

Requirement Gathering & Questionnaire

Date: 09/01/2025

Project Overview

The Dairy Care System is an advanced and comprehensive web application designed to streamline and automate the management and operations of dairy farms. The system aims to integrate Machine Learning, and AI technologies to enhance efficiency, productivity, and overall management. Features include product sale, milk production forecasting, health records tracking, and delivery management. The primary objectives are to provide a modern, scalable, and user-friendly platform for optimizing dairy farm operations, ensuring high-quality products, and increasing profitability.

System Scope

The system is envisioned as a full-scale implementation, integrating advanced technologies to provide a robust, real-world solution for dairy farm management. It is tailored for dairy farms and designed to cater to practical needs while allowing scalability to adapt to future industry requirements.

Target Audience

The primary users of the system include:

- Admin
- Dairy Farm Owners
- Customers purchasing dairy products
- Delivery Personnel

Modules

- User Authentication and Management:
 - Secure Login/Register
 - User account management and role-based permissions
- Product and Inventory Management:
 - Real-time product availability updates
 - Product search and purchase options
- Farm Monitoring:
 - Nutritional data management
 - Livestock health monitoring

- Payment Processing:
 - Customer payment processing (online via Razor Pay, and offline Cash on Delivery)
- Feedback and Analysis:
 - Structured feedback collection
 - Dashboard for analysing feedback trends
- Delivery Management:
 - Milk and dairy product delivery scheduling
 - Real-time delivery tracking with GPS integration
- Data Analytics and Reporting:
 - Sales trend analysis
 - Performance metrics for delivery efficiency
- Machine Learning and AI Integration:
 - Milk production forecasting based on historical data
 - Disease detection and prediction using ML models
 - AI-powered chatbot for user assistance

User Roles

- Admin: Oversees all operations, manages the system, and has full permissions.
- Owner: Handles dairy products, manage orders and feedbacks, monitors farm operations.
- Customer: Purchases products, tracks orders, and provides feedback.
- Delivery Personnel: Manages and tracks product deliveries.

System Ownership

The system is owned by dairy farm operators, emphasizing technological solutions for efficient farm management and improved product delivery.

Industry/Domain

Agriculture and Dairy Farming with an emphasis on Machine Learning, and AI integration.

Questionnaire for Data Collection

- 1) What are the primary challenges in dairy farm management that the system aims to address?
 - Monitoring livestock health effectively.
 - Managing inventory and sales efficiently.
 - Reducing manual errors in record-keeping and scheduling.
 - Ensuring consistent milk quality and production.

- 2) How is the Dairy Care System beneficial compared to current management methods?
 - Provides a centralized platform for all farm operations.
 - Reduces reliance on manual processes.
 - Offers predictive insights through machine learning.
 - Enhances customer and employee satisfaction with streamlined processes.
- 3) What technological advancements does the system introduce?
 - Machine learning for forecasting disease detection and milk production.
 - AI-powered virtual assistance for queries and support.
- 4) How will the system manage animal health records?
 - Tracks health history and vaccination schedules.
 - Provides accurate date for upcoming check-ups.
- 5) What are the proposed features for product inventory and sales management?
 - Categorized product management for dairy items.
 - Easy integration with payment gateways for seamless transactions.
 - Updates on stock availability.
- 6) How does the system handle feedback and customer engagement?
 - Structured feedback submission form.
 - Automated analysis to identify trends and improvement areas.
 - Direct interaction via virtual assistance for quick resolutions.
- 7) What role does machine learning play in the system?
 - Detects potential health issues in animals before they escalate.
- 8) How will the system improve the delivery process for dairy products?
 - Enables real-time delivery tracking for customers.
 - Optimizes delivery routes to reduce time and costs.
 - Tracks delivery status and maintains a record for accountability.
- 9) What user roles and permissions are incorporated in the system?
 - Admin: Full access to manage all operations.
 - Owner: Manage products, orders, health and feedbacks.
 - Employee: Manage product delivery.
 - Customer: Access to search products, place orders, and give feedback.

10) How does the system ensure scalability for future needs?

- Built using scalable technologies like Django and MySQL.
- Modular architecture allows easy addition of new features.
- Integrates advanced technologies for continuous upgrades and expansions.

