

Software Requirement specification

A software requirements specification (SRS) is a description of a software system to be developed. The software requirements specification lays out functional and non-functional requirements, and it may include a set of use cases that describe user interactions that the software must provide to the user for perfect interaction.

Software requirements specification establishes the basis for an agreement between customers and contractors or suppliers on how the software product should function (in a market-driven project, these roles may be played by the marketing and development divisions). Software requirements specification is a rigorous assessment of requirements before the more specific system design stages, and its goal is to reduce later redesign. It should also provide a realistic basis for estimating product costs, risks, and schedules.

Functional Requirements

- **Employee Management:**
 - User registration and management
 - Role-based access control
 - Performance evaluation
- **Customer Management:**
 - Customer registration with OCR integration for ID card scanning.
 - Appointment scheduling and reminder system
 - Test drive management
 - Purchase history tracking
 - Communication channels (email, SMS)
- **Car Management:**
 - Detailed car information including specifications, features, images, and videos.
 - Inventory tracking and management
 - Maintenance scheduling and service history
 - Sales analysis and reporting
- **Other Features:**
 - Dashboard for real-time data visualization
 - Reporting and analytics

Software Requirements

1. Relational Database Management System (RDBMS): MySQL

Designed to store structured data related to employees, customers, and cars, maintaining relationships between entities while ensuring data integrity, consistency, and security through support for ACID properties and efficient handling of complex queries.

2. NoSQL Database: MongoDB

Designed for storing unstructured and semi-structured data, including images, OCR-processed text, and customer feedback, offering flexibility in data schema and scalability for large datasets. It features a document-oriented structure using JSON-like documents, ensuring high performance, scalability, and support for flexible querying and indexing.

3. OCR Software: EasyOCR

Designed to extract text from images and documents, facilitating features like employee ID card scanning and customer registration. It is a lightweight and easily integrable solution for Python applications, offering support for multiple languages, text detection, and the ability to handle various image formats and document types.

4. Web Development Framework: Flask

Designed to create server-side logic and routes for web applications, handling user interactions, database connections, and API endpoints. It features a lightweight and flexible microframework that is easy to learn and use for small to medium-sized projects, providing good performance and scalability.

5. Frontend Framework: Tailwind CSS

Designed to style the user interface using utility classes for rapid development, ensuring a consistent and customizable look and feel. It features no pre-designed components, allowing complete control over the UI, and is highly customizable with a large collection of utility classes. Tailwind CSS promotes the development of clean and maintainable code.

Hardware Requirements

- **OCR Scanners:**
 - High-resolution document scanners with OCR capabilities
- **Reliable High-speed Ethernet:**
 - For reliable database connectivity with MongoDB at all times