Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	31 January 2025
Team ID	LTVIP2025TMID52073
Project Name	visualization tool for electric charge and range analysis updated
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	Input Vehicle Information	Users can input or select their EV model, current battery percentage, and location.
FR-4	Display Real-Time Battery Status	The system should visualize the current battery level and estimated remaining range.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The interface should be intuitive, with clear visuals, tooltips, and user guidance to support EV owners with limited technical knowledge.
NFR-2	**Security**	User and vehicle data must be protected using encryption and secure API authentication (e.g., OAuth 2.0).
NFR-3	**Reliability**	The system must consistently fetch accurate vehicle telemetry and charging station data without failures.
NFR-4	**Performance**	The system should process real-time vehicle data and render visualizations within 2 seconds of data receipt.
NFR-5	**Availability**	The tool should maintain 99.9% uptime and be accessible 24/7 for end users.
NFR-6	**Scalability**	The tool must support multiple concurrent users and scale with increased data from vehicle and charging APIs.