GARAGE MANAGEMENT SYSTEM

COLLEGE: KG college of Arts and Science

TEAM ID: NM2025TMID23776

TEAM SIZE: 4

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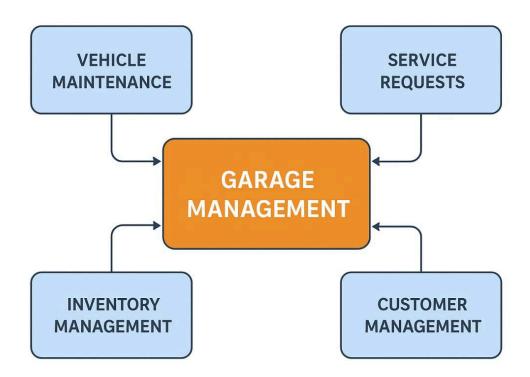
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1.INTRODUCTION

> Project Overview

Garage Management System is a Salesforce-based project that automates and simplifies vehicle garage operations. It manages customer details, vehicle records, service bookings, and billing efficiently. Using Salesforce tools like custom objects and flows, it improves service quality and reduces manual work.



> Purpose

- The objective of the project is to automate and streamline garage operations using Salesforce.
- It aims to manage customer, vehicle, and service data efficiently in one platform.
- It enhances customer satisfaction through faster and more organized processes.
- Overall, it demonstrates how Salesforce can support industry-specific business needs.

2. Requirement and analysis

> Functional Requirements:

- 1. User Login & Authentication
 - o Only authorized users (admin, staff) can access the system.

2. Customer & Vehicle Management

- Add, update, view, and delete customer and vehicle details.
- 3. Service Booking Module
 - Book service appointments, assign mechanics, and track service progress.

4. Inventory Management

Track availability of spare parts and update stock levels.

5. Billing & Invoicing

Generate service bills automatically and record payments.

6. Service History Tracking

Maintain records of past services for each customer/vehicle.

7. Admin Panel

 Admin can manage users, assign roles, and monitor system usage.

> Non-Functional Requirements:

1. Usability

 The system should be user-friendly with a simple and clean interface.

2. Performance

 The system should load pages and process service requests quickly.

3. Scalability

 Should support future enhancements like SMS reminders or mobile access.

4. Reliability

 The system must function correctly under normal and high load conditions.

5. **Security**

 Data should be protected through secure login, user roles, and Salesforce's built-in security features.

6. Accessibility

 Since it's cloud-based, the system should be accessible anytime, from any device with internet access.

3. Technical Requirements

1. Platform Requirements:

- Salesforce CRM Core platform used for development.
- Salesforce Lightning Experience For a modern, user-friendly interface.
- Salesforce Developer Edition Used for building and testing the application.

2. Tools and Technologies:

- **Custom Objects & Fields** For storing customer, vehicle, service, and inventory data.
- **Process Builder / Flows** To automate workflows like service booking and notifications.
- **Apex Code** For custom business logic (if needed).
- **Lightning App Builder** For designing custom pages and interfaces.
- Validation Rules To ensure data accuracy and consistency.

3. System Requirements (for access):

- Web Browser: Google Chrome, Mozilla Firefox, or Microsoft Edge (latest versions recommended)
- Internet Connection: Stable broadband or Wi-Fi for accessing the cloud platform
- Device: PC, Laptop, or Mobile with internet access (for cloud accessibility)

4. User Roles & Access Control:

- Admin: Full access to manage users, data, and settings
- Staff/User: Limited access to manage service bookings, billing, and customer data

