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GramSeva: An Integrated Citizen Complaint and Panchayat Decision-Support Platform

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ABSTRACT :

Local governance depends not only on the ability of residents to report public-service issues, but also on the ability of local officials to review, prioritize, assign, and follow up on those reports. This paper presents GramSeva, a web-based prototype that connects a citizen-facing complaint portal with a Panchayat-facing management dashboard. The citizen interface supports complaint entry through structured fields, category selection, priority cues, optional photo input, voice-assisted text processing, language selection, complaint tracking, and community voting. The administrative dashboard brings complaint queues, status changes, worker assignment, visit marking, resolution actions, ward-level visualization, activity history, broadcasts, report export, and AI-assisted recommendations into one workspace. The two interfaces are designed around a shared complaint lifecycle so that public submissions can be handled through a more visible and organized workflow. The current implementation is evaluated descriptively through its interface and client-side functionality, rather than through a field deployment or controlled user study. Therefore, claims about faster resolution, improved trust, or increased participation remain hypotheses for future evaluation. GramSeva offers a practical prototype for exploring how accessible reporting and administrative oversight can be combined at the Panchayat level.

Keywords: e-Governance, Panchayat, Citizen Grievance Redressal, Digital Participation, Complaint Management, Local Government Dashboard, Accessibility.

Introduction

Local public services are experienced at the community level: residents notice damaged roads, sanitation concerns, water-supply interruptions, street-light faults, and other issues that require attention from local authorities. In many settings, the route from reporting a problem to receiving an update can be difficult to follow. Complaints may arrive through several channels, while officials need a clear view of urgency, location, ownership, and progress. Digital grievance platforms provide a useful model for making submissions and status tracking more structured. India's Centralised Public Grievance Redress and Monitoring System (CPGRAMS), for example, allows citizens to lodge grievances and track them through a registration identifier [1]. However, local Panchayat workflows can require a more geographically focused view of complaints, workers, wards, and community-level priorities. The United Nations E-Government Survey also highlights the importance of linking digital participation with institutional processes rather than treating public engagement as a separate activity [2].

This paper introduces GramSeva, a prototype comprising two connected web interfaces: a citizen complaint portal and a Panchayat head dashboard. The citizen side focuses on lowering the effort required to describe an issue and follow its progress. The administrative side focuses on reviewing incoming reports, prioritizing work, assigning responsibility, recording action, and viewing summaries. The paper documents the implemented interface and workflow, identifies its current limits, and outlines a practical evaluation plan.

Literature Review

2.1 Adoption of Online Public Grievance Redressal Systems

Rana et al. (2016) [4], in their study titled "Adoption of Online Public Grievance Redressal System in India: Toward Developing a Unified View," examined the factors influencing citizens' adoption of online grievance redressal systems. The study considered established information technology adoption models to understand citizens' intentions to use digital government services. The findings provide a useful foundation for understanding why citizens may choose to use online platforms for reporting public issues. In the context of GramSeva, this research highlights the importance of making complaint submission convenient, understandable, and useful to residents. However, the findings of the study do not directly establish the effectiveness of the GramSeva prototype.

2.2 Public Engagement and Participation in Local Governance

Schafer (2019) [5] conducted a systematic review of public administration literature to identify ways of increasing public engagement and participation in local governance. The review examined existing research on how public managers can encourage citizens to participate in local decision-making and governance processes. This work is relevant to GramSeva because reporting local problems is one way residents communicate their needs and concerns to public authorities. The platform's complaint tracking and administrative status updates are intended to support communication between citizens and Panchayat officials. Nevertheless, whether these features improve participation or public satisfaction requires further evaluation with actual users.

2.3 E-Participation in E-Government Initiatives

Adnan et al. (2022) [6], in "E-Participation within the Context of E-Government Initiatives: A Comprehensive Systematic Review," examined existing research on electronic participation in e-government initiatives. The review provides a broader understanding of how digital technologies can facilitate interaction between citizens and government institutions. It also highlights the importance of considering the factors that influence participation in digital public services. This research provides a foundation for examining GramSeva as a digital channel for citizens to report community issues and follow their progress. The citizen portal and Panchayat dashboard are designed to connect public reporting with administrative action, although their actual impact on participation and service delivery has not yet been established.

