Software Requirements Specification

for

<Project>

Version <X.X>

Prepared by

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Contents

Revisions

Version	Primary Author(s)	Description of Version	Date Completed
Draft Type and Number	Full Name	Information about the revision. This table does not need to be filled in whenever a document is touched, only when the version is being upgraded.	00/00/00

1 Introduction

A website that stores information about Car Service, has features like Car Insurance and Car Resale.

1.1 Document Purpose

This document outlines the purpose and design of a simple website focused on car services. The website aims to provide a centralized platform for car owners and potential buyers to access various car-related services. It will feature three main sections: **Car Service**, **Car Insurance**, *and* **Car Resale**. *The* **Car Service** *section will offer information on car maintenance and repair tips. The* **Car Insurance** *section will provide details about different insurance policies and allow users to compare them. Lastly, the* **Car Resale** *section will enable users to list their cars for sale and browse available listings.*

The purpose of this website is to create a user-friendly and informative resource for car owners. It will serve as a one-stop-shop for learning about car maintenance, understanding insurance options, and buying or selling cars.

1.2 Product Scope

The scope of this car service website encompasses a comprehensive range of features designed to cater to the diverse needs of car owners and potential buyers. It includes sections for car maintenance tips, insurance policy comparisons, and a car resale marketplace. This platform aims to streamline car-related tasks by providing users with a centralized resource for managing their vehicles.

The benefits of using this website are multifaceted. For car owners, it provides a convenient way to stay on top of maintenance schedules and find the best insurance deals. For those looking to buy or sell cars, the resale section offers a straightforward way to list vehicles and connect with potential buyers or sellers.

1.3 Definitions, Acronyms and Abbreviations

List of abbreviations :-

- *API: Application Programming Interface*
- *HTML: HyperText Markup Language (used for structuring web content)*
- *SRS: Software Requirements Specification (this document)*
- *UI: User Interface (refers to the visual elements and interactions on the website)*
- *UX: User Experience (encompasses how users interact with and feel about the website)*

Glossary for Specific Terms :-
- *Car Insurance: Policies that provide financial protection against physical damage or bodily injury resulting from traffic collisions and against liability that could also arise from incidents in a vehicle.*
- *Car Resale: The process of selling a used vehicle.*

- **Car Service**: *Maintenance and repair services for vehicles.*

1.4 Document Conventions

In general this document follows the IEEE formatting requirements. Use Arial font size 11, or 12 throughout the document for text. Use italics for comments. Document text should be single spaced and maintain the 1" margins found in this template. For Section and Subsection titles please follow the template.

TO DO: Describe any standards or typographical conventions that were followed when writing this SRS, such as fonts or highlighting that have special significance. Sometimes, it is useful to divide this section to several sections, e.g., Formatting Conventions, Naming Conventions, etc.>

1.5 References and Acknowledgments

1. **Standards**: *Industry standards or guidelines for web development, such as accessibility standards (e.g., WCAG) or security protocols (e.g., HTTPS).*

    *WCAG Accessibility Guidelines***:** *https://www.w3.org/WAI/standards-guidelines/wcag/*
    *Web Development Standards***:** *https://www.w3.org/standards/*

2. **IEEE 830-1998**: *A standard for writing software requirements specifications, which could be referenced for guidance on structuring the SRS.*
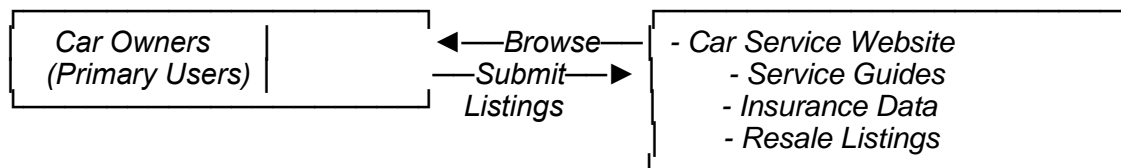
    EEE 830-1998: *https://standards.ieee.org/standard/830-1998.html*

2 Overall Description

2.1 Product Overview

*The car service website described in this SRS is a **new, self-contained product** designed to simplify car ownership by providing centralized access to maintenance resources, insurance comparisons, and vehicle resale tools.*

