

DDoll

Project Name

ADP IMPLEMENTATION AT DDOLL

Business Requirements Document **(BRD)**

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Business Requirements Document

1. Introduction

1.1. Document Purpose

This document covers the business requirements for business processes requirements for the implementation of ADP Software at DDoll, as agreed between DDoll and CSSI. The proposed system will focus on inventory management and enabling swift customer delivery. This document will have iterative changes until defining an agreed scope, herein. After signing this document, all subsequent modifications to business requirements will require a Process Change Request.

1.2. Intended Audience

2. This document is intended for project stakeholders including business sponsors, analysts, developers, QA teams, and end users such as warehouse staff and delivery planners. It ensures all parties understand the business requirements, system scope, and functional expectations for the successful implementation of the ADP software for inventory and delivery optimization.

2.1. Project Background

The current inventory and delivery operations rely heavily on manual processes and disconnected systems, leading to inefficiencies, errors, and delays. To address these challenges, the organization has proposed the implementation of ADP software—a centralized solution to automate inventory tracking, streamline order allocation, and optimize delivery routing. This project supports the broader goal of improving operational efficiency, reducing costs, and enabling data-driven decision-making across logistics functions.

2.2. Purpose of the Business Requirements

The purpose of this document is to define and communicate the business needs, functional expectations, and system requirements for implementing the ADP software. It serves as a foundational reference for aligning stakeholders, guiding system design and development, and ensuring the final solution addresses the operational challenges in inventory management and delivery optimization.

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2.3. Business Goals/Objectives to be achieved

Streamlined Inventory Management: Ensure real-time monitoring of inventory levels across warehouses and plants to reduce spoilage and optimize stock levels.

Ensures Enhanced Delivery: Implement a system to bring about the fastest delivery routes and automate order processing based on location and availability.

Improved Customer Satisfaction: Ensure the validity of the product and reduce the order fulfillment time.

Business Process Overview

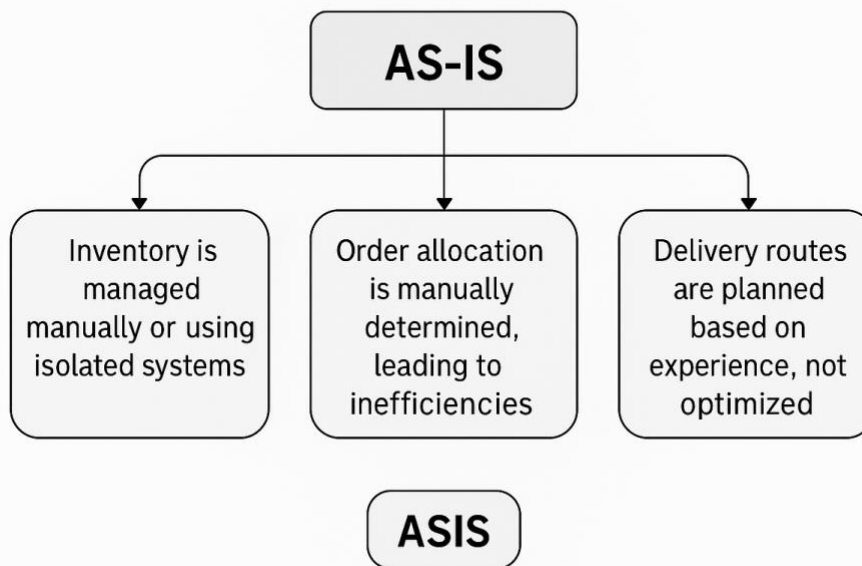
AS-IS:

Inventory is managed manually or using isolated systems.

Order allocation is manually determined, leading to inefficiencies.

Delivery routes are planned based on experience, not optimized.

Business Process Overview



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TO-BE:

A centralized system enables automated inventory management.

Orders are allocated and dispatched through as intelligent algorithm.

Delivery routes are optimized dynamically for speed and cost.

Business Requirements

Inventory Management Module:

Real-time inventory tracking locations.

Expiry-date monitoring and alerts for perishable items.

Order-Management Module:

Automated order allocation based on location and inventory.

Bulk order prioritization.

Delivery Optimization Module:

Integration with GPS and real-time data for route planning.

Dynamic Rerouting in case of delays.

Reporting Module:

Insights into inventory levels, order trends, and delivery performance.

Business Process Overview

TO-BE:



2.4. Benefits/Rationale

The ADP system will streamline inventory and delivery operations by reducing manual errors, accelerating order processing, and optimizing delivery routes. It enables cost savings through reduced wastage and labor, while real-time dashboards support better decision-making. Its scalable design ensures future integration with other business systems, supporting long-term growth.

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2.5. Stakeholders

The key stakeholders in the ADP project include the project sponsor, business analyst, project manager, development and QA teams, inventory controllers, warehouse staff, delivery managers, and ERP integration specialists. Each plays a crucial role in ensuring successful implementation through requirement gathering, development, testing, and adoption of the system.

2.6. Dependencies on existing systems

The ADP implementation depends on seamless integration with existing ERP systems for order data, inventory balances, and customer information. It also relies on external APIs such as GPS and traffic data for real-time route optimization. Accurate functioning of these systems is critical for the success of the automation and delivery modules.

2.7. References

- Internal process flow documents related to inventory and delivery operations
- Company ERP system user manuals and integration guides
- ADP Software Product Overview & Feature Documentation
- Stakeholder meeting notes and requirement gathering session records

2.8. Assumptions

1. All warehouses and plants have internet connectivity for real-time updates.
2. Delivery vehicles are GPS-enabled to support route optimization.
3. Data from external sources (e.g., traffic, weather) is available via APIs.

3. Requirements Scope

3.1. In Scope

Inventory tracking at manufacturing plants and warehouses.

Order management and allocation.

Delivery route optimization. Analytics and reporting dashboards.

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3.2. Out of Scope

Manufacturing process management. Customer relationship management (CRM).

4. Functional Requirements

MODULE	FUNCTIONALITY
Inventory Management	- Track real-time stock across warehouses - Validate expiry before dispatch - Alert for low stock and expiring items - Import/sync data from ERP
Order Allocation	- Auto-allocate orders based on inventory and location - Allow manual override by authorized users - Maintain audit trails for changes
Dispatch & Delivery	- Schedule dispatches using optimized routing - Integrate GPS & traffic data - Real-time delivery status updates - Enable dynamic re-routing
User & Role Management	- Define user roles and permissions - Secure login and session tracking - Admin configuration control
Reporting & Dashboard	- Display real-time operational dashboards - Generate and schedule reports - Export data to Excel/PDF

4.1. Actor Profiles Specification

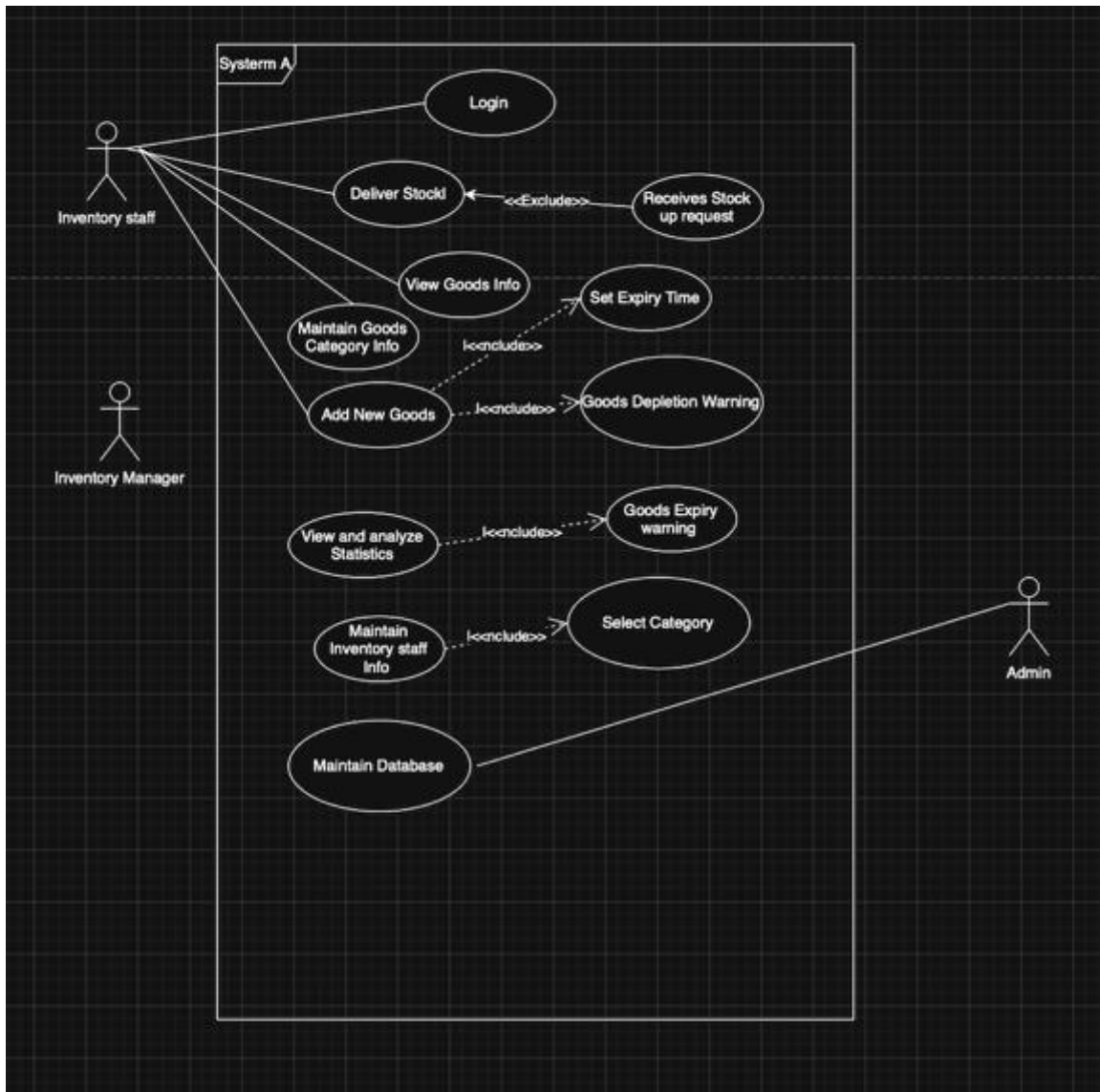
ACTOR NAME	ACTOR TYPE	ACCESS TYPE NEEDED	COMMENTS
Inventory Controller	Primary Actor	Create, Read, Update, Export	Manages inventory tracking, expiry validation, and stock adjustments.
Warehouse Staff	Supporting Actor	Read, Update	Inputs physical stock data and performs

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			regular inventory updates.
Delivery Manager	Primary Actor	Read, Update, Export, Others	Uses route optimization tools and monitors delivery operations.
System Administrator	Stakeholder	Create, Read, Update, Delete, Others	Maintains user roles, configurations, and ensures system security.

4.2 Essential Use Case Diagram

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4.2. Essential Use Case Specifications

USE CASE NAME	RAISE A NEW TICKET
Description	A user creates a ticket to report an issue, provide details, and request assistance.
Actors	Primary: End-User, Secondary: System
Business Rules	BR-01, BR-02

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Basic Flow	1. User logs into the ticketing system. 2. Navigates to 'Raise a Ticket'. 3. Selects issue type, fills description. 4. Attaches files (if needed), sets priority. 5. Submits ticket. System confirms with ID.
Alternate Flows	5a. User saves ticket as draft. 6a. Required fields missing → system highlights. 6b. File too large → error shown.
Non-Functional Requirements	System uptime, file upload ≤ 5MB.
Pre-Conditions	User account active.
Post-Conditions	Ticket logged and ID generated, user notified.

