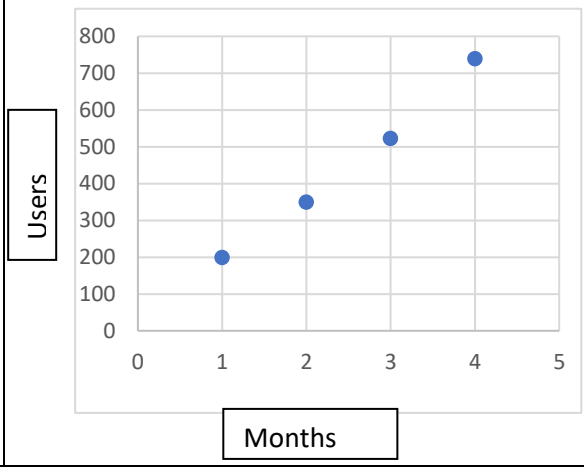
Project Design Phase-I
Proposed Solution

Date	22 September 2022
Team ID	PNT2022TMID30034
Project Name	Smart farmer-IOT Enabled Smart farming Application
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The main problems include • Climate change affects farmer's ability to grow food which is vital. • Adding to that volatile weather and extreme events like sudden floods and droughts can lead to the change in growing seasons, limit the availability of water, leading to weeds, pests, and fungi to thrive, and can reduce crop productivity. • Irrigation plays a major role in agriculture for a tropical monsoon country like India where rainfall is uncertain, unreliable, and erratic. • Watering the crop is one of the important tasks for the farmers. • Crop rotation is also a main problem for farmers. It should be properly planned for yielding better outcome. Example, if cereals are grown on a plot of land their fertility is reduced to some extent.
2.	Idea / Solution description	• Using Local weather API, we can monitor the weather conditions. • The flow of water level is maintained by relay switch by making it on /off. Soil moisture sensors are fixed under the ground in field. Initially the water level reading is taken and further processing is done. The temperature sensor (DTH11) is fixed at the centre of the field (by calculating the area) to get the overall reading of temperature of the soil. These sensors are connected to Arduino where all the readings are collected. All sensors will send data to

		Arduino and data will be forwarded to WSN systems. • The threshold value will be set according to the crop. The threshold value will be marked based on the requirement of the crop specified and it will be predefined for every sensor. Whenever any sensor reaches a threshold value, message alert is sent to the user and action is taken according to it.
3.	Novelty / Uniqueness	• LoRa devices and Lora WAN, which enables the use of low-cost wireless quantities and low-cost sensors to send data from the farm to the cloud.
4.	Social Impact / Customer Satisfaction	• Doubles the farmer income • Higher Production and good yield • Reduces the wages for labours who works in agricultural field. • Healthy Crops
5.	Business Model (Revenue Model)	Revenue (no. of user vs months) 
6.	Scalability of the Solution	Business to business and business to customer can be implemented and it can be used for enhancing the profit in large scale.