

# **Garage Management system**

Project Title : Garage Management system

College : Kg College of arts and science

Team ID : NM2025TMID24024

Team Size : 4

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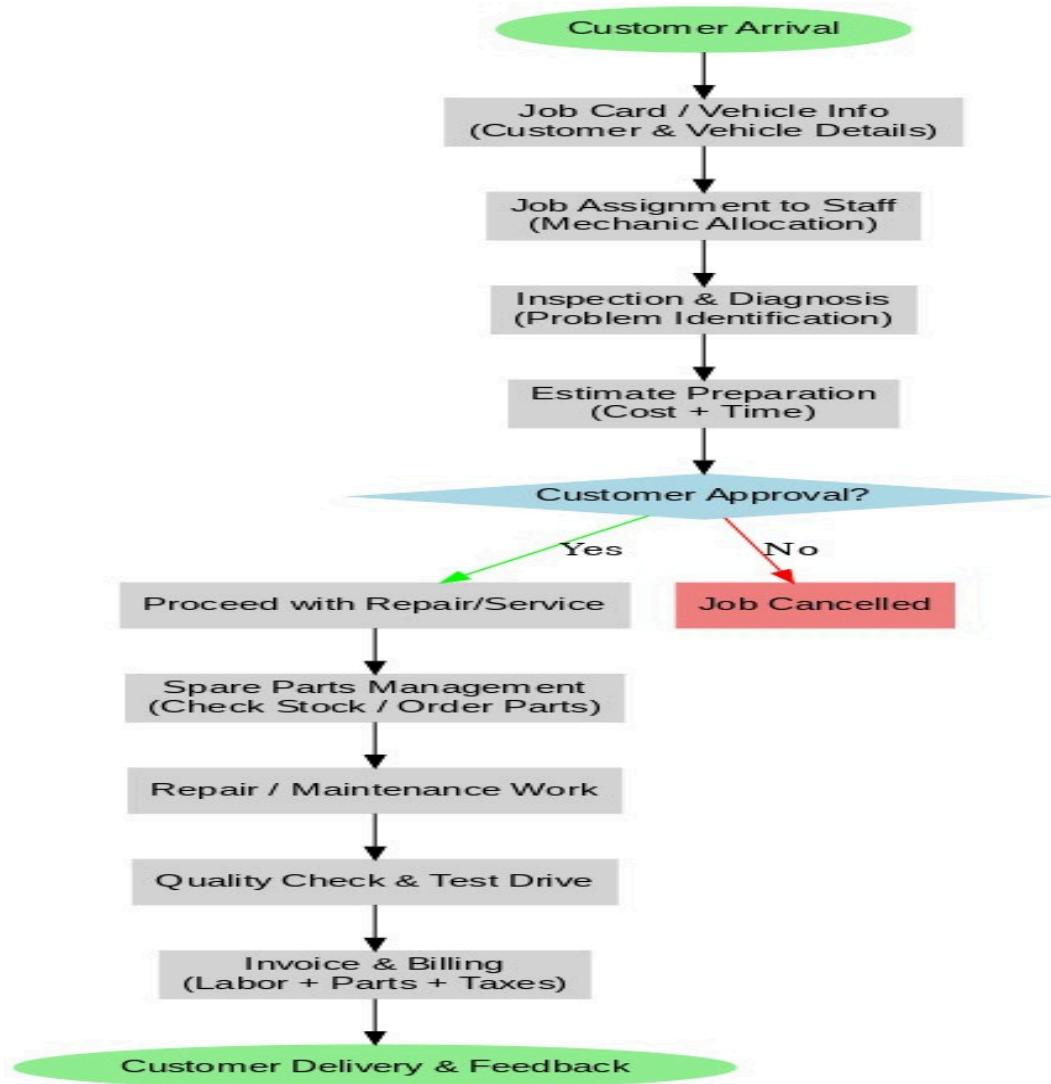
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# INTRODUCTION:

## 1.1 Project Overview

The Garage Management System is a valuable tool for automotive repair facilities, helping them deliver top-notch service, increase operational efficiency, and build lasting customer relationships. With its user-friendly interface and powerful features, GMS empowers garages to thrive in a competitive market while ensuring a seamless and satisfying experience for both customers and staff.