USE CASE NAME	VIEW TICKET DETAILS
Description	A user views the details of a submitted ticket.
Actors	Primary: End-User, Secondary: System
Business Rules	BR-03
Basic Flow	1. User logs in. 2. Goes to 'My Tickets'. 3. Selects ticket. System shows full details.
Alternate Flows	5a. If ticket is closed, show resolution. 6a. Ticket not accessible → error shown.
Non-Functional Requirements	Accessible on mobile and desktop.
Pre-Conditions	User logged in with access rights.
Post-Conditions	Ticket info displayed to user.

USE CASE NAME	EDIT DRAFT TICKET
Description	User edits a previously saved draft ticket.
Actors	Primary: End-User, Secondary: System
Business Rules	BR-04, BR-05

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Basic Flow	1. User logs in and goes to 'My Drafts'. 2. Selects a draft ticket. 3. Updates fields and submits or saves.
Alternate Flows	4a. Saves changes without submission. 6a. Draft not found → error shown.
Non-Functional Requirements	Drafts expire after 30 days.
Pre-Conditions	Draft exists in the system.
Post-Conditions	Draft updated or ticket submitted.

USE CASE NAME	DELETE DRAFT TICKET
Description	User deletes an unwanted draft ticket.
Actors	Primary: End-User, Secondary: System
Business Rules	BR-06
Basic Flow	1. User chooses 'Delete' on a draft. 2. System confirms deletion. 3. Draft removed.
Alternate Flows	5a. User cancels deletion. 6a. Draft not found → error shown.
Non-Functional Requirements	User confirmation required.
Pre-Conditions	Draft exists in system.
Post-Conditions	Draft permanently deleted.

USE CASE NAME	SUBMIT FEEDBACK FOR A RESOLVED TICKET
Description	User provides feedback on a resolved ticket.
Actors	Primary: End-User, Secondary: System
Business Rules	BR-07
Basic Flow	1. User goes to 'Resolved Tickets'. 2. Selects ticket and provides rating/comments. 3. System saves feedback.

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Alternate Flows	5a. User skips feedback. 6a. Submission fails → retry later.
Non-Functional Requirements	Feedback within 30 days.
Pre-Conditions	Ticket marked 'Resolved'.
Post-Conditions	Feedback stored in system.

USE CASE NAME	REOPEN A CLOSED TICKET
Description	Users reopen a ticket if the issue persists.
Actors	Primary: End-User, Secondary: Support Team, System
Business Rules	BR-08
Basic Flow	1. User navigates to 'Closed Tickets'. 2. Selects ticket and clicks 'Reopen'. 3. System changes status and notifies support.
Alternate Flows	5a. User adds info while reopening. 6a. Reopening not allowed → message shown.
Non-Functional Requirements	Allowed within 15 days of closure.
Pre-Conditions	Ticket must be 'Closed'.
Post-Conditions	Ticket status updated to 'Reopened'.

USE CASE NAME	SUBMIT FEEDBACK FOR A RESOLVED TICKET
Description	User provides feedback on the resolution of a ticket.
Actors	Primary: End-User Secondary: System
Business Rules	BR-005, BR-010
Basic Flow	1. User navigates to 'Resolved Tickets'. 2. User selects a ticket. 3. System displays resolution details. 4. User submits feedback. 5. System saves the feedback.

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Alternate Flows	4a. User skips feedback. 5a. Feedback fails due to system error.
Non-Functional Requirements	Feedback must be recorded within 5 seconds.
Pre-Conditions	Ticket must have 'Resolved' status.
Post-Conditions	Feedback is recorded and linked to the ticket.

USE CASE NAME	REOPEN A CLOSED TICKET
Description	Users can reopen a ticket if the issue persists after resolution.
Actors	Primary: End-User Secondary: Support Team, System
Business Rules	BR-006, BR-011
Basic Flow	1. User navigates to 'Closed Tickets'. 2. User selects a ticket and clicks 'Reopen'. 3. System changes the ticket status to 'Reopened'. 4. Notification is sent to the support team.
Alternate Flows	3a. Reopening is restricted. 4a. User adds additional information.
Non-Functional Requirements	Reopen action should not exceed 3 seconds.
Pre-Conditions	Ticket must be in 'Closed' status.
Post-Conditions	Ticket status is updated to 'Reopened'.

USE CASE NAME	ATTACH FILES TO A TICKET
Description	Users can upload files for ticket context.
Actors	Primary: End-User Secondary: System
Business Rules	BR-007
Basic Flow	1. User accesses ticket submission. 2. Clicks 'Attach File'. 3. Selects and uploads file. 4. System confirms attachment.

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Alternate Flows	3a. File exceeds size limit.
Non-Functional Requirements	Max file size 5MB. Allowed types: PDF, PNG.
Pre-Conditions	User has access to draft or active ticket.
Post-Conditions	File is attached to the ticket.

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Alternate Flows	3a. File exceeds size limit.
Non-Functional Requirements	Max file size 5MB. Allowed types: PDF, PNG.
Pre-Conditions	User has access to draft or active ticket.
Post-Conditions	File is attached to the ticket.

USE CASE NAME	SEARCH TICKETS BY CRITERIA
Description	Users search for tickets in the system using various criteria such as status, priority, date, and agent.
Actors	Primary: End-User, Support Staff, Support Manager
Business Rules	BR21
Basic Flow	1. User navigates to the 'Search Tickets' page.

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	2. User enters search criteria (e.g., ticket status, priority, assigned agent). 3. System displays a list of tickets that match the criteria.
Alternate Flows	5a. User applies multiple filters to narrow down the search results.
Non-Functional Requirements	System must support fast search queries with updated data.
Pre-Conditions	User must be logged in with appropriate search permissions.

USE CASE NAME	REOPEN A CLOSED TICKET
Description	A support agent or manager reopens a closed ticket if the issue is not fully resolved or if new information arises.
Actors	Primary: Support Agent, Support Manager
Business Rules	BR22
Basic Flow	1. Support agent or manager navigates to the closed ticket. 2. Support agent or manager selects 'Reopen Ticket'. 3. System prompts for a reason to reopen the ticket. 4. Support agent or manager provides the reason and confirms the action. 5. System updates the ticket status to 'Open' and logs the reason for reopening.
Alternate Flows	5a. Support agent adds comments or updates to the ticket before reopening.
Non-Functional Requirements	Ticket tracking system must be real-time and audit compliant.
Pre-Conditions	Ticket must be in the 'Closed' status.

USE CASE NAME	SEND TICKET NOTIFICATIONS
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Description	The system sends notifications (e.g., email, SMS) to users and support staff about ticket updates, status changes, or assigned actions.
Actors	Secondary: End-User, Support Staff, Support Manager
Business Rules	BR23
Basic Flow	1. The system detects a ticket status change, comment update, or other relevant event. 2. The system identifies the appropriate recipients. 3. The system sends notifications to the recipients.
Alternate Flows	5a. User customizes notification preferences to receive specific updates.
Non-Functional Requirements	Notification system must deliver messages within 5 minutes.
Pre-Conditions	The notification system must be configured and operational.

USE CASE NAME	MERGE DUPLICATE TICKETS
Description	Support agents or managers merge tickets that are identified as duplicates to prevent redundant work.
Actors	Primary: Support Agent, Support Manager
Business Rules	BR24
Basic Flow	1. Support agent or manager identifies two tickets as duplicates. 2. Support agent or manager selects both tickets and clicks 'Merge'. 3. System prompts the user to confirm the merge. 4. Support agent or manager confirms the merge. 5. System merges the tickets and closes the duplicate ticket.

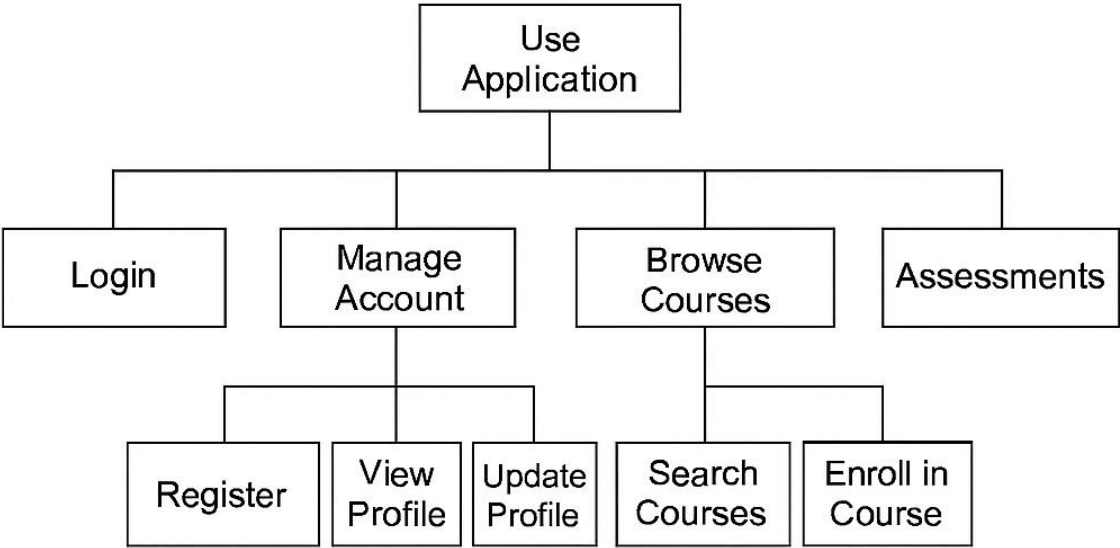
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Alternate Flows	5a. Support agent adds comments to explain the reason for the merge.
Non-Functional Requirements	Ticket merging must retain most relevant data and maintain audit logs.
Pre-Conditions	Tickets to be merged must be open or unresolved.

USE CASE NAME	ASSIGN PRIORITY TO A TICKET
Description	A support agent or manager assigns a priority level (e.g., Low, Medium, High, Critical) to a ticket based on its urgency and impact.
Actors	Primary: Support Agent, Support Manager
Business Rules	BR25
Basic Flow	1. Support agent or manager navigates to a ticket. 2. Support agent or manager selects 'Assign Priority'. 3. System presents priority options. 4. Support agent or manager selects the appropriate priority. 5. System updates the ticket with the selected priority and logs the change.
Alternate Flows	5a. Support agent or manager uses an auto-suggest feature to assign priority based on predefined criteria.
Non-Functional Requirements	Priority assignment must be real-time and validated.
Pre-Conditions	The ticket exists and is in an unresolved status.

4.3. Function Hierarchy Diagram

4.4Function Hierarchy Diagram



4.4. Function Hierarchy Diagram

4.4. Function Definition Report

FUNCTION ID	FUNCTION NAME	DESCRIPTION
F1	Inventory Management	Manage inventory levels across all warehouses; includes updating, tracking, and reporting.

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F1.1	Stock Level Tracking	Continuously monitors stock quantities across storage locations.
F1.2	Inventory Update	Allows updates after stock receipts, dispatches, or adjustments.
F1.3	Inventory Reports	Generates analytics and dashboards based on inventory status and trends.
F2	Order Allocation	Assigns customer orders to appropriate warehouses or fulfillment centers.
F2.1	Order Analysis	Analyzes incoming orders by location, quantity, and delivery urgency.
F2.2	Warehouse Assignment	Allocates orders to optimal warehouses based on availability and proximity.
F2.3	Dispatch Trigger	Initiates dispatch process after successful allocation.
F3	Delivery Optimization	Ensures cost-effective and timely delivery using routing algorithms.
F3.1	Route Planning	Suggests shortest and fastest delivery paths dynamically.
F3.2	GPS Integration	Incorporates real-time location data from GPS systems.
F3.3	Delivery Status Update	Enables delivery tracking and customer updates.
F4	System Management	Administrative and configuration tasks for the ADP system.
F4.1	User Authentication	Controls access to the system using login credentials and roles.

