Functional Requirements Document
Telecom Store Inventory v1.0

Table of Contents

1.0 Introduction

Telecom store is the first point to step in for a mobile connection. This store is an inventory for all kinds of products. Store maintains different kinds of product models in the inventory such as handsets, SIMs, accessories etc. The management of this store is an extremely important aspect of making sure that customers receive what they need and when they need it. It is very important to maintain track of Telecom equipment in the store to prevent disaster.

Customers can walk in a retail store and place orders. Hence all stock must be maintained up to date. But in an automated environment, customer places orders via a portal and the order is delivered at the address specified at the time of order placement. And the acknowledgment of the order delivery from the customers is necessary to proceed with the further order orchestration which includes other systems like activation on the network elements, billing etc. Store inventory is one of the many components that an order passes through in its course to billing.

Retailers are the stake holders of the store inventory who pay to the store owner for the stock catered for them in the store. Retailers place orders for customers over that stock.

For each product model, there will be many products available in the stock, with different codes. For example, below table shows the stock of products of the models 'Nokia E75' and 'Nokia BL-5CT'.

PRODUCT CODE	PRODUCT MODEL ID	PRODUCT NAME	PRODUCT STATUS
234567899991	Nokia E75	Nokia Mobile E75	Available
234567899992	Nokia E75	Nokia Mobile E75	Allocated
234567899993	Nokia BL-5CT	Nokia Battery BL-5CT	Allocated
234567899994	Nokia BL-5CT	Nokia Battery BL-5CT	Dispatched
234567899995	Nokia BL-5CT	Nokia Battery BL-5CT	Dispatched

Three distinct roles are defined for store inventory operations namely retailer, admin and inventory manager. Customers approach retailers to buy products. The retailer in turn places an order for the customer in the portal of the store inventory.

Admin and inventory manager have responsibilities to manage inventory.

For promotion of products, inventory manager has come up with complementary packages. The manager issues complements for retailer who places maximum order.

1.1 Purpose

The purpose of this document is to outline the detailed Functional Requirement that will enable design and development of the Telecom Store Inventory system.

1.2 Background

The case study for Telecom store inventory includes three major modules. It is driven by roles i.e., retailer role/admin role/Inventory Manager role. Retailer role is for the retailer who caters for customers while admin/Inventory Manager role is for administration activities across retailers. Following are the modules categorized.

Module 1: User Administration

An admin role has to perform activities corresponding to this module. Retailers are created/updated and deleted as a part of this module.

Product Models are also tagged to the retailers. E.g., Handset model '1' will be tagged to retailer 'A' and 'B' and handset model '2' will be tagged to 'C' etc depending on the requirement of retailers. Customers of retailer 'A' in turn will place order for: 1 * Handset model '1' + 1* Airtel SIM.

The system should collect the retailer details and will add the retailer information to the database along with a retailer id generated by the system. After adding a retailer, system should offer a Product Models Catalog from which administrator should tag product models to the retailer.

While updating the details of a retailer, the system will display the retailer details and the Product Models mapped to him and should allow him to add or remove Product Models or update retailer information if required.

For deleting a retailer the system should allow the admin to search through the existing retailer details and choose a retailer that needs to be deleted. Before deleting a retailer, all Product Models tagged to the retailer should be untagged.

The system allows the Admin to create three roles in the system and also assign or revoke required privileges to the retailer. Following are the roles created.
1. Admin
2. Inventory Manager
3. Retailer

Admin should also able to view privileges of a particular user.

Module 2: Product, Stock, and Sales Promotion

a) Product Models

Store maintains different kinds of product models in the inventory such as handsets, SIMs, accessories etc. The inventory manager is responsible for maintaining the product models in the system. Model information includes product model name, description, features, price, and threshold limit. While adding a product model, the system should also allow the inventory manager to tag the Model with a retailer (optional). Product model information can also be updated if needed.

b) Stock

The Inventory manager has to perform activities pertaining to Stock Administration.

The system should allow the inventory manager to manage the stock under each Product Model. The ProductCode, Product Name and Product Status (Available) needs to be added while adding the stock. The system should also allow the inventory manager to delete the stock, by removing the products available for a model.

For removing the entire product model from the store the prerequisite is that no products of this model should be in 'Allocated' status and also there should be no retailers tagged to this product model.

Inventory manager can query the stock and understand which stock is nearing threshold limit or below threshold limit and accordingly inform stake holders that action is required wherever applicable.

Inventory Manager should be able to check the stock level of all product models. Color codes must be showcased with legend to depict threshold, near threshold, below threshold. The threshold values for different models must be determined by Inventory manager.

c) Product Sales Promotion

For promotion of products, inventory manager configures complementary packages. System allows inventory Manager to configure complementary packages, which would be issued to retailer based on the total amount of the orders placed by them. The manager can issue complements or rewards for retailer who places maximum order.

The sample criteria for issuing complementary packages are as follows:

Order Value	Complementary Package
Rs.5000	One Sim Free
Rs 10000	One Sim card + A mobile worth Rs.2500
Rs.15000	One Sim card + A mobile worth Rs.4000

Manager should also be allowed to view the details of complementary packages issued to the retailers.

