**Assignment No 1**

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

**Project Name: Inventory and Delivery Management System**

**Project ID: IDMS001**

**Version ID: VI001**

**Author: Vishal Ingale**

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# Document Revisions

|  |  |  |
| --- | --- | --- |
| Date | Version Number | Document Changes |
| 08/12/2024 | 0.1 | Initial Draft |
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# Approvals

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Name** | **Title** | **Signature** | **Date** |
| Project Sponsor | Prakash Shah  |  |  |  |
| Business Owner | Dhaval Jain |  |  |  |
| Project Manager | Partik Sen |  |  |  |
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| Content Lead | Vivek Nimse |  |  |  |

# RACI Chart for This Document

The RACI chart identifies the persons who need to be contacted whenever changes are made to this document. RACI stands for responsible, accountable, consulted, and informed. These are the main codes that appear in a RACI chart, used here to describe the roles played by team members and stakeholders in the production of the BRD. They are adapted from charts used to assign roles and responsibilities during a project. (RACI Can be made for IT side [Project stakeholder] as mentioned above, apart from that can also Be made for Client side [Business Stakeholder]).

The following describes the full list of codes used in the table:

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 (for example, the project manager)

S Supports Provides supporting services in the production of this document

C Consulted Provides input (such as an interviewee).

I Informed Must be informed of any changes.

### RACI Chart

RACI Matrix

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Task | Operations Manager | IT Team | Logistics Team | Plant Managers | Warehouse Managers | Customers | BA |
| Define System Requirements | A | C | C | I | C | I | R |
| Conduct Stakeholder Interviews | C | I | I | I | I | I | R |
| Design Software Architecture | C | R | I | I | I | I | C |
| Create User Stories and Acceptance Criteria | A | C | A | A | A | A | R |
| Implement Inventory Management System | I | R | C | A | A | I | I |
| Implement Delivery Tracking System | I | R | A | I | I | I | I |
| Perform System Testing | I | R | C | I | C | I | I |
| Deploy | I | R | I | I | I | I | C |
|  |  |  |  |  |  |  |  |

# Introduction

## Business Goals

* Streamlined Inventory Management: Ensure real-time monitoring of inventory levels

across all warehouses and plants.

* Enhanced Delivery Efficiency: Implement a system to identify the fastest delivery

routes and automate order allocation based on proximity and inventory availability.

* Improved Customer Satisfaction: Minimize order delivery time and ensure product

quality at delivery.

## Business Objectives

* Develop a centralized system to track and manage inventory across all locations.
* Automate order processing, allocation, and dispatch based on inventory and location proximity.
* Reduce inventory wastage by implementing an expiry-date tracking mechanism
* To minimize delivery times and maximize customer satisfaction.
* To improve overall operational efficiency and reduce costs.

4.3 Business Rules

* Inventory must be updated in real-time upon receipt, dispatch, or adjustment.
* Warehouse reordering thresholds should trigger automated purchase orders.
* Orders should only be fulfilled if the inventory is available and meets the required shelf-life criteria.
* Delivery routes must prioritize freshness while minimizing transportation costs.
* Customer priority orders (e.g., bulk orders) must be flagged for immediate action.

## Background

The company specializes in the manufacturing and distribution of ice cream and milk products. With manufacturing plants and warehouses located in various parts of the country, the company aims to streamline its operations to maintain a competitive edge in the market. The increasing demand for their products, coupled with the need to ensure high-quality and timely delivery, has highlighted inefficiencies in the current system.

This project is initiated to address challenges in inventory management, improve the delivery process, and ensure customer satisfaction. By leveraging technology, the company seeks to optimize its supply chain and enhance operational visibility across all facilities.

## Project Objective

* Implement a centralized system to monitor stock levels in real-time at the plant and regional warehouses.
* Automate stock replenishment to avoid under-stocking or overstocking issues.
* Enable efficient route optimization for timely product delivery.
* Provide customers with real-time delivery tracking and notifications.
* Reduce manual errors in production and inventory processes.
* Ensure that customers receive fresh products promptly.

## Project Scope

The project will encompass all aspects of the company's supply chain, from raw material procurement to final delivery to customers.

### In Scope Functionality

* Real-time inventory management system for manufacturing plants and warehouses.
* Integration with delivery management software for route optimization.
* Monitoring and reporting tools for inventory and delivery management.
* Alerts for low inventory and delivery delays.

### Out Scope Functionality

* Development of customer-facing e-commerce platforms.
* Marketing or promotional activities.
* Customer relationship management (CRM)

# Assumptions & Constrains

Assumptions

* All warehouses are equipped with the necessary hardware for system integration.
* Internet connectivity is reliable across all locations.
* Availability of required GPS systems for route optimization.
* Operational delivery partners and availability of transportation vehicles.
* Availability of manpower for operating the designed system.