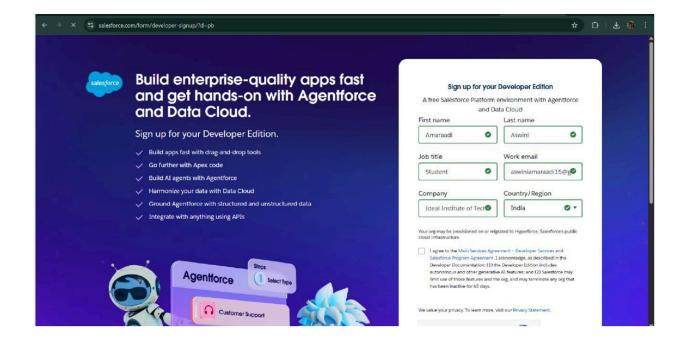
> Analysis summary

The project analyzes common problems in traditional garage operations like manual errors, poor tracking, and delayed billing. It identifies the need for a centralized, automated system to manage services, customers, and inventory efficiently. Salesforce is chosen for its cloud-based tools, automation features, and scalability. The solution improves accuracy, speeds up service delivery, and enhances customer satisfaction.

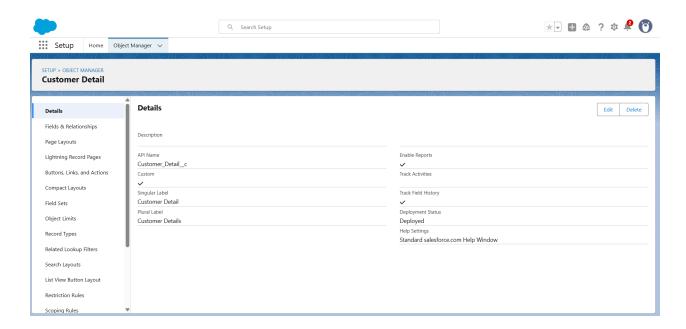
4.DEVELOPMENT PHASE

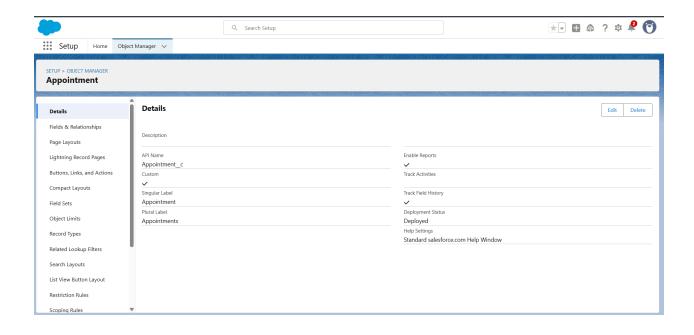
Creating Developer Account:

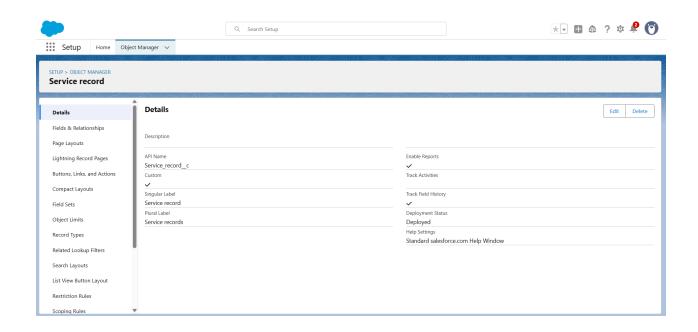
By using this URL - https://www.salesforce.com/form/developer-signup/?d=pb

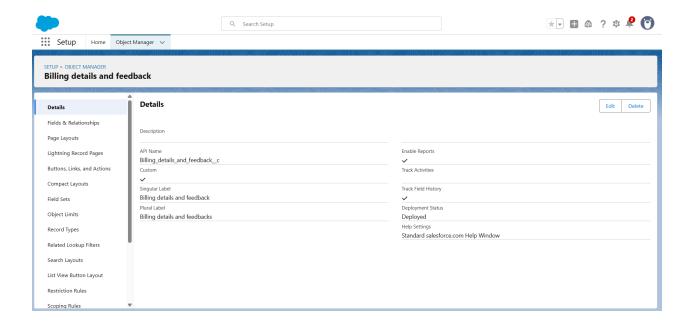


• Creation of objects: Customer details, Appointment, Service request, Billing and invoicing.

