

## Project Planning Phase

### Project Planning

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<b>Team ID</b>	NM2025TMID05731
<b>Project Name</b>	Garage Management System

#### 1. Introduction

The Project Planning Phase is the foundation of the Garage Management System (GMS), outlining how the system will be developed, structured, and implemented to meet user and business goals. The main objective of this phase is to establish a clear roadmap for system design, including the architecture, components, resources, and workflow.

#### 2. Architecture Overview

The architecture of the Garage Management System follows a Three-Tier Model, ensuring modularity, scalability, and maintainability.

##### **\*Presentation Layer (Frontend)**

Manages user interaction through web interfaces for customers, mechanics, and administrators.

##### **\*Application Layer (Backend)**

Handles all logic, service processing, and communication between UI and database.

##### **\*Database Layer (Data Storage)**

Stores and manages customer, vehicle, and service data securely

# Project Planning Phase

**Presentation layer**  
(User Interface)



**Application Layer**  
(Backend Logic)



**Database Layer**  
(Data Storage)



**Integration layer**  
(Data Storage)



**Integration layer**  
(Data Storage)

### 3. Components

The **Garage Management System (GMS)** is built from several interconnected components that work together to streamline operations, manage customer requests, and maintain service quality. Each component plays a vital role in ensuring system performance and reliability.

- **User Interface (UI)** - The front-end where customers, mechanics, and admins interact with the system.
- **Authentication Module** - Manages login, signup, and role-based access control
- **Service Management Module** - Handles customer service requests, repair status, and service tracking
- **Inventory Management** - Keeps track of spare parts and materials in the garage
- **Billing & Invoice System** - Generates bills, receipts, and payment summaries.

### 4. Conclusion

The Project Planning Phase establishes the structural and technical foundation of the Garage Management System. By defining a clear architecture and identifying essential system components, this phase ensures that the project is organized, efficient, and scalable.

The layered architecture (User Interface → Application Layer → Database Layer) promotes modular development, while the well-defined components provide clarity in system roles. Together, these elements prepare the project for successful implementation and future enhancements.