

**Problem:**

In these days , cars become more and more complicated and advanced , so maintenance become very important which will make sure that car can have a long life. But many car owners always forget to go to maintenance , and it is very difficult for 4s shops to inform them one by one which is a lot of works . So we can develop a app that connect shops , car owners to let them make appointments of maintenance and help shops to track the situation of car and give a accurate maintenance. So there will have some maintenance package for the car. And every time different maintenance package will allocated to cars, car owners can schedule the maintenance and contact the shop on app . After every maintenance , the shop will record every maintenance then the app will update the history of car and situation of car for mechanics to improve their service .

**Database Rules Document****1. Domain Rules****Maintenance Packages**

Each maintenance package has a unique PackageID for differentiation.

Every maintenance package comes with a name and detailed information describing the services it encompasses.

**Cars**

Each car is identified by a unique CarID.

Every car has a model that describes its brand and variant.

The year of the car indicates its manufacturing year.

The last maintenance date for each car is logged to inform both the car owner and the shop about its maintenance status.

Each car is associated with an owner, connected through the OwnerID.

**Car Owners**

Every car owner is distinguished by a unique OwnerID.

The name and contact information of an owner are utilized for identification and reaching out.

**Car\_Maintenance Associative Entity**

Represents the many-to-many relationship between cars and the maintenance packages they opt for.

Contains PackageID and CarID as foreign keys.

**Appointments**

Each appointment possesses a unique AppointmentID.

Logs the date of appointment and a description of the services required.

Each appointment is linked with a specific car and shop, connected via CarID and ShopID.

## **Shops**

Every shop is recognized by a unique ShopID.

The name and address of a shop assist customers in locating and contacting it.

## **2. Potential Nouns and Actions**

### **Nouns:**

Maintenance Packages

Cars

Car Owners

Appointments

Shops

Car\_Maintenance (Associative Entity)

### **Verbs:**

Allocate (assign a maintenance package to a car)

Record (log the last maintenance date of a car)

Schedule (book a service for a car at a particular time)

Update (refresh car owner details, update maintenance package details, etc.)

Contact (reach out to car owners for notifications or confirmations)