Parking Garage Programming Practice - TecAlliance

Technology used: ASPNET 8 & Angular 16 with MSSQL

To run the project:

1. Go in to appsettings.json and change the connectionString in back-end folder so that it is appropriate to your computer (open in Visual Studio)
2. Run the database migrations and the script.sql (optional)
3. Open front-end folder and run “npm ci“

Upon finished reading the practice documents, I wrote out the basic requirements and functions I thought to be more suitable to real-life cases such as:

* The license plate pattern must be appropriate to Italy
* Different vehicle types will have different license plate pattern
* Vehicles will only be recorded upon first use of this parking garage
* There will be 2 actors in the system: SECURITY and ADMIN
* SECURITY will mainly do ticket check-in and check-out
* ADMIN will mainly do CRUD in the system (especially create new floor)

From this I conclude the system will have 6 entities: User, Role, Vehicle, Floor, ParkingSlot, Ticket

The UI will be separated depends on the role of the user when authenticated

Due to time constraint, I could not fully complete CRUD operations for User, Vehicle, Ticket and Floor. But I prioritized to complete the main functions such as ticket check-in and check-out, create floor along with parking slots and set fee per hour, keep track of vehicles parking status

Read for User, Role, Vehicle

Create, Read, Delete for Floor

Create, Read, Update for Ticket