Project Title: Garage Management System

Date: November 05, 2025
Team ID: NM2025TMID01196
Maximum Marks: 4 Marks

This phase involves ideation and strategic planning to build a comprehensive **Garage Management System** that streamlines vehicle servicing, billing, mechanic assignment, and spare parts inventory management for automotive workshops. The objective is to identify challenges in garage operations and brainstorm effective solutions that maximize efficiency, enhance customer satisfaction, and ensure smooth management of daily service activities.

Team

Team MemberInitial IdeaBuilt-On Idea Team Member 1Create a customer and vehicle management system. Add appointment scheduling and automated service reminders. Team Member 2Develop billing and invoice generation feature. Integrate GST calculation and printable PDF invoice generation. Team Member 3Implement mechanic allocation and job tracking system. Add performance tracking and workload optimization features. Team Member 4Build spare parts inventory and purchase management. Include automatic low-stock alerts and supplier integration.

Problem Statement & Team Collaboration

The project team collaborated to identify challenges in managing garage operations such as tracking multiple vehicles, coordinating mechanics, maintaining service histories, handling spare parts efficiently, and generating accurate bills. The team exchanged experiences from automotive and service industry domains to design a comprehensive management system for garages and service centers.

Phase 1: Brainstorming, Idea Generation, and Prioritization

Team Ideas

Team members freely shared ideas for managing customer records, vehicle service tracking, mechanic allocation, billing automation, and inventory management. These ideas were refined to ensure complete coverage of garage operations.

Purpose and Approach

Ideas were organized into functional categories such as customer & vehicle management, service order tracking, inventory control, billing & finance, and reporting. Prioritization focused on real-time updates, ease of use, and operational scalability.

Team Collaboration & Problem Statement

After analyzing real-world garage workflows, the team identified gaps in manual systems and prioritized automation areas that deliver the most business impact — such as online scheduling, digital billing, mechanic tracking, and stock optimization.

Grouping, Prioritization, and Action Planning

1. Centralized dashboard for customer and vehicle management.
2. Service order module with job tracking and status updates.
3. Automated billing with GST and discount calculations.
4. Inventory tracking with low-stock alerts and supplier management.
5. Mechanic allocation based on expertise and workload balance.
6. Performance reports for daily revenue, jobs completed, and spare part usage.

Action Plan & Next Steps

1. Design database schema for customers, vehicles, mechanics, service orders, and inventory.
2. Develop UI for booking service appointments and tracking progress.
3. Implement GST-enabled invoice generation with PDF export.
4. Integrate reminder notifications for regular maintenance schedules.
5. Develop mechanic workload dashboard for daily planning.
6. Design analytics dashboard for performance tracking and reporting.
7. Conduct weekly sprints to test and review feature modules.

Conclusion

This brainstorming and planning phase provides a structured roadmap for the development of a scalable and efficient Garage Management System. By combining real-time data tracking, automated billing, inventory monitoring, and performance analytics, the team aims to deliver a complete digital solution that enhances transparency, accuracy, and productivity in garage operations.