**Smart Bridge Internship**

**Generative AI With IBM Cloud**

Project title:

Citizen AI – Intelligent Citizen Engagement Platform

Team ID : LTVIP2025TMID36040

Team members:

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**Phase 1: Brainstorming & Ideation**

**Objective:**

To conceptualize an AI-driven platform that modernizes how governments interact with citizens, making services more accessible, responsive, and data-informed.

**Key Tasks:**

* Identify current issues in public service engagement and communication delays.
* Explore AI’s role in automating responses, analyzing sentiment, and providing actionable insights.
* Brainstorm possible features: chatbot, issue reporting, sentiment trends, analytics dashboard.
* Align the project vision with public sector goals like transparency, trust, and efficiency.

**Phase 2: Requirement Analysis**

**Objective:**

To define the technical and functional needs of the system, ensuring it meets both user expectations and government standards.

**Key Tasks:**

* List required features for each use-case: chat assistant, sentiment analyzer, dashboard.
* Identify integration needs: IBM Granite for NLP, IBM Watson for sentiment analysis, Flask for web backend.
* Specify user roles (citizens, admin users) and access controls.
* Define performance requirements (e.g. low-latency responses, high uptime).
* Plan for scalability, security, and multilingual support if required.

**Phase 3: Project Design**

**Objective:**

To plan the system architecture, data flow, and user experience for smooth and efficient operation.

**Key Tasks:**

* Design backend architecture using Flask and REST APIs.
* Plan frontend layout and interactions (chat UI, feedback forms, dashboards).
* Build a workflow for real-time sentiment processing and response generation.
* Define database structure for storing user interactions, sentiment logs, and issue reports.
* Ensure the design allows for modular upgrades and third-party API integrations

**Phase 4: Project Planning (Agile Methodologies)**

**Objective:**

To adopt an iterative development process that ensures regular delivery, testing, and improvement of system components.

**Key Tasks:**

* Break the development into manageable sprints with clear goals.
* Prioritize MVP (Minimum Viable Product) features in early sprints.
* Use Agile ceremonies: sprint planning, daily standups, reviews, retrospectives.
* Set up version control (Git), task tracking (e.g. Jira/Trello), and CI/CD pipelines.
* Collect continuous stakeholder feedback after each sprint to refine features.

**Phase 5: Project Development Objectives**

**Objective:**

To implement the core functionalities of Citizen AI across all key features using clean, efficient, and scalable code.

**Key Tasks:**

* **Real-Time Conversational Assistant:**  
  Develop a chatbot interface integrated with IBM Granite for human-like interactions.
* **Sentiment Analysis:**  
  Build a sentiment classification engine using NLP to tag feedback as Positive, Neutral, or Negative.
* **Dynamic Dashboard:**  
  Create a responsive, real-time dashboard that visualizes sentiment trends, issue reports, and engagement analytics.
* **Personalized Responses:**  
  Train the assistant to provide context-aware, personalized answers based on user query history and intent.
* Optimize all modules for performance, response time, and mobile/web compatibility.

**Phase 6: Functional & Performance Testing**

**Objective:**

To verify that the platform functions as intended, performs well under various loads, and is user-friendly and secure.

**Key Tasks:**

* Conduct **functional testing** of chatbot flow, sentiment classification, and dashboard visualization.
* Perform **load and stress testing** to ensure the platform can handle multiple concurrent users.
* Carry out **usability testing** to evaluate the citizen user experience and identify areas for improvement.
* Run **security testing** for data protection, user privacy, and prevention of unauthorized access.
* Fix bugs and optimize models based on testing results.