The product operates independently.
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┌──────────────────┐          ◄──Browse──┐  ┌──────────────────────┐
│  Car Owners      │          ──Submit──► │  - Car Service Website │
│  (Primary Users) │           Listings   │    - Service Guides    │
└──────────────────┘                      │    - Insurance Data    │
                                          │    - Resale Listings   │
                                          └──────────────────────┘
```

2.2 Product Functionality

1. ***Car Service Section***
2. ***Car Insurance Section***
3. ***Car Resale Section***
4. ***General Website Features*** *(easy navigation, clear content about car related features)*

2.3 Design and Implementation Constraints

1. ***Hardware Limitations****:*
   - *Minimum 8 GB RAM, 16 GB recommended.*
   - *Quad-core processor with at least 3 GHz speed.*
2. ***Interfaces to Other Applications****:*
   - *Potential future integrations with external databases or APIs.*
3. ***Specific Technologies, Tools, and Databases****:*
   - *HTML, CSS, JavaScript for frontend.*
   - *PHP or Python for backend.*
   - *MySQL or PostgreSQL for databases.*
4. ***Parallel Operations****:*

- *Support for concurrent user interactions without performance degradation.*

2.4 Assumptions and Dependencies

Assumptions :-
1. **User Behavior**: *Users will regularly visit for maintenance tips and insurance comparisons.*
2. **Technical Compatibility**: *The website will work well on most modern browsers and devices.*
3. **Server Performance**: *The hosting provider will offer reliable server capacity.*
4. **Content Availability**: *Necessary content will be readily available and updated.*
5. **Market Demand**: *There will be sufficient demand for car-related services.*

Dependencies :-
1. **External Dependencies**: *Insurance policy data, vehicle valuation APIs (if integrated).*
2. **Infrastructure Dependencies**: *Hosting services, security protocols (HTTPS).*
3. **Development Dependencies**: *Version control systems (Git), development tools (IDEs, code editors).*

3 Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

1. **Navigation Menu**: *A clear and accessible menu will allow users to switch between sections like Car Service, Car Insurance, and Car Resale.*
2. **Responsive Design**: *The website will be optimized for mobile and desktop devices, ensuring a seamless experience across different screen sizes.*
3. **Search Functionality**: *Users will be able to search for specific car models or insurance policies using a search bar.*
4. **Listing and Detail Pages**: *For car resale, users can view detailed listings with photos, descriptions, and contact information.*

3.1.2 Hardware Interfaces

1. **User Devices**: *Desktops, tablets, mobile devices with browsers for input/output.*
2. **Networking Hardware**: *Routers, modems for internet connectivity via HTTP/HTTPS.*
3. **Sensors/VCIs**: *Not applicable for this project, but could include OBD-II for vehicle diagnostics in future integrations.*

These interfaces focus on user interaction and network connectivity, as the website does not directly interact with vehicle hardware.

3.1.3 Software Interfaces

No direct connections to a mobile app that can send commands, as the project focuses on a web-based platform.

3.2 Functional Requirements

< Functional requirements capture the intended behavior of the system. This behavior may be expressed as services, tasks or functions the system is required to perform. This section is the direct continuation of section 2.2 where you have specified the general functional requirements. Here, you should list in detail the different product functions.

3.2.1 F1: Car Service Section :-

- **Maintenance Guides**: *Provide detailed guides on routine car maintenance tasks.*

- **Service Schedules**: *Allow users to view and manage their car service schedules.*

3.2.2 F2 : Car Insurance Section:

- **Policy Comparison**: *Enable users to compare different insurance policies based on coverage, cost, and provider.*
- **Policy Information**: *Display detailed information about each insurance policy, including terms and conditions.*

3.2.2 F3 : Car Resale Section:

- ***Vehicle Listings****: Enable users to list their cars for sale, including photos, descriptions, and pricing.*
- ***Search Functionality****: Implement a robust search feature that allows users to filter cars by make, model, year, price, etc.*

3.3 Use Case Model

TO DO: Provide a use case diagram that will encapsulate the entire system and all actors.

3.3.1 Use Case #1: List Vehicle for Sale (U1)

Author*: Vasanth, Suram Shiva.*

Purpose*: Allow users to list their vehicles for sale on the website, providing a platform for buyers and sellers to connect.*

Requirements Traceability: *Vehicle listing feature requirements.*

