**Car Rental Requirement Specification**

**Version 1.0**

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   1. ***Project Overview***

The **Car Rental System** is a web-based platform designed to facilitate the seamless rental of vehicles for customers while providing an efficient management system for car rental businesses. This system allows users to **browse available cars, book rentals, make payments, and manage their reservations**. Additionally, the system provides administrators with tools to **manage users, cars, bookings, and financial transactions**.

The platform aims to **streamline the car rental process**, ensuring a **user-friendly experience**, **automated payment processing**, and **real-time availability updates** to enhance operational efficiency.

**Intended Audience**

* **Customers (Renters):** Individuals who need to rent a car for personal or business use. They can create an account, search for cars, make bookings, and complete payments.
* **Administrators:** Rental business owners or employees responsible for managing vehicles, managing customer requests, and overseeing payments.
* **Car Rental Companies:** Businesses looking to digitize and automate their car rental operations to improve service quality and efficiency.
* **Payment System Providers:** Third-party payment gateways integrated for secure transactions.
  1. ***Purpose and Scope of this Specification***

**Purpose**

The purpose of this specification document is to outline the functional and non-functional requirements, design considerations, and operational features of the Car Rental System. This document serves as a guideline for developers, business analysts, testers, and stakeholders involved in the project's development and implementation.

It ensures that all project objectives, constraints, and system functionalities are clearly defined to facilitate a smooth development process while meeting the needs of both customers and administrators**.**

**In Scope**

This specification covers all essential requirements and functionalities for the **Car Rental System**, including:

1. **User Authentication & Management** – Registration, login, profile management, and access control for customers and admins.
2. **Car Inventory Management** – Adding, updating, and removing cars from the system.
3. **Booking & Reservation System** – Customers can view available cars, make bookings, and modify/cancel reservations.
4. **Payment Processing** – Integration with secure payment gateways to facilitate transactions.
5. **Admin Dashboard** – Management of cars, users, bookings, and financial records.
6. **Notifications & Alerts** – Email/SMS notifications for booking confirmations, reminders, and payment receipts.
7. **Review & Rating System** – Customers can leave feedback on their rental experience.
8. **Reports & Analytics** – Data insights for admins on bookings, revenue, and car usage trends.
9. **Security & Compliance** – Secure handling of user data, compliance with data protection regulations.

**Out of Scope**

The following features are outside the scope of this specification and may be considered in future phases:

1. **Self-Driving Car Rentals** – Autonomous vehicle support is not included in the initial phase.
2. **Peer-to-Peer Car Sharing** – The system does not support private car owners renting out their vehicles.
3. **Advanced AI-Based Pricing** – Dynamic pricing based on real-time market trends is not included in the first phase.
4. **Integration with Ride-Sharing Services** – The system is focused on car rentals, not ride-hailing services like Uber/Lyft.
5. **International Rentals** – The system is designed for use within a specific region/country in the initial release.
6. **Product/Service Description**
   1. **Product Context**
   * **System Overview:**

The **Car Rental System** is a **self-contained** web application designed to facilitate vehicle rentals while integrating with various external services to enhance its functionality. The system allows **customers** to rent cars, **administrators** to manage bookings and vehicles, and **payment gateways** to process transactions securely.

While the system operates **independently**, it interacts with **external services** such as:

1. **Payment Gateways (e.g., PayPal, Stripe)** – To securely process online payments.
2. **Identity Verification Systems** – To verify user identity for fraud prevention.
3. **Third-Party Notification Services (e.g., Twilio, Email APIs)** – To send booking confirmations and reminders.
4. **External Vehicle Maintenance Systems** – To track vehicle maintenance schedules and status.
   * **System Components & Interconnections**

The diagram below illustrates the **Car Rental System's major components** and how they interact with external systems:

**Internal System Components:**

* **Customer Module** – Allows users to search, book, and manage rentals.
* **Admin Dashboard** – Enables business owners to manage vehicles, users, and bookings.
* **Car Inventory Module** – Handles the addition, removal, and availability of cars.
* **Payment Processing** – Manages transactions and invoicing.
* **Notification System** – Sends real-time booking confirmations and updates.

**External Interfaces:**

* **Payment Gateways** – Secure transaction processing.
* **Notification APIs** – SMS/Email alerts for booking reminders.
* **Vehicle Maintenance System** – Ensures cars are regularly serviced.
* **Identity Verification API** – Prevents fraudulent bookings.
  1. **User Characteristics**

The **Car Rental System** will serve multiple user types, each with distinct needs, technical skills, and usage behaviors. Below are the primary user profiles:

**1. Customers (General Public, Students, Faculty, Staff, etc.)**

- Type: General users renting vehicles for personal or professional use.