Constrains

* Limited financial resources may restrict the scope of the project, including the selection of software tools, hardware, or third-party services.
* Project timelines may limit the time available for system testing, employee training, and phased deployment.
* Legacy systems may not support integration with modern software solutions.
* Availability of reliable vendors or logistics partners in all operational regions

# Risks

##

## Technological Risks

* Difficulty in integrating the new inventory and delivery systems with existing software may cause delays or disruptions.
* System scalability with increasing business demand.

## Skills Risks

## Insufficient training or lack of skilled employees to operate the new system may lead to inefficiencies.

Political Risks

* Resistance from employees due to new processes and technology.
* Potential vendor lock-in with third-party tools.

## Business Risks

* Inefficient route optimization or logistical issues might result in delayed deliveries, harming customer trust.
* Customer dissatisfaction due to delay in delivery.

Risk Mitigation Strategies

## Ensure comprehensive testing of the system before full deployment to mitigate technological risks.

* Training of all employees and stakeholders to use the new system effectively and reduce resistance.
* Use of project management tools to track implementation progress and identify risks early.
* Open communication with all stakeholders to address concerns and ensure alignment.

# Business Process Overview

The inventory management system will track customer orders and allocate for delivery to the nearest warehouse with availability of the product and will also streamline inventory and delivery management to avoid under stocking or over stocking in any warehouse.

## Legacy System (AS-IS)

The AS-IS process highlights the existing inefficiencies and challenges in the company’s operations.

## Manufacturing

* Manual production scheduling based on historical data rather than real-time demand.

## Inventory Management

## Inventory levels are tracked manually or using old systems.

* Delayed stock updates lead to overstocking or under stocking at warehouses.

## Order Processing

* Customer orders are processed manually, leading to delays and potential errors.
* Delivery routes are planned manually without optimization tools, resulting in higher costs and delays.



##  Proposed Recommendations (TO BE)

The TO-BE process describes the optimized and efficient workflow after implementing the proposed solutions.

## Manufacturing

* Automated production scheduling based on real-time demand forecasts.
* Automated quality control checks using technology to minimize errors.

## Inventory Management

## Centralized inventory tracking system providing real-time visibility across manufacturing plants and warehouses.

* Automated replenishment triggered by predefined stock thresholds.

## Order Processing

* Integrated order management system that connects customer orders directly to inventory levels.
* Real-time order tracking and automated notifications to customers.
* Improved route optimisation for faster service.



# Business Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| Sr.no | Business requirement | Functionality | Priority |
| 1 | Real-time inventory tracking across locations to provide visibility into stock levels. | Inventory Management | High  |
| 2 | Automate stock replenishment based on predefined thresholds to prevent stock outs or overstocking. | Inventory Management | High  |
| 3 | Expiry-date monitoring and alerts for perishable items. | Inventory Management | High  |
| 4 | Implement an order management system that automates order fulfilment. | Order Processing | High |
| 5 | Bulk order prioritization. | Order Processing | High  |
| 6 | Integration with GPS and real-time data for route planning to reduce delivery times and costs. | Delivery System | High |
| 7 | Dynamic rerouting in case of delays. | Delivery System | High |
| 8 | Ensure quick resolution of complaints with an integrated ticketing system for issue management. | Customer Experience | High  |
| 9 | Offer automated feedback collection after order delivery to measure customer satisfaction. | Customer Experience | High |
| 10 | Generate real-time reports on inventory levels, order trends and delivery performance. | Reporting and Analytics | High |
| 11 | Use predictive analytics for demand forecasting and replenishment planning. | Reporting and Analytics | High |

# Appendices

## List of Acronyms

## Glossary of Terms

## Related Documents

**2. Process Flow**

**Steps:**

1. Inventory Update: Manufacturing plant updates system with production data.
2. Warehouse Stocking: Products are transported to regional warehouses, with inventory levels automatically updated.
3. Order Placement: Orders are received from distributors or retailers.
4. Inventory Check: System checks the nearest warehouse for stock availability.
5. Delivery Scheduling: Delivery routes are optimized based on customer location and urgency.
6. Dispatch: Products are picked, packed, and dispatched.
7. Delivery Monitoring: GPS tracks the delivery vehicle's progress.
8. Customer Feedback: System records delivery time and customer feedback for performance analysis.

Process Flow Diagram



**Resource Plan**:

 The resource plan for the project will focus on three main categories: human resources, technology and infrastructure and budget.

