# 🚗 Car Dealership Inventory Tracker - Software Requirement Specification (SRS)

## 1. Introduction

### 1.1 Purpose

The Car Dealership Inventory Tracker is a Python-based desktop application designed to help dealerships efficiently manage their inventory, track sales, and maintain records of available and sold cars.

### 1.2 Scope

This system will allow users to:

* ✅ Add, remove, and update car details
* ✅ Mark cars as sold or available
* ✅ Search for specific cars
* ✅ Store and retrieve data using CSV files

### 1.3 Audience

🔹 Car Dealerships for inventory tracking  
🔹 Developers looking for a Python Tkinter project  
🔹 Beginners learning GUI application development

## 2. Functional Requirements

|  |  |  |
| --- | --- | --- |
| ID | Requirement | Priority |
| FR-01 | The system shall allow users to add a car with Make, Model, Year, and Price | High |
| FR-02 | The system shall allow users to remove a car from inventory | High |
| FR-03 | The system shall allow users to search for cars by criteria | High |
| FR-04 | The system shall allow users to mark cars as sold | Medium |
| FR-05 | The system shall store inventory data in a CSV file | High |
| FR-06 | The system shall provide a Graphical User Interface (GUI) | High |

## 3. Non-Functional Requirements

|  |  |  |
| --- | --- | --- |
| ID | Requirement | Priority |
| NFR-01 | The system shall have a user-friendly UI | High |
| NFR-02 | The system shall respond to user actions within 1 second | Medium |
| NFR-03 | The system shall be cross-platform (Windows/Linux) | Medium |
| NFR-04 | The system shall use CSV as a lightweight database | High |

## 4. System Design

4.1 Architecture

Frontend: Tkinter (GUI)  
Backend: Python (OOP principles)  
Storage: CSV file (inventory.csv)

## 5. Test Cases

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case | Input | Expected Output | Status |
| Add Car | Toyota, Camry, 2022, 20000 | Car is added to list | ✅ |
| Remove Car | Select 'Corolla' & Remove | Car removed from CSV | ✅ |
| Mark as Sold | Select 'BMW X5' & Sold | Status updates to 'Sold' | ✅ |
| Search by Make | Input 'Toyota' & Search | Only Toyota cars appear | ✅ |
| Invalid Input | Click 'Add Car' without fields | Error message appears | ✅ |

## 7. Future Improvements

🔹 Implement a database (SQLite/PostgreSQL) for better data management  
🔹 Add user authentication for secured access  
🔹 Export inventory reports as PDF/Excel