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F4.2	Admin Controls	Allows admin-level users to configure and monitor system settings.
F4.3	Notification Management	Sends alerts for low inventory, dispatches, delays, etc.

4.5. Business Rules

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

Inventory must be updated in real-time upon receipt, dispatch, or adjustment.

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.5. Warehouse reordering thresholds should trigger automated purchase orders.

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4. Data Requirements

FIELD NAME	DESCRIPTION	DATA TYPE	LENGTH	MANDATORY/OPTIONAL	SOURCE	DEFAULT VALUE
Ticket_ID	Unique identifier for each ticket	Integer	10	Mandatory	System	Auto-generated
User_ID	Identifier of the user creating the ticket	String	50	Mandatory	User	None
Issue_Type	Category of the issue	String	30	Mandatory	User	None
Priority	Urgency level	String	10	Mandatory	User	Medium
Description	Details of the issue	Text	500	Mandatory	User	None
Attachment	Optional file uploaded by user	File	5MB	Optional	User	None
Status	Current ticket status	String	15	Mandatory	System	Open

VALIDATION RULES	FORMAT	DEPENDENCIES	REMARKS	SYSTEM USAGE	CRUD OPERATIONS	BUSINESS RULES
Must be unique	Numeric	None	Used for tracking	Reporting	Create, Read	BR1
Must be valid user	Alphanumeric	Ticket_ID	Cross check user ID	Security	Create, Read	BR2
Predefined list	Dropdown	None	Determines priority	Routing	Create, Read	BR3

Ticketing System BRD | Srividya Murugan | Confidential

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Must be valid	Dropdown	Issue_Type	Used for SLA	Prioritization	Create, Update	BR4
None	Free text	None	Descriptive purpose	Support Analysis	Create, Update	BR5
PDF, PNG only	File Upload	None	Optional input	Attachment	Create, Delete	BR6
Controlled vocabulary	Dropdown	Ticket progress	Reflects progress	Workflow	Read, Update	BR7

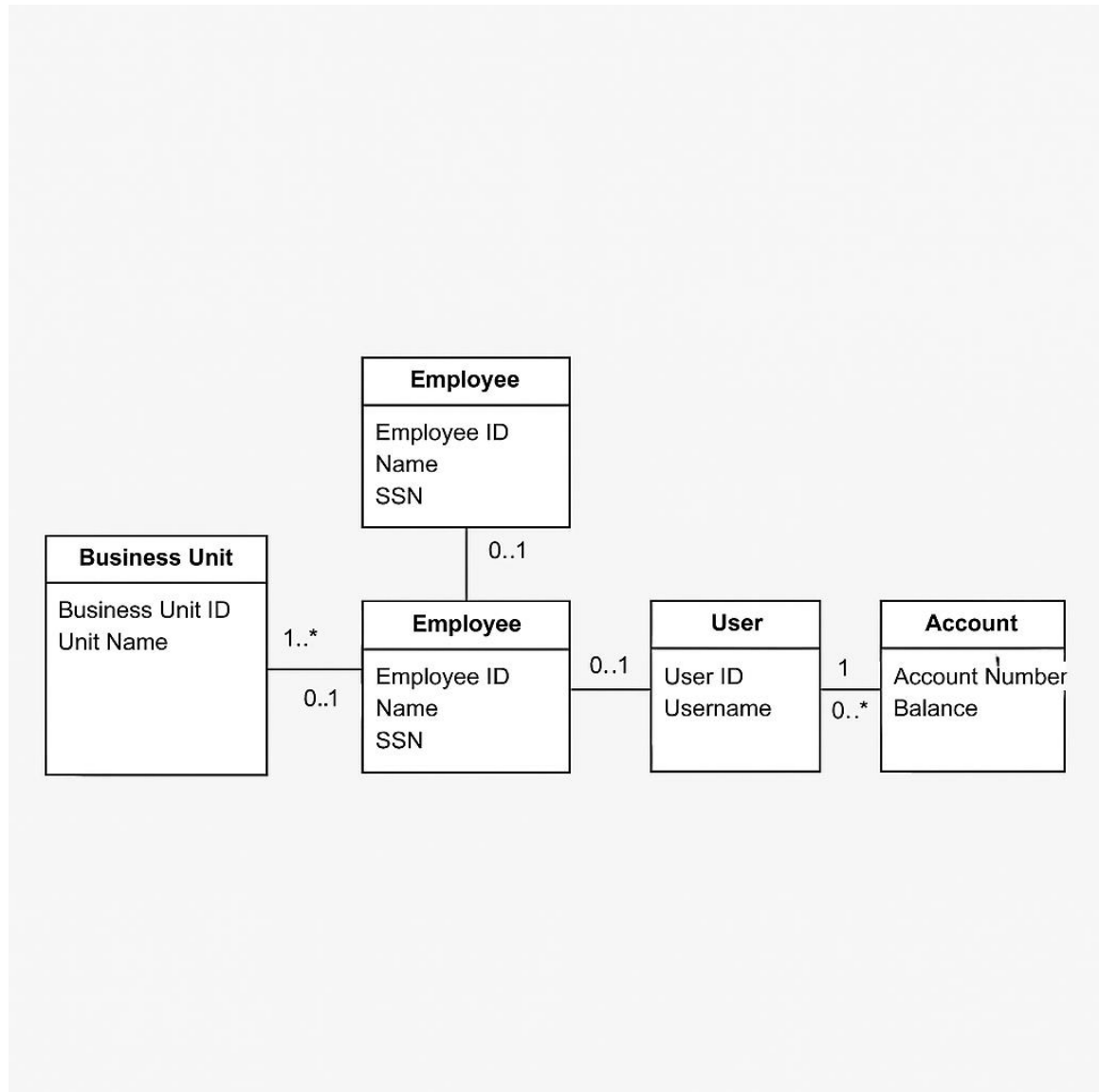
4.1. Data Architecture

The ADP system uses a centralized relational database to manage ticketing, user information, delivery records, and support interactions. Key entities include User, Ticket, Attachment, Feedback, SLA Configuration, and Audit Logs.

- **User:** Stores details of customers and support agents.
- **Ticket:** Central entity capturing all issue-related data, linked to users, attachments, and feedback.
- **Attachment:** Stores files related to each ticket.
- **Feedback:** Captures user satisfaction after resolution.
- **SLA Configuration:** Defines timelines and rules for issue handling.
- **Audit Log:** Tracks system actions for accountability.

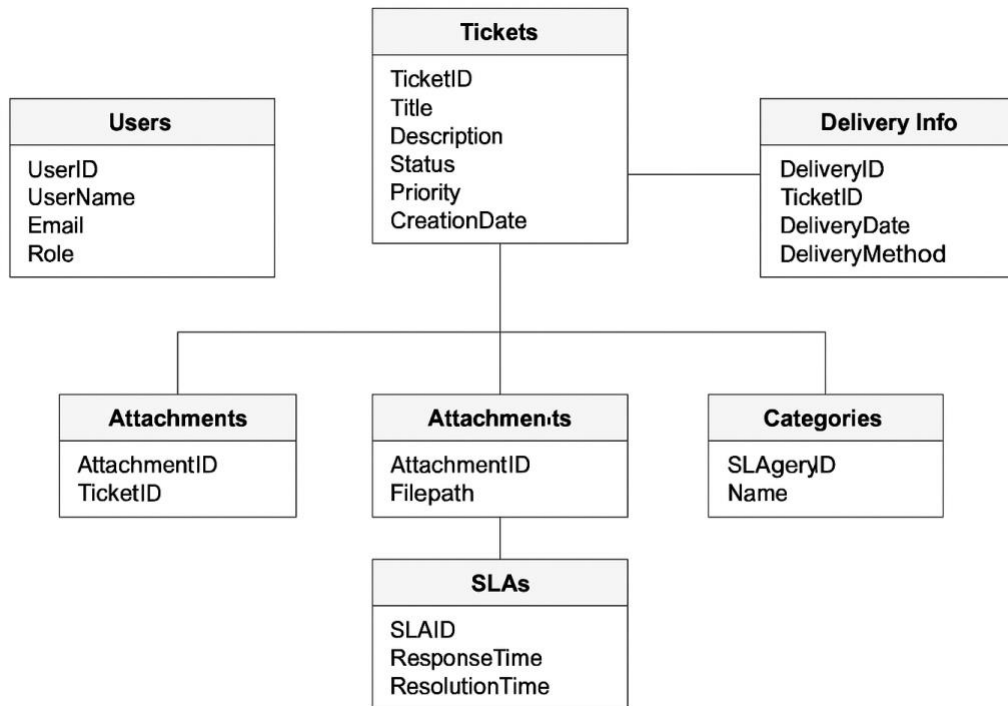
Data flows from user actions (e.g., ticket creation) through workflows managed by SLAs and support teams, ensuring traceability, notification, and reporting. All data is stored securely and supports real-time access for performance monitoring.

4.1.1. Domain Class Diagram



4.1.2. Entity Relationship Diagram

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4.2. Data Volumes

The ADP system is expected to manage high volumes of operational data across warehouses and delivery units. Anticipated data volumes include:

DATA ENTITY	ESTIMATED VOLUME (PER DAY)	RETENTION PERIOD	STORAGE IMPACT
Inventory Records	10,000+ updates	5 years	Moderate
Order Transactions	5,000–7,000 entries	7 years	High
Delivery Logs	3,000+ logs	3 years	Medium

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DATA ENTITY	ESTIMATED VOLUME (PER DAY)	RETENTION PERIOD	STORAGE IMPACT
User Access Logs	15,000 login records	1 year	High (archived quarterly)
API Calls (GPS/ERP)	20,000+ calls	Rolling 30 days	Low

This analysis helps in estimating infrastructure capacity and planning for database scaling and archival strategies.

4.3. Data Conversion

The transition to the ADP system requires seamless migration of legacy data to ensure continuity in operations. The key aspects of the data conversion strategy include:

DATA SOURCE	TARGET SYSTEM	CONVERSION APPROACH	VALIDATION METHOD
Excel-based Inventory	ADP Inventory DB	Scripted ETL with data cleansing	Reconciliation reports, manual spot-checks
Legacy Order Logs	Order Management	CSV import with mapping templates	Sample order verification
Manual Delivery Notes	Delivery Module	Scanned digitization + structured input	Random audits
Vendor Master Data	ERP Integration	API-based batch migration	Cross-validation with ERP

4.4. Data Retention and Archiving

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To ensure regulatory compliance and efficient system performance, the ADP system will implement structured data retention and archiving policies as follows:

DATA TYPE	RETENTION PERIOD	ARCHIVING POLICY	ACCESS METHOD
Inventory Records	7 years	Archived to secure cold storage after 2 years	Read-only access via ADP
Delivery & Order Logs	5 years	Archived after 1 year	Exportable upon request
User Activity Logs	1 year	Automatically purged post retention period	Internal access only
Vendor/Partner Master Data	Active as long as valid	Archived after contract closure	Accessible via audit trail

The system will use automated archival processes to move inactive data into encrypted storage, with logs maintained for audit purposes. Archiving will ensure minimal performance impact while maintaining traceability.

4.5. FOI/Privacy Implications

The ADP system will manage sensitive inventory and delivery data, requiring compliance with FOI and data privacy standards. Role-based access, encryption, and audit logs will ensure data security and controlled access. Only necessary data will be collected, retained per policy, and made FOI-compliant for transparency without breaching confidentiality.