* **Human Resources**

People and their roles in the project

Project Manager - Manage timelines and coordinate between teams during project.

Business Analyst - Gather requirements, document workflows, and communicate with stakeholders.

Software Developers – A team of developers that develop the system, implement features for inventory and delivery management.

Database Administrator - Set up and maintain databases for inventory and delivery tracking.

Testers -Test the software for functionality, performance, and security.

* **Technology**

Hardware Requirements

Computers/Tablets and GPS Devices.

Software Requirements

Development Tools, Database, and Servers,

* **Budget**

The project will be completed in 15 months with a budget of Rs. 1,75,00,000/-

**Process Flow Diagram Description**

The process flow will be as per following steps:

* **Manufacturing Plant**:
	+ Ice cream and milk products are manufactured.
	+ Inventory is updated in the system.
* **Warehousing**:
	+ Products are distributed to warehouses based on demand forecasting.
	+ Real-time inventory updates are reflected.
* **Order Processing**:
	+ Orders are placed by retailers or distributors.
	+ The system identifies the nearest warehouse with available stock.
* **Route Optimization and Scheduling**:
	+ Delivery schedules are created using route optimization software.
* **Dispatch and Delivery**:
	+ Products are dispatched, and delivery is tracked in real time.
* **Customer Feedback**:
	+ Feedback is collected post-delivery.

**Assignment No. 2**

**Introduction Letter**

Dear Sir,

I hope this message finds you well. My name is Vishal Ingale and I am pleased to introduce myself as the Business Analyst assigned to collaborate with you and your team on this amazing project.

I will serve as your primary point of contact throughout the business understanding process. My goal is to work closely with you and your team to ensure we gather comprehensive insights into your business needs, objectives, and challenges. This understanding will form the base for designing solutions to achieve your business goals efficiently and effectively. Understanding the challenges and opportunities within the manufacturing and logistics sectors, particularly in delivering exceptional customer service, is a domain I am passionate about. With your vision of managing inventory and ensuring the quickest delivery of your ice-cream and milk products, my role will be to work closely with you to transform these goals into a robust, tailor-made software solution

Over the coming days and weeks, we will work to Identify and document your key requirements. Map current workflows and processes to uncover areas for optimization. Collaborate to align the project deliverables with your strategic objectives. Address any initial questions or concerns to ensure clarity and alignment from the start.

Thank you for the opportunity to collaborate on this project. I am confident that, together, we will develop a solution that adds significant value to your business operations. Please let me know a convenient time for us to connect further.

Looking forward to work with you

Warm Regards

Vishal Ingale

Business Analyst

Mobile No

**BRD - Ticketing System**

**Project Name: Ticketing System**

**Project ID: TS001**

**Version ID: VI0001**

**Author: Vishal Ingale**

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# Document Revisions

|  |  |  |
| --- | --- | --- |
| Date | Version Number | Document Changes |
| 08/12/2024 | 0.1 | Initial Draft |
| 09/12/2024 | 0.2 | Made changes in the requirement gathering |
| 10/12/2024 | 0.3 | Updated RACI |
|  |  |  |
|  |  |  |

# Approvals

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Name** | **Title** | **Signature** | **Date** |
| Project Sponsor | Vivek Khar  | Requirements | Vivek Khar  | 23/10/2024 |
| Business Owner | Shivam Shah | Requirements | Shivam Shah | 23/10/2024 |
| Project Manager | Maya Gupta | BRD | Maya Gupta | 24/10/2024 |
| System Architect | Sameer Shaikh | Architecture | Sameer Shaikh | 25/10/2024 |
| Development Lead | Vishal Kumar | Requirement | Vishal Kumar | 24/10/2024 |
| User Experience Lead | Vikas Dhar | Design | Vikas Dhar | 24/10/2024 |
| Quality Lead | Dheeraj Tupe | Quality | Dheeraj Tupe | 24/10/2024 |
| Content Lead | Ashit Kumar | Content | Ashit Kumar | 24/10/2024 |

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### RACI Chart

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task/Activity | Responsible | Accountable | Consulted | Informed |
| Requirements Gathering | Business Analyst | Project Sponsor | Stakeholders | IT Team |
| Design & Prototyping | UX/UI Designer | Project Manager | Business Analyst | Stakeholders |
| Development | Developers | IT Manager | Business Analyst | Project Sponsor |
| Testing | QA Team | IT Manager | Developers | Stakeholders |
| Deployment | IT Team | Project Sponsor | QA Team | All Users |
| User Training | Training Team | Project Sponsor | Business Analyst | All Users |
| Performance Monitoring | Administrators | IT Manager | Stakeholders | Project Sponsor |

# Introduction

## Business Goals

To develop a centralized Ticketing System that allows users to raise, track, and resolve support tickets efficiently, ensuring improved communication, faster resolution, and better customer satisfaction.

