**Automation Irrigation System**

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**In** this project,with the help of arduino we have created an automatic plant watering system,which will waters plant without any human interference.

# Introduction

In an day-to-day life situation we often forgot to water our plant or when we are on vacation.we can’t take care of it that leads to rupture and dryness in plant.So, by help of automation irrigation system this problem can be solved.It uses soil moisture sensor to sense the moisture in soil,Arduino to control sensors and gsm module.GSM module will send SMS to user number for update of his plant.

# WORKING

If moisture is present in soil then there is conduction between the two probes of Soil Moisture sensor and due to this conduction, transistor Q2 remains in triggered/on state and Arduino Pin D7 remains Low. When Arduino reads LOW signal at D7, then it sends SMS to user about “Soil Moisture is Normal. Motor turned OFF” and water pump remains in Off state.

Now if there is no Moisture in soil then Transistor Q2 becomes Off and Pin D7 becomes High. Then Arduino reads the Pin D7 and turns On the water motor and also sends message to user about “Low Soil Moisture detected. Motor turned ON”. Motor will automatically turn off when there is sufficient moisture in the soil.

# Materials

1. Arduino uno
2. TTL SIM 800 GSM Module
3. 16\*2 LCD
4. Relay 12V
5. Water cooler pump
6. Soil Moisture Sensor
7. PCB board
8. Soldering Kit
9. Variable Resistors(1K,10K,100K)
10. IC LM317,Transistor BC547(2)
11. Terminal connector,Connecting Wires

**Connections:**

Different sensors and module are connected with Arduino

Digital pin 0-rx of sensor

Digital pin 1-tx of sensor

Digital Pin 2-d5 of lcd

Digital Pin 3-d4 of lcd

Digital Pin 4-d3 of lcd

Digital Pin 5-d2 of lcd

Digital Pin 9-R/w of lcd

Digital Pin 10-RS of lcd

VCC-+5V

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**Conclusi**

**Objective:**

(1.)For commercial purpose,it can be produced on a large scale for installation in crop fields.

(2.)People do not pour the water on to the plants in their gardens when they go to vacation or often forgot to water plants.As a result,there is a chance to get the plants damaged.This project will help in this situations

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# Result

# Forthcoming Research

Further, we can apply this to commercial level and specify the amount of water to specfic plant.



**Treatments Response 1 Response 2**

**DRY 600 1000**

**HUMID 370 600**

**WATER 0 370**

# References

1. <https://circuitdigest.com/microcontroller-projects/arduino-automatic-plant-watering-system>

[2.]Electronics for you magazine.

# Acknowledgements

We thank our Director Sir for giving us a right platform to explore the beauty of technology for humankind.