CONCEPTUAL CLASS / ENTITY NAME	DATA SENSITIVITY LEVEL (NON-SENSITIVE, PROTECTED A, PROTECTED B, PROTECTED C)
User Profile	Protected A
Employee Records	Protected B

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Inventory Details	Non-sensitive
Delivery Logs	Protected A
Payment Details	Protected C
Supplier Information	Protected B
Product Listings	Non-sensitive

4.6. Data Definition Reports

ENTITY	ATTRIBUTE	TYPE	DESCRIPTION	FORMAT	CONSTRAINTS
Customer	Customer_ID	Integer	Unique customer ID	10 digits	Primary Key
Customer	Name	Varchar	Customer name	50 chars	Not Null
Order	Order_ID	Integer	Unique order ID	8 digits	Primary Key
Order	Customer_ID	Integer	Refers to customer	10 digits	Foreign Key
Order	Order_Date	Date	Date of order	YYYY-MM-DD	Not Null
Product	Product_ID	Integer	Unique product ID	8 digits	Primary Key
Product	Name	Varchar	Product name	50 chars	Not Null
Product	Price	Decimal	Unit price	9999.99	> 0
Inventory	Product_ID	Integer	Links to product	8 digits	Foreign Key

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Inventory	Quantity	Integer	Available units	Integer	>= 0
Delivery	Delivery_ID	Integer	Unique delivery ID	8 digits	Primary Key
Delivery	Order_ID	Integer	Linked order	8 digits	Foreign Key
Delivery	Delivery_Date	Date	Scheduled delivery	YYYY-MM-DD	> Order_Date
Warehouse	Warehouse_ID	Integer	Unique warehouse ID	6 digits	Primary Key
Warehouse	Location	Varchar	Warehouse location	100 chars	Not Null

4.6.1. Domain Class Definition Report

Class Name: `InventoryItem`

Class Description:

Represents products available in the warehouse, including quantity, SKU, and product metadata used in tracking, reporting, and delivery fulfillment.

Initial Data Volume (approx.): 5,000 records

Annual Data Growth Rate (approx. %): 12%

Attributes (fields) of the class:

- **Name:** `ItemID`
Description: Unique identifier for each inventory item.
- **Name:** `ItemName`
Description: Name/description of the product.
- **Name:** `Category`
Description: Classification of item for reporting and analytics.
- **Name:** `QuantityAvailable`
Description: Current stock level of the item in the warehouse.
- **Name:** `ReorderLevel`
Description: Minimum stock threshold before reordering is triggered.
- **Name:** `UnitPrice`
Description: Price per unit for invoicing and valuation.

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4.6.1 Entity Definition Report

ENTITY NAME	ENTITY DESCRIPTION	ATTRIBUTES (FIELDS)	ATTRIBUTE TYPE	ATTRIBUTE DESCRIPTION
User	Represents a system user	User ID	Integer	Unique identifier
		Name	String	Full name
		Email	String	User email
		Role	String	User's system role
Order	Represents a purchase order	Order ID	Integer	Unique order ID
		User ID	Integer	ID of ordering user
		Product ID	Integer	Product ID
		Order Date	Date	Date of order placement

5. Non-Functional requirements

REQUIREMENT TYPE	DESCRIPTION
Performance	The system should support concurrent processing of orders and inventory updates for up to 10,000 transactions per minute without delay.
Scalability	The platform must scale horizontally to accommodate new branches and increased customer traffic as the business grows.
Availability	The system should maintain an uptime of 99.9% with high availability during business hours across all locations.

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REQUIREMENT TYPE	DESCRIPTION
Security	Data encryption must be enforced for both in-transit and at-rest data. Only authorized users should access sensitive modules.
Maintainability	The architecture should support modular components to allow easy updates and bug fixes without downtime.
Usability	The interface must be intuitive, with minimal training required for warehouse staff and delivery partners.
Compliance	The solution must comply with applicable data protection and financial transaction regulations (e.g., GDPR, Indian IT Act).
Backup & Recovery	Daily automated backups should be configured, and the system should support full restoration within 4 hours.
Localization	The UI should support multiple regional languages for operations in diverse geographic regions.

5.1. Security Requirements

SECURITY REQUIREMENT	DESCRIPTION
Authentication	System must support secure login with username and password. Admins require multi-factor authentication (MFA).
Authorization	Role-based access control (RBAC) must ensure users can only access data relevant to their role (e.g., Inventory Manager, Delivery Manager).
Data Confidentiality	Sensitive user and inventory data must be encrypted in transit (HTTPS) and at rest (AES-256).
Audit Logging	All critical user actions (login, edit, delete, access) must be logged and stored for at least 6 months for audit purposes.
Session Management	User sessions expire after 10 minutes of inactivity. Re-authentication is required post-timeout.

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SECURITY REQUIREMENT	DESCRIPTION
Password Policy	Strong password policy with minimum 8 characters, alphanumeric mix, and expiry every 90 days must be enforced.
Data Backup & Recovery	Secure daily backups must be maintained. Data recovery process should be tested quarterly.
Data Access Restrictions	Only authorized personnel should access sensitive financial or delivery-related data. External users must not access internal modules.
Third-Party Integrations	All third-party APIs must comply with organizational security policies and require API keys with encrypted transmission.
Compliance	System must comply with applicable data protection laws such as GDPR/IT Act as relevant to the region of deployment.

5.1.1.Authentication

ASPECT	DETAILS
Login Mechanism	Username and password authentication for all user roles.
Multi-Factor Authentication (MFA)	Enabled for Admin and Delivery Head roles to enhance security.
Password Policy	Passwords must be a minimum of 8 characters, include uppercase, lowercase, number, and symbol. Passwords must be changed every 90 days.
Session Timeout	Automatic logout after 10 minutes of user inactivity.
Account Lockout	Account will be temporarily locked after 5 unsuccessful login attempts within 10 minutes.
Encryption	Login credentials are encrypted using SHA-256 during transmission.
Forgot Password	Users can reset passwords via registered email with token validation (valid for 15 minutes).

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Authorization and Access Controls

ASPECT	DETAILS
Role-Based Access Control	Access to modules and features is determined based on user roles such as Admin, Inventory Manager, Delivery Head, and Store Manager.
Granular Permissions	Each user role has specific privileges such as view, edit, delete, and approve, mapped to their respective modules.
Module-Level Restrictions	For example, only Admins can manage users, while Delivery Heads can approve stock movements and deliveries.
Audit Logging	All access and modifications are logged, including user ID, timestamp, and activity. Logs are stored securely and retained for 12 months.
Access Revocation	Inactive or exited employees' accounts are disabled immediately by the Admin team to prevent unauthorized access.
Approval Workflow	Sensitive actions like stock deletion or inter-location transfers require dual-level approvals (Initiator + Approver). Temporary access to restricted modules can be granted with time-based expiration and justification approval.

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5.2. Availability Requirements

ASPECT	DETAILS
System Uptime	The ADP platform must maintain an uptime of at least 99.9% during business hours (9 AM – 9 PM IST).
Maintenance Windows	Scheduled maintenance must be conducted during non-peak hours with prior communication to stakeholders.
High Availability (HA)	Redundancy should be built across servers and database clusters to avoid single points of failure.
Disaster Recovery (DR)	A disaster recovery plan must ensure restoration of services within 4 hours of major disruptions.
Monitoring & Alerts	Real-time system monitoring tools should be used, and alerts sent to the IT team for outages or errors.
Business Continuity	In case of application downtime, offline inventory and delivery logs should be updated and synced later.

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5.3. Usability Requirements

ASPECT DETAILS

USER INTERFACE (UI)	THE SYSTEM SHOULD HAVE A SIMPLE, INTUITIVE, AND RESPONSIVE INTERFACE ACCESSIBLE ON DESKTOP AND MOBILE.
EASE OF NAVIGATION	KEY FEATURES SUCH AS ORDER PLACEMENT, INVENTORY STATUS, AND DELIVERY TRACKING MUST BE REACHABLE IN ≤ 3 CLICKS.
LANGUAGE SUPPORT	ENGLISH (MANDATORY); ABILITY TO SCALE TO OTHER INDIAN LANGUAGES BASED ON USER BASE EXPANSION.
USER TRAINING	MINIMAL TRAINING (MAX 2 HOURS) SHOULD BE SUFFICIENT FOR BASIC OPERATIONS FOR WAREHOUSE AND DELIVERY STAFF.
ACCESSIBILITY	INTERFACE SHOULD BE COMPLIANT WITH WCAG 2.1 STANDARDS TO ENSURE USABILITY FOR ALL USERS.
ERROR HANDLING	CLEAR MESSAGES SHOULD GUIDE USERS TO CORRECT MISTAKES WITHOUT TECHNICAL JARGON.
HELP AND SUPPORT	EMBEDDED HELP GUIDES AND TOOLTIPS SHOULD BE AVAILABLE THROUGHOUT KEY MODULES.

5.4. System Help Requirements

USE CASE / BUSINESS FUNCTION NAME	HELP REQUIREMENTS - FIELD LEVEL (ONLINE) - SCREEN LEVEL (ONLINE) - HELP PRINTING OPTIONS - OPERATIONS MANUAL (OFFLINE) - ANY OTHER (PLEASE DESCRIBE)
Login Functionality	- Field level (online) - Screen level (online) - Help Printing Options - Operations Manual (Offline)
Generate Invoice	- Field level (online) - Screen level (online)

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	- Help Printing Options - Operations Manual (Offline)
View Report	- Field level (online) - Screen level (online) - Help Printing Options - Operations Manual (Offline)
User Profile Management	- Field level (online) - Screen level (online) - Help Printing Options - Operations Manual (Offline)
Data Export	- Field level (online) - Screen level (online) - Help Printing Options - Operations Manual (Offline)

5.5. Performance Requirements

This section describes system performance expectation levels (response times).

USE CASE NAME / BUSINESS FUNCTION NAME / TRANSACTION DESCRIPTION	PERFORMANCE REQUIREMENTS (RESPONSE TIME) (IN SECONDS OR MINUTES)
Login	Within 3 seconds
Search Inventory	Under 5 seconds
Generate Report	Up to 2 minutes
Submit Order	Within 10 seconds
Update User Profile	Under 7 seconds
Fetch Order History	Within 15 seconds

5.6. Scalability Requirements

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REQUIREMENT CATEGORY	DESCRIPTION
User Load Scalability	System should support up to 5,000 concurrent users during peak periods.
Data Volume Scalability	Should handle up to 100,000 transactions per day with 20% annual growth.
Geographic Scalability	System should operate efficiently across multiple regions (multi-location).
Modular Expansion Capability	System modules should support plug-and-play upgrades with minimal downtime.
Infrastructure Scalability	Should support scaling through cloud-based infrastructure (vertical/horizontal).
Response Time Under Load	Maintain sub-2-second response time with up to 80% load threshold.

5.6.1. User Scalability

USE CASE / FUNCTION	EXPECTED CONCURRENT USERS	PEAK USAGE PERIOD	PERFORMANCE EXPECTATION
Ticket Booking	2,000 users	Weekends & Holidays	Response time < 2 seconds
Inventory Tracking	500 users	Weekdays, 9 AM – 6 PM	Response time < 3 seconds
Delivery Status Updates	800 users	Daily, 7 PM – 10 PM	Response time < 2 seconds
Reporting Dashboard Access	300 users	Month-end & Quarterly	Response time < 5 seconds
Admin & Configuration Tasks	100 users	Office Hours	Response time < 3 seconds

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5.6.2.Application Scalability

ASPECT	SCALABILITY REQUIREMENT DESCRIPTION
Transaction Volume	The application should support a 3x increase in daily transactions during peak periods.
Data Volume	Database should scale to handle a 5-year growth of transactional and historical data without lag.
API Load	APIs must support up to 5,000 concurrent requests with auto-scaling infrastructure.
New Module Integration	Application architecture must allow plug-and-play integration for new delivery/warehouse modules.
UI Performance	Frontend should maintain consistent performance with increased complexity or component additions.
Background Processing Tasks	Batch jobs (e.g., inventory sync, delivery updates) should scale to run hourly with minimal latency.

