DATABASE PROJECT

"TOURISM GUIDE DATABASE"

IT 214 - DBMS

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Objective and Introduction:

Create and implement a database for an online tourism website that allows users to search for destinations, book hotels online, and access various other features such as searching based on ratings provided by other tourists, comparing hotel prices, and so on.

We were inspired by the Gujarat Tourism website, which is a beautifully designed platform that allows for easy searching and booking of tourist attractions, among other features.

We have restricted ourselves to a small number of locations due to the extreme diversity of the data to simplify the design and streamline the highly complex implementation. We've also added a few keys, such as customer ID, hotel ID, and room ID, to improve application accessibility and query solutions.

Application Users:

These are the users who actively use the website for different requirements.

1. Unlogged user
2. Customer
3. Travel Agent (Tours and Travel Agency)
4. Hotel Manager (Admin)

Use Cases: Unlogged Users

These are the users who simply visit the website to browse without registering or logging in.
They can search for the following items:

1. Look for a suitable destination to visit based on their preferences. They may include filters such as the city, ratings, and the nearest transport services available to the desired location if the place is a religious site or a tourist destination, and so on.
2. They may also want to look up places to visit in a specific area, as well as the timing and ticket prices for those locations.
3. They may search for nearby hotels, check room availability, and compare hotel ratings and prices.
4. Some people may be looking for a tour and travel company that can provide them with a package tailored to their specific needs.

Use Cases: Customer

These are the people who have registered on the website and browsed for different reasons. Only registered users can proceed with booking hotels and travel agents.

The main functions that customers will perform are:

1. Register Themselves on the website
2. Search and explore for destinations and available hotels
3. Search and contact some travel agents
4. Book some hotel
5. View, update, or cancel their bookings
6. Provide feedback and reviews

Register Themselves:
The customer registers himself on the website by entering their name, age, and contact details. A unique customer ID will be generated automatically for each registered user. Also, the table will have a few blank columns indicating if the user has made any bookings via the website and the payment made by him (if any). These values will be null initially and will be updated accordingly. All this data might be divided into two tables according to ease of implementation.

Search and explore for places:

They can also search through the website, just like an unlogged user, to select their preferences and make bookings.

Search for and contact a travel agent:

After browsing the website for a travel agent, the customer can book via the website and tell his preferences to the agent. All the further bookings are then handled by the agent, and he gives the customer the best available deal according to the demands.

Book Some Hotel

The customer can proceed with the booking after selecting the desired hotel and room type (if available). He has to enter the check-in and check-out dates as well as the number of people with him. The details of this are automatically updated in the database, along with his payment for any particular booking. If a customer is in contact with the agent, he will also require access to his agent's ID to check his bookings.

View, update, or cancel their bookings:

The customer can manage his booking. He can view his booking details and cancel or update the booking (if available, as the data is dynamic).

Provide feedback and reviews:

Customers can give their feedback based on their experience and the service they received. They can rate the destination they visited, the hotel they stayed at, and the travel agent they contacted. Other customers will use this review to compare and make the best choice.

Use Cases - Travel Agent (Tours and Travel Agency)

1. Register themselves on the website
2. Updating details of customers they have
3. Making bookings for the customers
4. Help and Support

Register themselves:
The travel agency registers itself on the website. They provide information such as the agency name, person of contact name, phone number, email address, and estimated consultation fees. Each company is assigned a unique ID for ease of identification.

Updating details of customers they have:
The agency keeps track of all customer information, including travel destinations, preferences, and travel dates. They communicate with the customer through various channels, which we have not considered here, and then update these details. They offer expert guidance and advice on the places you want to visit as well as the nearby amenities you can expect to find at your destination.

Making bookings for the customers:
Travel agents help you book hotels and other travel-related services. They assist you in determining the best deals, offers, and discounts, as well as navigating the booking process efficiently. They proceed with the bookings after receiving approval from the customer. These bookings are identified by the agency's name and the customer ID. This means that both the customer and the agency can see these details. However, if the customer wishes to change the bookings, he may be unable to do so.

Help and Support:

Travel agencies provide you with ongoing support during your travel time. This support helps you quickly resolve any issue before, during, and after your travel time (in a specific period).

Use Cases - Hotels:
1. Register the hotel
2. Modify the details of the hotel
3. Update the availability of rooms after any booking or cancellation

Register the hotel:
The hotel manager registers the hotel on the website, and the information is automatically saved to the database.
This database will tentatively store the following information:
1. Hotel Name
2. Manager Name
3. Room types
4. Availability of rooms
5. Cost of a room per night
6. Contact No
7. Distance from the place
8. Address of the hotel (divided into subparts)

The database will generate a unique identification number for each hotel to facilitate quick identification. For ease of implementation, we assumed that the customer would be able to book only one week in advance. This information will be organised into two tables that will be properly referenced.

Modify the details of hotels:
Hotel managers can update details such as room prices and availability based on bookings.
All users will be able to view their hotel details here and change their plans accordingly.

Updation of Rooms:
When a new room is booked or a user makes changes, the manager must update the hotel's main database.

This can tentatively include:
1. Update the availability following the cancellation of the room.
2. Update the arrival date or checkout date
3. Update the number of rooms
4. Update the type of room.

TENTATIVE QUERIES:

1. **Unlogged User:**

   They can search for
   - Destinations they want to visit
   - Top trending places according to ratings and city
   - Apply filters such as religious, family trip, historical, nature.

2. **Customer:**
   - Search just like any unlogged user
   - Make new booking
   - Check existing booking
   - Update bookings
   - Provide feedback and ratings
   - Book a tour agent and communicate with him

3. **Travel Agent:**
   - Save the details of all customers
   - Sort best options according to customer demand
   - Search for places according to budget expectations
   - Manage bookings for customer

4. **Hotel:**
   - Enter his hotel and room details
   - Update room availability as per bookings
   - Check payment records
   - Check cancellations
   - Review ratings given by the user
   - Earnings done via the website
   - Customers who have made large bookings

5. **Admin:**
   - Fetch details of the customer
   - Fetch details of all hotels
   - Fetch details of travel agents

- Return total bookings done in a hotel
- Rank hotels, destinations, and travel agents according to ratings and frequency of bookings
- All destinations visited by a customer
- All bookings of a customer