Software Requirements Specification

Version 1.0.0

Bargain Bay

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1. Introduction and Background

Introduction:

"Bargain Bay" is a new project changing how we shop online. Right now, online shopping can feel a bit boring and not very personal. This project wants to fix that. It's trying something new by letting people negotiate prices and bid on items, making online shopping more fun and lively.

The dealers can create their store at the bargain bay marketplace. They'll be able to manipulate product like search, publish, edit or delete the product. Dealer can both sell the products on constant price or can permit the bidding characteristic for negotiation functions. Dealer can manage their orders and sales. The registered consumers can explore, search, bid, ad to cart and buy the goods. The admin can

approve or disapprove the dealers, block or unblock the customers, seek, put up, edit or delete the goods and merchandise classes. There's no such platform that which is providing their users with the negotiation function in e-commerce. Big challenge for customers is to shop for the goods at low fee after negotiation. The major goal is to offer trouble-free negotiation services to the users.

Site visitors can discover the website and can view all the to be had products. Consumers are the registered users that may view, place a bid, add to cart and additionally buy the goods. Dealers can create, update or delete the products also permit the shoppers to submit bids on merchandise, approve or disapprove bids, view all of the placed orders. Via sending an email affirmation, the seller can ship the order to the buyer.

An Admin has additional privileges, including all guest, customer, and dealer permissions. Admin has the potential to feature products, edit product info, and remove products. Admin can approve or disapprove the dealers and can block or unblock the buyers.

1.1 Product (Problem Statement)

The problem we are tackling with 'bargain bay' is the shortage of interactive and engaging features in conventional online purchasing structures. Those platforms don't allow users to barter costs or without problems have interaction in buying and selling second-hand items. 'bargain Bay' seeks to revolutionize this by introducing a platform in which users can actively take part in placing prices through bargaining and bidding on pre-owned goods. The problem lies inside the static and impersonalnature of cutting-edge e-commerce studies, and 'bargain bay' pursuits to remedy this with the aid of developing a more dynamic and community-driven online buying space.

1.2 Scope

This Software Requirements Specification (SRS) defines the scope of the "Bargain Bay" platform. The scope includes the design, development, and implementation of a dynamic e-commerce application that integrates bargaining and bidding functionalities. The software aims to create a user-centric online

shopping experience by allowing users to actively participate in determining product prices through negotiations and introducing a bidding system for pre-owned items.

In-Scope Features:

- **Bargaining System:** Users can set threshold values for products, initiating a bargaining process where they can negotiate prices with sellers.
- **Bidding System:** A platform for users to bid on pre-owned items, promoting a dynamic marketplace for second-hand goods.
- **User Profiles:** Registration, login, and user profile management functionalities to personalize the shopping experience.
- **Product Listings:** Display of products available for purchase, both new and pre-owned, with detailed descriptions.
- **Notification System:** Real-time notifications for users regarding successful bargains, bidding updates, and relevant promotions.
- **Payment Integration:** Secure payment processing for successful transactions.
- **Feedback and Ratings:** A system for users to provide feedback and ratings for products and sellers.

1.3 Objective(s)/Aim(s)/Target(s)

Objectives:

Upon the completion of the "Bargain Bay" project, the following objectives are targeted to be achieved:

- **Dynamic Pricing Model:** Implement a dynamic pricing model that allows users to actively participate in price negotiations through a user-defined threshold, fostering a more engaging and personalized online shopping experience.
- **Bidding System:** Introduce a bidding system for pre-owned items, creating a dynamic marketplace and expanding the platform's offerings to cater (provide) to users interested in both new and second-hand products.
- **Enhanced User Engagement:** Increase user engagement by providing features such as bargaining and bidding, promoting a sense of ownership and active involvement in the pricing and transaction

processes.

- **Community-Driven Marketplace:** Foster a community-driven marketplace where users can interact, negotiate, and engage with each other, creating a vibrant and socially connected online shopping environment.
- **Increased Sales Conversion:** Improve sales conversion rates by offering a unique and personalized shopping experience, encouraging users to make purchases through bargaining and bidding functionalities.

These objectives collectively define the project's aspirations, encompassing both technical and user-centric goals that contribute to the success and impact of "Bargain Bay" in the competitive e-commerce landscape.

1.4 Business Goals

- **User Engagement:** Increase user interaction and engagement by promoting active participation in bargaining and bidding activities.
- **Market Expansion:** Grow the user base by attracting a diverse audience interested in dynamic and personalized online shopping experiences.
- **Sales Boost:** Increase sales by creating a competitive and vibrant marketplace that encourages users to purchase through bargaining and bidding.
- **Community Building:** Foster a strong online community by encouraging user interactions, reviews, and sharing experiences within the platform.
- **Brand Recognition:** Establish "Bargain Bay" as a unique and innovative platform, known for its dynamic pricing model and community-driven approach.

