



Jain College Of Engineering And Technology, Hubballi
Hubballi Sainagar : Unkal Hubballi -580031

Organization Name: Ministry Of Jal Shakti

PS Code : SIH1293

Problem Statement Title: Automatic regulation of valves for release of water based upon soil moisture availability in the root zone of the crop, using artificial intelligence, in a piped and micro irrigation network of irrigation system.

Team name : Smart Crop

Team leader name: Gourav S Popale

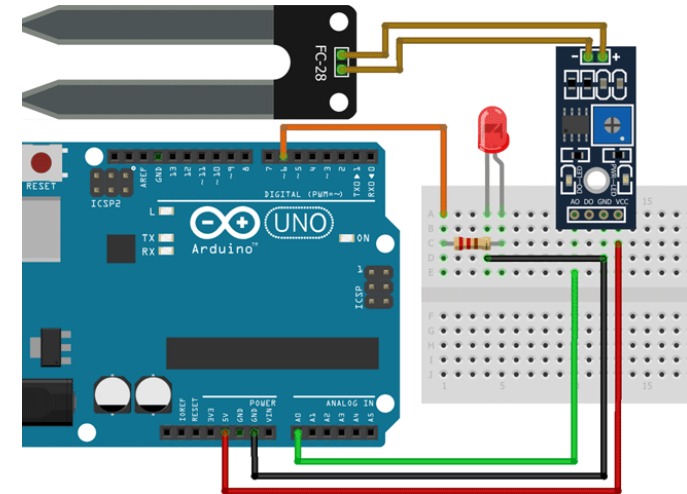
Institute Code (AISHE): C-58013



Our Idea,

Describe your idea/Solution:

We are creating a device which Contains soil moisture sensor probe And Electronic module, The module processes the incoming data from the probe and that gets processed by a microcontroller like a Arduino and we get the final output. And based on information it will supply automatically right amount of water to plants



simulated image of prototype

Work process: By using this prototype we identify soil moisture if it is wet then it glows a light in high intensity and then we provide water by opening Solenoid valves which is automatically done by supply of power

Describe your Technology stack here:

- Hardware
- IoT Device Management

Working process of project,

Describe your Use Cases here

1. Automated Irrigation:

- Implement an automated irrigation system that triggers watering only when soil moisture falls below a certain threshold.

2. Real-time Data Collection:

- Utilize wireless communication protocols (e.g., LoRa, Wi-Fi, or cellular) to transmit data to a central control unit or cloud platform.

3. Purpose of idea:

- The purpose of this idea is to simplify plant care by using technology to monitor soil moisture and automatically provide water when needed.

Describe your Dependencies / Show stopper here

Soil Moisture Sensors

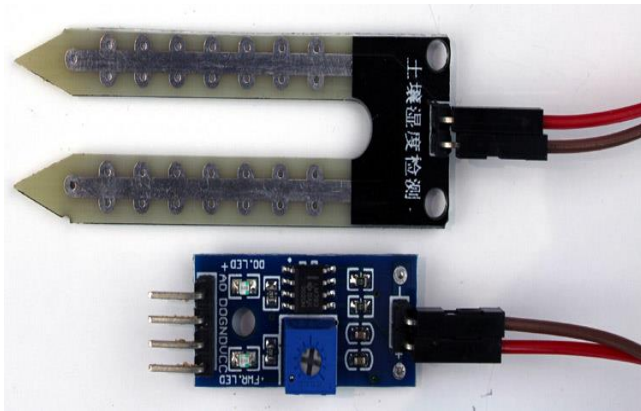
Microcontrollers

Power Supply

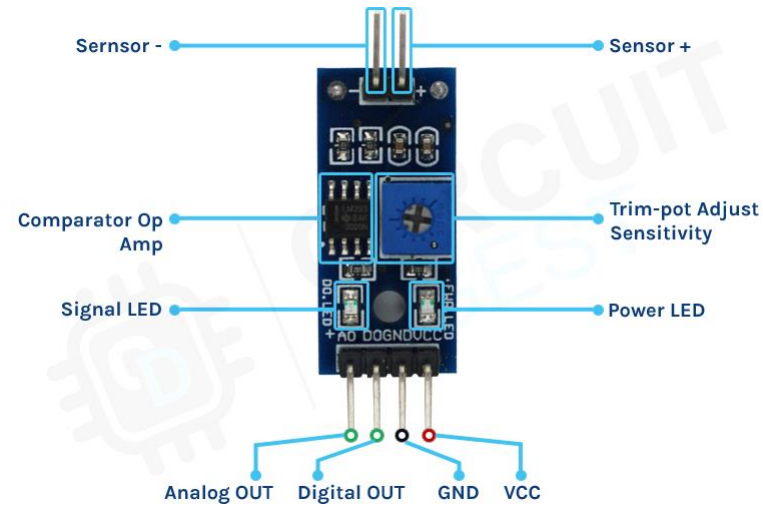
Microcontroller



Components Used For our Project



soil moisture sensor probe



Electronic module probe



Solenoid valve

Team Member Details

Team Leader Name: Gourav s popale

Branch (Btech):

Stream (CSE):

Year (I):

Team Member 1 Name: Shweta N Pille

Branch (Btech):

Stream (CSE):

Year (I):

Team Member 2 Name: jyoti Binu

Branch (Btech):

Stream (CSE):

Year (I):

Team Member 3 Name: Mohammad Saad Hussain

Branch (Btech):

Stream (CSE):

Year (I):

Team Member 4 Name: Rohan m Kolhapur

Branch (Btech):

Stream (CSE):

Year (I):

Team Member 5 Name: Niranjana

Branch (Btech):

Stream (CSE):

Year (I):

Team Mentor 1 Name: Type Your Name Here

Category (Academic/Industry):

Expertise (AI/ML/Blockchain etc):

Domain Experience (in years):

Team Mentor 2 Name: Type Your Name Here

Category (Academic/Industry):

Expertise (AI/ML/Blockchain etc):

Domain Experience (in years):