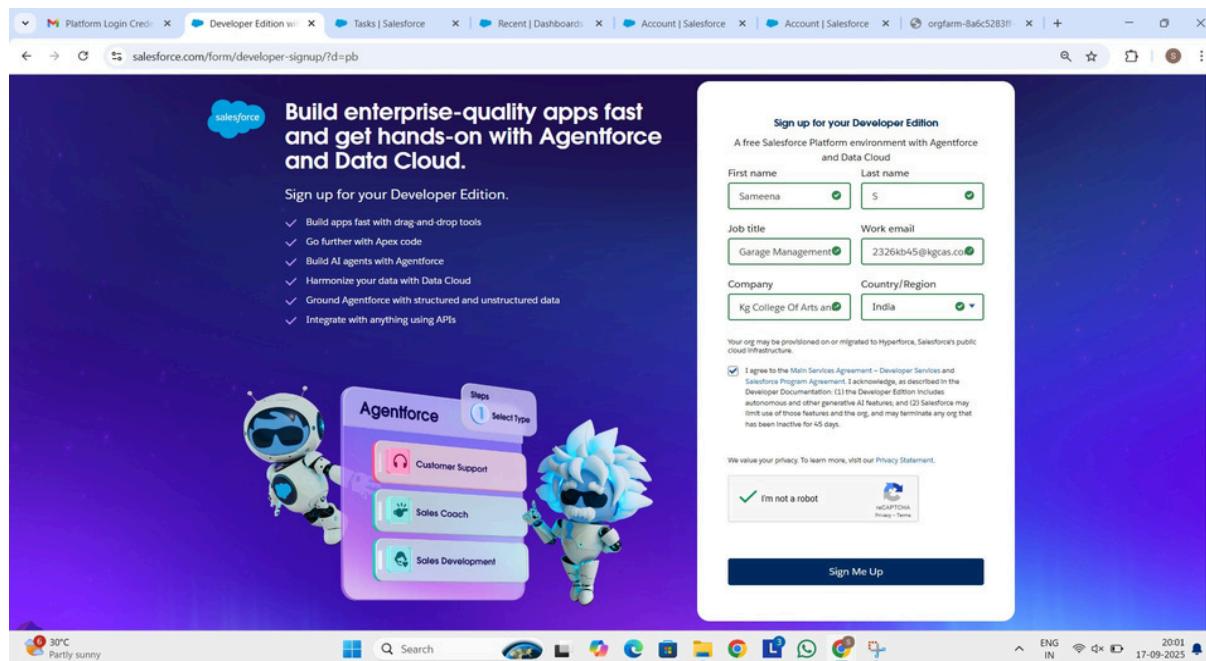


## 1. Purpose

The purpose of the Garage Management System is to streamline and automate the daily operations of automotive repair facilities. It provides a centralized platform for managing customer details, vehicle information, job assignments, repair workflows, spare parts inventory, billing, and customer feedback. By digitizing these processes, GMS enhances operational efficiency, reduces errors, ensures timely service delivery, and improves customer satisfaction. Ultimately, it empowers garages to deliver high-quality service, maintain better resource utilization, and thrive in a competitive automotive service industry.

## DEVELOPMENT PHASE

Creating Developer Account:  
By using this URL: <https://developer.salesforce.com/signup>



## Created objects:

The screenshot shows the Salesforce Object Manager page. On the left, there's a sidebar with a 'RECENT RECORDS' section containing 'Billing details and feedback'. Below it is a list of objects categorized by label: Account, Activity, Address, Agent Work, Alternative Payment Method, API Anomaly Event Store, Appointment, Appointment Category, Appointment Invitation, Appointment Invitee, Appointment Topic Time Slot, Approval Submission, Approval Submission Detail, Approval Work Item, and Asset. On the right, a main table lists these objects with columns for NAME, TYPE, DESCRIPTION, LAST MODIFIED, and DEPLOYED. The 'Billing details and feedback' object is highlighted in the table.

NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Billing details and feedback	Standard Object		9/13/2025	
Appointment	Standard Object			
Customer Details	Standard Object			
Customer Detail	Standard Object			
Address	Standard Object			
Agent Work	Standard Object			
Alternative Payment Method	Standard Object			
API Anomaly Event Store	Standard Object			
Appointment	Custom Object			
Appointment Category	Standard Object			
Appointment Invitation	Standard Object			
Appointment Invitee	Standard Object			
Appointment Topic Time Slot	Standard Object			
Approval Submission	Standard Object			
Approval Submission Detail	Standard Object			
Approval Work Item	Standard Object			
Asset	Standard Object			

## Billing details and feedback:

The screenshot shows the 'Billing details and feedback' object details page. On the left, a sidebar lists various configuration options: Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, Scoping Rules, and Object Access. The main panel displays the object's details under the 'Details' tab. It includes sections for Description, API Name (Billing\_details\_and\_feedback\_\_c), Singular Label (Billing details and feedback), Plural Label (Billing details and feedback), and several checkboxes for enabling reports, track activities, field history, deployment status, and help settings. At the bottom, a note points to the Standard salesforce.com Help Window.

## Service records :

The screenshot shows the Salesforce Setup interface under the Object Manager. The left sidebar lists various object configuration options like Fields & Relationships, Page Layouts, and Record Types. The main pane displays the 'Service records' object details. The 'Details' section includes fields for API Name (Service\_records\_\_c), Singular Label (Service records), and Plural Label (Service records). On the right, there are checkboxes for enabling Reports, Activities, and Field History, along with deployment status (Deployed) and help settings. The top navigation bar shows multiple tabs for different Salesforce components.

## Appointment :

The screenshot shows the Salesforce Setup interface under the Object Manager. The left sidebar lists various object configuration options. The main pane displays the 'Appointment' object details. The 'Details' section includes fields for API Name (Appointment\_\_c), Singular Label (Appointment), and Plural Label (Appointments). On the right, there are checkboxes for enabling Reports, Activities, and Field History, along with deployment status (Deployed) and help settings. The top navigation bar shows multiple tabs for different Salesforce components.

