Requirement Document

The purpose of this document is to clearly outline the goals and requirements for the rice mill management system. This system is designed to optimize and streamline the operations of rice milling facilities by providing tools for inventory management, supply management , production tracking, employee management, and more.

The system will serve rice mill managers, employees, and seed sellers by providing features for inventory tracking, production management, employee management, and order processing.

Functional Requirements

Seed Sellers Management:

- Maintain a database of seed suppliers with contact details and transaction history
- we need to register all the seeds suppliers to the system with the appropriate details of the sellers .

Supply Management:

- Track supplies coming from seed sellers

Employee Management:

- Maintain employee profiles, including personal information, roles, and assigned tasks.
- Track attendance and performance metrics.

Production Management:

- Record production batches, including input (seeds), output (rice), and waste

Inventory Management:

- Track stock levels of raw seeds and finished rice in real-time.
- Add, update, and delete inventory items.
- Generate alerts for low stock levels.

Non-Functional Requirements

Non-functional requirements define the quality attributes and constraints of the Rice Mill Management System to ensure optimal performance, usability, and maintainability. Here's a list of relevant non-functional requirements for your project:

1. Performance

- **Response Time:** The system should respond to user requests within 2 seconds for 95% of the operations.
- **Concurrent Users:** Support at least 50 concurrent users without performance degradation.
- **Batch Processing:** Handle production data for up to 500 batches per day efficiently.

2. Reliability

- **System Uptime:** The system should have an uptime of 99.9%, ensuring availability during operational hours.
- **Data Accuracy:** Ensure 100% accuracy in inventory tracking and production data.
- **Error Handling:** Provide meaningful error messages and log all errors for debugging.

3. Scalability

- **Vertical Scaling:** The system should accommodate increasing data volume, such as adding more suppliers or inventory items, without performance issues.
- **Horizontal Scaling:** Allow for deployment across multiple branches of the rice mill with centralized reporting.

4. Usability

- **User Interface:** The system should have an intuitive and user-friendly interface with minimal training required for employees.
- **Accessibility:** The application should be accessible on desktop, tablet, and mobile devices using a responsive design.
- **Localization:** Support regional languages if the rice mill operates in areas with diverse linguistic needs.

5. Security

- **Data Encryption:** All sensitive data, including personal information and financial transactions, should be encrypted in transit (e.g., using HTTPS) and at rest.
- **Role-Based Access Control (RBAC):** Implement RBAC to ensure only authorized users can access specific features or data.
- **Authentication and Authorization:** Support secure login mechanisms with password policies and multi-factor authentication.
- **Audit Trails:** Maintain logs of all critical user activities, such as inventory changes and production updates.