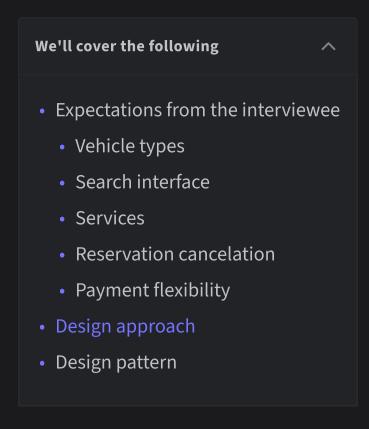
Getting Ready: The Car Rental System

Understand the car rental system problem and learn the questions to further simplify this problem.



short period of time—a few hours to a few weeks. A car rental system has a number of offices in different locations within each city. It allows the users to reserve and return a vehicle from different locations and is primarily located near airports or city areas. The car rental system keeps a list of all its clients in a database. The database includes the name, address, and contact number of each new customer. A member can reserve a car for a certain number of days, hire a car, or return the car that was rented. A member makes a reservation by supplying the pickup and drop-off locations, the kind of vehicle, and the day and time of the reservation.

A car rental system is an application that manages the renting of automobiles for a



The car rental system consists of multiple components. Each component has its own functionality and constraints. This section provides an overview of some of the main

Vehicle types

An interviewer would expect you to discuss the different vehicle types, and ask the

expectations that the interviewer will want to hear you discuss in more detail during

following questions:

What types of vehicles will that system support?
How can we identify the specific vehicle?

- Search interface
- Members will use the application and add location and the reservation date. They will

receive several options to select the vehicle. Therefore, an interviewer would expect you to ask questions listed below:

Services

when?

Payment flexibility

Design approach

Design pattern

reservation, vehicle log, etc.

Is it possible to search a vehicle using its name or type?Can we search for a vehicle by its model number?

An interviewer would also expect you to discuss the services of the car rental system

• Does a car rental system assign a driver to its customer?

Does a car rental system provide roadside assistance to its customer?

and may ask the following questions:

Can the member be able to cancel a reservation?

Reservation cancelation

There will be many duplicate instances in our system. The interviewer expects you to ask questions listed below:

• Which member is allowed to request a vehicle reservation cancelation and

One of the car rental system's most significant attributes is its customer payment structure. The payment depends on the vehicle type and time stamp. Therefore, an

interviewer would expect you to ask questions listed below:

How can customers pay at different branch locations and by different methods (cash, credit, or cheque)?
If there are multiple branches of the car rental system, how will the system keep

track of the customer having already paid at a particular branch?

We'll design this car rental system using the bottom-up design approach. For this purpose, we will follow the steps below:

Identify and design the smallest components, such as a vehicle, vehicle

rental system that can be composed of multiple vehicles.
Repeat the steps above until we design the whole system.

During an interview, it is always a good practice to discuss the design patterns that

the car rental system falls under. Stating the design patterns gives the interviewer a

positive impression and shows that the interviewee is well-versed in the advanced

Use these small components to design bigger components, such as building a car

concepts of object-oriented design.

questions like, "Define design patterns."

Try to answer the following question. If you are not familiar with design patterns, don't worry! You can learn about them by asking

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Let's explore the requirements of the car rental system in the next lesson.

Complete

Code for the Movie Ticket Booking System

Requirements for the Car Rental System