

Software Requirements Specification
for
"Ki Kinbo!"
An online based supershop management system

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Chapter 1

Introduction

1.1 Purpose

This document outlines the software requirements for version 1.0 of "Ki Kinbo!", an online supershop management system. Our application is designed to provide a straightforward and user-friendly online shopping platform. With a primary focus on delivering essential features, the application is crafted to attract customers, facilitate sales, and create a seamless shopping experience. By concentrating on the fundamentals, we aim to offer a robust solution that not only appeals to users but also builds strong brand recognition in the market.

The platform will feature a wide range of products across various categories, allowing customers to explore, compare, and purchase items easily and securely from the comfort of their own homes. Our goal is to remove the barriers of physical shopping by providing an accessible, convenient, and enjoyable online experience for all users, regardless of their location.

Customer satisfaction is at the heart of our e-commerce strategy. We believe that the success of "Ki Kinbo!" depends on ensuring that every visitor to our platform enjoys a positive, intuitive, and hassle-free shopping experience. By prioritizing ease of use, fast navigation, and secure transactions, we aim to exceed customer expectations. Satisfied customers are more likely to return, become repeat buyers, and recommend our platform to friends and family, thereby contributing to the growth of our brand.

In essence, the purpose of developing this website is to enhance customer convenience and satisfaction, ultimately driving sales and maximizing revenue. By focusing on user experience and continually improving our services, "Ki Kinbo!" will establish itself as a trusted and reliable online shopping destination in the marketplace.

1.2 Intended Audience

The Software Requirements Specification aims to address various individuals engaged in both the development and usage of the Super Shop Management System. Key stakeholders include a range of technical and non-technical personnel, each contributing to the system's success. Their collaboration ensures that the system is both functional and aligned with business objectives, while also delivering an optimal user experience. Key stakeholders include:

- **Administrators:** in charge of managing the system.
- **Business Analysts (BAs):** responsible for identifying and outlining business requirements.
- **Project Managers (PMs):** supervising the development process.
- **System Architects:** responsible for designing the overall system structure.

- **UI/UX Designers:** focus on the user interface and experience design.
- **Developers:** involved in programming and system implementation.
- **QA/QC Engineers:** maintaining product quality.
- **Testers:** tasked with verifying system functionality.
- **End-users (Customers and Manager):** interacting with the platform.
- **Legal/Compliance Officers:** ensure the system complies with legal and regulatory standards.
- **Financial Officers:** oversee budgetary concerns and financial aspects of the system.
- **Technical Support Staff:** provide post-launch support and maintenance
- **Marketing Staff:** tasked with marketing the system.

1.3 Intended Use

Our course teacher will have access to this document for evaluation purposes. This SRS will be used by stakeholders to review the document and implement the system.

1.3.1 Administrators

Administrators will use the system to manage configurations, assign user roles, and ensure smooth operation. They will also be responsible for tasks such as backups, security, and maintenance.

1.3.2 Business Analysts (BAs)

Business Analysts will use the system to analyze store processes, sales data, and customer trends. They will utilize this information to define business goals and recommend improvements for future updates

1.3.3 Project Managers (PMs)

Project Managers will oversee the system's development, track progress, and ensure that project timelines and business objectives are met throughout the development cycle.

1.3.4 System Architects

Architects will ensure that the system's components meet functional, scalability, and integration requirements by overseeing the technical infrastructure and system design.

1.3.5 UI/UX Designers

UI/UX designers will focus on making the system user-friendly. They will enhance both customer and staff experiences by improving ease of use and navigation.

1.3.6 Developers

Developers will use the platform to implement features, translate business requirements into functional code, and maintain system performance through updates and optimizations.

1.3.7 QA/QC Engineers

Engineers will evaluate the system's overall quality by testing for bugs, security issues, and functionality problems, ensuring that it meets standards before release.

1.3.8 Testers

Testers will interact with the system to ensure that features work as intended, identify edge cases, and report any issues that need to be addressed before launch.

1.3.9 End-Users (Customers and Managers)

Customers will interact with the system to browse products and make purchases, while managers will use it to handle inventory, monitor sales, and oversee staff performance.

1.3.10 Legal/Compliance Officers

These officers will ensure that the system adheres to legal standards, data privacy regulations, and industry compliance. They will review the system for any violations or risks.

1.3.11 Financial Officers

Financial Officers will track sales, evaluate financial performance, and ensure that the system is cost-effective. They will use it to monitor budgets and return on investment.

1.3.12 Technical Support Staff

Technical Support will use the system to resolve user issues, handle maintenance tasks, and ensure continuous, uninterrupted operation after launch.

1.3.13 Marketing Staff

Marketing teams will analyze system data to better understand customer preferences, track campaign performance, and create targeted strategies to drive sales and engagement.

1.4 Product Scope

The "Ki Kinbo!" system operates as an online shop where customers can browse and purchase a wide range of products. It enables users to easily find and buy items they need, offering a convenient and accessible shopping experience without the need to visit physical stores.

