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**Introduction**

Summary:

Automatic Irrigation system using Soil moisture sensor according to expected water level.

Background:

Irrigation is the artificial application of water to the land or soil.

It is used to assist in the growing of agricultural crops, maintenance of landscapes and re-vegetation of distributed soils in dry areas and during periods of inadequate rainfall.

Over irrigation because of poor distribution uniformly or management of waste water , chemicals may lead to water pollution.

There is a existing solution due to which it automatically on and off system.

But, in our solution we check the utility of water to individual crop and set a proper level to check the moisture level and then pump water accordingly to the crop.

Definitions, Acronyms, Abbrevations:

Technology of embedded system is designed to run its own without any human intervention.

**Design Overview**:

Useful irrigation in Fields ,gardens, parks. Its effective in Pisciculture also.

Documentation:

We

Minimum viable Product:

Our project includes AT89S52 microcontroller is used for reading the values from the moisture sensor and controlling the relay to the motor.

A submersible pump is also being to pump the water and software requirements like Embedded C, ALP programming languages are used.

Stretch goals:

The main aim of the project is to help farmers to get high yield by conserving water and use modern technology in farming.

Here is an idea that helps not only farmers even for watering the gardens also, which senses moisture and switches the pump automatically when power is ON.

Future work:

Its makes easy to farmers that this project is dependent on the output of humidity sensors. Whenever there is a need for excess water in the desired fields, then it will not be possible by sensor technology.

**Architectural Diagram:**

Application program interface:

Recommendations:

User interface:

User can use the equipment required

Data models and storage:

Using the microcontroller flash software we are dumping our HEX code into microcontroller.

Service Operability:

This project helps the farmers in a very better way to automatically on and off system with moisture sensing device.

Key Performance indicators:

Service level objectives:

The project can be used mainly by the farmers and gardeners which help them in watering and automatic ON and OFF system.

Project overview

Risks:

To have limited life after installation due to the detoriation of the plastic component in a hot , arid climate when exposed to ultraviolet light.

Costs

The product is economically feasible