

# IT314: Software Engineering (Project Report)

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## Project Title: Crowd-Powered Smart Complaint Management System

Group : 6

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## **The Problem:** Outdated Systems, Frustrated Citizens


→ Today, getting a pothole fixed or a broken streetlight repaired is often a slow and frustrating process. Traditional reporting methods like phone calls or outdated web portals lack transparency, leading to complaints being lost, duplicated, or ignored. This inefficiency results in prolonged public safety hazards, wasted resources, and a growing disconnect between citizens and their local government.

## **Our Vision:** Community-Powered Solutions

→ So we decided to create a modern platform designed to transform how urban issues are reported and resolved. We use the power of the community and artificial intelligence to create a transparent, efficient, and collaborative system that ensures civic problems are identified, prioritized, and fixed faster than ever before.

## **How It Works:**

- The process is streamlined for maximum ease and effectiveness:
- Report in Seconds: A citizen simply opens the app, takes a photo of the issue (e.g., garbage overflow, clogged gutter), and selects a category. The app automatically tags the time and location.
- Use of AI: Our intelligent system instantly analyzes the report. It categorizes the issue, checks for duplicates from the same location, and assesses urgency based on pre-defined factors (e.g., a gas leak near a school is high-priority).

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- **Transparent Tracking:** The complaint is instantly routed to the correct municipal department. The citizen receives a unique tracking ID and can monitor the status from "Received" to "In Progress" to "Resolved" in real time.
  - **Community Validation:** Users can upvote existing reports in their area, helping authorities gauge the scale and impact of a problem and prioritize accordingly.

## Key Benefits:

- **For Citizens:** Empowers you to easily improve your community and hold authorities accountable with a clear, transparent view of the resolution process.
- **For City Authorities:** Dramatically increases operational efficiency. Provides a centralized dashboard of real-time, AI-prioritized issues, reducing administrative overhead and enabling better resource allocation. Imbibes much missing accountability towards the customers in their operational requirements.
- **For Urban Planners:** Offers valuable, data-driven insights into recurring problem areas and infrastructure trends, supporting smarter long-term city planning and budgeting.

## Our Commitment: Privacy and Efficiency

- We prioritize user privacy. Our platform uses advanced privacy-preserving technology that analyzes data trends without compromising individual user identities or personal information.
- In essence, we try to create a collaborative community based feedback loop that leads to cleaner, safer, and better-maintained cities for everyone.



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## Future Plan and Highest & Least Priority

### Features:

→ In the future, our highest priority will be to ensure smooth and transparent complaint submission, AI-powered classification, and efficient routing to the right authority, since these are the backbone of the system. Once the core workflow is reliable, our next focus will be on privacy-preserving federated learning, multilingual support, and citizen feedback features to scale inclusively. The least priority features are advanced AI enhancements such as chatbots, automated reports, and gamification, which will be added later to enrich user experience but are not critical for the system's basic success.

### Links:

- **StickyNotes:**  Group\_6\_StickyNotes.jpg
- **Concept Poster:**  Group\_6\_ConceptPoster.jpg
- **Design Poster:**  Group\_6\_DesignPoster.jpg
- **Group Photo:**  Group\_6\_GroupPhoto.JPG

(Above files include Idea, Stakeholders, Users, Functional and Non-Functional Requirements, Tech Stack, Roles, Concept Poster, Notes, Design Poster and Group Photo)