Introduction:

Online car rental management system helps to manage all types of Car rental work online. It is helpful for their customers who want to rent the car for personal use and helps offline car agencies. This system allows agencies to run their business and handle customer requests effectively. It is user friendly system so customer can easy use this.

Existing car rental system having some issue, by targeting all these issues our system is design. The main problem that we are trying to solve is that some small groups or companies are involved in the entire car renting process which are doing some specific tasks Following scenario will help you to identify the problem.

- There is one company/party which handles all the driver's related work. It employs drivers, and whenever someone wants a driver, then they can reach the company/party. This company addresses everything related to drivers only. If someone wants to work as a driver, then they will approach the company for that. That company saves all the data of their all "***Drivers"*** as a separate record.
- Suppose there is one company that handles all the car-related assistance. If anyone wants to give their cars for rent, then they go to that company. So keeping track of these things, this company maintain all the details of all the cars under a single information table "***Car"*** that contains Car Number, Build Date(year), model, car type, total fare, etc. If someone wants car for a rent then he/she has to contact to the company. They also save records about the "***owners"*** of the cars, that can be a single person or a party, or a company.
- For Payment handling, there is another company that handles all payments among the car company, driver and customer. Payment companies have their own systems to handle this; for smooth work, payment company store all payment details, including the sender and receiver party. They provide interface and digital solutions for all kinds of payments. It has details like reference id, date, time, mode of payment, amount, discount given, etc. are stored at particular location.

Problems face by Customers:

If a customer/individual wants to rent a car, he'll have to book a car from one company, hire one driver from another company and do the payments for car and driver with the help of third company. Here, we can see that different companies are solving small parts of the problem. So without distributed database system customer has to visit each one by one, because there is no connection among all these

companies, and it is very difficult for the user to do all these things. All the data which a company (here company means the organization that have relevant data sources) maintains is also located at different locations and having their own Structure, policy and protocols.

Proposed Approach:
So to provide user simplicity. We need to integrate them to complete one single task which depends on all these companies. We have to make all these separately located groups communicate with each other because of the data and control flow between multiple locations. So that the customers feel like using a single standalone platform.

Distributed Data Sources:

1. **Driver Information**: This location has the information of drivers.
2. **Car Information**: This location has the data about the "***Cars***" and their "***Owners***" managed by company.
3. **User Information**: It has customer details like "***Customer***" entity having id, name address, contact, gender, etc. It also has the details of the *"**Trips***" completed by the customer.
4. **Payment Details**: All payments among the car company, driver and Customer maintained at a specific location.

Queries:

- **Simple Queries:**
  i) List out all the cars whose fare is less than 4000.
  ii) How many drivers whose rating in more than 3 out of 5
  iii) List out all available taxies of type 'SUV.
  iv) How much cost for renting 4 cars by the same customer.
  v) What is the source and destination of the longest trip.
- **Complex Queries:**
  i) How many male customer had male driver.
  ii) Which type of car is preferred by the customers.
  iii) Which customer has taken rent more than 2 car of same model.
  iv) Whether the driver is available for that destination or not.

Constraints:

- User has to rent a car for atleast one day.
- Age of driver should be lies between 18 to 50.
- Customer should have valid identity proof.

- Customer age should be atleast 18 years.