

## Ideation Phase

### Empathize & Discover

Date	18 February 2026
Team ID	LTVIP2026TMIDS57846
Project Name	Civil Engineering Insight Studio
Maximum Marks	4 Marks

## Empathy Map Canvas

An empathy map helps understand the target users by analyzing their behaviors, goals, frustrations, and needs.

For this project, the primary users are:

- Civil Engineers
- Construction Supervisors
- Project Managers
- Structural Inspectors

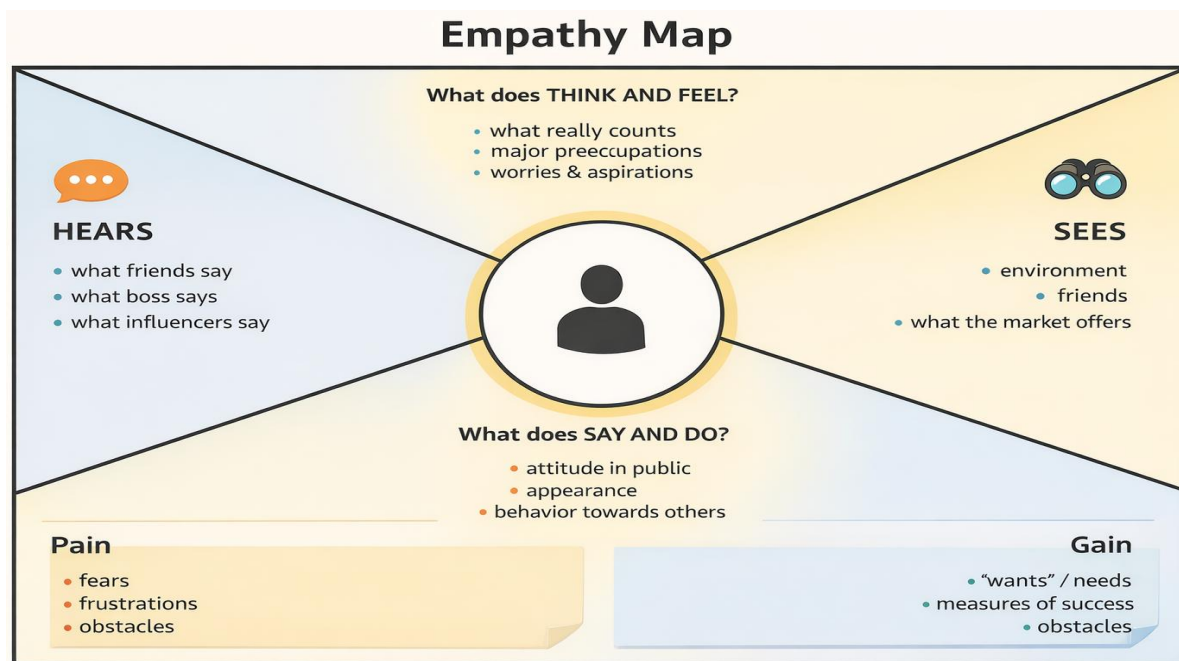
## Target User Persona

**User Type:** Civil Engineer / Construction Supervisor

**Work Environment:** Construction sites, infrastructure projects, engineering offices

**Primary Goal:** Quickly analyze and document structural details from site images

## Empathy Map for Civil Engineering Insight Studio



## Empathy Insights Summary

## User Goals

- Reduce time spent on manual structural description
- Improve documentation accuracy
- Identify materials and components easily
- Monitor construction progress efficiently