6. Interface Requirements

	INTERFACE TYPE DESCRIPTION
USER INTERFACE (UI)	THE SYSTEM SHALL PROVIDE A RESPONSIVE AND INTUITIVE WEB INTERFACE FOR USERS, INCLUDING DASHBOARDS, FILTERS, AND FORMS.
EXTERNAL SYSTEMS	THE SYSTEM SHALL INTEGRATE WITH THIRD-PARTY APIS SUCH AS PAYMENT GATEWAYS, DELIVERY TRACKING SERVICES, AND INVENTORY SOFTWARE.
INTERNAL SYSTEMS	MUST SUPPORT DATA EXCHANGE WITH INTERNAL ERP SYSTEMS AND DATABASES THROUGH SECURE API ENDPOINTS.

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DEVICE COMPATIBLE ACROSS DESKTOPS, TABLETS, AND MOBILE
INTERFACE DEVICES FOR FIELD AND OFFICE USE.

6.1. User Interface Requirements

UI ELEMENT	REQUIREMENT DESCRIPTION
Layout	Clean, intuitive layout with clear navigation menus.
Accessibility	Should comply with accessibility standards (e.g., font size, contrast, keyboard navigation).
Responsiveness	Interface must adapt across desktop, tablet, and mobile devices.
Input Validation	Real-time validation on forms (e.g., email format, required fields).
Feedback Mechanisms	Users should receive confirmations, alerts, and error messages where necessary.
Language & Labels	Use of clear, simple English; tooltips for complex fields.
Customization (Optional)	Allow basic theme preference (light/dark mode).

6.2. System Interface Requirements

SYSTEM / MODULE	INTERFACE TYPE	DESCRIPTION
Inventory Management	API (RESTful)	Sync inventory data with central database.
Authentication System	OAuth / LDAP	Secure user authentication and session management.

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SYSTEM / MODULE	INTERFACE TYPE	DESCRIPTION
Reporting Engine	Database Connection (ODBC)	Retrieve data for generating analytics and reports.
Notification Service	SMTP / SMS Gateway	Sends alerts and notifications to users.
External Vendor System	Web Services / XML	Exchange order and status data with third-party systems.

7. Business Glossary

TERM	DEFINITION
User	An individual who interacts with the system to perform specific operations.
Admin	A privileged user who manages system settings, users, and core data.
Inventory	The stock of goods maintained by the business to fulfill customer orders.
Order	A transaction created when a user purchases or requests goods/services.
Invoice	A financial document issued to a customer detailing purchased items and charges.
Vendor	External supplier providing goods/services to the business.
Dashboard	Visual summary of key metrics and system data for user insights.
Authentication	The process of verifying a user's identity.
Authorization	Permission granted to a user to access specific resources or features.
Database	Structured data storage used to store system information.

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Revision Log

DATE	VERSION	CHANGE REFERENCE	REVIEWED BY
25-07-2025	0.1	Document created – Initial Draft	Srividya Murugan
26-07-2025	0.2	Non-functional requirements added	Srividya Murugan
27-07-2025	1.0	Interface section finalized	Srividya Murugan

Appendices

APPENDIX REFERENCE DOCUMENT TITLE / DESCRIPTION

Appendix A	Sample Screens – Existing Application
Appendix B	Glossary of Terms
Appendix C	Abbreviations Used
Appendix D	Stakeholder Interview Summary
Appendix E	Business Process Flow Diagram
Appendix F	Use Case / User Story Samples

Approval

This document has been approved as the official Business Requirements Document for the ADP Implementation at DDoll project.

Following approval of this document, changes will be governed by the project's change management process, including impact analysis, appropriate reviews and approvals, under the general control of the Master Project Plan and according to Project Support Office policy.

Prepared by

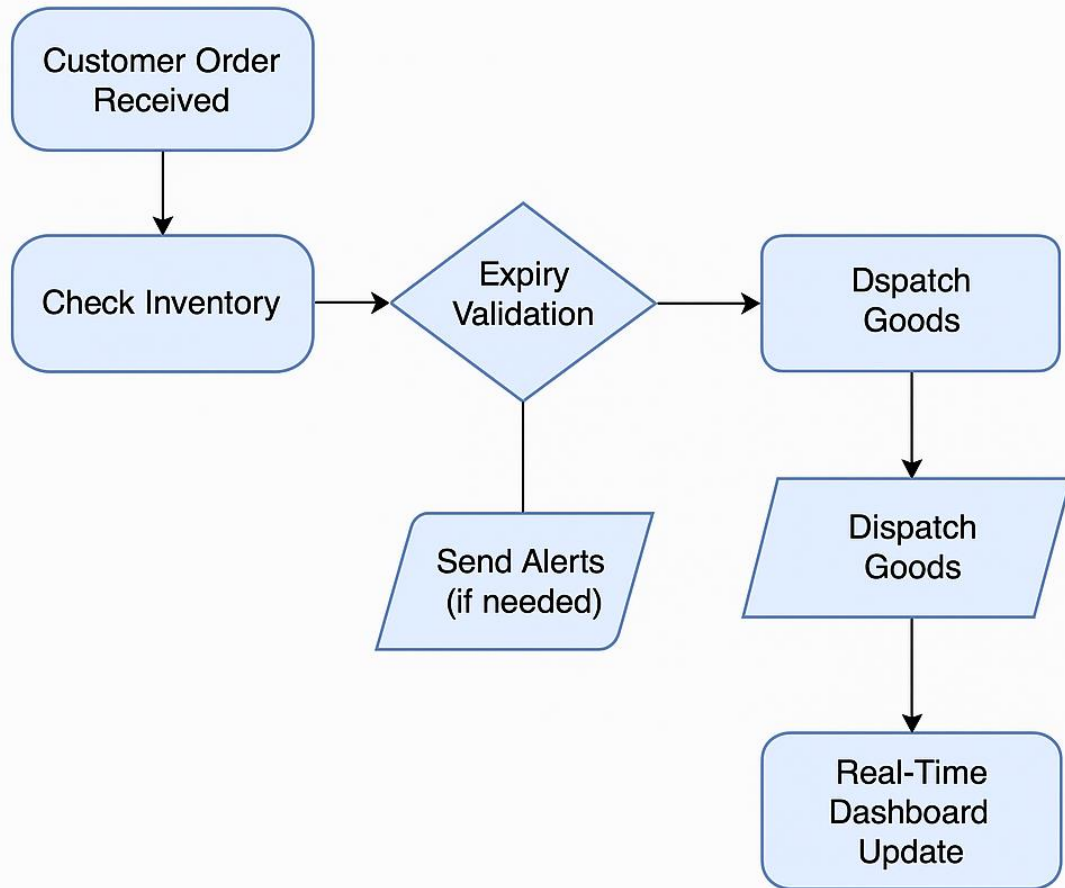
PREPARED BY	SIGNATURE	DATE
Srividya Murugan Business Analyst DDoll Inc.	[Signed]	25-07-2025

Approved by

APPROVED BY	SIGNATURE	DATE
R. Narayan IT Project Manager DDoll Inc.	[Signed]	26-07-2025

2. ADP Inventory & Delivery Process Flow

ADP Inventory & Delivery – Process Flow



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.

Subject: Introduction as Your Business Analyst Partner DDoll,

Business Requirements Document

I hope this message finds you well. My name is Srividya, and I am delighted to introduce myself as the Business Analyst assigned to collaborate with you and your team on this exciting project. 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. To begin, I aim to thoroughly understand your current processes, challenges, and aspirations. Together, we will explore your operational workflows, identify key requirements, and map out a strategic plan that aligns with your business objectives. Your insights will be invaluable in ensuring the solution we design is practical, scalable, and optimized for your unique needs.

I look forward to discussing your expectations and gathering inputs from your team during our initial meetings. In the meantime, please feel free to share any documents, current processes, or initial thoughts that could help us hit the ground running. 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 working with you.

Warm regards,

Srividya

Business Analyst

+91 7400194330

2. Prepare a brief BRD and SRS for a project- Ticketing system.

Business Requirements Document (BRD)

Project Name: Ticketing System

Prepared By: Srividya Murugan

Date: 6th July 2025

Ticketing System BRD | Srividya Murugan | Confidential

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1. Executive Summary

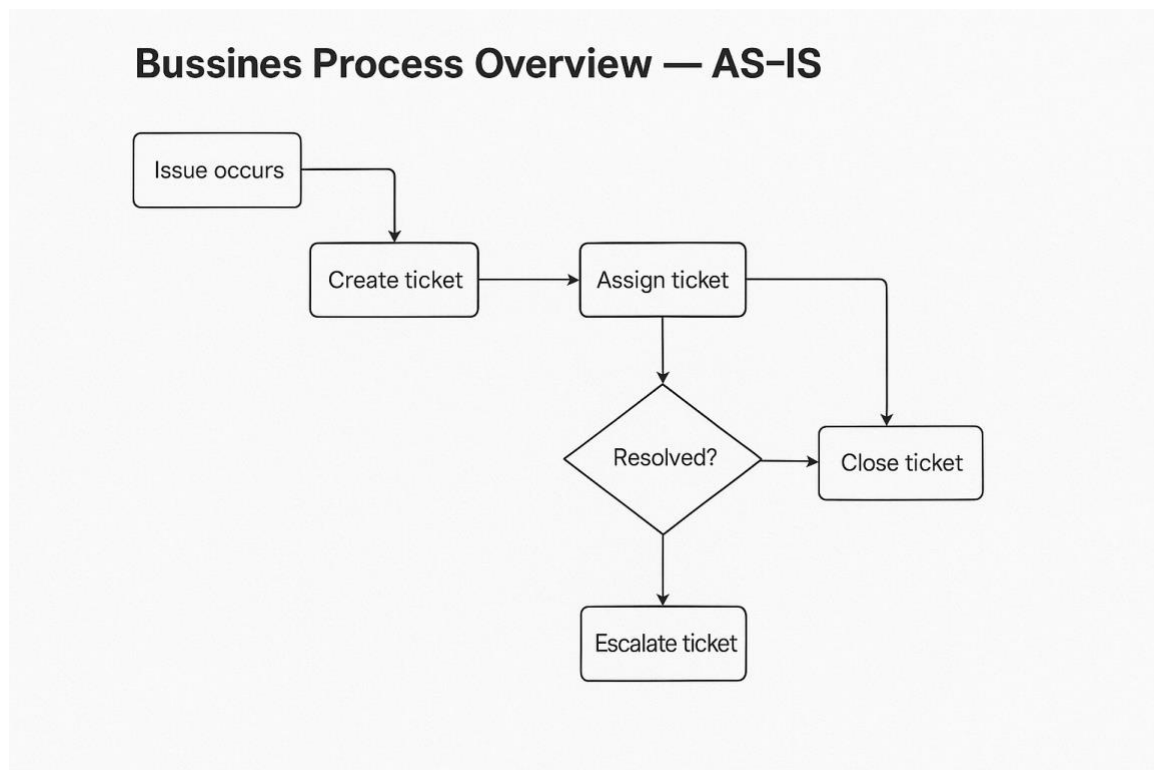
The objective of the Ticketing System project is to implement a comprehensive solution for managing customer support tickets effectively. The system will streamline the process of ticket creation, tracking, resolution, and closure. It will be designed to ensure seamless communication between users, support agents, and managers, improving the overall efficiency of customer support operations. Additionally, the system will include advanced features for monitoring service level agreement (SLA) compliance, enhancing reporting capabilities, and integrating with a knowledge base for faster problem resolution.

2. Business Objectives

- Improve response and resolution times for customer issues.
- Centralize and standardize ticket tracking.
- Ensure SLA adherence with alert mechanisms.
- Provide actionable insights through reporting and analytics.
- Enhance user satisfaction and operational transparency.

