PROBLEM STATEMENT

Farming is one of the works which is expected to be done under personal observation and it also requires a lot of persistence, attention and maintenance. Watering the crop is the most important step in farming. For every crop, there is different need of water supply which also depends upon the type of soil the field has. Lack of this knowledge results into either dryness or water logging. Both the conditions result into the failure of the crop.

JOBS TO BE DONE

Personal Dimension

Being closely related to farming, and understanding the pain faced by the farmers it has been an idea lingering in our minds, to be helpful in the problems faced by them.
The solution to be provided should lead to less wastage of water, as in today's world water is a scarce resource.

Social Dimension

As the solution to be provided will lead to increase in the profits of farmers enhancing their life-style, it will also lead to a better economy of the whole country (Agriculture holds around 18% of country's GDP)
Farmers too need a break from daily activities but as watering of crops is important missing the right time for watering leads to great loss to the farmer.

PROBLEM SOLUTION

IOT BASED SMART IRRIGATION SYSTEM
Uses sensors to take decisions on it's own. The data from the sensors in soil taken as a sample is sent to phone wirelessly (WIFI for now) and is also processed to configure the water pump to switch on and switch off on its own.

Group Members

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EXISTING GAP

In the existing circumstances the farmers hire people for watering crops, as they would have to be at another place due to some reason. Some farmers use machinery for watering of crops which would water the entire fields, but this doesn't take into consideration the water level of the land and hence it too sometimes damages the crops.

PROTOTYPE

1). "IOT BASED SMART IRRIGATION SYSTEM", uses the multiple sensors to monitor & take some small decisions on its own.

2). Sensors will continuously monitor the soil & send the data to the user through WIFI in phone help the user to take care of the field without going to the field.

3). Electric fensing will protect the farm from the animals. The voltage in fensing will not be so high that will harm the animals.

OUR JOURNEY

Our main motive in selecting the problem of the automatic irrigation system was to eliminate the loopholes with the current crop irrigation methodologies that the farmers are used to. The farmers use different methods for watering. Therefore we chose the problem of automating the crop watering process. According to our solution for the automated crop watering system, we short listed some functionalities. The functionalities that we brain stromed upon included automating the process of watering of crops, preventing wastage of water. We faced some issues in implementing the ideas we brainstormed, but in the end, with some resources, we were able to achieve what we had idealized. The solution/product looks as shown in the pic attached below.