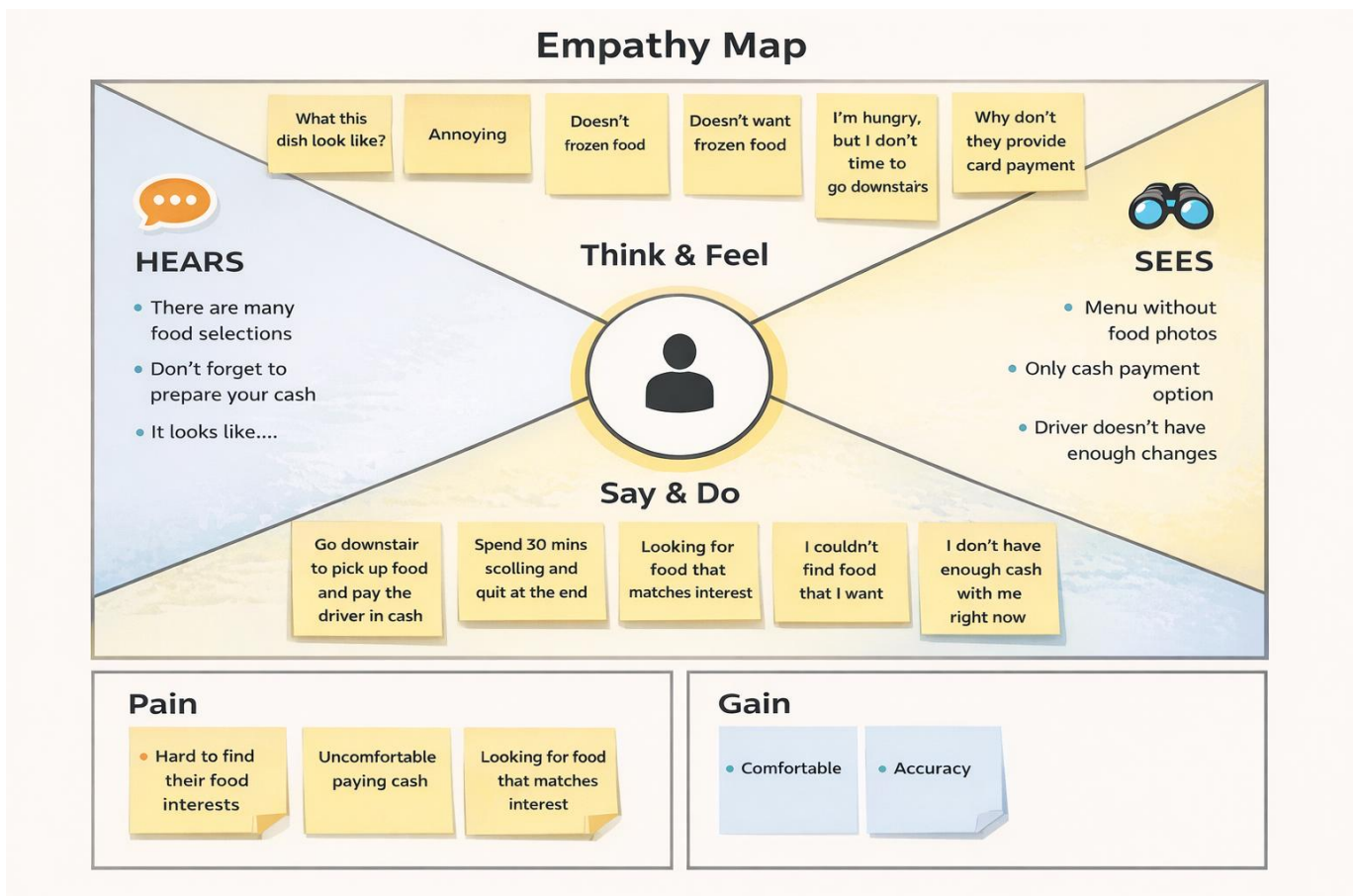
## User Challenges

- Handling large-scale projects
- Identifying materials visually
- Maintaining structured documentation
- Managing deadlines

## Opportunity Identified

There is a strong need for an AI-powered tool that:

- Analyzes images automatically
- Identifies materials and structural components
- Generates structured engineering descriptions
- Assists in project progress tracking



## How Civil Engineering Insight Studio Solves This

The solution integrates AI-based image analysis using Gemini to:

- Detect structural components
- Identify construction materials
- Generate detailed reports
- Highlight engineering challenges
- Improve workflow efficiency

## Conclusion of Empathize Phase

Through the empathy mapping exercise, we identified that civil engineers struggle with:

- Time pressure
- Manual documentation burden
- Risk of human error
- Inconsistent structural analysis

The **Civil Engineering Insight Studio** addresses these issues by providing an intelligent, automated, and reliable structural insight generation system.