

# Fertilizer Recommendation System for Disease Prediction

Agriculture is the most important sector in today's life. Most plants are affected by a wide variety of bacterial and fungal diseases. Diseases on plants placed a major constraint on the production and a major threat to food security. Hence, early and accurate identification of plant diseases is essential to ensure high quantity and best quality. In recent years, the number of diseases on plants and the degree of harm caused has increased due to the variation in pathogen varieties, changes in cultivation methods, and inadequate plant protection techniques.

An automated system is introduced to identify different diseases on plants by checking the symptoms shown on the leaves of the plant. Deep learning techniques are used to identify the diseases and suggest the precautions that can be taken for those diseases.

- 15 minutes to prepare ☑ 30-60 minutes to collaborate
- 4 people recommended



## Before vou collaborate

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

₼ 15 minutes

### "How Might We" Questions

- 1. How should we develop the disease prediction system?
- 2. Is it based on an existing problem or insight?
- How might we increase awareness of the full product offerings? 4. How might we make users feel confident they have all the
- 5. How might we make our application more usable?



### Setting the stage for creativity and inclusivity Some brain storming rules followed are

- ridiculous, then there is too much of filtering 7. Defer judgement -This can be as direct as barsh words or as subtle as a condescending tone or talking over
- idea" or the use of "yes, and...
- 4. Stay focused on the topic at hand



Share the top 5 brainstorm questions that you created and let the group determine where to begin by selecting one question to move forward with based on what seems to be the most promising for idea generation in the areas you are trying to impact.

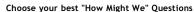
OUESTION How should we develop the disease prediction

1. Encourage wild ideas - If none of the ideas sound a bit

- 3. Build on the ideas of others "I want to build on that
- 5. Have one conversation at a time
- 6. Be visual Draw and/or upload to show ideas. whenever possible
- 7. Go for quantity

## Team Gathering

Define who should participate in the session and send an invite. Share relevant information or pre-



→ 10 minutes

system?

OUESTION Is it based on an existing problem or insight?

QUESTION

How might we increase awareness of the full product offerings?

OUESTION

How might we make users feel confident they have all the information they need?

OUESTION How might we make our application more usable?

Harini.R

Brainstorm solo

் 10 minutes

Website for Interactive UI view the ferlizer to upload recommended Recommendation images fertilizer

Have each participant begin in the "solo brainstorm space" by silently

extroverts alike. Set a time limit. Encourage people to go for quantity.

brainstorming ideas and placing them into the template. This "silent-storming

avoids group-think and creates an inclusive environment for introverts and

Can create a **Automation** Identify User smart chat resolution of preferences bot to clear low quality doubts images

# Snega.S

Provide offers location of the and discounts store where who use this the fertilizer is available

model for image report for the suggested based on the fertilizer disease

several image

processing

algorithms

application

about how much fertilizer to use

the data of

the user

## Build keras image classification model

Shalini.B

Using minimal authorized amount of person's hardware resources for along with the prediction

## Get review with

## Meera.M

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cross	ć
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amount of fertilizer to be

mages of the healthy crops after the use of fertilizer

type of soil suggest the diseases that the soil is prone is prone to

Based on the fertilizer to crop suggest the diseases prevent the that the crop relapse of the

mode and

light mode for

the application



## Brainstorm as a group

Have everyone move their ideas into the "group sharing space" within the template and have the team silently read through them. As a team, sort and group them by thematic topics or similarities. Discuss and answer any questions that arise. Encourage "Yes, and..." and build on the ideas of other people along the way.

₼ 15 minutes

Provide location of the store where the fertilizer is available

Automation resolution of low quality images

Provide offers and discounts who use this application

Responsive and easy to interact UI

Generating report for the suggested fertilizer

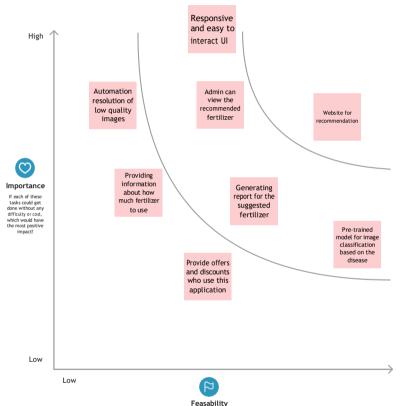
Suggest fertilizer to prevent the relapse of the disease



## Idea Prioritization

Jot down different ideas your team is interested in trying out. These could be different solutions, or different approaches to the same solution. As a team, go through the ideas in the Idea bank one by one and place them on the grid. Take the time to discuss each idea and come to a consensus on where it should go.

ტ 15 minutes



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