- Experience: Varies from first-time renters to frequent users.

- Technical Expertise: Basic to moderate (familiar with websites and online bookings).

- Other Characteristics:

* Expect a user-friendly interface with minimal learning curve.
* Require quick and seamless booking processes.
* Prefer mobile-friendly design for easy access.
* Need real-time notifications (email/SMS reminders).
* Security-conscious; value secure payment options and identity verification**.**

**2.Administrators (Car Rental Business Owners/Managers)**

**- Type:** Business owners, rental managers, and staff handling bookings, payments, and fleet management.

**- Experience:** Experienced in car rental operations and customer service.

**- Technical Expertise:** Moderate to high (familiar with dashboards, reports, and management tools).

**- Other Characteristics:**

* + Need a **centralized dashboard** for managing bookings, payments, and car inventory.
  + Require **reporting and analytics** for decision-making.
  + Need **role-based access control** for staff permissions.
  + Expect **maintenance tracking** for vehicles.
  + Require **fraud detection** and **identity verification** to prevent fake bookings.

1. **System Administration (IT Support & Developers)**

**-Type:** Technical support personnel responsible for system maintenance, updates, and security.

- **Experience:** Experienced in IT infrastructure, database management, and cybersecurity.

- **Technical Expertise:** Advanced (familiar with system administration, databases, and troubleshooting).

- **Other Characteristics:**

* Need **access to system logs** and **error reports**.
* Require **database management tools** for performance optimization.
* Expect **secure role-based permissions** to prevent unauthorized access.
* Manage **system security and compliance** with data protection regulations.
* Integrated **external services (payments, notifications, identity verification, etc.)**.

***2.3 Assumptions***

- Technical Assumptions

✔️ **Internet Access** – Users (customers, admins, and system operators) will have a stable internet connection to access the system.  
✔️ **Device Compatibility** – The system will be accessed via desktop and mobile devices, assuming modern web browsers (Chrome, Firefox, Safari, Edge).  
✔️ **Server Availability** – The system will be hosted on a **secure and scalable** cloud server.  
✔️ **Payment Integration** – External payment gateways (e.g., PayPal, Stripe) will be **available** for transactions.  
✔️ **Operating System Support** – The system is assumed to be OS-independent and will function on **Windows, macOS, Linux**, and mobile platforms.

-User Related Assumptions

✔️ **Basic User Technical Knowledge** – Customers will have **basic** web browsing skills to search for cars and complete bookings.  
✔️ **Admin Expertise** – Admin users will have moderate experience in managing bookings, handling payments, and overseeing fleet operations.  
✔️ **System Admin Knowledge** – IT personnel will be responsible for **server maintenance, security updates, and troubleshooting**.

-Business Assumptions

✔️ **Car Availability** – The rental company will maintain an **adequate fleet** to meet customer demand.  
✔️ **Legal & Insurance Compliance** – Users will be required to provide **valid driver’s licenses** and agree to terms & conditions for rentals.  
✔️ **User Verification** – The system assumes that identity verification services (e.g., government ID checks) will be available and used when required.  
✔️ **Booking Validity** – Customers must provide **accurate information** when making a reservation, and fraudulent bookings will be flagged.

-Security & Privacy Assumptions

✔️ **Data Protection** – The system will comply with **GDPR** or other applicable data protection laws.  
✔️ **Secure Transactions** – Payment processing will follow **industry security standards** (PCI-DSS compliance).  
✔️ **Access Control** – Role-based access control will prevent unauthorized use of administrative features.

-External System Assumptions

✔️ **Notification Services** – Email/SMS notification services (e.g., Twilio, SendGrid) will be available.  
✔️ **Maintenance Tracking** – Vehicle maintenance tracking services will be available or managed manually by the admin.  
✔️ **API Stability** – Third-party APIs (payment, notifications, identity verification) will be **functional and stable**.

***2.4 Constraints***

1- SYSTEM INTEGRATION & PARALLEL OPERATION

+ **No Legacy System Integration** – The system will be developed as a **standalone** application, meaning it does not need to support an old legacy system.  
 + **Third-Party API Dependencies** – Integration with external services (e.g., payment gateways, SMS notifications) may **introduce limitations** due to API restrictions.