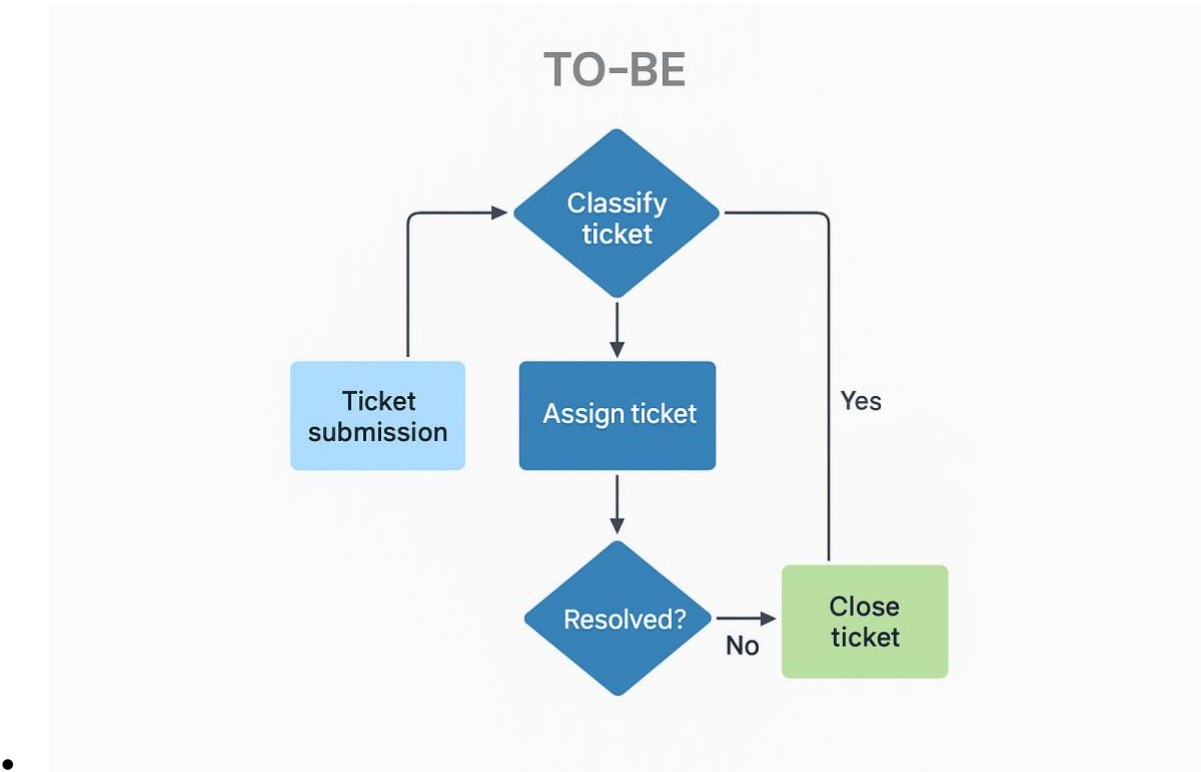
3. Business Process Overview

3.1 AS-IS Process Diagram



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3.2 TO-BE Process Diagram



Business Risks

RISK NO.	RISK DESCRIPTION	LIKELIHOOD	IMPACT	MITIGATION STRATEGY
R-01	Resistance to new system adoption by support agents	Medium	High	Conduct training and offer ongoing support
R-02	Integration failure with existing CRM or Email systems	Low	High	Conduct compatibility tests before deployment
R-03	SLA breach due to technical issues	Medium	High	Set up automated alerts and escalation workflows
R-04	Data loss during migration from old system	Low	Critical	Ensure full back up and run migration dry tests

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RISK NO.	RISK DESCRIPTION	LIKELIHOOD	IMPACT	MITIGATION STRATEGY
R-05	Security breach or ticket data exposure	Low	Critical	Implement encryption, access controls, and audits

4. Stakeholder Matrix

STAKEHOLDER	ROLE	RESPONSIBILITY
Project Sponsor	IT Head	Overall funding and project support
Project Manager	Srividya Murugan	Delivery, coordination and implementation
Customer Support	End User	Daily system usage and feedback
Admin/IT Support	System Admin	System configuration, maintenance
QA Team	In-house QA	Testing and defect rep

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7. User Stories

USER ID	USER STORY	CUSTOMER VALUE (CV)	BUSINESS PRIORITY (BP)	PRIORITY LEVEL
US-001	As a user, I want to be able to perform task 1 so that I can achieve a goal related to the ticketing system.	Medium	Medium	High
US-002	As a user, I want to be able to perform task 2 so that I can achieve a goal related to the ticketing system.	High	Medium	High
US-003	As a user, I want to be able to perform task 3 so that I can achieve a goal related to the ticketing system.	Medium	High	High
US-004	As a user, I want to be able to perform task 4 so that I can achieve a goal related to the ticketing system.	High	Medium	High
US-005	As a user, I want to be able to perform task 5 so that I can achieve a goal related to the ticketing system.	Medium	Medium	High
US-006	As a user, I want to be able to	High	High	High

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	perform task 6 so that I can achieve a goal related to the ticketing system.			
US-007	As a user, I want to be able to perform task 7 so that I can achieve a goal related to the ticketing system.	Medium	Medium	High
US-008	As a user, I want to be able to perform task 8 so that I can achieve a goal related to the ticketing system.	High	Medium	High
US-009	As a user, I want to be able to perform task 9 so that I can achieve a goal related to the ticketing system.	Medium	High	High
US-010	As a user, I want to be able to perform task 10 so that I can achieve a goal related to the ticketing system.	High	Medium	High
US-011	As a user, I want to be able to perform task 11 so that I can achieve a goal related to the ticketing system.	Medium	Medium	Medium
US-012	As a user, I want to be able to perform task 12	High	High	Medium

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	so that I can achieve a goal related to the ticketing system.			
US-013	As a user, I want to be able to perform task 13 so that I can achieve a goal related to the ticketing system.	Medium	Medium	Medium
US-014	As a user, I want to be able to perform task 14 so that I can achieve a goal related to the ticketing system.	High	Medium	Medium
US-015	As a user, I want to be able to perform task 15 so that I can achieve a goal related to the ticketing system.	Medium	High	Medium
US-016	As a user, I want to be able to perform task 16 so that I can achieve a goal related to the ticketing system.	High	Medium	Medium
US-017	As a user, I want to be able to perform task 17 so that I can achieve a goal related to the ticketing system.	Medium	Medium	Medium
US-018	As a user, I want to be able to perform task 18	High	High	Medium

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	so that I can achieve a goal related to the ticketing system.			
US-019	As a user, I want to be able to perform task 19 so that I can achieve a goal related to the ticketing system.	Medium	Medium	Medium
US-020	As a user, I want to be able to perform task 20 so that I can achieve a goal related to the ticketing system.	High	Medium	Medium
US-021	As a user, I want to be able to perform task 21 so that I can achieve a goal related to the ticketing system.	Medium	High	Low
US-022	As a user, I want to be able to perform task 22 so that I can achieve a goal related to the ticketing system.	High	Medium	Low
US-023	As a user, I want to be able to perform task 23 so that I can achieve a goal related to the ticketing system.	Medium	Medium	Low
US-024	As a user, I want to be able to perform task 24 so that I can	High	High	Low

Ticketing System BRD | Srividya Murugan | Confidential

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	achieve a goal related to the ticketing system.			
US-025	As a user, I want to be able to perform task 25 so that I can achieve a goal related to the ticketing system.	Medium	Medium	Low

Use Case Specifications – Ticketing System

Create Ticket

USE CASE NAME	CREATE TICKET
Description	Allows a user to create a new support ticket with issue details.
Actors	User, System
Business Rules	Each ticket must have a unique ID. Mandatory fields must be filled before submission.
Basic Flow	1. User logs in 2. Navigates to 'Create Ticket' 3. Enters issue details 4. Submits ticket 5. System stores and confirms ticket ID
Alternative Flow	If required fields are empty, system prompts user to complete them before proceeding.
Non-Functional Requirements	Form should load in under 3 seconds. Data must be validated in real time.
Precondition	User must be authenticated and logged in.
Postcondition	A new ticket is created and logged in the system with a unique ID.

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View Ticket Status

USE CASE NAME	VIEW TICKET STATUS
Description	Enables users to view the status of submitted tickets.
Actors	User, System
Business Rules	Only logged-in users can view their own tickets.
Basic Flow	1. User logs in 2. Navigates to 'My Tickets' 3. System displays list of tickets with statuses
Alternative Flow	If no tickets exist, system displays appropriate message.
Non-Functional Requirements	Ticket list must load within 2 seconds.
Precondition	User must have created at least one ticket.
Postcondition	User can see real-time updates on their tickets.

Assign Ticket to Agent

USE CASE NAME	ASSIGN TICKET TO AGENT
Description	Allows admin/system to assign a ticket to an available agent based on priority and availability.
Actors	System, Admin, Support Agent
Business Rules	Tickets should be assigned within 5 minutes of creation. Priority tickets get auto assigned.
Basic Flow	1. New ticket created 2. System checks available agents 3. Assigns based on workload 4. Notifies agent
Alternative Flow	If no agents are available, system adds to queue and notifies admin.
Non-Functional Requirements	Assignment should occur within 1 minute of creation.

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Precondition	Ticket must exist and agent pool must be configured.
Postcondition	Ticket is assigned and agent notified.

Update Ticket Status

USE CASE NAME	UPDATE TICKET STATUS
Description	Support agents can update ticket status as they work on resolving issues.
Actors	Support Agent, System
Business Rules	Only agents assigned to a ticket can update its status.
Basic Flow	1. Agent logs in 2. Navigates to assigned tickets 3. Selects ticket 4. Updates status and adds notes
Alternative Flow	If agent tries to update unassigned ticket, system shows error.
Non-Functional Requirements	Update operation must complete within 2 seconds.
Precondition	Ticket must be assigned to the agent.
Postcondition	Ticket status is updated and logged in system history.

Close Ticket

USE CASE NAME	CLOSE TICKET
Description	Allows agent or system to close a ticket once issue is resolved.
Actors	Support Agent, System, User
Business Rules	Ticket can only be closed if marked as resolved and user has confirmed.
Basic Flow	1. Agent resolves issue 2. User confirms resolution 3. Agent/system marks ticket closed

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Alternative Flow	If user doesn't confirm, system sends reminder. Auto close after 48 hrs if no response.
Non-Functional Requirements	Closure process should be audit-logged.
Precondition	Ticket must be resolved and resolution confirmed.
Postcondition	Ticket status is marked 'Closed' and archived.

Use Case 6

USE CASE NAME	PERFORM TASK 6
Description	This use case describes the ability to perform task 6 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 6 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 6 is completed and logged.

Use Case 7

USE CASE NAME	PERFORM TASK 7
Description	This use case describes the ability to perform task 7 in the ticketing system.
Actors	User, Support Agent

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Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 7 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 7 is completed and logged.

Use Case 8

USE CASE NAME	PERFORM TASK 8
Description	This use case describes the ability to perform task 8 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 8 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 8 is completed and logged.

Use Case 9

USE CASE NAME	PERFORM TASK 9
Description	This use case describes the ability to perform task 9 in the ticketing system.

Business Requirements Document

Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 9 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 9 is completed and logged.

Use Case 10

USE CASE NAME	PERFORM TASK 10
Description	This use case describes the ability to perform task 10 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 10 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 10 is completed and logged.

Use Case 11

USE CASE NAME	PERFORM TASK 11
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Description	This use case describes the ability to perform task 11 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 11 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 11 is completed and logged.

Use Case 12

USE CASE NAME	PERFORM TASK 12
Description	This use case describes the ability to perform task 12 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 12 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 12 is completed and logged.

