Garage Management System (GMS) APP

The Complete Overview of Garage Management System (GMS) specification, Salesforce object setup, relationships, validations, automations, approvals, Apex triggers, PermissionSets and finally the Reports & Dashboard.

1. Project Overview

The Garage Management System (GMS) enables a garage to manage:

- Customer and vehicle details

- Service requests and workflows

- Inventory and parts usage

- Discounts, warranties, and material requests

- Notifications and approvals

All data is stored and managed in Salesforce Lightning with both **standard objects** (Accounts, Vehicles(Assets), Cases, Reports, Dashboards, Operating Hours) and **custom objects** (Vehicle Services, Parts Inventory, Parts Used, Warranties, Discount Requests, Material Requests, GMS Employees, Billing, Payments).

2. Data Model & Relationships

Standard Objects

- **Account (Customer)** -> Stores customer details.

- **Asset (Vehicle)** -> Linked to Account, stores vehicle details.

- **Case** -> Linked to Account, Vehicle(Asset), and Vehicle Service for customer issues.

Custom Objects

- **Vehicle Service** -> Master-detail with Asset; lookup to Account and GMS Employee.

- **Parts Inventory** -> Stores garage stock.

- **Parts Used** -> Master-detail with Vehicle Service; lookup to Parts Inventory.

- **Material Request** -> Lookup to Parts Inventory and Employees.

- **Discount Request** -> Master-detail with Vehicle Service.

- **Warranty** -> Master-detail with Vehicle Service.

- **GMS Employee** -> Lookup to User; role-based (Receptionist, Worker, Supervisor, Manager, Operations).

Roll-up Summary Fields

- Vehicle Service -> SUM of Parts Used cost.

- Vehicle(Asset) -> COUNT of Vehicle Services.

3. Validation Rules

Vehicle Service

- Customer & Vehicle required.

- Status = Delivered → Payment must be Paid.

- Warranty checkbox requires expiry date.

Parts Used

- Quantity > 0.

- Quantity ≤ Current Stock.

Discount Request

- Discount Value > 0.

- Percent ≤ 50%.

Material Request

- Quantity > 0.

4. Page Layouts & Lightning Record Pages

Vehicle Service

- Sections: Customer & Vehicle, Financials, Warranty.

- Related Lists: Parts Used, Discount Requests, Cases, Warranty.

- Lightning Path: Status (New -> Assigned -> In Progress -> Done -> Delivered).

- **Quick Action :** Vehicle Service Invoice PDF***(Visual force page to download invoice)***

Parts Inventory

- Sections

- Related Lists: Parts Used, Material Requests.

5. Quick Actions

- **Request Materials** -> Prefills Material Request.

- **Submit Discount Request** -> Launches approval.

6. Process Automation (Flows)

- **Flow:** Auto Update Service Completion Date

- **Flow:** GMS_SendWelcomeEmail_On_Customer_Create

- **Flow: Vehicle** Service Discount Approval process

- **Flow:** Auto Assign Discount request to Discount Queue

- **Flow:** GMS App Material Request(Queue)

- **Flow:** Case Queue auto populate before save

- **Flow:** GMS Vehicle service auto assign to Queue

7. Approval Processes

Discount Request

- Manager approval.

- Final: Apply discount.

Material Request

- Manager approval.

- Operations approval.

- Final Status: Fulfilled

8. Apex Triggers

- GMSCreateTaskOnVehicleService (creates task after insert creating new service)

- GMSCaseQueueTrigger (when owner changed to Case assigned queue & created a Task notify to owner)

- GMSVehicleServiceTrigger (status is delivered Edit not allowed)

10. Notifications & Email Alerts

Templates:

1. Email to Assigned Employee
2. ISP Billing Status Template
3. isp payment remainder email
4. isp payment remainder email
5. isp payment remainder email
6. ISP Billing StatusTemplatae

Email Alerts:

1. Notify Assigned Employee
2. Alert - Welcome New Customer
3. Approval for discount more than 10% from manager
4. Payment Remainder for isp Bill info
5. Remainder Payment isp
6. Your Payment transaction Success

11. Reports (Garage Management System App Reports)

- **New Vehicles & Fuel Type Report**
- **Employee Status Checking Gender Category**

- **New Discount Requests Report**
- **New Accounts with Vehicles Report**
- **New Leads Report**
- **New Cases Orgins Report**

Dashboards (Garage Management System (GMS) app Dashboard)

- **Garage Management System (GMS) app Dashboard**

13. End-to-End Workflow

1. Receptionist logs customer (Account) and vehicle (Asset).

2. Create Vehicle Service (Status = New).

3. Assign Employee -> Status = Assigned -> notification sent.

4. Worker starts service -> Status = In Progress.

5. Add Parts Used -> stock reduces -> auto Material Request if low.

6. Discount Request submitted -> approvals -> discount applied.

7. Mark Done -> Status = Done –> email to customer.

8. Payment captured -> Payment Status = Paid.

9. Mark Delivered -> Status = Delivered.

10. Warranty details stored.

11. Customer issues -> Case auto-created.

12. Nightly batch auto-requests low stock.

GMS App Permission sets:

- **GMS Receptionist:**
  - Create customer records
  - Register vehicles
  - Create service requests
  - Update service status (initial, in progress)
  - Give delivery date to customer

  Objects Access:

  Accounts -> Read/Create/Edit
  Assets (Vehicles) -> Read/Create/Edit
  Vehicle Service -> Read/Create/Edit
  Parts Inventory -> Read (only)

Discount Request -> Read (only)

No delete access anywhere

- **GMS Worker:**
  - Work on assigned service
  - Update work progress
  - Mark service completion

Objects Access:

Vehicle Service -> Read/Edit

Parts Inventory -> Read

Parts Used -> Create/Edit

Discount Request -> No Access

Accounts & Vehicles -> Read-only

- **GMS Supervisor:**
  - o Manage inventory
  - o Create part requests
  - o Approve/reject worker special requests
  - o Monitor service work

- **GMS Manager:**
  - o Approve Supervisor requests
  - o Approve discount requests
  - o Oversee garage operations

- **GMS Operation Member:**
  - o Update request status
  - o Notify customers
  - o Manage backend process (like ordering parts)

Dummy User Examples

Name	Role	Profile & PermissionSets
Hari	Receptionist	GMS Receptionist
Ramesh Yadav	Worker	GMS Worker
Anil Kumar	Supervisor	GMS Supervisor
Sunita Reddy	Manager	GMS Manager
Vikram Singh	Operation Member	GMS Operations

Employees can now be used across our GMS app as:

Role	Responsibility
Receptionist	Creates Service record, updates customer status
Worker	Works on assigned service task
Supervisor	Manages inventory & approves special requests
Manager	Approves supervisor requests
Operations Member	Executes final operational checks

GMS app now has full employee-driven workflow:

Feature	Employee Role
Service creation	Receptionist
Work execution	Worker
Approval	Supervisor
Discount approval	Manager
Material requests	Worker/Supervisor
Inventory operations	Operations Member