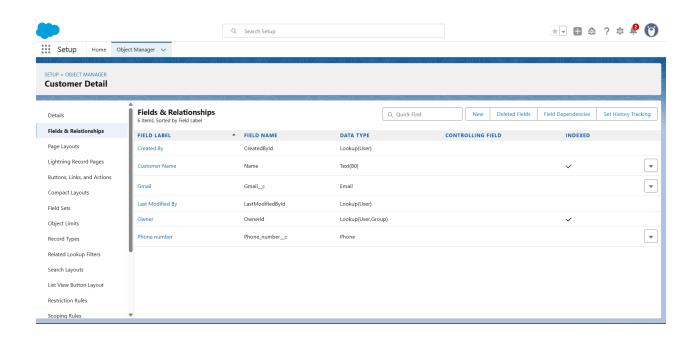


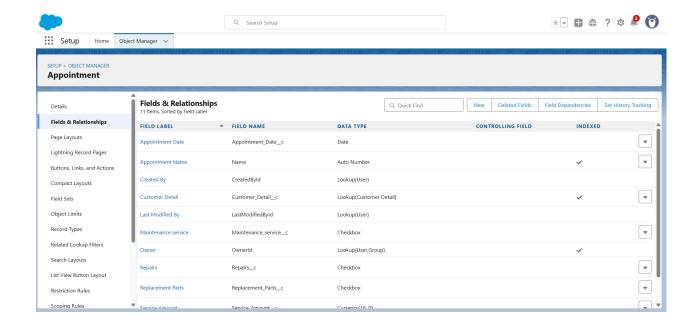


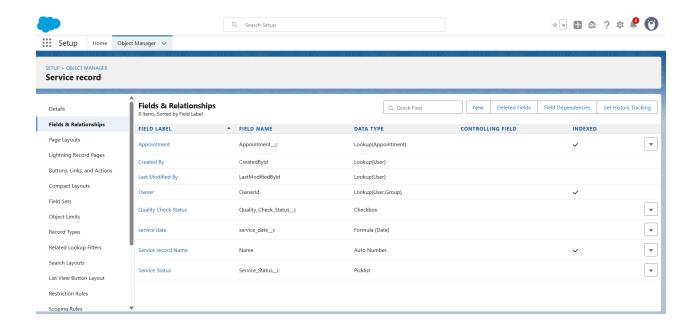


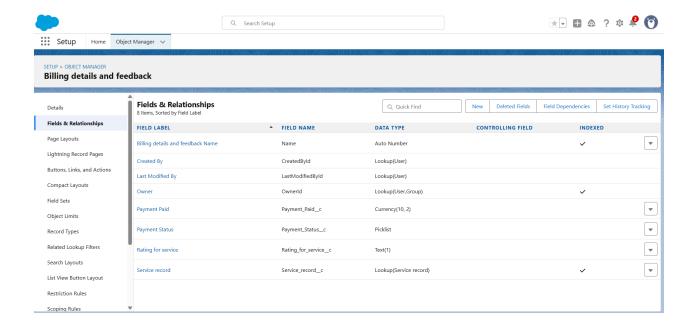


• Configured fields and relationships



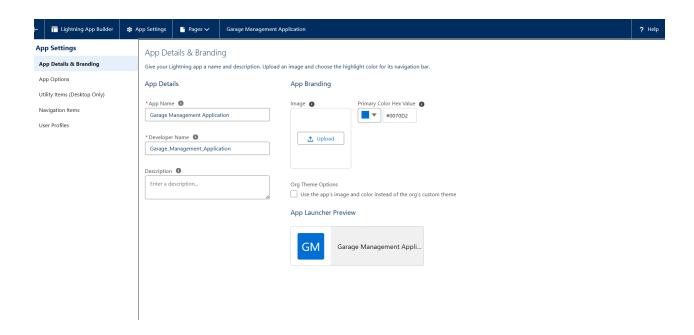




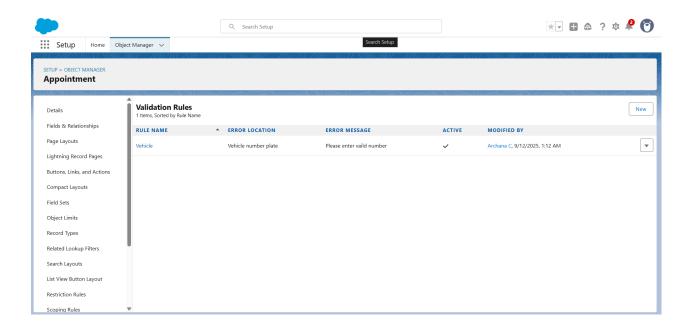


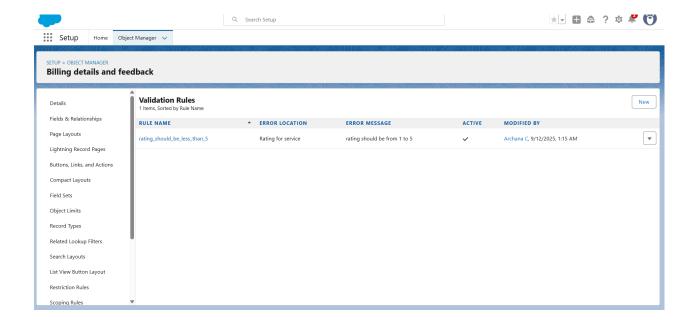
• Developed Lightning App with relevant tabs





