

Software Requirements Specification (SRS)

Project Name: Nano Tech Production Technology

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Version: 1.0

Date: October 2025

◆ Backend Development Timeline:

Start Date: _____

Expected Completion Date: 29 October 2025

1. Introduction

1.1 Purpose

The purpose of this Software Requirements Specification (SRS) document is to define the requirements for the “Nano Tech Production Technology” e-commerce platform.

The website is designed to display and sell electronic products such as rice cookers, televisions, air conditioners, all-in-one PCs, lights, washing machines, blenders, and other home appliances.

The system allows customers to browse, add products to the cart, and place orders online.

1.2 Scope

This project is a single-vendor e-commerce website for selling electronic products in Bangladesh.

It includes two main user roles: Customer and Admin. Customers can browse and order products, while the Admin manages the entire system including products, inventory, roles, and warehouse operations.

1.3 Definitions and Acronyms

SRS - Software Requirements Specification

UI - User Interface

UX - User Experience

DB - Database

SKU - Stock Keeping Unit

COD - Cash on Delivery

1.4 References

- Business requirements shared by Nano Tech Production Technology
- PHP and MySQL documentation
- React official documentation

2. Overall Description

2.1 Product Perspective

The system is a standalone web-based e-commerce platform. The frontend is built using React.js, and the backend uses PHP and MySQL. The website connects with a secure database to store product, user, and order information.

2.2 Product Functions

- Display and categorize electronic products.
- Allow users to browse, search, and filter products.
- Manage cart and checkout process.
- Enable online payment through bKash (Pending) and Cash on Delivery.
- Allow the Admin to manage products, stock, sales, and warehouses.

2.3 User Classes and Characteristics

- Customer: Can register, browse, and purchase products.
- Admin: Has full control over the system, including product management, sales tracking, and role management.
- Sales Representative: Can handle orders of customers.

2.4 Operating Environment

Frontend: React.js

Backend: PHP 8+

Database: MySQL

Server: Apache or Nginx

Platform: Web (Fully Responsive for Mobile & Tablet)

2.5 Constraints

- Web-only platform (no mobile app initially).
- Must load quickly (under 3–5 seconds).
- Requires a stable internet connection.

2.6 Assumptions and Dependencies

- Payment gateway (bKash) API availability (Pending).
- Secure hosting with HTTPS enabled.
- Browser compatibility with latest versions of Chrome, Edge, and Firefox.

3. Specific Requirements

3.1 Functional Requirements

Customer Side:

1. Register, login, and manage user account.
2. Browse and filter products by category and subcategory.
3. Add or remove items from the shopping cart.
4. Checkout using bKash or Cash on Delivery.
5. View order details and order status.
6. Receive order confirmation and delivery updates.

Admin Panel:

1. Login with authentication.
2. Add, view, update, and delete products.
3. Manage categories and subcategories.
4. Generate and print product barcodes.
5. View sales reports and low-stock alerts.
6. Manage warehouse data and stock levels.
7. Create and manage user roles (e.g., Sales Representative).
8. View order reports and monitor business analytics.

3.2 Non-Functional Requirements

Performance: The website must load within 3–5 seconds.

Security: Passwords must be hashed before storing in the database.

Authentication: Secure login using session.

Scalability: Should handle unlimited users and products.

Usability: Responsive UI with user-friendly design.

Availability: System should remain online 24/7.

Maintainability: Code should follow modular structure for easy updates.

4. External Interface Requirements

4.1 User Interface

- Modern, responsive UI built with React.js.
- Product list with images, price, and description.
- Separate sections for cart, checkout, and order details.
- Admin dashboard with statistics, tables, and management options.

4.2 Hardware Interface

- Works on desktops, laptops, tablets, and smartphones.

4.3 Software Interface

- Integration with PHP backend APIs.
- MySQL database for storing user, product, and order data.
- bKash API for payment processing (Pending).

4.4 Communication Interface

- HTTPS protocol for secure communication.
- RESTful API for frontend-backend data exchange.

5. Other Requirements

- Security: Encrypted communication and password protection.
- Backup: Daily database backup.
- Error Handling: Display user-friendly messages for failed transactions or invalid inputs.
- Logging: Maintain activity logs for admin operations.

6. Review and Approval

Prepared By: Tahmid Alam

Reviewed By: _____

Approved By: _____

Date: _____