## Customer Details:

The screenshot shows the Salesforce Setup interface with the following details:

**Object Manager** - Customer Details

**Details** tab selected.

**Fields & Relationships** sidebar:

- Fields & Relationships
- Page Layouts
- Lightning Record Pages
- Buttons, Links, and Actions
- Compact Layouts
- Field Sets
- Object Limits
- Record Types
- Related Lookup Filters
- Search Layouts
- List View Button Layout
- Restriction Rules
- Scoping Rules
- Object Access

**Customer Details** object details:

Setting	Value
Description	
API Name	Customer_Details__c
Custom	✓
Singular Label	Customer Details
Plural Label	Customer Details
Enable Reports	✓
Track Activities	
Track Field History	✓
Deployment Status	Deployed
Help Setting	Standard salesforce.com Help Window

Bottom status bar: 30°C Partly sunny, Search, File, Home, etc., ENG IN, 21:23, 17-09-2025.

## Configured fields and relationship: Billing details and feedback:

The screenshot shows the Salesforce Setup interface with the following details:

**Object Manager** - Billing details and feedback

**Fields & Relationships** tab selected.

**Fields & Relationships** sidebar:

- Fields & Relationships
- Page Layouts
- Lightning Record Pages
- Buttons, Links, and Actions
- Compact Layouts
- Field Sets
- Object Limits
- Record Types
- Related Lookup Filters
- Search Layouts
- List View Button Layout
- Restriction Rules
- Scoping Rules
- Object Access
- Triggers

**Billing details and feedback** object fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Billing details and feedback Name	Name	Auto Number		✓
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Payment Paid	Payment_Paid__c	Currency(18, 0)		
Payment Status	Payment_Status__c	Picklist		
Rating for service	Rating_for_service__c	Text(1)		
Service records	Service_records__c	Lookup(Service records)		

Bottom status bar: 30°C Partly sunny, Search, File, Home, etc., ENG IN, 21:35, 17-09-2025.

## Service records:

SETUP > OBJECT MANAGER  
**Service records**

Details  
Fields & Relationships

Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Search Layouts  
List View Button Layout  
Restriction Rules  
Scoping Rules  
Object Access  
Triggers

**Fields & Relationships**  
8 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment	Appointment_c	Lookup(Appointment)		✓
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Quality Check Status	Quality_Check_Status__c	Checkbox		
service date	service_date_c	Formula (Date)		
Service records Name	Name	Auto Number		✓
Service Status	Service_Status__c	Picklist		

30°C Partly sunny 21:40 17-09-2025

## Appointment:

SETUP > OBJECT MANAGER  
**Appointment**

Details  
Fields & Relationships

Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Search Layouts  
List View Button Layout  
Restriction Rules  
Scoping Rules  
Object Access  
Triggers

**Fields & Relationships**  
11 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment Date	Appointment_Date_c	Date		
Appointment Name	Name	Auto Number		✓
Created By	CreatedById	Lookup(User)		
Customer Details	Customer_Details__c	Lookup(Customer Details)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Maintenance Service	Maintenance_service_c__c	Checkbox		
Owner	OwnerId	Lookup(User,Group)		✓
Repairs	Repairs_c	Checkbox		
Replacement Parts	Replacement_Parts_c	Checkbox		
Service Amount	Service_Amount_c	Currency(18, 0)		
Vehicle number plate	Vehicle_number_plate_c	Text(10) (Unique Case Insensitive)		✓

30°C Partly sunny 21:41 17-09-2025

## Customer Details :

The screenshot shows the Salesforce Setup interface under Object Manager. The left sidebar lists various setup categories like Page Layouts, Lightning Record Pages, and Field Sets. The main content area is titled "Customer Details" and displays a table of fields and relationships. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. Key entries include "Customer Name" (Name, Text(80)), "Gmail" (Gmail\_c, Email), "Last Modified By" (LastModifiedById, Lookup(User)), "Owner" (OwnerId, Lookup(User,Group)), and "Phone number" (Phone\_number\_c, Phone). A search bar at the top right allows for quick finding and deleting of fields.

## Developed Lightning App:

The screenshot shows the Salesforce Setup interface under App Manager. The left sidebar lists various app management categories like App Exchange Marketplace and Subscription Management. The main content area is titled "Lightning Experience App Manager" and displays a table of installed apps. The table has columns for App Name, Developer Name, Description, Last Modified Date, App Type, and Visible. Apps listed include Digital Experiences, Garage Management Application, Lightning Usage App, Marketing CRM Classic, My Service Journey, Platform, Queue Management, Sales, Sales Cloud Mobile, Sales Console, Salesforce Chatter, Salesforce Scheduler Setup, Service, Service Console, Site.com, and Subscription Management. The "Visible" column indicates which apps are currently active.

Screenshot of the Salesforce Setup interface showing the "New Lightning App" configuration screen.

**App Details & Branding**

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

**App Details**

- \*App Name: Name your app...
- \*Developer Name: Enter a developer name...
- Description: Enter a description...

