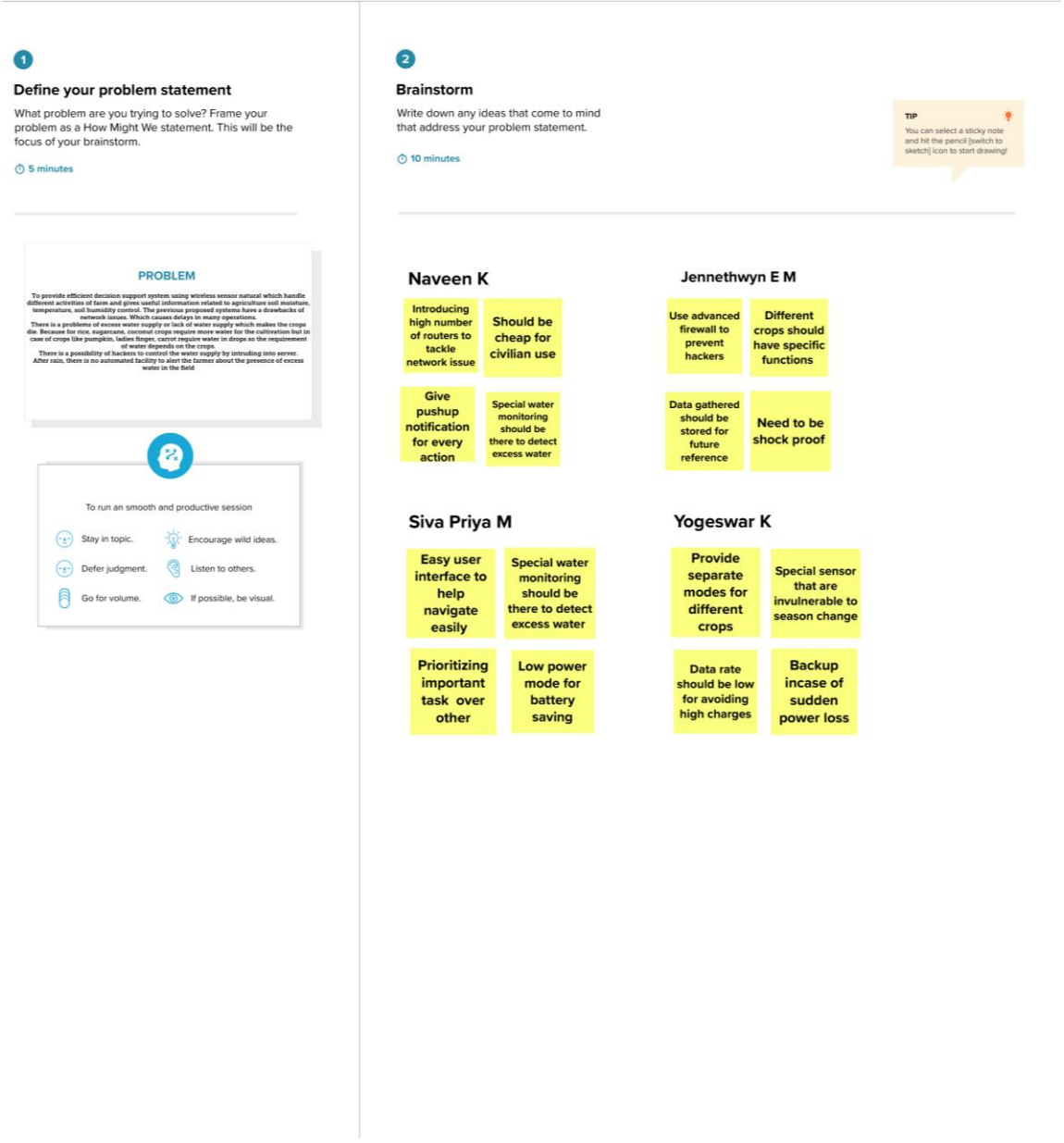
Ideation Phase
Brainstorm & Idea Prioritization

Date	19 September 2022
Team ID	PNT2022TMID52019
Project Name	Smart Farmer-IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

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



Step-2: Brainstorm, Idea Listing and Grouping

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

Sensors

CS655 sensor is used to monitor soil volumetric-water content, bulk electrical conductivity, and temperature

FC28 Soil Moisture Sensor is used for measuring the moisture in soil and similar materials

FSG15N1A is used to identify the force used by the roots of the plant for absorbing water

Vishay Photo IC Sensor used to analyze the health of a plant based on its leaf

Future scope

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

BI Intelligence survey expects that the adoption of IoT devices in the agriculture industry will reach 75 million in 2020, growing 20% annually. At the same time, the global smart agriculture market size is expected to triple by 2025, reaching $15.3 billion

Farmers have started to realize that the IoT is a driving force for increasing agricultural production in a cost-effective way.

As a result of the declining agricultural workforce, adoption of internet connectivity solutions in farming practices has been triggered, to reduce the need for manual labor.

IoT solutions are focused on helping farmers close the supply demand gap

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Purpose

IoT solutions in smart farming enable you to know the real-time weather conditions

It makes the farming practice more precise and controlled by realizing smart farming applications such as livestock monitoring, vehicle tracking, field observation, and inventory monitoring

With the help of the IoT devices, you can know the real-time status of the crops by capturing the data from sensors

Using predictive analytics, you can get an insight to make better decisions related to harvesting. The trend analysis helps the farmers to know upcoming weather conditions and harvesting of crops

Benefits

Weather predictions and soil moisture sensors allow for water use only when and where needed and it saves excess water

Farmers can visualize production levels, soil moisture, sunlight intensity and more in real time and remotely to accelerate decision making process.

Automating processes in planting, treatment and harvesting can reduce resource consumption, human error and overall cost.

Local and commercial farmers can monitor multiple fields in multiple locations around the globe from an internet connection. Decisions can be made in real-time and from anywhere.

Step-3: Idea Prioritization

Reference:

https://app.mural.co/t/amritacollegeofengineeringan4221/m/amritacollegeofengineeringan4221/1666168941422/9d8e58e2135de30ae12da40c11fec747f4b4e670?sender=u72ae2010b09cb4427d130332