

Software Requirements Specification (SRS) Document

Taupe-notch Ecommerce System

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Revision History

Version #	Date	Summary of the Changes	Author(s)	Reviewer(s)
SRS1	27/11/2024	Initially written	Codenco IT	

Approval History

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Introduction

The introduction of the Software Requirements Specification (SRS) provides an overview of the entire SRS for **Taupe-notch Ecommerce System** Platform. This document outlines the purpose, scope, definitions, acronyms, abbreviations, references, and an overall summary of the SRS. The goal is to gather, analyze, and provide a comprehensive understanding of the **Taupe-notch Ecommerce System**, defining the problem statement and objectives in detail. Additionally, it focuses on the required capabilities for stakeholders and addresses their needs by specifying high-level product features. This document delivers a detailed breakdown of the requirements for the Taupe-notch Ecommerce System

Beauty Product Market in Bangladesh

- The Beauty & Personal Care market in Bangladesh is projected to reach revenue of US\$11.22bn in 2024.

- This market is expected to experience an annual growth rate of 3.18% (CAGR 2024-2029).

- In terms of global comparison, in the United States generates the highest revenue in this market, amounting to US\$100bn in 2024.

- When considering the population figures, the per person revenue in Bangladesh's Beauty & Personal Care market is approximately US\$64.20 in 2024.

- Furthermore, it is anticipated that online sales will contribute to 11.9% of the total revenue in the Beauty & Personal Care market by 2024.

Despite being a developing country, Bangladesh has seen a significant increase in the demand for organic and natural beauty products in recent years.

(Data is taken from <https://www.statista.com/outlook/cmo/beauty-personal-care/bangladesh>)

Purpose

The project Taupe-notch Ecommerce System Platform aims to provide customers with an online platform to browse, compare, and purchase beauty products from various brands. **The platform offers a seamless shopping experience, allowing users to explore products by categories such as makeup, skincare, haircare, body care, and fragrances.** Additionally, it provides features like personalized recommendations, a blog for beauty tips, and secure payment options.

The primary focus of the SRS is to describe the complete behavior of the proposed e-commerce website. It aims to gather and analyze all necessary requirements to define the system, its functionalities, and the user interactions. Furthermore, the document explores how the platform will serve its audience, outlines concepts that may evolve during development, and records ideas for future customization and enhancement.

In short, this SRS document is to provide a comprehensive overview of the Taupe Notch platform, its capabilities, and its goals. This document details the platform's target audience, user interface,

and hardware and software requirements. It defines the expectations of the client, developers, and users while laying out the product's functionality. Additionally, it acts as a guideline for the development and design team throughout the software development lifecycle (SDLC).

The SRS serves as a mutual agreement between stakeholders and the development team, ensuring all requirements are clearly understood. By identifying the key requirements of the platform, the system is better positioned to achieve its objectives effectively. The ultimate goal is to deliver a stable, high-quality e-commerce platform that meets the needs of users and provides a superior shopping experience.

Scope

This system will serve as an online store for beauty products, including skincare, makeup, hair care, and other cosmetic items. The system will provide features for product management, user management, order processing, and customer engagement. It also features:

- Customers can walk through products by Brand name & Type.
- Feature a comprehensive catalog of cosmetics including various categories such as skincare, makeup, hair care etc.
- Customers can add their desired items to their shopping cart & proceed to checkout for payment.
- Customers can view their order history, track the status of current orders & receive notifications.
- Admins will receive the necessary details of order, including the products purchased and customer information.
- Secure payment gateways will be integrated to facilitate secure online transactions.
- The admin can approve or remove inappropriate reviews to maintain quality and authenticity.
- Customers Profile creation is less time consuming & less complicated.

Overall, the system ensuring a complete solution for managing and selling beauty products online while providing a smooth experience for both the vendor and the customers.