**App Branding**

- Image:  Upload
- Primary Color Hex Value: #007002

**Org Theme Options**

Use the app's image and color instead of the org's custom theme

**App Launcher Preview**

Next

The sidebar on the left shows various setup categories like Quick Start, Home, Object Manager, etc. The bottom navigation bar includes links for Service Console, Site.com, and Subscription Management.

Screenshot of the Lightning App Builder interface showing the "Garage Management Application" configuration screen.

**App Settings**

**App Details & Branding**

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

**App Details**

- \*App Name: Garage Management Application
- \*Developer Name: Garage\_Management\_Application
- Description: Enter a description...

**App Branding**

- Image:  Upload
- Primary Color Hex Value: #007002

**Org Theme Options**

Use the app's image and color instead of the org's custom theme

**App Launcher Preview**

GM Garage Management Appli...

The top navigation bar shows various tabs like Platform Login, Tasks, Home, Lightning Usage, App Manager, Recent, Account, Home, and Salesforce. The bottom navigation bar includes links for Lightning App Builder, App Settings, Pages, and Help.

The screenshot shows the Lightning App Builder interface with the 'Garage Management Application' selected. The left sidebar has 'App Settings' expanded, with 'App Options' selected. The main content area shows the 'App Options' configuration screen. It includes sections for 'Navigation and Form Factor' (with 'Standard navigation' selected), 'Setup and Personalization' (with 'Setup (full set of Setup options)' selected), and 'App Personalization Settings' (with three checkboxes: 'Disable end user personalization of nav items in this app', 'Disable temporary tabs for items outside of this app', and 'Use Omni-Channel sidebar'). The status bar at the bottom shows it's 21:53 on 17-09-2025.

The screenshot shows the Lightning App Builder interface with the 'Garage Management Application' selected. The left sidebar has 'App Settings' expanded, with 'Utility Items (Desktop Only)' selected. The main content area shows the 'Utility Items (Desktop Only)' configuration screen. It includes a search bar, a utility bar alignment dropdown set to 'Default', and a list of standard utility items under 'Standard (24)'. The items listed are: Chatter Feed, Chatter Publisher, Connection Status, CRM Analytics Dashboard, Einstein Next Best Action, Flow, History, Invoice Preview, List View, and LWC CRM Analytics Dashboard. A note at the bottom states: 'To enable the utility bar for this app, add a utility item.' The status bar at the bottom shows it's 21:54 on 17-09-2025.

Screenshot of the Lightning App Builder interface showing the "Navigation Items" configuration screen.

The left sidebar shows the navigation menu with "Navigation Items" selected. The main area displays the "Navigation Items" configuration screen.

**Available Items:**

- Customer Details
- Appointments
- Service records
- Billing details and feedback
- Reports
- Dashboards

**Selected Items:**

- Customer Details
- Appointments
- Service records
- Billing details and feedback
- Reports
- Dashboards

At the bottom, there is a toolbar with icons for Save, Cancel, and Help, along with a status bar showing "22:00" and "17-09-2025".

Screenshot of the Lightning App Builder interface showing the "User Profiles" configuration screen.

The left sidebar shows the navigation menu with "User Profiles" selected. The main area displays the "User Profiles" configuration screen.

