IT 214 : Database Management Systems

Project Description

Title: Railway Management System

## Team Details

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## Scope of Database:

- This database consists of all the details required for a railway management system in a country.
- It includes all the necessary thing from railway transactions like reservation, cancellation, scheduling and ticketing, routing, employee information and customer details.

## Description:

The Indian Railway System is one of the largest rail network in the world. There are a large number of **trains** which run on different routes across the country. The trains have different capacities and seats. They also have their manufacturing details. **Passengers** can board from various **stations** on the map and can also change trains which aren't on the same **route**. Indian railways is famous because of its low **fare** and suitability to even the common passengers. Passengers need to give their name and contact details like phone number, email address, etc. The fares for the trains are different according to the route but they are in the same currency.

The Indian Railway has various schemes for the children, elderly and the civil servants. These are a part of the various **discounts** that are offered to the people. Thus the passenger needs to specify to which category does he belong to, by default it is "general". The daily **transactions** are in millions and the Indian Railways are known for its vast services. To provide better services to everyone they have a all information related to the trains, **passengers** and their contact details.

And we all know that to run such a large entity **employees** are required in large numbers and so details about them also have to be maintained! Employee details includes name, address, contact number and email address.

**Activities:**

1) Transactions:
   a) Reservations: All customers can reserve trains i.e. pre-reservation is allowed.
   b) Cancellation: Cancellation is allowed but there are certain rules which are followed while cancellation. They mainly depend on the number of hours before the train departure that the ticket is cancelled.
   c) Scheduling: Train scheduling has to be done daily. New arrangements or putting up of special trains in vacations due to more number of customers, departure delays, weather issues etc. is a part of scheduling.
   d) On the spot ticketing is also there for the trains. Urgent (tatkal) booking, VIP booking, etc. is handled here.

2) Customers:
   a) They can book any berth in any train according to their requirement and availability.
   b) All the customers need to submit valid contact details.
   c) Full payment are necessary for booking the tickets. Discount schemes are available as required.
   d) Customers must be penalized for cancellation.

**Following are sample queries, the system is expected to answer:**

➔ Retrieve the routes available between two stations.
➔ Retrieve the number of trains available on a particular route.
➔ Retrieve the availability of seats.
➔ Retrieve the details of a person travelling, who is above a particular age.
➔ Number of people that travelled on a particular date.
➔ Number of passengers in a particular train.
➔ Total number of tickets booked on a day.
➔ Total amount of money made on a day.
➔ Retrieve the trains that covers maximum routes or travels through maximum number of stations.