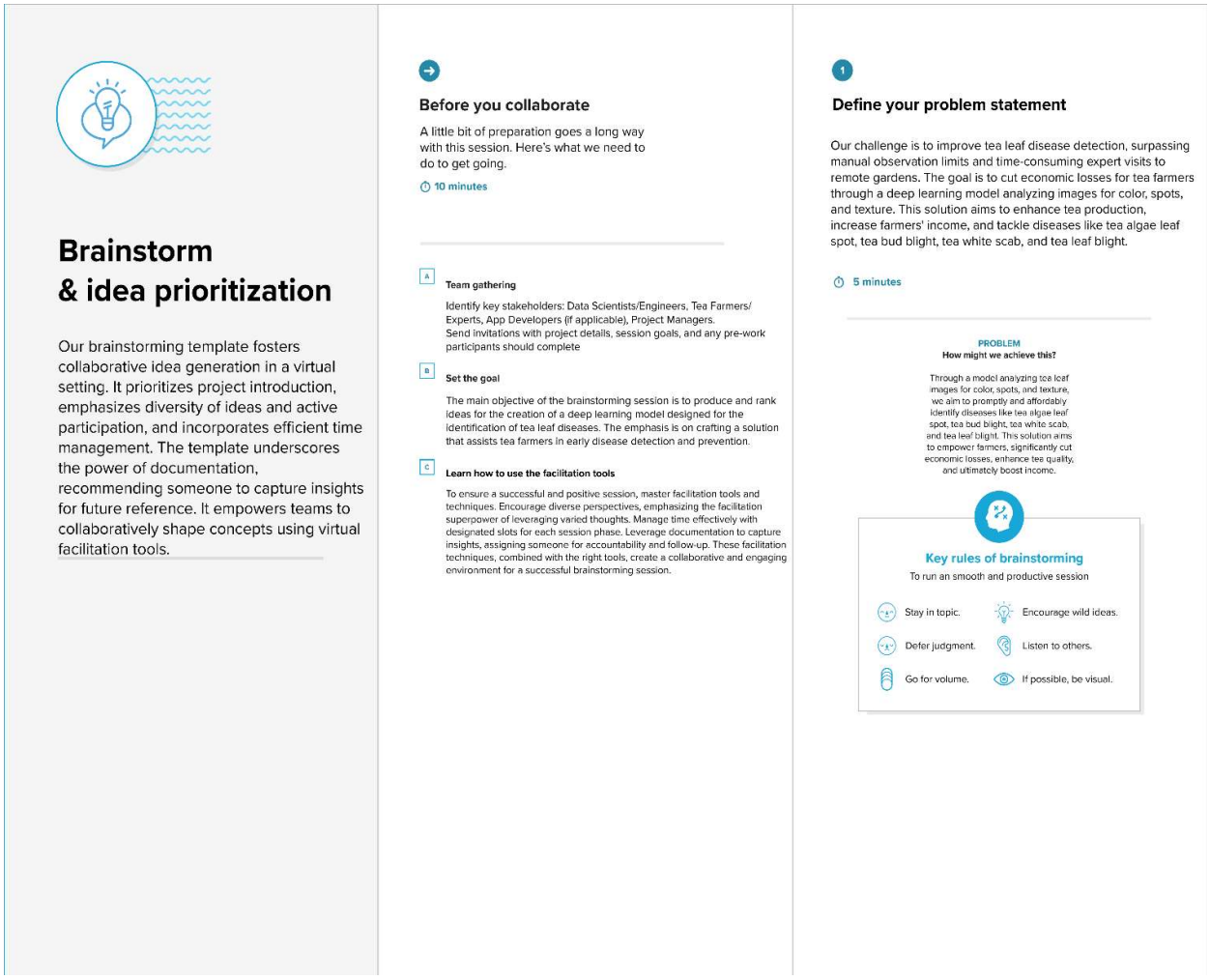
Ideation Phase
Brainstorm & Idea Prioritization Template

Date	18 October 2023
Team ID	Team-593089
Project Name	Deep Learning Model for Detecting Diseases in Tea Leaves
Maximum Marks	5 Marks

Brainstorm & Idea Prioritization:

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 number of creative solutions.

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



Step-2: Brainstorm, Idea Listing and Grouping

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Brainstorm

Capture and record any creative ideas or innovative thoughts that naturally arise in response to the given problem statement.

Srutakirti Bhowmik

- Create a website enabling tea farmers to photograph tea leaves.
- Incorporate a deep learning model for instant disease analysis.
- Integrate user-friendly interfaces and prompt notifications for swift disease alerts.

Parna Chaudhury

- Boost the model's accuracy through expert cooperation.
- Contemplate integrating a feedback mechanism in the website for users to validate or rectify disease predictions, refining the model gradually.

Ali Asgar Chandanwala

- Investigate the potential to gather more extensive data for disease detection.
- Introduce a capability for the model to not only identify diseases but also suggest personalized preventive measures.
- Partner with agricultural extension services to offer educational content on disease management through the website.

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Group ideas

Grouping ideas for tea leaf disease detection, where users can upload images to identify the disease type and receive information on precautions and prevention

1. User Interface and Experience:
   - Design the web page for user-friendliness.
   - Create an intuitive image upload feature.
   - Develop an appealing and informative user interface.

2. Image Processing and Analysis:
   - Implement image recognition algorithms for disease identification.
   - Develop a database of disease-related images for comparison.
   - Ensure accurate image analysis and diagnosis.

3. Disease Database and Knowledge Base:
   - Build a comprehensive database of tea leaf diseases.
   - Gather information on symptoms, causes, and precautions for each disease.
   - Ensure the database is regularly updated with new information.

4. precautionary Measures:
   - Provide clear and actionable precautionary advice for each identified disease.
   - Offer best practices for disease prevention and management.

5. Mobile Accessibility:
   - Optimize the web page for mobile devices, making it accessible to users on smartphones and tablets.

6 Community and Expert Involvement:
   - Encourage tea farmers and experts to contribute information and share experiences.
   - Foster a sense of community among users for knowledge sharing.

Step-3: Idea Prioritization

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Prioritize

1. Technical Feasibility:
   - The selected method should be technically feasible in the context of tea leaf disease detection. This involves assessing whether the technology or approach is readily available, can be implemented without significant technical challenges, and aligns with the current infrastructure and expertise within the tea farming community. A technically feasible solution is one that can be effectively deployed without requiring overly specialized or complex resources.

2. Accuracy and Reliability:
   - Accuracy and reliability are paramount in disease detection. The chosen method should minimize false positives and negatives, ensuring that when a disease is detected, it is indeed present, and when it's not, it is accurately ruled out. To achieve this, advanced algorithms, sensor technology, or testing procedures that have a track record of providing dependable results should be favored.

3. Cost-effectiveness:
   - Cost-effectiveness is a crucial criterion, especially for tea farmers, who often operate within tight budgets. Prioritizing a cost-effective solution means carefully considering the expenses involved in equipment, training, maintenance, and any ongoing operational costs. It's important to choose a method that maximizes the value of disease detection while minimizing the financial burden on farmers.

4. Scalability:
   - Scalability is essential, as the tea industry comprises a range of farm sizes and setups, from small family farms to large commercial plantations. The chosen method should be adaptable to different scales of tea farming, allowing it to be readily adopted by all stakeholders. This involves considerations such as ease of deployment, the ability to handle varying workloads, and scalability in terms of data management and analysis.

5. Early Detection:
   - Prioritizing early disease detection means selecting a method that can identify diseases in their initial stages. Early detection is critical because it enables prompt and targeted action to contain the spread of diseases, reducing the overall impact on tea crops. Methods that can detect subtle symptoms or biochemical markers indicative of disease at an early stage should be preferred.