Carpool Management

Assignment: Make a web application for visualizing carpool sharing, with the following functionalities:

1. Carpool data
2. Employee data
3. Ride sharing data management
4. Carpool and ride sharing view per month

Architecture

1. Carpool data

Provide a repository of cars with the following properties for each car:

- **Name** (i.e. Mustang for quick support, Green Skoda for travel, etc.)
- **Car Type** (i.e. Ford Mustang, Skoda Octavia, etc.)
- **Color** (i.e. Green, Red, Blue, etc.)
- **Plates** (i.e. ZG 456-RO, PU 234-IT, etc.)
- **Number of Seats** (i.e. 4, 4, 5, etc.)

Constraints:

- Two cars cannot have the same plate numbers

Don’t need to build tools for managing car data.

Ensure that cars repository have at least 10 car records for usage in the application.

2. Employee data

Provide a repository of employees with the following properties for each employee:

- **Employee Id** (i.e. 1, 2, 3, etc.)
- **Employee Name** (i.e. Damir Rose, Ana Lazaric, Thomas Horvat, etc.)
- **Is Driver** (i.e. True, False)

Don’t need to build tools for managing employee data.

Ensure that employees repository have at least 25 employee records for usage in the application.

3. Ride sharing data management

Car sharing should support the following functionalities:

- Creating new travel plan
- Deleting travel plan
- Editing data of an existing travel plan
- Organizing cars and travelers for the travel plan

Each travel plan must have the following properties:

- **Start Location** (i.e. Zagreb, Pula, Rijeka, etc.)
- **End Location** (i.e. Pula, Rijeka, Split, etc.)
- **Start Date** (i.e. 15.4.2019 8:00, etc.)
- **End Date** (i.e. 16.4.2019 18:00, etc.)
- **Car** (from the list of available cars)
- **Employees** (from the list of employees)

Constraints:

- Travel plan can only use available cars
- Number of employees in one car cannot be more than available seats

- At least one traveler must have a driver's license
- Compliant with the laws of physics (i.e. car cannot be in two places at the same time, etc.)

3. Carpool and ride sharing view per month

The goal of this view is to display the usage of all cars during the selected month along with all employees traveling in those cars.

General requirements

- The application should not require additional (external) configuration, so it must work "out of the box" **without the need for additional software installation**
- Following the previous requirement, do not use the database that needs to be installed, **rather uses an embedded solution for data persistence**
- You can use any framework for the backend part (i.e. .NET Core, MVC, etc.) and choose from some modern frontend frameworks (React.js, Vue.js or similar)
- Identifying and solving edge cases is a plus
- Implementing a good user experience is a plus
- Create a help document that contains instructions for installation, startup, and application usage
- **Deliver source code with all dependencies**