2- SECURITY & ACCESS CONSTRAINTS

+ **Role-Based Access Control (RBAC)** – Different user roles (customer, admin, system operator) will have restricted access based on their permissions.  
+ **Audit Functions** – The system must maintain:

* **Audit logs** to track all system activities (user logins, transactions, and modifications).
* **Error logs** for debugging and troubleshooting issues.  
  + **Data Privacy & Protection** – The system must comply with **GDPR, PCI-DSS, or other regional data protection laws** to ensure secure data handling.

3- CRITICALITY OF THE APPLICATION

+ **High Reliability Required** – Since this system handles **financial transactions and customer data**, uptime and security are **critical**.  
+ **Real-Time Processing** – Bookings must be processed **in real time** to avoid overbooking or conflicts.  
+ **Failure Recovery** – The system must have **data backup and recovery mechanisms** to prevent data loss in case of failures.

4- SYSTEM RESOURCE CONSTRAINTS

+ **Server Performance & Storage**

* The system should be **optimized** to run on cloud-based hosting (e.g., AWS, Azure, or Google Cloud).
* Database storage must be **scalable** to handle customer records, car listings, and booking histories.  
  + **Bandwidth Considerations** – The system should be optimized for **fast loading times** even with high traffic.

5- DESIGN & DEVELOPMENT CONSTRAINTS

+ **Programming Language & Frameworks**

* **Frontend:** HTML, CSS, JavaScript (React, Vue, or Angular).
* **Backend:** C# (ASP.NET Core) or Java (Spring Boot).

**Database:** MySQL or PostgreSQL.  
+ **Cross-Platform Compatibility** – The system must be responsive and work on **desktop, tablet, and mobile**.

* + **Scalability** – The architecture must allow future **feature expansions** without major redesigns.

6- COMPLIANCE & LEGAL CONSTRAINTS

**+ User Verification** – Customers must provide valid driver’s licenses before booking a vehicle.  
**+ Payment Security –** All transactions must comply with PCI-DSS standards for secure payments.  
**+ Legal Agreement –** Users must accept terms & conditions before renting a vehicle.

***2.5 Dependencies***

Several dependencies impact the **Car Rental System** and must be addressed for smooth development and functionality. These dependencies include external services, system modules, and data integrations.

1-EXTERNAL SYSTEM DEPENDENCIES

+ **Payment Gateway Integration** – The system relies on third-party payment providers (e.g., **PayPal, Stripe, or credit card processors**) for secure transactions. Any downtime or API changes may affect booking payments.  
+ **Identity Verification System** – A third-party identity verification service (e.g., **government ID checks, driver’s license validation**) may be required before a customer can book a car.  
+ **SMS & Email Notifications** – The system depends on external services like **Twilio, SendGrid, or AWS SES** for sending booking confirmations, reminders, and alerts.

2- MODULE DEPENDENCIES

+ **User Authentication Module** – Before users can book cars, the **registration & login system** must be fully functional.  
+ **Car Inventory Management Module** – The booking system requires an **accurate and updated database** of available cars, their status, and pricing.  
+ **Admin Dashboard** – Admins need an **operational backend dashboard** to manage bookings, users, and transactions before the system can go live.  
+ **Booking & Payment Processing** – Customers must be able to reserve cars, but this module depends on:

* **Car availability status** (from inventory).
* **User identity verification** (from authentication).
* **Successful payment processing** (from payment gateways).  
  + **Reports & Logs** – Audit logs and reports will depend on **user activity tracking and booking data**.

3- DATA DEPENDENCIES

+ **Real-Time Car Availability** – The system requires continuous **updates on vehicle availability** to prevent double bookings.  
+ **Daily Data Backup** – The database must be **backed up daily** to prevent loss of booking and user data.  
+ **Historical Data Access** – The system may require access to past rental data for **business insights and fraud prevention**.

4- HARDWARE & INFRASTRUCTURE DEPENDENCIES

+ **Hosting & Server Deployment** – The system must be hosted on a **cloud-based or on-premises server** with **sufficient processing power and storage**.  
+ **API Rate Limits** – Third-party services (payment, SMS, identity verification) may have rate limits, affecting the number of requests per second.

5- LEGAL & COMPLIANCE DEPENDENCIES

+ **License & Insurance Requirements** – Customers must provide **valid driver’s licenses** and meet insurance requirements before renting a vehicle.  
+ **Data Privacy Regulations** – The system must comply with **GDPR, PCI-DSS, or local laws** for storing and processing customer data.