**Available Profiles:**

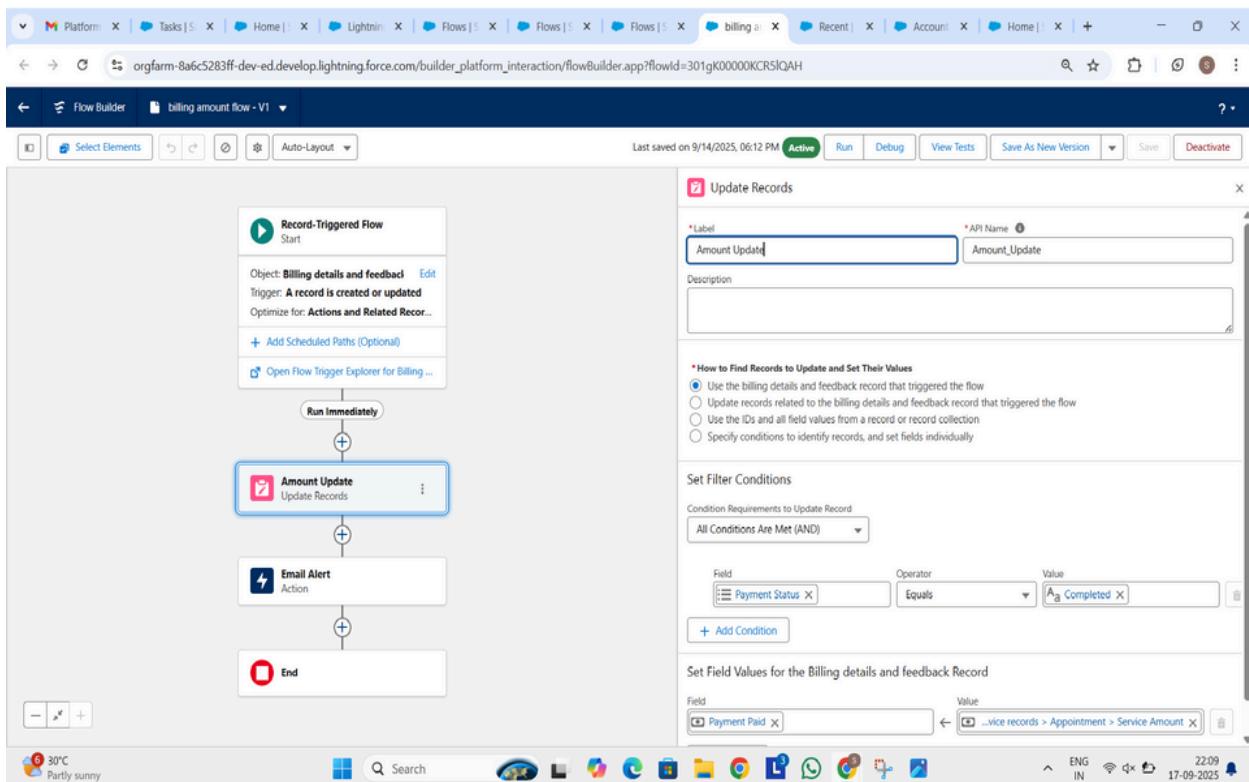
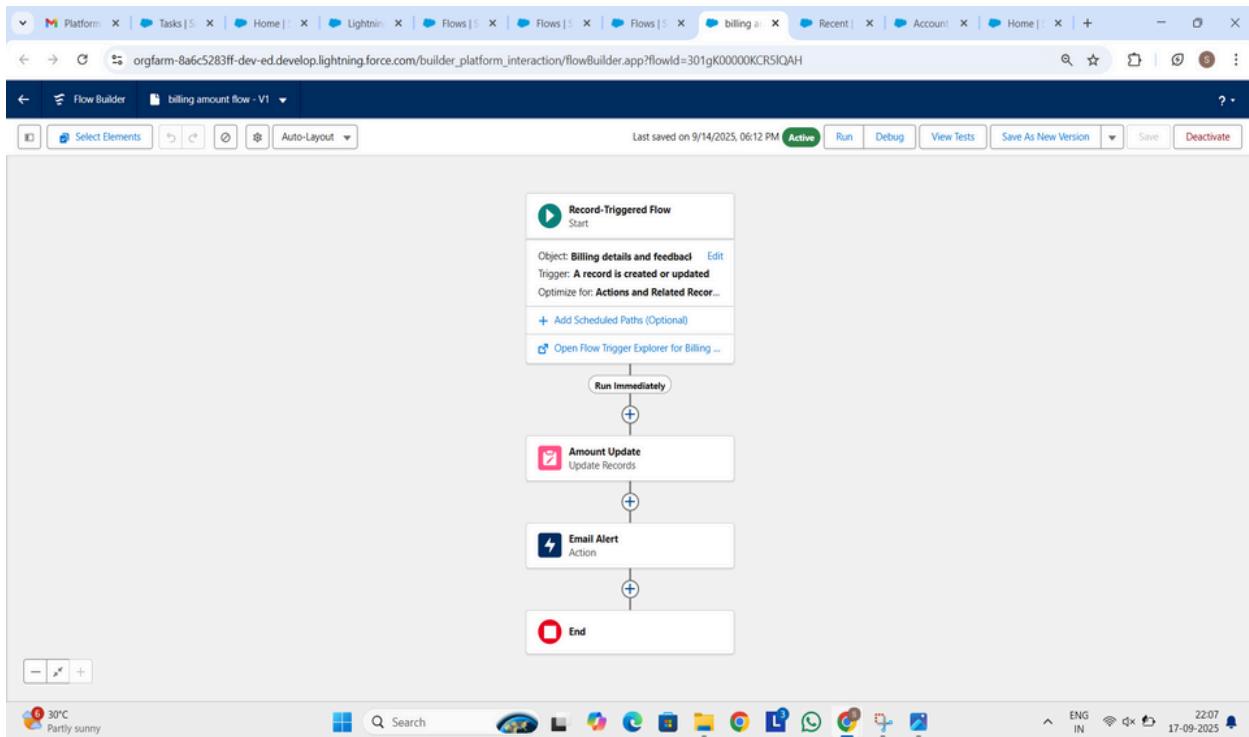
- Analytics Cloud Integration User
- Analytics Cloud Security User
- Anypoint Integration
- Authenticated Website
- Authenticated Website
- B2B Reordering Portal Buyer Profile
- Contract Manager
- Custom: Marketing Profile
- Custom: Sales Profile
- Custom: Support Profile
- Customer Community Login User
- Customer Community Plus Login User
- Customer Community Plus User

