**Project Planning Document**

**Project Title: Smart Sorting - Transfer Learning for Identifying Rotten Fruits and Vegetables**

Sprint planning overview

**Agile Concepts**

• A Sprint is a fixed period or duration in which a team works to complete a set of tasks.

• An Epic is a big task or project that is too large to complete in one sprint. It is broken down into smaller tasks (stories) that can be completed over multiple sprints.

• A Story is a small task. It is part of an Epic.

• A Story Point is a number that represents how much effort a story takes to complete, often based on the Fibonacci series.

**Story Point Effort Levels**

Very Easy Task = 1 Story Point

Easy Task = 2 Story Points

Moderate Task = 3 Story Points

Difficult Task = 5 Story Points

**Epic 1: Model Development (Training + Evaluation)**

Build and evaluate a binary classifier (fresh vs rotten) using TensorFlow.

**Sprint 1 (5 Days)**  
**Stories:**

* Data Collection & Labeling → **2 SP** *(Easy)*
* Preprocessing (Resizing, Normalization, Augmentation) → **3 SP** *(Moderate)*
* Model Architecture Design (CNN / Transfer Learning) → **3 SP** *(Moderate)*
* Model Training & Validation → **3 SP** *(Moderate)*
* Save model to .h5 format → **1 SP** *(Very Easy)*

**Total:** **12 Story Points**

**Epic 2: Streamlit App Development**

Build an interactive UI to classify images with the trained model.

**Sprint 2 (5 Days)**  
**Stories:**

* Load .h5 model and test predictions on sample images → **2 SP** *(Easy)*
* Build basic Streamlit UI with image upload + display → **3 SP** *(Moderate)*
* Image preprocessing inside app → **2 SP** *(Easy)*
* Prediction logic + result display → **2 SP** *(Easy)*
* Style the app with custom CSS, emojis, and visuals → **3 SP** *(Moderate)*

**Total:** **12 Story Points**

**Epic 3: Deployment & Optimization**

Make the app accessible and user-friendly on the web.

**Sprint 3 (5 Days)**  
**Stories:**

* Prepare project repo for deployment → **2 SP** *(Easy)*
* Deploy to Streamlit Cloud → **3 SP** *(Moderate)*
* Test across devices and fix bugs → **2 SP** *(Easy)*
* Add footer, branding, banners, etc. → **2 SP** *(Easy)*
* Documentation + README creation → **3 SP** *(Moderate)*

**Total:** **12 Story Points**

**Final Metrics**

| **Metric** | **Value** |
| --- | --- |
| Total Story Points | 36 |
| Number of Sprints | 3 |
| **Velocity** | **12 Story Points/Sprint** |