These dependencies **must be managed** carefully to ensure the system functions properly. Any issues or delays in these areas can **affect system performance and availability**.

**3.Requirements**

A Car Rental System is a comprehensive software solution designed to facilitate the seamless management of vehicle rentals for customers, administrators, and service providers. This system allows users to browse available cars, check their specifications, and make reservations based on their preferences and availability. Customers can register an account, provide personal details, upload necessary documents such as a driver’s license, and process payments securely through integrated gateways. The system includes an advanced booking mechanism, enabling users to reserve cars for specific dates, extend rental periods, and cancel reservations if needed. Administrators and employees can manage vehicle listings, update availability status, track maintenance schedules, and handle customer inquiries efficiently. The system also features real-time analytics, allowing business owners to monitor revenue, customer preferences, and fleet performance. Security measures such as role-based access control, encrypted payment transactions, and secure data storage ensure user confidentiality and system integrity. Integration with external systems, such as GPS tracking for real-time vehicle location monitoring and automated notifications for customers regarding their bookings, enhances operational efficiency. Furthermore, audit functions, including logging user activities and generating financial reports, help in maintaining regulatory compliance and business transparency. The system is designed to be scalable, allowing businesses to expand their operations and integrate additional functionalities in the future. To ensure a smooth user experience, the platform offers an intuitive interface, multilingual support, and cross-device accessibility. The technical implementation follows industry best practices, leveraging cloud-based storage, high-performance databases, and a robust backend architecture to support concurrent users without performance degradation. The system also adheres to legal regulations regarding rental agreements, insurance policies, and customer identity verification. With its structured yet flexible design, the Car Rental System ensures efficient vehicle allocation, optimized fleet utilization, and an enhanced customer experience, ultimately contributing to business growth and customer satisfaction.

* 1. ***Functional Requirements***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Req# | Requirement | Comments | Priority | Date Rvwd | SME Reviewed / Approved |
| FR\_1 | The system shall allow users to register and login | This ensures that users can create accounts and access personalized services securely. | **1** | 27/03/2025 | Klaudja Bega |
| FR\_2 | The system shall allow users to reset their password | This improves user experience by allowing account recovery in case of forgotten credentials. | **1** | 27/03/2025 | Klaudja Bega |
| FR\_3 | The system shall allow users to update their profile information | User can modify their personal details such as name, contact info, and driving license. | **2** | 27/03/2025 | Klaudja Bega |
| FR\_4 | The system shall allow admins to manage user accounts (create, update, delete) | Admins have full control over user accounts to ensure proper account management and security | **1** | 27/03/2025 | Klaudja Bega |
| FR\_5 | The system shall allow admins to view user activity logs | This feature enables tracking of user actions, aiding in security monitoring and audits. | **2** | 27/03/2025 | Klaudja Bega |
| FR\_6 | The system shall allow admins to add, update, and delete cars. | Ensures that the fleet is up to date and accurately reflected in the system. | **1** | 27/03/2025 | Gregori Haxhia |
| FR\_7 | The system shall allow admins to update the availability status of cars | Prevents users from booking unavailable vehicles, reducing confusion and errors. | **1** | 27/03/2025 | Gregori Haxhia |
| FR\_8 | The system shall allow users to view available cars for rent | Users need visibility into available cars to make informed rental decisions. | **1** | 27/03/2025 | Gregori Haxhia |
| FR\_9 | The system shall allow users to filter and search for cars by brand, price, fuel type, and availability | Improves user experience by making it easier to find the desired vehicle quickly. | **2** | 27/03/2025 | Gregori Haxhia |
| FR\_10 | The system shall allow users to book a car for a specific period | A fundamental feature that enables customers to reserve cars for their needs. | **1** | 27/03/2025 | Adrian Malka |
| FR\_11 | The system shall allow users to cancel a booking before the start date | Provides flexibility to users in case their plans change. | **2** | 27/03/2025 | Adrian Malka |
| FR\_12 | The system shall prevent double looking of the same car for overlapping time periods | Ensures that no two users can reserve the same car simultaneously, avoiding conflicts. | **1** | 27/03/2025 | Adrian Malka |
| FR\_13 | The system shall allow admins to approve or reject bookings | Admins can verify user eligibility and control car allocation efficiently. | **1** | 27/03/2025 | Adrian Malka |
| FR\_14 | The system shall allow users to view their booking history | Helps user keep track of past and upcoming reservation. | **2** | 27/03/2025 | Adrian Malka |
| FR\_15 | The system shall allow users to make payments online using credit card, PayPal, or cash on pickup | Offers multiple payment methods for convenience and accessibility. | **1** | 27/03/2025 | Kristaq Mehilli |
| FR\_16 | The system shall generate an invoice for each completed booking | Provides users with a formal record of their transaction for reference. | **2** | 27/03/2025 | Kristaq Mehilli |
| FR\_17 | The system shall send payment confirmation via email | Confirms successful transactions, improving user trust and communication. | **2** | 27/03/2025 | Kristaq Mehilli |
| FR\_18 | The system shall support discount codes for promotional offers | Encourages customer engagement and incentivizes bookings through discounts. | **3** | 27/03/2025 | Kristaq Mehilli |
| FR\_19 | The system shall allow users to submit reviews and ratings for rented cars | Enhances transparency and helps future users make informed decisions. | **2** | 27/03/2025 | Franceska Keci |
| FR\_20 | The system shall allow users to view car reviews and ratings before booking | Builds trust by providing feedback from previous renters. | **2** | 27/03/2025 | Franceska Keci |
| FR\_21 | The system shall allow admins to remove inappropriate reviews | Prevents misuse of the review system by removing false or offensive content. | **2** | 27/03/2025 | Franceska Keci |
| FR\_22 | The system shall allow admins to schedule car maintenance | Ensures that vehicles remain in good condition and safe for customers. | **1** | 27/03/2025 | Helio Myrteza |
| FR\_23 | The system shall allow admins to update the maintenance status of a car | Prevents customers from booking cars that are under repair or servicing. | **1** | 27/03/2025 | Helio Myrteza |
| FR\_24 | The system shall prevent cars under maintenance from being booked | Avoids operational issues by ensuring unavailable cars do not appear in search results. | **1** | 27/03/2025 | Helio Myrteza |
| FR\_25 | The system shall log user activity for security and auditing purposes | Helps track suspicious activities and maintain a history of transaction for compliance. | **2** | 27/03/2025 | Kristi Hila |
| FR\_26 | The system shall restrict access to admin functionalities based on user roles | Ensures that only authorized personnel can perform administrative actions, enhancing security. | **1** | 27/03/2025 | Kristi Hila |

