

Garage management system

College name: Pollachi college of arts and science

College code: bruaf

Team ID : NM2025TMID21293

Team members:

Team LeaderName: VISMAYA.M

Email: 23nmcsvismaya@gmail.com

Team member1: SREE BALAJI K S
Email:23nmcssreebalaji@gmail.com

Team member2: SOUNDHARYA V
Email:23nmcssoundharya@gmail.com

Team member3 : DURGADEVI R
Email: 23nmcsdurgadevi@gmail.com

Team member4 : SARANYA N
Email: 23nmcssaranya@gmail.com

Garage Management System

1. Project Overview

This project focuses on the development of a "Garage Management System" using Salesforce. The solution addresses the challenges of organizing, managing, and streamlining operations in a garage or auto service center. The goal is to deliver a unified system that enhances operational efficiency, improves customer satisfaction, and provides real-time data-driven insights for decision-making.

Through this project, the aim is to:

- Centralize vehicle service records.
- Streamline booking and service processes.
- Enable efficient inventory and workforce management.
- Provide an improved customer interaction and feedback system.

2. Objectives

Business Goals:

1. Improve the efficiency of garage operations by at least 30%.
2. Increase customer retention by offering better service and engagement.
3. Reduce errors in inventory and billing through automation.

Specific Outcomes:

- A user-friendly booking portal integrated into Salesforce.
- Real-time service tracking and updates for customers.
- Inventory management tools for parts and supplies.
- Dashboards for operational and financial reporting.

3. Salesforce Key Features and Concepts Utilized

1. Salesforce Objects

- Custom objects for Vehicles, Services, and Inventory.
- Standard objects for Accounts, Contacts, and Cases to manage customer data.

2. Process Automation

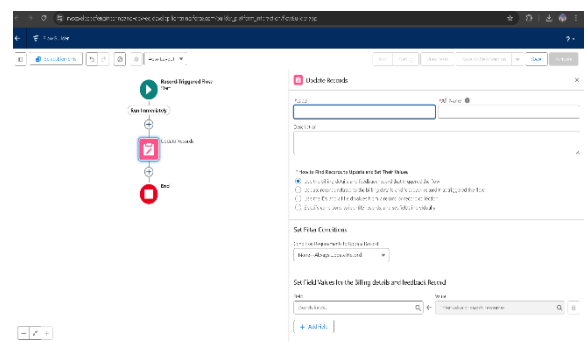
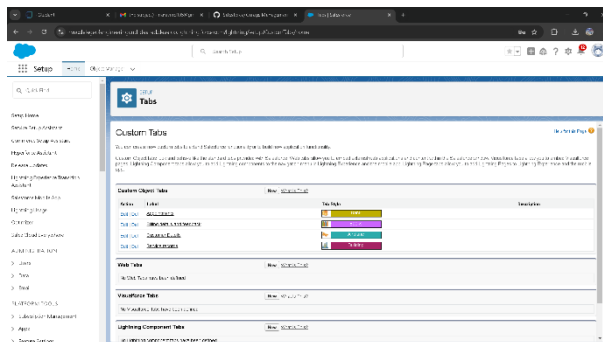
- Flows for service booking and approval processes.
- Workflow Rules and Apex Triggers for inventory updates.

3. Customer Engagement Tools

- Communities to enable customer self-service for booking and tracking.
- Email and SMS integrations for notifications.

4. Reporting and Analytics

- Dashboards for service analytics, inventory tracking, and financial reporting.



4. Detailed Steps to Solution Design

1. Data Model Design:

- Custom objects: Vehicles, Service History, Inventory.
- Relationships between objects: A Vehicle can have multiple service records linked to a Contact or Account.

2. User Interface:

- Lightning App for Garage Management with custom pages for booking, service history, and inventory.
- Mobile app design for technicians to update statuses on the go.

3. Business Logic:

- Automations for customer reminders, inventory updates, and service approvals.
- Validation rules to ensure data accuracy (e.g., service date must be in the future).

5. Testing and Validation

• Unit Testing:

- Apex Classes and Triggers tested with >90% code coverage.
- **User Interface Testing:**
 - Validated UI components across desktop and mobile platforms.
 - Tested workflows for booking, inventory updates, and reporting.
- **Integration Testing:**
 - Validated integrations with external systems like payment gateways and SMS services.

```

1 // Trigger: Appointment__c (before insert, before update)
2
3
4
5 // Trigger: Appointment__c (before insert, before update)
6
7 // Trigger: Appointment__c (before insert, before update)
8
9
10
11
12
13
14
15
16

```

```

1 // Class: Appointment__c
2
3 // Class: Appointment__c
4
5 // Class: Appointment__c
6
7 // Class: Appointment__c
8
9 // Class: Appointment__c
10
11 // Class: Appointment__c
12
13 // Class: Appointment__c
14
15 // Class: Appointment__c
16
17 // Class: Appointment__c
18
19 // Class: Appointment__c
20
21 // Class: Appointment__c
22
23 // Class: Appointment__c
24
25 // Class: Appointment__c
26
27 // Class: Appointment__c
28
29 // Class: Appointment__c
30
31 // Class: Appointment__c
32
33 // Class: Appointment__c
34
35 // Class: Appointment__c
36
37 // Class: Appointment__c
38
39 // Class: Appointment__c
40
41 // Class: Appointment__c
42
43 // Class: Appointment__c
44
45 // Class: Appointment__c
46
47 // Class: Appointment__c
48
49 // Class: Appointment__c
50
51 // Class: Appointment__c
52
53 // Class: Appointment__c
54
55 // Class: Appointment__c
56
57 // Class: Appointment__c
58
59 // Class: Appointment__c
60
61 // Class: Appointment__c
62
63 // Class: Appointment__c
64
65 // Class: Appointment__c
66
67 // Class: Appointment__c
68
69 // Class: Appointment__c
70
71 // Class: Appointment__c
72
73 // Class: Appointment__c
74
75 // Class: Appointment__c
76
77 // Class: Appointment__c
78
79 // Class: Appointment__c
80
81 // Class: Appointment__c
82
83 // Class: Appointment__c
84
85 // Class: Appointment__c
86
87 // Class: Appointment__c
88
89 // Class: Appointment__c
90
91 // Class: Appointment__c
92
93 // Class: Appointment__c
94
95 // Class: Appointment__c
96
97 // Class: Appointment__c
98
99 // Class: Appointment__c
100

```

6. Key Scenarios Addressed by Salesforce in the Implementation Project

1. Customer Booking:

- Customers can book services online and receive automated reminders.

2. Inventory Management:

- Real-time updates to inventory upon part usage during services.

3. Service Tracking:

- Technicians can update service status, and customers receive live updates.

4. Feedback Collection:

- Customers can provide feedback directly linked to service records for continuous improvement.

7. Conclusion

The Garage Management System built on Salesforce enhances the operational efficiency of garages through process automation, improves customer experience with real-time updates, and provides actionable insights via dashboards and reports. This scalable and robust system aligns with modern business needs and can adapt to future demands.