JU E Book Store Software Requirements Specification

1. Introduction

The Software Requirements Specification for the "JU E Book Store" project serves as a comprehensive guide, meticulously crafted to articulate and formalize the understanding between our esteemed customers and the development team. This document delineates the specifics of the requested software product, with a primary objective of providing a lucid and descriptive "statement of user requirements." This statement, in turn, becomes a pivotal reference point for the subsequent phases of software system development.

At its core, this Software Requirements Specification centers on the creation of an E-commerce platform – the "JU E Book Store." This dynamic online marketplace is conceived as a space where buyers can effortlessly acquire their desired literary products, and sellers can seamlessly showcase and vend their offerings. Much like the diverse range of books it will house, this document is systematically organized into multiple sections, each dedicated to logically separating the software requirements into easily understandable parts.

This Software Requirements Specification strives to comprehensively outline the Functionality, External Interfaces, Attributes, and Design Constraints inherent in the implementation of the "JU E Book Store" software system. As you navigate through the document, you will find a meticulous breakdown of these elements, ensuring clarity and coherence in understanding the intricacies of our E-commerce platform.

1.1 Purpose

The purpose of the "Ju E Book Store" Software Requirements Specification (SRS) is simple yet crucial: to create a user-friendly E-commerce platform. In the world of online buying and selling, our software aims to be a go-to hub where sellers can showcase and promote their books, and buyers can easily find and purchase what they're looking for.

1.2 Intended Audience

The Software Requirements Specification will be used by administrators of the software, business analysts (BAs), project managers (PMs), developers, QA/QC engineers, users (sellers and buyers), marketing staffs, testers, investors, etc.

1.3 Intended Use

The primary aim of the "JU E Book Store" software is to streamline and enhance the experience for both customers and sellers by establishing a robust database and information system.

For the Administrator

1. **Product Management:**
   - Add, edit, and delete products from the database.
2. **Delivery Reporting:**
   - Add and view delivery reports in the database.

For the Customer

1. **User Authentication:**
   - Register with personal details and receive authentication for authorized login.
2. **Product Information:**
   - Access up-to-date information on available products categorized for easy browsing.
3. **Shopping Cart:**
   - Utilize a shopping cart to organize and review selected items before making a purchase.
4. **Shipping Options:**
   - Select preferred shipping options for purchased items.
5. **Payment Options:**
   - Choose between online and offline payment models for added convenience.
6. **Order Completion:**

- After purchasing and making the payment, have the selected products promptly delivered to the provided address.

1.4 Product Scope

1. Secure registration and profile management for JU Ebook Store customers.
2. Comprehensive ebook details with categorizations.
3. User-friendly ebook searching for quick access.
4. Dynamic ebook recommendations for individual users.
5. Creating a digital shopping cart for multiple ebook selections and checkout.
6. Providing multiple ebook delivery methods with online tracking.
7. Showcasing most purchased ebooks in each category.
8. Regular updates to registered JU Ebook Store customers about new ebook arrivals, sales, and offers.
9. Strategic data and graphs for administrators and sellers about the most popular ebooks in each category.
10. Maintaining a database of regular JU Ebook Store customers and ebooks for different preferences.
11. Employees responsible for internal affairs, including processing ebook orders, ensuring digital delivery, collecting customer's delivery time feedback, updating ebook order status, and addressing client queries.
12. Feedback mechanism for JU Ebook Store customers to provide feedback on ebooks or services.
13. Adequate payment mechanism and gateway for all popular credit cards and other relevant payment options.

1.5 Risk Definition

Technical Compatibility

Risk: There is a risk of technical incompatibility with certain devices, browsers, or operating systems, potentially limiting the accessibility of the ebook store for a portion of the user base.

Mitigation: Regular compatibility testing will be conducted across a range of devices and platforms to identify and address any issues. Continuous monitoring of industry standards will also be implemented to ensure ongoing compatibility.

Data Security and Privacy

Risk: The handling of user data and payment information poses a potential risk to security and privacy. Unauthorized access or data breaches could compromise sensitive information.

Mitigation: Robust security measures, including encryption of sensitive data, secure payment gateways, and regular security audits, will be implemented to safeguard user information. Compliance with data protection regulations and privacy laws will be strictly adhered to throughout the development and operation of the ebook store.

