

A company is having manufacturing plants and warehouses in various parts of the country. They manufacture ice-cream and milk products. They want to build software to achieve two goals.

- Manage the inventory
- Quickest delivery to the customers

Assignment 1:

1. Please make a BRD which can be presented to the client along with complete development

Business Requirement Document (Inventory Management and Delivery Application)

1. Document Revisions	8
2. Approvals	8
3. RASCI Chart for This Document	8
4. Introduction	9
4.1. Business Goals	9
4.2. Business Objectives	9
4.3. Business Rules	10
4.4. Background	10
4.5. Project Objective.....	10
4.6. Project Scope	10
4.6.1. In Scope Functionality	10
4.6.2. Out Scope Functionality	10
5. Assumptions	10
6. Constraints	10
7. Risks	10
Technological Risks	11
Skills Risks	11
Political Risks	11
Business Risks	11
Requirements Risks	11
Other Risks	11
8. Business Process Overview	11
8.1. Legacy System (AS-IS)	11
8.2. Proposed Recommendations (TO-BE)	11
9. Business Requirements	11
10. Appendices	12
10.1. List of Acronyms	12
10.2. Glossary of Terms	12
10.3. Related Documents	12

1. Document Revision:

Date	Version Number	Changes Made
------	----------------	--------------

26/12/2024	V1.1	Initial Draft By BA
05/01/2024	V1.2	Changes in the inventory management module as per the discussion with business team in second work shop
10/01/2024	V1.3	Delivery module changes as per the discussion with Business Team

2. Approvals:

Role	Name	Title	Signature	Date
Project Sponsor				
Business Owners/Executives				
Project Manager/Product Owner				
System Architect				
Development Lead				
User experience Lead				
Quality Lead				
Content Lead				

3. RACSI Chart:

R-Responsible, A-Accountable, C-Consulted, S-Support, I-Informed, * in the column – Ultimate signing authority for any changes

Name	Position	*	Project Plan	RG	BRD/FSD	UI/UX	Dev (Backend)	Testing	Implementation	Change Request Approval	Feedback
--	Project Sponsor	Yes	A	I	I	I	I	I	I	A	I
--	Business Owners/Executives	Yes	A	I	I	I	I	I	C	A	A
--	Product Owner/PM	-	R	A	A	A	A	A	S	A	A

--	Business Analysts	-	R	R	R	R	R	S	S	R	R
--	IT Department (Developers, Architects, QA, DevOps)	-	I	I	C	R	R	R	R	C	I
--	Warehouse Managers	Yes	C	S	C	I	I	I	I	I	R
--	Manufacturing Managers	Yes	C	S	C	I	I	I	I	I	R
--	Logistics & Delivery Partners	-	I	C	I	I	I	I	I	I	I
--	Regulatory Authorities	-	C	C	I	I	I	I	I	I	I
--	Technology Partners (Cloud/Software Vendors)	-	I	C	I	I	I	I	I	I	I

4. Introduction:

4.1 Business Goals:

Business goals of the company are stated below

- Efficient inventory management- Develop a centralized system to track and manage inventory across all locations
- Optimized delivery for quicker service- Automate order processing, allocation and dispatch based on inventory and location
- Reduce inventory wastage by enabling mechanism of expiry date tracking in the modules
- Enable reporting and analytics

4.2 Business Objective:

Following business objectives should meet to satisfy the business goals.

- Real-time stock tracking- stocks should be updated real time to track the availability and shortage
- Automated order processing- orders should process automatically for the quicker delivery
- Improved logistics and route optimization

4.3 Business Rule:

- FIFO (First-In-First-Out) stock movement

- Prioritization based on delivery urgency
- Inventory must be updated in real time
- Order should be fulfilled only if inventory is available and meets required shelf life criteria for the products

4.4 Background:

The company has multiple manufacturing plants and warehouses across the country, producing ice cream and milk products. The need for a robust system to handle inventory and optimize delivery times has emerged.

4.5 Project Objectives:

Develop and implement a software solution for inventory management and quick customer deliveries.

4.6 Project Scope:

Project scope is the core functionality to be implemented. In-scope items cover all the things related to this project. Anything which is not mentioned in the in-scope items are out of scope for this project and will require a different change request to proceed.