1.4.1 Purpose

The "Ki Kinbo!" system is designed to provide a comprehensive online shopping platform where customers can browse and purchase a wide range of products from the comfort of their homes. It aims to simplify the shopping experience, offering convenience and accessibility while building a strong market presence.

1.4.2 Benefits and Objectives

- **Enhancing Customer Convenience:** Provides a seamless online shopping experience, allowing customers to easily browse, select, and purchase products.
- **Boosting Sales and Revenue:** Facilitates transactions and encourages repeat purchases, contributing to increased sales and overall revenue.
- **Strengthening Brand Recognition:** By offering a user-friendly platform with diverse products, it helps in building and enhancing brand awareness.
- **Improving Operational Efficiency:** Streamlines store management processes, including inventory handling, sales monitoring, and staff oversight.
- **Meeting Market Trends:** Aligns with the growing trend of online shopping and e-commerce, ensuring the system remains relevant and competitive.

1.4.3 Alignment with Corporate Goals

"Ki Kinbo!" supports our goals of expanding our market reach, enhancing customer satisfaction, and leveraging technology to drive business growth. It aligns with our strategy of offering a reliable and efficient online shopping experience that meets the evolving needs of our customers.

1.4.4 Relating to Business Strategies

By developing "Ki Kinbo!", we are advancing our business strategy of embracing digital solutions and improving the shopping experience. This initiative helps position us as a forward-thinking retailer, committed to providing innovative and customer-centric solutions in the online marketplace.

1.5 Risk Definition

The Software Requirement Specification (SRS) identifies potential risks associated with the "Ki Kinbo!" online supershop management system. These risks could impact the platform's functionality, user experience, and overall success.

1.5.1 Administrator Workload

Administrators may experience a high workload from managing user accounts, handling transactions, and resolving issues. This could strain resources and potentially affect the efficiency and responsiveness of the support provided.

1.5.2 Integration Challenges

There is a risk that integrating the system with third-party services or platforms (e.g., payment gateways, inventory management systems) could face technical challenges. This might affect the functionality of key features and cause delays in the project timeline. Thorough testing and validation of integrations will be necessary to address this risk.

1.5.3 User Documentation Utilization

Users might not refer to the provided documentation or guidelines, potentially leading to misunderstandings about system functionalities and policies. This could result in a mismatch between user expectations and the system's capabilities.

1.5.4 Performance Issues

There is a risk that the system may experience performance issues, such as slow loading times or downtime, particularly during peak usage periods. This could negatively impact user experience, lead to lost sales, and damage the platform's reputation. Regular performance monitoring and optimization will be essential to mitigate this risk.

1.5.5 Communication Gaps

There is a risk of miscommunication among stakeholders, which may lead to discrepancies in project understanding and objectives. Ensuring clear and consistent communication is essential to align expectations and deliverables.

1.5.6 Scope Changes

Unanticipated changes in project scope or requirements may not be immediately reflected in the SRS. This could lead to confusion and misalignment among developers, testers, and project managers, affecting project outcomes.

1.5.7 User Engagement

There is a risk that users may not actively engage with the platform, which could affect customer satisfaction and reduce the effectiveness of the shopping experience. Low engagement may impact sales and hinder the platform's growth.

1.5.8 Security Concerns

There is a risk of potential security vulnerabilities that could threaten user data, financial transactions, and the overall integrity of the platform. Implementing robust security measures is crucial to safeguard the system against threats.

1.5.9 Evolving Stakeholder Needs

As stakeholder needs and priorities evolve, there may be a risk that the SRS does not fully capture these changes. Ongoing communication and updates are necessary to ensure that the system continues to meet stakeholder expectations.

Chapter 2

Overall Description

2.1 User Classes and Characteristics

There will be two types of users: Primary and Secondary. In this system, user classes are defined to address the distinct roles and requirements of these users. Primary users are those who are directly involved in the core activities and functionalities of the system. In this system we have two primary users.

1. Customers
2. Shop Manager

Secondary users are individuals who interact with the system indirectly or in a supporting capacity. They are not directly involved in the core activities but play an essential role in maintaining, supporting, or benefiting from the system's outputs. In case of secondary users there can be multiple such as,

1. Administrators
2. Suppliers
3. Delivery Personnel

2.1.1 User Class: Customers

Characteristics

- Customers actively browse the platform to explore and select products.
- They participate in the purchasing process by evaluating various product options.
- Customers initiate transactions by adding items to their cart and proceeding with purchases.
- They track their order history, manage returns and exchanges, and leave product reviews
- They manage their accounts, ensuring their profiles are current and contain accurate information.

2.1.2 User Class: Shop Manager

Characteristics

- Shop Managers oversee the platform's inventory, ensuring product listings are accurate, up-to-date, and well-stocked.

- They monitor sales performance and generate reports to analyze trends, helping to optimize product offerings and promotions.
- Shop Managers handle order fulfillment, coordinating with suppliers and logistics to ensure timely delivery of products to customers.
- Shop Managers address customer inquiries or complaints, ensuring any issues are resolved promptly to maintain customer satisfaction.
- They set pricing strategies, apply discounts, and manage promotional campaigns to boost sales and revenue.