2. Overall Description

The JU EBook Store is an online platform serving as a marketplace for both sellers and buyers of digital books. The platform supports various features, including a Product Recommendation System, Exchange Offers, and other promotional activities. It aims to provide an efficient and user-friendly experience for individuals looking to buy, sell, or exchange digital books. The website is accessible to anyone with internet-connected devices, and there are no specific hardware or software requirements beyond basic internet access.

2.1 User Classes and Characteristics

- **Registered User:** A registered user is someone who has created an account with the JU eBook store. This allows them to save their preferences, purchase and rent eBooks, and track their orders.
- **Visitor:** A visitor is someone who is browsing the JU eBook store without being logged in. They can view product listings, read sample chapters, and add items to their wish list.
- **Author:** An author is someone who has written and published an eBook that is available for sale on the JU eBook store. Authors can manage their eBook listings, set their own prices, and receive royalties from each sale.
- **Reader:** A reader is someone who purchases or rents eBooks from the JU eBook store. Readers can download and read eBooks on their computers, tablets, or smartphones.
- **Reviewer:** A reviewer is someone who has written a review of an eBook on the JU eBook store. Reviews can help other readers decide whether or not to purchase an eBook.
- **Recommendation:** Manages the product recommendation system, providing users with suggestions for their optimal book choices.

- **Customer Support Agent:** A customer support agent is a JU employee who is responsible for helping users with their questions and problems. Customer support agents can access user accounts and troubleshoot technical issues.

Assumptions

- Users should be familiar with basic eBook store terminology such as Wishlist, Checking Out, and Downloads.
- Users must have internet access.
- Users should be familiar with at least one web browser.

2.2 User Needs

- **Discoverability:** Users want to be able to easily find the eBooks they are looking for. The JU eBook store should have a powerful search engine and well-organized categories.
- **Availability:** Users want to have access to a wide variety of eBooks, including new releases, backlist titles, and popular genres.
- **Affordability:** Users want to be able to find eBooks at affordable prices. The JU eBook store should offer a variety of pricing options, including discounts and promotions.
- **Quality:** Users want to be able to read eBooks without any technical problems. The JU eBook store should offer high-quality eBooks that are free of errors.
- **Community:** Users want to be able to connect with other readers and discuss eBooks. The JU eBook store should have a forum or other community features.
- **Personalization:** Users want to be able to personalize their experience on the JU eBook store. The store should recommend eBooks based on the user's reading history and preferences.

2.3 Operating Environment

The e-book shop software is made to work in several contexts so that users may be compatible and easily accessible. The following outlines the recommended operating environment for the seamless functioning of the system:

Requirements for the server:

- **Operating System:** Linux-based (e.g., Ubuntu 20.04 LTS, CentOS 7)
- **Web Server:** Apache 2.4 or Nginx 1.18
- **Database:** MySQL 8.0 or PostgreSQL 13.0
- **Server-side Scripting Language:** PHP 7.4 or higher

Requirements for the client:

- **Web Browser:** Google Chrome, Mozilla Firefox, Safari, Microsoft Edge, JavaScript.
- **Operating System:** Windows 11, Linux distributions with compatible browsers
- **Hardware:** Minimum 2GB RAM, 1.5GHz processor or higher, High-speed internet connection for optimal performance

Requirements Devices:

- **Desktops/Laptops:** Windows-based PC, macOS-based computers Linux-based systems
- **Smartphones:** iOS devices running iOS 13, Android devices running Android 8.0 or later

2.4 Constraints

- **Budgetary Restrictions:** A certain budget must be followed during the creation and upkeep of the software for the e-book shop. Beyond this amount, further additions or changes need stakeholder approval.
- **Time Limits:** Because of market demands and competitiveness, the project must be completed within a fixed timeframe. Every stage of the development process—design, implementation, testing, and deployment—must follow the predetermined timeline.
- **Regulatory Compliance:** The program needs to abide by all applicable laws and rules about data protection, digital rights management, and e-commerce. It is imperative to comply with regulations such as GDPR, PCI-DSS (Payment Card Industry Data Security Standard), and relevant copyright laws.
- **Technology Restraints:** Only programming languages, frameworks, and technologies that complement the development team's experience and current infrastructure are allowed to be chosen. Introducing completely new or unknown technology might make maintenance and implementation difficult.

- **Constraints on User Experience (UX):** A smooth user experience should be given top priority in the system's functioning and design. Usability testing should be done on any additions or modifications to make sure they facilitate user interactions rather than hinder them.
- **Accessibility Requirements:** For software to be used by people with impairments, it must adhere to accessibility standards (such as WCAG). Accessible with assistive technology should be the features, information, and functionality of the user interface.