Priority*: High*

Preconditions*: The user must have access to the internet and a compatible device.*

Postconditions*: The user has successfully listed their vehicle for sale on the website.*

Actors*: Car Owner/User*

Extends*: None*

Flow of Events:

Basic Flow:

The user navigates to the vehicle listing section of the website.

The user fills out a form with vehicle details (e.g., make, model, year, price).

The user uploads photos of the vehicle.

Alternative Flow:

If the user needs help with the listing process, they can contact support via a contact form or phone number.

If the user wants to edit their listing, they can do so by contacting support.

Exceptions:

If the user's input is incomplete or invalid, they are prompted to correct it.

If the website detects suspicious activity (e.g., spam listings), the listing is flagged for review.

Includes*: None*

Notes/Issues*: Ensure that listings are moderated to prevent scams and that users can easily manage their listings. Consider integrating a feature for users to save favorite listings or receive notifications about new listings matching their search criteria.*

3.3.2

Use Case #2 :- *Compare Insurance Policies*

Author*: Srinivas, Suhrudh, Akhil.*

Purpose*: Allow users to compare different car insurance policies based on coverage, cost, and provider to make informed decisions.*

Requirements Traceability*: Insurance comparison feature requirements.*

Priority*: High*

Preconditions*: The user must have access to the internet and a compatible device, and vehicle(optional).*

Postconditions*: The user has successfully compared insurance policies and can view detailed information about each policy.*

Actors*: Car Owner/User*

Extends*: None*

Flow of Events*:*
1. ***Basic Flow****:*
   - *The user navigates to the insurance comparison section of the website.*
   - *The user inputs their vehicle details and preferred coverage options.*
   - *The website displays a comparison table or chart showing different policies with their features and costs.*
2. ***Alternative Flow****:*
   - *If the user needs more detailed information about a policy, they can click on it to view full policy details.*
   - *If the user wants to get a personalized quote, they can submit a request form.*
3. ***Exceptions****:*
   - *If the user's input is incomplete or invalid, they are prompted to correct it.*
   - *If the website is unable to retrieve policy data, the user is shown an error message with instructions to try again later.*

Includes*: None*
Notes/Issues*: Ensure that policy data is updated regularly and that users can easily contact insurance providers for further inquiries. Consider integrating a feature to save comparison results for later reference.*

4 Other Non-functional Requirements

4.1 Performance Requirements

1. ***Page Load Time (P1)****: Load within* **3 seconds***.*
2. ***Time to First Byte (TTFB) (P2)****: Under* **200 ms***.*
3. ***Responsiveness (P3)****: Work seamlessly on* **mobile, tablet, and desktop** *devices.*
4. ***Bounce Rate (P4)****: Below* **30%***.*
5. ***Conversion Rate (P5)****: At least* **5%** *for key actions.*
6. ***Security and Uptime (P6)****:* **99.9% uptime** *with robust security measures.*

4.2 Safety and Security Requirements

1. ***Data Protection****: Ensure all data is transmitted securely using HTTPS.*
2. ***Privacy Policy****: Display a clear privacy policy explaining how user data is handled.*
3. ***Security Standards****: Follow general web security guidelines to prevent common vulnerabilities.*
4. ***Accurate Information****: Ensure all information provided is accurate to prevent misinformation.*

4.3 Software Quality Attributes

Here are some key quality attributes for the car service website in brief:
1. ***Reliability****: Ensure* **95%** *uptime over a month with minimal failures.*
2. ***Usability****: Users should find what they need within* **3 clicks***.*
3. ***Maintainability****: Allow developers to make changes within* **2 hours***.*
4. ***Portability****: Compatible with* **90%** *of common browsers and devices.*

5 Other Requirements

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Appendix A – Data Dictionary

<Data dictionary is used to track all the different variables, states and functional requirements that you described in your document. Make sure to include the complete list of all constants, state variables (and their possible states), inputs and outputs in a table. In the table, include the description of these items as well as all related operations and requirements.>

Appendix B - Group Log

<Please include here all the minutes from your group meetings, your group activities, and any other relevant information that will assist in determining the effort put forth to produce this document>