1.5 Document Conventions

The document conventions for this SRS documentation are given below:

- Theme Fonts (Times New Romans)
- Headings Font (Times New Romans)
- Heading Font Size (14)
- Description font (Times New Roman)
- Description font size (12)
- Use of bullet points where needed

2. Overall Description

2.1 Product Features

Bargain Bay

"Bargain Bay" is a feature-rich e-commerce platform that aims to redefine the online shopping experience. The major features of the product can be summarized as follows:

- **Bargaining machine:** Customers can set threshold values for products, starting up a bargaining process to barter fees with sellers.
- **Bidding system:** A bidding platform for pre-owned gadgets, allowing customers to place bids and interact in a dynamic marketplace for second-hand items.
- **Person Profiles:** Registration and login functionalities, allowing users to create and manipulate customized profiles for a tailor-made (custom designed) purchasing experience.
- **Feedback and ratings:** A gadget for customers to offer feedback and scores for merchandise and dealers, contributing to a obvious and sincere marketplace.

2.2 User Classes and Characteristics

"Bargain Bay" caters (provides) to a diverse range of users, each with specific characteristics and requirements. The anticipated user classes are as follows:

- **Casual Shoppers:**
  - **Characteristics:**
    Infrequent users seeking a simple and intuitive shopping experience.
    Limited technical expertise and may not engage in complex functionalities like bidding.
  - **Requirements:**
    User-friendly interface for easy navigation.
    Access to basic product listing and purchasing features.
- **Bargaining Enthusiasts:**
  - **Characteristics:**
    Regular users interested in negotiating prices for a personalized shopping experience.
    May actively engage in bargaining features and set threshold values for desired products.
  - **Requirements:**
    Intuitive bargaining system with clear
    instructions. Real-time notifications for
    bargaining updates.
- **Bidders for Pre-Owned Items:**
  - **Characteristics:**
    Users primarily interested in bidding on pre-owned items.
    Willing to participate in dynamic auctions for second-hand
    goods.

- **Requirements:**

  Access to a dedicated bidding platform.

  Notifications for bidding status and updates.

- **Community Contributors:**
  - **Characteristics:**

    Active users interested in community engagement and discussions.

    Contribute to forums, provide feedback, and participate in community-driven features.
  - **Requirements:**

    Access to community forums and discussion boards.

    Features that encourage positive interactions and collaboration.

2.3 Operating Environment

For Bargain Bay, the software aims for versatility across devices, supporting desktops and laptops with Windows, macOS, and Linux compatibility. It seamlessly integrates with popular web browsers like Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge. On mobile, it offers dedicated applications for both Android and iOS, providing a fluid experience to engage in bargaining, bidding, and community interactions. Developed using React.js for the front-end and Flutter for mobile, Bargain Bay aligns with MongoDB for efficient data management. We overcame issues of sending data from backend to frontend through APIs. It leverages AI and machine learning libraries to personalize user experiences, adapting content and pathways for a dynamic shopping platform.

2.4 Design and Implementation Constraints

The development of "Bargain Bay" is subject to various constraints and limitations that may impact the options available to developers. These include:

- **Regulatory Compliance:**
  Adherence to legal and regulatory requirements governing e-commerce, data protection, and online transactions. Compliance with regional and international laws to ensure a legally sound and secure platform.
- **Security Considerations:**
  Implementation of robust security measures to protect user data and financial information. Adherence to industry standards for secure payment processing, encryption, and data privacy.
- **Third-Party Services:**
  Dependency on external services such as payment gateways, which may have specific requirements and limitations. Integration with third-party APIs and services may be subject to changes and updates beyond the control of the development team.
- **Platform-Specific Guidelines:**
  Adherence to guidelines and policies set by platform providers (iOS App Store and Google Play Store) for mobile applications. Compliance with platform-specific requirements for app submission, updates, and user interface design.

- **Database Compatibility:**

  Compatibility with specific database management systems (e.g., MySQL, MongoDB) for data storage and retrieval. Consideration for potential changes in database technology that may impact the scalability and performance of the platform.

Understanding and navigating these constraints is essential for successful project execution, and the development team will actively manage and mitigate these limitations throughout the software.

