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CAR SERVICE CENTER

Database Management System Project
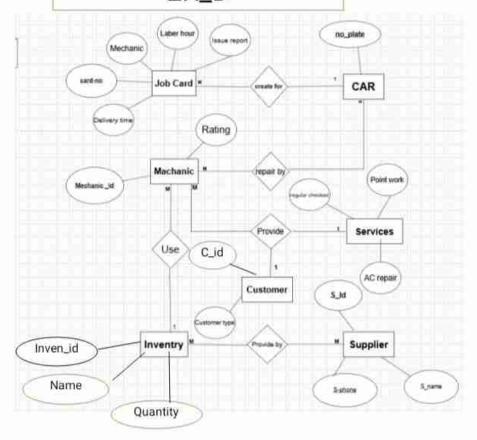
Project statement

Car Service Center with Job Cards and Parts Inventory

When a car is dropped off, a job card is created with assigned mechanic, issue reported, and expected delivery time. Each job logs labor hours and spare parts used. Service types include regular checkup, AC repair, or paintwork. Mechanics are rated, and frequent customers get discounts. Inventory tracks part usage and supplier info.

ENITITIES

1. CAR
2. JOB CARD
3. Mechanic
4. Service Type
5. Inventory
6. Supplier
7. Costumer

ER_D

SCHEMA

1) **JOB_CARD** (card_no, Delivery time, Labour hour, Issue report, Mechanic,No_plate)

2) **CAR** (No_plate)

3) **Mechanic** (Rating ,Mechanic_id)

4) **Repair(No_plate, Mechanic_id)**

5) **Services** (Service _id ,Service _type (Reguler checked, Point work, AC repair))

6) **Customer** (C_id, C type)

7) **Service_provide** (service_id ,Mecanic id

8) **Supplier** (S_id, S_phone , S _name)

9) **Inventory** (inventory_id , Name, Quantity ,Mechanic _id)

10) **Provide** (inventory_id,S_id)

NORMLIZATION

1.First normal form .

For first normal form of table there should be no repeating group exist.

As we know there is no repeating group in this situation .so we can say that our tables in first normalized form .

2. Second normal form.

In case of second normal form no partial dependency should exist .All attributes must depend on composite keys .

No partial dependency exist in our case .so table in second normal form.

3. Third normal form.

No transitive dependency should exist in third normal form it means non key attributes can not depend on non key attributes .

So lso in third normal form.

TABLES

```
mysql> use car_service_system;
Database changed
mysql> show tables;
+---------------------------+
| Tables_in_car_service_system |
+---------------------------+
| car                       |
| custumer                  |
| inventory                 |
| job_card                  |
| mechanic                  |
| provide                   |
| repair                    |
| service_provide           |
| services                  |
| supplier                  |
+---------------------------+
10 rows in set (0.00 sec)

mysql> desc job_card;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| card_id       | int         | NO   | PRI | NULL    |       |
| Mechanic      | varchar(20) | YES  |     | NULL    |       |
| Issue_report  | varchar(20) | YES  |     | NULL    |       |
| delivery_time | varchar(8)  | YES  |     | NULL    |       |
| Labour_hour   | int         | YES  |     | NULL    |       |
| No_plate      | int         | NO   | MUL | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> desc car;
+----------+------+------+-----+---------+-------+
| Field    | Type | Null | Key | Default | Extra |
+----------+------+------+-----+---------+-------+
| No_plate | int  | NO   | PRI | NULL    |       |
+----------+------+------+-----+---------+-------+
1 row in set (0.00 sec)
```

```
mysql> desc Mechanic;
+-------------+------------+------+-----+---------+-------+
| Field       | Type       | Null | Key | Default | Extra |
+-------------+------------+------+-----+---------+-------+
| Mechanic_id | int        | NO   | PRI | NULL    |       |
| Rating      | varchar(8) | YES  |     | NULL    |       |
+-------------+------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> desc repair;
+-------------+------+------+-----+---------+-------+
| Field       | Type | Null | Key | Default | Extra |
+-------------+------+------+-----+---------+-------+
| No_plate    | int  | NO   | MUL | NULL    |       |
| Mechanic_id | int  | NO   | MUL | NULL    |       |
+-------------+------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> desc inventory;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| inven_id    | int         | NO   | PRI | NULL    |       |
| Name        | varchar(20) | YES  |     | NULL    |       |
| Quantity    | int         | YES  |     | NULL    |       |
| Mechanic_id | int         | YES  | MUL | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
4 rows in set (0.00 sec)

mysql> desc supplier;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| S_id    | int         | NO   | PRI | NULL    |       |
| S_Name  | varchar(20) | YES  |     | NULL    |       |
| S_phone | int         | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

```
mysql> desc provide;
+----------+------+------+-----+---------+-------+
| Field    | Type | Null | Key | Default | Extra |
+----------+------+------+-----+---------+-------+
| inven_id | int  | NO   | MUL | NULL    |       |
| S_id     | int  | NO   | MUL | NULL    |       |
+----------+------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> desc custumer;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| customer_id   | int         | NO   | PRI | NULL    |       |
| customer_type | varchar(10) | YES  |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> desc services;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| service_id   | int         | NO   | PRI | NULL    |       |
| service_type | varchar(10) | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> desc service_provide;
+-------------+------+------+-----+---------+-------+
| Field       | Type | Null | Key | Default | Extra |
+-------------+------+------+-----+---------+-------+
| Mechanic_id | int  | NO   | MUL | NULL    |       |
| custumer_id | int  | NO   | MUL | NULL    |       |
| service_id  | int  | NO   | MUL | NULL    |       |
+-------------+------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```