2.4 Citizen E-Participation Through E-Government Services

Benlahcene et al. (2024) [7] reviewed research on citizens' electronic participation through e-government services. Their study discusses factors that can influence participation in digital public services, including considerations beyond the technical availability of a platform. This perspective is important for GramSeva because providing complaint categories, language controls, voice-assisted entry, and tracking features does not automatically guarantee that citizens will use or trust the system. Clear feedback, understandable information, and accountable administrative procedures are also important. The study supports the need to consider both the citizen-facing and administration-facing sides of digital grievance management. The usefulness of these features in GramSeva must still be assessed through user testing and practical evaluation.

2.5 Inclusion and Citizens' Experiences of Public Services

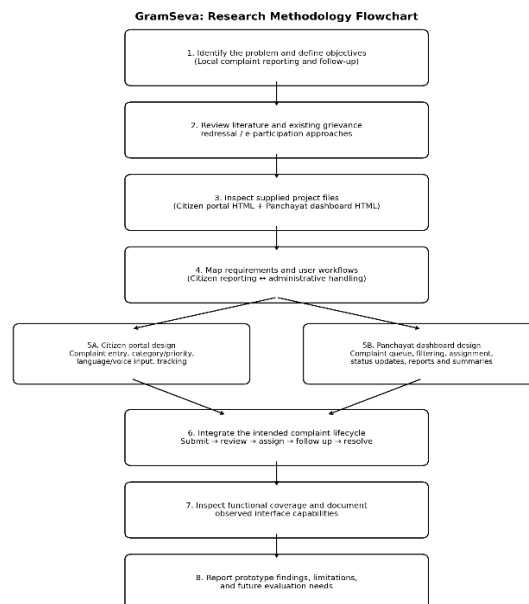
Licsandru et al. (2025) [8] reviewed public administration research on citizens' inclusion in public services and identified directions for future research. Their work provides a useful perspective on the importance of considering citizens' experiences when designing and delivering public services. This is relevant to GramSeva because residents may differ in language, digital literacy, access to devices, and familiarity with online systems. The prototype includes language-selection controls and a voice-assisted complaint-entry workflow intended to make reporting more approachable. However, these features should not be considered proven accessibility improvements until they have been evaluated with users from different backgrounds.

Research Methodology

3.1 Research approach

A design-and-prototype approach was used. The two supplied HTML files were examined as the primary evidence for the system description. The citizen portal contains interface elements for complaint composition, category and priority selection, language switching, voice-assisted text analysis, optional photo selection, complaint tracking, voting, and summary counts. The dashboard contains complaint queues, status controls, worker assignment, visit and resolution actions, category summaries, ward visualization, activity records, broadcast messaging, report export, and AI-assisted recommendation or fraud-review interfaces. The paper therefore evaluates the implemented interface structure and available client-side interactions, not an unobserved production service.

Figure 3.1 Research methodology and prototype development workflow of GramSeva.



3.2 Citizen complaint portal

The citizen interface is organized around reporting and follow-up. A resident can choose a complaint category, provide identifying and location details through form fields, describe the issue, set or review priority, and optionally attach a photo. A voice-assisted flow accepts spoken or typed input and displays analysis-related information such as detected language, translated text, category, and priority. The interface also includes language controls, a complaint list or tracking view, community voting, and headline counts for total, resolved, and pending complaints. These functions are intended to reduce friction in reporting and to make complaint status more visible.

3.3 Panchayat management dashboard

The administrative interface presents summary indicators for complaint volume and status, an urgent-issue banner, a complaint list with filtering, and actions to assign a worker, mark a visit, change status, flag a record, or confirm resolution. Additional panels show category distributions, ward-level visualizations, recent activity, and worker or report-related sections. The interface also contains broadcast, report-export, AI-insight, and fraud-check flows. These elements can help organize an official's daily review, but their operational validity depends on reliable data storage, permissions, audit logging, and integration with real administrative processes.

