Smart City Project – Data Flow & User Stories Date: 31 January 2025  
Team ID: LTVIP2025TMID37298  
Project Name: Sustainable Smart City Assistant Using IBM Granite LLM  
Maximum Marks: 4 Marks

Data Flow Diagram (DFD) Summary

A Data Flow Diagram (DFD) for this project visualizes how smart city users interact with the system, how data is processed, stored, and served back.

Key Entities: - User (Mobile/Web): Initiates query or registers/logs in. - AI Assistant (LLM): Processes user input. - Backend System: Routes data to Watsonx Granite or other services. - Database / Vector Store: Stores smart city data and user interactions. - External APIs: Weather API, Aadhar API for user verification. - Admin Dashboard: For monitoring logs, analytics, and feedback.

Suggested DFD Levels: - Level 0: Shows interaction between user → assistant → data storage → response. - Level 1: Breaks down registration, login, query handling, and external API usage.

(Tip: Use standard DFD symbols – circles (processes), rectangles (entities), arrows (data flow), and open rectangles (datastores))

User Stories

| User Type | Functional Requirement (Epic) | User Story No. | User Story / Task | Acceptance Criteria | Priority | Release |
| --- | --- | --- | --- | --- | --- | --- |
| Customer (Mobile/Web) | Registration | USN-1 | As a user, I can register using email/password | Account created, redirected to dashboard | High | Sprint-1 |
|  |  | USN-2 | As a user, I receive confirmation email/OTP | Email/OTP received and verified | High | Sprint-1 |
|  |  | USN-3 | As a user, I can register with LinkedIn | LinkedIn login works and dashboard opens | Medium | Sprint-2 |
|  | Login | USN-4 | As a user, I can log in with email/password | Login works and dashboard loads | High | Sprint-1 |
|  | Query Submission | USN-5 | As a user, I can ask questions about city services (water, traffic, energy, etc.) | Assistant replies with accurate data | High | Sprint-2 |
|  | Voice Commands | USN-6 | As a user, I can ask questions via voice | STT works and LLM replies accurately | Medium | Sprint-3 |
|  | Analytics View | USN-7 | As a user, I can view dashboards for energy and waste usage | Graphs load with current data | High | Sprint-2 |
| Administrator | Monitoring | USN-8 | As admin, I can view user queries and performance metrics | Admin dashboard loads with logs and analytics | High | Sprint-3 |
| Customer Support | Feedback Handling | USN-9 | As support staff, I can view user feedback and resolve issues | Ticketing system works and statuses update | Medium | Sprint-3 |