4.6.1 In-Scope:

- Inventory management-addition and removal
- Real-time inventory tracking
- Automated order fulfillment
- Delivery and Route optimization

4.6.2 Out-of-Scope:

- Accounting and finance management
- Human resource management and CRM
- Manufacturing process management

5. Assumptions:

- Users will be trained to use the new system
- Managers update the inventory promptly.
- Internet connectivity is stable across all warehouses.
- Delivery fleets are GPS-enabled.
- Integration with third-party logistics providers is feasible like weather and traffic through APIs

6. Constraints:

- Budget limitations may restrict the scope
- Scope is limited to inventory and delivery only
- Timeline to complete the project is 1 year
- Compliance with food safety regulations

7. Risks:

Technological Risk:

- System integration challenges with existing process and systems
- System scalability based on the increasing demand

Skills Risk:

- Training needs for employees

Political Risks:

- Regulatory compliance changes
- Resistance from employees due to new processes and technology

Business Risks:

- Competitor advancements
- System downtime after the rollout of the product
- Customer dissatisfaction

Requirements Risks:

- Changing business needs

Other Risks:

- Supply chain disruptions

8. Business Process Overview:

Business process for both current and proposed systems are outlines below.

8.1 Legacy System (As-Is):

1. Inventory is managed manually by using registers and isolated systems
2. Order allocation is managed manually through phone calls and emails
3. Delivery route and planning is happening manually based on the orders from various locations.

8.2 Proposed Recommendations (To-Be):

1. Inventory is managed using a Centralized Inventory Management Module where real time tracking and monitoring of expiry dated products are possible through system
2. Orders are allocated automatically when customers give this in the software (Website or mobile app)

3. Delivery routes are optimized dynamically in the software based on the third-party APIs (Weather, traffic etc.) and result in a quicker delivery.

9. Business Requirements:

All the high-level business requirements as part of the circular are given below.

Requirement ID	Description	Priority
BR-001	Inventory Management Module - Real-time inventory tracking - Monitoring of expiry date for perishable items	High
BR-002	Order Management Module - Automated order allocation	High
BR-003	Delivery Optimization Module - Integration with GPS and real time routing - Dynamic rerouting in case of delays	High
BR-004	Reporting and Analytics Module - for better decision making - for demand forecasting based on data insights	Medium

10. Development and Resource Plan

10.1 Development Plan:

Total – 48 weeks (~ 1 Year)

1. Phase 1: Requirement gathering, stakeholder workshops & elicitation, and system design (8 weeks).
2. Phase 2: Development of core modules (Inventory, Order, Delivery) (16 weeks).
3. Phase 3: Integration with external systems (APIs, GPS) and legacy systems (8 weeks).
4. Phase 4: Testing and quality assurance (8 weeks).
5. Phase 5: Deployment, training, and support (8 weeks).

10.2 Resource Plan:

Project Manager: 1 FTE

Developers: 3 FTE (Backend, Frontend, Integration specialists)

