**Project Design Phase**

**Problem Solution**

|  |  |
| --- | --- |
| Date | **27 June 2025** |
| Team ID | **LTVIP2025TMID31892** |
| Project Name | **Citizen AI – Intelligent Citizen Engagement Platform** |
| Maximum Marks | **2 Marks** |

**🔹 1. Problem Recap**

Summarize the core issues being addressed:

*Citizens across India face challenges in effectively communicating with government departments due to language barriers, limited digital access, delayed grievance redressal, lack of transparency, and absence of intelligent, personalized support systems.*

**🔹 2. Vision Statement**

*To build an AI-powered citizen engagement platform that empowers every Indian citizen to communicate with the government easily, in their own language, through intelligent, inclusive, and accessible technology.*

**🔹 3. Proposed Solution**

| **Aspect** | **Description** |
| --- | --- |
| **Solution Name** | Citizen AI |
| **What It Does** | Provides an AI-powered interface for citizens to submit queries, track status, and receive updates via text, voice, or chatbot in multiple Indian languages. |
| **Platform Scope** | Web App, Mobile App, WhatsApp Bot, Voice Bot, Admin Dashboard |
| **Key Modules** | NLP Chatbot, Voice Assistant, Ticketing System, Sentiment Analysis, Feedback Engine |
| **Backend AI Layer** | Natural Language Processing (multilingual), Entity Recognition, Sentiment Detection |
| **Integration** | Government databases, e-Governance APIs, UIDAI, DigiLocker, SMS/Email services |
| **User Roles** | Citizens, Government Officers, Administrators |

**🔹 4. Key Features**

| **Feature** | **Purpose** |
| --- | --- |
| Multilingual Chatbot | Enables real-time communication in regional languages |
| Voice Input Support | Allows less literate citizens to interact easily |
| Ticketing System | Tracks issue submissions and updates citizens on progress |
| Feedback and Survey Module | Captures citizen satisfaction and suggestions |
| Analytics Dashboard | Gives government officials a sentiment- and priority-based view of issues |
| AI Routing & Prioritization | Auto-assigns grievances based on urgency, topic, or location |

**🔹 5. Benefits**

| **Stakeholder** | **Benefits** |
| --- | --- |
| **Citizens** | Faster redressal, transparency, ease of access, inclusion |
| **Govt. Officials** | Reduced workload through automation, better insights, improved service |
| **Policy Makers** | Data-driven decision-making based on real-time citizen feedback |

**🔹 6. Alignment with National Goals**

* **Digital India**: Promotes digital-first citizen interfaces
* **Smart Cities Mission**: Enables smart, responsive governance
* **Language Inclusion**: Supports all major Indian languages
* **AI for Good**: Uses responsible AI for public benefit

**🔹 7. Technology Overview**

| **Layer** | **Tools/Tech** |
| --- | --- |
| Frontend | React, Flutter, Tailwind CSS |
| Backend | Node.js / FastAPI, PostgreSQL, MongoDB |
| AI/NLP | Hugging Face Transformers, IndicBERT, LangChain |
| DevOps | Docker, Kubernetes, GitHub Actions |
| Security | OAuth 2.0, HTTPS, AES Encryption |

**🔹 8. Future Extensions**

* Integration with **India Stack** (e.g., DigiLocker, UPI)
* Offline voice bot for areas with low internet
* Custom citizen service score based on participation
* Predictive analytics for resource planning

**🔹 9. Proposed Solution Output**

* Functional Specification Document
* High-level Wireframes & System Architecture
* Defined Modules and APIs for Development
* Initial Prototype or MVP Design

**✅ Conclusion**

**Citizen AI** offers a scalable, intelligent, and inclusive approach to transforming the way citizens interact with their government. It blends cutting-edge AI with a deep understanding of India's linguistic, cultural, and administrative diversity.