

Ideation Phase

Brainstorm & Idea Prioritization Template

Date	19 September 2022
Team ID	PNT2022TMID52016
Project Name	IOT Based Smart Crop Protection System for Agriculture
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Reference: <https://www.mural.co/templates/empathy-map-canvas>

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

Brainstorm

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

🕒 10 minutes

Person 1

- using PIR sensor to detect motion
- Get weather reports to alert farmers
- Monitor the field 24/7 and give alerts to farmers
- Use automatic fence gates

Person 2

- Can control the field using application
- Develop website
- The farmer need not receive the spot to clear the complaints
- Protecting the farm from animals and birds we are going to first fit PIR sensors and ultra sonic sensors in the entire field

Person 3

- To read the information using arduino via the API key
- If there is a possibility of rain, the farmers will get an alert not to irrigate the farm on that particular day
- Get the current weather updates from the openweathermap.org
- This moisture level will be detected using the humidity sensor placed in the soil

Person 4

- The farmers will get an alert to drain off the excess water from the field
- The rain there is excess water in the field, then this moisture level will be detected using the humidity sensor placed in the soil
- Due to triggering of toy the animal or bird will move away from the crop.
- The major use of servomotor is to change position of an object

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 can break it up into smaller sub-groups.

🕒 20 minutes

We are going to monitor the current climate of area and notify the farmer based on that information. For this we are going to use an web application called “openweathermap.org”. From this application we are going to read the information using arduino via the API key. If there is a possibility of rain , the farmers will get an alert not to irrigate the farm on that particular day. If after the rain there is excess water in the field , then this moisture level will be detected using the humidity sensor placed in the soil .

For protecting the farm from animals and birds we are going to first fit PIR sensors and ultra sonic sensors in the entire field. PIR sensor will be used to detect the motion and ultra sonic sensor for measuring the distance of that animal from crop. The farmers will get an alert if the animal is within the range. As a means of protecting the farm from animals and birds the scarecrow toy attached to the servomotor will be triggered. The major use of servomotor is to change position of an object etc. Due to triggering of toy the animal or bird will move away from the crop

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