2.5 Assumption

- **Online connectivity:** To browse, buy, and download e-books, it is expected that individuals gaining access to the e-book shop would have a reliable online connection. Although it is beyond the software's direct control, poor or erratic connectivity may have an impact on how users interact with the system.
- **User Device Integration:** The program is presumptively compatible with widely utilized gadgets including laptops, tablets, smartphones, and desktop computers. On the other hand, differences in device specs, screen sizes, and functionalities could affect how well the e-book shop displays and functions.
- **User Awareness and Education:** It is considered that consumers will be familiar with the fundamentals of digital transactions, such as making user accounts, buying e-books online, and using e-reader software or programs to access content that they have paid for.
- **Payment Processing:** The program assumes that payment processing services are dependable and readily available. The purchase procedure can be momentarily impacted by any disruptions or problems with third-party payment systems.
- **System Maintenance:** To maintain the stability and security of the e-book store, routine maintenance, such as upgrades, bug fixes, and security patches, is presumed to be performed regularly. Users will be informed in advance if maintenance operations result in reduced functionality or temporary unavailability.
- **User Information Privacy:** The program is predicated on the application of suitable security measures to safeguard user data. It is considered that safe authentication procedures, encryption, and compliance with privacy regulations protect user privacy.
- **Marketing and Promotions:** Presumptions are made about how to use discounts, promotions, and marketing techniques inside the e-book shop to draw

in and keep consumers. These tactics could change in response to consumer preferences and market changes.

3. Requirements

3.1 Functional Requirements

User Profile Management

As a user, I can update my user profile info.

Success Criteria:

- Users can successfully update and save changes to their profile information.
- Can update age, address & phone no.
- Profile picture changes are reflected on the user's account.
- Password changes are secure and reflected in the login process.
- Email updates result in successful communication through the new email address.
- Payment information is accurately added or edited.

Failure Scenarios:

- If no match is found during the update process, display a user-friendly message: "User Not updated."
- If there is no internet connection, show a clear and informative message indicating the issue.
- If the page fails to load during the update, provide an error message explaining the problem and possible solutions.

Order Tracking

As a user, one can track purchases he/she has made.

Success Criteria:

- Users can effortlessly access and navigate their order history.
- Real-time tracking provides accurate and timely information on the location and status of the purchased products.

- Users receive notifications at key stages of the order process.
- Modifications to orders are successfully reflected, subject to the specified timeframe.
- The return and refund process is transparent, and users can monitor the status of their refund.
- Users can easily provide feedback and ratings for both products and the overall purchase experience.

Failure Scenarios:

- If no matching information is found during order tracking, display a user-friendly message: "No match found."
- In case of no internet connection during the tracking process, show a clear and informative message indicating the issue.
- If the page fails to load while attempting to track a purchase, provide an error message explaining the problem and suggesting possible solutions.

Book Searching

As a user of the JU Ebook Store, buyers want to search for books easily within the application, so that they can find and explore a wide range of books available for purchase.

Success Criteria:

- The system must provide a search feature allowing users to enter keywords or titles.
- If the search query has less than 3 characters, users should be prompted to provide a more specific term.
- Search results should display book titles, authors, and brief descriptions.
- Users should be able to filter and sort search results based on relevance, author, publication date, or genre.
- The search interface should be user-friendly, providing clear instructions and options for refining searches.

Failure Scenarios:

- If the search feature fails to respond or consistently returns incorrect results, it would be considered a failure.

- If search results do not match the entered criteria accurately, providing irrelevant or incomplete information, it would be considered a failure.
- If the system fails to properly filter or sort search results, or if these features do not respond as expected, it would be considered a failure.
- If the search interface is confusing, lacks clear instructions, or is not user-friendly, it would be considered a failure.

Seamless Book Purchasing

As a user of the JU Ebook Store, customers want to be able to purchase books seamlessly through the application, so that they can enjoy the convenience of acquiring digital books.

Success Criteria:

- Detailed information about selected books, including title, author, price, and a brief description, should be provided.
- Users should be able to add selected books to the shopping cart.
- The system should provide a confirmation screen detailing selected items, total cost, and any applicable taxes or fees.
- Multiple payment options, such as credit/debit cards or other electronic methods, should be supported.
- The application should update the purchase history after completing a transaction.
- A notification confirming the purchase and providing instructions on accessing acquired books should be displayed.