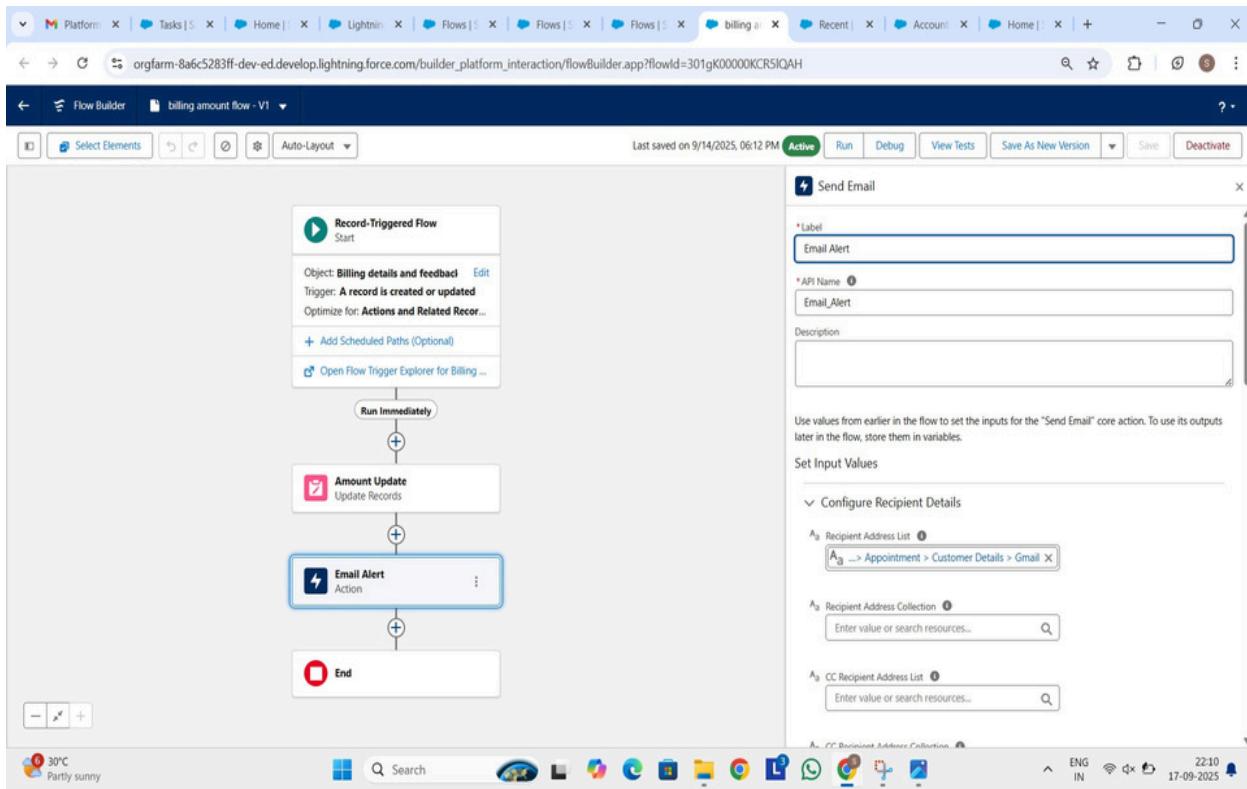
**Selected Profiles:**

- System Administrator
- Manager
- Sales Person

At the bottom, there is a toolbar with icons for Save, Cancel, and Help, along with a status bar showing "22:01" and "17-09-2025".

## Implemented flow for billing details and feedback:





## Created Apex Class:

The screenshot shows the Salesforce Setup Apex Classes page. The page displays a summary of Apex usage, stating "Percent of Apex Used: 0.02%" and "You are currently using 1,264 characters of Apex Code (excluding comments and @Test annotated classes) in your organization, out of an allowed limit of 6,000,000 characters. Note that the amount in use includes both Apex Classes and Triggers defined in your organization." Below this, there is a section to "Estimate your organization's code coverage" and buttons for "Compile all classes" and "View: All | Create New View". The main table lists "Dynamic Apex Classes" with columns for Action, Name, Namespace Prefix, Api Version, Status, Size Without Comments, Last Modified By, and Has Trace Flags. One entry is shown: "AmountDistributionHandler" with Namespace Prefix "com", Api Version "64.0", Active status, size "1,069", Last Modified By "Sameena S.", and Has Trace Flags checked. At the bottom, there is a note about Dynamic Apex extending programming reach and a "Create New View" button.

The screenshot shows the Salesforce Setup Apex Classes page. The left sidebar has sections like Email, Custom Code (with Apex Classes selected), and Environments. The main area shows the Apex Class Detail for 'AmountDistributionHandler'. The code is as follows:

```

1 public class AmountDistributionHandler {
2
3     public static void amountDistListAppointment__c(List<Appointment> lstApp) {
4         for (Appointment__c app : lstApp) {
5             if (app.Maintenance_Service__c == true && app.Repairs__c == true && app.Replacement_Parts__c == true) {
6                 app.Service_Amount__c = 10000;
7             } else if (app.Maintenance_Service__c == true && app.Repairs__c == true) {
8                 app.Service_Amount__c = 5000;
9             } else if (app.Maintenance_Service__c == true && app.Replacement_Parts__c == true) {
10                app.Service_Amount__c = 7000;
11            } else if (app.Repairs__c == true && app.Replacement_Parts__c == true) {
12                app.Service_Amount__c = 3000;
13            } else if (app.Maintenance_Service__c == true) {
14                app.Service_Amount__c = 3000;
15            } else if (app.Repairs__c == true) {
16                app.Service_Amount__c = 3000;
17            } else if (app.Replacement_Parts__c == true) {
18                app.Service_Amount__c = 5000;
19            }
20        }
21    }
22 }

