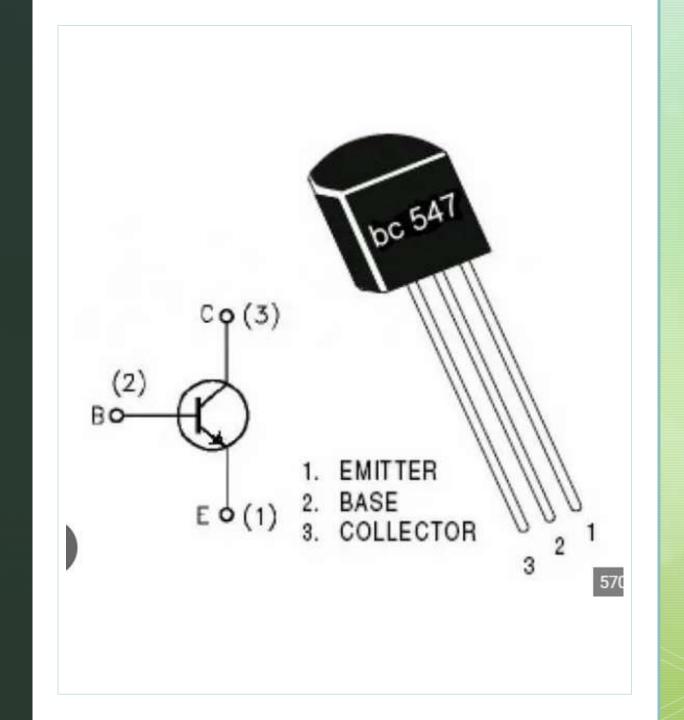
Tp4056 charging module



Power switch



BC547 Transistor



WORKING PROCEDURE



BY Nodemcu ESP8266 board Wi-Fi connectivity for data transmission.



The Soil Moisture Sensor measures soil moisture levels



the I2C module gathers realtime humidity data



When moisture level goes down using water pump auto irrigation start



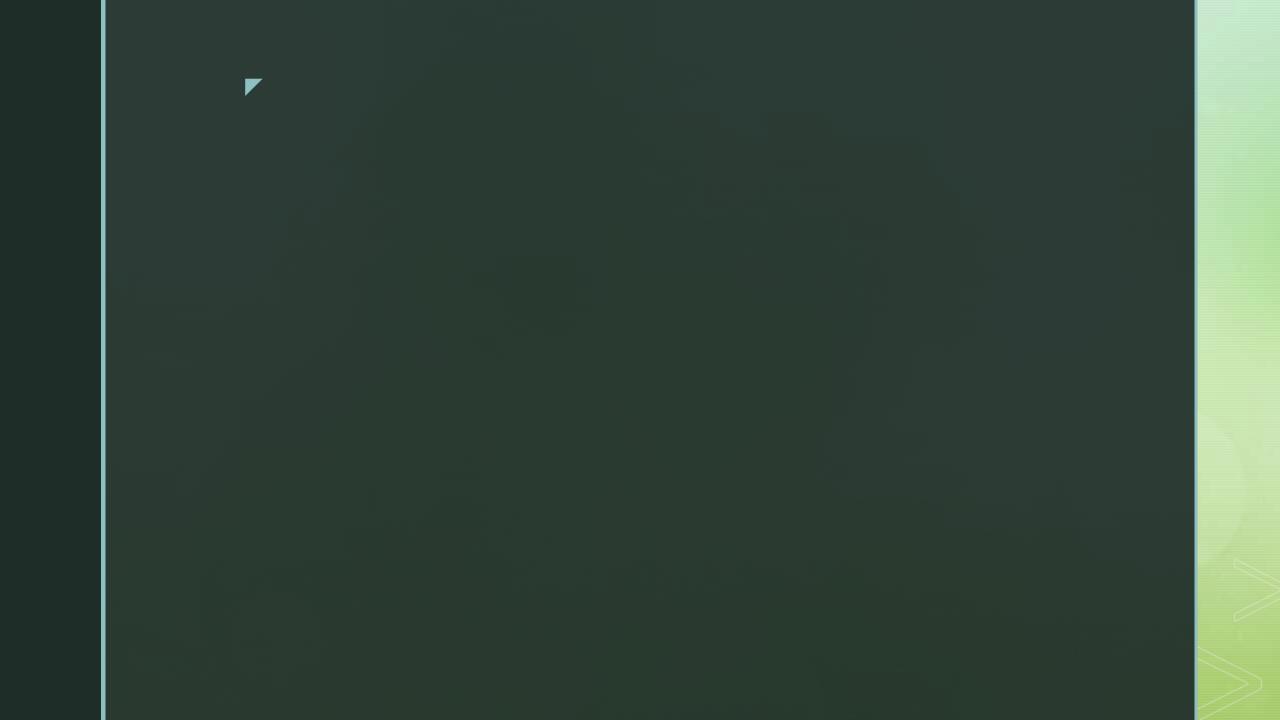
Power the system with a 3.7V Recharge able Battery, ensuring a sustainable and efficient energy source for continuous operation.



By using blinking ,we can control irrigation and see moisture level from our smartphone.

Estimated Budget

N0.	Component Name	Price
1	Nodemcu ESP8266 board	750
2	Soil moisture sensor	700
3	5 volt Single channel Relay module	150
4	16x2 display module	450
5	I2C module	370
6	Breadboard	100
7	Jumper wires	330
8	Mini water pump	200
9	1 meter transparent pipe	150
10	1 kΩ Resistance	20
11	3.7 volt 18650 Rechargeable battery	200
12	Tree	150
13	Tp4056 charging module	70
14	Battery Holder	60
15	Power switch	10
16	PV board	100
17	Glue gun	350
	Total	4160



Final Budget

N0.	Component Name	Price
1	Nodemcu ESP8266 board	750
2	Soil moisture sensor	700
3	5 volt Single channel Relay module	150
4	BC547 Transistor	5
5	Dot board	150
6	Tp4056 double charging module	110
7	Jumper wires	330
8	Mini water pump	200
9	1 meter transparent pipe	150
10	10 kΩ Resistance	20
11	3.7 volt 18650 Rechargeable battery	200
12	Tree	150
13	Tp4056 charging module	70
14	Battery Holder	60
15	Power switch	10
16	Female Header	30
17	Glue gun	350
	Total	3175

Conclusion

In our IoT-based Automatic Irrigation System, we have innovatively leveraged smartphone technology to provide users with a seamless and interactive solution for managing plant irrigation. The system offers real-time monitoring and control of soil moisture levels directly through the smartphone interface, eliminating the need for additional hardware like LEDs. Users can effortlessly assess and adjust irrigation settings using the intuitive mobile application, ensuring precision and efficiency in water resource utilization. This project aligns with the principles of user-centric design, offering a streamlined and accessible solution for smart and automated irrigation practices.

Thank You