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| See the source image | Ahmed safwat / 202000073  Youssef Mohsen poules /202000941  Ramy magdy mehanna / 202001750  Ahmed Khaled Kamal /  202002558  Under the supervision of Dr. khaled  CSCI 305 |
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introduction :

A database is a structured collection of data. The data is typically organised to model aspects of reality in a way that supports information-required processes. A DBMS allows end users to create, read, update, and delete data from a database. The database management system (DBMS) essentially acts as an interface between the database and end users or application programmes, ensuring that data is consistently organised and easily accessible. The data, the database engine, which allows data to be accessed, locked, and modified, and the database schema, which defines the logical structure of the database, are all managed by the DBMS.

The main goal of maintaining a database for the Railway Reservation System is to reduce manual errors in ticket booking and cancellation, as well as to make it easier for customers and providers to maintain data about their customers and available seats. Many loopholes in manual record maintenance can be eliminated thanks to automation. The acquisition and processing of data will be quick. In the future, the proposed system could be web-enabled, allowing clients to make various inquiries about trains between stations. As a result, they sometimes have a lot of problems and have a lot of disagreements with customers. To solve the above problem, we design a data base which includes customer details, availability of seats in trains, no of trains and their details.

Project description:

This project involves developing a database for the Railway Reservation System.

The railway reservation system allows passengers to inquire about available trains based on their origin and destination, book and cancel tickets, check the status of a booked ticket, and so on. The goal of this case study is to design and develop a database that keeps track of different trains, train status, and passengers. The train record includes its number, name, origin, destination, and the days on which it is available, whereas the train status record includes the dates for which tickets can be booked, the total number of seats available, and the number of seats already booked. Passengers can purchase tickets for available seats on the train.

The passenger must provide the desired train number as well as the date for which the ticket is to be booked. The validity of the train number and booking date is checked before booking a ticket for a passenger. Once the train number and booking date have been validated, the seat availability is checked. If yes, the ticket is booked with a confirm status and a corresponding ticket ID is generated, which is saved along with the passenger's other information. Once purchased, the ticket can be cancelled at any time. The passenger must provide the ticket ID for this (the unique key). The ticket ID is looked up, and the associated record is deleted. This also confirms the first ticket with a waiting status. List of Assumption Since the reservation system is very large in reality, it is not feasible to develop the case study to that extent and prepare documentation at that level. As a result, a small sample case study has been developed to demonstrate

business rules:

The entity of the ticket includes (ticket type , seat number, ticket ID, TO station, FROM station, tickets price, trip time, reservation time ) and it has a many relation with the train that includes ( Train ID, Train Name , train model , capacity) then the train PASS to the station that includes (Station ID, Station Name, Station Type, Station Capacity) the station HAS scheduled that report to the employees which to schedule includes (No Slot, Date, Schedule ID, Train Number, Start Time, End Time)

The Employee WORK IN STATION have to type and they are station and train the employees includes ( First Name, Last Name, Employee name, Employee ID, phone Number, Address) and the supervisor control all the employees that control the train and station. Also it has two supertypes (station\_employee , train\_employee)

The Passenger reserves the tickets include (Phone Number, Passenger ID, Passenger Name , First Name, Address , Last Name). The ticket has (Phone Number, Passenger ID, Passenger Name , First Name, Address , Last Name)

scheduled that report to the employees which to schedule includes (No Slot, Date, Schedule ID, Train Number, Start Time, End Time)