```

## Created Triggers :

The screenshot shows the Salesforce Setup Apex Triggers page. The left sidebar has sections like Email, Custom Code (with Apex Triggers selected), and Environments. The main area shows the Apex Triggers page with a table of triggers. One trigger is listed:

Action	Name	Namespace Prefix	sObject Type	Api Version	Status	Size Without Comments	Last Modified By	Has Trace Flags
Edit   Del	AmountDistribution		Appointment	64.0	Active	215	Sameena.S_ 9/14/2025, 6:21 AM	

The screenshot shows the Salesforce Setup interface with the 'Apex Triggers' page open. The left sidebar has 'Apex Triggers' selected under 'Apex Classes'. The main content area displays the 'AmountDistribution' trigger details. The trigger code is:

```
trigger AmountDistribution on Appointment {before insert, before update){  
    if(Trigger.isBefore && (Trigger.isInsert || Trigger.isUpdate)){  
        AmountDistributionHandler.amountDist(Trigger.new);  
    }  
}
```

## Created Public Groups :

The screenshot shows the Salesforce Setup interface with the 'Public Groups' page open. The left sidebar has 'Public Groups' selected under 'Users'. The main content area displays a table of public groups. There is one entry:

Action	Label	Group Name	Created By	Created Date
Edit   Del	sales team	sales_team	S_Sameena	9/14/2025, 1:15 AM

Screenshot of the Salesforce Setup interface showing the Roles page.

**Role: sales person**

**Role Detail:**

- Label: sales person
- This role reports to Manager: Sameena S.
- Modified By: Sameena S.
- Opportunity Access: Users in this role can edit all opportunities associated with accounts that they own, regardless of who owns the opportunities.
- Case Access: Users in this role can edit all cases associated with accounts that they own, regardless of who owns the cases.

**Users in sales person Role:**

Action	Full Name	Alias	Username	Active
Edit	Rebekah Johnson	rjohn	sam37004@gmail.com	✓
Edit	Elijah Smith	esmit	sariyumi@gmail.com	✓

Bottom status bar: javascript:srcUp(%27%2F00EgK000004AJIR%3Fstdtp%3Dp1%27); 30°C Partly sunny 22:21 17-09-2025

## Custom Report Types:

Screenshot of the Salesforce Setup interface showing the Custom Report Type Lightning page.

**Service information**

Below is the information for this custom report type. You can click the buttons on this to preview or update information for the custom report type.

**Details:**

Display Label: Service information	API Name: Service_information
Description: Service information	Created By: Sameena S.
Store in Category: other	Deployment Status: Deployed
Modified By: Sameena S.	

**Object Relationships:**

Customer Details (A) with at least one related record from Appointments (B) with at least one related record from Service records (C) with at least one related record from Billing details and feedback (D)

**Fields:**

Source Object	Included Fields
Customer Details	9
Appointments	13
Service records	10
Billing details and feedback	10

Bottom status bar: javascript:srcUp(%27%2F00EgK000004AJIR%3Fstdtp%3Dp1%27); 30°C Partly sunny 22:23 17-09-2025

# Dashboard:

The screenshot shows the Salesforce Lightning interface. The top navigation bar includes links for Platform Login Credits, Tasks | Salesforce, Recent | Dashboards, Home | Salesforce, Lightning Usage | Sales, Flows | Salesforce, and Flows | Salesforce. The main content area is titled "Dashboards" and "Recent". A table lists one dashboard entry:

