Business Requirements Document: E-commerce Product Management System

1. Project Overview

Project Name: Product Catalog Management System

Objective: Develop a web-based system for managing product catalogs and inventory

Business Context: Streamline product management operations for our online store

2. Stakeholders

Business Team:

- Product Managers
- Inventory Managers
- Sales Team

Technical Team:

- Frontend Developers
- Backend Developers
- QA Engineers

End Users:

- Store Administrators
- Product Catalog Managers

3. Functional Requirements

3.1 Product Management

- Create, read, update, and delete product entries
- Each product should have: name, description, price, category, SKU, stock level
- Support product image uploads and management
- Allow bulk import/export of product data via CSV

3.2 Category Management

- Hierarchical category structure (parent/child categories)
- Category attributes: name, description, status (active/inactive)
- Ability to move products between categories

3.3 Inventory Management

- Real-time stock level tracking
- Low stock alerts
- Stock adjustment history
- Support for multiple warehouses

4. Non-Functional Requirements

- System should handle up to 100,000 products
- Page load times under 2 seconds
- Support for modern web browsers
- Responsive design for mobile devices
- API rate limiting: 1000 requests per minute

5. Technical Specifications

5.1 Frontend

- React-based SPA
- Material UI components
- Redux for state management
- Form validation using Formik

5.2 Backend

- RESTful API using Python/Flask
- PostgreSQL database
- JWT authentication
- Redis for caching

6. Data Model

Products:

- id: UUID
- name: string
- description: text
- price: decimal
- category_id: UUID (foreign key)
- sku: string
- stock_level: integer
- created_at: timestamp
- updated_at: timestamp

Categories:

- id: UUID
- name: string
- description: text
- parent_id: UUID (self-referencing)
- status: enum(active, inactive)

7. Security Requirements

- Role-based access control
- API authentication using JWT
- Input validation and sanitization
- HTTPS encryption
- Regular security audits

8. Timeline

Phase 1 (Basic Product Management): 4 weeks
Phase 2 (Category Management): 3 weeks
Phase 3 (Inventory Management): 3 weeks