Citizen Desk: A Web-Based Centralized Grievance Redressal System

Prof. P. S. Mohod, Mr. Aditya Diwase , Mr. Vishwajit Jadhao, Ms. Krutuja Gharde, Mr. Amit Doifode

Assistant Professor, Dept. of I.T. Prof Ram Meghe College of Engineering & Management, Badnera
UG Student, Dept. of I.T.Prof Ram Meghe College of Engineering & Management, Badnera
UG Student, Dept. of I.T. Prof Ram Meghe College of Engineering & Management, Badnera
UG Student, Dept. of I.T. Prof Ram Meghe College of Engineering & Management, Badnera
UG Student, Dept. of I.T. Prof Ram Meghe College of Engineering & Management, Badnera
Corresponding Author Email: adityadiwase@gmail.com

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Abstract- Urban citizens regularly face several civic issues, and traditional grievance systems often struggle with inefficiency and limited transparency, and traditional grievance redressal systems often face challenges of inefficiency and lack of transparency. This paper presents the architecture and implementation of "Citizen Desk", a modern web platform designed to streamline the entire complaint management lifecycle, true to its tagline: Report. Track. Resolve. Through a user-friendly interface, the system enables citizens to submit detailed reports on civic issues with photographic evidence. For municipal authorities, an administrative portal provides a centralized view to efficiently manage, assign, and update the status of these complaints. By creating a transparent channel, Citizen Desk aims to significantly enhance administrative efficiency and foster a collaborative approach to civic problem-solving .

Key Words: Citizen Participation, Issue Tracking, Grievance Redressal, Complaint Management System, Citizen Portal.

I.   INTRODUCTION

Efficient public service delivery plays a vital role in maintaining good governance and improving citizen satisfaction. Among the most critical aspects of this governance framework is the ability of citizens to report and resolve civic issues efficiently. Problems such as waste management, damaged roads, improper drainage systems, streetlight failures, and water supply disruptions directly affect the daily lives of urban dwellers. If these issues are not addressed promptly, they can significantly reduce the quality of life and hinder sustainable urban development. In many regions, the existing grievance redressal systems are often manual, fragmented, and lack transparency. Citizens are typically required to visit municipal offices physically, submit written applications, or rely on telephone- based complaint systems. These traditional methods are time consuming and inefficient. Furthermore, they provide no structured mechanism for tracking the progress of a complaint after submission. As a result, citizens remain unaware of whether their grievance is being processed, delayed, or ignored. This lack of visibility often leads to dissatisfaction, mistrust in public administration, and reduced civic engagement.

From the administrative perspective, municipal authorities face the challenge of handling a large volume of complaints without a centralized management framework. Complaints may be misdirected, duplicated, or delayed due to poor interdepartmental communication. Without a unified digital system, it becomes difficult to prioritize urgent issues, monitor departmental performance, and maintain accountability. The absence of real-time data analytics further limits the ability of authorities to make informed decisions and optimize resource allocation. Web technology has improved a lot in recent years. It can help solve these problems in a better and faster way. Egovernance initiatives across the world have demonstrated how digital platforms can streamline public service delivery, enhance transparency, and improve citizen- government interaction. A centralized web-based grievance redressal system can provide structured workflows, automated routing, and real-time status tracking, thereby bridging the communication gap between citizens and municipal authorities. This paper introduces "Citizen Desk", a centralized web based platform designed to modernize the civic complaint management lifecycle. True to its tagline — Report. Track. Resolve. — the system enables citizens to submit detailed reports along with photographic evidence, ensuring authenticity and clarity. The platform provides municipal authorities with an administrative dashboard that allows efficient categorization, assignment, monitoring, and resolution of complaints. By integrating transparency, accountability, and digital accessibility into a single framework, Citizen Desk aims to create a collaborative environment where citizens actively participate in improving urban infrastructure. The system not only simplifies the grievance submission process but also establishes a traceable audit trail for every complaint, ensuring that each issue progresses systematically from registration to resolution.

II.   LITERATURE REVIEW

This section analyzes existing digital grievance management platforms and highlights their strengths as well as their limitations. The main aim is to understand what problems still exist and why a new system is needed. By critically analyzing current platforms, this review will demonstrate the need for a comprehensive, user-centric solution like "Citizen Desk" that

focuses on a transparent, end-to-end resolution process. The adoption of digital technologies has significantly transformed traditional paper-based grievance handling systems into structured online platforms. with structured online platforms, producing a diverse range of systems. An analysis of these platforms reveals both their strengths and the specific operational gaps that still exist. On a national scale in India, the Centralized Public Grievance Redress and Monitoring System (CPGRAMS) serves as a comprehensive platform. CPGRAMS allows citizens to submit complaints related to different government departments through one platform. However, it is more suitable for large administrative complaints than small local problems like broken streetlights. The formal and often bureaucratic process of CPGRAMS can be cumbersome and disproportionate for reporting problems like a broken streetlight or a small pothole. Its user experience is geared towards formal complaints rather than quick, actionable service requests, creating a gap for a more agile and locally- focused solution. In contrast to the broad approach of CPGRAMS, the SwachhataMoHUA application represents a highly specialized and successful model of civic technology. Launched as part of the Swachh Bharat Mission, this mobile app focuses exclusively on sanitation and waste management issues. Since it focuses only on sanitation problems and is supported by the government, many people use it successfully. Yet, its specialization is also its primary limitation. A citizen wanting to report a pothole or a malfunctioning traffic light must seek a different channel. This creates a fragmented ecosystem where residents may need multiple applications for different problems, highlighting the need for a unified platform that covers a wider spectrum of common local issues without being overly complex. Therefore, the analysis of these two prominent systems reveals a distinct gap in the current landscape: platforms are either too broad and formal like CPGRAMS, or too narrow and specialized like the Swachhata app. Therefore, there is a need for a simple and easy-to-use system that can handle common municipal complaints. It is precisely this gap that "Citizen Desk" is designed to fill, by offering a unified and streamlined solution for everyday civic issue reporting and resolution.

