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Previewing Submission

This is how your project will appear in public and to the judges

Smart Farming on IoT

Smart farming on IoT with visualization of data & an online dashboard in linear graphic form. Monitoring much data from Soil Moisture to activating motor, all connected in a unique Master-Slave concept



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The problem Smart Farming on IoT solves

Variety of plants - A variety of plants exist which all need care in a different way.

Future Prediction - when watering is needed to improve growth factor

Cheap - Unlike presently available models, this concept is cheaper. This is mainly because of the use of a master-slave concept.

The microcontrollers present at every field communicate with the master in a Software Serial manner with the help of LORA.

This helps us to save the cost of the product by minimizing the WiFi points of upload. The master is the only one who is uploading. This has a lot of advantages.

The unique point name given to the microcontrollers help us determine any problem/failure accurately.

The intuitive website created specially for the Farming Solution portrays all the major plottings of the graph LIVE. The data updates and refreshes LIVE. The graphs display the stats using which we can understand as to when the watering must be done. This can be predicted using the existing data.

The website is also capable of displaying values of various farms. The sensors present in those particular farms can be controlled respectively from the settings menu.

Challenges we ran into

Master-Slave connection -

Connecting the Microcontrollers slave to the Master was a really difficult task. This was because the data had to be received from 'n' number of sensors without affecting the speed/efficiency and the values must be received at the same time. As such, the values were being sent in a JSON format which initially ended up breaking/having unnecessary data in them due to Noise/Transmission Loss.

We overcame this with a lot of Trial and error methods by timing the Slave microcontroller with the Node at a particular interval.

The internet was also a bit unstable, which was a challenge, since our project was IoT based.

The fetching of data realtime from the database and plotting of visualization of the same.