• Implemented validation rules





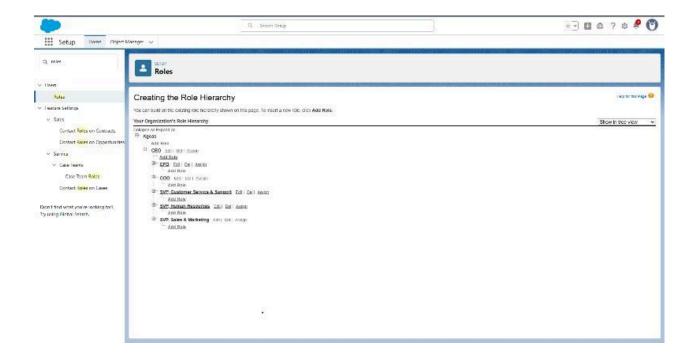
Creation of profiles



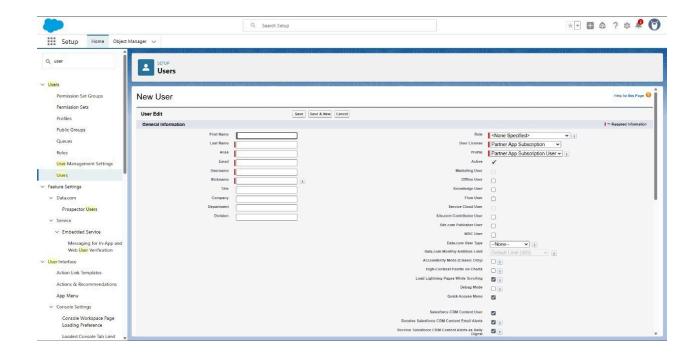




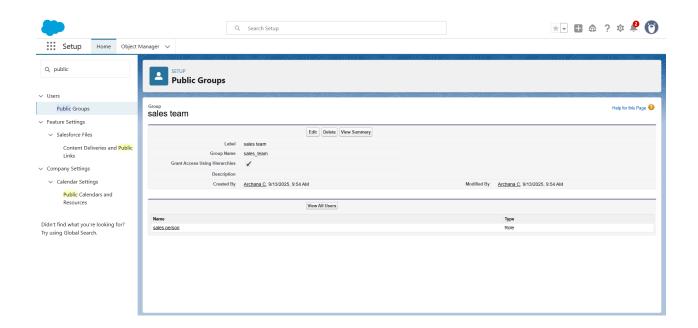
Creation of Roles



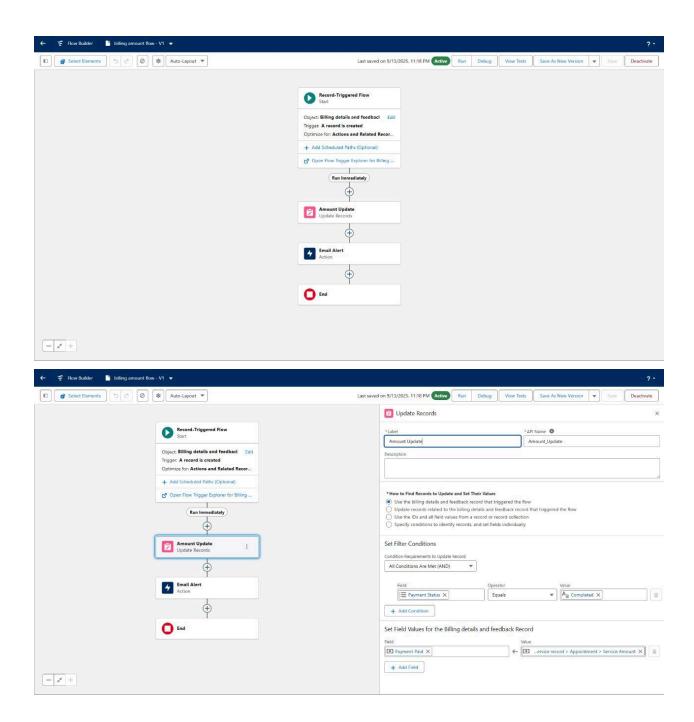
Creation of users

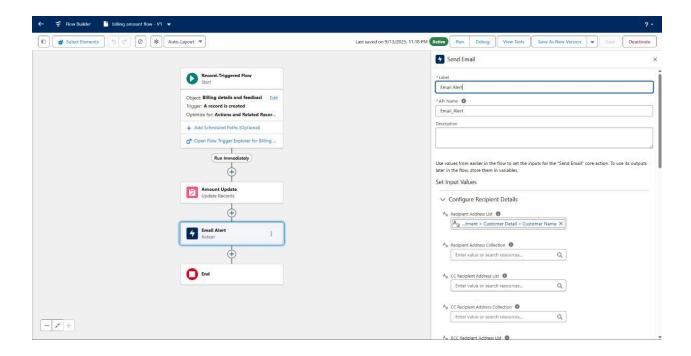


