


## Ideation Phase

### Brainstorm & Idea Prioritization

Date	19 September 2022
Team ID	Team-592127
Project Name	Tea leaf disease detection using Deep Learning
Maximum Marks	4 Marks

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



### Brainstorm & idea prioritization

Deep Learning Model For Detecting  
Diseases In Tea Leaves

🕒 10 minutes to prepare  
🕒 1 hour to collaborate  
👤 2-8 people recommended

Done By:  
Medi Pavan Teja  
R LokeshKanna

➔

#### Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes

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**A Team gathering**  
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

**B Set the goal**  
Think about the problem you'll be focusing on solving in the brainstorming session.

**C Learn how to use the facilitation tools**  
Use the Facilitation Superpowers to run a happy and productive session.

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#### Define your problem statement


What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

🕒 5 minutes

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PROBLEM

**How can we detect the Tea leaf disease more accurately in early stage**



#### Key rules of brainstorming

To run an smooth and productive session

➕ Stay in topic.

➕ Defer judgment.

🗣️ Go for volume.

💡 Encourage wild ideas.

👂 Listen to others.

👁️ If possible, be visual.

### Step-2: Brainstorm, Idea Listing and Grouping

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## Brainstorm

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

⌚ 10 minutes

**TIP** You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

**Pavan Teja**

Collect a larger and more diverse image dataset and train a Deep learning model to detect the disease

Incorporate explainable AI techniques to provide clear explanations for why the model made a particular disease detection decision

Use drones to continuously capture the image of leaves of entire crop and pass to model in regular intervals

By continuously monitoring using CCTV

Use geospatial data to identify disease clusters in specific regions and understand the spatial patterns of disease outbreaks

Identify and study early warning indicators specific to various tea leaf diseases, such as changes in leaf texture, color, or size

Develop machine learning models that can recognize subtle patterns and anomalies in tea leaf images, which are often early indicators of disease.

Investigate thermal imaging to detect variations in leaf temperature that could be indicative of diseases before visible symptoms appear.

Develop automated reporting mechanisms to deliver real-time or periodic disease status updates to farmers

Integrate disease detection with precision agriculture technologies, allowing targeted treatment of affected areas

## Classification of plant leaf diseases using texture features.

- Implement a network of IoT sensors in tea plantations to continuously monitor environmental conditions

Done By:  
Medi Pavan Teja  
R LokeshKanna

## 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

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

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Incorporate explainable AI techniques to provide clear explanations for why the model made a particular disease detection decision

Develop automated reporting mechanisms to deliver real-time or periodic disease status updates to farmers

Use drones to continuously capture the image of leaves of entire crop and pass to model in regular intervals

### Step-3: Idea Prioritization

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#### 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.

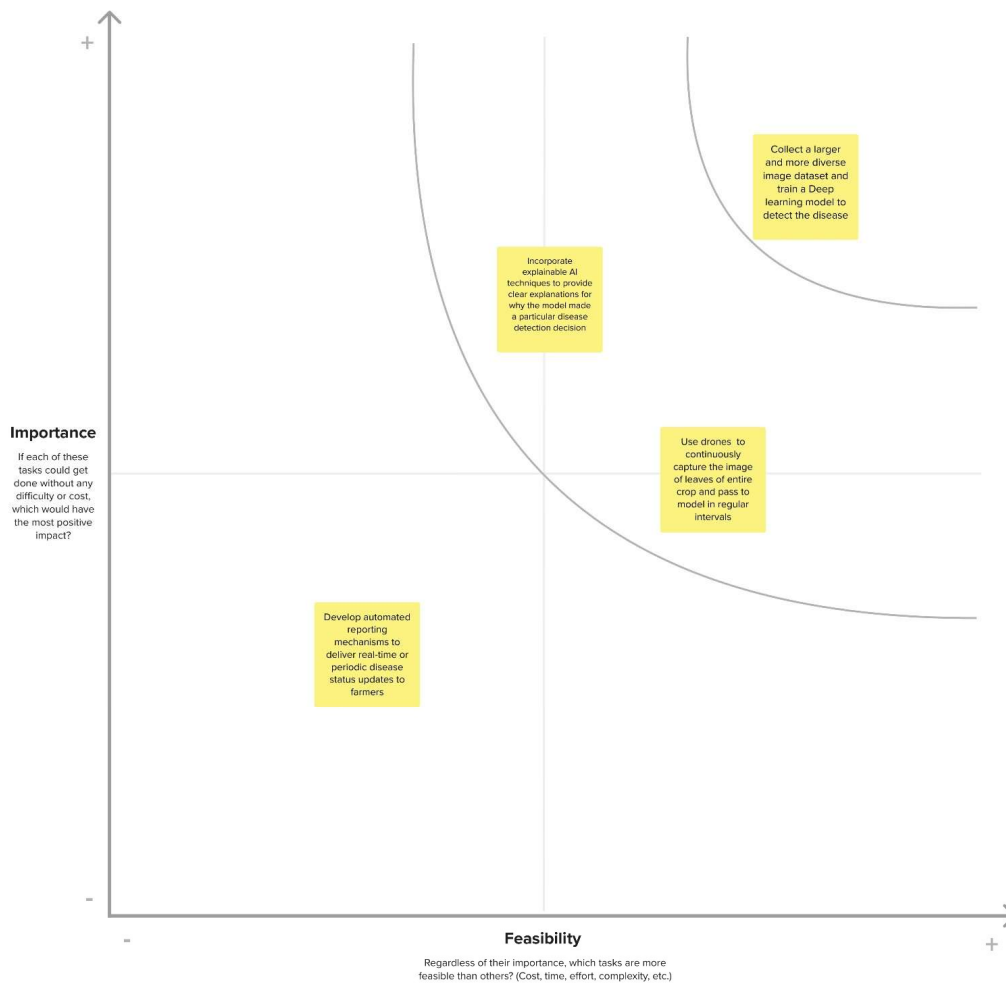
🕒 20 minutes

#### TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H** key on the keyboard.

Done By:

Medi Pavan Teja  
R LokeshKanna



In conclusion, the selection of Deep learning model as our top priority is a strategic decision based on its high impact potential, feasibility, and alignment with our goals. We are confident that this choice will propel us towards early detection of tea leaf disease in future.