

IT314 Project Group 6

Student ID: 2023010353

1. Requirements Elicitation Techniques

Stakeholders & Techniques

- **Citizens (End-Users)**

- Technique: Surveys and Questionnaires.
- Justification: Citizens are a large and geographically dispersed group. Surveys are a cost-effective way to gather quantitative data on their needs, frustrations with current systems , and desired features (like photo submission and tracking).
- Technique: Focus Groups.
- Justification: A moderated discussion with a small, diverse group of potential users can provide deep qualitative insights into their expectations for usability and transparency. This helps ensure the final product is genuinely user-friendly and builds trust.

- **City Authorities (Government/Municipal Departments)**

- Technique: Interviews.
- Justification: One-on-one interviews with department heads or officials are ideal for understanding their specific

operational workflows, how they currently handle complaints, what data they need for resource allocation, and how they would define "urgency" for different issue types.

- **System Administrators**

- Technique: Interviews.
- Justification: System administrators have technical needs related to system maintenance, monitoring, security, and user management. Direct interviews are the most efficient way to capture these specific, technical requirements to ensure the system is reliable and secure.

2. System Requirements

- **Functional Requirements:**

- **Complaint Submission:** Users must be able to create a new complaint by taking a photo, selecting a category, and having the time and location automatically tagged.
- **AI-Powered Analysis:** The system shall use AI to automatically categorize issues, detect potential duplicates from the same location, and assess the urgency of a complaint.
- **Complaint Routing:** The system must automatically route the complaint to the correct municipal department based on its category and location.

- **Transparent Tracking:** Citizens must be able to track the status of their submitted complaints in real-time (e.g., "Received," "In Progress," "Resolved") using a unique tracking ID.
- **Community Validation (Upvoting):** Users must be able to view and "upvote" existing complaints in their area to help authorities gauge the problem's impact.
- **Authority Dashboard:** City authorities must have access to a centralized dashboard that displays real-time, AI-prioritized issues to manage and allocate resources efficiently.
- **Feedback System:** After a complaint is marked "Resolved," the citizen should be able to provide feedback or a rating on the resolution.

- **Non Functional Requirements:**

- **Usability:** The mobile app for citizens must be intuitive and allow a complaint to be filed in seconds.
- **Performance:** The system must respond quickly, especially during complaint submission and status tracking, to avoid user frustration.
- **Reliability:** The system should be highly available and ensure that no submitted complaints are lost or ignored.
- **Scalability:** The system must be able to handle a growing number of users and complaints.
- **Security:** The system must protect user data and prevent unauthorized access to the administrative dashboard.

- **Privacy:** The platform must use privacy-preserving technologies to analyze data trends without compromising the personal information or identity of individual users.
- **Domain Requirements:**
 - **Departmental Structure:** The system must be configurable to match the specific departmental structure (e.g., Public Works, Sanitation, Water Supply) of any given municipality.
 - **Urgency Protocol:** The AI's urgency assessment must be based on pre-defined factors that align with public safety protocols (e.g., a gas leak is always higher priority than a flickering streetlight).
 - **Geospatial Accuracy:** Location tagging must be accurate enough to dispatch a service team to the precise location of the issue.

3. Product BackLog

- **Story 1 (Priority : Highest)**
 - Front of Card:**
 - **As a** concerned citizen,
 - **I want to** quickly submit a new complaint with a photo, category, and automated location/time,
 - **So that** I can report a civic issue the moment I see it without a complicated process.
 - **Back of Card (Acceptance Criteria):**

- Given I am a logged-in user, when I start a new report, the app must allow me to take a photo or upload one from my gallery.
- I must be able to select an issue category from a predefined list.
- The GPS location and current timestamp must be automatically captured and attached.
- Upon submission, I must receive a confirmation and a unique tracking ID.

Story 2 (Priority : Highest)

Front of Card:

- **As a** city authority official,
- **I want to** see a list of new complaints on a dashboard, automatically categorized and routed to my department,
- **So that** I can immediately see the issues I am responsible for resolving.

Back of Card (Acceptance Criteria):

- The dashboard must only display complaints relevant to my assigned department.
- Each complaint in the list must show its category, location, photo, and submission time.
- The system must correctly categorize at least 90% of incoming complaints based on the photo and user's selected category.

Story 3 (Priority : High)

● **Front of Card:**

- **As a** concerned citizen,

- **I want to** view the real-time status of my submitted complaint,
- **So that** I am informed about the progress and know that my report is being addressed.
- **Back of Card (Acceptance Criteria):**
 - I can enter my unique tracking ID to view a complaint's details.
 - The status must be clearly displayed as one of: "Received," "In Progress," or "Resolved."
 - The status must update in real-time as the authority official changes it on their dashboard.

Story 4: (Priority: High)

- **Front of Card:**
 - **As a** city authority official,
 - **I want** the dashboard to highlight high-priority issues (e.g., public safety hazards),
 - **So that** I can allocate resources to the most critical problems first.
- **Back of Card (Acceptance Criteria):**
 - The AI must assess and assign an urgency level (e.g., Low, Medium, High) to each complaint.
 - High-urgency complaints must be visually distinct on the dashboard (e.g., red color, bold text, or at the top of the list).
 - The criteria for what constitutes a high-priority issue (e.g., "gas leak," "fallen power line") must be configurable by a system administrator.

Story 5 (Priority : Medium)

- **Front of Card:**

- **As a** citizen,
- **I want to** see existing complaints near me and be able to upvote them,
- **So that** I can support an existing report instead of creating a duplicate and help show the authorities how many people are affected.

- **Back of Card (Acceptance Criteria):**

- The app must have a map or list view showing complaints submitted by others within a certain radius of my location.
- I can tap on a complaint to view its details and tap an "upvote" button.
- The total upvote count must be visible to both citizens and authority officials.