Project Design Phase
Problem – Solution Fit Template

Date	19 February 2026
Team ID	LTVIP2026TMIDS60653
Project Name	IntelliSQL: Intelligent SQL Querying with LLMs Using Gemini Pro
Maximum Marks	2 Marks

Problem – Solution Fit Template:

The Problem–Solution Fit means identifying a real problem faced by users and ensuring that the proposed solution effectively addresses it. For the Text-To-SQL-LLM-App, the problem is the difficulty faced by non-technical users in querying relational databases due to the requirement of SQL knowledge. This results in dependency on technical teams, delayed decision-making, and inefficient data utilization. The proposed solution uses a Large Language Model (LLM) to convert natural language queries into structured SQL statements, enabling users to access and analyze data easily without requiring technical expertise. This alignment between user needs and system functionality confirms that the solution effectively solves the customer's problem.

Purpose:

❏ Solve the problem of database accessibility by enabling users to query data using natural language instead of SQL.

❏ Increase solution adoption by aligning with existing user behavior of asking questions in plain language.

❏ Improve communication between users and databases through accurate and automated SQL generation.

❏ Build user trust by reducing frequent errors, technical dependency, and delays in data retrieval.

❏ **Understand and enhance the current data interaction process for non-technical users.**

Template:

Problem — Solution Fit Template (Text-To-SQL-LLM-App)

1. PROBLEM	**2. CUSTOMER / TARGET USERS**	**6. CUSTOMER / TARGET USERS** `CS`
Most organizational data is stored in relational databases that require SQL knowledge to access:es. Non-technical q:sers such as managers, analysts, and domain experts face difficulty in retrieving information because they cannet while SQL queries. This leads to de-pendency on technical teams, delayed decision-maiking and inefficient data utilization. Existing database tools are complex and br.lesigned for natural language interaction.	● Business analysts ● Non-technical users ● Data analysts ● Students and researchers ● Small and medium enterprises (` SMEs)	● Business analysts ● Non-technical users ● Data analysts ● Students and researchers ● Small and medium enterprises (SMEs)
2. CURRENT SITUATION (Existing Behavior)	**3. CUSTOMER PAIN POINTS**	**7. PROBLEM–SOLUTION FIT** `RC`
● Users depend on database administrators or developpces to generets SQL queries ● Data access requires multiple communication steps ● Manual query writing causex.syntax and logc errors.	● Lack of SQL experties ● Time-consuming data retrieval ● High dependency on technical staff ● Risk of incorrect query results	● Faster than behavior of SQL ● Reduces response time ● Minimiues human errors ● Enables seff service data acess
4. CUSTOMER PAIN POINTS	**4. PROPOSED SOLUTION**	**8. VALUE PROPOSITION**
● Lack of SQL expertise ·/ · timeot.nning different ● Time-consuming da'ta relieval ● High dependency on technical staff ● Risk of incorrect query results	The **Text-To-SQL-LLM-App** provides a natural language interface for databases. Users can enter queries in plain English, which are converted into accurate SQL queries using a Large Language Model (LLM). The system executes the generated SQL on the database and displays the results in a user-friendly format.	● Easy database interaction ● Faster decision-maiving ● Reduced operational cests ● Minimiues human errors ● Increase productivity anb-daie.
9. CHANNELS OF USE `TL`	**10. EXPECTED IMPACT**	**PURPOSE:**
● Web based application ● Business dashboards ● Enterprise syntems ● Educational platforms	● Improved data accessibility ● Increased adoption of data tools ● Higher user satisfaction ● Reduced workload on If teams	● Solve the problem of database accessibility ● Increase solution adoption by aligning with ESQL ● Improve communication between users.and da'abases ● Promote data-driven decisions

References:

1. https://www.ideahackers.network/problem-solution-fit-canvas/
2. https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe