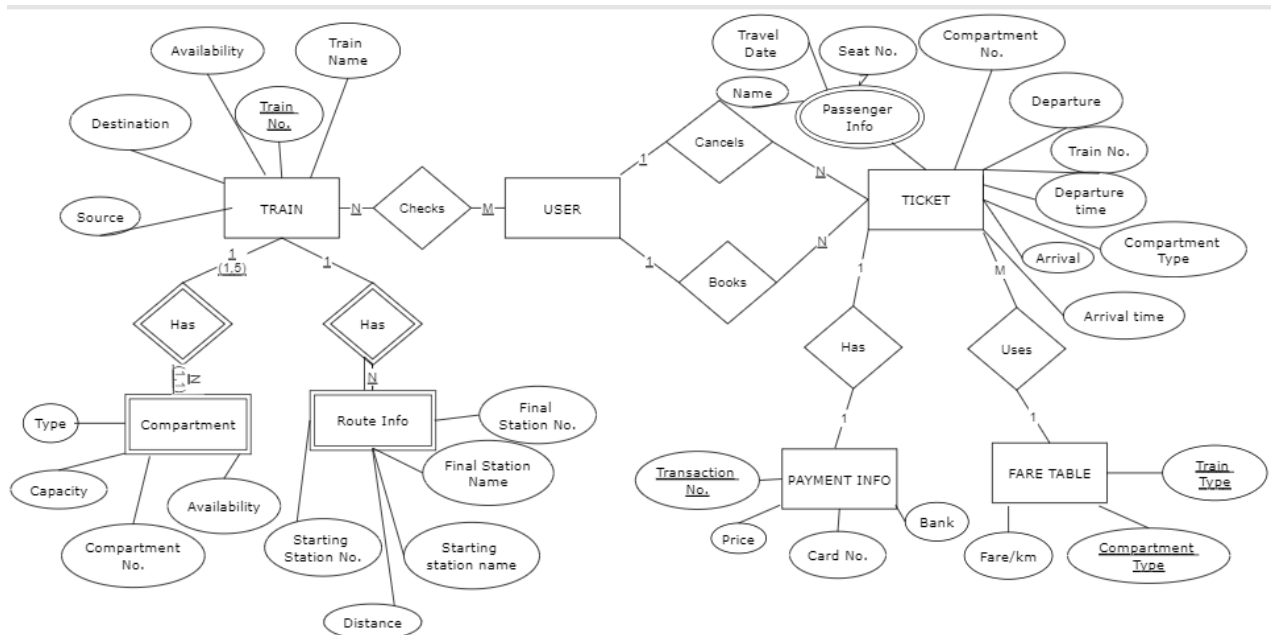


DBMS Lab 1 - Building a Conceptual Model - an ER Diagram

1. Create an ER Diagram for an E-Bike dealership. Dealer businesses are described by dealer_id, address and name. The dealers sell both E-bikes, and it operates a service facility. Base your design on the following business rules:

- A salesperson may sell many vehicles, but each two-wheeler is sold by only one salesperson. A salesperson details such as employee_id, f_name, l_name are stored
- A customer may have his/her vehicle/s serviced or buy a vehicle/s. Customer details such as f_name, l_name, customer_id, address, phone_number, mail_id are collected
- A customer may buy many two wheelers, but each vehicle is bought by only one customer.
- On successful selling, the salesperson generates an invoice to the customer for each vehicle sold.
- Each invoice generated records customer id, vehicle id (VID), salesperson_id apart from the invoice_no, amount and date
- A customer can seek service or repair for multiple vehicles. A service ticket is generated for each vehicle.
- E-Bike details include make, VID, registration_num, chassis_number, color, make, model, price and year_of+manufacture
- A vehicle service is identified by a service ticket and is overseen by one service manager. Many such service tickets may be assigned to one service manager.
- A vehicle service may or may not need parts (e.g., adjusting a break liver or cleaning a brake pads does not require providing new parts)
- Assume suitable attributes wherever not given



Assignment:

Railway Reservation System

Users check for availability of seats/Fare etc. in Trains and also books/cancels Train Tickets from particular source stations to destination stations. An user may be an admin (reservations clerks) or a passenger.

Every train has at least one compartment and at most 5 compartments. Each compartment is of type I class/ II Class / III Class corresponding to the ticket class. Number of seats in each type of compartment is fixed and is equal to 16 , 30, and 60 respectively.

Every train has associated route information that stores distance between each pair of stations along the route

Tickets compute fare from a Fare table that stores fare per KM rate for a given type of train (Superfast, Fast and Mail), for each class of ticket (I /II/ III Class)

Every ticket booked/canceled has associated payment information.

Identify entities and relationships, weak entities, Identifying relationships, total relationships, cardinalities and restrictions of each relationship.