## Business Objectives

* To enable users to create, manage, and resolve tickets seamlessly.
* To optimize workflows and prioritize tickets to ensure timely resolutions.
* To provide tools for assigning tickets to the appropriate agents, managing workloads, and tracking performance..
* To provide transparency and accountability through real-time updates and feedback mechanisms.
* To automating routine support processes, reducing human error, and speeding up the resolution process, leading to a reduction in operational costs
	1. Business Rules
* Tickets must be assigned to agents within 15 minutes of creation.
* Tickets cannot be closed until all required information is provided, and the issue is fully resolved.
* A ticket must be reopened if a customer reports the issue again within 30 days of closure.

## Background

The company’s current ticketing system is inefficient, causing slow response times, delayed resolutions, miscommunications, and decreased customer satisfaction. To address these issues, the company will implement a new Ticketing System that automates ticket management, integrates a knowledge base, and provides detailed reporting. By streamlining workflows, automating assignments, and offering real-time updates, the system will empower support teams to deliver better service while optimizing resource utilization.

The project aims to enhance efficiency, reduce costs, and provide better data insights for decision-making. Key stakeholders include customer support, IT, and business leadership. The project will be completed in 8 months, with phased rollout and ongoing support

## Project Scope

This project will encompass all aspects of the company's supply chain, from raw material procurement to final delivery to customers.

### In Scope Functionality

* User-friendly interface/portal for creating and tracking tickets.
* Admin/Support team portal for ticket management.
* Automated ticket assignment based on predefined criteria (e.g., category or priority).
* Notifications and alerts for ticket status updates.
* Reporting and analytics for monitoring performance and identifying bottlenecks.

### Out Scope Functionality

* Custom development for third-party tool integrations.
* Hardware procurement and setup.

# Assumptions & Constrains

Assumptions

* All users have access to the internet.
* Existing data required for migration to the new system will be made available in a compatible format.
* Availability of desktop and other required hardware.

Constrains

* Limited financial resources may restrict the scope of the project, including the selection of software tools, hardware, or third-party services.
* It must comply with applicable data privacy regulations.
* The system should be scalable to handle up to 10,000 tickets per day without
* The system should be scalable to handle up to 10,000 tickets per day without
* The system should be scalable to handle up to 10,000 tickets per day without performance degradation.
* Legacy systems may not support integration with modern software solutions.

# Risks

## Technological Risks

* Difficulty in integrating the new systems with existing legacy software may cause delays or disruptions.
* Unexpected downtime during implementation could interrupt manufacturing or delivery operations.

## Skills Risks

## Insufficient training or lack of skilled employees to operate the new system may lead to inefficiencies.

## Political Risk

* Internal organizational changes, such as shifts in key personnel or management priorities, could affect the project's support or direction, causing delays or shifting project goals.

Business Risks

## Poor resolution implementation may result in customer dissatisfaction.

* The new ticketing system might not achieve the expected improvements in customer satisfaction or operational efficiency, leading to a lack of return on investment ROI.

Risk Mitigation Strategies

## Conduct detailed technical assessments and integration testing to ensure compatibility with current systems to mitigate technological risks.

* Train all employees and stakeholders to use the new system effectively and reduce resistance.
* Maintain regular communication with key stakeholders and senior leadership to ensure alignment.
* Set clear, measurable business objectives before the project starts.

# Business Process Overview

The ticketing system for support and issue system management will allow users to raise tickets for any issue or support required for completing their day to day tasks and also track on the raised or closed issues, and allow business stakeholders to generate reports for performance tracking and analysis purpose.

## Legacy System (AS-IS)

The AS-IS process highlights the existing inefficiencies and challenges in the company’s operations.

* Customers submit support tickets via email or phone, which are
* manually entered into the system by agents. This often leads to errors in ticket
* categorization and delays in assignment
* Customers submit support tickets via email or phone, which are
* manually entered into the system by agents. This often leads to errors in ticket
* categorization and delays in assignment
* Customers submit support tickets via email or phone, which are manually entered into the system by agents. This often leads to errors in ticket categorization and delays in assignment.
* Tickets are manually assigned to support agents based on availability or expertise. This process is time-consuming and lacks prioritization, leading to unequal workload distribution among agents.
* Agents resolve tickets based on available information, but often have limited access to knowledge resources, requiring them to solve recurring issues. The closure process is also manual and lacks consistency, leading to reopened tickets.
* Reporting is done manually through ad hoc data collection and spread sheets making it difficult to track key performance metrics (KPIs) like ticket resolution time and performance.
* Poor quality control due to non-automated process



## 7.2. Proposed Recommendations (TO BE)

The TO-BE process describes the optimized and efficient workflow after implementing the proposed solutions.