Failure Scenarios:

- If the system fails to process a transaction or if customers experience issues during the payment process, it would be considered a failure.
- If customers encounter errors while trying to add books to the shopping cart, it would be considered a failure.
- If the confirmation screen provides inaccurate information or fails to display the details correctly, it would be considered a failure.
- If the application fails to update the purchase history after a successful transaction, it would be considered a failure.
- If customers do not receive a notification confirming the purchase, or if the notification provides incorrect information, it would be considered a failure.

Ratings and Reviews

As a user, I want to provide ratings and reviews for eBooks on the JU eBook Store.

Success Criteria:

- I can easily rate an eBook by selecting a star rating.
- I have the option to write a detailed review sharing my experience with the eBook.
- My review will contribute to the overall feedback and rating visible to other users.
- The platform ensures that only authentic reviews are accepted, adding credibility to the feedback.
- The rating and review process enhances the community aspect of the platform, helping other users make informed decisions.

Failure Scenarios:

- If there is no internet connection, a message prompts me to connect to the internet to submit a rating and review.
- If not logged in, I receive a notification to log in before providing a rating and review.
- In cases where the eBook does not have any existing ratings or reviews, a message will inform me that there is no feedback available yet.

Adding eBooks to Cart

As a user, I want to add eBooks to my cart for a streamlined purchasing process.

Success Criteria:

- I can easily find the "Add to Cart" button next to each eBook.
- Clicking the button adds the selected eBook to my shopping cart.
- The cart displays the added items, allowing me to review and proceed to checkout when ready.
- The platform supports the addition of multiple eBooks to the cart.
- A notification confirms the successful addition of an eBook to the cart.

Failure Scenarios:

- If there is no internet connection, a message prompts me to connect to the internet to add an eBook to the cart.
- If not logged in, a notification instructs me to log in before adding an eBook to the cart.
- If the eBook is temporarily unavailable or out of stock, a message informs me that the addition to the cart is not possible at the moment.

eBook Wishlist

As a user, I want to make and maintain an e-book wishlist as a registered user so that I can remember which e-books I want to buy or read later.

Success Criteria:

- Able to add every ebook that I look through to my wishlist by pressing the "Add to Wishlist" button that is connected to each book.
- Can transfer an ebook to the shopping basket.
- Can share a wishlist.

Failure Scenarios:

- You must select or search or order products or add products in the wishlist for recommendation.
- "This book is not available in the wishlist".
- Please connect to the internet.

Secure eBook Payments

As a user, for me to easily access and download the e-books as a consumer, I want to safely make payments for the ebooks I want to buy.

Success Criteria:

- You can add any book you wish to buy to your shopping cart with just a click.
- You can check your order on the checkout page when you are ready to make a transaction.
- You get an email and a website confirmation of the purchase right away.

Failure Scenarios:

- Payment modes are not selected.
- "Are not registered".
- Provide a valid email address.
- Please connect to the internet.

3.2 Non-Functional Requirements

1. Performance

User Sign-In

- Users should be able to sign in to their accounts within a maximum of 20 seconds.

Email Confirmation

- Upon user registration, the system should send a confirmation email, and users should receive it within 5 minutes.

Search Results Display

- Search queries should yield results and display them to the user within a maximum of 10 seconds.

Credit Card Validation

- The system should validate credit card information for transactions within 3 seconds to ensure a swift and secure checkout process.

Concurrent User Support

- The platform should be capable of supporting up to 250 customers logged in simultaneously without significant performance degradation.

2. Help Requirement

Users should be able to:

- Access simple guides for signing up, managing your account, and using key features.
- Find tips and explanations tied to your current actions for on-the-spot assistance.
- Check the FAQ section for speedy solutions to common questions.
- Chat in real-time with support for immediate help.
- Email anytime with questions or concerns.
- Learn through step-by-step in-software tutorials.
- Find contact info for support, including email and phone numbers.
- Understand and fix issues with clear error messages and guidance.
- Ensure easy platform use for everyone, including those with disabilities.
- Reach out for assistance through social media like Twitter or Facebook.
- Join forums to connect with other users and share experiences.
- Watch videos to see how to do more complex tasks on the platform.
- Get speedy help from a friendly support team that knows their stuff.
- Get help and resources in different languages.
- Provide feedback and ideas to help improve the platform.

