Functional Requirements Specification (FRS)

Project Name: Dapperly – B2B eCommerce Platform

Type: B2B eCommerce Platform

Tech Stack: React, HTML5, CSS, C#, .NET Core, Web API, SQL-based Database

Version: 1.0

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1. Introduction

Dapperly is a B2B eCommerce web application designed to facilitate product purchases between businesses. It provides a platform where vendors can showcase their products and buyers can search, browse, and order them in bulk.

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2. Target Audience

- **Vendors/Sellers:** Businesses looking to sell products wholesale to other businesses.
- **Buyers/Customers:** Businesses (retailers, distributors) seeking bulk purchases.
- **Admins:** Platform managers who oversee user accounts, products, and transactions.

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3. User Roles & Authentication

3.1 User Types

- **Buyer**
- **Vendor**
- **Admin**

3.2 Authentication

- User registration (vendor/buyer)
- Secure login/logout (JWT or cookie-based)

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4. Functional Modules

4.1 Product Management (Vendor Role)

- Add/Edit/Delete products
- Upload product images

- Set product descriptions, prices, categories, and stock levels
- Bulk upload via CSV/Excel

4.2 Product Search & Filters (All Users)

- Keyword search
- Filters:
  - Category
  - Price Range
  - Vendor
  - Rating
  - Availability
- Sort options (price, popularity, newest, etc.)

4.3 Product Details Page

- Product name, images, and description
- Pricing, available stock, vendor info
- Customer ratings and reviews
- Add to cart button

4.4 Shopping Cart & Checkout

- Add/remove items from cart
- Quantity management
- Save cart for later
- Checkout process:
  - Billing/Shipping info
  - Order summary
  - Dummy payment gateway
  - Order confirmation screen

4.5 Dummy Payment Gateway Integration

- Simulates payment (no real transactions)
- Payment success/failure mock
- Post-payment order confirmation logic

4.6 Search & Filter Functionality (Global)

- Full-text search across products

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5. Technical Requirements

5.1 Frontend

- **ReactJS** with JSX and Hooks
- Responsive design using **HTML5/CSS**
- Axios for API calls

5.2 Backend

- **C# .NET Core Web API**
- RESTful API endpoints for all modules
- Entity Framework

5.3 Database

- SQL Server
- Tables: Users, Products, Orders, Payments, Cart etc.

5.4 Payment Gateway (Dummy)

- Simulated payment endpoint (/api/payment/process)
- Status: Success, Failed, Timeout
- No integration with real banks

5.5 Security

- HTTPS enforced
- JWT Authentication

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6. Non-Functional Requirements

- **Performance:** Fast response time (avg < 2s)
- **Scalability:** Scalable backend with modular API architecture
- **Usability:** Intuitive UI for business users
- **Maintainability:** Code structured with SOLID principles
- **Availability:** Uptime target: 99.9% (host-dependent)

Conclusion

The "Dapperly" B2B e-commerce application aims to deliver a seamless experience for businesses to list and sell products, manage inventory, and track orders. With a responsive frontend built using React, a backend API powered by .NET Core, and a simple dummy payment gateway for simulation, the platform will serve as an ideal solution for business transactions at scale.