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Use Case 13

USE CASE NAME	PERFORM TASK 13
Description	This use case describes the ability to perform task 13 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 13 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 13 is completed and logged.

Use Case 14

USE CASE NAME	PERFORM TASK 14
Description	This use case describes the ability to perform task 14 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 14 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.

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Postconditions	Task 14 is completed and logged.
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Use Case 15

USE CASE NAME	PERFORM TASK 15
Description	This use case describes the ability to perform task 15 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 15 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 15 is completed and logged.

Use Case 16

USE CASE NAME	PERFORM TASK 16
Description	This use case describes the ability to perform task 16 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 16 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.

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Preconditions	User is logged in and has required permissions.
Postconditions	Task 16 is completed and logged.

Use Case 17

USE CASE NAME	PERFORM TASK 17
Description	This use case describes the ability to perform task 17 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 17 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 17 is completed and logged.

Use Case 18

USE CASE NAME	PERFORM TASK 18
Description	This use case describes the ability to perform task 18 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 18 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.

Business Requirements Document

Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 18 is completed and logged.

Use Case 19

USE CASE NAME	PERFORM TASK 19
Description	This use case describes the ability to perform task 19 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 19 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 19 is completed and logged.

Use Case 20

USE CASE NAME	PERFORM TASK 20
Description	This use case describes the ability to perform task 20 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 20 3. Performs the task 4. System confirms action

Business Requirements Document

Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 20 is completed and logged.

Use Case 21

USE CASE NAME	PERFORM TASK 21
Description	This use case describes the ability to perform task 21 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 21 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 21 is completed and logged.

Use Case 22

USE CASE NAME	PERFORM TASK 22
Description	This use case describes the ability to perform task 22 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 22

Business Requirements Document

	3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 22 is completed and logged.

Use Case 23

USE CASE NAME	PERFORM TASK 23
Description	This use case describes the ability to perform task 23 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 23 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 23 is completed and logged.

Use Case 24

USE CASE NAME	PERFORM TASK 24
Description	This use case describes the ability to perform task 24 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.

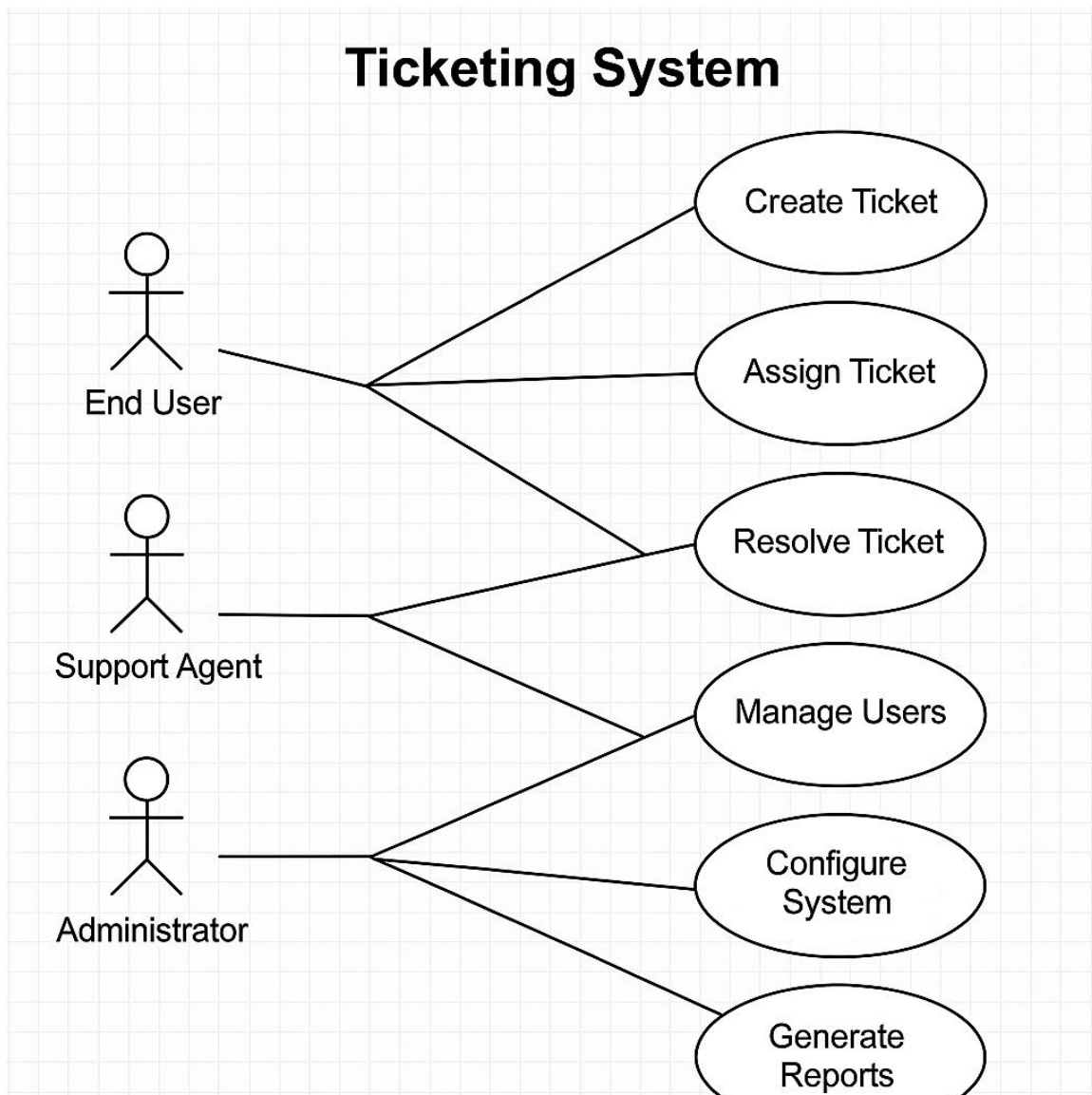
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Basic Flow	1. User logs in 2. Navigates to Task 24 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 24 is completed and logged.

Use Case 25

USE CASE NAME	PERFORM TASK 25
Description	This use case describes the ability to perform task 25 in the ticketing system.
Actors	User, Support Agent
Business Rules	The user must be authenticated before performing this task.
Basic Flow	1. User logs in 2. Navigates to Task 25 3. Performs the task 4. System confirms action
Alternative Flow	If validation fails, show error and prompt correction.
Non-Functional Requirements	System should respond within 2 seconds.
Preconditions	User is logged in and has required permissions.
Postconditions	Task 25 is completed and logged.

Essential Use Case Diagram



6. Functional Requirements

- Support ticket creation with category, priority, and description fields.
- Automated ticket routing based on team availability and workload.
- Track ticket status: Open, In Progress, Resolved, Closed.
- Integration with knowledge base for suggested solutions.
- Support for internal notes and attachments in tickets.
- Notifications and alerts for pending or SLA-breaching tickets.
- Role-based access for customers, agents, and admins.
- Bulk update and merging of tickets.

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- Analytics dashboard showing resolution time and volume metrics.
- Audit log for all ticket actions.

Business Rules

RULE NO.	RULE DESCRIPTION
BR-01	Each ticket must be assigned a unique Ticket ID at the time of creation.
BR-02	Tickets must be assigned to an available agent within 2 minutes of submission.
BR-03	High-priority tickets must be acknowledged within 15 minutes.
BR-04	SLAs must be defined and tracked for each ticket based on category and priority.
BR-05	Only Admins can modify ticket status once marked "Closed."
BR-06	Users can escalate tickets if not responded to within SLA timeframes.
BR-07	Ticket categories must be predefined in the system and cannot be edited by agents.
BR-08	A ticket can only be reopened once after being closed.
BR-09	Agents cannot resolve tickets without selecting a resolution type from the dropdown.
BR-10	All actions on a ticket must be timestamped and recorded in the audit trail.

7. Non-Functional Requirements

7.1 Security Requirements

The system will use HTTPS for secure communication, implement role-based access, log every login attempt, and have password policies.

7.2 Availability Requirements

System will be available 99.9% of the time with failover support and routine backups.

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7.3 Usability Requirements

User interface must be mobile responsive, accessible to screen readers, and have intuitive navigation.

7.4 System Help Requirements

COMPONENT	HELP SUPPORT PROVIDED
Login Page	Tooltip on username/password rules
Ticket Dashboard	Embedded FAQs and support guide
Reports	Tooltips and export guide
Settings	Inline documentation

7.5 Performance Requirements

Typical response time must be under 3 seconds for common operations under normal load.

7.6 Scalability Requirements

System should support growing ticket volume and concurrent users through horizontal scaling.

8. Data Requirements

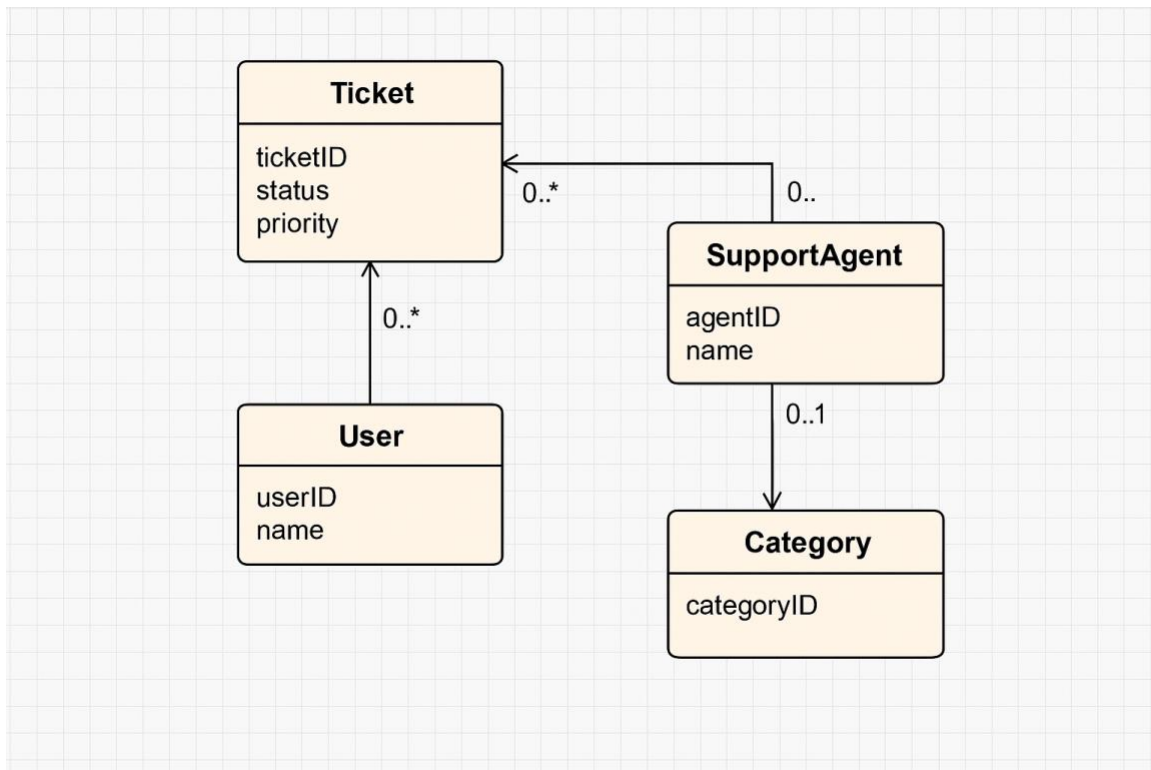
This section outlines the data architecture, class diagram, entity-relationship diagram, and definitions required for the Ticketing System project.

