

IOT Based Smart Irrigation System

Problem Summary

Nowadays many people want to do things by their own efforts, farming and growing things is one of them.

01

But due to the busy lifestyle one is not able to do such things. Farming requires full focus and time to time maintenance.

02

Due to the mixing of harmful chemicals in the crops and foods which harm our health, people just lose their trust in them.

03

Problem Solution

01

Solution by "IOT BASED SMART IRRIGATION SYSTEM", which uses multiple sensors to focus on the field & take some small decisions by their own.

02

Sensors will continually monitor the field & send each data to the user through the WiFi to the phone help the user to take care of the field without going to the field.

03

Electric fencing which protects our farm from harmful animals, it will only generate a small voltage which will not be deadly for animals.

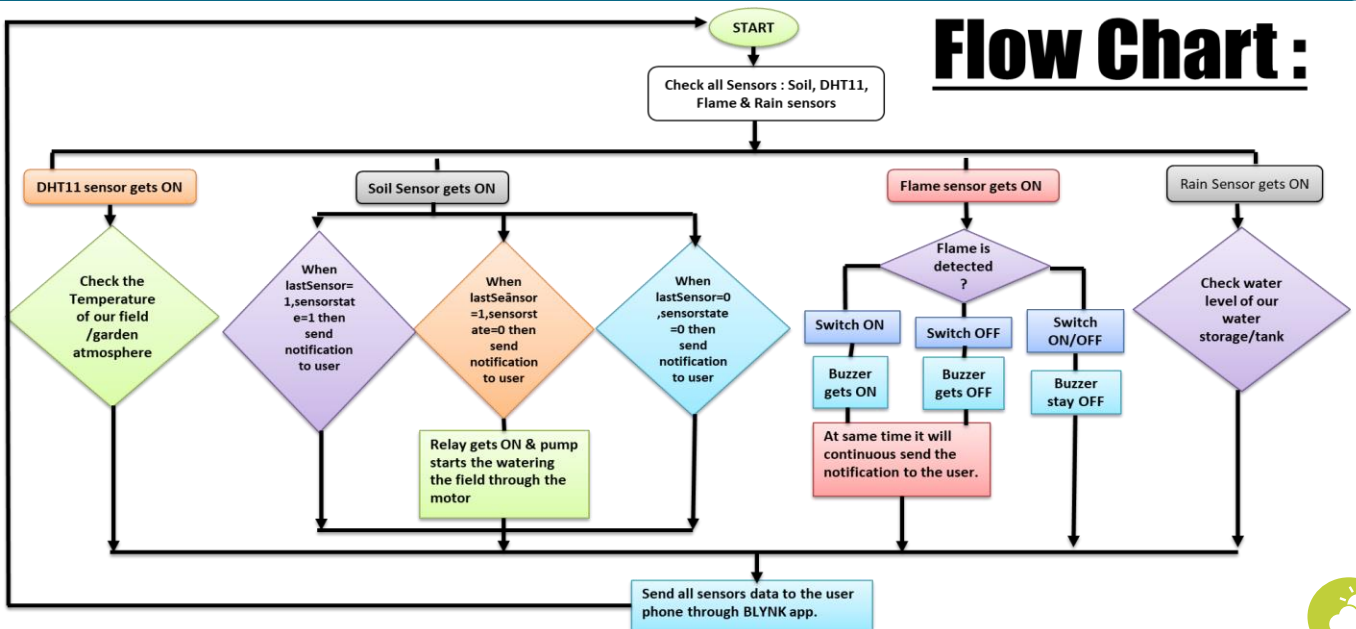
Advantages

- Water conservation : soil moisture sensor allows for water use only when & where needed.
- Real time data give : users can visualize water levels and soil moisture in real time & remotely to acceleration decision making process.
- Low operation costs : automating processes in irrigation can reduce resource consumption, human error & overall cost.
- Efficient & Time saving : the machine-to-machine interaction provides better efficiency, hence; accurate result can be obtained fast. This results in saving valuable time. Instead of repeating the same tasks everyday, it enables people to do other creative jobs.
- Increase in productivity.

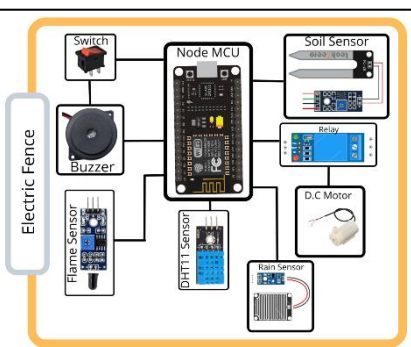
Disadvantages

- Small field data.
- There remains the chance of data loss when power cut or NODE MCU stop working.
- The sensors are very sensitive in use, so use more carefully.
- Damage of any sensor leads to the data error & wrong decisions of other things (pump, buzzer).

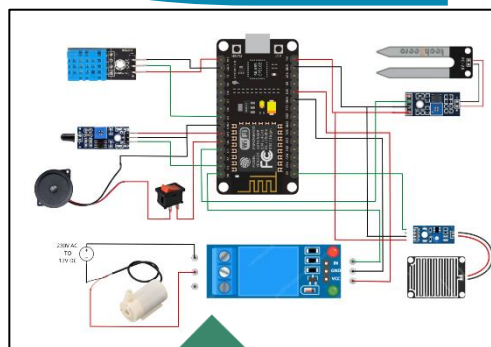
Flow Chart :



Block Diagram



Circuit Diagram



Prototype Model



Future Scope

It can be used for wide field like farms & large gardens. Other sensors like Wind, Pressure, Smoke & PH sensors etc can be used for different purpose.

We can get data from miles away through cloud (internet).

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