Crowd sourced Civic Issue Reporting and Resolution System.

Problem Statement

Citizens face daily civic issues (potholes, garbage, streetlights)

Lack of effective reporting & tracking tools

Municipalities struggle with prioritization & transparency

❖ Proposed Solution

➤ **What we do :**
- Develop a mobile app for citizens to report civic problems, with an AI-powered dashboard for officials to view, manage, and resolve them.

➤ **How it works:**
- Citizens capture and submit issues with a photo, location, or short note.
- The app uses AI to identify the issue and automatically routes it to the right department.
- Officials receive the issue on a dashboard, act on it, and update the status in real time.
- Citizens get notifications at every stage, from submission to resolution.

➤ **Why it's impactful:**
- Enables faster issue resolution.
- Transparency builds trust between the community and the municipality.
- Rewards citizens for active participation, boosting engagement

TECHNICAL APPROACH

Frontend Development
- React + TypeScript + Vite → Web app (SPA) for citizens to report issues
- Tailwind CSS → Professional, responsive UI/UX
- Optional Mobile Support → Progressive Web App (PWA) for mobile users

- **Backend Development**
  - Supabase → Server-side logic, authentication, and APIs
  - REST / GraphQL APIs → Fast and secure communication between frontend and backend
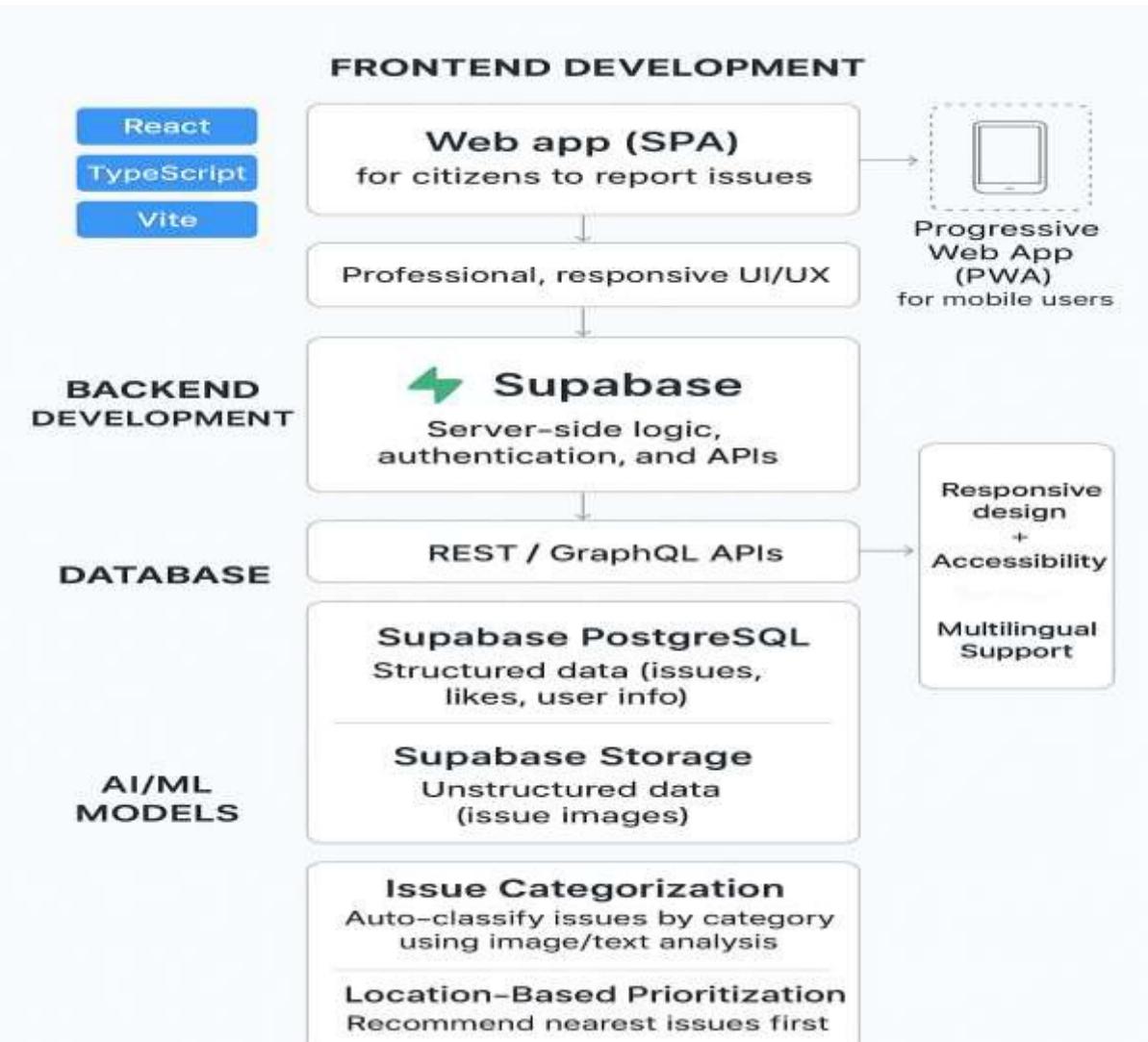
- **Database**
  - Supabase PostgreSQL → Structured data (issues, likes, user info)
  - Supabase Storage → Unstructured data (issue images)
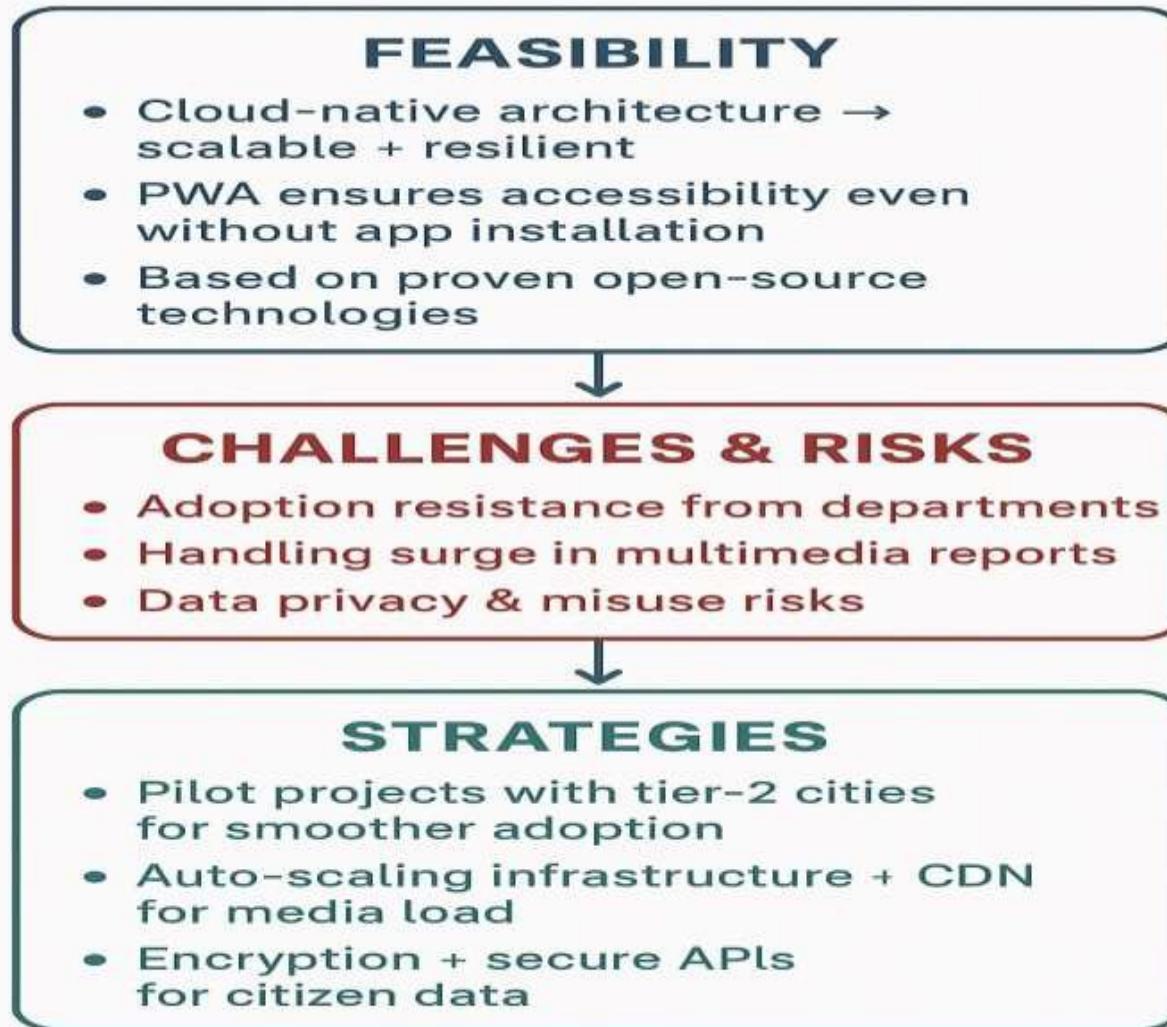
- **AI/ML Models**
  - Issue Categorization → Auto-classify issues by category using image/text analysis
  - Location-Based Prioritization → Recommend nearest issues first
  - Auto Summary Generation → Generate concise summaries of reported issues for faster review

