**COMPANY MANUFACTURING ICE CREAM AND MILK PRODUCT**

**Assignment 1**

**Business Requirement Document (BRD)
For: Ice Cream and Milk Products Manufacturing Company
Version: 1.0
Date: 25/01/2025
Prepared by: Shikha yadav**

**1.1 Purpose:**

The Ice Cream & Milk Product manufacturing company want to build software to for Inventory Management and Quick Delivery System which designed to streamline stock management, order processing, and timely delivery of dairy-based products. The system aims to provide real-time inventory tracking, efficient order management, and a seamless delivery mechanism to ensure fresh product availability for customers.

**1.2 Business Need**

Efficient inventory tracking, reduced wastage of perishable products, faster delivery to customers, and improved order fulfillment

* 1. **Business Objectives**
* Ensure high-quality production of ice cream and milk products.
* Maintain food safety and regulatory compliance and follow (FSSAI) standard’s
* Develop a distribution network to retail outlets, supermarkets, and online platforms.
* Enhance customer satisfaction and brand loyalty.
* Implement sustainable and cost-effective manufacturing processes.
	1. **Scope**

The company will focus on producing high-quality dairy-based products, including various flavors of ice cream, flavored milk, yogurt, and other dairy derivatives. The project has hold on production, inventory management, distribution and sales. Implementation of a customer feedback and support system.

* **In scope**
* Inventory Management: - Real-time stock tracking for raw materials and finished goods, Automatic stock alerts for low inventory levels, Batch tracking and expiry date monitoring.
* Order Management: - Online order placement by distributors/retailers, Order processing with priority handling for perishable items, Automated invoicing and billing.
* Delivery & Logistics: - Route optimization for quick deliveries, Vehicle tracking and driver assignment, Proof of delivery (e-signature, barcode scanning)
* Reporting & Analytics: - Sales and demand forecasting, Stock usage reports, Delivery performance tracking
* **Out scope**
* Manufacturing Process Automation (Only inventory tracking is included)
* Third-party Logistics Management (Only internal fleet tracking is supported)
* Payment Gateway Integration (Handled separately by finance systems)

**1.5 Stakeholders**

* **Primary Users**: business owner, IT department/project manager, inventory manager, delivery personnel.
* **Secondary Users**: Suppliers, distributors, and retail customers.

**1.6 Risks**

* Delivery delays due to traffic/weather.
* System downtime affecting order processing.
* Fraudulent transactions and payment failures.
* Perishable inventory management challenges.

**1.7 Constraints**

* Real-time updates depend on stable network connectivity.
* Compliance with food safety regulations.
* Seasonal demand fluctuations affecting stock levels.

**1.8 Resource plan**

* People – 8 to 10 (business analyst, PM, designers, developers, testers)
* Time – 12 months (4 weeks for requirement gathering, 5 weeks for system design, 6 months for development, 7 weeks for testing, 4 weeks for deployment, 4 weeks for user training and documentation.)
* Budget – 1 crore approx.
* Others – Data base management system (DBMS) team 20 lac for DBMS

**1.9 Assumptions**

* Reliable internet connectivity for real-time updates.
* Integration with third-party delivery services if needed
* Secure online payment gateway.

**2. Process flow diagram**



**Assignment 2**

**1. Introduction letter to client (cover letter)**

Dear Client,

My name is Shikha yadav, and I am pleased to introduce myself as the Business Analyst assigned to work with you and your team on the business understanding process for inventory management and quickest delivery of your ice cream and dairy product manufacturing venture

With a strong background in business analysis and experience in diverse industries and projects and industry insights, my role is to collaborate closely with you to gather requirements, analyze market trends, identify opportunities, and ensure a smooth transition from planning to execution. Our goal is to create a strategic roadmap that aligns with your vision, optimizes operational efficiency, and maximizes profitability.

In the coming days, I will be engaging with your team to gain a deeper understanding of your objectives, processes, and challenges. This will enable us to develop a tailored approach that supports informed decision-making and sustainable growth.

I look forward to working together and contributing to the success of your business. Please feel free to reach out if you have any questions or would like to schedule an initial discussion.