The development will follow a classical waterfall model, encompassing phases for feasibility analysis, requirements gathering, design, coding/testing, integration/system testing, and maintenance. The functional requirements specify that users can browse product catalogs, search for specific items or categories, add products to their cart, update or remove them, and complete the checkout process. The platform will also enable users to register an account, log in, view order history, and manage their profiles

Definitions, Acronyms, and Abbreviations

SRS	Software Requirements Specifications
CRM	Customer Relationship Management
SDLC	Software Delivery Lifecycle
DB	Database
OTP	One Time Password
API	Application programming interface
PC	Personal Computer
CTA	Call To Action
TCP	Transmission Control Protocol
IP	Internet Protocol
HTTPS	Hypertext Transfer Protocol Secure
SSL	Secure Sockets Layer
GUI	Graphical User Interface
HTML	Hyper Text Markup Language
CSS	Cascading Stylesheet
URL	Uniform Resource Locator

References

- Address site:

- i) <https://fentybeauty.com/>
- ii) <https://hudabeauty.com/>
- iii) <https://www.makeupbymario.com/>
- The system's functionality is inspired by these site, client provided this as a reference by client.
- The system has its own features based on other local sites.

Objectives

1. **Efficient Product Browsing and Filtering:** Streamline the product browsing and filtering process for users, enabling them to quickly locate desired items based on categories, pricing, and preferences.
2. **User-Friendly Interface:** Develop an intuitive and visually appealing interface to enhance the shopping experience, making it easy for customers to navigate, view products, and complete purchases.
3. **Multi-Platform Accessibility:** Ensure the website is accessible across various devices, including desktops, tablets, and smartphones, to provide users with a seamless shopping experience.
4. **Wishlist and Favorite Items:** Enable users to save their favorite products in a wishlist for easy access and later purchase decisions, improving user retention and experience.
5. **Discount and Promotion Management:** Implement a robust system to display discounts, special promotions, and sale items clearly, encouraging users to take advantage of offers.
6. **Secure Payment and Checkout:** Ensure a secure and straightforward checkout process with multiple payment options, providing customers with confidence and convenience when completing purchases.
7. **Real-Time Inventory Management:** Integrate real-time inventory updates to inform users about product availability, reducing frustration and ensuring accurate order fulfillment.
8. **Scalability and Performance:** Design the website to handle a growing user base and peak traffic loads while maintaining optimal performance and responsiveness.
9. **Analytics and Insights:** Offer data-driven analytics and reporting tools to monitor user behavior, track sales trends, and identify opportunities for business optimization.
10. **Social Integration:** Integrate with social media platforms to allow users to share products and offers, boosting marketing and brand visibility.
11. **Compliance and Security** Ensure compliance with data privacy regulations (e.g., GDPR) and implement robust security measures to protect customer data and transactions.

Assumptions

1. **Product Availability and Pricing:** It is assumed that the admin/owner will regularly update the product catalog, including prices, stock levels, and new arrivals.
2. **Product Authenticity:** It is assumed that admin/owner will verify the brand authenticity and product safety guide.

3. **Legal Compliance and Approvals:** It is assumed that any legal or regulatory matters, such as compliance with consumer protection laws, tax regulations, and other legal requirements, will be managed by the owner. Any disputes between the owner and customers will be resolved mutually, with legal counsel involved if necessary.
4. **Marketing and Content Preparation:** It is assumed that the marketing team will be responsible for creating, reviewing, and finalizing promotional materials, including website content, paid advertisements, email campaigns, and social media posts, to maximize user engagement and brand visibility.
5. **User Training:** It is assumed that training sessions for staff, including admins, will be scheduled and conducted within the first week following software deployment. These sessions will cover the platform's features, functionality, and workflows to ensure a smooth transition and effective system usage.
6. **Testing Infrastructure:** It is assumed that the necessary hardware, software, and infrastructure required for testing, including staging servers, test environments, and testing tools, will be made available on schedule to support thorough quality assurance and validation processes.
7. **Third-Party Service Uptime:** It is assumed that third-party services, including the SSLCommerz payment gateway and other integrated APIs, will maintain a high level of uptime and reliability during the software's operation. The platform's functionality depends on the continuous availability of these services.
8. **Payment Processing and Refund Timelines:** It is assumed that refunds will be processed and credited as store credit within 1-3 business days, with funds being transferred according to the policies of the third-party payment processor and the platform's terms and conditions.
9. **Hosting and Scalability:** It is assumed that the hosting provider will support auto-scaling, load balancing, and other scalability features required for the platform to handle varying levels of user traffic and data volume, ensuring continuous uptime and performance.
10. **Data Accuracy and Updates:** It is assumed that the information provided by suppliers and product vendors, such as material quality and certifications, will be accurate and verified. The admin is responsible for updating any relevant details in the system as needed.
11. **Customer Internet Connectivity:** It is assumed that users will have a stable internet connection to access the platform.
12. **Compliance with Industry Standards:** It is assumed that all integrated systems and external services comply with industry standards for security, payment processing, and data privacy, ensuring the platform's adherence to these requirements.
13. **Product Delivery:** It is assumed that product delivery rules and regulations will be guided by the admin.