* The new system will allow customers to create tickets through multiple channels (email, web portal, chat, etc.). The system will automatically capture key details such as issue type, urgency, and customer information.
* The system will automatically categorize and prioritize tickets based on predefined rules (e.g., urgency, issue type). Tickets will be assigned to the most appropriate agent based on their expertise and availability, ensuring a more efficient workload distribution.
* The system will integrate a knowledge base, allowing agents to quickly access solutions for common issues. Automated workflows will guide agents through the ticket resolution process, ensuring consistency and reducing resolution time.
* The system will include built-in reporting features, providing real-time dashboards and detailed reports on KPIs such as ticket volume, resolution time and agent performance and identify areas for improvement. These reports will be customizable, enabling managers to monitor performance and identify areas for improvement.
* A centralized knowledge base will be integrated into the system allowing agents to search for and contribute solutions to recurring issues. This will help reduce resolution times, improve consistency, and enable new agents to ramp up more quickly.



# Business Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| Sr.no | Business requirement | Functionality | Priority |
| 1 | Develop a centralized platform for managing all support requests across departments. | User Management | High  |
| 2 | The system must allow customers to submit tickets through multiple channels, including email, web portal, and chat, ensuring seamless ticket creation across various platforms. | User Management | High  |
| 3 | The system should prioritize tickets automatically based on urgency and predefined criteria. | User Management | High  |
| 4 | Support staff should have access to a unified dashboard to manage their assigned tickets efficiently. | Resolutions Management | High |
| 5 | The system must include an automated ticket escalation process that triggers based on predefined conditions (e.g., unresolved ticket for a certain period). | Admin | High  |
| 6 | The system must support real-time communication between users and support teams through comments. | Resolutions Management | High  |
| 7 | The system must support multiple languages to cater to a diverse customer base, allowing customers and agents to interact in their preferred language. | Resolutions Management | High |
| 8 | The system must allow customers to provide feedback on ticket resolution and agent performance, and this data must be captured and analyzed for continuous improvement. | Reporting Management | High  |
| 9 | The system must comply with relevant data privacy regulations and ensure secure handling of sensitive customer data. | Security and Data Privacy | High |

# Appendices

## List of Acronyms

## Glossary of Terms

## Related Documents

**Software Requirement Specification (SRS)**

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1. Introduction

1.1 Purpose: The purpose of the Ticketing Life Cycle System is to streamline the process of issue reporting tracking, and resolution within an organization. It provides users with a platform to create tickets for their concerns or inquiries, assigns these tickets to appropriate agents, and ensures timely updates on their progress.

1.2 Goals: To ensure that the software meets the need of the company, break down the problem into smaller components, allows requirements to be tested and validated and provide feedback to the customer that the system addresses their needs.

1.3 Objectives: To ensure ticket creation, assignment, status tracking, comments, user roles(customer, agent, admin) and Analytics and Reporting.

1.4. Scope:

Included: Ticket creation, assignment, status tracking, comments, user roles(customer, agent, admin) and Analytics and Reporting.

Excluded: Complex integrations.

2. Overall Description

* 1. Product Perspective: A web-based system for internal or small-scale customer support.
	2. Product Functions: Ticket creation, assignment, status updates, comments, user management.
	3. User Characteristics: Support agents, customers and Notification System.
	4. Operating Environment: Web browsers, standard operating systems.

3. Specific Requirements

3.1 Functional Requirements:

FR-001: The system shall allow users to register by providing their name, email, and password

FR-002: Create tickets with subject, description, and priority.

FR-003: The system shall allow registered users to log in using their email and password.

FR-004: Assign tickets to agents

FR-005: Update ticket status (e.g., Open, In Progress, Resolved, Closed).

FR-006: Agents shall update the status of tickets to Open, In Progress, or Closed

FR-007: Users and agents shall be able to view all ticket details including status, category, and assigned agent

FR-008: Users shall have a dashboard displaying their open and closed tickets.

FR-009: The system shall use predefined rules to assign tickets automatically to agents based on their availability and category.

FR-010: Users shall provide feedback on ticket resolution.

3.2 Non-Functional Requirements:

NFR-001: The system shall provide responses to user actions, such as ticket creation, within 2 seconds under normal load.

NFR-002: The system shall provide a responsive design for seamless operation on mobile devices.

NFR-003: The system shall perform daily backups and provide data recovery within 2 hours in case of failure.