2.1.3 User Class: Administrators

Characteristics

1. Administrators oversee the overall platform management, ensuring smooth operation and system functionality for both customers and shop managers.
2. They manage user roles and permissions, granting appropriate access to shop managers and other staff members.
3. Administrators are responsible for platform security, implementing and maintaining data protection.
4. Administrators monitor system performance, identifying and resolving technical issues.
5. They handle and resolve issues reported by users, ensuring a seamless experience for all participants.

2.1.4 User Class: Supplier

Characteristics

1. Suppliers manage their product listings on the platform, ensuring accurate descriptions, pricing, and stock levels.
2. They handle inventory restocking, updating quantities on the platform as products become available or sold out.
3. They communicate with shop managers and administrators to coordinate logistics and resolve any issues related to product availability or order fulfillment.
4. Suppliers track the performance of their products, analyzing sales data to adjust inventory, prices, or promotions as needed.
5. They ensure the quality of their products, addressing any customer complaints or returns related to product defects or issues.

2.1.5 User Class: Delivery Personnel

Characteristics

- Delivery Personnel handle the physical delivery of products from the warehouse to the customer's address, ensuring timely and accurate deliveries.
- They manage delivery schedules, coordinating with the logistics team to delivery efficiency.
- They update the delivery status through shop managers, providing real-time tracking information to customers and shop managers.
- Delivery Personnel handle customer interactions during the delivery process, addressing any issues or concerns that may arise and ensuring a positive customer experience
- They follow safety and handling procedures to ensure products are delivered in good condition and comply with company policies and regulations.

2.2 User Needs

This section of the Software Requirements Specification (SRS) outlines the specific requirements and expectations of end-users, including both customers and store managers, within the context of the "Ki Kinbo!" online supershop.

2.2.1 Customers

- **Product Browsing and Selection:** Customers need an intuitive interface to easily browse and search for products. This includes features such as filtering options, sorting, and viewing detailed product information and images.
- **Order Management:** Customers require tools to manage their orders, including adding items to the cart, proceeding to checkout, tracking order status, and handling returns or exchanges.
- **Mobile Responsiveness:** The system should be fully responsive to ensure a seamless shopping experience across various devices, including smartphones and tablets.

2.2.2 Shop Manager

- **Product Management:** Shop managers need a user-friendly interface to efficiently manage product listings. This includes adding new products, updating product details, and removing obsolete items.
- **Order Processing:** Shop managers require tools to handle and track customer orders, including processing orders, managing inventory levels, and coordinating with suppliers and delivery personnel.
- **Sales and Performance Tracking:** They need access to reports and analytics to monitor sales performance, track revenue, and analyze customer purchasing patterns to make informed business decisions.
- **Customer Interaction:** Shop managers should have features to address customer inquiries, handle complaints, and manage returns or exchanges to ensure a high level of customer satisfaction.
- **Inventory Management:** Effective tools for tracking stock levels, managing reorders, and ensuring product availability are essential for maintaining smooth operations and preventing stockouts.
- **Mobile Responsiveness:** The system should be accessible and fully functional on mobile devices to allow shop managers to manage tasks and monitor operations on the go.

2.2.3 General User Needs

- **Secure Login and Access Control:** A reliable and easy-to-use login system is necessary, ensuring that users can securely access and manage their accounts.
- **User-Friendly and Accessible Interface:** The platform should cater to users with different levels of technical expertise, offering a simple and intuitive interface that enhances the shopping experience.
- **Timely Updates:** Users should be promptly notified about order progress, communication, and other important details, keeping them informed throughout their shopping journey.

2.3 Operating Environment

2.3.1 Hardware Platform

Desktop/Laptop (Windows or Linus)

Minimum Configuration:

- Processor: Intel i5 (6th gen or higher) or AMD Ryzen 5 equivalent.
- RAM: 8 GB minimum
- Storage: 8 GB of free disk space minimum.
- Graphics: 1280x800 minimum screen resolution. Dedicated GPU (optional but useful for hardware-accelerated emulators).

Recommended Configuration:

- Processor: Intel i7 or AMD Ryzen 7.
- RAM: 16 GB or more.
- Storage: At least 256 GB SSD.
- Graphics: Full HD (1920x1080) or higher screen resolution. A dedicated GPU for faster emulation, such as an NVIDIA or AMD graphics card.

Mac (macOs)

Minimum Configuration:

- Processor: Intel i5
- RAM: 8 GB minimum.
- Storage: 8 GB of free disk space minimum.
- Graphics: 1280x800 screen resolution at minimum.

Recommended Configuration:

- Processor: Apple M1/M2/M3 chip (or Intel i7) or pro chips.
- RAM: 16 GB or more.
- Storage: 256 GB SSD or more.
- Graphics: Full HD (1920x1080) or higher. More core GPU is recommended.

