Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	29 JUNE 2025
Team ID	**LTVIP2025TMID37420**
Project Name	Citizen AI – Intelligent Citizen Engagement Platform
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	**Core Data & Initial AI Setup**	Collection of Citizen Interaction Data . Loading Historical Data into Secure Database. Handling Missing Values in Citizen Records. Handling Categorical Values .
FR-2	**AI Model Development & Platform Deployment**	Developing Core AI Models . Testing AI Model Accuracy and Performance. Developing User-Facing Web/Mobile Interface. Deploying Backend Services (e.g., Flask for API integration).
FR-3	**Advanced Features & Integration**	Implementing Personalized Citizen Dashboards. Developing Feedback & Polling System for Public Opinion. Integrating with Existing City Databases/APIs (e.g., permits, utilities). Setting up Proactive Notification System (SMS/Email alerts for status updates).
FR-4	**User Acceptance & Optimization**	Conducting Pilot Program with Selected Citizen Groups. Gathering and Analyzing User Feedback from Pilot. Improving AI Model based on Pilot Feedback and Performance Data. Performance Optimization & Bug Fixing across the Platform.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system's user interface and overall interaction must be intuitive and easy for all citizens to use, regardless of their technical proficiency. This includes ensuring a clear navigation path, consistent design elements across web and mobile interfaces, and easy access to core features like registration, AI chatbot interaction, and feedback submission.
NFR-2	**Security**	The platform must protect sensitive citizen data and ensure the integrity and confidentiality of all information. This involves implementing robust authentication mechanisms (e.g., secure login, multi-factor authentication where appropriate), strong authorization controls to define what different user types (citizens, administrators) can access and do, and comprehensive data encryption for data at rest and in transit.
NFR-3	**Reliability**	The system must consistently perform its intended functions correctly and without failure. This means the AI chatbot should reliably provide accurate responses, user registrations should always process correctly, and data submissions (like feedback or poll responses) should be dependable.
NFR-4	**Performance**	The platform must exhibit quick response times and efficient processing to provide a smooth user experience. This includes ensuring that pages load swiftly, the AI chatbot responds to queries promptly (e.g., within a few seconds), and data operations (like searching for civic information or submitting feedback) complete without noticeable delays.
NFR-5	**Availability**	The platform must be accessible and operational to citizens whenever they need to use it. This means minimizing downtime to ensure continuous access to the AI chatbot, civic information, and engagement features. High availability measures, such as redundant systems, failover mechanisms, and efficient recovery processes, should be in place to ensure that the platform is consistently up and running, especially during peak usage hours or critical events.
NFR-6	**Scalability**	The platform must be capable of expanding its capacity to handle an increasing number of users, data, and functionalities without significant performance degradation or requiring a complete re-architecture. As the "Citizen AI Intelligent Engagement Platform" grows in popularity and adoption across different cities or larger citizen bases, it should be able to accommodate more concurrent users, process larger volumes of interaction data, and integrate new AI models or features seamlessly. This includes considering scalable database solutions and flexible cloud infrastructure.