NFR-004: The system shall integrate with third-party tools such as Slack, Microsoft Teams, and email systems.

NFR-005: The system shall log all critical events and provide real-time monitoring for troubleshooting and performance analysis.

3.3 User Interfaces: User-friendly, clear labelling.

3.4 Software Interfaces: Operating Systems like Windows, macOS, Web browsers like Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari.

3.5 Performance Requirements: Fast loading times, quick responses.

3.6 Security Requirements: Secure authentication, data protection.

* 1. Usability Requirements: Easy navigation.

4 Appendices

4.1 Glossary of terms

4.2 Related documents

**Use Case 1: Create a support Ticket**

* **Actor:** Primary: /CustomerEnd-User, Secondary: System
* **Precondition:** Customer has an account (or can create one).
* **Trigger:** Customer encounters an issue or has a request.
* **Basic Flow:**
	1. Customer navigates to the ticket creation page.
	2. Customer enters subject, description, and priority level.
	3. Customer submits the ticket.
	4. System generates a unique ticket ID and displays a confirmation message.
	5. System assigns the ticket to the appropriate queue or agent (if automated assignment is enabled).
* **Alternate Flows:**
	1. Customer may encounter errors in form input (e.g., missing fields). System displays error messages and prompts for corrections.
* **Post condition:** A new ticket is created and assigned in the system.

**Acceptance Criteria:**

* A support ticket can be created with a subject, description, and priority level.
* The system generates a unique identifier for each ticket.
* The ticket is automatically assigned to the appropriate queue or agent based on predefined rules (if applicable).
* The system displays a confirmation message to the customer upon successful ticket creation.
* Error messages are displayed for invalid input (e.g., missing fields).

**Use Case 2: View and Manage Tickets (Agent)**

* **Actor:** Primary: Agent/End-User, Secondary: System
* **Precondition:** Agent is logged in to the system.
* **Trigger:** Agent needs to view or manage assigned tickets.
* **Basic Flow:**
	1. Agent logs in to the system.
	2. Agent views a list of assigned tickets.
	3. Agent selects a ticket to view details.
	4. Agent can update ticket status, add comments, and attach files.
	5. Agent can reassign the ticket to another agent.
* **Alternate Flows:**
	1. Agent may encounter no assigned tickets.
	2. Agent may encounter errors while updating ticket information.
* **Post condition:** Ticket status, comments, and assignee are updated in the system.

**Acceptance Criteria:**

* Agents can view a list of tickets assigned to them.
* Agents can view ticket details, including subject, description, priority, status, comments, and history.
* Agents can update ticket status (e.g., Open, In Progress, Resolved, Closed).
* Agents can add comments and attachments to tickets.
* Agents can reassign tickets to other agents.
* The system displays error messages for invalid actions.

**Use Case 3: View Ticket History**

* **Actor:** Primary: Customer, Agent, Secondary: System
* **Precondition:** A ticket exists in the system.
* **Trigger:** Customer or agent wants to view the history of a ticket.
* **Basic Flow:**
	1. Customer or agent views a ticket.
	2. Customer or agent accesses the ticket history section.
	3. System displays a chronological list of all status changes, comments, and attachments added to the ticket.
* **Alternate Flows:**
	1. No history is available for the ticket.
* **Post condition:** Ticket history is displayed to the user.

**Acceptance Criteria:**

* The ticket history includes all status changes, comments, and attachments.
* Timestamps are associated with each event in the history.
* The history is displayed in a clear and chronological order.

**Use Case 4: Edit draft ticket**

* **Actor:** Primary: Customer/End-User, Secondary: System
* **Precondition:** Customer is logged in to the system.
* **Trigger:** Customer needs to edit draft ticket.
* **Basic Flow:**
	1. Customer logs in to the system.
	2. Customer navigates to the "My Drafts" section.
	3. Customer selects a draft ticket.
	4. Customer updates fields and saves changes or submits the ticket.
* **Alternate Flows:**

If the Customer decides not to submit the ticket he can saves changes and exits without submitting

* **Post condition:** Draft is updated, or ticket is submitted.

**Acceptance Criteria:**

* Customer selects a draft ticket.
* Customer updates fields and saves changes or submits the ticket.
* The system displays error messages for invalid actions.

**Use Case 5: Submit Feedback for a Resolved Ticket**

* **Actor:** Primary: Customer/End-User, Secondary: System
* **Precondition:** Ticket must have a "Resolved" status.
* **Trigger:** Customer needs to submit feedback for resolved ticket.
* **Basic Flow:**
	1. Customer logs in to the system.
	2. Customer navigates to the "Resolved Tickets".
	3. Customer selects a ticket.
	4. Customer submits feedback, including ratings and optional comments.
	5. System saves the feedback and updates the ticket record.
* **Alternate Flows:**

User opts to skip providing feedback

* **Post condition:** Feedback is successfully recorded in the system..

