

## PROJECT PLANNING PHASE

### GARGE MANAGEMENT SYSTEMS

DATE	1.11.2025
TEAM ID	NM2025TMID04006
PROJECT NAME	GARGE MANAGEMENT SYSTEMS
MAXIMUM MARKS	5 MARKS

#### **PROJECT PLANNING TEMPLATE:**

The **Garage Management System (GMS)** project aims to develop a digital platform that automates the daily operations of a vehicle service garage. The main objective of this project is to manage customer information, vehicle details, service records, billing, and inventory efficiently while reducing manual work and human errors. This system will help streamline processes such as booking services, assigning mechanics, tracking spare parts, and generating invoices and reports.

#### **PROJECT OBJECTIVES**

- Automate Garage Operations
- Customer Management
- Vehicle Information Management
- Service Scheduling
- Mechanic and Staff Management
- Inventory Management
- Billing and Invoicing

#### **SCOPE OF THE PROJECT**

##### **Included:**

- Customer Management
- Vehicle Information Management
- Service Booking and Scheduling
- Mechanic and Staff Management

##### **Excluded:**

- Online Payment Integration
- Mobile Application Development

#### **PROJECT DELIVERABLES**

- Fully Functional Garage Management System
- Database Design and Implementation
- User Interface (UI) Design

### **TIMELINE AND SCHEDULE:**

<b>Phase</b>	<b>Activities</b>	<b>Duration</b>	<b>Deliverables</b>
Phase 1: Requirement Analysis	Collect functional and non-functional requirements - Understand garage operations	1 Week	Requirement Analysis Document
Phase 2: System Design	Create Data Flow Diagrams (DFD) and Entity Relationship Diagrams (ERD) - Design database schema	1 Week	System Design Document & UI Mockups
Phase 3: Development	Develop frontend (HTML, CSS, JavaScript or Salesforce LWC)	2 Week	Functional Garage Management System
Phase 4: Testing	Perform unit testing and integration testing	1 Week	Testing Report and Final Debugged System

### **ROLES AND RESPONSIBILITIES:**

<b>ROLE</b>	<b>RESPONSIBILITIES</b>
Project Manager	Plan, organize, and monitor the entire project lifecycle. Define objectives, timelines, and deliverables.
System Analyst	Prepare the Software Requirement Specification (SRS) document.
Software Developer / Programmer	Design and develop the application using selected technologies (Salesforce, Apex, HTML, CSS, JavaScript, etc.).
Database Administrator (DBA)	Maintain data integrity, security, and backups.

### **Resource Planning**

**Resource Planning** is an essential part of the Garage Management System project to ensure that all the necessary human, hardware, and software resources are available throughout the project lifecycle. Proper allocation of these resources helps in achieving project goals efficiently, within the defined time and budget.

## 1. Human Resources

The project requires a skilled team with specific roles and responsibilities:

- **Project Manager** – Oversees project execution, scheduling, and coordination.
- **System Analyst** – Gathers requirements and defines the system functionalities.
- **Developers** – Design and implement frontend and backend modules.
- **Database Administrator (DBA)** – Manages data storage, security, and performance.
- **Tester/QA Engineer** – Ensures quality through testing and debugging.
- **UI/UX Designer** – Designs an easy and attractive interface for users.
- **End Users (Garage Staff/Admin)** – Use the system and provide feedback.

## 2. Hardware Resources

To develop and run the Garage Management System smoothly, the following hardware components are required:

- Desktop or Laptop computers for developers and testers.
- Server or Salesforce cloud environment for deployment.
- Printers for generating service invoices and reports.
- Stable internet connection for accessing cloud services.
- External storage or backup devices for data security.

## 3. Software Resources

The system uses a combination of development tools, frameworks, and databases, including:

- **Operating System:** Windows or macOS.
- **Development Platform:** Salesforce (Apex, Lightning Web Components) or Web Stack (HTML, CSS, JavaScript).
- **Database:** Salesforce Objects or MySQL.
- **Design Tools:** Figma, Adobe XD, or similar UI tools.
- **Version Control:** GitHub for code management.
- **Testing Tools:** Manual testing tools or Salesforce Test Classes.

## 4. Financial Resources

A planned budget is necessary to cover development, testing, deployment, and maintenance costs. The estimated project cost includes:

- Developer and testing team compensation.
- Software licensing or Salesforce subscription fees.
- Server and hosting charges.
- Maintenance and training expenses.

## 5. Time Resources

Time is a critical resource, divided into different phases such as requirement analysis, design, development, testing, deployment, and maintenance. Each phase is scheduled to ensure timely project completion (approximately 6 weeks total).

## BUDGET ESTIMATION:

Team Member	Estimated Cost (₹)
Project Manager	8,000
System Analyst	5,000
Developer(s)	15,000
Database Administrator	5,000
Tester / QA Engineer	4,000
UI/UX Designer	3,000
<b>Total (Human Resources)</b>	<b>₹40,000</b>

## MAINTENANCE AND FUTURE ENHANCEMENTS

The Maintenance and Future Enhancements phase plays a crucial role in ensuring the long-term success, reliability, and scalability of the Garage Management System (GMS). After the system is deployed, it must be regularly maintained to ensure smooth operation, fix bugs, enhance performance, and adapt to changing business requirements.

## SUCCESS CRITERIA / EVALUATION METRICS

The **Success Criteria** define how the effectiveness and performance of the Garage Management System (GMS) will be measured after its implementation. These criteria ensure that the system meets its objectives, provides value to users, and operates efficiently. The evaluation metrics help determine whether the project has achieved the desired outcomes in terms of functionality, usability, performance, and user satisfaction.

- Functional Performance
- Time Efficiency
- Data Accuracy and Reliability
- User Satisfaction

