

Crowdsourced Civic Issue Reporting and Resolution System

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Abstract - : Civic issues such as potholes, damaged streetlights, water leakage, drainage problems, and improper waste management affect citizens in their daily lives. Traditional complaint systems are very slow and manual, and they lacking proper tracking, which consume more time in resolving public problems. The Crowdsourced Civic Issue Reporting and Resolution System provides a digital platform through which citizens can report their issues easily and quickly using a mobile or application. People can upload the photos, add details about the problem, choose issue categories, and share location details for accurate reporting. The reported complaints are forwarded to the admin or municipal authority for verification, assignment, and resolution. Citizens can also track the status of their complaints, thereby improving transparency and accountability. This system encourages public participation and helps authorities manage civic problems more quickly and more effectively.

1. INTRODUCTION

A **Civic Issues Reporting and Resolution System** is a digital platform designed to help citizens to report public problems in their locality and helps government authorities to resolve these issues or problems efficiently. These issues may include potholes, garbage overflow, water leakage, streetlight failures, illegal dumping, traffic signal damage, and other municipal issues .The system acts as a bridge between citizens and local government by providing a simple and transparent method for complaint registration, tracking, and resolution. Citizens can submit complaints through a website or mobile application by uploading details such as the issue description, location, and photos. Once submitted, the complaint is forwarded to the concerned department for action.

The main objective of this system is to improve communication between the public and municipal authorities which helps in reduce response time, and enhance the quality of urban services. It also promotes

accountability because users can track the status of their complaints in real time until the issue is resolved.

In today's fast-developing society, civic issues have become a common problem in urban as well as semi-urban areas. Problems such as potholes, damaged roads, streetlight failures, water leakage, drainage blockage, and improper garbage collection directly affect on the daily life of citizens. These issues may look small at the beginning, but if they are not reported and solved on time, they can create inconvenience, safety risks, health problems, and dissatisfaction among people.

At present, many civic complaints are still reported through traditional methods such as visiting municipal offices, calling helpline numbers, or informing local authorities personally. These methods are time-consuming and do not always provide proper confirmation or tracking of the complaint. Due to this, citizens often do not know whether their complaint has been received, assigned, or resolved. This creates a communication gap between citizens and municipal authorities.

The Crowdsourced Civic Issue Reporting and Resolution System is proposed to reduce this gap by providing a digital platform for reporting and managing civic problems. Through this system, citizens can register and report issues using a mobile application or web portal. While submitting a complaint, users can add issue details, upload photos, select the issue category, and share the location of the problem. These features help authorities understand the issue clearly and take suitable action. The project synopsis also mentions important features such as photo upload, geolocation tagging, complaint status tracking, notification, feedback, and authority-based complaint handling.

The system works as a bridge between citizens, admin, municipal authorities, and related departments. After a complaint is submitted, it is verified by the admin or authority and then assigned to the related department for resolution on that problem. Citizens can track the progress any time of their complaint and receive status updates,

which improves transparency and accountability. Similar to the reference IJSREM paper structure, this research paper discusses the need, working, methodology, architecture, challenges, and future scope of the proposed system in a systematic manner.

Thus, the proposed system supports citizen participation in local governance and helps authorities manage public complaints in an organized and faster way. It also supports the concept of Digital India and Smart Cities by using technology for better communication, faster response, and transparent civic issue resolution.

2. Body of Paper

Literature Review:

Multiple researchers and existing systems have studied that how to use the technology, crowdsourcing, and digital platforms are useful for improving public services and civic governance. In recent years, citizen participation has become an important part of smart city development because local people are the firstly observe common problems such as road damage, water leakage, garbage overflow, and streetlight failure. Traditional municipal systems depend mainly on manual complaints, office visits as well as phone calls, which may create delay to solve issue and poor transparency in the working of municipal system. Because of this, multiple studies are suggested to use mobile-based and web-based application to register the complaint for faster reporting and good communication between citizens and authorities.

The study on the Urban Platform explains how smart city platforms can support for collaboration, data sharing among the people, and better decision-making in urban areas. It shows that digital platforms can improve communication between public authorities and citizens by using information and communication technology. This idea is useful for the proposed civic issue reporting system because it also focuses on connecting citizens with municipal authorities through a centralized platform.

Another important study, Towards Two-Tier Citizen Sensing, discusses the problem of receiving a large number of reports from citizens. In many civic systems, duplicate or repeated complaints may increase the workload of authorities. This study suggests that citizen-generated data should be processed and verified that means it checks that this problem can be real or fake before it reaches the final authority. This concept is related to the proposed system because complaint verification, duplicate

checking, and proper categorization are needed before assigning issues to departments.

The research on Delegated Authorization Solution for Smart-City Mobile Applications highlights the importance of secure access and proper authorization in the smart city applications. Since civic issue systems can handle user information, complaint details, images, and location data, security and role-based access are very important. In the proposed system, citizens, admin, and authorities have different roles, so proper authentication and authorization help to maintain the privacy and prevent misuse of the system or application.

The study Human Sensors: Case-study of Open-ended Community Sensing in Developing Regions explains that citizens can act as “human sensors” by reporting real-world problems from their surroundings. This approach is especially useful in developing regions where installing physical sensors everywhere may not be practical. The proposed system follows the same idea by allowing citizens to report issues with photos and location details, making the system more practical and cost-effective for local governance.

