# **Feature Specification Document**

### **Project: Angular E-Commerce App**

**Purpose:** This document outlines the high-level features and system behaviors of the application, serving as a reference for developers, testers, and stakeholders.

## **✅ Features**

### **1. User Authentication**

* **Login**
  + Email & password input
  + Client-side form validation
  + Server-side authentication
  + Stores token/user info in localStorage & NgRx
* **Signup**
  + Fields: username, mobile, email, password, confirmPassword
  + Form validation (e.g., password match, required fields)
  + Stores user info in backend upon success
* **Logout**
  + Clears store and token
  + Navigates back to login page

### **2. Product Management**

* **View All Products**
  + Fetches products from API
  + Displays in responsive Bootstrap grid
  + Uses loading spinner during fetch
* **Edit Product**
  + Opens form pre-filled with product data
  + Allows editing fields (title, description, etc.)
  + Updates product in the backend
  + Updates product in NgRx store only (no re-fetch)
* **Update Product**
  + Validates input before submission
  + Dispatches updateProduct action
  + Updates the store with updated product using updateOne from @ngrx/entity
* **No Products**
  + Shows message if product list is empty

### **3. Error Handling**

* Global HTTP interceptor for centralized error capture
* NgRx state for error tracking (authError, productError)
* Bootstrap alerts and/or toasts for user feedback

### **4. UX Enhancements**

* Responsive Bootstrap UI
* Loader during all async operations
* "Add New Product" button
* Navigation guards to prevent access without login

## **📦 Non-Functional Requirements**

| **Requirement** | **Description** |
| --- | --- |
| Performance | Fast load times, minimal API calls |
| Security | JWT stored in memory/localStorage securely |
| Maintainability | Clear module structure, reusable services |
| Scalability | Easily add features like cart or wishlist |

### **📚 Use Case Mapping**

| **Use Case** | **Actor** | **Description** |
| --- | --- | --- |
| Login | User | Logs into system using email & password |
| Sign Up | User | Registers a new account |
| View Product List | User | Loads product grid from API |
| Edit Product | User | Opens product form with existing data |
| Update Product | User | Submits updated data and persists to API/store |
| Logout | User | Clears auth info and resets store |
| Add New Product | User | Opens empty form for product creation (if allowed) |
| View Product | User | Navigates to a product details or edit page |

