

Crowdsourced Civic Issue Reporting & Resolution System

■ Step 1: Problem Understanding

Citizens face civic issues (potholes, garbage, water leaks, broken streetlights, etc.). Many issues remain unreported due to lack of proper channel.

Goal → Build a mobile/web app where citizens can report issues with photo + location, and authorities can track & resolve them.

■ Step 2: Data Collection (Inputs)

Citizen reports:

- 1 Issue type (dropdown: garbage, road, water, electricity, etc.)
- 2 Photo upload (proof)
- 3 Geo-location (via GPS or map)
- 4 Short description

System data:

- 1 Status of issues (open, in-progress, resolved)
- 2 Assigned department/person

■ Step 3: User Roles

1. Citizen:

- 1 Report new issue (photo, GPS, description).
- 2 Track status of previously reported issues.
- 3 Upvote/like issues (to prioritize common problems).

2. Admin/Authority (Municipal body):

- 1 View reported issues on dashboard (map + list).
- 2 Assign issue to relevant department.
- 3 Change status → In-progress / Resolved.

3. Public Dashboard (Optional):

- 1 Map showing reported issues.
- 2 Transparency → citizens can see updates.

■ Step 4: Smart Features (to make it unique)

- 1 AI/ML for auto-classification: Automatically detect issue type from uploaded photo (optional).
- 2 Priority Ranking: Issues with higher upvotes or larger impact → pushed up.
- 3 Gamification: Citizens earn points/badges for reporting or upvoting genuine issues.
- 4 Crowdsourced Validation: Other citizens can verify if the issue still exists (avoid spam).

■ Step 5: System Architecture

- 1 Frontend (Web/Mobile): React/Flutter app for citizens + authority dashboard.
- 2 Backend (API): Node.js/Flask/FastAPI for handling reports, storing data, and authentication.
- 3 Database: Stores issue reports, user data, and statuses (MongoDB/MySQL).
- 4 Map Integration: Google Maps API / OpenStreetMap to pin issues.

■ Step 6: Hackathon Demo Flow

- 1 Citizen logs in → reports pothole with photo + GPS location.
- 2 Issue appears on Admin Dashboard with "Pending" status.
- 3 Admin assigns it to "Roads Department".
- 4 Citizen gets notification: "Your issue is in progress."
- 5 Once resolved, admin marks it as "Resolved" → citizen sees update.
- 6 Citizens can upvote issues → "Most urgent" problems appear on top.

■ Step 7: Hackathon-friendly Scope

Focus on MVP features:

- 1 ■ Citizen reporting form (photo + location).
- 2 ■ Admin dashboard with issue list + status update.
- 3 ■ Map view of issues.
- 4 ■ Notifications for updates.

Keep AI/photo classification, gamification, public dashboard as "future enhancements" → judges love to hear this.

■ Pipeline Flow

Citizen App → Report (photo + location) → Backend Database → Admin Dashboard → Status Updates → Notifications