Smartphone (Android)

Minimum Configuration:

- Processor (CPU): A quad-core processor.
- RAM: At least 2 GB RAM

- Storage: At least 8 GB of internal storage
- Screen Resolution: 480 x 800 pixels minimum

Recommended Configuration:

- Processor: Snapdragon 6XX/7XX series or equivalent (MediaTek Helio G80 or Dimensity series).
- RAM: 4 GB or higher (6 GB is ideal for future-proofing our app performance).
- Storage: 32 GB of internal storage
- Screen Resolution: 720 x 1280 pixels (HD) minimum, but targeting Full HD (1080p) or higher is ideal.

Smartphone (iOS)

Minimum Configuration:

- Processor (CPU): A10 chip or higher (iPhone 7 or newer).
- RAM: 2 GB
- Storage: 16 GB of internal storage

Recommended Configuration:

- Processor: Apple A12 Bionic chip or newer
- RAM: 4 GB or higher
- Storage: 64 GB of internal storage or more.
- Screen Resolution: 750 x 1334 pixels or higher (Retina HD or Super Retina XDR for newer models).

2.3.2 Operating System and Versions

- Windows: Windows 10/11 (64-bit)
- macOS: macOS 11 (Big Sur) or newer, macOS 12 (Monterey)
- Linux with a 64-bit architecture , Ubuntu 20.04+
- Mobile:
 1. Android: Android 8.0 (Oreo) or higher.
 2. iOS : iOS 12.0 or higher (as of 2024, iOS 16 or 17 is common).

2.3.3 Software Components and Applications

- Android Studio (latest stable version)
 1. Windows: android-studio-2024.1.2.12-windows.exe or latest
 2. macOS: android-studio-2024.1.2.12-mac.dmg or latest
 3. Linux: android-studio-2024.1.2.12-linux.tar.gz or latest
- Java Development Kit (JDK): Android Studio bundles JDK 11
- Google Chrome (latest stable version)
- Microsoft Edge (latest stable version)
- Safari (latest stable version)

2.3.4 Database Compatibility

- Firebase (version 33.3.0 or latest version)
- MySQL (version 8.0 or stable version)

2.3.5 Interoperability

- The system employs RESTful APIs, including Retrofit 2.9.0 and Picasso 2.71828, and follows JSON data interchange standards, ensuring seamless integration and compatibility with external services and applications.

2.3.6 Network Requirements

- The system requires a stable internet connection with a minimum bandwidth of 5 Mbps for optimal performance.
- It supports both wired (Ethernet) and wireless (Wi-Fi) network connections.

2.3.7 Security Considerations

- It's compatible with industry-standard firewalls and security software to ensure data protection.

2.4 Constraints

2.4.1 Technical Constraints

- **Technology Choices:** The selection of suitable frameworks and technologies is critical for secure payment processing, robust user authentication, and ensuring a seamless and efficient shopping experience.
- **Scalability:** The system must be designed to scale effectively to support a growing user base and increasing transaction volumes without compromising performance.

2.4.2 Time Constraints

- **Development Schedule:** Define clear phases for development, including specific milestones for implementing features, conducting testing, and preparing for deployment.
- **Launch Timing:** The launch should be timed strategically based on market research and competitive analysis to maximize impact and user acquisition.

2.4.3 Budget Constraints

- **Financial Planning:** Allocate budget efficiently for development, system hosting, ongoing maintenance, and marketing initiatives to ensure a balanced approach to resource investment and growth.

2.4.4 Regulatory and Compliance Constraints

- **Data Security:** Adhere to data protection laws and regulations, ensuring the secure handling of user information and payment details.
- **E-Commerce Regulations:** Address any legal requirements related to online sales, including sales tax, returns, and customer protection laws to ensure compliance.

2.4.5 Resource Constraints

- **Skilled Personnel:** Ensure the availability of qualified developers and other essential personnel with expertise in relevant technologies and e-commerce solutions.
- **Technical Support:** Provide adequate support resources for troubleshooting and resolving technical issues to maintain system reliability and user satisfaction.

2.4.6 Additional Considerations

- **Performance Optimization:** Implement performance monitoring tools to continually assess and enhance system efficiency and response times.
- **User Feedback Integration:** Establish mechanisms for collecting and integrating user feedback to drive ongoing improvements and adapt to user needs.

2.5 Assumptions

The Software Requirement Specification (SRS) assumes that users, including customers and store managers, will actively engage with the platform by browsing products, making purchases, and managing their accounts. This expectation is essential for the efficient operation of the "Ki Kinbo!" online shopping system.

2.5.1 Access to Documentation

It is assumed that all stakeholders have access to the SRS and are able to understand its content, facilitating a unified approach to project requirements.

2.5.2 Effective Communication

It is assumed that there will be effective communication and collaboration among stakeholders to ensure a shared understanding of the SRS and project objectives.

2.5.3 Alignment with Goals

It is assumed that the SRS aligns with the goals and expectations of developers, testers, project managers, and other stakeholders, ensuring cohesive project execution.

2.5.4 Relevance of Information

It is assumed that the SRS content is tailored to address the specific needs and concerns of all user groups, including customers, store managers, and other stakeholders.

