Ideation Phase
Brainstorm & Idea Prioritization
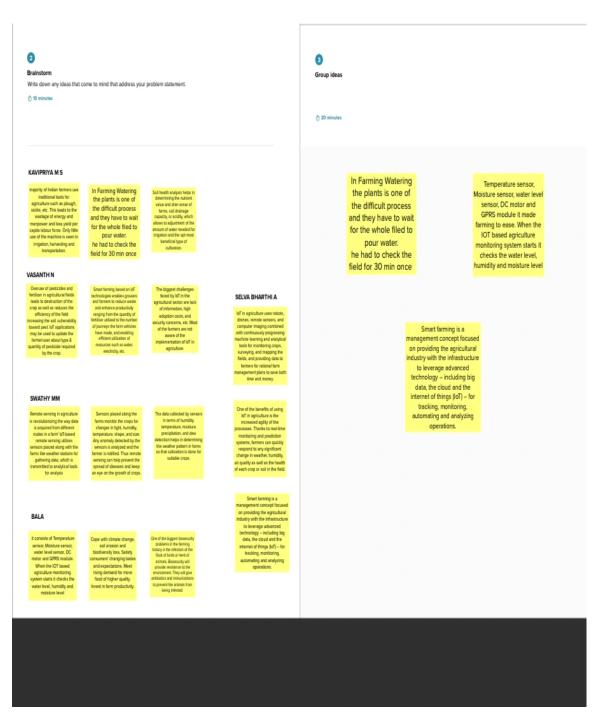# Template

Date	15 November 2022
Team ID	PNT2022TMID46489
Project Name	Project – Smart Farmer-IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization:

Step-1: Team Gathering, Collaboration and Select the Problem Statement

**Brainstorm
& idea prioritization**

For Smart Farming - IoT enabled
Smart Farming Application

- 🕐 **10 minutes** to prepare
- 🖥 **1 hour** to collaborate
- 👤 **2-8 people** recommended

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1

Problem Statement for Smart Farming

PROBLEM

Farmers are under pressure to
produce more food and use less
energy and water in the process.
A remote monitoring and control
system will help farmers deal
effectively with these pressures.

Step-2: Brainstorm, Idea Listing and Grouping

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

⏱ 10 minutes

3

Group ideas

⏱ 20 minutes

KAVIPRIYA M S

majority of Indian farmers use traditional tools for agriculture such as plough, sickle, etc. This leads to the wastage of energy and manpower and less yield per capita labour force. Only little use of the machine is seen in irrigation, harvesting and transportation.

In Farming Watering the plants is one of the difficult process and they have to wait for the whole filed to pour water.
he had to check the field for 30 min once

Soil health analysis helps in determining the nutrient value and drier areas of farms, soil drainage capacity, or acidity, which allows to adjustment of the amount of water needed for irrigation and the opt most beneficial type of cultivation.

VASANTH N

Overuse of pesticides and fertilizer in agricultural fields leads to destruction of the crop as well as reduces the efficiency of the field increasing the soil vulnerability toward pest. IoT applications may be used to update the farmer/user about type & quantity of pesticide required by the crop.

Smart farming based on IoT technologies enables growers and farmers to reduce waste and enhance productivity ranging from the quantity of fertilizer utilized to the number of journeys the farm vehicles have made, and enabling efficient utilization of resources such as water, electricity, etc.

The biggest challenges faced by IoT in the agricultural sector are lack of information, high adoption costs, and security concerns, etc. Most of the farmers are not aware of the implementation of IoT in agriculture.

SELVA BHARTHI A

IoT in agriculture uses robots, drones, remote sensors, and computer imaging combined with continuously progressing machine learning and analytical tools for monitoring crops, surveying, and mapping the fields, and providing data to farmers for rational farm management plans to save both time and money.

SWATHY MM

Remote sensing in agriculture is revolutionizing the way data is acquired from different nodes in a farm! IoT-based remote sensing utilizes sensors placed along with the farms like weather stations for gathering data, which is transmitted to analytical tools for analysis

Sensors placed along the farms monitor the crops for changes in light, humidity, temperature, shape, and size. Any anomaly detected by the sensors is analyzed and the farmer is notified. Thus remote sensing can help prevent the spread of diseases and keep an eye on the growth of crops.

The data collected by sensors in terms of humidity, temperature, moisture precipitation, and dew detection helps in determining the weather pattern in farms so that cultivation is done for suitable crops.

One of the benefits of using IoT in agriculture is the increased agility of the processes. Thanks to real-time monitoring and prediction systems, farmers can quickly respond to any significant change in weather, humidity, air quality as well as the health of each crop or soil in the field.

BALA

It consists of Temperature sensor, Moisture sensor, water level sensor, DC motor and GPRS module. When the IOT based agriculture monitoring system starts it checks the water level, humidity and moisture level

Cope with climate change, soil erosion and biodiversity loss. Satisfy consumers' changing tastes and expectations. Meet rising demand for more food of higher quality. Invest in farm productivity.

One of the biggest biosecurity problems in the farming history is the infection of the flock of birds or herd of animals. Biosecurity will provide resistance to the environment. They will give antibiotics and immunizations to prevent the animals from being infected.

Smart farming is a management concept focused on providing the agricultural industry with the infrastructure to leverage advanced technology – including big data, the cloud and the internet of things (IoT) – for tracking, monitoring, automating and analyzing operations.

Group ideas column (right):

In Farming Watering the plants is one of the difficult process and they have to wait for the whole filed to pour water.
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Temperature sensor, Moisture sensor, water level sensor, DC motor and GPRS module it made farming to ease. When the IOT based agriculture monitoring system starts it checks the water level, humidity and moisture level

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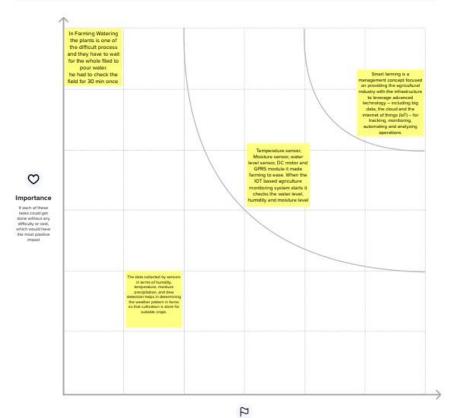**Step-3: Idea Prioritization**

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

⏱ 20 minutes

Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact

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⚑

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)