2.5 Assumptions and Dependencies

Several assumptions and dependencies are inherent in the development of "Bargain Bay." These factors, if proven incorrect or subject to change, may impact the project requirements. It is essential to identify and manage these assumptions throughout the project lifecycle:

- **Assumed User Adoption:**
    - **Assumption:** Users will adopt and actively engage with the bargaining and bidding features.
    - **Impact if Incorrect:** Low user adoption could affect the platform's community-driven dynamics and may require reevaluation of engagement strategies.
- **Assumed Third-Party Service Reliability:**
    - **Assumption:** Third-party services such as payment gateways will remain reliable and compatible.
    - **Impact if Incorrect:** Changes or disruptions in third-party services could affect payment processing and require adjustments or alternative solutions.
- **Assumed Mobile Platform Stability:**

- **Assumption:** Mobile platforms (iOS and Android) will remain stable and supportive of the developed application.
- **Impact if Incorrect:** Updates or changes in mobile platforms may require adjustments to maintain compatibility.

Note: Regular monitoring, communication with stakeholders, and flexibility in response to changing conditions will be essential to adapt to any shifts in these assumptions and dependencies throughout the project lifecycle.

3. Functional Requirements

For each module we have listed some functional and non-functional requirements. Here are some functional requirements are given below:

- The platform enables users (buyers and sellers) to register and log in securely.
- Users can create and respond to custom offers for products.
- The system supports the initiation and conclusion of negotiations for products.
- Users have the capability to engage in chat conversations during the bargaining process.
- Sellers have the functionality to withdraw payments, while buyers can deposit their payment for purchases made on the platform.

4. Nonfunctional Requirements

4.1 Performance Requirements

Performance requirements for "Bargain Bay" are crucial to ensure a responsive, efficient, and user-friendly experience. These requirements address various aspects of the system under different circumstances.

Bargaining System Performance:

The bargaining process should provide real-time feedback to users. During pricing discussions, a responsive bargaining system gives users quick feedback, increasing their pleasure andparticipation.

- **Bidding System Responsiveness:**

  Bidding updates should be communicated to users within 3 second of an event. Quick and real-time bidding updates contribute to the dynamic and competitive nature of BargainBay, creating a more engaging experience for users.

- **User Authentication Time:**

  A maximum of 5 seconds should pass during user authentication (login/registration). Swift authentication is essential for a seamless user onboarding experience, reducing user frustration and ensuring efficient access to platform features.

- **Product Listing Loading Time:**

  Product listings need should load in three seconds or less. Quicker loading speeds for product listings improve the user experience overall and entice users to explore and interact with more products.

4.2 Security Requirements

Security and privacy are paramount for "Bargain Bay" to establish user trust and protect sensitive information. The following requirements address these aspects:

- **Data Encryption:**
  All data transmission between the client application and the backend server must be encrypted using industry-standard protocols (e.g., HTTPS) so that it can be protected during transit.
- **Secure User Authentication:**
  Users must authenticate using secure and industry-accepted methods, with support for multi-factor authentication to prevent unauthorized access and enhance the overall security of user accounts.
- **Payment Data Security:**
  Payment data, including credit card details, must be securely processed and stored in compliance with PCI DSS to ensure the security of financial transactions and prevent payment-related fraud.
- **Secure Storage Practices:**
  User data, including personal information, must be securely stored using encryption and access control to protect user information from unauthorized access and data breaches.
- **Access Control Mechanisms:**
  Implement robust access control mechanisms to restrict unauthorized access to sensitive data and functionalities. This measure is to prevent unauthorized users from accessing or modifying sensitive information.

Appendix A: Glossary

Innovative Shopping Experience: Explore Bargain Bay's innovative approach to online shopping, revolutionizing the conventional model with interactive bargaining and bidding features.

Dynamic Pricing Strategy: Experience the flexibility of Bargain Bay's dynamic pricing strategy, allowing for real-time adjustments based on market demand and user interactions.

Engaging User Environment: Immerse yourself in Bargain Bay's socially connected online shopping environment, designed to foster high levels of user engagement and interaction.

Secure Online Transactions: Trust in Bargain Bay's commitment to user security, with robust measures in place to safeguard personal data, financial information, and transactional details during every online shopping experience.

Collaborative Marketplace: Discover the richness of Bargain Bay's marketplace through strategic collaborations with vendors, sellers, and product creators, ensuring a diverse and ever-evolving selection of offerings.