Functional Requirements

1. Product Listing

- **Requirement ID:** FR001
- **Description:** Display a list of products available for purchase.
- **Acceptance Criteria:**
 - Users can view a list of products with basic information such as name, price, and thumbnail image.
 - Products can be filtered by categories, price range, brand, and other attributes.
 - Products can be sorted by brand, price, category, rating, color
 - Guest users shall be able to add products to their cart without logging in.
 - Discounted prices shall be shown alongside original prices, with the discount highlighted.
 - Tags such as "Best Seller," "Top Picks etc shall be displayed on relevant products.
 - Users shall be able to add items to the wishlist by clicking the heart icon.
 - Users shall be able to sort products by Latest, Price (Low to High, High to Low), popularity etc.
 - Clicking on a shade swatch shall dynamically update the displayed product image to reflect the corresponding shade.
 - User can search product by categories, brand etc.

2. Product Details Page

- **Requirement ID:** FR002
- **Description:** Provide detailed information about a specific product.
- **Acceptance Criteria:**
 - Users can view detailed information about a product, including name, price, description, specifications, images, tags.
 - Users can view product reviews and ratings.
 - Users can see related products or recommendations.
 - Users can select product options such as size, color, shade.
 - Users can add the product to their shopping cart or wish list

3. Product Filtering

- **Requirement ID:** FR003
- **Description:** The system shall allow users to search for available products based on specified criteria, for example new arrival, Makeup, Skincare, hair, fragrance, henna etc.
- **Acceptance Criteria:**
 - The system shall allow users to search for products by name, category, brand, shade or rating.
 - After selecting a product user shall be able to see all the specification of that product.
 - The system shall display real-time availability and actual pricing information of that product.
 - The system shall not display products that are out of stock.

- The system shall allow user to add product to their cart.
- The system shall display product details, including images, description, price, tags and stock status.
- The system shall allow admin to add multiple image of a product for hover effect.

4. Order Processing

- **Requirement ID:** FR004
- **Description:** The system shall allow users to place orders and make payments.
- **Acceptance Criteria:**
 - Users shall be able to select a product and proceed to the order process.
 - The system shall allow user to cancel an order.
 - After confirming the items in the cart, the user clicks the "Checkout" button.
 - The user enters their billing information, including name, address, email, and phone number
 - The system shall allow users to view their order history and order status.
 - The admin shall be able to view, process, and update the status of orders.
 - Integration with payment gateways for processing payments.
 - Order confirmation and receipt generation.
 - Users can apply discount codes and coupon codes.

5. Wishlist Feature

- **Requirement ID:** FR005
- **Description:** Allow users to save favorite products to a wishlist for future reference.
- **Acceptance Criteria:**
 - Users shall be able to add items to the wishlist by clicking the heart icon.
 - The wishlist shall be accessible from the user's account or the main menu.
 - Wishlist items shall include product details and direct links to purchase.

6.Shopping Cart Management

- **Requirement ID:** FR006
- **Description:** Users can add products to a shopping cart and manage their cart later.
- **Acceptance Criteria:**
 - Users can add products to the cart.
 - Guest user can add products to shopping cart
 - Users can view and update the quantity of products in the cart.
 - Users can remove products from the cart.
 - Users can save items for later. The user chooses between available shipping options based on their region (e.g., Inside Chattogram or Outside Chattogram).The user selects a payment option:
 - a. **Cash on Delivery**
 - b. **Online Payment** (e.g., Credit/Debit Card, Internet Banking, MobileBanking).