• Creation of public groups

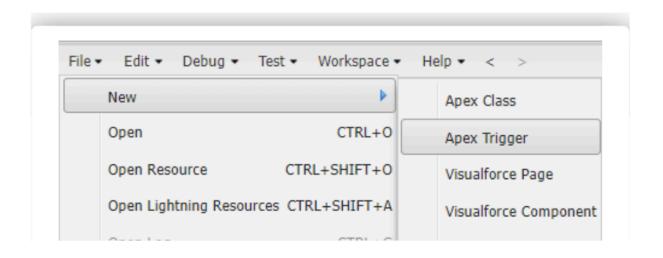


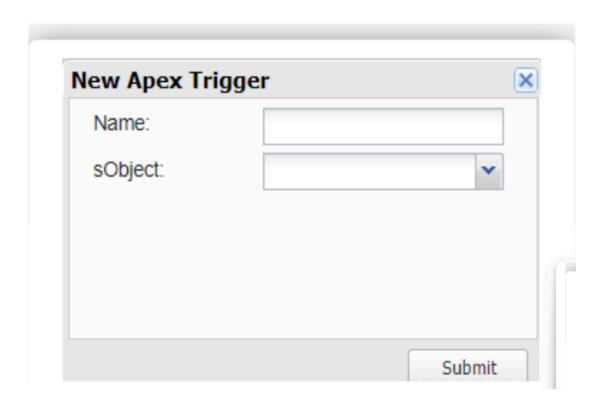
Creation of flows



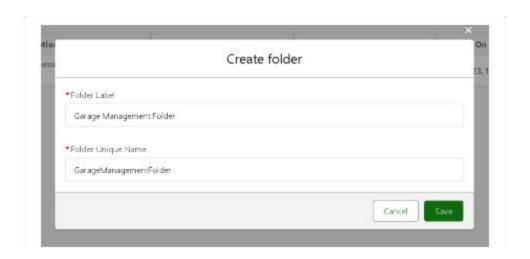


Creation of triggers

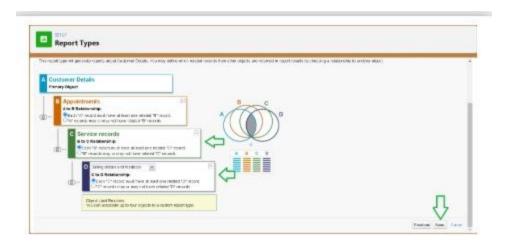


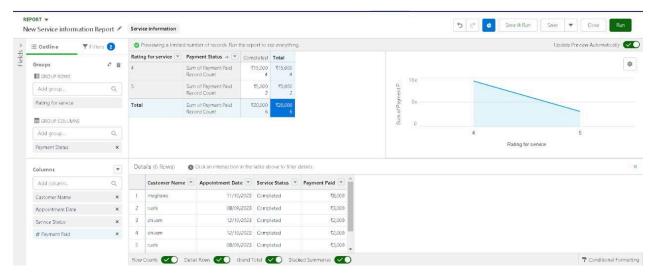