**Acceptance Criteria:**

* Customer selects a resolved ticket.
* Customer submits feedback, including ratings and optional comments.
* The system displays error messages for invalid actions.



**ENTITY RELATIONSHIP DIAGRAM**



**User stories of shopping from ecommerce**.

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| **User story No: 1** | **Tasks: 1** | **Priority: High** |
| **Value statement:** As a customer I want to search for products by category so that I can quickly find what I need  |
| **BV:500** | **CP:02** |
| **Acceptance criteria:**Click on Search by category ButtonThe search bar is visible and functional on the homepage.Search results are displayed within 2 seconds after submission |

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| **User story No: 2** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to filter products by price, brand, or ratings so that I can refine my search |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on “Filter” ButtonFilters for price range, brand, and ratings are available.Results update dynamically based on selected filters |

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| **User story No: 3** | **Tasks: 2** | **Priority: High** |
| **Value statement:** As a customer I want product sorting options (e.g., price, popularity)so that I can make informed purchase decisions |
| **BV:500** | **CP:02** |
| **Acceptance criteria:**Click on Sort Product Details ButtonSorting options are available on product listing pages.Products are sorted correctly based on the selected criteria |

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| **User story No: 4** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want user-friendly product details pageso that I can make informed purchase decisions |
| **BV:500** | **CP:03** |
| **Acceptance criteria:**Click on View Product Details ButtonThe product page includes images, price, description, and reviews."Add to Cart" and "Buy Now" buttons are visible and functional |

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| **User story No: 5** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to add reviews and ratingsso that I can I can share my feedback with other user |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on reviews and ratings ButtonCustomers can submit reviews and ratings after purchasing a product.Reviews are displayed on the product details page |

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| **User story No: 6** | **Tasks: 4** | **Priority: High** |
| **Value statement:** As a customer I want to create an accountso that I can save my preferences and order history. |
| **BV:500** | **CP:04** |
| **Acceptance criteria:**Click on Create Account ButtonUsers can enter their name, address, and contact details.Changes are saved and reflected immediately |

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| **User story No: 7** | **Tasks: 3** | **Priority: High** |
| **Value statement:** As a customer I want to log in securely using my email and password so that I can access my account quickly. |
| **BV:500** | **CP:03** |
| **Acceptance criteria:**Click on Login ButtonUsers can sign up, log in, and reset passwords securely.Passwords are encrypted, and two-factor authentication is available |

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| **User story No: 8** | **Tasks: 4** | **Priority: Medium** |
| **Value statement:** As a customer I want to reset my password in case I forget it so that I can regain access to my account |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Reset Password ButtonEnter new unique passwordSave the new password  |

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| **User story No: 9** | **Tasks: 4** | **Priority: Medium** |
| **Value statement:** As a customer I want to update my profile details so that my account stays updated. |
| **BV:200** | **CP:03** |
| **Acceptance criteria:**Click on Update Profile ButtonUsers can enter their name, address, and contact details.Changes are saved and reflected immediately |

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| **User story No: 10** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to view my past orders so that I can keep track of what I have purchased |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on View Orders ButtonUsers can view a list of their completed orders.Clicking on an order shows detailed information, including items and total cost |

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| **User story No: 11** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to add products to my shopping cart so that I can purchase them later |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Add to cart ButtonItems are added to the cart with correct quantity and pricing.Users can view, update, or remove items from the cart. |

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| **User story No: 12** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to remove items from my cart so that I can change my selection |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Remove from cart ButtonItems are added to the cart with correct quantity and pricing.Users can view, update, or remove items from the cart. |

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| **User story No: 14** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to select a preferred payment method so that I can pay conveniently |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Choose Payment Method ButtonPayment gateway supports credit card, PayPal, and digital wallets.Transactions are processed within 5 seconds |

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| **User story No: 15** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to track the status of my orderso that I know when to expect delivery |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Track Order ButtonUsers can view the status of their orders in real-time.Notifications are sent for key updates (e.g., shipped, out for delivery) |

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| **User story No: 16** | **Tasks: 4** | **Priority: Medium** |
| **Value statement:** As a customer I want to request a return or replacement for an order so that I can exchange defective or incorrect items |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Return/Replace ButtonSelect Return/Replace for the required orderProvide reason for Return/Replace |

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| **User story No: 17** | **Tasks: 17** | **Priority: Medium** |
| **Value statement:** As a customer I want a wishlist feature for saving favourite productsso that I can purchase them later |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Wishlist ButtonUsers can add, view, and remove items from the wishlist.Wishlist items persist even after logout. |