QA Engineers: 2 FTE

Business Analyst: 1 FTE

Support Team: 2 FTE

11. Appendices:

11.1 List of Acronyms:

RG- Requirement Gathering

BA- Business Analyst

PM- Project Manager

ERP: Enterprise Resource Planning

GPS: Global Positioning System

11.2 Glossary of Terms:

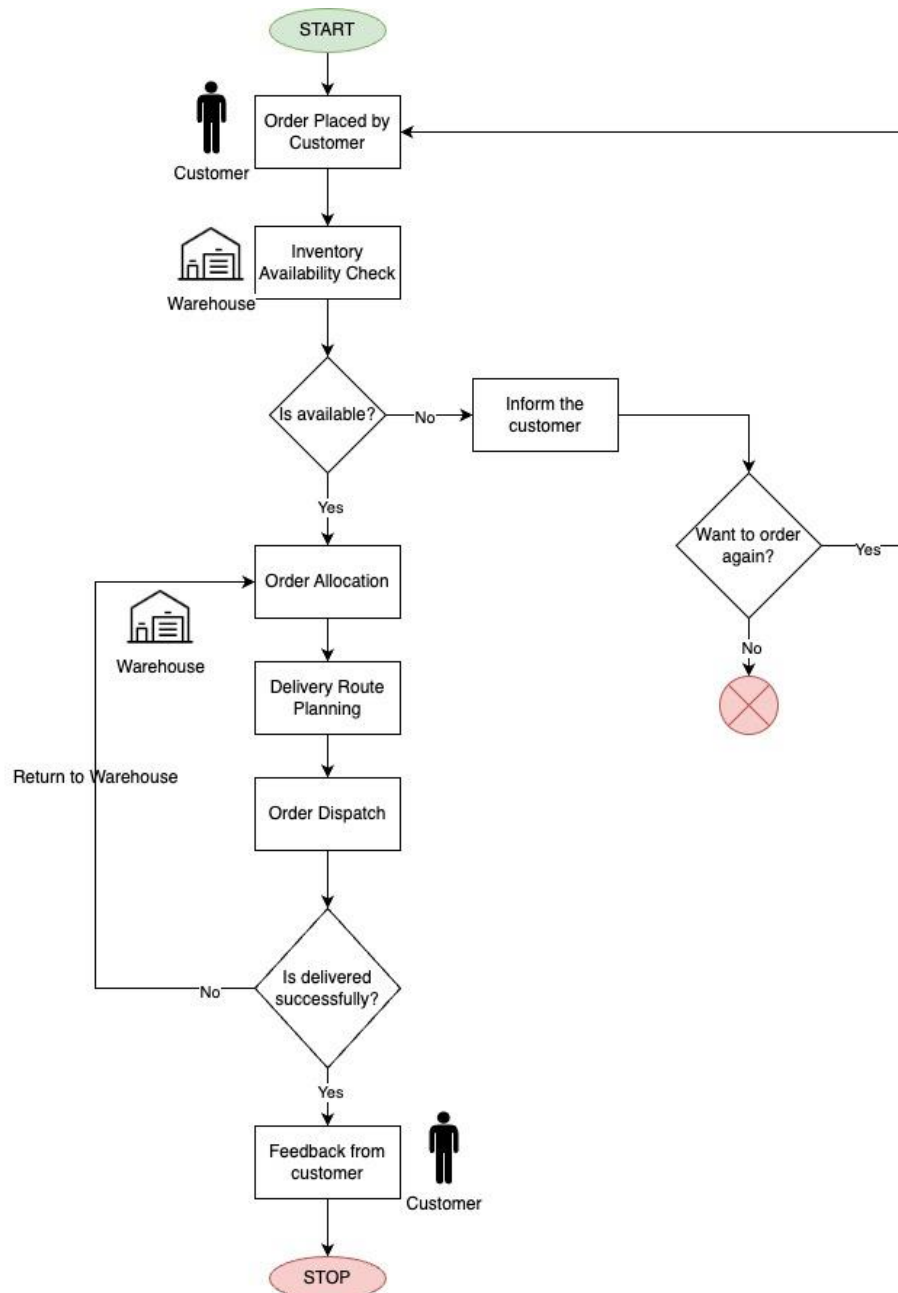
- Inventory Management: The process of tracking stock levels.
- Route Optimization: Finding the most efficient delivery route

11.3 Related Documents

- Inventory Management System Specification
- Delivery Optimization System Specification

2. Prepare process flow diagram using your imagination:

Here's a high-level **Process Flow Diagram** for the **Inventory Management and Quick Delivery System** using my imagination.



Assignment 2:

1. Write an introduction letter to a client introducing yourself as a business analyst in charge of working with the client and his team to start the business understanding process.

2. Prepare a brief BRD and SRS for a project- Horoscope or Ticketing system or online store.

3. Make an ERD of creating a support ticket/Ticketing life cycle.

4. User story of shopping from ecommerce.

User Story No: 1	Task: Enable Registration of the users	Priority: High
As a Customer, I want to register securely in the application so that I can use it for online purchases		
BV: 500	CP: 5	
Acceptance Criteria: Registration screen, Text boxes for User Name, Password, Email, Mobile Number, Address, Nationality Click on Register Button Send Successful notification to the user		

User Story No: 2	Task: Enable Login of the users	Priority: High
As a Customer, I want to register securely in the application so that I can use it for online purchases		
BV: 500	CP: 5	
Acceptance Criteria: Login screen with text boxes to enter mobile number or email and password. Select button for otp login and text box to enter otp if selected and enter mobile number Click on login button Show the home page once successfully logged in		

User Story No: 3	Task: Allow users to browse products by category	Priority: High
As a Customer, I want to browse products by category so that I can quickly find items of interest		
BV: 500	CP: 5	
Acceptance Criteria: Categories are listed in the home page and in the product listing page. Option should be provided Filter option also to be provided within categories		

User Story No: 4	Task: Enable search bar in the homepage	Priority: High
-------------------------	--	-----------------------

As a Customer, I want to search for products using a search bar so that I can find the products quickly		
BV: 500	CP: 5	
Acceptance Criteria: Search bar should be visible on right top always Results should display within 60 seconds		

User Story No: 5	Task: Provide sorting option of the products based on price, popularity	Priority: High
As a Customer, I want to sort the product list based on price or popularity so that I can make a better decision before purchase		
BV: 500	CP: 5	
Acceptance Criteria: Provide option to sort the products in the product listing page Once the customer selects this option, sort it properly		

User Story No: 6	Task: Provide option to review and ratings for the customer	Priority: High
As a Customer, I want to rate and review the products that I purchased so that I can share my feedback public.		
BV: 500	CP: 5	
Acceptance Criteria: Option should be available in the order history page Option can be provided in the homepage to provide reviews for the products that bought earlier.		