• Report generation







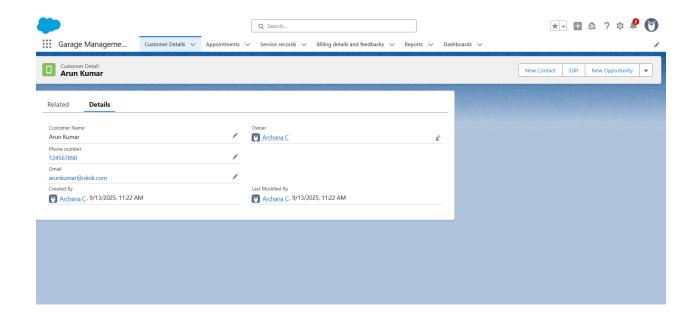


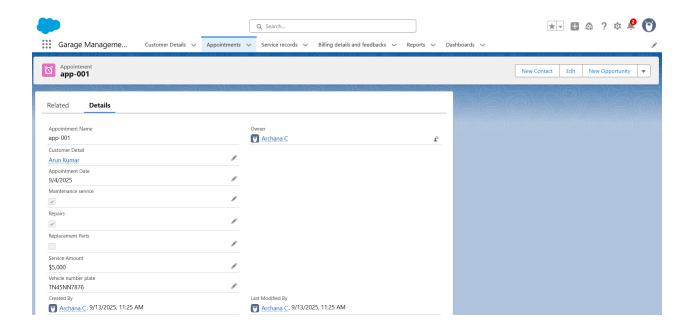
Creation of dashboard folder

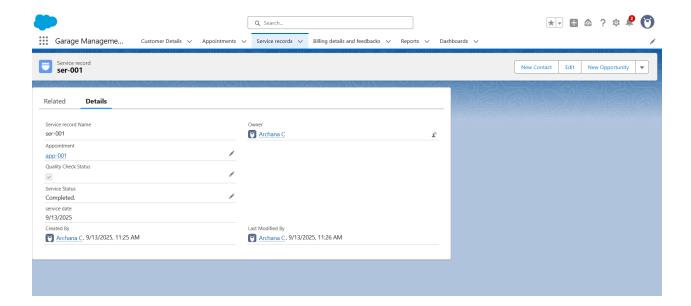
	Create folder	
*Folder Label		
Service Rating		
*Folder Unique Name		
ServiceRating		
		Cancel