Appendix B: IV & V Report

(Independent verification & validation)

IV & V Resource

AI tool used	Prompt	Data Generated by AI	Part of output used for assignment

Bargain Bay

Blackbox	Create a Software Requirements Specification (SRS) document for an e-commerce platform called "Bargain Bay" that allows users to negotiate prices and bid on items, making online shopping more fun and lively. The platform will include features such as a bargaining system, bidding system, user profiles, product listings, notification system, payment integration, and feedback and ratings. The system should be designed for a diverse range of users, including casual shoppers, bargaining enthusiasts, bidders for pre-owned items, and community contributors. The platform should be versatile across devices, supporting desktops, laptops, and mobile devices, and comply with legal and regulatory requirements, security considerations, third-party service reliability, platform-specific guidelines, and database compatibility. The SRS should include functional and non-functional requirements, assumptions, and dependencies.	**Software Requirements Specification (SRS) for Bargain Bay** **1. Introduction** **1.1. Purpose** The purpose of this document is to outline the software requirements for "Bargain Bay," an innovative e-commerce platform that seeks to redefine online shopping by introducing interactive features such as price negotiation and bidding. This document will serve as a guide for the development team to understand the scope, functionalities, and constraints of the project. **1.2. Scope** The scope of Bargain Bay encompasses the design, development, and implementation of a dynamic e-commerce platform that facilitates price negotiation and bidding among users. The platform will include features such as user registration,	**Introduction and Background: ** - Introduction of "Bargain Bay" project aimed at transforming the online shopping experience by introducing negotiation and bidding features. - Description of roles for dealers, registered consumers, and admin, along with their respective functionalities. - The project aims to address the lack of interactive features in traditional online shopping platforms by introducing negotiation and bidding functionalities. **Product (Problem Statement):** - Identifies the problem of static and impersonal nature of current e-commerce experiences. - "Bargain Bay"

		product listings, negotiation systems, payment integration, and feedback mechanisms. It will cater to a diverse range of users, including casual shoppers, bargaining enthusiasts, bidders for pre-owned items, and community contributors. **1.3. Definitions, Acronyms, and Abbreviations** - SRS: Software Requirements Specification - UI: User Interface - API: Application Programming Interface - HTTPS: Hypertext Transfer Protocol Secure **1.4. References** The development of Bargain Bay will be informed by various references, including user personas, user journey maps, market research reports on e-commerce trends, and legal and regulatory guidelines for online transactions.	aims to introduce a platform where users can actively engage in bargaining and bidding for both new and pre-owned items. **Scope:** - Defines the scope of the "Bargain Bay" platform, including features like bargaining system, bidding system, user profiles, product listings, notifications, payment integration, and feedback/ratings. **Objective(s)/Aim(s)/Target(s):** - Lists objectives such as implementing dynamic pricing, introducing bidding system, enhancing user engagement, fostering community-driven marketplace, and increasing

		2. Overall Description **2.1. Product Perspective** Bargain Bay will function as an independent e-commerce platform, providing a marketplace for buyers and sellers to engage in price negotiation and bidding. It will integrate with external payment gateways and APIs to facilitate secure transactions and enhance user experience. **2.2. Product Features** Bargain Bay will offer a range of features to create an engaging and dynamic shopping environment, including: - Bargaining System: Users can negotiate prices with sellers to reach mutually agreeable terms. - Bidding System: Users can participate in auctions for pre-owned items by placing bids. - User Profiles: Registration, login, and	sales conversion. **Business Goals:** - Business goals include increasing user engagement, expanding the market, boosting sales, building a community, and establishing brand recognition for "Bargain Bay." **Overall Description:** - Highlights major features of "Bargain Bay" including bargaining system, bidding system, user profiles, and feedback/ratings. - Describes user classes and characteristics including casual shoppers, bargaining enthusiasts, bidders for pre-owned items, and community contributors. **Operating Environment:

		profile management functionalities for personalized shopping experiences. - Product Listings: Display of products with detailed descriptions, images, and pricing information. - Notification System: Real-time notifications for bidding updates, promotions, and order status. - Payment Integration: Secure payment processing through integration with trusted payment gateways. - Feedback and Ratings: Users can provide feedback and ratings for products and sellers to inform future transactions. **2.3. User Classes and Characteristics ** Bargain Bay will cater to the following user classes, each with specific characteristics and requirements: - Casual Shoppers: Infrequent users seeking a	** - Specifies the operating environment for "Bargain Bay" across various devices and platforms, detailing technologies used for development. **Design and Implementation Constraints:** - Identifies constraints such as regulatory compliance, security considerations, third-party services dependency, platform-specific guidelines, and database compatibility. **Assumptions and Dependencies:** - Lists assumptions related to user adoption, third-party service reliability, and mobile platform stability, highlighting their potential impact on the project.