User Story No: 7	Task: Enable Customer to add/modify items to shopping cart	Priority: High
As a Customer, I want to add or modify the items in the shopping cart so that I can proceed for purchase		
BV: 500	CP: 5	
Acceptance Criteria: Provide option to add to cart for all the products in the listing page with quantity Users can go to cart and edit the carts for quantity or can remove items		

User Story No: 8	Task: Enable wish list feature	Priority: High
As a Customer, I want to add the products in the wish list so that I can purchase it later		
BV: 500	CP: 5	
Acceptance Criteria:		

Provide option to add to wish list in the product listing page
Customer can go to wish list page and can edit and remove

User Story No: 9	Task: Secure checkout process	Priority: High
As a Customer, I want to check out securely so that I can complete my purchase confidently		
BV: 500	CP: 5	
Acceptance Criteria: Payment and billing can be entered securely as per the industry standards Payment should process securely		

User Story No: 10	Task: Multiple payment options	Priority: High
As a Customer, I want to have multiple payment options as credit/debit cards, upi, wallet and cash so that I can select as per my suitability		
BV: 500	CP: 5	
Acceptance Criteria: Provide credit/debit cards, upi, wallet and cash on delivery option in the payment page Proceed to corresponding secured pages as per the options I selected		

User Story No: 11	Task: Product comparison feature	Priority: High
As a Customer, I want to compare the products so that I can go for an informed decision		
BV: 500	CP: 5	
Acceptance Criteria: Add to compare option should be available in the product listing page Once customer adds more than 1 products here, show the comparison with product specification		

User Story No: 12	Task: Provide order tracking feature	Priority: Medium
As a Customer, I want to track my order so that I can find the arrival date and track till arrival		
BV: 200	CP: 5	
Acceptance Criteria: Order tracking option in the order history page Notifications for the order status change like packed, dispatched, on the way and arrived if the user enabled this option in settings.		

User Story No: 13	Task: Display related products in the page	Priority: High
As a Customer, I want to see related products so that I can discover complementary items		
BV: 200	CP: 5	

Acceptance Criteria:

Related products are displayed dynamically based on user behavior
Clicking on a related product redirects to its detail page

User Story No: 14	Task: Email and SMS notification to the users	Priority: High
As a Customer, I want to get email and sms notification to the users so that I will be able to know the status of the order instantly		
BV: 200	CP: 5	
Acceptance Criteria: Trigger SMS or Email notification based on customer's input in settings page Trigger SMS or Email for the relevant events like order placed, order tracking events, order cancel and refund events.		

User Story No: 15	Task: Advance search option with filter	Priority: High
As a Customer, I want to filter my search results so that I can do efficient filtering to find out the matching product		
BV: 200	CP: 5	
Acceptance Criteria: Filters for price, rating, brand and other options depend on the product Results update dynamically based on selected filters		

User Story No: 16	Task: Allow users to view their order history	Priority: High
As a Customer, I want to view my order history so that I can reorder or track the past orders		
BV: 200	CP: 5	
Acceptance Criteria: Show order history under main menu User can view list of the list of past orders in the order history list page When clicking, show the details of selected order		

User Story No: 17	Task: Rewards program or loyalty program	Priority: High
As a Customer, I want to earn rewards for my purchases so that I feel valued.		
BV: 200	CP: 5	
Acceptance Criteria: Users should earn points while purchasing Show the rewards point applicable in the product list for all products Provide redeem option in the payment page as per the business rule		

(Business Rule: Maximum 100 points can redeem for a single purchase with a minimum amount of 10 USD)

User Story No: 18	Task: Multilanguage feature	Priority: High
As a Customer, I want to view the website in my local language so that it will provide more comfort		
BV: 200	CP: 5	
Acceptance Criteria: Filters for price, rating, brand and other options depend on the product Results update dynamically based on selected filters		