3.4 Shared complaint lifecycle

The intended workflow can be summarized as: citizen submits a complaint → the complaint is categorized and assigned a priority → the dashboard displays the record → an official assigns responsibility and records follow-up → the complaint status is updated → closure and summary information become available for review. The files include client-side state-handling functions, they do not establish that the application is connected to a secured database or deployed for real Panchayat use.

3.5 Data and implementation considerations

The supplied artefacts are HTML, CSS, and JavaScript interface prototypes. Their scripts include functions for state loading and saving, complaint rendering, status mutation, category or priority detection, language handling, and dashboard actions. The available files do not document a separate server API, a production database schema, authentication service, deployment configuration, or a validated machine-learning model. These components should not be assumed to exist. For deployment, complaint records would need a persistent backend, role-based access, secure handling of personal and location information, server-side validation, audit trails, backups, and clear retention policies.

Objectives of the Study

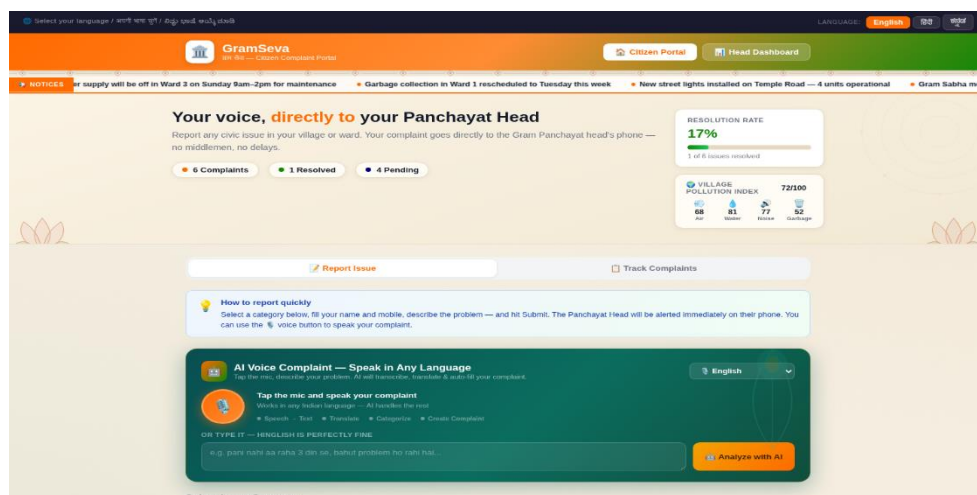
1. To design a citizen-facing web interface for submitting local complaints using structured details and category selection.
2. To support more accessible reporting through language controls and a voice-assisted complaint-entry workflow.
3. To provide a Panchayat-facing dashboard for viewing, prioritizing, assigning, and updating complaint records.
4. To present ward-level and category-level summaries that can help officials review the distribution of reported issues.
5. To document the current prototype honestly and define measurable tests for a future usability and operational evaluation.

Results and Discussions

5.1 Observed prototype capabilities

Inspection of the supplied interfaces indicates that the prototype covers the main screens needed to demonstrate a complaint lifecycle. The citizen page combines complaint entry with language and voice-assisted controls, while the dashboard groups review and action controls with summary visualizations. The use of a shared visual identity across the two pages helps present them as parts of one service. The dashboard's status pills, urgent indicators, category bars, ward map, and activity list are intended to make the queue easier to scan; the citizen page's form and tracking areas are intended to make reporting and follow-up easier to understand.

Fig 5.1: Citizen complaint portal showing complaint reporting, language controls, voice-assisted entry, and issue categories..



5.2 Accessibility and local context

The portal includes language-switching controls and a voice-assisted workflow, both relevant to a service intended for a diverse local population. These features are interface-level provisions and should not be treated as proof of accessibility or translation accuracy. Their usefulness needs to be checked with speakers of the supported languages, including users with limited digital literacy and users accessing the service on low-cost mobile devices. The design's ward-focused summaries also reflect the local nature of Panchayat work, where issue location and distribution may be as important as overall complaint counts.