7.Payment Processing

- **Requirement ID:** FR007
- **Description:** The system shall support secure payment processing by using SSLCommerze payment Gateway system.
- **Acceptance Criteria:**
 - Users shall be able to enter payment details securely and complete transactions without unauthorized access to sensitive information.
 - The system shall validate payment information and process payments in real-time, providing confirmation of successful transactions.
 - If Paying Online the user provides payment details (e.g., card number or mobile banking credentials) securely through the SSLCommerz payment gateway.
 - For online payments, the system processes the transaction and displays a confirmation message upon success. For cash on delivery, the order confirmation is displayed.
 - Allow guest users to complete payments without logging in. Automatically generate a user profile upon successful payment, using the provided details (such as name, email, and phone number). The credentials will be shared with the user via email .

8. Order Tracking

- **Requirement ID:** FR008
- **Description:** Users can track the status of their orders.
- **Acceptance Criteria:**
 - Users can view the status of their orders.
 - Users receive notifications about order status updates.
 - Users can view estimated delivery times.

9.User Reviews and Ratings

- **Requirement ID:** FR009
- **Description:** The system shall allow registered customers to give their review & ratings about specific product(s) used by them.
- **Acceptance Criteria:**
 - The system shall display average ratings and customer reviews on the product page.
 - Users can submit reviews and ratings for purchased products.
 - Admin can moderate reviews.
 - User's reviews will be reviewed & published by Admin.

10.User Registration and Authentication

- **Requirement ID:** FR0010
- **Description:** Users can register by providing their mobile number, email(optional) address, and personal information.

- **Acceptance Criteria:**
 - User shall provide a valid phone number.
 - User shall provide a valid email address (optional).
 - User can register with a phone number.
 - User shall be able to log in securely using their phone number and password.
 - User shall be able to upload profile picture and add full address.
 - Guest users shall be able to proceed to checkout without creating an account.

11. Notifications System

- **Requirement ID:** FR0011
- **Description:** The system shall send notifications to users at various stages of the order process, including pending confirmation, payment confirmation, order confirmation or order cancellation.
- **Acceptance Criteria:**
 - Users shall get notification about their order confirmation, order cancellation.
 - Users shall get notification about special discount etc.
 - User shall get notification after create account

12. Customer Dashboard

- **Requirement ID:** FR0012
- **Description:** The system shall provide limited access for logged in customers to do their basic functionalities.
- **Acceptance Criteria:**
 - Customers will be registered with only mobile number, name and address.
 - If customers don't provide a password, their phone number will be used as a default password.
 - Customers shall have log in to the system using their mobile number.
 - Customers can manage their personal information, view order history, and save addresses for faster checkout.
 - Customers can reset their passwords via email(if provided) verification if they forget their login details.
 - Customers can update quantities, remove items, or save items to a wish list.

13. Admin Dashboard

- **Requirement ID:** FR0013
- **Description:** The system shall allow admin to check the orders, accept/decline order and other things.
- **Acceptance Criteria:**
 - Admin can add new product category.
 - Admin can add new products with detail information in a specific category and pictures.
 - Admin shall have access to see the orders, pending orders, confirmed orders.

- Admin can see the payment details.
- Admin can add tags (bestseller/trending/new) to products.
- Admin can update the price of a product any time.
- Admin can check all the customer details.
- Admin can add multiple images of a product.
- Admin can add special discount, coupon code to specific product on specific festive days.
- Admin can approve or remove inappropriate reviews to maintain quality and authenticity.
- Admin can delete products from the catalog.
- Admin can categorize products for easier navigation.

14. Refund and Reissue

- **Requirement ID:** FR0014
- **Description:** The system shall facilitate refund and reissue processes for users, allowing them to request refunds for cancelling orders.
- **Acceptance Criteria:**
 - Users shall have the option to request refunds for confirmed order or requested order within a certain time.
 - Upon initiating a refund request, users shall receive a confirmation notification and instructions on the refund process, including any applicable fees and timelines.
 - Users shall be able to track the status of their refund requests through the system interface, receiving updates on processing status and expected timelines for refund completion.

