**Project Design Phase**

**Problem – Solution Fit Template**

|  |  |
| --- | --- |
| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID30146 |
| Project Name | Garage management system |
| Maximum Marks | 2 Marks |

**Problem–Solution Fit**

There is a growing need for **AI-powered garage management systems** that are easy to use, integrate seamlessly with existing customer management platforms like **Salesforce**, and provide **instant, accurate assistance** for both mechanics and customers.

Traditional garage management relies on manual processes for diagnosis, booking, and parts tracking, which leads to inefficiencies, missed opportunities, and poor customer experience.

**Purpose of Problem–Solution Fit**

The goal is to confirm that **Garage Management AI** addresses real operational problems in garages while fitting naturally into existing workflows for mechanics, service advisors, and garage owners. This ensures **high adoption** and **increased efficiency** without requiring steep learning curves or expensive setups.

**Proposed Solution**

* A **browser-based AI assistant** using the **IBM Granite** model for real-time troubleshooting, maintenance suggestions, and customer communication.
* **Gradio-powered UI** for quick access without installation.
* **Salesforce integration** to store service history, manage bookings, and improve customer retention.
* Multi-language support to cater to diverse customer bases.
* Inventory management module for parts availability and reorder alerts.

**Solution Architecture**

**Web-based Architecture:**

1. **User Interface (Gradio)**
   * AI chat for issue diagnosis & maintenance tips
   * Booking form & service status updates
   * Inventory check requests
2. **Backend Logic (Python)**
   * IBM Granite model for AI text generation
   * Prompt templates for diagnosis, booking confirmation, parts lookup
3. **Salesforce Integration Layer**
   * REST API or Apex callouts to sync data
   * Store AI-generated service notes in customer profiles
4. **Data Flow**
   * User query → Gradio UI → Python backend → IBM Granite Model → AI Response → Display to user / Save in Salesforce