Business Logic Document: Inventory Management System

# Project Purpose and Goals

The Inventory Management System is designed to streamline and automate the management of electronic products in a retail environment. Its main goal is to maintain accurate stock levels, enable efficient product tracking, and provide role-based access for users to manage inventory-related operations.

# User Roles

* Admin
* Has full access to the system
* Can manage (add, update, delete) products, categories, and brands
* Can view reports and monitor inventory levels
* Manages users and roles
* Sales Staff
* Can create sales and view product details
* Cannot modify product details or inventory settings

# Page/Module Functions

* Dashboard
* Displays key metrics: total products, low stock alerts, recent sales
* Quick access to recent activity and shortcuts
* Product Management
* Admins can add, update, delete products
* Products are linked to categories and brands
* Each product has stock quantity, price, discount price, and optional images
* Category & Brand Management
* Admins can create, update, and remove product categories and brands
* Categories help classify products, brands identify manufacturers
* Sales Module
* Records new sales transactions
* Automatically decreases product stock when a sale is completed
* Tracks sale time, product sold, and quantity
* User Management
* Admins can manage user accounts and assign roles
* Users can upload profile pictures and manage their info
* Inventory Tracking
* Tracks stock changes with date/time stamps
* Marks products as active/inactive and deleted when necessary

# System Behavior

* Upon adding a new product, it is assigned to a category and brand with initial quantity.
* When a sale is recorded:
* The corresponding product’s stock is decreased automatically.
* If quantity reaches zero, the product may be marked as 'Out of Stock'.
* Admins receive notifications or indicators for low stock products.
* Soft deletes (IsDeleted = true) are used for logical deletion without removing data.
* Timestamps (CreatedDate, UpdatedDate) are used for audit tracking on all entities.