15. Blog Creation and Editing

- **Requirement ID:** FR0015
- **Description:** The admin shall have the ability to create and edit blog posts to share relevant content with users.
- **Acceptance Criteria:**
 - Admin can create new blog posts by providing the title, content, featured image, tags, and category.
 - Admin shall be able to edit existing blog posts to update information or fix errors.
 - Blog content can include formatted text, links, images.
 - Admin shall preview the blog post before publishing it.

16. Product Discount and Promotions Management

- **Requirement ID:** FR0016
- **Description:** Admins shall have the ability to create, manage, and apply discounts or promotions to products or product categories.
- **Acceptance Criteria:**
 - Admins can set up percentage-based or fixed-amount discounts.
 - Admins can specify discount start and end dates.
 - Admins can apply promotions to specific categories or individual products.

17. Order Management

- **Requirement ID:** FR0017
- **Description:** Admins shall be able to manage customer orders, including viewing order details, processing payments, and managing order status.
- **Acceptance Criteria:**
 - Admins can view a list of all customer orders, filter by status (e.g., pending, shipped, delivered), and search orders by customer or order ID.
 - Admins can update the order status (e.g., mark orders as shipped, completed, or canceled).
 - Admins can issue refunds or cancel payments if necessary.

18. Delivery Policies

- **Requirement ID:** FR0018
- **Description:** Display delivery policies and guidelines to users.
- **Acceptance Criteria:**
 - Provide information on delivery times, costs, and restrictions.
 - Display return and exchange policies related to delivery.

19. Site Settings Management

- **Requirement ID:** FR0019
- **Description:** Admins shall be able to manage site settings such as website title, logo, theme, and SEO settings.
- **Acceptance Criteria:**
 - Admins can update the website title, description, and keywords for SEO purposes.
 - Admins can change the site's logo, footer content, and theme (e.g., colors, layout).
 - Admins can manage social media links and integrate third-party services like analytics tools.

20. Integration of Facebook Pixel

- **Requirement ID:** FR020
- **Description:** Integrate Facebook Pixel to track user behavior and improve ad targeting.
- **Acceptance Criteria:**
 - The system shall allow administrators to add and configure Facebook Pixel for the website.
 - The system shall track user actions (e.g., page views, add to cart, purchase) and send data to Facebook Ads Manager.
 - The system shall support event customization and advanced matching for improved targeting.

Non-Functional Requirements:

1. Performance

NFR001: The system shall respond to product search queries within 95% response rate within 2 seconds, even during peak load times.

NFR002: The system shall support a minimum of 1000 concurrent users without degradation in performance.

NFR003: The product images must load faster even in slowest internet connection.

2. Reliability

NFR004: The system shall have a minimum uptime per month, excluding scheduled maintenance windows.

NFR005: The system shall be capable of recovering from hardware failures or system crashes without data loss.

NFR006: The probability of incorrect pricing information displayed to users shall be less than 0.1%.

NFR007: The system should provide appropriate error messages for failed actions.

3. Security

NFR008: User password shall be encrypted using industry-standard cryptographic protocols.

NFR009: The system shall implement role-based access control, restricting admin functionalities to authorized users.

NFR010: Payment data stored in the system shall be encrypted at rest using AES 256-bit encryption.

NFR011: The system shall enforce HTTPS for secure communication.

4. Scalability

NFR012: The system architecture shall be designed to scale horizontally to accommodate increased user traffic and data volume.

NFR013: The system shall support seamless integration with additional APIs.

NFR014: The system shall support load balancing and auto-scaling mechanisms to distribute workload and allocate resources dynamically.

5. Usability

NFR015: The user interface shall follow accessibility standards to ensure usability for users with disabilities.

NFR016: The system shall provide clear and intuitive error messages to guide users in case of invalid inputs or system errors.

NFR017: The average time for users to complete an order process shall not exceed 5 minutes, including search, filter, and payment.

NFR018: The system shall provide multiple image upload options.

NFR019: The website should be user-friendly, with a clear and intuitive UI.

NFR020: The design should be responsive, ensuring accessibility on various devices.

NFR021: The full design should be in a specific color(lavender based) shade.

NFR022: Images used in the site should have all same size.

NFR023: Slide transitions effect will be little slower than reference site.

NFR024: Cart, Wish List will be come from the right side of the screen.

