**Assignment 1**

**1. Business Requirements Document (BRD)**

**Project Title:** Ice Cream and Milk Products Inventory and Delivery Management Software

**Prepared By:** Aayushi Khatri, Business Analyst

**1. Introduction**

This document outlines the business requirements for a software solution aimed at managing the inventory and ensuring the quickest delivery of ice cream and milk products for a company with multiple manufacturing plants and warehouses. The goal is to streamline inventory management, improve delivery processes, and meet customer demands effectively.

**2. Objectives**

* **Manage Inventory:** Maintain real-time tracking of ice cream and milk product stock in multiple warehouses and manufacturing plants.
* **Quickest Delivery to Customers:** Ensure efficient order processing, fast delivery to customers, and route optimization to reduce delivery time.

**3. Scope**

* **In Scope:**
	+ Real-time inventory management across plants and warehouses.
	+ Automated stock alerts and inventory reordering.
	+ Order processing system.
	+ Customer order tracking and delivery routing.
	+ Reporting and analysis tools for inventory, sales, and delivery performance.
	+ Integration with existing systems like CRM.
* **Out of Scope:**
	+ Integration with external suppliers or partners.
	+ Customer relationship management (CRM) functionalities beyond order management.

**4. Business Requirements**

1. **Inventory Management:**
	* Real-time visibility of product stock levels across all plants and warehouses.
	* Automatic notifications when inventory levels fall below a set threshold.
	* Tracking of product expiration dates for perishables (ice cream, milk).
	* Support for multiple product categories and SKUs (Stock Keeping Units).
2. **Order Management:**
	* A user-friendly interface for customers to place orders.
	* Integration with warehouses to check product availability.
	* Automated order confirmation, invoicing, and tracking.
3. **Delivery Management:**
	* Routing and delivery optimization for the fastest possible delivery time.
	* Integration with GPS to track delivery trucks in real time.
	* Support for different delivery modes (e.g., trucks, drones, etc.).
4. **Reporting & Analytics:**
	* Dashboard for inventory levels, product sales, and delivery performance.
	* Historical reports on product demand, sales trends, and stock rotation.
	* Alerts for low stock and products approaching expiration.

**5. Functional Requirements**

1. **Inventory Management:**
	* Ability to add, edit, and delete product entries.
	* Support for multiple warehouse locations.
	* Batch number and expiration tracking for perishable goods.
	* System-generated alerts for low stock.
2. **Order Processing:**
	* Customer-facing portal for placing orders.
	* Integration with stock system to verify product availability in real-time.
	* Real-time order status updates for customers.
3. **Delivery Optimization:**
	* Geolocation-based delivery route optimization.
	* Real-time GPS tracking of deliveries.
	* Notification system for delivery status (e.g., out for delivery, delivered).
4. **Reporting & Analytics:**
	* Generate reports based on sales, inventory, and delivery performance.
	* Customizable reporting tools based on user roles (e.g., manager, warehouse staff, customer service).

**6. Non-Functional Requirements**

* **Performance:** The system should handle up to 100,000 concurrent users.
* **Scalability:** The software must support future growth in both product range and geographic locations.
* **Security:** User authentication and authorization, encrypted data storage.
* **Usability:** Simple user interface design for warehouse staff and delivery drivers.
* **Availability:** The system must be available 24/7 with a minimum of 99.9% uptime.

**7. Assumptions & Constraints**

* The company has an existing IT infrastructure that needs to be integrated.
* The system will not include customer relationship management (CRM) features, which may be handled by a separate platform.
* Delivery optimization may be limited by local traffic patterns and road restrictions.

**2. Process Flow Diagram**

Below is a process flow of the inventory and delivery system:

1. **Order Placement**
	* Customer places an order through an online platform.
2. **Inventory Check**
	* The system checks the availability of products in nearby warehouses.
3. **Order Confirmation**
	* Customer receives an order confirmation with an estimated delivery time.
4. **Packing and Dispatching**
	* Warehouse staff prepare the order, and it is dispatched to the nearest delivery hub.
5. **Route Optimization**
	* Delivery routes are optimized based on real-time traffic and distance.
6. **Delivery Execution**
	* The delivery is executed and tracked in real-time, with customer updates.
7. **Order Completion**
	* Customer receives the order, and the system updates inventory levels accordingly.

**Assignment 2**

**1. Introduction Letter to Client**

Aayushi Khatri
Business Analyst
Jhoom consultant
01/04/2025

Nic Ice-Cream co. Ltd
Indore,Madhya Pradesh

Dear Rishabh,

I hope this message finds you well.

I am writing to introduce myself as the Business Analyst assigned to work with you and your team on the Ice Cream and Milk Products Inventory and Delivery Management Software project. As we embark on this project, I am committed to ensuring that we achieve your goals of streamlining your inventory processes and optimizing delivery times for your products.

My role will involve collaborating with your team to gain a deep understanding of your business needs and translating those into clear, actionable requirements for the development team. Throughout this process, I will be your point of contact, and I will ensure that the project progresses smoothly, with timely updates and transparent communication.

I look forward to working with you and your team closely to make this project a success.

Please feel free to reach out to me with any questions or clarifications.

Best regards,
Aayushi Khatri
Business Analyst
0123-456789

**2. Brief BRD and SRS for an Online Store Project**

**BRD for Online Store:**

1. **Objective:** The goal of the online store is to provide a platform where customers can browse, select, and purchase products online.
2. **Functional Requirements:**
	* User account creation and login.
	* Product catalog with categories and filters.
	* Secure payment gateway integration.
	* Order tracking system.
3. **Non-Functional Requirements:**
	* System must handle up to 1 million concurrent users.
	* The platform should be responsive for mobile and desktop users.

**SRS for Online Store:**

1. **Introduction:**
	* Overview of the system’s purpose, features, and users.
2. **System Features:**
	* Product Management: Add, edit, and remove products.
	* Search and Filters: Customers can search and filter products.
	* Cart and Checkout: Customers can add products to the cart and complete the purchase.
3. **Constraints:**
	* Integration with third-party payment gateways (e.g., Paytm, smarthub).

**3. ERD for Support Ticket/Ticketing Life Cycle**

**Entities:**

* **Customer**
	+ CustomerID
	+ Name
	+ Email
	+ PhoneNumber
* **Ticket**
	+ TicketID
	+ CustomerID
	+ IssueDescription
	+ Status (Open, In Progress, Closed)
	+ DateCreated
	+ DateResolved
* **SupportAgent**
	+ AgentID
	+ Name
	+ Email

**Relationships:**

* A **Customer** can have multiple **Tickets**.
* A **SupportAgent** can handle multiple **Tickets**.

**4. User Story for Shopping from E-Commerce**

**As a** customer,
**I want** to browse products by category and filter by price, brand, and ratings,
**so that** I can easily find the products I am interested in purchasing.

**Acceptance Criteria:**

* Product catalog must be searchable by category, price, and rating.

**As a** customer,
**I want** to select products from the searched product with desired quantity
**So that** I can easily find the products I am interested in my cart.

**Acceptance Criteria:**

* Product quantity must be added successfully in the cart for the product selected.
* The cart must display the selected products and their total cost before checkout