2.5.5 User Competence

It is assumed that both customers and store managers are familiar with online shopping platforms, allowing them to navigate and utilize the system effectively.

2.5.6 Active User Engagement

It is assumed that customers and store managers will actively use the platform for product exploration, purchasing, and managing inventory and transactions.

2.5.7 Administrator Expertise

It is assumed that administrators have the required expertise and authority to oversee and manage all functionalities of the supershop system, ensuring smooth and compliant operations.

2.5.8 Internet Connectivity

It is assumed that users, including customers and store managers, have reliable internet connectivity to facilitate uninterrupted interaction with the *Ki Kinbo!* system.

2.5.9 Technology Adaptability

It is assumed that the platform will be adaptable to future technological advancements and user needs, ensuring continued relevance and functionality.

Chapter 3

Requirements

3.1 Functional Requirements

3.1.1 Register and Verification

As a user (Customer or Shop Manager), I want to register on the "Ki Kinbo!" platform by submitting my personal details and verifying my identity. I will fill out the registration form with my username, password, email, address, phone number, and any required identification documents, and then submit it to create a verified account.

Success:

- Upon successful submission, I will be shown a "Terms and Conditions" form.
- If I accept the terms, my registration details will be sent to the admin panel for approval.
- I will receive a confirmation email within 72 hours once my registration has been verified and approved by the admin.

Failure:

- If my registration is rejected by the admin, I will receive a notification explaining the reason.
- If I do not accept the "Terms and Conditions," I will be redirected to the registration page to review and resubmit my information.

3.1.2 Login Authentication

As a user (Customer or Shop Manager), I want to securely log in to the platform to access and utilize its features.

Success:

- The user is greeted with a personalized dashboard or homepage based on their role, enhancing their experience and usability.
- The system grants access based on the user's role (Customer or Store Manager), ensuring they have the appropriate permissions and features.

Failure:

- If the login credentials are incorrect, the system displays an "Invalid username or password" message.
- The user is redirected to the login page to retry their credentials.
- The system may offer an option to reset the password or retrieve the username if login attempts fail repeatedly.

3.1.3 View Product

As a shop manager, I want to ensure that my customers can browse categories and view product details, so they can easily find and make informed decisions about their purchases

Success:

- Customers can browse different categories and see all items listed under each category.
- Customers can click on any item to view its detailed information, such as description, price, and availability.

Failure:

Display messages

- "Unable to load item details. Please try again later."
- "Price information is temporarily unavailable. Please try again later."
- "Category information could not be retrieved. Please check back later."

3.1.4 Search Product

As a shop manager, I want to ensure that my customers can search for products effectively, so they can quickly find what they're looking for and enhance their shopping experience.

Success:

- Customers searches for items by entering keywords, and relevant results will be displayed.
- Similar products are suggested after searching for a specific product.

Failure:

Display messages

- "No items match your search. Please try a different keyword."
- "Search is currently unavailable. Please try again later."
- "Search is taking longer than expected. Please wait or try refreshing the page."

3.1.5 Personalized Product Recommendation

As a shop manager, I want to implement a feature that allows me to recommend products to customers based on their personal preferences and browsing and searching history.

Success:

- The manager configures rules or algorithms for personalized product recommendations, ensuring customers receive tailored suggestions based on their browsing and purchase history.
- The recommendation engine delivers relevant product suggestions, which enhances customer engagement and boosts sales.
- The manager ensures the successful integration of customer data (e.g., past purchases, search behavior, and preferences) into the system, so the recommendation engine has the necessary information to generate meaningful suggestions.
- The manager configures the system to recommend related or complementary products (cross-selling) and higher-end alternatives (upselling) based on the customer's current cart or preferences.

Failure:

- Customers receive irrelevant or poorly targeted recommendations, which reduces their trust in the recommendations and negatively impacts their shopping experience.
- Recommendations fail to reflect customer preferences or past behavior, which leads to a low conversion rate.
- The system fails to properly integrate customer data, leading to incorrect or missing information that results in generic and non-personalized recommendations.
- The system incorrectly identifies customer preferences, resulting in inappropriate recommendations
- The algorithm sets incorrect parameters or rules for the recommendation engine, leading to the system recommending irrelevant products, such as suggesting winter clothing during summer.
- The system may suggest products that are out of stock, unavailable, or not aligned with the customer's interests.
- Customers may feel uneasy about how their data is used, which could affect their loyalty to the platform.

3.1.6 View Rating and Feedback

As a shop manager, I want to ensure that customers can access product feedback and ratings, allowing them to make well-informed purchasing decisions.

Success:

- Customers can see a summary of product ratings and sort or filter products based on their ratings or feedback (e.g., highest-rated, most reviews, star rating, items sold) next to the product details.
- Customers can view detailed feedback, including reviews and comments left by other users, for each product.
- The date and user information (if available) are displayed with each review to provide authenticity.
- Similar products with good ratings are suggested based on customer preferences or browsing history.

