PHASE 1: BRAINSTORMING & IDEATION

Objective of this Phase

The primary goal of this phase is to explore innovative ways to determine the freshness of fruits and vegetables without any human involvement. This foundational idea serves as the basis for developing an intelligent, automated solution using artificial intelligence (AI).

Core Idea

We aim to build a novel AI-based system capable of detecting the freshness level of fruits and vegetables by analyzing their images. The system should function autonomously, providing real-time insights with no manual inspection required.

Problem Statement

Traditional methods of checking the freshness of produce are:

- Manual and time-consuming
- Prone to human error and inconsistency
- A leading cause of food wastage, customer dissatisfaction, and economic losses, especially for farmers and retailers

Proposed Solution

To address this issue, we propose to design and develop an automated image analysis system. This system will:

- Capture and analyze images of fruits and vegetables
- Classify them as fresh or rotten based on visual cues
- Operate with high accuracy using AI and computer vision

PROJECT DOCUMENT

Key Benefit

Eliminate the need for manual checking, thereby ensuring faster and more reliable sorting.

Target Users and Expected Outcome

The target users for this system include:

- Farmers and agricultural workers, who benefit from on-site sorting
- Supply chain managers, for efficient quality checks during transport

- Supermarket and grocery store employees, for shelf management
- Cold storage or warehouse operators, who manage bulk storage

The expected outcome is a functional, image-based sorting system that accurately identifies and classifies fruits and vegetables as fresh or rotten. This tool can be used in both agricultural and retail settings, helping reduce food waste and improving operational efficiency across the supply chain.