- **Communication & Accessibility**
  - Responsive design + Accessibility → Works on all devices
  - Multilingual Support → Support for local languages for broader accessibility

FEASIBILITY AND VIABILITY

FEASIBILITY
- Cloud-native architecture → scalable + resilient
- PWA ensures accessibility even without app installation
- Based on proven open-source technologies

CHALLENGES & RISKS
- Adoption resistance from departments
- Handling surge in multimedia reports
- Data privacy & misuse risks

STRATEGIES
- Pilot projects with tier-2 cities for smoother adoption
- Auto-scaling infrastructure + CDN for media load
- Encryption + secure APIs for citizen data

IMPACT AND BENEFITS

✓ The platform empowers citizens to actively participate in governance by reporting civic issues.

✓ A public live map and status tracking bring transparency and accountability.

✓ Municipal staff become more responsive due to real-time reporting and monitoring.

✓ AI-powered routing enables faster and more accurate resolution of problems.

✓ The solution reduces dependency on middlemen and builds citizen trust in the system.

✓ Gamified rewards encourage citizens to contribute regularly.

✓ Data insights help governments with preventive urban planning and better resource allocation.

RESEARCH AND REFERENCES

- GovTech reports on **citizen reporting platforms**

- Case Studies: **SeeClickFix (USA), FixMyStreet (UK)**

- AI/ML research: image classification & summarization

- Supabase documentation & PWA best practices

- Research papers on geospatial analytics for civic issue mapping.

- Open-source documentation for Supabase, React, and AI/ML libraries used in the solution