		straightforward and intuitive shopping experience. - Bargaining Enthusiasts: Regular users interested in actively negotiating prices to secure the best deals. - Bidders for Pre-Owned Items: Users primarily interested in participating in auctions for second-hand goods. - Community Contributors: Active users interested in engaging with the Bargain Bay community through feedback, reviews, and discussions. **2.4. Operating Environment** Bargain Bay will be designed to be versatile across devices and platforms, supporting desktops, laptops, and mobile devices. It will be compatible with popular web browsers and operating systems to ensure seamless access for users. **2.5. Design and Implementation	**Functional Requirements:** - Outlines functional requirements including user registration/login, custom offers creation, negotiation initiation/conclusion, chat functionality, and payment processing. **Nonfunctional Requirements:** - Addresses performance requirements including bargaining system performance, bidding system responsiveness, user authentication time, and product listing loading time. - Specifies security requirements such as data encryption, secure user authentication, payment data security, secure storage practices, and access control mechanisms. **Appendices:** - Includes a glossary

		Constraints** Several constraints will influence the design and implementation of Bargain Bay, including: - Regulatory Compliance: Adherence to legal and regulatory requirements governing e-commerce transactions and data privacy. - Security Considerations: Implementation of robust security measures to protect user data and financial information. - Third-Party Services: Dependency on external services such as payment gateways and APIs for certain functionalities. - Platform-Specific Guidelines: Compliance with guidelines and policies set by platform providers for mobile applications. - Database Compatibility: Compatibility with specific database management systems for efficient data storage and retrieval.	defining terms related to innovative shopping experience, dynamic pricing strategy, engaging user environment, secure online transactions, and collaborative marketplace. - Mentions IV & V (Independent Verification & Validation) Report in Appendix B.

		2.6. Assumptions and Dependencies The development of Bargain Bay is based on certain assumptions and dependencies, including: - Assumed User Adoption: The assumption that users will actively engage with the bargaining and bidding features. - Assumed Third-Party Service Reliability: The assumption that third-party services such as payment gateways will remain reliable and compatible. - Assumed Mobile Platform Stability: The assumption that mobile platforms (iOS and Android) will remain stable and supportive of the Bargain Bay application. **3. Functional Requirements** **3.1. User Management** - Users can register and create accounts using valid email addresses and	

		passwords. - Users can log in securely using their credentials, with support for password recovery and account verification processes. - Users can manage their profiles, including personal information, preferences, and communicatio n settings. **3.2. Product Management* * - Sellers can list products for sale, including detailed descriptions, images, and pricing information. - Sellers can manage their product listings, including editing, updating, and removing items from sale. - Users can search and browse products by category, keyword, or seller. **3.3. Bargaining and Bidding** - Users can initiate negotiations with sellers by proposing counter-offers and negotiating prices. - Sellers can respond to	

		negotiation requests, including accepting, rejecting, or proposing alternative terms. - Users can participate in auctions for pre-owned items by placing bids, with the highest bidder winning the auction. **3.4. Transaction Management** - Users can add items to their shopping cart and proceed to checkout for payment. - Users can securely make payments using supported payment methods, with encryption and secure authentication protocols. - Sellers can manage orders, including order fulfillment, shipping, and tracking. **4. Non-Functional Requirements** **4.1. Performance** - The platform should provide real-time updates and notifications during bargaining and	

		bidding processes to ensure a responsive and engaging user experience. - The system should load product listings and pages quickly, with minimal latency and downtime, to optimize user satisfaction and retention. **4.2. Security** - All data transmission between the client application and the backend server must be encrypted using HTTPS to protect user privacy and sensitive information. - User authentication must be secure and robust, with support for multi-factor authentication to prevent unauthorized access and account hijacking. **4.3. Usability** - The user interface (UI) should be intuitive and user-friendly across devices and platforms, with clear navigation and responsive design. - The platform should provide clear	

		instructions and guidance for users participating in bargaining, bidding, and transaction processes to minimize user confusion and errors. **5. Appendix** **5.1. Glossary** - Innovative Shopping Experience: A unique and interactive approach to online shopping that emphasizes user engagement and participation. - Dynamic Pricing Strategy: A pricing model that adjusts prices in real-time based on market demand, user behavior, and other factors. - Secure Online Transactions: Ensuring the confidentiality, integrity, and availability of user data and financial transactions during online shopping experiences. **5.2. IV & V Report** - Independent Verification and Validation (IV & V) report detailing the testing and validation processes conducted to	

		ensure the quality and reliability of the Bargain Bay platform.	