Failure:

Display messages

- No feedback is available for this product at the moment.
- Unable to load feedback. Please try again later.
- Sorting and filtering options are temporarily unavailable. Please try again later.
- Feedback is taking longer to load. Please wait or refresh the page.
- There was an error loading the feedback. Please contact support if the issue persists.
- Feedback data appears to be corrupted. Please try again later or contact support.

3.1.7 Rating and Review Products

As a shop manager, I want to ensure that customers can easily provide reviews and ratings for products on the platform, so they can share their experiences with other shoppers.

Success:

- Customers click the "Review/Rating" option for a purchased product.
- The system presents a user-friendly review form.
- Customers submit their rating and written feedback.
- A confirmation message indicates that the review has been successfully submitted.
- If the review includes helpful details or images, customers are thanked for providing additional insights and encouraged to continue sharing their experiences.

Failure:

- Display message, "Could not load the form."
- If the review submission is interrupted (e.g., due to a network issue), the system will display a message, "Your review submission was interrupted. Please re-enter your review and submit again."
- Customers may encounter problems if their feedback includes prohibited content, leading to an error message informing them of content restrictions.
- If the review form is submitted without a rating or feedback, an alert will prompt the customer to complete the required fields.

3.1.8 Add Products to Cart

As a shop manager, I want to ensure that my customers can add items to their cart, so they can easily review their selected products and proceed to checkout when ready to make a purchase.

Success:

- Customers can select an item and add it to their cart from the product detail page.
- The cart icon or page updates to reflect the added item, showing the correct number of items and total cost.
- Customers can view a summary of their cart, including item details, quantities, and total price.

Failure:

Display Messages

- “Unable to add item to cart. Please try again later.”
- “Cart update failed. Please refresh the page and try again.”
- “Selected item is no longer available. Please choose a different product.”

3.1.9 Order Placement

As a shop manager, I want to ensure that my customers can successfully place orders for the products in their cart, so they can complete their purchases seamlessly.

Success:

- The system prompts the user to provide the delivery address or select the Google Maps option.
- If the entered location is valid, the system proceeds to the order summary and payment screen.
- After completing the payment, the user receives a confirmation and estimated delivery details.
- If the cart is empty, an alert is displayed: "No products selected!"
- If the entered location is invalid, an alert is displayed: "Please provide a valid location."
- If there is a poor network connection, the Google Maps option may be unavailable or slow to load.

3.1.10 Payment

As a shop manager, I want my customers to be able to pay for their selected items using online payment systems such as bKash or online banking services, as well as cash on delivery, to ensure that their payments are processed smoothly.

Success:

- Customers will have the option to choose between online payment and cash on delivery.
- Online payment will support both mobile banking services (e.g., bKash) and online banking services.
- After the payment is completed, customers will receive an instant confirmation and be provided with a transaction ID.

Failure:

Display Messages

- “Invalid banking details.”
- “Payment session has timed out. Please try again.”
- “Payment gateway is currently unavailable. Please try again later.”
- “Cash on delivery option is currently unavailable. Please choose a different payment method.”
- “Unable to process cash on delivery. Please try again or contact customer support for assistance.”

3.1.11 Tracking Order

As a shop manager, I want my customers to be able to check the current status of their orders so they can track delivery and ensure their products arrive on time.

Success:

- Customers will log in to their accounts and access the 'Track Order' section within their account.
- When customers select the 'Track Order' option, a prompt should appear requesting their order ID or order number.
- Upon entering a valid order number, customers will be redirected to the tracking page, which will display the current status of their product, such as whether it is at the logistics facility or en route for delivery. The page will also show the estimated delivery date.
- The order status should be clearly displayed with options such as "Pending", "Processing", "Shipped", or "Delivered".
- The system should provide customers with information about the delivery person, including their name and contact number.
- Customers should be able to view detailed order information, including the items ordered, shipping address, payment method, and total amount.
- If there is an issue with the order, customers should have access to customer support options or a "Report an Issue" button within the tracking interface.

Failure:

- Users may forget their user ID and password, preventing them from logging in and accessing the order tracking system.
- Out-dated database could lead to discrepancies in real-time updates of order statuses.
- The system might incorrectly show that a product is delivered when it is not. This issue could arise from data entry errors or system malfunctions.
- Users might enter an invalid order ID, which can lead to no results or error messages.
- If two orders are mistakenly assigned the same order number, it can result in conflicting information or malfunctions on the tracking page.
- An order that has been canceled by the customer or the system might still be shown as "Processing" or "Shipped," may cause confusion and incorrect expectations.
- The estimated delivery date may be calculated incorrectly due to system errors or data inaccuracies.

3.1.12 Delivery

As a shop manager, I want to be able to track the status of delivery orders so that I can ensure timely and accurate delivery of products to customers.

Success:

- The shop manager receives real-time updates on the delivery status of orders from the system, allowing for timely intervention if issues arise.
- The shop manager can view delivery tracking information and estimated delivery times based on the data provided by the delivery service.
- The shop manager receives a notification once a delivery is completed, ensuring that the order has reached the customer.

