Project Design Phase
Problem – Solution Fit Template

Date	15 February 2025
Team ID	LTVIP2026TMIDS87048
Project Name	Intelligent SQL Querying with LLMs Using Gemini
Maximum Marks	2 Marks

Problem Statement

Interacting with databases requires knowledge of Structured Query Language (SQL), which creates a significant barrier for non-technical users. Many users understand the information they need but are unable to construct correct SQL queries. This results in errors, delays, and dependency on technical personnel.

Customer / Target Users

• Non-technical users
• Students and beginners learning databases
• Business users and analysts
• Users requiring quick access to data insights

Current Challenges

• Lack of SQL knowledge
• Difficulty in understanding query syntax
• High probability of query errors
• Time-consuming data retrieval process
• Dependency on developers or database experts

Existing Situation

Users must manually write SQL queries while understanding database structure and syntax rules. Even simple data requests require technical effort, reducing efficiency and slowing decision-making processes.

Proposed Solution

The proposed solution, **IntelliSQL**, leverages a Large Language Model (Gemini) to translate natural language questions into valid SQL queries. Users can interact with the database using plain English instead of writing SQL commands.

Example interactions:

• "Show all students"
• "Display highest marks"
• "Students working at Infosys"

The system automatically generates and executes the corresponding SQL query and presents the results.

Template:-