# Abstract

Traditional car rental processes require customers to visit multiple agencies or make numerous calls to check vehicle availability, making the process inefficient and time-consuming. Even after significant effort, customers may not find the desired vehicle, leading to frustration. Similarly, rental agencies relying on paper-based record-keeping face challenges in tracking customer details, vehicle availability, and maintenance history.

The proposed **Car Rental Management System (CRMS)** web-based platform that streamlines operations with real-time vehicle availability, online reservations, and automated customer management. Customers can browse available vehicles, view promotions, book rentals, manage accounts, and submit feedback. On the other hand, rental agencies benefit from **centralized data storage**, **secure customer record management**, and **efficient vehicle tracking**.

By **digitizing and automating** these processes, the CRMS enhances operational efficiency, improves customer satisfaction, and reduces administrative overhead, making car rentals more accessible and manageable for businesses in Palestine.

# Purpose

The purpose of this document is to provide a comprehensive description of the **Car Rental Management System (CRMS)**. It outlines the system’s objectives, features, technical interfaces, operational constraints under which it must operate, reaction to external stimuli, and responses to user interactions. This document serves as a reference for stakeholders, including developers, testers, and business owners, to ensure the system meets the specified requirements and objectives.

# Document Convention

**1.2.1 Text Styles**

| **Style** | **Usage** | **Example** |
| --- | --- | --- |
| **Bold** | Mandatory requirements, key terms. | **real-time fleet availability** |
| *Italics* | examples, technical terms, or emphasis. | *(e.g., insurance, registration*), *API* |

**1.2.2 Abbreviations**

| **Abbreviation** | **Meaning** |
| --- | --- |
| CRMS | Car Rental Management System |
| KYC | Know Your Customer (*ID verification*) |
| API | Application Programming Interface |

**1.2.3 Terminology**

* **Role-Based Access**: Privileged accounts (*e.g., Manager*) with restricted permissions.
* **Fleet**: Collection of vehicles owned by the rental agency

# Intended Audience and Reading Suggestions

This document is intended for stakeholders involved in the development, deployment, and use of the **Car Rental Management System (CRMS)**. The key audiences are:

1. **System Developers**
   * **Role**: Design, implement, and maintain the CRMS.
   * **Focus**: Technical specifications, API integration, and security protocols.
2. **Rental Agency Owners/Managers**
   * **Role**: Use the system to manage vehicles, customers, and financial workflows.
   * **Focus**: Business features (e.g., billing, reporting) and user roles.
3. **End Users (Customers)**
   * **Role**: Rent vehicles via the CRMS portal.
   * **Focus**: Booking workflows, account management, and feedback submission.
4. **IT Administrators**
   * **Role**: Ensure system security, data integrity, and compliance.
   * **Focus**: Access controls, encryption standards, and audit logs.
5. **PTUK Faculty**
   * **Role**: Evaluate academic compliance and SRS structure.
   * **Focus**: IEEE formatting, traceability, and project scope.

# Project Scope

This section defines the boundaries of the **Car Rental Management System (CRMS)**, including its core functionalities, technical limitations, and excluded features.

**In-Scope**

* **User Management:** Secure accounts (email/password), role-based access (Admin/Customer).
* **Vehicle Management:** Real-time availability, online booking.
* **Payment & Billing:** Automated cost calculation (daily/weekly rates).
* **Business Operations:** Maintenance/insurance tracking, basic reports.
* **Technical Scope:** Web-based (mobile-responsive).

**Out-of-Scope**

* Mobile apps.
* GPS tracking.
* third-party KYC tools.

**Constraints**

* Internet required.
* Budget limits.

**Assumptions**

* **User Literacy:** Customers and staff can navigate a web interface.
* **Legal Compliance:** Both Customers and agencies upload valid documentations
* **Manual Verification:** Agencies manually verify customers’ IDs and driver Licenses.

# References

[1] PTUK Software Engineering Course, “*Sw Eng Assignment - Part 1.pdf: Software Requirements Specification (SRS)*” 2025. [Online]. Available: https://lms.ptuk.edu.ps/mod/assign/view.php?id=633283

[2] IEEE Standards Association, “*IEEE Recommended Practice for Software Requirements Specifications*” IEEE Std 830-1998, 1998. [Online]. Available: https://standards.ieee.org/ieee/830/1222/