Module 3: Order Processing, Rewards, & Defect Tracking

A retailer role has to perform activities pertaining to Order placement and cancellation.

a) Order Processing

Retailer logs to the system and places an order for the customer. Retailer can place orders on the view available to him. While placing the order, the system should capture the customer information and also it should provide the list of models of handsets, SIMs and accessories available in the system. Retailer chooses the products and quantity for the customer and submits the order. On submission of the order, the system should calculate the amount the retailer needs to pay and it will be returned along with a unique order reference to the retailer. Order details must be saved to the system. Payment is done offline.

On submitting the order for a model, based on the quantity requested, the products available in stock under this Model have to be changed to the status 'Allocated'.

If a retailer place an order for the model 'Nokia E75' and quantity requested is 3, the stock is updated as follows.

PRODUCT_CODE	PRODUCT_MODEL	PRODUCT_STATUS	ORDER_ID
…	…	…	
234567899991	Nokia E75	Allocated	11
234567899992	Nokia E75	Allocated	11
234567899993	Nokia E75	Allocated	11
…	…	…	

After delivery, the stock status changes to 'Dispatched'.

Retailer should be able to check status of orders raised by him. The system should also allow the retailer to update the customer information but not the order information. Retailer can do cancellation/update of order only if the order status is 'Allocated' and not 'Dispatched'. On order cancellation the products must be released to the inventory stock with status as ‘Available’.

The system should also allow the retailer to check the status of shipment (shipment done or not). If an order has been placed then the shipment details such as when the order is placed, the address details where the order should be dispatched and possible delivery date should be recorded in the system.

When the Order is shipped then the time stamp of reception and by whom it was received should be displayed. The status of the order changes to ‘Dispatched’ and the complementary package applicable for this order has to be found and updated in the database.

In case of any unexpected delay in shipment, inventory manager has the privilege to update the possible date of delivery to the system.

b) Rewards Dispatch

On a daily basis, the inventory manager views the list of retailers along with the complementary package eligibility. The complement is computed and mapped by the system based on the order amount, at the time of confirmation of order dispatch.

The inventory manager can select products from the stock and allocate them for each reward. Once the dispatch is acknowledged, the status can be changed to 'Dispatched'. Products given as reward can be tracked, as the record of products selected for each reward will be separately available in the database.

c) Defect Tracking (Defect Replacement Request)

If any product is defected, the customer can approach the retailer, and the retailer raises a request to replace the product. The system should support defect reporting by the retailer. This should be captured as an order and should include the shipment details.

The inventory manager does the processing of this defect replacement orders by allocating and dispatching another product from the stock.

2.0 Assumptions

- There is a super admin for the system who have all privileges.
- All the products should be untagged from a retailer before deleting a retailer.
- Retailer can do cancellation of order only if the product stock status is 'Allocated' and not 'Dispatched'.
- Retailer can make updates to the order placed only if the product stock status is ' Allocated ' and not 'Dispatched'.
- Also retailer can update only the customer information of the order placed but not the order information.
- Possible delivery date for the shipment is assumed as the seventh day from the date of placing the order.
- Inventory Manager will set the limits of threshold for each product.
- To remove a product model from the store the prerequisite is that no products of this model should be in 'Allocated' status and also there should be no retailers tagged to this product.
- Removing a product from the store does not remove the details of products which are delivered, from system.
- Retailer rewards will be processed and dispatched only after getting acknowledgment from customer, about the successful product delivery.

3.0 Constraints

This document uses no constraints while defining the Functional Requirements and system behavior.

4.0 Enhancements

There is scope for improvement in each of the modules mentioned above.

4.1 CR 1 for Module 1: User Administration

Administrator should be able to see a report of all the retailers who are tagged to a particular product model.

4.2 CR 2 for Module 1: User Administration

While adding retailers to the system, it gets difficult to tag about 20-30 product models manually to a retailer and more over when most of these products need

to be repeated for some other retailer.

Hence to avoid this rework, models chosen the first time can be saved as a template that can reuse and customized if necessary.

Scope of this CR is to save models chosen while adding a retailer to a template in CSV/Excel format in a certain location. Have an option to view the saved template with products in the template appearing as check-boxes that are checked in.

4.3 CR 1 for Module 2: Products, Stock and Sales Promotion

Inventory manager should be able to generate status wise report on products in store -products which are Available/Allocated/Dispatched.

4.4 CR 2 for Module 2: Products, Stock and Sales Promotion

It is very important for the inventory manager to understand the trend of product consumption in his store. This will help him plan the stock as market demands.

The need of enhancement here is to give a full view of all the products in the store.

This can be depicted as pie charts or bar graphs on all products consumed and available. Another one on basis of retailer based products usage.

4.5 CR 1 for Module 3: Order Processing, Rewards, & Defect Tracking

Retailer should be able to generate a status wise report of orders placed - Processing/Dispatched.

4.6 CR 2 for Module 3: Order Processing, Rewards, & Defect Tracking

Inventory Manager should be able to see a report of orders in Processing status, Dispatched status and that in Canceled status.

This can be depicted as pie charts or bar graphs of all orders in Processing/Dispatched/Canceled status