

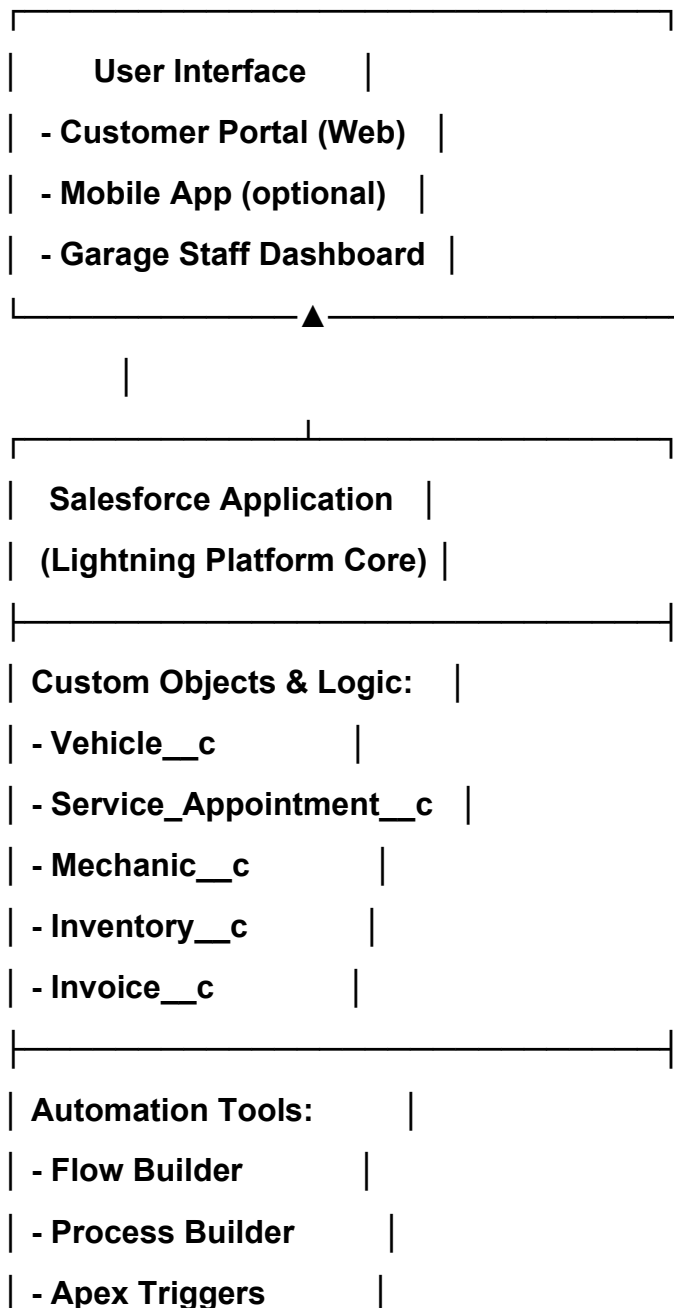
## Solution Architecture

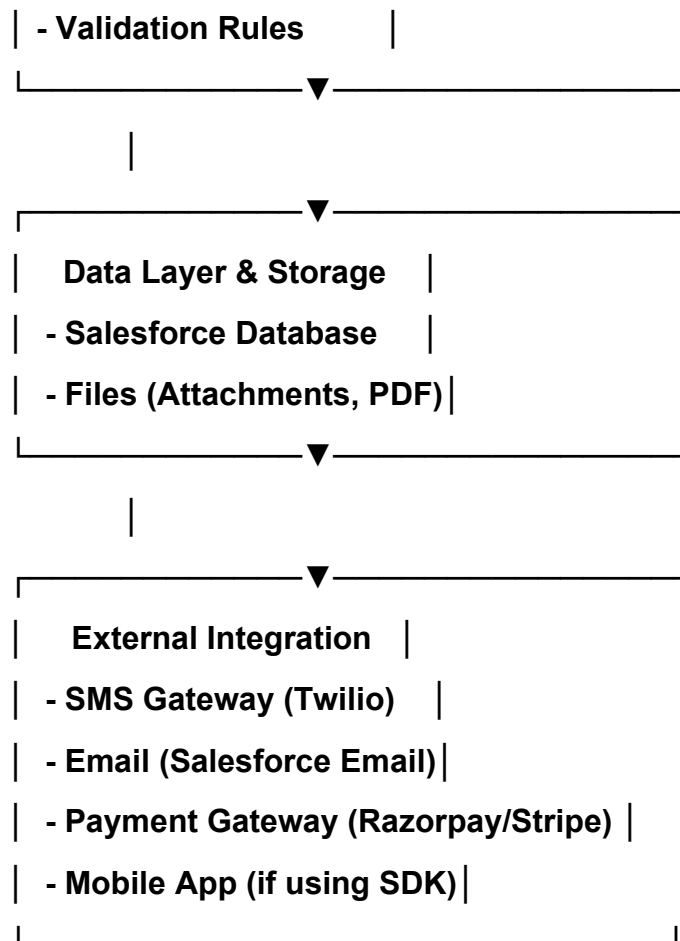
Date	24 JUNE 2025
Team ID	LTVIP2025TMID31275
Project Name	Garage Management System
Maximum Marks	4 Marks

### Solution Architecture – Garage Management System (GMS)

---

#### 1. Architecture Overview (Layered View)





---

## 2. Key Components Explained

### User Interface Layer

- **Experience Cloud Portal** – for customers to book services, view vehicle history, and download invoices
- **Lightning Dashboard (for staff)** – for managing bookings, mechanics, and service updates
- **Mobile App (optional)** – via Salesforce Mobile SDK or LWC embedded

### Business Logic Layer

- **Custom Objects for domain entities:** Vehicle\_\_c, Mechanic\_\_c, Service\_Appointment\_\_c, etc.
- **Automation Tools:**
  - **Flow Builder:** To automate booking, mechanic assignment
  - **Process Builder:** Notifications & email alerts
  - **Apex Triggers:** For complex business logic
  - **Validation Rules:** To ensure clean and complete data

### Data Layer

- All structured records stored in Salesforce's multi-tenant database
- PDF invoices and service reports saved as Files or Attachments

#### **Integration Layer**

- Email/SMS: Send status updates via Salesforce or external API (e.g., Twilio)
  - Payment Gateway: Optional integration for bill settlement
  - Calendar Integration: For mechanic shift planning (Google Calendar API)
- 

#### **3. Optional Extensions**

- Einstein Analytics: Predict service delays, forecast part usage
  - IoT Integration: Connect with smart vehicles to auto-create service cases
  - ERP/Inventory Sync: Real-time stock updates from warehouse systems
-