



## MZS CodeWorks

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# Rental E-Commerce Website

January 15, 2025

## Overview

To create a user-friendly, efficient, and reliable online platform for renting sports equipment and gear, catering to adventure enthusiasts, casual players, and professional athletes alike..

## Goals

- **Extensive Inventory:** Offer a broad selection of high-quality sports equipment, including skiing, snowboarding, camping, hiking gear, bicycles, kayaks, tennis, and golf sets.
- **User-Friendly Interface:** Design an intuitive and seamless user experience with easy navigation and a straightforward rental process.
- **Flexible Rental Options:** Provide various rental periods to accommodate short-term and long-term needs.
- **Competitive Pricing:** Implement attractive pricing strategies to make rentals affordable for a wide range of customers and implement special sales and discounts.
- **Delivery & Pick-Up Services:** Offer convenient delivery and pick-up options to enhance customer satisfaction.
- **Smooth Check Out and Document Verification System:** Create a seamless check out process including document submission and expected approval timelines.

- **Chat Options:** Provide an intuitive chatbot service to address frequently asked questions and basic queries.

## Target Audience:

- Adventure enthusiasts looking for equipment for outdoor activities.
- Casual players seeking to try out different sports without committing to a purchase.
- Professional athletes needing temporary gear for training or competitions.
- Sports event organizers, schools, and businesses looking for outdoor sports gear.

## Technological Stack:

- Front-End Development: Next.js, React.js, TypeScript
- Back-End Development: TBD
- Database: Sanity CMS
- Payment Gateway: TBD
- Hosting: Vercel, NetFly

## Milestones:

**Initial Planning & Research:** Conduct market research, define target audience, and finalize project scope.

**Design & Prototyping:** Create wireframes and prototypes for key pages and features.

**Development:** Build and integrate front-end and back-end components.

**Testing & Quality Assurance:** Perform comprehensive testing to ensure a smooth user experience and fix any issues.

1. **Launch:** Deploy the website showcasing its functionality as an actual use case, and gather user feedback for continuous improvement.

## Entities for Rental e-Commerce Website

### 1. **User**

- **Attributes:** UserID, Name, Email, Password, PhoneNumber, Address, UserType (Renter), VerificationDocuments, ApprovalStatus, DelayedReturnCount, PenaltyAmount
- **Interactions:** Can rent equipment, manage rentals, upload verification documents for approval, and be penalized for delayed returns.

### 2. **Admin** (Website Founder/Owner)

- **Attributes:** AdminID, Name, Email, Password, PhoneNumber, Role
- **Interactions:** Manages the platform, approves user verification, oversees rentals, handles administrative tasks, and manages penalties for delayed returns.

### 3. **Equipment**

- **Attributes:** EquipmentID, AdminID, Name, Description, Category, Brand, Condition, RentalPrice, AvailabilityStatus, ImageURL, DelayedReturnPenalty, StockQuantity, AvailableQuantity
- **Interactions:** Can be rented by users, listed and managed by the admin, and subject to delayed return penalties.

### 4. **Rental**

- **Attributes:** RentalID, UserID, EquipmentID, RentalStartDate, RentalEndDate, TotalPrice, RentalStatus, ReturnDate, DelayStatus, PenaltyApplied
- **Interactions:** Represents a rental transaction between a user and the platform, tracks return dates, and applies penalties for delays.

## 5. **Payment**

- **Attributes:** PaymentID, RentalID, UserID, PaymentDate, PaymentAmount, PaymentMethod, PaymentStatus, PenaltyAmount
- **Interactions:** Records payments made by users for their rentals, including penalties for delayed returns.

## 6. **Review**

- **Attributes:** ReviewID, UserID, EquipmentID, ReviewDate, Rating, Comments
- **Interactions:** Allows users to provide feedback on equipment and the rental experience.

## 7. **Category**

- **Attributes:** CategoryID, CategoryName, CategoryDescription
- **Interactions:** Classifies equipment into different types, such as "Skiing Gear," "Camping Gear," etc.

## 8. **Penalty**

- **Attributes:** PenaltyID, UserID, RentalID, EquipmentID, PenaltyAmount, PenaltyDate, PenaltyReason (e.g., delayed return), PenaltyStatus
- **Interactions:** Tracks penalties applied to users for various reasons, including delayed returns.

## 9. **Shipment**

- **Attributes:** ShipmentID, RentalID, EquipmentID, UserID, ShipmentDate, ShipmentStatus, TrackingNumber
- **Interactions:** Represents the shipment process of delivering equipment to the user.

## 10. **Delivery**

- **Attributes:** DeliveryID, ShipmentID, DeliveryDate, DeliveryStatus
- **Interactions:** Tracks the delivery of equipment to the user.

## 11. **Return**

- **Attributes:** ReturnID, RentalID, EquipmentID, UserID, ReturnDate, ReturnStatus, PickupDate
- **Interactions:** Manages the return process of equipment from the user back to the platform.

## Relationships Between Entities

- **User** has many **Rentals**.
- **Admin** oversees many **Equipment**.
- **Equipment** can be listed in multiple **Categories**.
- **Rental** involves a **User** and **Equipment**.
- **Payment** is associated with a **Rental** and a **User**, and records penalties.
- **Review** involves a **User** and **Equipment**.
- **Penalty** is associated with a **User**, **Rental**, and **Equipment**.
- **Shipment** is associated with a **Rental**, **Equipment**, and **User**, and tracks the shipment process.
- **Delivery** is associated with a **Shipment**, and tracks the delivery status.
- **Return** is associated with a **Rental**, **Equipment**, and **User**, and manages the return process.

## Entities Diagram

