

## Functional Specification Document (FSD)

**Project Name:** Citizen AI – Intelligent Citizen Engagement Platform

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### 1. Project Overview

Citizen AI is an AI-powered citizen engagement platform designed to enhance grievance redressal mechanisms through multilingual chatbots, real-time routing of complaints, and advanced analytics for government departments.

### 2. Purpose

The purpose of this document is to define the functional specifications and requirements of the Citizen AI platform to ensure all stakeholders understand how the system should behave.

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### 3. Functional Scope

#### 3.1 Core Modules:

- Multilingual AI Chatbot (Text & Voice)
  - Complaint Auto-routing
  - Department Admin Panel
  - Sentiment & Feedback Analysis
  - Notification System (SMS/Email)
  - Analytics Dashboard (Power BI/Tableau)
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### 4. Functional Requirements

FR No.	Description
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FR1	The system shall allow citizens to register using mobile number/email.
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## FR No. Description

FR2	The chatbot shall support 12+ Indian languages with both text and voice.
FR3	The system shall auto-classify the complaint intent using NLP techniques.
FR4	Complaints shall be automatically routed to the appropriate department.
FR5	The department admin shall be able to change status and view complaints.
FR6	Users shall receive SMS/email updates when the complaint status changes.
FR7	Citizens shall be able to provide feedback and rate responses.
FR8	The system shall perform sentiment analysis on user feedback.
FR9	An analytics dashboard shall be provided for all escalations and KPIs.
FR10	All actions shall be logged with time, user, and action description.

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## 5. User Roles & Permissions

Role	Permissions
Citizen	Submit complaints, view status, give feedback
Department Admin	View complaints, assign, resolve, escalate, update status
Analyst	View dashboards, download reports
Super Admin	Manage departments, users, data configurations, view all reports

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## 6. Non-Functional Requirements

- System shall be available 99.9% uptime
- Response time for chatbot replies shall be < 1 sec
- API latency shall be under 500 ms
- Data must be encrypted in transit and at rest (AES-256)

- Interface shall comply with WCAG 2.1 accessibility guidelines
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## **7. System Integrations**

- Government APIs (eSeva, Municipal Portals)
  - SMS Gateway (e.g., Twilio)
  - Email Notification (e.g., SendGrid)
  - NLP API (Hugging Face, spaCy)
  - BI Tools (Power BI, Tableau)
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## **8. Data Flow Overview**

1. Citizen interacts with chatbot
  2. Input is processed using NLP
  3. Complaint is classified and routed
  4. Ticket is stored in grievance DB
  5. Notification is triggered
  6. Admin views & resolves
  7. Feedback collected
  8. Analytics updated
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## **9. Assumptions**

- Users have smartphones or access to internet-connected devices
  - Departments will cooperate with API-based routing
  - Feedback participation rate expected  $\geq 60\%$
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## 10. Appendices

- Glossary of Terms
  - External API References
  - Wireframe Mock-ups (Separate document)
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