8.1 Data Architecture

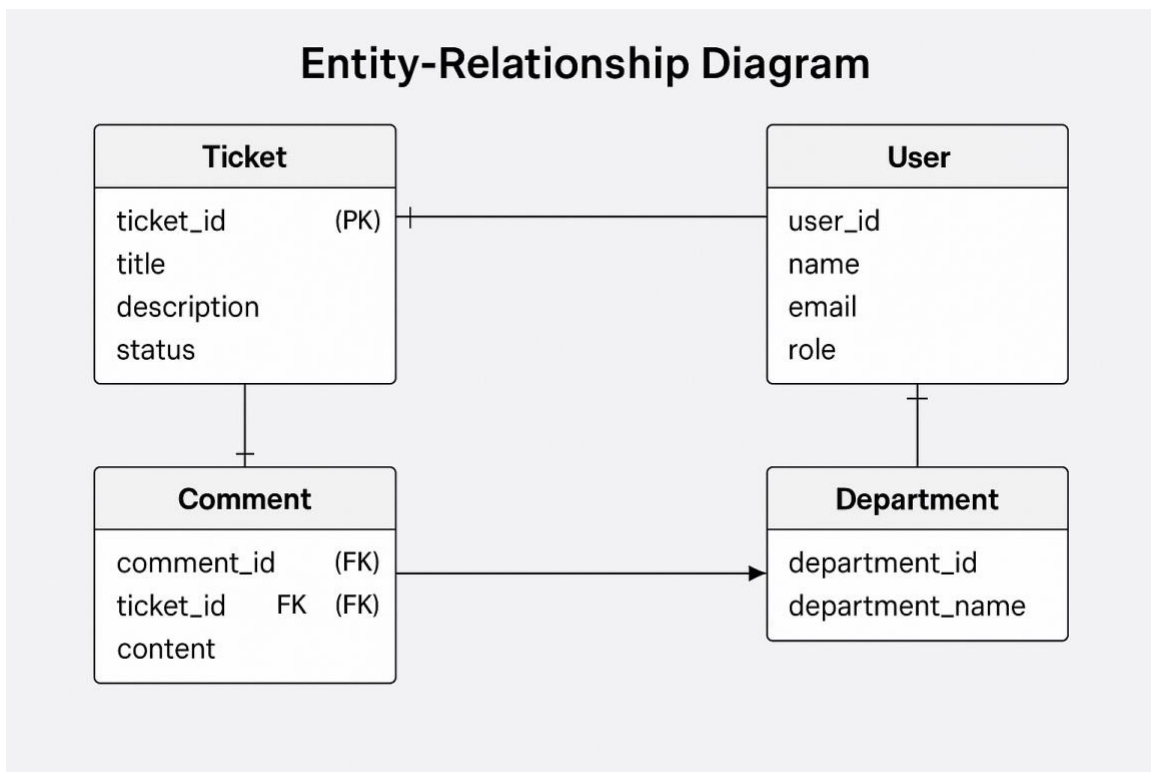
The data architecture includes structured storage and retrieval of ticket records, user profiles, SLA configurations, and interaction logs. Data will be stored in relational tables for scalability and ease of access.

8.2 Domain Class Diagram

Business Requirements Document



8.3 Entity Relationship Diagram



Business Requirements Document

8.4 Data Sensitivity Table

DATA ELEMENT	SENSITIVITY LEVEL	SECURITY MEASURES
User Credentials	High	Encryption, Role-based Access
Ticket Details	Medium	Access Control, Audit Trail
SLA Configuration	Low	Standard Authentication

8.5 Data Definition Reports

FIELD NAME	DATA TYPE	DESCRIPTION
Ticket_ID	Integer	Unique identifier for each ticket
User_ID	Integer	References the user raising the ticket
Created_At	Timestamp	Date and time the ticket was created
Status	Varchar	Status of the ticket

9. Interface Requirements

9.1 User Interface Requirements

The system shall feature an intuitive and responsive user interface that enables users to create and manage support tickets easily. Components include dashboard, ticket list, detailed view, search, and filters.

9.2 System Interface Requirements

The system must integrate with the following external/internal systems:

- Email Service for ticket creation via email
- Knowledge Base for suggested solutions
- Reporting Engine for analytics
- Authentication Service (LDAP or SSO)

Business Requirements Document

10. Glossary

TERM	DEFINITION
SLA	Service Level Agreement – a contract that defines performance metrics
Ticket	A recorded issue/incident reported by a user
Agent	Support personnel handling user issues
Knowledge Base	Centralized repository of common solutions

12. Appendices

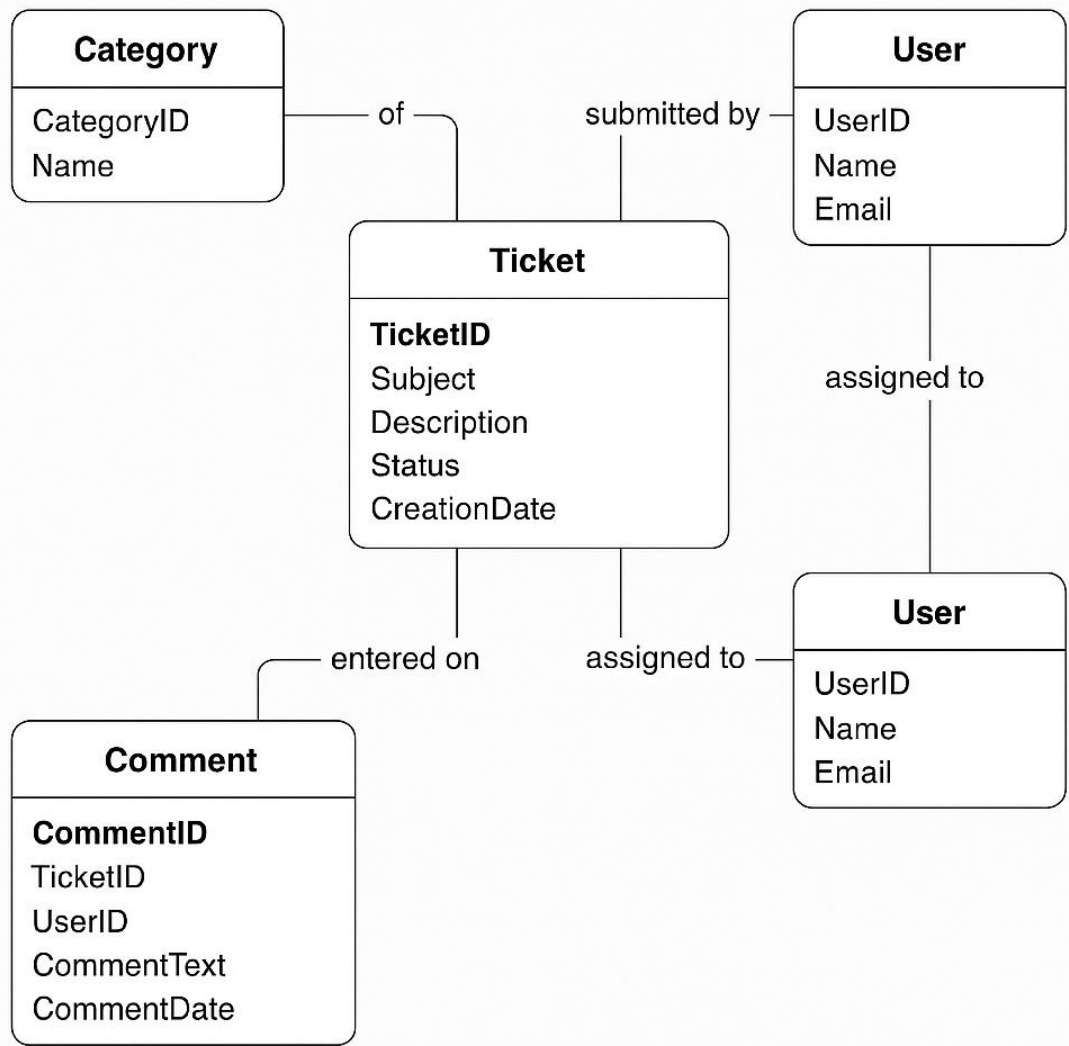
- Ticket Lifecycle Flow
- SLA Breach Matrix
- User Permission Matrix

13. Approval

PREPARED BY	SIGNATURE	DATE
Srividya Murugan		06-Jun-2025
Client Acceptor's Name		[To be filled]

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

Business Requirements Document



The ERD illustrates the lifecycle of a support ticket, including key entities such as User, Ticket, Agent, and Status, along with their relationships. Diagram created in Visio-style format.

4. User story of shopping from ecommerce.

USER STORY ID	USER STORY	CV	BP	PRIORITY
US_ECOM_001	As a user, I want to perform eCommerce task	2	4	Medium

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	1 so that I can achieve a specific goal related to online shopping.			
US_ECOM_002	As a user, I want to perform eCommerce task 2 so that I can achieve a specific goal related to online shopping.	3	5	Low
US_ECOM_003	As a user, I want to perform eCommerce task 3 so that I can achieve a specific goal related to online shopping.	4	1	High
US_ECOM_004	As a user, I want to perform eCommerce task 4 so that I can achieve a specific goal related to online shopping.	5	2	Medium
US_ECOM_005	As a user, I want to perform eCommerce task 5 so that I can achieve a specific goal related to online shopping.	1	3	Low
US_ECOM_006	As a user, I want to perform eCommerce task 6 so that I can achieve a specific goal	2	4	High

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	related to online shopping.			
US_ECOM_007	As a user, I want to perform eCommerce task 7 so that I can achieve a specific goal related to online shopping.	3	5	Medium
US_ECOM_008	As a user, I want to perform eCommerce task 8 so that I can achieve a specific goal related to online shopping.	4	1	Low
US_ECOM_009	As a user, I want to perform eCommerce task 9 so that I can achieve a specific goal related to online shopping.	5	2	High
US_ECOM_010	As a user, I want to perform eCommerce task 10 so that I can achieve a specific goal related to online shopping.	1	3	Medium
US_ECOM_011	As a user, I want to perform eCommerce task 11 so that I can achieve a specific goal related to online shopping.	2	4	Low
US_ECOM_012	As a user, I want to perform	3	5	High

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	eCommerce task 12 so that I can achieve a specific goal related to online shopping.			
US_ECOM_013	As a user, I want to perform eCommerce task 13 so that I can achieve a specific goal related to online shopping.	4	1	Medium
US_ECOM_014	As a user, I want to perform eCommerce task 14 so that I can achieve a specific goal related to online shopping.	5	2	Low
US_ECOM_015	As a user, I want to perform eCommerce task 15 so that I can achieve a specific goal related to online shopping.	1	3	High
US_ECOM_016	As a user, I want to perform eCommerce task 16 so that I can achieve a specific goal related to online shopping.	2	4	Medium
US_ECOM_017	As a user, I want to perform eCommerce task 17 so that I can achieve a	3	5	Low

Business Requirements Document

	specific goal related to online shopping.			
US_ECOM_018	As a user, I want to perform eCommerce task 18 so that I can achieve a specific goal related to online shopping.	4	1	High
US_ECOM_019	As a user, I want to perform eCommerce task 19 so that I can achieve a specific goal related to online shopping.	5	2	Medium
US_ECOM_020	As a user, I want to perform eCommerce task 20 so that I can achieve a specific goal related to online shopping.	1	3	Low
US_ECOM_021	As a user, I want to perform eCommerce task 21 so that I can achieve a specific goal related to online shopping.	2	4	High
US_ECOM_022	As a user, I want to perform eCommerce task 22 so that I can achieve a specific goal related to online shopping.	3	5	Medium

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US_ECOM_023	As a user, I want to perform eCommerce task 23 so that I can achieve a specific goal related to online shopping.	4	1	Low
US_ECOM_024	As a user, I want to perform eCommerce task 24 so that I can achieve a specific goal related to online shopping.	5	2	High
US_ECOM_025	As a user, I want to perform eCommerce task 25 so that I can achieve a specific goal related to online shopping.	1	3	Medium