

**PAPER TITLE :-DATE:-**

## **IoT based Automatic Watering System for Indoor Plants**

Date - 2019

**JOURNAL/CONFERENCE:-** JOURNAL OF INNOVATION IN ELECTRONICS AND COMMUNICATION ENGINEERING

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### **PROBLEM MENTIONED/SOLUTION OBTAINED:-**

During day to day activities many people often forget to water their plants and thus it becomes challenging for them to keep their plants healthy and alive. We also believe that technology can help people in cultivating plants, not just by automation but also through digital communications

#### **Solution**

This system uses sensor technology along with microcontroller and other electronics in order to behave like smart switching system which senses soil moisture level and irrigates the plant if necessary. The aim of this work is show how someone can easily make own and cheap automatic plant watering system in just few hours by connecting certain electronic components and other materials required.

### **ALGORITHM USED:-**

#### **A] SOIL MOISTURE SENSOR**

This is a simple water sensor can be used to detect soil moisture when the soil moisture deflect module output a high level and vice versa output low. Using this sensor we produced an automatic plant watering device so that the plants in your garden without people to manage.

#### **B] LIQUID CRYSTAL DISPLAY**

LCD (Liquid Crystal Display) screen is an electronic display module and find a wide range of applications. A 16x2 LCD display is very basic module and is very commonly used in various devices and circuits. These modules are preferred over seven segments and other multi segment LEDs.

### **TOOLS USED/IMPLEMENTED:-**

1. Arduino Uno
2. Soil Moisture Sensor
3. Power Supply
4. Liquid Crystal Display
5. Water Pump
6. Temperature Sensor
7. Arduino IDE Tool.

## **RESULTS AND DISCUSSION:-**

### 1] Sensor Components:

- The soil moisture sensor comprises two probes.
- These probes are used to measure the volumetric content of water in soil.

### 2] Principle of Operation:

- The sensor works by passing a current through the soil.

### 3] Resistance Measurement:

- It measures the resistance of the soil.
- Wet soil conducts electricity well, resulting in lower resistance.
- Dry soil conducts electricity poorly, leading to higher resistance.

### 4] Moisture Levels:

- Higher moisture levels are indicated by lower resistance.
- Lower moisture levels are indicated by higher resistance.

### 5] Relation to Water Content:

- More water in the soil results in better electrical conductivity and lower resistance.
- Less water in the soil results in poor electrical conductivity and higher resistance.

## **KNOWLEDGE AQUIRED:-**

- What is sensor technology.
- How to connected sensor using different modes.
- How electronics technology helps in elimination of man power.

## **IMPORTANT REFERENCE:-**

1. K.Prathyusha, M. Chaitanya Suman, "Design of Embedded System for the Automation of Drip Irrigation". IJAIEEM (2319-4847), vol 1, Issue 2, October 2012.
2. Akyildig, I.F., 2005. A Survey on Sensor Networks [J].IEEE Communications Magazine, 2002(8):725- 734.