Ideation Phase
Brainstorm & Idea Prioritization Template

Date	18 October 2023
Team ID	592885
Project Name	POTATO DISEASE CLASSIFICATION
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

MURAL LINK :

https://app.mural.co/t/vit4748/m/vit4748/1697628090479/bd33c1c8ae6d57ae65733c23419864327da413a3?sender=udaa32ede9e4f5c7facd90519

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

POTATO DISEASE CLASSIFICATION

Brainstorm & idea prioritization

POTATO DISEASE CLASSIFICATION

10 minutes to prepare
1 hour to collaborate
3 MEMBERS

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

A **Team gathering**
BOLLI VAMSHI KRISHNA
SOMA UDAY KIRAN
GOLLA BALA GANESH

B **Set the goal**
POTATO DISEASE CLASSIFICATION

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

Open article →

1

POTATO DISEASE CLASSIFICATION

to develop an end-to-end deep learning solution for classifying potato leaf images into three categories: healthy, early blight, and late blight.

5 minutes

PROBLEM

How might we detect the problems in potato using images ?

Early detection allows farmers to take prompt action to prevent the spread of the diseaseand reduce crop damage.

Key rules of brainstorming

To run an smooth and productive session

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping

2

Brainstorm

The proposed solution involves the use ofconvolutional neural networks (CNNs) to extract relevant features from the input images and classify theminto one of the three categories.

10 minutes

Person 1

Collect a diverse dataset of potato plant images, including healthy plants and various disease-infected plants. Proper data preprocessing and augmentation are essential to ensure data quality.

Implement image processing techniques to enhance the quality of images, and extract relevant features such as color, texture, and shape to improve the classification accuracy.

Develop and train deep learning models such as Convolutional Neural Networks (CNNs) for disease classification.

Person 2

Develop a user-friendly interface, either a mobile app or a web platform, for farmers or users to easily upload images and receive disease classification results.

Explore the possibility of real-time monitoring using IoT devices and cameras in potato fields to continuously assess the health of the crops.

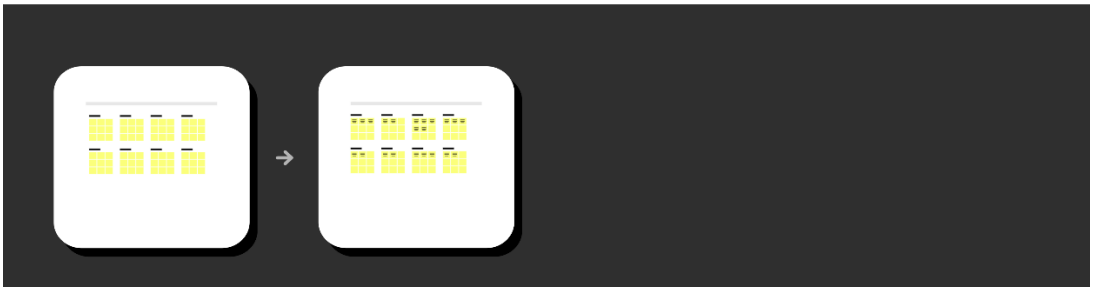
Provide a feedback support to understand more about the farmer problems

Person 3

Extend the model to classify multiple diseases within a single image

Explore techniques for identifying not only the presence of disease but also its location on the plant, as this can aid in precision agriculture.

support to farmers or users on how to use the tool effectively



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

Data Collection and Preparation:
1. Collect a diverse dataset of potato plant images, including healthy and disease-infected plants.
2. Implement data preprocessing and augmentation techniques to improve data quality.

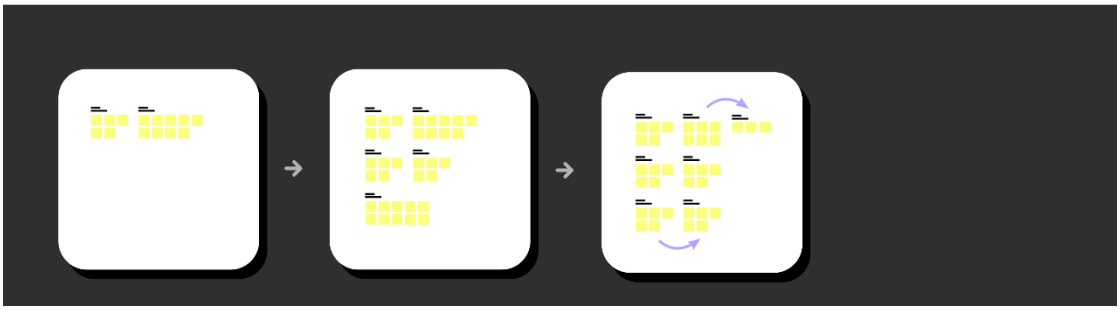
Design model and Architecture of the user interface and use proper methodologies

Image processing and deep learning: Image processing and deep learning algorithms can be used to analyze images of potato leaves and identify signs of disease at an early stage.

Train the model with various data sets so that there will be no error while detecting the disease of potato

Educate the farmers about the issue on potatoes disease and educate the farmers about how to use the technology

Deploy the model and Create a user-friendly interface, either a mobile app or web platform and observe the diseases and oberve the results



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