CSCIN 311

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**Project Description:**

* My project is about designing a database for a hotel reservation system. It can be used all year if the company is running. This hotel is in multiple locations. I have chosen my hotel to be called ‘FAWN’. The database itself will be managed by the IT department of FAWN. The database will be hosted on the local server of the company. It will be hooked to internet. The user will have his email as username and a password to login into the website.
* The hotel will have different bedroom types. There is a standard of bedroom types which is followed by all FAWN hotels.
* Following will be the types:
  + Queen bed
  + King Bed
  + Double Queen bed
  + Double king bed
  + Double twin bed
* The users of the database will be following
  + IT Team lead: Admin
  + IT Business Analyst: Admin
  + IT Developer: Admin
  + Users who input data: No access rights. They can only look at their booking history or reserve a hotel room.

**Project Design:**

**Purpose:**

* My database is based on six tables
  1. Guest: It stores the name of the person who is making a reservation. It also stores email address. The purpose is to make an ID for the person and send him an email for confirmation of reservation if he ends up making a reservation.

It stores the home address of the person who is making the reservation. This is used for billing purposes.

* 1. CreditCard: This stores the credit card information. The purpose is to bill the person mentioned in Guest table based on the information he provides in this table.
  2. Hotel: It stores the location of hotel, the rating.
  3. Room: This table shows which hotel has which type of room. This table records the type of room the person wants to book. The maximum number of people that can be accommodated in a room.
  4. Reservation: This table records the status of the reservation. The status shows if the payment has been made or not. It also stores the registration date.
  5. ReservationDetails: This table shows that who has booked which room in which hotel.

**Table structure, Field Definitions and Relationships:**

1. Guest: This table sis related to credit card table and the reservation table. One person can have many credit cards and he can have many reservations.
   1. PersonID: It is an int. It serves as primary key. It will be generated by the computer.
   2. FirstName: It is of type varchar(50). It is non-null and not unique. It is not composite. It simply stores the persons first name.
   3. MiddleName: It will be null if there is no middle name.
   4. LastName: It is of type varchar(50) and it is non-null. It stores the last name of the person making a reservation.
   5. Email: It is of type varchar(50). It is non-null and stores the email address. The purpose is to send the status of reservation or send the receipt of booking. This is also used as a username for login purposes.
   6. Password: The password will be of type varchar(100). It is used by the user to login into the website.
   7. HouseNo.: It is of type varchar(10). It stores the house number of the person. It is non-null. It is a required field for the credit card to process.
   8. Street: It is of type varchar(20). It is a required field
   9. City: It is of type varchar(20).
   10. State: It is of type varchar(20).
   11. Zipcode: It is of type int.
2. CreditCard:
   1. PersonID: This is a foreign key. It can repeat.
   2. NameOnCard: This is of type varchar(50). Since it is not necessary that the person who is making the reservation has his own name on the credit card. For e.g. a wife using his husband’s credit card.
   3. CreditCardNumber: This is of type int.
   4. CardType: This is of type varchar(20).
   5. DoE: This is of type date. This is the date of expiration.
   6. CVV: This is of type int. It is the security key.
3. Hotel: This table stores the location of hotel and rating. It lets user select the hotel which is on a location closer to them. Also it displays the rating of the hotel so that the user can decide which hotel is the best nearest to their own location.
   1. Street: It is of type varchar(20)
   2. City: It is of type varchar(20).
   3. State: It is of type varchar(20).
   4. Zipcode: It is of type int.
   5. Rating: It is of type int.
4. RoomDetails: This table has the different types of rooms that are available in FAWN hotel.
   1. RoomID: It is the PK which is an int. It is automatically generated.
   2. SmokeFree: It is of type Boolean. It tells if the room is smokeFree or not.
   3. View: It is of type Boolean. It tells if the room is on a view or not.
   4. MaxCount: It is of type int. It tells how many people can stay in a room.
   5. RoomTypes: As I mentioned earlier the different types of rooms available in FAWN hotel.
   6. Cost: It is of type int. It shows the cost of a room based on the view and room type.
5. HotelDetails: This table tells the amount of rooms in a hotel of a particular room type. This table has a one to one relationship with RoomDetails table.
   1. HotelID: This is a FK. It is of type int.
   2. RoomID: It is of type int and is a foreign key.
   3. TotalRooms: It is the count of rooms available of a room type.
6. Reservation: This table keeps a record of which person booked which hotel and has he made the payment or not.
   1. ReservationID: This is a PK which is of type int. It is automatically generated.
   2. HotelID: It is a FK. It can repeat since a person can make multiple reservations in multiple hotel locations. It is of type int.
   3. PersonID: It is a FK. It can also repeat. It is of type int.
   4. StatusofPayment: It is of type Boolean. It says Yes if the payment has been made.
   5. ReservationDate: It is of type date. It marks the date on which the reservation is made. It is not necessary the the guest checks in on the same day that he makes the reservation.
7. ReservationDetails: This table tells what reservation has been made in which hotel and which room has been booked.
   1. ReservationID: This is a FK and of type int.
   2. HotelID: This is a FK and of type int.
   3. RoomID: This is a FK of type int.
   4. CheckInDate: It is of type date.
   5. CheckOutDate: It is of type date.

**ER Diagram:**