• Creation of records

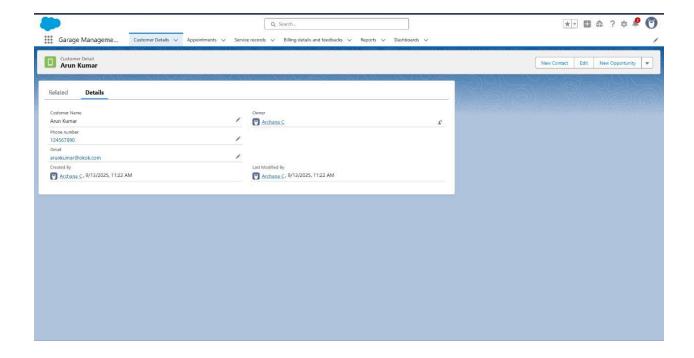


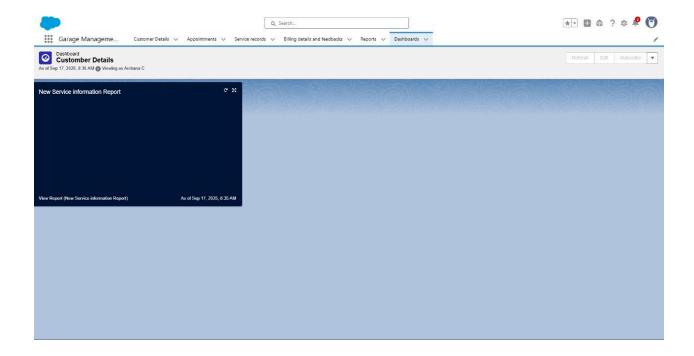




5.Result

Output screenshot





6.Advantages

- Automated Workflow: Reduces manual tasks by automating service bookings, billing, and record-keeping.
- Centralized Data: All customer, vehicle, and service details are stored and managed in one place.
- Improved Efficiency: Faster processing of services, better tracking, and reduced human errors.
- Real-Time Updates: Track service status, inventory, and appointments in real-time.
- Enhanced Customer Experience: Quick service, accurate billing, and timely notifications improve customer satisfaction.

7. Disadvantages

- High Initial Setup Cost: Salesforce licensing and customization can be expensive for small garages.
- Requires Technical Knowledge: Users may need training to use and manage the system effectively.
- Internet Dependency: Being cloud-based, the system needs a stable internet connection.
- Customization Time: Customizing the platform to meet specific needs can take time and expertise.
- Data Security Concerns: Although Salesforce is secure, sensitive customer and vehicle data must be protected properly.

8. Conclusion

The Garage Management System simplifies and automates garage operations using Salesforce.

It improves efficiency, reduces manual work, and enhances customer service. Despite minor challenges, it offers a scalable and smart solution for modern garages.

9.Appendix

```
public class AmountDistributionHandler {
   public static void amountDist(list<Appointment__c> listApp) {
      list<Service records c> serList = new list<Service records c>();
```

```
for (Appointment__c app : listApp) {
       if (app.Maintenance service c == true && app.Repairsc == true &&
app.Replacement_Parts_c == true) {
         app.Service_Amount__c = 10000;
       } else if (app.Maintenance service c == true && app.Repairs c ==
true) {
         app.Service_Amount__c = 5000;
       } else if (app.Maintenance service c == true &&
app.Replacement Parts c == true) {
         app. Service Amount c = 8000;
       } else if (app.Repairs_c == true && app.Replacement_Parts_c == true)
{
         app. Service Amount c = 7000;
       } else if (app.Maintenance_service__c == true) {
         app.Service_Amount c = 2000;
       } else if (app.Repairs c == true) {
         app.Service_Amount__c = 3000;
       } else if (app.Replacement Parts c == true) {
         app. Service Amount c = 5000;
       }
    }
trigger AmountDistribution on Appointment_c (before insert, before update) {
  if(trigger.isbefore && trigger.isinsert || trigger.isupdate){
    AmountDistributionHandler.amountDist(trigger.new);
  }
}
```