

Project Design Phase-II Technology Stack (Architecture & Stack)

Date	03 Jun 2025
Team ID	LTVIP2025TMID59708
Project Name	Citizen AI – Intelligent Citizen Engagement Platform
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: <https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/>

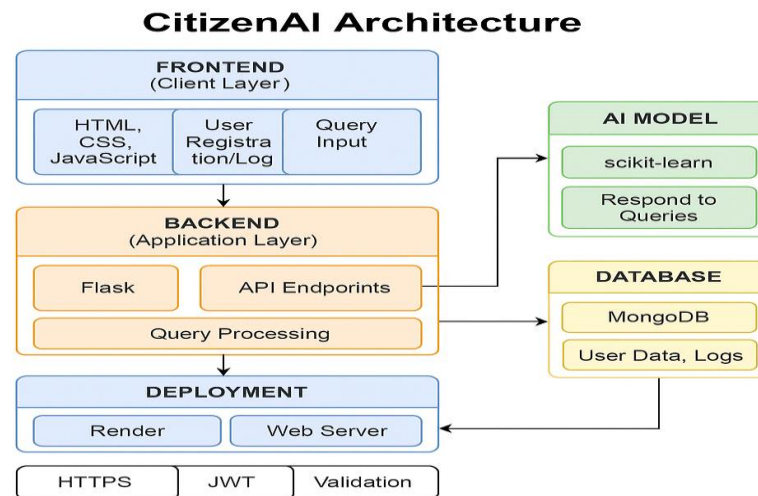


Table-1 : Components & Technologies:

S.No	Component	Description	Technology (CitizenAI)
1	User Interface	How users interact (web/mobile interface, chatbot)	HTML, CSS, JavaScript (optional: React JS)
2	Application Logic-1	Business logic for handling requests	Python (Flask or FastAPI)
3	Application Logic-2	Conversational logic using NLP	IBM Watson Assistant
4	Database	Local storage for user data, logs	MongoDB (NoSQL)
5	Cloud Database	Scalable cloud-based database	IBM Cloudant
6	File Storage	Store user logs, uploaded files	IBM Block Storage / Local Filesystem
7	External API-1	Weather insights or contextual services	IBM Weather API
8	Machine Learning Model	Analyze user intent, classify requests	scikit-learn or custom-trained ML model
9	Infrastructure (Server/Cloud)	Hosting/deployment infrastructure	IBM Cloud Foundry, optionally Docker + Kubernetes

Table-2: Application Characteristics:

S.No	Characteristic	Applied Concept / Implementation
1	Open-Source Frameworks	Flask, scikit-learn, MongoDB
2	Security Implementations	HTTPS, IAM controls
3	Scalable Architecture	3-Tier Architecture (Frontend, Backend, Database), Flask APIs
4	Availability	IBM Cloud Foundry
5	Performance	Async Flask routing

References:

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>