**Software Requirements Specification (SRS) Document of Trekking Equipment Project**

**1. Introduction**

**1.1 Overview**

The Trekking Equipment Project aims to develop a comprehensive online platform for users to browse, rent, and purchase trekking equipment. The platform will offer a wide range of trekking gear, including tents, backpacks, sleeping bags, hiking boots, and other accessories. Users will be able to create accounts, search for specific equipment, make reservations or purchases, and leave reviews and ratings.

**1.2 Scope**

The scope of the project includes the development of a user-friendly website and mobile application (optional) accessible to users worldwide. The system will consist of user registration/authentication, equipment catalog, search/filtering functionality, booking/reservation system, inventory management, payment integration, review/rating system, notifications, wishlist feature, and order history.

**2. Functional Requirements**

**2.1 User Registration and Authentication**

- Users can register for an account by providing necessary details such as name, email, and password.

- Users can log in securely using their credentials.

- Passwords should be securely hashed and stored in the database.

**2.2 Equipment Catalog**

- The platform will provide a catalog of trekking equipment with detailed descriptions, images, prices, and availability status.

- Equipment will be categorized into different types (e.g., tents, backpacks, sleeping bags) for easy browsing.

**2.3 Search and Filtering**

- Users can search for equipment based on various criteria such as brand, size, weight, price, and availability.

- Filtering options will be provided to refine search results.

**2.4 Booking and Reservation**

- Users can select desired equipment, specify rental dates, and make reservations.

- Users will receive confirmation of their reservations via email or notification.

**2.5 Inventory Management**

- Admins can manage the inventory by adding new products, updating availability status, and removing items.

- Inventory levels will be automatically updated upon reservation or purchase.

**2.6 Payment Integration**

- The platform will integrate with a secure payment gateway to facilitate online transactions.

- Users can make payments using credit/debit cards, PayPal, or other supported payment methods.

**2.7 Reviews and Ratings**

- Users can leave reviews and ratings for equipment they have used.

- Reviews/ratings will be displayed on product pages to help other users make informed decisions.

**2.8 Notifications**

- Users will receive notifications for order confirmations, shipment status updates, and other relevant information.

- Admins will receive notifications for new orders, low inventory alerts, etc.

**2.9 Wishlist**

- Users can add equipment to their wishlist for future reference.

- Wishlist items can be easily managed and shared.

**2.10 Order History**

- Users can view their past orders and rental history.

- Order details such as dates, items, and payment status will be displayed.

**3. Non-functional Requirements**

**3.1 Performance**

- The system should handle concurrent user requests efficiently with minimal latency.

- Response times should be optimized to provide a seamless user experience.

**3.2 Security**

- User data should be encrypted during transmission and storage.

- Secure authentication mechanisms should be implemented to prevent unauthorized access.

- The platform should be protected against common security threats such as SQL injection, cross-site scripting, etc.

**3.3 Reliability**

- The system should be reliable and available 24/7 with minimal downtime for maintenance.

- Backup and recovery mechanisms should be in place to ensure data integrity.

**3.4 Scalability**

- The system should be designed to handle a growing number of users and a large inventory of equipment.

- Scalability testing should be conducted to identify and address performance bottlenecks.

**3.5 Usability**

- The user interface should be intuitive and easy to navigate.

- Clear instructions and feedback messages should be provided to guide users through the platform.

**4. User Interfaces**

**4.1 Homepage**

- Featured products, search bar, navigation menu, and other relevant components will be displayed.

- Promotional banners or offers may be included to attract users' attention.

**4.2 Product Pages**

- Product images, descriptions, prices, availability status, and other relevant information will be displayed.

- Users can add items to their cart or wishlist directly from the product page.

**4.3 User Profile**

- Account settings, order history, wishlist, and other user-related information will be accessible.

- Users can update their profiles, change passwords, and manage communication preferences.

**4.4 Admin Dashboard**

- Admins will have access to a dashboard for managing inventory, users, orders, and reviews.

- CRUD (Create, Read, Update, Delete) operations will be available for managing data.

**5. System Interfaces**

**5.1 Payment Gateway**

- Integration with third-party payment providers (e.g., Stripe, PayPal) for processing online transactions securely.

**5.2 Inventory Management System**

- Interfaces with external systems or databases for managing inventory and tracking equipment availability.

**6. Data Requirements**

**6.1 User Data**

- Name, email, password, address, payment details, order history, etc.

**6.2 Product Data**

- Product name, description, category, price, availability status, images, etc.

**6.3 Order Data**

- Order ID, user ID, ordered items, dates, payment status, etc.

**7. Constraints**

**7.1 Budget Constraints**

- Development costs, hosting fees, and other expenses should be within the allocated budget.

**7.2 Technology Constraints**

- Use of specific technologies or platforms (e.g., PHP, MySQL, JavaScript, HTML/CSS) based on project requirements and constraints.

**7.3 Regulatory Compliance**

- Compliance with relevant regulations and industry standards for e-commerce, data protection, and online payments (e.g., GDPR, PCI DSS).

**8. Assumptions and Dependencies**

**8.1 Assumptions**

- Users have basic internet connectivity and access to modern web browsers.

- Equipment availability and pricing may vary based on supplier agreements and market conditions.

**8.2 Dependencies**

- Integration with third-party APIs for payment processing, inventory management, etc.