Car Dealer management system - Noun Analysis

Date : 3-10-2023   Course : MC212 DBMS

Name : Jagda Mohnish - 202203009

Puvar Kishansinh - 202203010

Deep Chhayani - 202203012

Dhaval Malsattar - 202203028

Sabalpara Jay - 202203039

Objective : To create an Entity Relationship Diagram from the SRS developed in the previous lab.

---

1. Noun (& Verb) Analysis.

Problem description:

The car dealer management system(CDMS) is designed to provide a user-friendly platform for dealerships to efficiently manage their car inventory, enhance customer interactions, and make informed decisions regarding sales and rentals.

In our system we have user roles like admin,customers,mechanics. We define various accessibility and functionality to each of them.

Customers can create an account and after logging in they can buy a new car or old car or sell an old car.They can even take a car on rent.Mechanics can also create an account to provide services to the customers.

Customers can put requests for car services and Mechanics can accept service requests according to their convenience by filtering requests (like Area).

Customers can use many filters to sort the cars according to price , colour , brand etc.There is also a bargaining feature to buy old cars.

Admin takes 5% commission when old cars sell to one customer to another customer with our website, also get profit when sells a new car, mechanics subscription charge and also get money when give car on rent.

Mechanic has to register first on our website and at that time he has to buy a subscription on a monthly basis of 1000 rupees to receive requests from customers. Customers can get a car on rent on charges when the car is available in inventory.

i. Find the nouns (entities) or verbs (relationships) in sentences of the problem description using the Noun Analysis Method and List all the extracted Nouns & Verbs in a table format.

No.	Noun	Verb
1	Car Dealer Management System	Designed
2	User	Provide
3	Admin	Manage
4	Customers	Create
5	mechanics	Logging in
6	Account	Buy
7	Old car	Sell
8	New car	Rent
9	Car inventory	Take
10	Customer interactions	Register
11	Decisions	Filtering
12	Sales	Sort
13	Rentals	Request
14	Accessibility	Accept

15	Functionality	Receive
16	Requests	Subscribe
17	Services	Charge
18	Commission	Available
19	Profit	
20	Subscription charge	
21	Website	
22	Subscription	
23	Money	
24	Area	
25	Price	
26	Colour	
27	Brand	
28	Bargaining feature	
29	Dealership	

ii. Now reduce the list using the below-given criteria.

A. Duplicates: if two or more nouns are simply names for the same thing, then only one of these should be used as the basis for an entity.

→ Car Dealer Management System and Website : Both terms refer to the online platform/system used for managing car dealerships.
→Feedback and Review
→ Admin and Client
→ Sales and Transactions
→ Inventory and stock

B. Irrelevant: entities which exist in the problem domain but which are not part of the intended system should also be discarded.

→ company
→Ratings
→Price Comparison Tools
→User Reviews
→Mechanic Rating

C. vague: When considering words carefully, it sometimes becomes clear that they do not have a precise meaning and cannot be a basis for a useful entity in the system.

Here none of the terms in the initial list appear vague.

D. General: Some words are too general.

→The term "User" is somewhat general as it represents various roles, such as Customer, Admin, and Mechanics. However, it can be kept as a high-level entity to encompass these roles.
→"Account" is a general noun, it represents all the users.

E. Attributes: Some words we want to keep as a part of some entity as attributes and an entity itself.

→The terms "Maker," "Model," "Year," "Price," and "Availability" are attributes of the "rental Car" entity.
→"Area" is an attribute for "customer" and "Mechanic" entities.
→"Maker", "Model", "Year", "Price" are also attributes of the "new car" and "old car" entities.

F. Associations: some words actually represent a relationship between entities

→sell
→rent
→buy
→Provide
→Sort
→Accept

iii. Create two tables : A table of candidate entities, candidate attributes and candidate relationships. Another table of rejected nouns with reasons

Table 1: Candidate Entities, Attributes, and Relationships

Candidate Entity/Attribute/Relationship	Type (Entity/Attribute/Relationship)
Car Dealer Management	Entity
Admin	Entity
Customers	Entity
Mechanic	Entity
Old car	Entity
New Car	Entity
Car inventory	Entity
Customer interactions	Entity
Services	Entity
Filters	Entity
Price	Attribute
Colour	Attribute
Brand	Attribute
Bargaining feature	Attribute
Commission	Attribute
Area	Attribute
Subscription charge	Attribute
Rent car	Entity

Candidate Entity/Attribute/Relationship	Type (Entity/Attribute/Relationship)
Requests	Entity
Profit	Attribute
Provide	Relationship
Sell	Relationship
Rent	Relationship
Buy	Relationship
Accept	Relationship
Add	Relationship
put	Relationship

Table 2: Rejected Nouns with Reasons

Rejected Noun	Reason for rejection
Website	Duplicate
User	General - Lack of Specificity