Failure:

- The shop manager does not receive timely updates on the delivery status, leading to a lack of visibility into the delivery process.
- The system fails to send a confirmation notification for a delivery, leaving the shop manager unsure if the delivery is in progress
- The delivery tracking information provided to the shop manager is outdated or inaccurate, causing confusion about the delivery status.

3.1.13 Cancel Order

I want my customers to have the ability to cancel any order after purchase, provided that the order has not yet been shipped.

Success:

- 'Cancel Order' option is available for any order in 'Pending' status.
- After cancellation, system changes the order status to 'Cancelled' and shows "Your order is cancelled" message.
- The inventory is updated to return the products to stock.

Failure:

- If order is already shipped, show message "Your order cannot be cancelled".
- Display an error message: "We are unable to cancel your order at the moment due to a technical issue. Please try again later "
- Displays an error message: "Order not found. Please verify the order number."
-

3.1.14 Manage Orders

As a shop manager, I want to be able to efficiently manage and oversee all customer orders so that I can ensure timely processing, track order statuses, and address any issues that arise.

Success:

- The system should allow the manager to view detailed information about each order, including the order number, customer details, items purchased, payment status, and shipping details.
- Managers should be able to update the status of an order (e.g., from "Processing" to "Shipped" to "Delivered").
- Managers should be able to cancel orders and notify the customer, with an option to provide a reason for the cancellation.
- If there is any ambiguity regarding an order—such as a large order (e.g., Tk. 1 Lakh)—managers should cross-check the order details and contact the customer to verify the legitimacy of the order and ensure that the customer is not a scam or fraud.
- Managers should have access to customer support tools to assist customers with order-related inquiries or issues.
- Managers should have access to the complete order history for each customer.
- Managers should have access to the membership card history of customers to apply membership discounts.
- If a customer wishes to pay using multiple methods (e.g., half of the bill via mobile banking and the other half through a bank transfer), managers should provide an interface that supports this payment arrangement.

Failure:

- Significant mismanagement can occur when managers lose control over order management.
- System errors or database issues may prevent the system from updating the status of an ordered product, leading to customers being uninformed about their order's progress.
- Accidental updates of the order status to "Delivered" instead of "Shipped" or incorrect order cancellations can result in serious delivery issues and damage customer trust.
- Out-of-stock products that are not updated in the system can lead to significant issues when customers place orders for these unavailable items.
- Errors in processing multiple payments may occur.
- The system might fail to flag high-value or suspicious orders (e.g., orders worth 1 crore taka), leading to potential financial losses or fulfillment of fraudulent orders before proper verification is conducted.
- Oversights or errors in the system may result in managers failing to apply valid membership discounts, causing customers to be overcharged or unable to utilize their membership benefits.

3.1.15 Track and Update Stock Level

As a manager, I want to be able to track and update the stock levels of the products in my application.

Success:

- The manager updates product stock levels, and the changes are immediately reflected on the application for customers to view.
- The manager can easily verify that the stock information is accurate and up-to-date.
- The manager configures automated "low stock" alerts to notify customers when inventory levels are running low.

- The alerts are triggered based on predefined stock thresholds set by the manager.
- The manager also receives a notification when stock levels fall below or reach the threshold
- The manager allows customers to subscribe to restock notifications.
- Once a product is restocked, the system automatically sends notifications to subscribed customers without requiring any intervention from the manager.
- The manager uses the system to monitor stock levels in real-time, enabling prompt actions to reorder or update products as needed.

Failure:

- The manager attempts to update stock levels, but the application does not reflect the changes.
- customers seeing outdated stock information, potentially leading to overselling or missed sales
- Customers see outdated stock information, which could lead to overselling or missed sales.
- The manager updates stock levels, but the changes take too long to appear on the app, causing inaccuracies in product availability for customers.
- The restock notification system fails to alert customers and the admin even though the product is marked as available in the back-end.
- The manager remains unaware of the issue, resulting in lost potential sales from customers waiting for restock notifications.
- The manager sets a low stock threshold, but the system does not trigger alerts or notify customers and the admin in time, resulting in missed purchasing opportunities and potential sales losses.
- During a stock update, the system crashes or experiences downtime, resulting in incomplete or incorrect stock data being displayed on the website.

3.1.16 Store and Manage Sales Report

As a shop manager, I want to be able to store and manage sales reports so that I can monitor sales performance and make informed business decisions.

Success:

- Managers can generate and store sales reports for specific time-frames (daily, weekly, monthly, etc.), facilitating historical analysis and performance comparison
- Managers can filter reports by categories, products, or customer segments for more detailed insights.
- Managers can view summaries of total sales, revenue, and transaction counts in the reports.
- Managers can export sales reports in various formats (e.g., PDF, Excel) for further analysis.
- Managers can schedule automatic generation and delivery of sales reports (e.g., via email) at regular intervals.

