Requirement Analysis
Technology Stack (Architecture & Stack)

Date	27 June 2025
Team ID	LTVIP2025TMID29772
Project Name	GARAGE MANAGEMENT SYSTEM

Technology Stack:

The technology stack for the Garage Management System is a set of Salesforce-based tools, frameworks, and configurations used to build, automate, secure, and manage all functionalities of the garage—such as customer management, service appointments, billing, and reporting—within a cloud environment.

This stack includes:

- **Salesforce Lightning Platform** as the core platform

- **Custom and standard objects** for data management

- **Apex classes and triggers** for custom logic

- **Lightning App Builder** for creating user interfaces

- **Flows and validation rules** for automation and data integrity

- **Profiles, roles, and sharing settings** for security

- **Reports and dashboards** for real-time analytics

- **Developer Console & Setup tools** for system configuration and deployment

Platform:

- **Salesforce Lightning Platform** – Core platform to build, run, and manage the entire application in the cloud.

Frontend (User Interface):

- **Lightning App Builder** – For building custom pages, tabs, and navigation without coding.
- **Lightning Experience UI** – Modern, responsive user interface for desktop and mobile users.
- **Visualforce (optional)** – For creating advanced or customized UI screens (if needed).

Backend (Business Logic):

- **Apex Classes** – Used for implementing custom logic like billing automation.
- **Apex Triggers** – Automatically execute logic before/after data changes.
- **Record-Triggered Flows** – Automate updates, notifications, and calculations without code.

Database Layer:

- **Standard & Custom Objects** – Store and manage data (e.g., Customer, Appointment, Service, Billing).
- **SOQL (Salesforce Object Query Language)** – Used to query data from Salesforce objects.

Automation:

- **Flows & Process Builder** – For automating service status updates, email alerts, and field updates.
- **Validation Rules** – Ensure data correctness (e.g., vehicle number format, rating limit).
- **Duplicate Rules** – Prevent duplicate customer entries.

Security:

- **Profiles & Roles** – Control access based on job role (Manager, Salesperson).
- **Sharing Settings** – Manage record-level access and visibility.

Reporting & Analytics:

- **Reports** – Generate service summaries, payment history, and feedback analysis.
- **Dashboards** – Visualize KPIs like rating trends, appointment volume, and revenue.

Communication:

- **Email Alerts (via Flow)** – Send automated thank-you or payment confirmation emails.

Development & Deployment Tools:

- **Salesforce Setup** – Configure the entire system (objects, fields, permissions, etc.).
- **Developer Console** – Write, test, and debug Apex code.
- **Data Loader** – Bulk data import/export.
- **Workbench** – Tool for querying and inspecting data.

Authentication & Access:

- **Salesforce User Login** – Role-based login with password policies and session timeout settings.

Summary:

The Garage Management System uses the **Salesforce Lightning Platform** as its core technology. It leverages **custom objects** for data storage, **Apex triggers** and **flows** for automation, **Lightning App Builder** for UI design, and **reports & dashboards** for analytics. Security is managed through **profiles, roles, and sharing settings**, while all logic and configuration are handled within Salesforce's no-code/low-code environment.