NFR025: Rating will not be shown in the product features.

NFR026: All the images in the product details will be full width.

6. Compliance

NFR027: Payment processing shall industry standard protocol to protect cardholder data during transactions.

NFR028: The system shall maintain audit logs for all user activities and system events to facilitate compliance audits and regulatory reporting.

7. Disaster Recovery

NFR029: The system shall have a disaster recovery plan in place to recover data and resume operations within 24 hours in the event of a catastrophic failure.

NFR030: Regular backups of critical data shall be performed daily and stored in secure place so that it can be restored quickly.

8. Compatibility

NFR031: The system shall be compatible with commonly used web browsers (e.g., Chrome, Firefox, Safari), mobile devices (iOS, Android) and Tab.

System Architecture:

The "Taupe-notch Ecommerce System" follows a modular-based architecture to ensure scalability, flexibility, and ease of maintenance. The system uses a combination of Next.js for the frontend, Django for the backend, and PostgreSQL for the database, along with Cloudinary or AWS-S3 for media management.

Frontend:

The frontend is developed using Next.js and TailwindCSS, enabling a responsive and highly dynamic user interface. The system is divided into modular components responsible for various functionalities such as product display, cart management, user authentication, and checkout processes. Each component is designed to encapsulate its own logic and UI, promoting code reusability and making future modifications easier. Additionally, TailwindCSS ensures a highly customizable and clean design.

Backend:

The backend is built using Django, which provides a robust framework for handling complex logic and server-side operations. Django follows a modular structure with distinct modules for handling user management, payment processing, order management, product inventory, and

other core business logic. The backend also handles the integration with payment gateways such as SSLCommerze and third-party APIs for real-time services, such as shipping and tracking.

Database:

PostgreSQL is used as the database, organized into multiple relational tables to store user data, product information, orders, inventory, and payment details. The use of PostgreSQL ensures efficient handling of transactional data and complex queries. The database schema is designed to handle the growth of product catalogs, user traffic, and other business data over time.

Dependencies:

- **Third-party Payment Gateway APIs:** The software depends on third-party payment gateway APIs (e.g., SSLCommerz) for securely processing transactions, supporting various payment methods.

Testing and Validation:

1. Unit Testing:

- **Description:** Unit testing involves testing individual components or modules of the system in isolation to verify their correctness.
- **Approach:** Use testing frameworks such as Jest (for Next.js), Mocha, or Jasmine (for backend Node.js code) to write and execute unit tests.

2. Integration Testing:

- **Description:** Integration testing verifies the interactions and integration between different components/modules of the system.
- **Approach:** Use tools like Super test for testing HTTP endpoints and Mongoose testing utilities for testing database interactions.

3. User Acceptance Testing (UAT):

- **Description:** User acceptance testing involves validating the system against user requirements and ensuring it meets business objectives.
- **Approach:** Collaborate with stakeholders, including travel agency, agents, and end-users, to conduct UAT sessions.
- **Feedback:** Gather feedback on usability, performance, and functionality to identify any discrepancies between expected and actual behavior.

4. Performance Testing:

- **Description:** Performance testing assesses the system's responsiveness, scalability, and reliability under different load conditions.
- **Approach:** Use tools like JMeter or Artillery to simulate concurrent user traffic and measure response times, throughput, and resource utilization.
- **Scalability:** Evaluate the system's ability to handle increased user load and transaction volumes without degradation in performance.

5. Security Testing:

- **Description:** Security testing aims to identify and mitigate vulnerabilities and ensure the system's resilience against security threats.
- **Approach:** Conduct vulnerability assessments, penetration testing, and code reviews to identify and address security weaknesses.

6. Regression Testing:

- **Description:** Regression testing verifies that recent code changes or updates have not introduced new defects or regression issues.
- **Approach:** Automate regression test suites using tools like Selenium (for frontend) and Supertest (for backend) to ensure stability and reliability across releases.
- **Coverage:** Include critical user workflows and system functionalities in regression test suites to validate core system behavior.

7. Validation:

- **Description:** Validation ensures that the system meets specified requirements and satisfies user expectations.
- **Approach:** Compare system outputs against expected results, conduct usability testing, and verify compliance with user stories and acceptance criteria.