Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	27 June 2025
Team ID	LTVIP2025TMID32124
Project Name	Sustainable Smart City Assistant Using IBM Granite LLM
Maximum Marks	4 Marks

Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Any user will use this application without any registration.
FR-2	Smart Assistant Query System	Ask sustainability-related questions (Eco-Query) Get AI-generated responses from IBM Granite LLM Query processing via Flask.
FR-3	Civic Complaint Handling	Accept text-based civic complaints Classify complaint category (e.g., waste, water, traffic) Route to relevant department
FR-4	Assistant Mode Selection	User selects between Eco-Query and Complaint Resolver modes Display appropriate input prompts and response formatting based on selection
FR-5	Deployment & Accessibility	Web access via local host (flask) Mobile compatibility for flask Public deployment using public URL

Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The assistant should have a simple, intuitive Flask interface for smooth interaction, allowing users to easily submit queries or complaints without prior training.
NFR-2	**Security**	Basic login authentication is implemented to prevent unauthorized access. Future versions may include Gmail/Facebook login and encryption of complaint data.
NFR-3	**Reliability**	The assistant must function consistently for all users, ensuring that both eco-queries and complaint routing return accurate and predictable results.
NFR-4	**Performance**	AI responses should be generated quickly (within 2–4 seconds) using optimized model inference, ensuring minimal user wait time during interaction.
NFR-5	**Availability**	The solution should be accessible 24/7 via public flask or deployment on platforms like Hugging Face Spaces, ensuring uninterrupted service.
NFR-6	**Scalability**	The system should be designed to support growing numbers of users, complaints, and additional smart city features (e.g., energy, traffic) without performance loss.