

## Team Details

Team Name: **Indorikaran**

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Problem Statement: **Jansunwai**

### Problem Summary:

The current system suffers from misrouting, manual escalation delays, and lacks SLA tracking or real-time monitoring. There's no integrated dashboard for end-to-end grievance management, weak post-resolution feedback, limited analytics for root-cause insights, low accessibility for non-tech users, and poor integration with existing municipal platforms.

## Tech Solution

A multilingual AI-powered platform with voice/text input that smartly routes grievances using conversational AI. Citizens can upload images, audio, or PDFs. Officers get role-based dashboards to track and resolve complaints. Predictive analytics highlight recurring issues for proactive action.

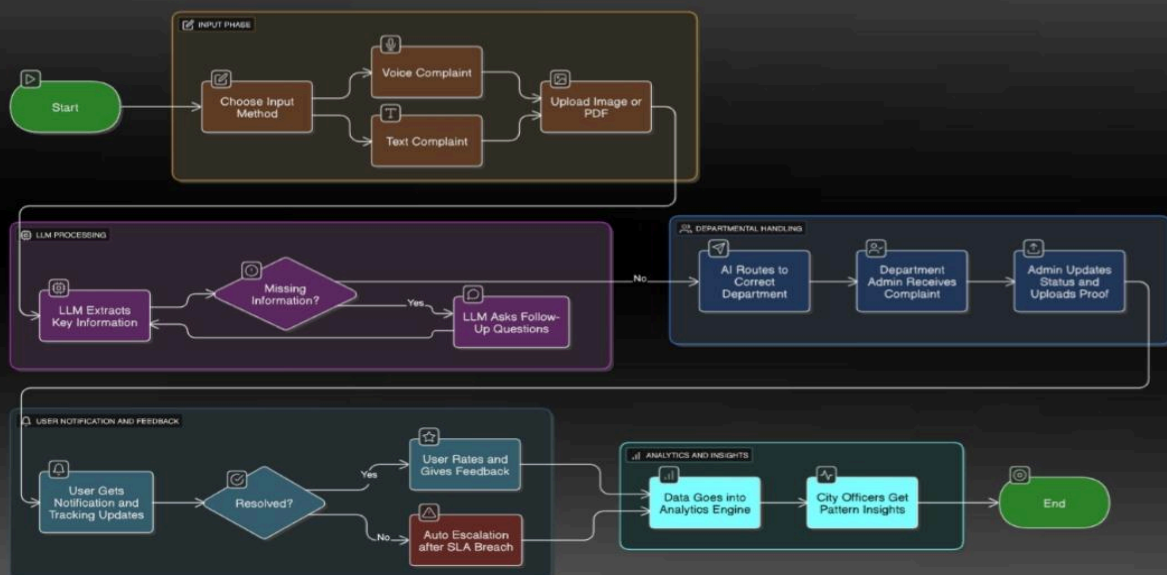
### Key Features

| Feature                           | Description   |
|-----------------------------------|---|
| <b>Voice &amp; Text Interface</b> | Citizens can speak or write complaints in Hindi, English, or local dialect  |
| <b>AI Routing Engine</b>          | Smart classification based on prompt, address, keywords, image/PDF metadata |
| <b>SLA Enforcement</b>            | Each issue type has a pre-defined SLA with auto-escalation                  |
| <b>Citizen Dashboard</b>          | Track issue, contact officer, comment on updates, upload more info          |
| <b>Admin Dashboard</b>            | Department-specific portals with update panels and analytics                |
| <b>Feedback Mechanism</b>         | Mandatory feedback loop post-resolution                                     |
| <b>Predictive Analytics</b>       | Identify frequent issues and root causes using clustering and trends        |
| <b>Integration APIs</b>           | Connects with existing e-Governance   |

| Feature                           | Description   |
|-----------------------------------|---|
| <b>Voice &amp; Text Interface</b> | Citizens can speak or write complaints in Hindi, English, or local dialect                |
| <b>Urgency scoring</b>            | Using AI to prioritise greater problems   |
| <b>Timeline view</b>              | Using previous data and standard procedure time we will provide expected timeline to user |

## Innovation

- ❖ **Conversational AI Intake:** LLM-powered smart form that gathers complete complaint details via human-like interaction.
- ❖ **Multimodal Input:** Accepts voice, image, PDF, and text.
- ❖ **Predictive Problem Clustering:** Uses ML to identify hotspots and prevent recurring issues.
- ❖ **Role-Based Interfaces:** Customized admin portals for officers with AI-suggested actions.
- ❖ **Transparent Escalation Path:** Real-time visibility of which department and officer is responsible
- ❖ **Real time Info:** user will get information if someone else already filed the same complaint.



Tech Stack

| Layer            | Technology                                    |
|------------------|---|
| Frontend         | React.js, TailwindCSS, Framer Motion          |
| Backend          | Node.js + Express.js, Python (for AI/ML)      |
| Database         | PostgreSQL, MongoDB (for documents/images)    |
| AI/NLP           | OpenAI GPT APIs, LangChain, spaCy, fastText   |
| Speech Interface | Whisper ASR for voice-to-text                 |
| Image Parsing    | Tesseract OCR, YOLOv5 (for structural images) |
| Hosting          | AWS, Docker, NGINX                            |
| Analytics        | Metabase, Grafana, D3.js                      |

Expected Impact

- **Quicker Resolutions:** Automated routing and SLA enforcement reduce delays.
- **Enhanced Trust:** Transparent tracking builds citizen confidence.
- **Data-Driven Planning:** Predictive insights help city plan maintenance more efficiently.
- **Greater Accessibility:** Voice input, regional language support improve reach.
- **Replicable Model:** Easily scalable to other cities or states.

Additional Enhancements:

- **WhatsApp Integration:** Enable citizens to file and track complaints directly via WhatsApp for ease of access.
- **Emergency Auto-Calls:** Trigger automated voice calls to relevant departments in case of emergencies like water leakage, power cuts, or accidents.
- **Rewards for Feedback:** Introduce a points/rewards system to encourage citizen feedback and engagement post-resolution.