User Acceptance Testing (UAT) Template

Date	
Team ID	LTVIP2025TMID60817
Project Name	Sustainable smart city assistant using IBM granite LLM
Maximum Marks	

Smart City Assistant Test Plan (IBM Granite LLM)

Project Overview

- **Project Name**: [Enter Project Name]
- **Project Description**: [Brief description of the assistant—e.g., "Citizen helpdesk for waste collection, energy usage alerts, pollution monitoring."]
- **Project Version**: [Version Number]
- **Testing Period**: [Start Date]–[End Date]

Testing Scope

- Features: e.g., real-time sensor data ingestion, sustainability suggestions, citizen reporting interface
- User stories: e.g., "As a resident, I want to see AQI alerts for my neighborhood", "As a planner, I want energy trend forecasts"

Testing Environment

- **URL/Location**: [Web app URL or system environment]
- **Credentials**: [Username/Password if needed]

Test Case Template

Test Case ID	Test Scenario	Test Steps	Expected Result	Actual Result	Pass/Fail
TC-001	Ingest and display air quality sensor data	1. Upload sensor feed 2. Apply region filter 3. Check map	Data renders correctly, filtered map shows AQI color gradation		
TC-002	Generate energy usage forecast	1. Select district & timeframe 2. Trigger forecast 3. Review output	Granite LLM returns plausible forecast with reasoning		

Test Case ID	Test Scenario	Test Steps	Expected Result	Actual Result	Pass/Fail
…	…	…	…	…	…

🐞 **Bug Tracking Template**

Bug ID	Bug Description	Steps to Reproduce	Severity	Status	Additional Feedback
BG-001	Incorrect district-level energy forecast	1. Choose District B 2. Forecast next week 3. Check values	High	Open	Forecast off by 30% vs historical baseline
…	…	…	…	…	…

🖋️ **Sign-Off**

- **Tester Name**: [Name]
- **Date**: [Test Completion Date]
- **Signature**: [Tester's Signature]
- *Note: Obtain final sign-off from Project Manager & Product Owner before deployment.*

📌 **Integration with IBM Granite LLM**

1. **Data Rendering & Preprocessing**
    - The assistant loads real-time IoT feeds (energy, traffic, air quality) then normalizes and geo-aligns them using Granite's geospatial/time-series capabilities (e.g., *Granite-EarthObservation*, *TimeSeries-TTM*) forbes.com+7ibm.com+7news.sap.com+7community.ibm.comnews.sap.comgithub.com.
2. **Filters & Calculations**
    - District, timeframe, pollutant threshold filters—user choices feed into DAX-like queries or LLM logic.
    - Calculation fields include "AvgEnergyPerCapita", "EmissionScore", etc., computed via LLM-generated formulas or Power BI DAX.
3. **Granite LLM Tasks**
    - **Forecasting**: Use *Granite-TimeSeries* models to predict energy or pollution trends.

- **RAG & Reasoning**: Leverage Retrieval-Augmented Generation with chain-of-thought prompting to explain anomalies or suggest sustainability actions github.com+1reddit.com+1.
- **Vision & Detection** (if applicable): Use *Granite-EarthObservation* for multimodal tasks like detecting traffic congestion or waste bin status.

4. **Dashboard & Story Design**
   - Visualizations (maps, trends, gauge KPIs) paired with LLM-generated narrative commentary for context and insight.
   - Story pages synthesize key indicators—e.g., monthly air quality summary or energy reduction recommendations.
5. **Guardrail & Safety**
   - Granite Guardian ensures data integrity, prevents misinformation, and validates RAG-generated content ibm.com+1community.ibm.com+1.

✅ **Example Filled Values**

- **TC-001** – Map displays live AQI correctly; pass.
- **Bug BG-001** – Energy forecast off by 30%; logged high-severity, open.
- **Dashboard** – 6 visuals: map, trend chart, gauge, KPI card, alert table, narrative text.
- **Story** – 4 visuals: monthly emissions, policy impact chart, forecast, citizen request breakdown.
