Ideation Phase
Brainstorm & Idea Prioritization Template

Date	31 January 2025
Team ID	LTVIP2026TMIDS87048
Project Name	Intelligent SQL Querying with LLMs Using Gemini
Maximum Marks	4 Marks

Step-1: Problem Statement Selection

During the ideation phase, our team discussed challenges faced by users while interacting with SQL databases. We observed that writing SQL queries requires knowledge of syntax and structure, which can be difficult for beginners and non-technical users.

Based on this discussion, the team identified the following problem:

Problem Statement:
Users often struggle to write accurate SQL queries to retrieve information from databases due to limited SQL knowledge and syntax complexity.

Step-2: Brainstorming & Idea Listing

The team generated multiple solution ideas to address this problem:

- Develop a system to convert natural language into SQL queries
- Create an intelligent SQL query assistant
- Build an AI-based database interaction tool
- Implement a chatbot-style database interface
- Use a Large Language Model for query generation

These ideas were centered around simplifying database querying and improving user accessibility.

Step-3: Idea Prioritization

After evaluating feasibility, innovation, and practical usefulness, the team selected the following idea:

Selected Idea:
Intelligent SQL Querying with LLMs Using Gemini

Justification:

- Enables users to query databases using natural language
- Reduces dependency on SQL syntax knowledge
- Leverages modern LLM capabilities for query generation
- Technically feasible and highly practical

Proposed Solution Overview

The proposed system allows users to enter questions in natural language. The Gemini Large Language Model interprets the input and generates corresponding SQL queries, which are executed on a SQLite database. The results are then displayed through a Streamlit interface.