Ideation Phase
Brainstorm & Idea Prioritization Template

Date	7 November 2023
Team ID	592104
Project Name	Project - Safeguarding Agriculture: AI-Enabled Prognostication of Farm Insect Threats
Maximum Marks	4 Marks

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

First we made our team consisting of Subhradip Bodhak, Aakash Bhowmick, Saptarshi Mukherjee and Supratik Pal.

Then, we decided we will be taking on the Problem Statement - "Safeguarding Agriculture: AI-Enabled Prognostication of Farm Insect Threats".

Now we will move on and take a look at the different ideas provided by our team members.

Step-2: Brainstorm, Idea Listing and Grouping

Ideas:

Member 1 Saptarshi:

- A collaborative platform should be there that facilitates knowledge sharing among farmers, enhancing the AI system's predictive capabilities through collective intelligence.
- We should use machine learning algorithms to suggest optimal crop rotation strategies based on insect life cycles, disrupting pest populations.

Member 2 Aakash:

- We should develop an AI model using Ultralytics YOLOv8 for real-time detection of farm insect threats and explore different insect species and their distinctive features for accurate identification.
- Combine the insect threat model with weather data to predict and assess the likelihood of insect infestations based on environmental conditions.
- Identify key weather variables that influence insect activity.

Member 3 Subhradip:

- Create a user interface using HTML, CSS, and JS to display real-time insect threat information and ensure the interface is intuitive for farmers and provides actionable insights.
- Develop a feature to analyze historical data and trends in insect threats to improve the accuracy of predictions.
- Use Flask to create a backend for storing and retrieving historical data.

Member 4 Supratik:

- Utilize Fetch API/AJAX for seamless communication between the backend and frontend.
- We should implement localized pest forecasting tailored to specific geographical areas to help farmers anticipate and prepare for upcoming insect threats.

Step-3: Idea Prioritization

- **Priority 1 :** Create a user interface using HTML, CSS, and JS to display real-time insect threat information and ensure the interface is intuitive for farmers and provides actionable insights.

- **Priority 2 :** Use Flask to create a backend for storing and retrieving historical data.

- **Priority 3 :** We should use machine learning algorithms to suggest optimal crop rotation strategies based on insect life cycles, disrupting pest populations.
- **Priority 4 :** We should develop an AI model using Ultralytics YOLOv8 for real-time detection of farm insect threats and explore different insect species and their distinctive features for accurate identification.

- **Priority 5 :** Utilize Fetch API/AJAX for seamless communication between the backend and frontend.