Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	12 June 2025
Team ID	LTVIP2025TMID31087
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	Waste Management Guidance	Text input for item → Generate disposal instructions using LLM
FR-2	Energy Consumption Analysis	User enters habits → AI returns 5 energy-saving suggestions
FR-3	Citizen Feedback Submission	User submits issue → Save data → Download feedback file
FR-4	Green Challenges	Daily environmental tasks randomly assigned
FR-5	Policy Document Summarization	User pastes policy → Return key takeaways via LLM
FR-6	Resource Forecasting (KPI)	CSV upload → Forecast next period's usage using Linear Regression
FR-7	Anomaly Detection in Resource Data	Upload CSV → Detect and report statistical outliers (mean ± 2σ)
FR-8	Eco Tips Generator	Keyword input → Generate 3 personalized ecotips
FR-9	Sustainability Q&A Chat	User enters query → Assistant replies via IBM Granite LLM
FR-10	Admin Feedback Management	Download full Excel file of user feedback

Non-Functional Requirements

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	Simple UI with clean input/output boxes; user-friendly tab navigation
NFR-2	Security	Restricted file types; safe CSV handling; no sensitive data stored
NFR-3	Reliability	Accurate model outputs; consistent processing without data loss or corruption
NFR-4	Performance	Fast responses (under 3 seconds for most tasks); efficient model inference
NFR-5	Availability	Cloud-hosted via Google Colab + Gradio; accessible 24/7 during testing phase
NFR-6	Scalability	Easy to integrate more tabs/features like real-time dashboards or APIs