Project Planning Document

### 📄 ****Project Planning Document****

**Project Title:** GrainPalette – Rice Type Classification Using Transfer Learning

### 🚀 ****Sprint Planning Overview****

#### ✅ Agile Concepts (Quick Recap)

* **Sprint:** Fixed timeframe where specific tasks are completed (e.g., 5 days).
* **Epic:** A large feature or objective broken down into Stories.
* **Story:** A specific task within an Epic.
* **Story Point:** A measure of effort (1 = Very Easy, 5 = Difficult), often based on Fibonacci scale.

### 🗓 ****Sprint 1 Plan (5 Days)****

**Epic: Data Preparation and Understanding**

| **Task** | **Story Points** | **Difficulty** |
| --- | --- | --- |
| Collect & Organize Rice Image Dataset (Kaggle, etc.) | 2 | Easy |
| Analyze Class Distribution | 1 | Very Easy |
| Perform Data Cleaning (remove duplicates, invalid images) | 2 | Easy |
| Preprocessing (Resizing, Normalization) | 3 | Moderate |

🧮 **Total Story Points for Sprint 1** = **8**

### 🗓 ****Sprint 2 Plan (5 Days)****

**Epic: Model Development & Web App**

| **Task** | **Story Points** | **Difficulty** |
| --- | --- | --- |
| Build CNN with MobileNetV2 using Transfer Learning | 5 | Difficult |
| Evaluate Model (Accuracy, Confusion Matrix) | 3 | Moderate |
| Develop HTML Templates (Index, Result, Details) | 3 | Moderate |
| Deploy Model with Flask Backend | 5 | Difficult |

🧮 **Total Story Points for Sprint 2** = **16**

### 📈 ****Velocity Calculation****

* **Total Story Points:** 8 (Sprint 1) + 16 (Sprint 2) = **24**
* **Number of Sprints:** 2
* **Team Velocity:**

Velocity=Total Story PointsSprints=242=12 Story Points/Sprint\text{Velocity} = \frac{\text{Total Story Points}}{\text{Sprints}} = \frac{24}{2} = \boxed{12 \text{ Story Points/Sprint}}Velocity=SprintsTotal Story Points​=224​=12 Story Points/Sprint​

### 📌 Summary:

| **Metric** | **Value** |
| --- | --- |
| Sprint Duration | 5 Days |
| Total Story Points | 24 |
| Sprints | 2 |
| Velocity | 12 SP/sprint |