Failure:

- The sales report generation process fails due to a system error, and no report is created. Display message, "Sales report generation failed. Please try again later."
- Filters applied to the report do not work, resulting in incomplete or irrelevant data being displayed. Display message, • "Unable to apply filter. Please try again later."
- The scheduled automatic generation of sales reports is missed, causing delays in report delivery.
- Exporting the sales report to a desired format fails, leaving the report unavailable for download. Display message, "Export failed. Please verify the file format and try again."
- Sales report data is not updated as expected, leading to discrepancies between reported and actual figures.
- The manager is unable to access the sales report summary due to a temporary system issue, causing inconvenience.
- Display message, "No sales data is available for the selected time period."

3.1.17 Promotional Offers

As a shop manager, I want to create and manage promotional offers so that customers can access discounts and special deals on selected products, thereby increasing sales.

Success:

- Managers can create new promotional offers for specific products or categories by specifying the discount percentage or amount.
- Managers can set start and end dates for promotions to control their duration.
- Managers can view and edit existing promotions, apply them to additional products, or remove them as needed.
- Customers can see promotional offers on the product listing page and in their cart during checkout.
- Promotions are automatically applied to the final price (e.g., free delivery) during checkout, if applicable.
- Managers can track the usage and success of promotional campaigns through reports or analytics.

Failure:

- The system fails to create a new promotional offer due to a technical error, preventing the manager from specifying the discount percentage or amount. Display message, "Unable to create the promotional offer. Please try again later."
- Promotion Application Failure During Checkout, Display message, "Unable to apply the promotion to this product. Please check the product's eligibility or try again later."
- The system rejects the promotion due to invalid start or end dates, causing the offer to be unavailable.
- The manager is unable to edit existing promotions, either due to a system malfunction or incorrect permissions.
- Promotional offers do not appear on the product listing page or during checkout, causing customers to miss out on the discounts.

- Promotions are not automatically applied to the final price during checkout, resulting in customers not receiving their intended discounts.
- Display message, "Promotion details are temporarily unavailable. Please try again later."
- The system experiences downtime or crashes when attempting to create or manage promotional offers.
- The user interface for managing promotions is not functioning correctly, making it difficult for the manager to navigate and apply offers.

3.1.18 Customer Inquiries

As a shop manager, I want to ensure that customers can submit general inquiries or feedback about the app or their orders, so I can provide timely assistance and address their concerns effectively.

Success:

- The customer successfully completes the inquiry form, fills in all the required fields, and submits it
- The system confirms the submission by displaying a message, notifying the customer that their inquiry has been received.
- The system sends an email to the customer containing a reference number and details regarding their inquiry.
- The inquiry is forwarded to the relevant customer service team for appropriate action.
- The customer receives a follow-up email within the specified time-frame.
- The inquiry or feedback submitted by the customer is clear, complete, and valid, allowing the system to successfully categorize it for efficient handling.

Failure:

- The form submission fails due to technical issues, such as server downtime or network problems.
- The system displays a vague or no error message, leaving the customer uncertain whether their inquiry was successfully received.
- The customer attempts to submit the form with missing or incorrectly formatted fields (such as an invalid email format)
- Required fields like name, email, or message content are left empty, and the system still allows the form to be submitted, resulting in incomplete or invalid inquiries.
- The system fails to route the inquiry to the appropriate team, causing delays in response or no response at all.
- The customer service team receives incorrect or incomplete information from the system, leading to confusion and delays in resolving the inquiry.
- The inquiry form does not render properly, making it difficult or impossible for the customer to submit their inquiry, resulting in potential loss of valuable feedback and assistance requests.

3.2 Non Functional Requirements

3.2.1 Performance

- **Response Time:** The system must respond to item searches within 2 seconds during peak load.
- **Throughput:** The system should handle at least 500 transactions per minute during high traffic periods.

3.2.2 Scalability

- **Scalability:** The system should support up to 10,000 concurrent users without performance degradation.
- **Real-time Inventory Updates:** The system should provide real-time updates on inventory levels to avoid stockouts or overstocking.

3.2.3 Reliability

- **Up-time:** The system must be available 99.9
- **Disaster Recovery:** The system should have backup and recovery mechanisms in place to restore data within 1 hour of a critical failure.

3.2.4 Security

- **Data Encryption:** All customer data, including payment information, must be encrypted both in transit and at rest.
- **Access Control:** Implement role-based access control to restrict system access based on user roles.

3.2.5 Integration

- **Third-Party Integrations:** The system must be capable of integrating with payment gateways, inventory management systems, and delivery tracking services through APIs.
- **Data Import/Export:** The system should support CSV/Excel import and export for easy data exchange with external systems.

3.2.6 Usability

- **User Interface:** The website should be user-friendly, with intuitive navigation and clear call-to-action buttons.
- **Accessibility:** Ensure the website is accessible to users with disabilities, complying with WCAG (Web Content Accessibility Guidelines).

3.2.7 Maintainability

- **Documentation:** Provide comprehensive documentation for system configuration, maintenance, and troubleshooting.
- **Error Logging:** Implement detailed error logging and monitoring to assist with debugging and maintaining system performance.

3.2.8 Compliance

- **Data Privacy:** Ensure compliance with data protection regulations for handling customer information.
- **Payment Compliance:** Adhere to PCI DSS (Payment Card Industry Data Security Standard) for secure handling of payment transactions.