Best regards,
shikha yadav
(Business Analyst)
(xyzzy company)

**2. Software requirement specification (SRS)**

The system will manage inventory levels, track product batches, process orders efficiently, and provide real-time delivery tracking. It will cater to manufacturers, warehouse managers, and delivery personnel.

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| **Req ID** | **Req Name** | **Req Description** | **Priority** |
| FR0001 | User registration  | User can register with valid phone no. and email id  | 10 |
| FR0002 | Registration alert/notification | client should get alert/notification while successful registration. | 9 |
| FR0003 | Registered Admin Login  | Registered Admin should be able to login to the Application | 9 |
| FR0004 | Registered delivery boy login  | Registered delivery boy should able be login to the application  | 10 |
| FR0005 | Admin can manage inventory  | update, delete stock  | 9 |
| FR0006 | Admin can monitor inventory  | Admin can monitor stock level and receive notification alert for low stock  | 9 |
| FR0007 | Admin can track batch  | Monitor product batches, record expiry dates, and prevent expired products from being shipped. | 8 |
| FR0008 | Admin can manage suppliers  | Maintain supplier details, order history, and payment records to ensure timely raw material procurement. | 9 |
| FR0009 | Admin can manage order processing  | Manage customer orders, verify availability, and prioritize urgent shipments. | 8 |
| FR00010 | User can track real time delivery  | Provide customers with live tracking updates on their orders | 7 |
| FR0011 | User have multiple payment option  | Support cash-on-delivery, online payments, and credit purchases for wholesale buyers. | 7 |
| NFR001 | System must be connected to Internet | System must be connected to Internet to operate the Application | 8 |
| NFR002 | Performance and scalability | system should handle at least 1000 concurrent users | 7 |
| NFR003 | Applicable in android, iOS and Desktop | User-friendly interface for mobile and web platforms | 8 |
| FR0012 | Admin can generate sales report and invoice  | Admin can generate invoice for user and sales report for the company  | 8 |

* **Product feature’s**

Product features describe outline functionality of the software like.

* Real-time inventory tracking
* Order management
* Batch and expiry tracking
* Quick delivery scheduling
* Reporting and analytics
* API integration with third-party logistics
* **Current state (as is)**
* Ice cream and milk product manufacture company is managing their inventory Manual tracking of raw materials (milk, sugar, flavors, etc.) currently they are using spreadsheet or legacy software usage.
* There are no real-time stock updates, leading to shortages or overstock
* Batch tracking is inefficient that lead to quality control harder and managing product.
* Currently there is lack of integration with suppliers and delivery agencies which leads to hamper product delivery and relation with supplier
* Orders received via phone, email, or outdated software or Manual order entry leads to delays and errors
* No real-time tracking of delivery vehicles so customers face longer waiting times

* **Future state (to be)**
* Their will be smart inventory management Real-time stock tracking with automated updates. IoT-enabled sensors to monitor temperature-sensitive inventory. Automated batch tracking for quality control. Supplier integration for seamless raw material procurement
* Fast order processing delivery live GPS tracking for delivery agents and Mobile & Web App for Order Management (integrated with CRM) Automated order assignment for faster processing
* **Project goal**
* This project’s goal is to develop a robust inventory management and quick delivery software tailored for ice cream and dairy product manufacturing. The system will streamline inventory tracking, optimize supply chain logistics, and ensure efficient order fulfillment with real-time updates.
* Key features will include stock monitoring, automated restocking alerts, batch tracking, delivery route optimization, and seamless order processing to enhance operational efficiency and minimize waste.
* **Business requirements**