5.3 Administrative oversight

The dashboard provides a single view of complaint status and actions such as assignment, visits, flagging, and resolution. Category and ward summaries may support prioritization, while activity history and report export may assist review. AI-assisted recommendation and fraud-check panels are present in the interface, but the supplied files do not provide independent evidence of model training, predictive accuracy, fairness, or real-world decision quality. Any such feature should remain advisory, explain its basis, and allow an authorized official to make the final decision.

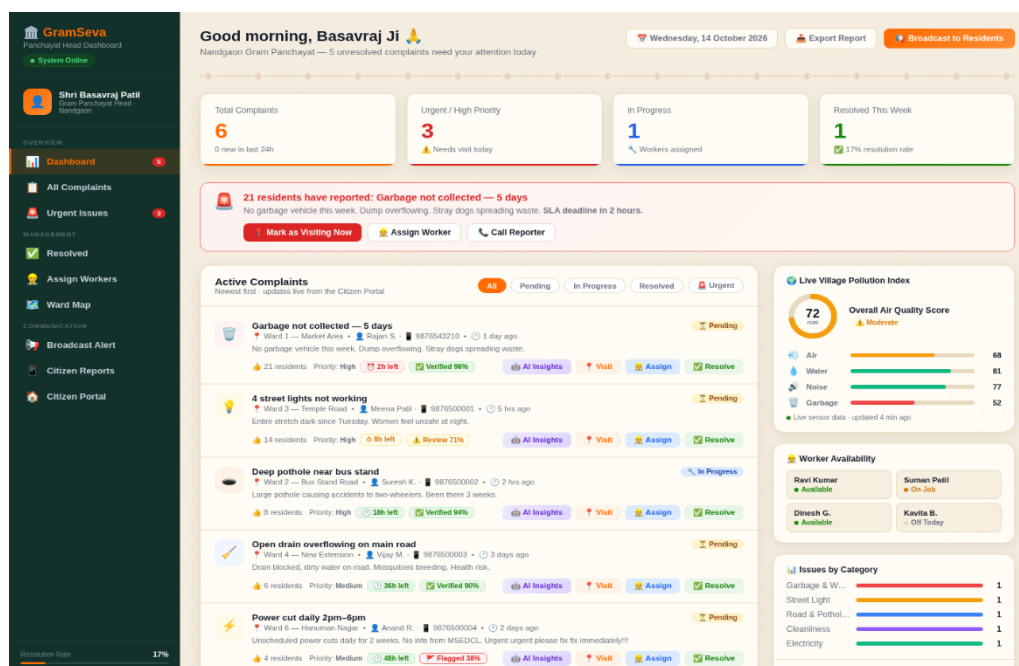


Figure 5.3.1 Panchayat head dashboard showing complaint summaries, urgent issues, complaint actions, and administrative indicators

5.4 Evaluation status and limitations

The present results are qualitative and based on feature inspection. No test dataset, number of participants, completion time, complaint-resolution rate, translation benchmark, or comparative baseline was supplied. It would therefore be inappropriate to report percentage improvements or to claim that GramSeva reduces resolution time. A future evaluation should measure task-completion rate, time to submit a complaint, successful status lookup, correctness of category and priority suggestions, language-processing quality, dashboard action errors, and official satisfaction. A pilot should also compare system results with actual case handling to assess whether status updates are timely and trustworthy.

6. Conclusion

GramSeva brings a citizen complaint portal and a Panchayat management dashboard together as a single local-governance concept. The citizen interface supports structured reporting, language controls, voice-assisted entry, optional photo input, tracking, and community voting. The administrative interface provides complaint review, prioritization, assignment, status updates, ward and category summaries, activity history, broadcasts, and report export. Together, these elements form a useful prototype for studying how citizen-facing reporting can be connected to day-to-day local administration.

The work remains at the prototype stage. Before field use, the system needs a secure backend, reliable persistent storage, authentication and role permissions, accessibility testing, privacy safeguards, and a clear operational policy for complaint assignment and closure. Future work should include usability testing with residents and Panchayat staff, language validation with native speakers, a small pilot, and quantitative reporting based on observed cases. The AI-related interface elements should be evaluated separately and should not automate sensitive decisions without evidence, transparency, and human oversight.

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