**Automatic irrigation system on sensing soil**

**Moisture and Humidity content**

This project on "Automatic Irrigation System on Sensing Soil Moisture Content" is intended to create an automated irrigation mechanism which turns the pumping motor ON and OFF on detecting the dampness content of the earth. In the domain of farming, utilization of appropriate means of irrigation is significant. The benefit of employing these techniques is to decrease human interference and still make certain appropriate irrigation. This automated irrigation project brings into play an Arduino board ATmega328 micro-controller ,is programmed to collect the input signal of changeable dampness circumstances of the earth via dampness detecting system.

Watering is the most important cultural practice and most labor intensive task in daily greenhouse operation. Watering systems ease the burden of getting water to plants when they need it. Knowing when and how much to water is two important aspects of watering process. To make the gardener works easily, the automatic plant watering system is created. There have a various type using automatic watering system that are by using sprinkler system, tube, nozzles and other. This project uses watering sprinkler system because it can water the plants located in the pots.

This project uses Arduino board, which consists of ATmega328 Microcontroller. It is programmed in such a way that it will sense the moisture level of the plants and supply the water if required. This type of system is often used for general plant care, as part of caring for small and large gardens. Normally, the plants need to be watered twice daily, morning and evening. So, the microcontroller has to be coded to water the plants in the greenhouse about two times per day. People enjoy plants, their benefits and the feeling related to nurturing them. However for most people it becomes challenging to keep them healthy and alive.

There are three functional components in this project. They are the moisture sensors, Humidity and the motor/water pump. Thus the Arduino Board is programmed using the Arduino IDE software. The function of the moisture and humidity sensor is to sense the level of moisture in the soil and humidity in atmosphere. The motor/water pump supplies water to the plants.

Hardware used:

1. Arduino board :UNO
2. Soil sensor.
3. Humidity sensor: DHT11 Humidity & Temperature Sensor.
4. LCD display: to display sensor values .

Software used

1. Arduino IDE.

The block diagram of the project is as shown below