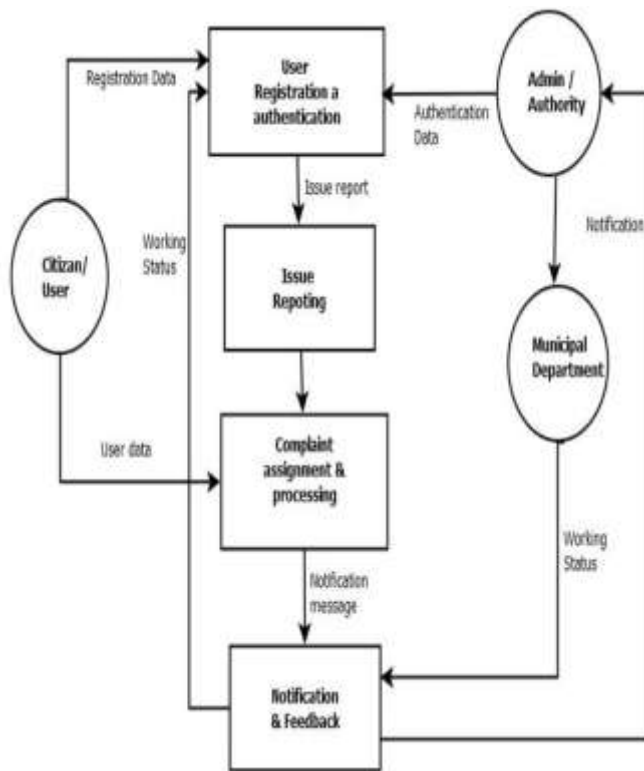
From the reviewed studies, it is observed that digital civic platforms can improve citizen participation in public issues, transparency in the workflow of public departments, and response time. However, existing systems still face challenges such as duplicate complaints, false reports, delayed action, poor tracking, and lack of communication between citizens and departments. The proposed Crowdsourced Civic Issue Reporting and Resolution System tries to overcome these limitations by providing issue reporting, image upload, geolocation tagging, admin verification, department assignment, status tracking, notification, and feedback in one platform.

This literature survey shows that the proposed system is useful because it combines citizen participation, complaint tracking, authority management, and transparent resolution into a single digital platform.

Methodology:

This project, the Crowdsourced Civic Issue Reporting and Resolution System, helps citizens communicate local problems and ensures authorities address them appropriately. The current manual system contains numerous problems arising from a lack of tracking and misplaced complaints. This project solves that with a

mobile and web-based system. It allows citizens to submit an issue directly, along with detailed information regarding the problem, relevant photos, a problem category, and the location. Complaints are stored in a centralized database, and the relevant authority has access to it to take appropriate action.



Working:

The system is designed to operate in three modules: citizen side, admin side, and authority/department side. In the citizen module, users have the ability to create an account, log on, submit an issue, track the status of their complaint, and receive notifications. Citizens are also able to submit feedback after their complaints have been addressed. In the admin module, administrators can see all the complaints that have been submitted. They can then determine if a complaint is legitimate and deny complaints that have been deemed invalid. Finally, administrators can assign legitimate complaints to the corresponding department. In the department module, officers can view the complaints that have been assigned to them. They are able to provide status updates to complaints, mark a complaint as resolved, and provide additional comments if necessary.

The system has an organized methodology. Citizens can report issues through the application. Civic problems can be potholes, overflowing dumpsters, leaking pipes,

blocked drains, and broken streetlights, among others. Citizens can upload a photo of the issue, enter a description, select the problem's category, and pin the issue's location. Admins verify the report, which prevents duplicate and false submissions. Once the report is verified, the issue is assigned to the respective department. The department is then responsible for the issue and is the one to report status updates. There are six available options for status updates: reported, approved, assigned, in progress, resolved, and closed. Citizens also have the option of providing feedback as well as receiving status updates.

This system also supports transparency because citizens can track their complaints instead of repeatedly visiting offices or calling authorities. It also helps municipal authorities because all complaints are arranged category-wise and status-wise in one platform. The use of photo evidence and location details makes the complaint more accurate and easy to understand. The project synopsis also mentions the same core methodology, including citizen interface, admin/municipal authority interface, backend system, notification module, photo upload, geolocation tagging, and complaint tracking.

3. Conclusion:

Crowdsourced Civic Issue Reporting and Resolution System that is digitally-enabled, transparent system of reporting and managing local civic problems. Citizens have to wait for days, not get proper communications on reporting a pothole, water leakage, drainage blockage, streetlight failure or garbage problem in traditional systems. The proposed system alleviates these challenges by enabling the citizens to lodge complaints through an application (Mobile/Web) along with photo, category, description and location.

It further allows the admin and municipalities to authenticate complaints, escalate cases on behalf of respective department, keep status updated and access records all in a single database. The system also facilitates communication between the citizens and authorities and organizes the complaint handling process. The real-time status tracking, notification, feedback system, and department-wise complaint handling help improves transparency and accountability.

Crowdsourcing promotes active citizen engagement in the enhancement of local environments and enables quicker

detection of civic issues. In conclusion, the proposed system is beneficial for smart governance as it bridges gap between citizens and authorities via technology following the concept of Digital India and Smart Cities. A few pages into the synopsis also mentions how this system aims to facilitate better citizen engagement, complaint monitoring, authority management and rapid resolution of civic complaints.

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