* 1. ***Non-Functional Requirements***
     1. ***Product Requirements***
        1. ***User interface Requirements***

The user interface for the web application should be compatible to any browser in order for the user to access it from Desktop or Mobile.

The system should provide a visually intuitive interface that allows customers to easily navigate between car listing, bookings, and payment options.

Performance & reliability: the interface must be responsive within 2 seconds, ensuring smooth user interactions.

Usability: The UI should be optimized for both mobile and desktop devices, with a clean layout and simple navigation menus, to enhance user engagement.

Security: The UI should display clear security indicators

**+ Login Interface**

Allows users (customers, admins, managers) to securily login to the system

 **Username/Email & Password Input Fields** – Users must enter credentials.

 **Remember Me Checkbox** – Allows users to stay logged in on trusted devices.

 **Forgot Password Link** – Redirects to a **password reset page**.

 **Login Button** – Validates user input and logs in if credentials are correct.

 **Error Messages** – Displays if the username or password is incorrect.

 **Multi-Factor Authentication (Optional)** – Sends a verification code for enhanced security.

**+ User Dashboard**

Provides a personalized interface where users can browse cars, make bookings, and manage their accounts.

 **Welcome Message & Profile Overview** – Displays user’s name and profile picture.

 **Search & Filter Cars** – Users can search cars based on:

* **Brand, Price, Fuel Type, Transmission (Automatic/Manual), Location, Availability.**

 **View Available Cars** – A **grid or list view** of cars with images, descriptions, rental price, and availability status.

 **Book a Car** – Select a car, choose **pickup & return dates**, confirm the booking.

 **View Booking History** – Displays past and current reservations.

 **Cancel Booking** – Option to cancel a booking before the start date.

 **Payment Section** – Allows **credit card, PayPal, or cash on pickup** payments.

 **Leave a Review** – Users can rate their rented car and provide feedback.

**+ Admin Dashboard**

Allows administrators to manage users, cars, bookings, and monitor system activity.

 **User Management**

* View, create, update, and delete user accounts.
* Reset passwords for users if needed.
* Assign roles (Admin, Manager, Customer).
* View **user activity logs** for security monitoring.

 **Car Management**

* Add, update, and remove cars from the system.
* Change car availability status (e.g., **Available, Booked, Under Maintenance**).
* Upload car images and descriptions.