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| --- | --- | --- | --- | --- |
| **Sr No.** | **Req ID** | **Business Requirements** | **Functionality** | **Priority** |
| 1 | BRD0001 | Inventory Management | Track raw materials (milk, sugar, flavors, etc.) and finished products in real time.Monitor stock levels and set automated restocking alerts.Implement batch tracking to ensure product freshness and compliance.Reduce inventory waste with FIFO (First In, First Out) management. | 10 |
| 2 | BRD0002 | Order Processing & Management | Allow customers (retailers, distributors, direct consumers) to place orders easily.Enable automated order processing with real-time inventory updates.Provide real-time order status tracking. | 9 |
| 3 | BRD0003 | Quick Delivery  | Enable GPS tracking for deliveries.Generate delivery invoices and proof of delivery records | 9 |
| 4 | BRD0004 | Production Planning & Forecasting | Track manufacturing progress and production batch details. | 8 |
| 5 | BRD0005 | Compliance & Quality Control | Ensure regulatory compliance for dairy products (temperature control, expiration dates).Monitor and log storage conditions (temperature, humidity).Enable quality control checks before dispatching orders. | 9 |
| 6 | BRD0006 | Integration & Scalability | Integrate with accounting software, ERP systems, and POS systems. | 8 |
| 7 | BRD0007 | User Roles & Access Control | Define roles for admin, warehouse staff, delivery personnel, and customers.Restrict access to critical operations and financial data. | 9 |
| 8 | BRD0008 | Reporting & Analytics | Generate sales reports, stock usage trends, and profit margins.Analyze delivery efficiency and operational bottlenecks | 8 |

* **Use case diagram**



**3. ERD of creating a support ticket**



**4. User stories (40)**

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| USER STORY NO. 1 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to sign up So that I can create an account  |
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|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria (accepted outcome)**User allow to enter email and password to register.If the email is already in use, an error message is displayed |
| A verification email is sent after registration. |
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| USER STORY NO.2 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to log in using my credential So that I can access my account  |
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|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** If credentials are incorrect, an error message is shown.Password reset option is available. |
| Users can enter their email and password to log in. |
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| USER STORY NO. 3 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to browse different categories So that I can explore available product  |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Categories include ice cream, milk, flavored milk, yogurt, etc.Clicking a category displays relevant products and details.  |
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| USER STORY NO. 4 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to search for a productSo that I can quickly find what I need |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Users can enter keywords in the search bar.Search results display matching products. |
| And display different category of the product  |
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| USER STORY NO. 5 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to apply filtersSo that I can refine product search results. |
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|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Filters include price range, flavor, brand, and dietary preferences.Selected filters update the product list dynamically.Also have option to remove filter  |
| USER STORY NO. 6 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to view product detailsSo that I can see information before purchasing |
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|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Product name, description, price, and ingredients are displayed. Nutritional values and allergens are shown. |

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| USER STORY NO. 7 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to product reviews and ratingsSo that I can make an informed decision |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Average rating is displayed.Customers can see individual reviews. |

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| USER STORY NO. 8 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to add products to my cartSo that I can buy multiple items. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Users can add products to the cart from the product page.The cart icon updates with the number of items. |

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| USER STORY NO. 9 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to remove items from my cartSo that I can update my order |
|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Users can remove items with a delete button.The total price updates accordingly |

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| USER STORY NO. 10 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to update the quantity of items in my cartSo that I can adjust my order |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Users can increase or decrease quantity.Stock availability is validated. |

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| USER STORY NO. 11 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to view my cart summarySo that I can review my order before purchases  |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Subtotal, discounts, and total price are displayed.Product name and quantity display  |

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| USER STORY NO. 12 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to proceed to checkoutSo that I can enter shipping and payment details |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Clicking "Checkout" takes users to a secure page.Allow enter shipping detail and payment detail  |

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| USER STORY NO. 13 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to enter my shipping addressSo that my order is delivered correctly. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Address fields include street, city, postal code, and country.  |

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| USER STORY NO. 14 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to choose my preferred delivery optionSo that I can receive my order at my convenience. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Options include standard and express delivery. |

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| USER STORY NO. 15 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to select a payment methodSo that I can complete my purchase. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Users can choose credit/debit card, PayPal, or cash on delivery. |

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| USER STORY NO. 17 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to receive an order confirmation emailSo that I have proof of my purchase. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Email contains order details, delivery estimate, and tracking link. |

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| USER STORY NO. 18 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to rate and review productsSo that others can benefit from my experience. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** User gets option to rate and review purchased product  |

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| USER STORY NO. 19 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to view my past ordersSo that reorder my favorite products easily |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** User can check past order and get reorder option. |

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| USER STORY NO. 20 | TASK 2 | PRIORITY: HIGHEST |
| As a customer I want to contact customer support via chat or phoneSo that I can resolve any issues with my order. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** User gets an option of customer support  |

