

## Requirements

### Inventory Module – ARM Analysis

#### A – Actors

Actor	Description
Store Employee	Walks around and checks shelves, marks missing or expired/damaged items
Inventory Manager	Adds new products, sets minimum thresholds, views reports
System	Automatically triggers alerts and manages data in-memory

#### R – Requirements

ID	Module	Type	Description	Priority	Status	Risk
INV1	Inventory	Functional	The system MUST allow adding new inventory items with full metadata (manufacturer, location, category, pricing)	Must	Planned	Low
INV2	Inventory	Functional	The system MUST support updating quantities of existing items	Must	Planned	Low
INV3	Inventory	Functional	The system MUST allow the user to view a list of all items in stock, including their name, manufacturer, current quantity, shelf quantity, backroom quantity, and category.	Nice to have	Planned	Low
INV4	Inventory	Functional	The system MUST generate alerts when	Must	Planned	Medium

			item quantity drops below its minimum threshold (item-specific)			
INV5	Inventory	Functional	The system MUST track damaged or expired items using status fields (e.g., DAMAGED, EXPIRED).	Nice to have	Planned	Low
INV6	Inventory	Functional	The system SHOULD allow registering and applying discounts by item or category and date ranges	Nice to have	Planned	Low
INV7	Inventory	Functional	The system MUST support generating stock reports filtered by category and status fields (see req. 5)	Must	Planned	Low
INV8	Inventory	Functional	The system MUST store categories in a 3-level hierarchy (Category > Sub-category > Size)	Nice to have	Planned	Low
INV9	Inventory	Non-Functional	All data MUST be stored in-memory and reset upon restart	Must	Planned	Low
INV10	Inventory	Functional	The system MUST store and allow viewing of each item's purchase price and sale price.	Nice to have	Planned	Low
INV11	Inventory	Functional	The system MUST automatically	Must	Implemented	High

			place orders when inventory falls below minimum threshold			
INV12	Inventory	Functional	The system MUST retrieve supplier data and choose the supplier with the lowest price per item	Must	Implemented	Medium
INV13	Inventory	Functional	The system MUST support scheduling periodic orders based on defined supplier delivery days	Must	Implemented	Medium-High
INV14	Inventory	Functional	The system MUST update inventory quantities automatically upon supplier delivery	Must	Implemented	Medium

### Cross-Module Requirements

- SUP1: SupplierService MUST expose pricing information for all supplier items (Must).
- SUP2: SupplierService MUST support delivery notifications with itemID and quantity (Must).

### Summary of Requirement Changes

- Added requirements INV11–INV14 based on new automation and supplier module functionality.
- No requirements were removed.

### Glossary

Term	Definition
Order	A request made by the system to a supplier for inventory replenishment
Periodic Order	A recurring order tied to a specific delivery day
Supplier	External entity that provides inventory
Delivery	The act of a supplier sending ordered goods to the company
Minimum Threshold	A quantity level that triggers reorder logic
Timer	A background system trigger used for automated checks (daily)

## System Assumptions

- Inventory quantities are updated immediately after delivery confirmation.
- Periodic orders are triggered based on a reliable day-of-week schedule.
- Item IDs used in orders are assumed valid and mapped correctly in both modules.