**Phase-4: Project Planning(Agile Methodologies)**

**Sprint Planning:**

| **Sprint** | **Duration** | **Key Focus** |
| --- | --- | --- |
| Sprint 1 | Day 1 | Brainstorming, Dataset Collection, Environment Setup |
| Sprint 2 | Day 2 | Model Development, Transfer Learning Integration |
| Sprint 3 | Day 3 | Web App (Flask) Development, Model Integration |
| Sprint 4 | Day 4 | Testing, UI Polishing, Documentation, Final Deployment |

**Task Allocation:**

| **Sprint** | **Task** | **Assigned To** |
| --- | --- | --- |
| Sprint 1 | Finalize problem statement and objectives | **Akila** |
| Sprint 1 | Design system architecture and ER diagram | **Thanuja sri** |
| Sprint 1 | Collect and clean rice grain image dataset | **Rachana** |
| Sprint 1 | Install and configure environment (Anaconda, TensorFlow, Keras) | **Nikil Reddy** |
| Sprint 1 | Set up GitHub repository | **Akila** |
| Sprint 2 | Preprocess image dataset (resize, normalize, augment) | **Thanuja sri** |
| Sprint 2 | Set up MobileNetV4 transfer learning model | **Rachana** |
| Sprint 2 | Train and evaluate model | **Nikil Reddy** |
| Sprint 2 | Save trained model (.h5 file) | **Akila** |
| Sprint 3 | Set up Flask web application framework | **Thanuja sri** |
| Sprint 3 | Design basic UI pages (home, upload, result) | **Rachana** |
| Sprint 3 | Integrate trained model with Flask backend | **Nikil Reddy** |
| Sprint 3 | Implement image upload and prediction | **Akila** |
| Sprint 3 | Display prediction result to user | **Thanuja sri** |
| Sprint 4 | Test web app functionality and predictions | **Rachana** |
| Sprint 4 | Optimize UI and make it mobile-friendly | **Nikil Reddy** |
| Sprint 4 | Prepare final documentation and report | **Akila** |
| Sprint 4 | Create presentation slides | **Thanuja sri** |
| Sprint 4 | Deploy web application locally | **Rachana,Nikil Reddy** |

**Timelines & Milestones:**

| **Day** | **Key Focus** | **Milestone** |
| --- | --- | --- |
| Day 1 | Planning, setup, dataset prep | Project plan, diagrams, dataset ready |
| Day 2 | Model development | Trained and saved AI model |
| Day 3 | Web application development | Functional Flask AI web app |
| Day 4 | Testing, optimization, documentation | Final project ready for submission |