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| USER STORY NO.21 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to log in using my credential So that I can access my account  |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** If credentials are incorrect, an error message is shown.Password reset option is available. |

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| USER STORY NO. 22 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to create, edit, and delete customer accountsSo that I can manage user access  |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin can add new users with email and password.Admin can update user details.Admin can deactivate or delete accounts. |

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| USER STORY NO. 23 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to reset user passwordsSo that I can assist customers with login issues |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin can send a password reset link.Admin can generate a temporary password. |

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| USER STORY NO. 24 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to reset user passwordsSo that I can assist customers with login issues |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin can send a password reset link.Admin can generate a temporary password.Customer receive notification after password reset  |

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| USER STORY NO. 25 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to update product detailsSo that I can keep information accurate |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin can edit product name, price, and stock availability.Admin can delete product from stock  |

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| USER STORY NO. 26 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to set discount pricesSo that I can run promotional campaigns. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin can apply a discount percentage or fixed price cut.Discounted price reflects in the store. |

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| USER STORY NO. 27 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to view all customer ordersSo that I can monitor sales |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin sees order list with customer details, status, and total amount.Admin can generate invoice  |

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| USER STORY NO. 28 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to update order statuses (Processing, Shipped, Delivered)So that customers are informed |
|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Order statuses update automatically Notify customers via email  |

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| USER STORY NO. 29 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to generate invoices for each orderSo that maintain financial records**.** |
|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin can generate a PDF invoice for any orderPDF can be shared  |

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| USER STORY NO. 30 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to process refundsSo that I can handle return  |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin can issue partial or full refunds. |

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| USER STORY NO. 31 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to configure payment methodsSo that customers have multiple payment options |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin can enable/disable payment methods like credit card, PayPal, or COD. |

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| USER STORY NO. 32 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to track product stock levelsSo that I can manage inventory |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Admin receives alerts when stock is low.Alert show in red pop up  |
| USER STORY NO. 33 | TASK 2 | PRIORITY: HIGHEST |
| As an admin I want to receive notifications for out-of-stock productsSo that I can restock them |
|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Products automatically get marked as "Out of Stock" when inventory is zero.Low inventory notification should pop |

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| USER STORY NO. 34 | TASK 2 | PRIORITY: HIGHEST |
| As a delivery person I want to receive order assignments on my mobile appSo that I can deliver them efficiently. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Orders assigned should appear on my dashboard.Notifications should be sent for new assignmentsNotification after accepting order  |

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| USER STORY NO. 35 | TASK 2 | PRIORITY: HIGHEST |
| As a delivery person I want to view order details including address, customer contact, and order itemsSo that I can ensure accurate delivery  |
|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Order details should include address, customer contact, and items.A "Start Delivery" button should be available for tracking.Delivery person can make call  |

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| USER STORY NO. 36 | TASK 2 | PRIORITY: HIGHEST |
| As a delivery person I want to update the order status at each stepSo that customers stay informed. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Status should change from "Picked Up" to "Out for Delivery" to "Delivered."Customers should receive real-time updates. |

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| USER STORY NO. 37 | TASK 2 | PRIORITY: HIGHEST |
| As a delivery person I want to contact the customer via call or messageSo that I can clarify any address or delivery details. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** A "Call Customer" button should be available.Customer numbers should be masked for privacy. |

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| USER STORY NO. 38 | TASK 2 | PRIORITY: HIGHEST |
| As a delivery person I want to handle multiple deliveries in one tripSo that I can maximize efficiency. |
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| BV: 500 |  | CP: 2 |
| **Acceptance criteria** The app should allow batch deliveries with optimized routes.Orders should be prioritized based on time constraints. |

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| USER STORY NO. 39 | TASK 2 | PRIORITY: HIGHEST |
| As a delivery person I want to collect cash payments securelySo that I can handle COD orders |
|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** The app should indicate COD orders.Notify after receive payment  |

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| USER STORY NO. 40 | TASK 2 | PRIORITY: HIGHEST |
| As a delivery person I want to confirm if an order is prepaidSo that I don't collect payment unnecessarily |
|  |
| BV: 500 |  | CP: 2 |
| **Acceptance criteria** Orders should clearly indicate "Paid" or "COD’’If COD option of cash and upi  |