System Description: CampHost*

Overview

CampHost is a comprehensive campground reservation system designed for the US National Forest Service, which operates locations across the United States. CampHost offers a seamless way for campers to discover and reserve campsites. With its robust search functionality, users can find campgrounds that cater to their specific needs, whether they're looking for RV hookups, electricity, shared bathrooms, or tent camping sites. Each campground listing provides detailed information about their sites, user reviews, and real-time availability, making it easy for users to plan their perfect camping trip. From reservation to payment processing, CampHost prioritizes user convenience, making it an essential tool for any camping enthusiast.

User Registration and Profile Management
Users can register on CampHost using their email address. After registration, they can manage their profile, view their reservation history, and set their camping preferences.

Campground Search and Discovery
CampHost provides a robust search functionality where users can search for campgrounds by location, availability, and specific amenities such as RV hookups, electricity, and shared bathrooms. Users can also filter results based on their camping preferences, such as tent camping or RV camping.

Campground Information
Each campground listing includes detailed information such as the number of sites, site types (tent, RV, etc.), available amenities, pricing, rules and regulations, and user reviews. High-quality photos and a map of the campground are also provided.

Reservation Process
Users can select their desired campground and campsite, choose the dates of their stay, and make a reservation. The system provides real-time availability information and sends a confirmation email upon successful reservation.

Payment Processing
CampHost integrates with various payment gateways, allowing users to pay securely using their preferred payment method. The system also handles cancellations and refunds according to the campground's cancellation policy.

Use Cases

1. **Campground Search:** A user searches for campgrounds in a specific location with available RV hookups.

2. **Reservation Creation:** A user reserves a campsite at a selected campground for specific dates.
3. **Payment Processing:** A user pays for their reservation using their preferred payment method.
4. **Reservation Management:** A user views their upcoming reservations, modifies an existing reservation, or cancels a reservation.
5. **Profile Management:** A user updates their profile information or changes their camping preferences.
6. **Review and Rating:** After their stay, a user rates the campground and writes a review about their experience.
7. **Amenity Search:** A user filters the campground search results based on specific amenities, such as shared bathrooms or electricity.
8. **Campground Discovery:** A user browses featured campgrounds on the home page or explores campgrounds in popular locations.

Users

- User_ID
- Name
- Email
- Camping_Preferences
- Reservation_History

Reservations

- Reservation_ID:
- User_ID
- Campsite_ID
- Start_Date
- End_Date

Campgrounds

- Campground_ID
- Name
- Location
- Number_of_Sites
- Amenities

Payments

- Payment_ID
- Reservation_ID
- Amount
- Payment_Method
- Payment_Status

Search_Filters

- Filter_ID
- Location
- Site_Type
- Amenities
- Date_Range

Ratings

- Rating_ID
- User_ID
- Campground_ID
- Rating_Value
- Comments

Users

• User_ID	• int	• PK
• Name	• varchar	•
• Email	• varchar	•
• Camping_Preferences	• char	•
• Reservation_ID	• int	• FK
• Rating_ID	• int	• FK

Reservations

• Reservation_ID:	• int	• PK
• User_ID	• int	• FK
• Campsite_ID	• int	• FK
• Start_Date	• datetime	•
• End_Date	• datetime	•
• Payment_ID	• int	• FK

Campsites

• Campsite_ID	• int	• PK
• Campground_ID	• int	• FK
• Site_Type	• char	•
• Capacity	• int	•
• Photos	• img	•
• Reservation_ID	• int	• FK

Campgrounds

• Campground_ID	• int	• PK
• Name	• varchar	•
• Location	• char	•
• Campsite_ID	• int	• FK
• Amenities	• char	•
• Search Filter	• char	•
• Rating_ID	• int	• FK

Payments

• Payment_ID	• int	• PK
• Reservation_ID	• int	• FK
• Amount	• int	•
• Payment_Method	• varchar	•
• Payment_Status	• char	•

Ratings

• Rating_ID	• int	• PK
• User_ID	• int	• FK
• Campground_ID	• int	• FK
• Rating_Value	• int	•
• Comments	• varchar	•