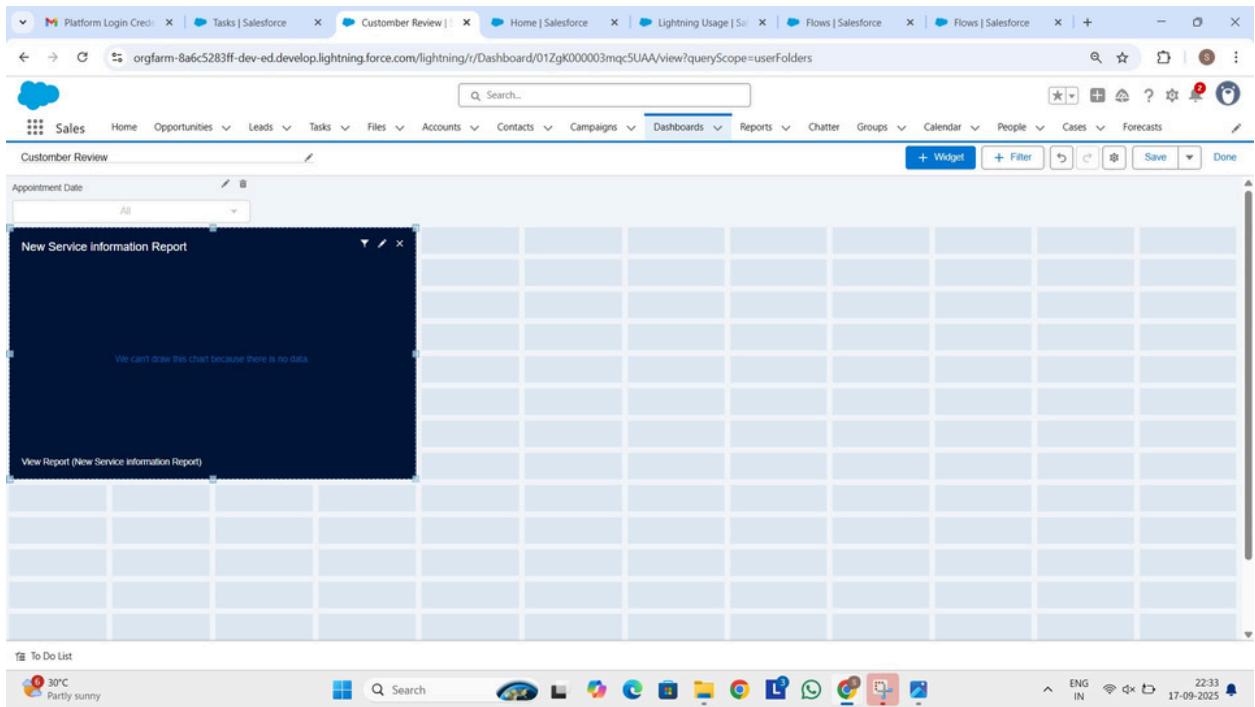
DASHBOARDS	Dashboard Name	Description	Folder	Created By	Created On	Subscribed
Recent	Customer Review	Service Rating dashboard	Sameena S	9/16/2025, 11:51 PM		

The sidebar on the left contains links for Sales, Home, Opportunities, Leads, Tasks, Files, Accounts, Contacts, Campaigns, Dashboards, Reports, Chatter, Groups, Calendar, People, Cases, Forecasts, and To Do List. The status bar at the bottom shows weather (30°C, Partly sunny), system icons, and the date/time (17-09-2025, 22:29).

The screenshot shows the Salesforce Lightning interface. The top navigation bar includes links for Platform Login Credits, Tasks | Salesforce, Customer Review |, Home | Salesforce, Lightning Usage | Sales, Flows | Salesforce, and Flows | Salesforce. The main content area is titled "Customer Review". A modal window titled "Add Filter" is open, prompting the user to "Select Field to Filter By (Required)". The selected field is "Appointment Date". The filter configuration includes:

- Operator: equals
- Date Type: value
- Value: Pick a date (button)
- Display Text: New Filter Value

The background shows a chart titled "New Service Information Report" which displays the message "We can't draw this chart because there is no data". The sidebar on the left contains links for Sales, Home, Opportunities, Leads, Tasks, Files, Accounts, Contacts, Campaigns, Dashboards, Reports, Chatter, Groups, Calendar, People, Cases, Forecasts, and To Do List. The status bar at the bottom shows weather (30°C, Partly sunny), system icons, and the date/time (17-09-2025, 22:31).



## Advantages:

### Improved Efficiency:

Automates jobcards, billing, and inventory, reducing manual workload.

### Better Customer Service:

Stores service history, sends reminders, and ensures timely updates.

### Accurate Billing:

Reduces errors in labor charges, parts costs, and taxes.

### Inventory Control:

Tracks spare parts availability and prevents stockouts or overstocking.

### Data Management & Reporting:

Provides detailed reports on jobs, revenue, and performance.

## Disadvantages:

### Initial Setup Cost:

Purchasing or developing the system can be expensive.

### System Dependency:

Heavy reliance on the software may cause disruptions if technical issues occur.

### Maintenance & Updates:

Requires regular software updates and possible IT support.

### Data Security Risks:

Sensitive customer and financial data must be properly secured.

### Internet / Power Dependency:

Cloud-based or online systems may face downtime without connectivity.

## Conclusion:

The Garage Management System (GMS) plays a vital role in modernizing and streamlining the operations of automotive repair facilities. By automating job scheduling, inventory tracking, billing, and customer communication, it enhances efficiency, accuracy, and service quality. While the system may require initial investment, training, and ongoing maintenance, the long-term benefits—such as improved customer satisfaction, optimized resource management, and increased profitability—far outweigh the challenges. Overall, GMS provides a reliable and effective solution for garages to stay competitive in the rapidly evolving automotive service industry.

## Appendix:

### Source code Apex class and triggers

#### Apex classes AmountDistributionHandler

```
public class AmountDistributionHandler {
```

```
    public static void amountDist(List<Appointment> listApp) {
        for (Appointment app : listApp) {
            if (app.Maintenance_service__c == true && app.Repairs__c == true && app.Replacement_Parts__c == true) {
                app.Service_Amount__c = 1000;
            } 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 = 15000;
            } 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 = 6000;
            }
        }
    }
}
```

◆

## Apex Triggers: AmountDistribution

```
trigger AmountDistribution on Appointment__c(before insert, before update)
if(Trigger.isBefore && (Trigger.isInsert || Trigger.isUpdate))
    AmountDistributionHandler.amountDist(Trigger.new);
```

◆  
◆