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| **User story No: 18** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to update the quantity of items in my cart so that I can buy as much as I need |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Add/Remove Item ButtonDetails are saved |

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| **User story No: 19** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want a secure checkout process.so that I can complete my purchase confidently |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Add to wishlist ButtonUsers can enter billing and shipping details securely.Payment is processed securely using industry standards |

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| **User story No: 20** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to move items from my wishlist to my cart so that I can buy them |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Move to Cart ButtonSelect the items that are required to move to Cart |

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| **User story No: 21** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to remove items from my wishlist so that it stays organized |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Remove Item ButtonSelect items that are required to be removed from wishlist |

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| **User story No: 22** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to proceed to checkout from my cart so that I can place my order. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Proceed to Checkout ButtonUsers can enter billing and shipping details securely.Payment is processed securely using industry standards |

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| **User story No: 23** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to review my order details before payment so that I can confirm everything is correct. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Review Order ButtonUsers can view a list of their items in their order.Clicking on an order shows detailed information, including items and total cost |

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| **User story No: 24** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to apply coupon codes at checkout so that I can save money. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Apply Coupon ButtonEnter the applicable coupon codeTotal cost is updated automatically |

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| **User story No: 25** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to securely save my payment details so that future purchases are faster. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Save Payment Details ButtonDetails are saved  |

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| **User story No: 26** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to change payments method so that I can try with another payment method |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Change Payment Method ButtonSelect the required payments methodEnter the payment details |

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| **User story No: 27** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to see the shipping cost before completing my purchaseso that I know the total expense |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Track My Order ButtonShipping costs are calculated dynamically based on the delivery location.The total cost, including shipping, is displayed in the cart |

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| **User story No: 28** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to select a preferred delivery time slot so that I receive my order at my convenience |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Preferred Delivery ButtonUsers can select preferred delivery dates and time slots during checkout.Delivery preferences are confirmed in the order summary |

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| **User story No: 29** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to change my delivery address before shipping so that my order reaches the right place. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Update Delivery Address ButtonEnter the required addressDelivery preferences are confirmed in the order summary |

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| **User story No: 30** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to write a product review so that others can benefit from my experience |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Review Product ButtonCustomers can submit reviews after purchasing a product.Reviews are displayed on the product details page |

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| **User story No: 31** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to rate products I’ve purchased so that my satisfaction level for the product is understood by the seller. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Rate Product ButtonCustomers can submit ratings after purchasing a product.Ratings are displayed on the product details page |

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| **User story No: 32** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to view FAQs so that I can quickly find answers to common questions |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on FAQs ButtonSearch questions for the required query |

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| **User story No: 33** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to ask queries so that I can quickly resolution to a specific question. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Ask Query ButtonChoose from the available optionsEnter the query |

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| **User story No: 34** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to save multiple delivery addresses so that I can quickly choose the right one during checkout |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Add Address ButtonEnter the additional address for deliverySave the details |

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| **User story No: 35** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer I want to Add an email and SMS notification system for ordersso that I stay informed |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Add Email and SMS notification ButtonNotifications are sent for order confirmation, shipping, and delivery.Users can opt-in or opt-out of notifications. |

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| **User story No: 36** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer I want to see personalized product recommendations so that I can discover items I may like. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Recommended Products ButtonRecommendations are tailored based on the user’s location.Location data is obtained with consent and is updateable |

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| **User story No: 37** | **Tasks: 3** | **Priority: Medium** |
| **Value statement:** As a customer, I want to subscribe to recurring purchases so that I don’t have to reorder frequently used items manually. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Subscription Products Button Users can select subscription options (e.g., weekly, monthly).Subscriptions can be paused, modified, or canceled at any time  |

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| **User story No: 38** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer, I want to add gift-wrapping and a message to my order so that I can send personalized gifts |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on gift wrap ButtonUsers can select gift wrapping during checkout.Users can enter a personalized message up to 250 characters |

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| **User story No: 39** | **Tasks: 2** | **Priority: Medium** |
| **Value statement:** As a customer, I want personalized recommendations so that I can discover products I like |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Product Recommendations ButtonRecommendations are displayed based on browsing and purchase history |

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| **User story No: 40** | **Tasks: 4** | **Priority: Medium** |
| **Value statement:** As a customer, I want to refer my friends and earn rewards so that I feel incentivized to promote the site. |
| **BV:200** | **CP:02** |
| **Acceptance criteria:**Click on Referrals ButtonUsers receive unique referral codes.Referrals result in discounts or rewards for both parties |