

## Ideation Phase

### Empathize & Discover

Date	01 November 2025
Team ID	NM2025TMID05213
Project Name	Smart Garage Management System
Maximum Marks	4 Marks

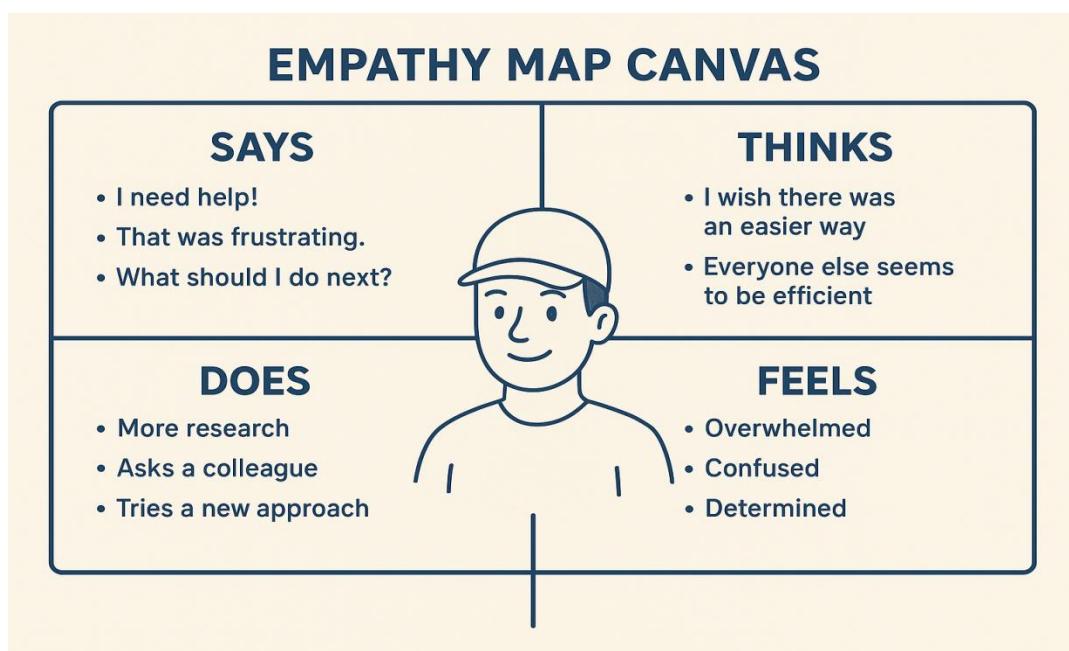
#### Empathy Map Canvas:

In the *Empathize & Discover* phase, the team observed how garage owners, mechanics, and customers interact during daily operations such as vehicle service tracking, billing, and inventory updates. They found that **manual methods** create frustration due to **data loss, confusion, and miscommunication**.

By interviewing garage staff and customers, the team discovered several key pain points — difficulty in maintaining service history, uncertainty in spare part stock, and lack of customer updates. These issues lead to **service delays, poor customer experience, and loss of trust**.

Through these insights, the team realized that automation and centralized data management are essential to improve workflow efficiency and customer satisfaction. Understanding user challenges helped the team design features like **automatic service updates, stock alerts, and digital record maintenance** for a smoother experience.

#### Example Empathy Map:



**The empathy map helped us understand** user frustrations and daily workflow challenges **in the garage**.

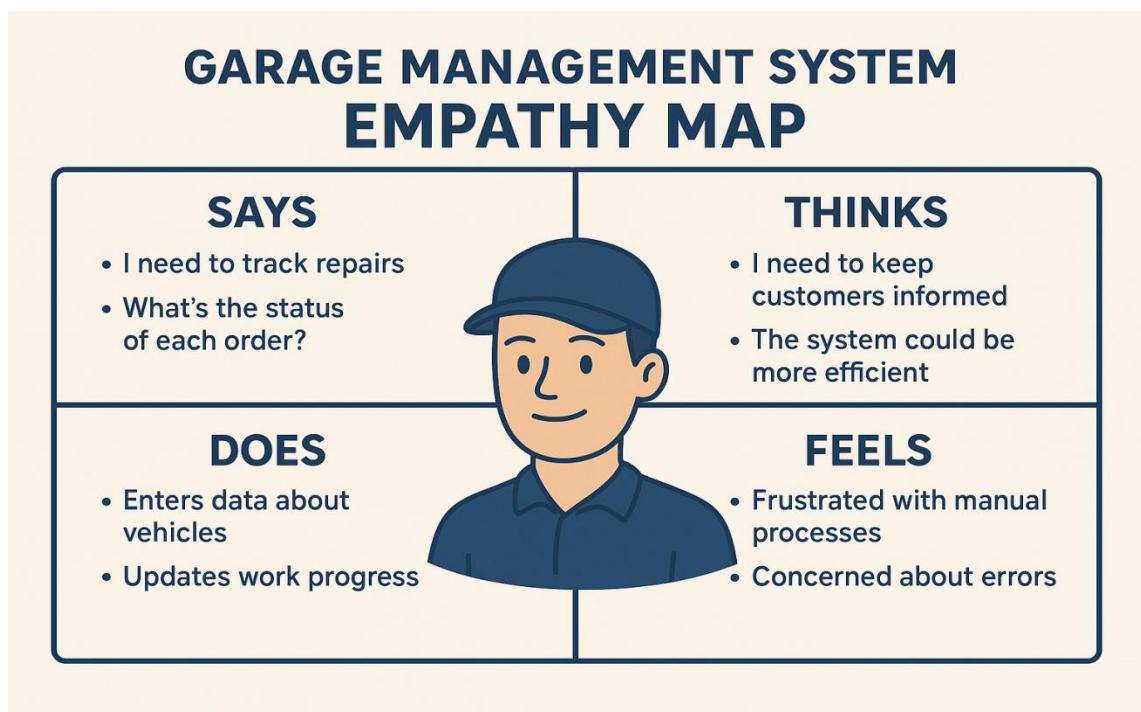
**It shows their** pain points (manual work, confusion), actions (manual updates), **and** needs (automation, tracking, alerts).

**These insights guided our design to develop a smart, digital Garage Management System that ensures real-time updates, accurate records, and efficient customer communication.**

**Reference:** <https://www.mural.co/templates/empathy-map-canvas>

**Example: Garage Management System – Empathy Map**

**Empathy Map Diagram**



By creating the **empathy map** for the Garage Management System, the team understood the daily struggles of garage owners and mechanics.

They often face problems like **manual billing**, **missing service records**, **confusion in spare parts stock**, and **delays in updating customers**.

The empathy map shows their **thoughts and emotions (stress, frustration)**, **actions (manual record keeping)**, and **needs (automation, reminders, transparency)**.