

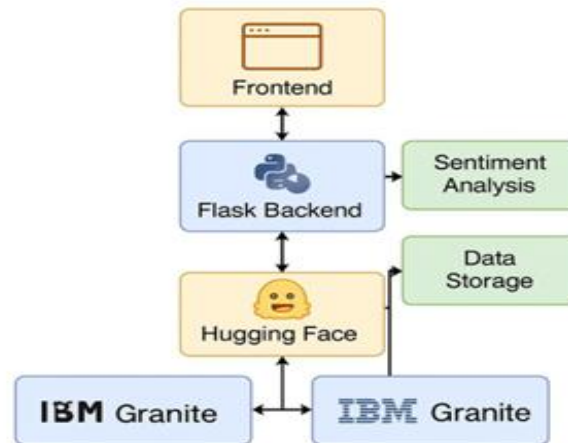
Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	27 June 2025
Team ID	LTVIP2025TMID29301
Project Name	Citizen AI – Intelligent Citizen Engagement Platform using IBM Granite
Maximum Marks	4 Marks

Technical Architecture

- Web interface (HTML/CSS + Bootstrap) allows citizen and admin interaction.
- Backend built in **Python Flask**, locally hosted or deployable on **Render/Firebase/IBM Cloud**.
- LLM responses and feedback analysis powered by **IBM Granite via Hugging Face**.
- Sentiment analysis and feedback are processed through backend logic.
- User data and sentiment scores are temporarily stored (extendable to Firebase/Firestore).
- Future integration possible with external government/public service APIs.



Guidelines:

- Include all the processes (as application logic / technology blocks)
- Provide infrastructural demarcation (Local / Cloud)
- Indicate external interfaces (third-party APIs, etc.)
- Indicate data storage components / services
- Indicate interface to machine learning models (if applicable)

Table-1 : Components & Guidelines

S.No	Component	Description	Technology
1	User Interface	Web interface for citizens and admins	HTML, CSS, Bootstrap
2	Application Logic-1	Citizen query & feedback capture via Flask routes	Python Flask
3	Application Logic-2	Query handling & response generation using Granite LLM	Hugging Face API, IBM Granite LLM
4	Application Logic-3	Sentiment analysis of submitted feedback	Rule-based Sentiment Classifier
5	Database (optional)	Store feedback, sentiment results, and user logs	Firebase / JSON (for local)
6	Cloud Hosting	Deployment and public access	Render / Firebase Hosting
7	File Storage	Local model files and feedback logs	Flask local storage (extendable)
8	External API-1	Granite LLM API via Hugging Face	Hugging Face API
9	ML Model	Sentiment classification & LLM-based response	IBM Granite LLM

