Ideation Phase

Brainstorm & Idea Prioritization Template

Date	11-10-2022
Team ID	PNT2022TMID16818
Project Name	AI-Powered Nutrition Analyzer For Fitness Enthusiasts
Maximum Marks	4 Marks

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

Template

Conducting a brainstorm

Executing a brainstorm isn't unique; holding a productive brainstorm is. Great brainstorms are ones that set the stage for fresh and generative thinking through simple guidelines and an open and collaborative environment. Use this when you're just kicking-off a new project and want to hit the ground running with big ideas that will move your team forward.

- **15 minutes** to prepare
- **30-60 minutes** to collaborate
- **3-8 people** recommended

Created in partnership with Meta

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.

15 minutes

A **Choose your best "How Might We" Questions**

Create 5 HMW statements before the activity to propose them to the team.

B **Set the stage for creativity and inclusivity**

Go over the brainstorming rules and keep them in front of your team while brainstorming to encourage collaboration, optimism, and creativity.

1. **Encourage wild ideas** (If none of the ideas sound a bit ridiculous, then you are filtering yourself too much.)
2. **Defer judgement** (This can be as direct as harsh words or as subtle as a condescending tone or talking over one another.)
3. **Build on the ideas of others** ("I want to build on that idea" or the use of "yes, and...")
4. **Stay focused on the topic at hand**
5. **Have one conversation at a time**
6. **Be visual** (Draw and/or upload to show ideas, whenever possible.)
7. **Go for quantity**

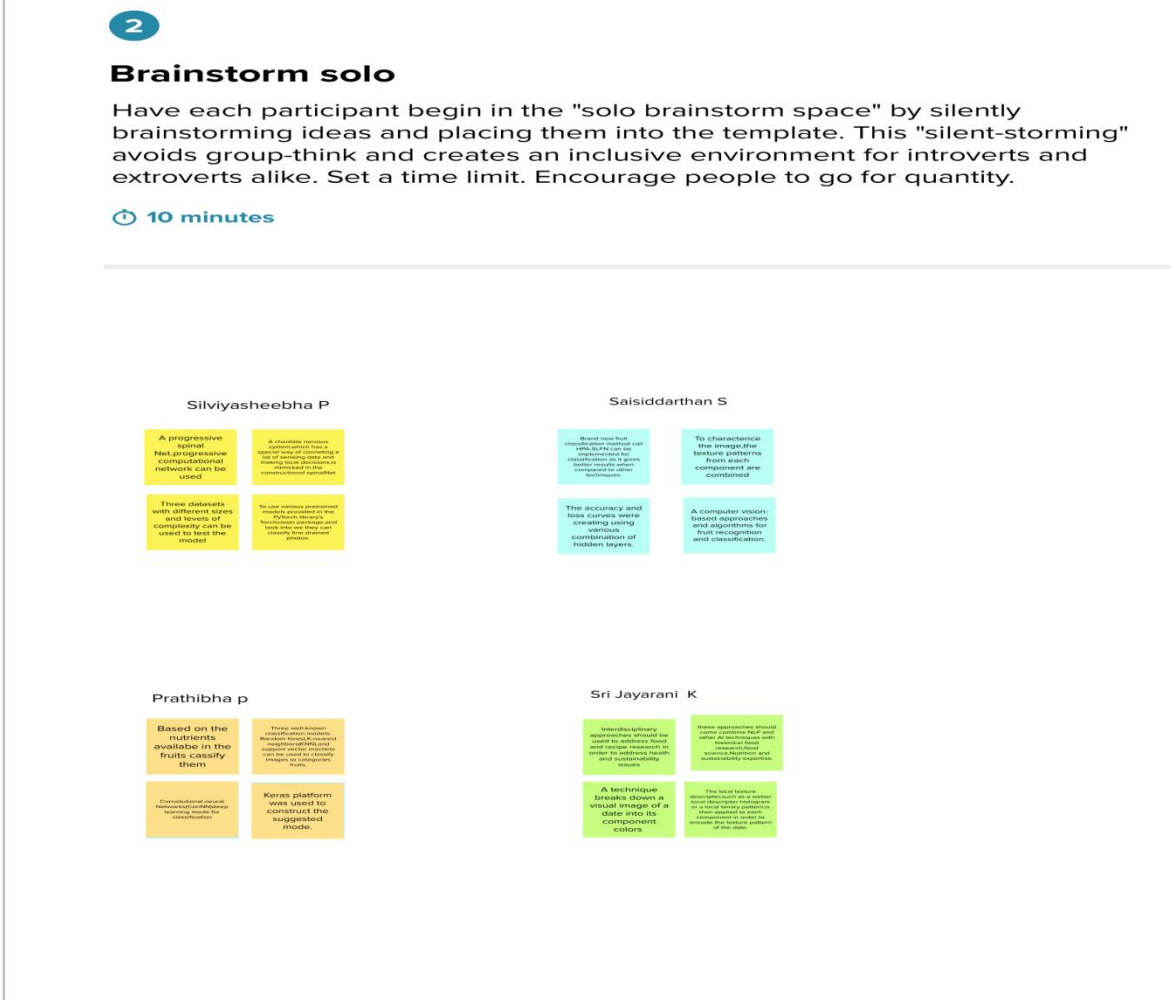
C **Interested in learning more?**

Check out the Meta Think Kit website for additional tools and resources to help your team collaborate, innovate and move ideas forward with confidence.

Open the website →

Step-2: Brainstorm, Idea Listing and Grouping

Step-3: Idea Prioritization



3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, 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

Features & Extraction

Based on the nutrients available in the fruits classify them

To characterise the image, the texture patterns from each component are combined.

Three datasets with different sizes and levels of complexity can be used to test the model

The local texture descriptor, such as a Weber local descriptor (WLD) histogram or a local binary pattern (LBP), is then applied to each component in order to encode the texture pattern of the date.

Model

To use various pretrained models provided in the PyTorch library's Torchvision package. And look into how well they can classify fine grained photos.

Three well-known classification models—Random Forest, K-Nearest Neighbors (KNN), and Support Vector Machine can be used to classify images to categorise fruits.

Brand-new fruit classification method called HPA-SLFN can be implemented for classification as it gives better results when compared to other techniques

Convolutional Neural Networks (ConNN)* deep learning model for classification

Classification

A Progressive Spinal Net, progressive computational network for FC layers of deep networks can be used

The accuracy and loss curves were created using various combinations of hidden layers.

Keras platform was used to construct the suggested model.

A chordate nervous system, which has a special way of connecting a lot of sensing data and making local decisions, is mimicked in the construction of SpinalNet.

Approach

These approaches should combine NLP and other AI techniques with historical food research, food science, nutrition, and sustainability expertise.

Interdisciplinary approaches should be used to address food and recipe research in order to address health and sustainability issues.

A technique breaks down a visual image of a date into its component colours.

A computer vision-based approaches and algorithms for fruit recognition and classification.

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