

Community Civic Issues Reporting Web Application

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Abstract - Civic issues, including potholes, waste buildup, damaged roads, and inadequate public infrastructure, have significantly increased because of the rapid rise of both urban and rural populations. A few digital solutions have been put out to streamline the registration process for civic complaints, automate problem-solving, and integrate image-based reporting. However, real-time tracking, transparency, and community-level participation are not well supported by current systems, which primarily concentrate on complaint reporting and administrative processing. By including multimedia-based complaint reporting, unique report identification, real-time status tracking, and community visibility of reported issues, the Community Civic Issues Reporting Web Application presented in this article expands on previous methods. In addition to increasing accountability and efficiency in managing civic issues, the proposed system offers a centralised and user-friendly platform that promotes citizen engagement. When compared to previous civic complaint reporting systems, the installed solution exhibits enhanced usability, openness, and community involvement.

Keywords: Web application, transparency, smart governance, community reporting, and civic complaint management

I. INTRODUCTION

Due to rapid urbanization and a constantly increasing population, there has been immense pressure on civic infrastructure, leading to a rise in civic issues such as potholes, broken roads, improper waste management, water leakage, and non-functional streetlights. Effective management of civic issues is required to provide safety, cleanliness, and a better quality of life for citizens. However, in many areas, the management of civic issues is still done through traditional or semi-manual methods that are time-consuming and inefficient.

Traditional methods of civic complaint registration may require citizens to physically visit government offices, write applications, or even make use of telephone-based services. Such methods require a lot of manual work on the part of both the citizen and the

government, and the documentation of complaints may also be poor. Moreover, citizens are not usually updated on the status of their complaints.

With the development of digital technology, various online platforms have been developed to facilitate the online registration of civic complaints. These platforms increase the accessibility of the process and minimize dependence on infrastructure by allowing citizens to register their complaints online. Recent trends have also highlighted the importance of multimedia, specifically images, to increase the accuracy of civic complaints. Images assist the concerned authorities in understanding the nature of the complaint, thereby eliminating any confusion in the assessment of the complaint. However, the current solutions available are limited to the registration of complaints and lack functionality in tracking.

To overcome these drawbacks, this paper proposes a Community Civic Issues Reporting Web Application that combines online complaint registration, image-based reporting, real-time status updates, and community awareness in a single system. The proposed system is expected to enhance the effectiveness of civic issue management by improving transparency, accountability, and community engagement.

II. LITERATURE SURVEY

A. Digital Civic Complaint Systems

Several studies have explored digital complaint reporting platforms. The research work titled "Civic Complaint Reporting Using Image Processing" Civic Complaint Reporting Using Image Processing highlights the importance of multimedia-based complaint submission to reduce ambiguity in problem reporting. The inclusion of machine learning techniques improves complaint categorization.

Similarly, the SP4N-LAPOR complaint management system SP4N-LAPOR demonstrates how centralized public complaint systems can enhance

communication between citizens and government authorities. However, studies indicate limitations such as slow response times due to limited human resources and low public awareness.

B. Community Crime and Civic Data Systems

The study “Crime Mapping and Analysis by Community Organizations” Crime Mapping and Analysis by Community Organizations emphasizes the importance of community access to structured civic data for problem-solving and neighbourhood improvement. The Neighbourhood Problem Solving (NPS) system demonstrated that data transparency improves community participation and trust.

C. Community Crime Prevention and Participatory Governance

Research on “Community Crime Prevention Research Trends: A Bibliometric Analysis” Community Crime Prevention Research Trends: A Bibliometric Analysis identifies increasing global interest in community-based participatory approaches. The study emphasizes collaboration between citizens and authorities as a key factor in improving urban governance.

D. Identified Research Gap

From the reviewed literature, it is observed that:

- Existing systems focus mainly on complaint registration.
- Limited support exists for citizen voting and development suggestion mechanisms.
- Transparency is often prioritized without adequate privacy protection.
- Integration of complaint management with participatory governance remains insufficient.

III. PROBLEM STATEMENT

Despite the availability of digital complaint systems, the following challenges persist:

- Citizens must still rely on authority-driven decision-making without structured participation.
- Development planning lacks a democratic voting mechanism.
- Limited transparency reduces citizen trust.
- Privacy concerns discourage active participation.
- Existing systems do not integrate complaint resolution with development suggestion and prioritization.

There is a need for an integrated civic platform that supports:

- Secure complaint reporting
- Admin-controlled data visibility for privacy
- Development suggestion submission
- Voting mechanism for prioritization
- Citizen opinion collection

IV. COMPARATIVE ANALYSIS

The following table summarizes the features and limitations of various civic complaint systems discussed in the literature.

System	Key Features	Advantages	Limitations
Civic Complaint Reporting Using Image Processing	Image-based complaint submission	Improves reporting accuracy	No real-time tracking
SP4N-LAPOR System	Centralized complaint system	Strong government integration	Slow response time
Community Data Systems	Civic data transparency	Encourages community participation	Limited complaint tracking
Proposed Research Direction	Complaint reporting + citizen participation	Transparent governance	Needs proper implementation

V. RESEARCH GAP

The literature review reveals several important limitations in existing civic complaint systems:

- Most systems focus primarily on complaint registration and lack real-time tracking mechanisms.
- Citizen participation in development planning and decision-making is limited.
- Transparency in complaint resolution processes is often insufficient.
- Privacy protection mechanisms for citizen data are not always well implemented.
- Integration between complaint management systems and participatory governance tools remains limited.

These limitations highlight the need for integrated civic management platforms that combine complaint reporting, transparency, privacy protection, and community participation.

VI. FUTURE SCOPE

Future research in civic complaint management systems can explore several technological improvements:

- Artificial Intelligence for automatic complaint classification

- Geographic Information System (GIS) based mapping of civic issues
- Mobile application integration for real-time reporting
- Blockchain-based voting mechanisms for transparent decision making
- Data analytics dashboards for municipal authorities
- Integration with smart city infrastructure and IoT devices

These technologies can improve the efficiency, transparency, and responsiveness of digital governance systems.

VII. CONCLUSION

The Community Civic Issues Reporting Web Application serves as an efficient digital platform for reporting, monitoring, and resolving civic issues in a transparent and well-organized manner. By combining user-friendly complaint registration, image-based reporting, real-time tracking, and administrative management, the system overcomes the shortcomings of traditional grievance-handling methods.

This platform empowers citizens to actively contribute to community development by reporting issues such as potholes, garbage accumulation, water leakage, and damaged public infrastructure. The inclusion of multimedia support enhances the authenticity of complaints, while real-time updates improve transparency and strengthen trust between citizens and civic authorities. From an administrative standpoint, the system streamlines complaint management, minimizes manual effort, and ensures accountability through structured workflows and centralized data storage.

Overall, the implementation highlights how a technology-driven civic engagement platform can significantly enhance the efficiency of issue management and foster stronger collaboration between citizens and municipal bodies. Future enhancements—such as integrating advanced analytics, mobile app support, and intelligent issue prioritization—can make the system even more scalable, sustainable, and aligned with smart city initiatives.

VIII DECLARATION

A. Competing Interests

The authors declare that they have no competing interests.

B. Funding Information

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

C. Author Contributions

All authors contributed equally to the conception, design, analysis, and writing of this manuscript. All authors read and approved the final version of the manuscript.

D. Data Availability Statement

No datasets were generated or analyzed during the current study.

E. Research Involving Human and/or Animals
This study does not involve any human participants or animals.

F. Informed Consent

Not applicable.

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