Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	19 January 2025
Team ID	LTVIP2026TMIDS60653
Project Name	IntelliSQL: Intelligent SQL Querying with LLMs Using Gemini Pro
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Natural Language Query Processing	User enters query in natural language Send query to Gemini Pro LLM Convert natural language into SQL query Validate generated SQL syntax
FR-4	Natural Language Query Processing	Execute generated SQL query on database Fetch results from database Display results in tabular format Show error message for invalid queries

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system should provide a simple and user-friendly interface where users can easily enter natural language queries and view results without technical knowledge of SQL.
NFR-2	**Security**	User data and database credentials must be protected using authentication, encrypted communication (HTTPS), and secure API handling while interacting with Gemini Pro
NFR-3	**Reliability**	The system should consistently generate correct SQL queries and handle errors gracefully without crashing, even for complex or invalid user inputs.
NFR-4	**Performance**	The system should convert natural language to SQL and display results within a few seconds to ensure smooth user experience.
NFR-5	**Availability**	The application should be accessible 24/7 with minimal downtime, ensuring users can query the database anytime.
NFR-6	**Scalability**	The system should support multiple users simultaneously and handle increasing database size or query load without performance degradation.