 **Booking Management**

* View all car bookings with details (customer name, car rented, duration).
* Approve or reject booking requests.
* Cancel fraudulent or problematic bookings.

 **System Reports & Logs**

* View system performance analytics.
* Monitor booking trends and popular rental choices.
* Generate **revenue reports, user activity logs, and security logs**.

+ **Manager Dashboard**

Rental managers oversee bookings, car maintenance schedules, and payments.

 **Monitor Booking Requests** – Approve or decline bookings based on availability.

 **Car Maintenance Scheduling** – Mark cars **as unavailable** if they need servicing.

 **Payment Verification** – Ensure that online payments are completed.

 **Discount & Promotion Management** – Apply promo codes or seasonal discounts.

**+ Car listing &Booking Interface**

Allows users to browse, filter and select cars for rental

 **Car Gallery** – High-quality images of available cars.

 **Detailed Car Information** – Includes **brand, model, year, fuel type, price per day, and transmission type**.

 **Booking Form** – Users select:

* **Pickup Date & Location**
* **Return Date & Location**
* **Preferred Payment Method**

 **Instant Booking Confirmation** – If available, booking is confirmed immediately.

 **Price Calculation** – Calculates total price based on rental duration and any discounts applied.

**+ Payment Interface**

Allows users to complete securely for their bookings.

* **Choose Payment Method:**
  + **Credit/Debit Card**
  + **PayPal**
  + **Cash on Pickup**
* **Secure Payment Processing** – Encrypted transactions ensuring compliance with **PCI DSS standards**.
* **Invoice Generation** – Automatically generates an invoice for each completed booking.
* **Payment Confirmation Email** – Sent after a successful transaction.

+**Review & Rating Interface**

Allows users to rate and review the cars they have rented.

 **Star Rating System** – Users rate cars from **1 to 5 stars**.

 **Text Review Box** – Users can write detailed feedback.

 **Review Moderation** – Admins can **remove inappropriate reviews**.

* + - 1. ***Usability***

Users should be able to perform core actions (registration, car booking, payment) within 3-5 steps.

Help tooltips and input validation will assist users throughout the system.

The system should be user-friendly even for users with minimal technical knowledge.

* + - 1. ***Efficiency***
         1. **Performance Requirements**

Search and filter responses must be returned within 2 seconds

The system must support up to 500 concurrent users without performance degradation

Page load time should not exceed 3 seconds under normal network conditions.

* + - * 1. **Space requirements**

Each user profile and booking should not exceed 500KB in the database

The database should efficiently store car data, images, invoices, and logs without exceeding hosting limits.

* + - 1. ***Dependability***

The system should maintain 99.5% uptime

Automatic data backups must be performed daily

In case of failures, recovery mechanisms must restore the system within 10 minutes

* + - 1. ***Security***

Passwords shall be hashed using modern encryption algorithms

Session must expire after 15 minutes of inactivity

The system must validate all inputs to prevent SQL injection and XSS attacks

Role-based access control will ensure only authorized users access specific functionalities.

* + 1. ***Organizational Requirements***
       1. ***Environmental Requirements***

The system will be hosted on a secure cloud infrastructure ensuring environmental stability and scalability

* + - 1. ***Operational Requirements***

The system should be operable on Windows, macOS, Android, and iOS through modern browsers

Admins should receive email alerts for system downtime, booking conflicts, or suspicious activity

* + - 1. ***Development Requirements***

The system will be developed using C#, ASP.NET Core for backend, and JavaScript/HTML/CSS for frontend.

Developers should follow agile methodologies to ensure iterative delivery and updates

* + 1. ***External Requirements***
       1. ***Regulatory Requirements***

The system must comply with data protection laws such as GDPR

User consent must be obtained before collecting or storing personal data.

* + - 1. ***Ethical requirements***

User data shall not be shared with third parties without consent

The system should promote transparency by informing users of all terms and conditions clearly.

* + - 1. ***Legislative Requirements***
         1. **Accounting Requirements**

The system must automatically generate valid invoices containing tax, booking details, and total amount

All transactions must be logged and stored for audit purposes

* + - * 1. **Security Requirements**

All communications between client and server must use HTTPS.

Authentication must use secure login flows.

* 1. ***Domain requirements***

The system must allow both regular users and admins to interact based on role-specific permissions

Cars must be categorized by availability, brand, fuel type, and pricing

Bookings must respect business rules

Cancellations must comply with predefined policies

Integration with payment providers is required