Smart Farming Technology System

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ABSTRACT

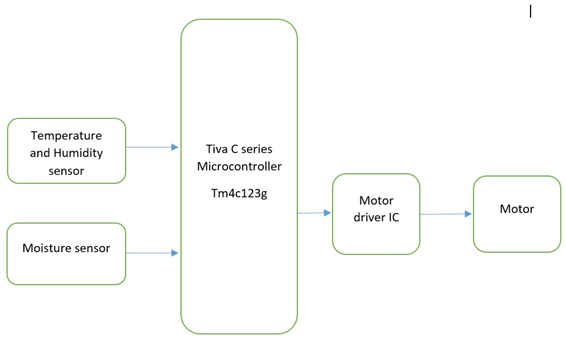
Smart Farming Technology System is a project which helps the farmers or users to obtain better quality crops by avoiding loss of nutrients. Basically, this project contains three types of sensors namely: Temperature, Humidity and Moisture. These sensors when placed in the soil takes the readings of the soil and let the users know about the soil condition. We also introduced automation into this project. Whenever moisture content decreases below its threshold value a motor is automatically turned on and water is supplied to plants. This project is advantageous in many ways like reduced labor cost, increased crop quality and production..

OBJECTIVES

- To reduce labor cost .
- To improve crop quality and productivity by maintaining required levels of water.

METHOD

- **Flow chart for Smart Farming:**



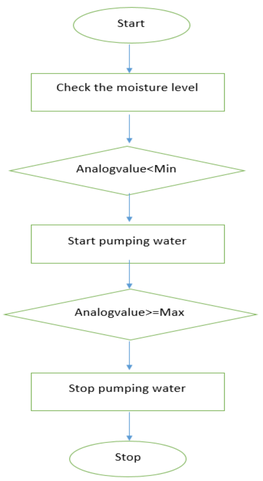
METHOD

- **Working:**
- **Data collection and storage:** We used Tiva C series microcontroller.All the sensors are connected to a grove which is attached to the microcontroller. This grove converts all the sensor analog values to digital data. This data is displayed on a software , tera term.

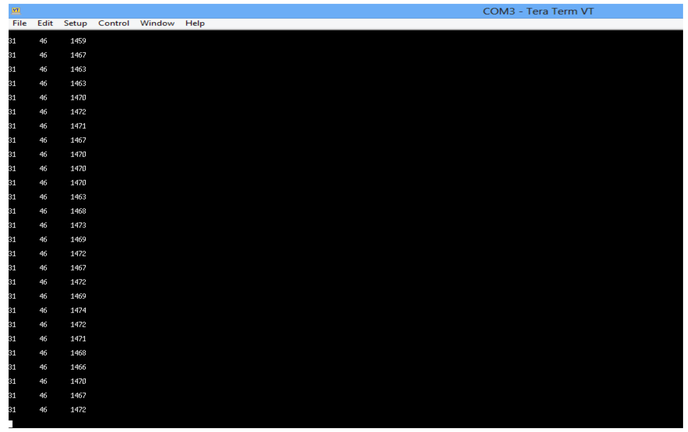
- **Display in the form of graph:** The stored data is sent to weka tool which produces graphs for respective sensor data.

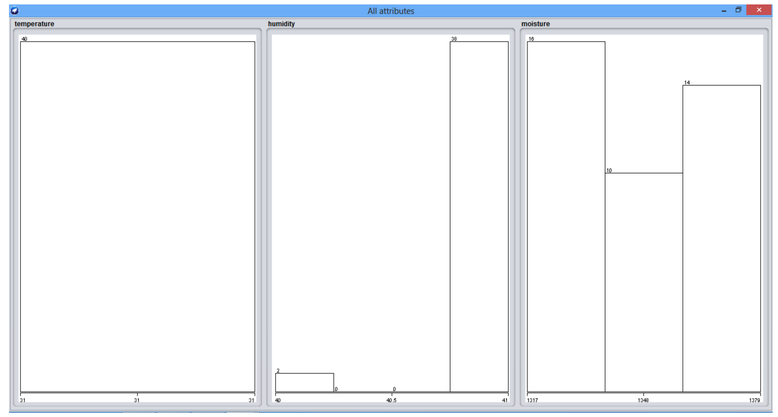
- **Working of motor pump:** When we place the moisture sensor in the soil , if the soil moisture content is less than the threshold value then the pump should on automatically and should off when the moisture content is greater than threshold value. We used a motor connected to grove through motor driver which helps in supplying the required amount of voltage for the motor to run.

Flow chart for working of pump:



RESULTS





CONCLUSIONS

- This project is thus used to water the crop or plant automatically without the intervention of the user.
- In addition to smart farming system, this project can be applied in Weather monitoring system.