3. Support

The JU Ebook Store ensures:

- 24/7 technical support availability to address user queries and technical issues promptly.
- Robust documentation is provided for users, offering clear guidance on using the platform's features and troubleshooting common problems.
- Continuous monitoring and proactive maintenance are implemented to minimize downtime and ensure a seamless user experience.
- Multi-channel support, including email, chat, and a dedicated helpline, caters to diverse user preferences for issue resolution.
- Regular updates and patches are released to enhance system performance, security, and overall user satisfaction.

4. Usability

The JU Ebook Store prioritizes:

- A user-friendly interface with intuitive navigation for effortless book discovery and purchase.
- Accessibility features are integrated, ensuring the platform is usable by individuals with diverse abilities and needs.
- Responsive design facilitates a consistent and enjoyable experience across various devices, including smartphones, tablets, and desktops.
- Personalization options, such as user preferences and recommendations, enhance the usability by tailoring the experience to individual tastes.
- Thorough user testing is conducted to gather feedback and refine the interface, optimizing usability for a broad audience.

5. License

- All eBooks must be properly licensed for distribution on the JU eBook store.
- The JU eBook store must comply with all copyright laws.
- The JU eBook store must not distribute any eBooks that are unlicensed or copyrighted.

6. Security

- The JU eBook store must protect user data from unauthorized access, modification, or destruction.
- The JU eBook store must use secure encryption for all transactions.
- The JU eBook store must have a vulnerability management program in place to identify and fix security weaknesses.
- The JU eBook store must comply with all data privacy laws.

7. Safety

The platform for the e-book shop has to put user safety first by putting strong security measures in place to protect user information, transactions, and system integrity as a whole.

- Data Encryption: Industry-standard encryption techniques should be used to protect any user data sent between the user's browser and the e-book store's servers to stop sensitive data from being intercepted or accessed without authorization.

- Authentication and Authorization: To guarantee that only authorized users can access their accounts and complete transactions, the platform must incorporate safe authentication techniques like multi-factor authentication (MFA) and strong password rules.
- Protection against Cyber Threats: To guarantee the platform's resilience against prospective assaults, the system should have systems in place to detect, prevent, and mitigate typical cyber threats including DDoS attacks, SQL injection, cross-site scripting (XSS), and other vulnerabilities.
- Safe Data Storage and Management: Encryption and access control techniques must be used to keep user data, including payment information and personal information, securely. This ensures data availability, confidentiality, and integrity while also complying with applicable data protection laws.
- Disaster Recovery and Incident Response: To quickly identify, address, and recover from security events or data breaches, the platform should have a well-defined incident response plan in place. Regular backup procedures must also be put in place to guarantee data recovery in the event of a system failure or data loss incident.
- User Education and Awareness: The platform ought to offer materials or recommendations to train users about safe online conduct, such as how to make strong passwords, spot phishing scams, and safeguard personal data.

8. Quality

For consumers to have a smooth and effective browsing, buying, and reading experience, the e-book store platform needs to guarantee excellent performance, dependability, and responsiveness.

- Response Time: To provide a seamless surfing experience, the platform should strive for fast response times, with pages loading in an average of two to three seconds. To prevent user annoyance, checkout procedures should be responsive and quick to complete transactions.
- Scalability: The system must be built to withstand fluctuations in the volume of content and user traffic. It should scale smoothly without experiencing abrupt spikes in user activity or performance drops during peak periods.
- Availability: The e-book shop should aim for high availability, with a minimum of 99.9% uptime, guaranteeing that consumers may use the platform at all times except during prearranged and announced maintenance periods.
- Fault Tolerance: The platform must have fault tolerance techniques to reduce service interruptions in the event of a system failure and guarantee that essential functions continue to function even if specific components encounter problems.

- Error Handling: The platform should have strong error handling features in place to give users understandable error messages and instructions on what to do if they run across problems or faults.
- Performance Monitoring: To find bottlenecks, maximize system resources, and proactively handle any possible performance concerns, regular performance monitoring and analysis should be carried out.
- Load Testing: To make sure the platform can manage concurrent user interactions without noticeably degrading response time or functionality, load testing should be conducted to evaluate the platform's performance under various user load levels.
- Data Consistency and Integrity: The platform must provide data consistency and integrity across all user interactions to preserve correct data about user accounts, e-books, prices, and transaction