

## Contents

### Contents 2

- 1. Introduction 3 (faruk)
- 2. Description 3 (faruk)
- 3. Requirements 5
  - 3.1. Functional Requirements (kaan ve arda)  
5
    - 3.1.1. Regular Users 5
    - 3.1.2. Moderators 5
    - 3.1.3. Admins 5
  - 3.2. Non-Functional Requirements  
5
    - 3.2.1. Performance 5
    - 3.2.2. Usability 6
    - 3.2.3. Capacity 6
    - 3.2.4. Reliability 6
    - 3.2.5. Security 6
  - 3.3. Constraints (Pseudo Requirements)  
6
- 4. Limitations (beste)
- 5. Entity Relationship Model (Beste)

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# Requirements

In this section, functional and non-functional requirements of the system are explained.

## Functional Requirements

The users of the system are customers, employees, branch managers and vehicle damage experts. The functionalities of the system from each users' perspective are categorized below.

### *Requirements for customers*

- Customers can register to the system with their name, national id or passport number, date of birth, nationality, address, phone number, email address and driving license information such as the licence type and when and where was the licence obtained.
- Customers can browse through all the vehicles such as cars, motorcycles, buses, trucks available in different branches.
- Customers can filter what vehicle they want with different vehicle types, brands, transmission types, which branch they want the car from, kilometers of the vehicle, age of the vehicle and the daily rental price. Also, different vehicle types will have different search options. For example, if a truck option is selected, customers can filter out trucks based on how much weight they can carry. Specific vehicle types will have different technical options.
- Customers can reserve different vehicles in different branches by specifying the rental period (start and end date) if their driving experience and licence type allows them to drive the vehicle.
- Customers can request their desired vehicles to be transferred to a different branch if that branch does not already have a similar vehicle.
- Customers can extend the rental period if the vehicle is not reserved by another customer after the rental period end date.
- Customers can select and change which branch they are going to return the vehicle to. They can return the vehicle to any branch of the company.
- After the customers return the vehicles, the payment has to be made to the system with the payment value specified on the system. The payment value may not be equal to the rental price if the vehicle is damaged or returned later than the rental deadline.
- Customers can give feedback on the vehicle, the branch and the employees after they return the vehicles. The feedback will include a rating and further comments. A rating list of vehicles will be displayed on the system and all of the customers can see all of the ratings. The average rating of the vehicle will be visible on the vehicle information while trying to rent.
- Customers will have statuses such as regular, silver, gold and diamond depending on their rental history. For example, the customers will start from being a regular customer and if they rent a certain amount of vehicles without damaging them or returning them late, their status will be upgraded by the system. Depending on their status, they will receive additional discounts when renting a new vehicle. For example, silver customers will get 15%, gold customers will get 25% and diamond customers will get 35% discount while renting a vehicle.

- Customers can view their rent history and membership status from their profiles.

### ***Requirements for employees***

- Employees can check reservations by approving or declining them.
- When a vehicle is returned from rent, they will check and if there are any damages, they will assign one of the damage experts to check the vehicle and estimate the cost of the damage.
- Employees can update the current status of the vehicles when a vehicle is rented, is returned from rent, is on transfer to another branch, or is unavailable because of maintenance or damage repair.
- Employees can check if the payment has been made, and accept the vehicle return depending on the payment status.
- Employees can see the list of all the customers, all the previous vehicle transfers, all the previous customer requests, the history of previous damage reports, the history of all the vehicle rents, the list of all of the current rents and the list of all of the vehicles with their statuses without restriction to their branch.
- Employees can see the current locations of the vehicles on the map if a tracking device is attached to the vehicle.

### ***Requirements for managers***

- Managers can see the branch budget and have the permission to spend it on buying new vehicles and hiring new employees to their branch.
- Managers can see the list of information about all the employees in their branch, managers of other branches, and the information of all the vehicles.
- Managers can conduct performance measurement reports where they evaluate the employees' performances and can fire/keep the employees.
- Managers can set certain tasks to employees and can reward them (bonus payment, raise in monthly payments).

### ***Requirements for vehicle damage experts***

- Vehicle damage experts can issue damage reports if an employee has spotted any damage on returned vehicles. This report will include the location of the damage, brief description of the damage and estimated price of repair. When a damage report is issued on a vehicle, the status of the car is automatically changed to damaged/in repair and will not be available to rent.
- When a vehicle is returned from repair, vehicle damage experts will check the previous damage and if it is repaired properly, they can set the status of the car from in repair to available to rent.
- Damage experts can see the history of previous damage reports.

### ***Other requirements***

- Unregistered users can see the available jobs and apply to them through the website.

- Unregistered users can also view the list of available vehicles with all the information but they cannot rent them without registration.
- Unregistered users can also view the different locations of the branches as well as general information about the company.

## **Non-Functional Requirements**

### **Limitations:**

In this car rental system there are certain limitations to prevent inconsistencies and protect the logical flow of the system. The limitations are:

- A person can become a customer if only they have a driving licence, otherwise they can not rent vehicles.
- A customer can rent only one vehicle at one reservation.
- A customer can not make another reservation if they have an incomplete reservation, in other words if they have not returned the rented vehicle.
- If a customer requests a vehicle which is already reserved, the employee will decline this request.
- If a customer exceeds a certain number of damages at their reservations, the customer will not be able to rent again.
- If a customer cancels the reservation while the vehicle is already on transfer for his/her request, the transfer will stop and the vehicle will be returned to its original branch.
- A damage on a vehicle can be decided only by damage experts.
- A damage expert can not fill multiple damage reports for the same reservation.
- Every branch must have a manager.
- Only branch managers can evaluate employees and hire new ones.