Reference [1] "CitizenConnect: Real-Time Grievance Management App", a mobile application designed to streamline the grievance resolution process. The paper highlights how traditional complaint systems often suffer from prolonged response times and a lack of transparency, leading to user dissatisfaction and operational inefficiency. The proposed "CitizenConnect" app aims to solve these issues by offering a user-centric platform that prioritizes real-time complaint resolution, administrative efficiency, and a seamless user experience. Its key objectives include simplifying the submission process for users while providing an intuitive dashboard for administrators to efficiently handle and resolve complaints.

Reference [2] "CITYZEN - A Grievance Platform", a Progressive Web App (PWA) designed to bridge the gap between citizens and their respective city councilors. A key feature of this platform is its emphasis on resolving the issue of manual location description by using GPS sensors to automatically determine the complaint's location and administrative area. The system is designed to be ward specific, ensuring complaints are directed to the responsible authorities. It also introduces social and interactive features, allowing users to upvote existing similar complaints rather than creating duplicates, and to share grievances on social media platforms. By ensuring user anonymity and providing a direct line to councilors, the platform aims to create a more efficient, accountable, and transparent process for resolving local civic issues.

Reference [3] The study on the "Smart Civic Issue Reporting System" presents an Android application designed to address the inefficiencies of traditional municipal complaint processes. The paper highlights that a major challenge is not just reporting an issue, but ensuring it gets prioritized correctly. Its key innovation is the use of machine learning to automatically assess the severity of a problem. The system applies machine learning techniques to analyze complaint images and text in order to decide the priority level. This allows the system to automatically prioritize more severe issues, ensuring that critical problems are addressed first, thereby improving the efficiency and responsiveness of the civic authorities.

Reference [4] "Integrated Web Based Complaint Management System" called "People's Corner". This system is designed to provide citizens with a web and mobile platform to register complaints about daily municipal problems, such as damaged roads, directly to the relevant authorities. A key feature is the ability for users to upload a photograph of the issue along with their complaint, which is then automatically redirected to the specific municipal department responsible for that issue, like the Public Works Department. The system aims to replace inefficient manual processes with a transparent platform where citizens can register and follow up on their complaints, and authorities can receive and act on them promptly.

Reference [5] "Online Complaints Registration and Management System" as a mobile application to facilitate direct communication between citizens and their municipal corporation. The system is designed to replace inefficient manual processes by allowing users to file complaints directly from their smartphones, including the ability to upload pictures, messages, and location data. A key aspect of this platform is its focus on transparency; it records all registered complaints, allows citizens to check the status of their issues, and notifies them upon resolution. The stated aim is to reduce corruption, increase transparency in government work, and create an effective and convenient channel for resolving everyday civic problems.

Reference [6] Another study proposes a "Smart Approach to Recognize Public Grievance from Microblogs", arguing that citizens increasingly prefer to voice complaints on social media rather than using official government portals. The paper's core innovation is to bypass a dedicated submission system altogether. Instead, it suggests using Artificial Intelligence to proactively scan public microblogging platforms (like Twitter) for grievance-related posts. The proposed system would use Natural Language Processing (NLP) to analyze and understand the citizen's complaint from the unstructured text and Machine Learning (ML) to automatically assess the severity and priority of the issue. This approach aims to tap into an existing, widely-used channel to rapidly identify and solve public problems without requiring citizens to use a separate government application.

Reference [7] Another study provides a critical analysis of existing online grievance redressal systems, identifying key issues such as a lack of transparency, delayed resolutions, potential for data manipulation, and inadequate data security. The paper argues that while digital portals are an improvement over manual methods, their centralized nature makes them vulnerable. As a mitigation approach, the research proposes a blockchain-based grievance redressal system. The system uses blockchain technology to store complaint data securely so that records cannot be changed later, to create a secure and auditable process. By leveraging smart contracts, the proposed system would ensure that all registered grievances and subsequent actions are recorded permanently and cannot be tampered with, thereby increasing trust and accountability.

Reference [8] Public Grievance Redressal System (PGRS), defining it as a critical platform for enhancing citizen satisfaction and ensuring efficient governance. The paper outlines the primary objectives of such a system, including citizen empowerment, government accountability, and the overall improvement of public service delivery. It describes a typical workflow that begins with grievance registration via user-friendly channels and proceeds through categorization, investigation, resolution, and a final feedback loop. The authors emphasize the crucial role of technology integration—such as web portals, real-time tracking, and data analytics—to overcome bureaucratic hurdles and improve the transparency and responsiveness of the entire process.

Reference [9] Grievance Redressal System designed to handle a wide range of public complaints, from infrastructure issues like water supply and sewage to social difficulties. The paper identifies common challenges in existing systems, such as bureaucratic hurdles and communication gaps, and presents a web application as a solution. The proposed architecture includes distinct modules for the User, Department, and Admin, creating a structured workflow for managing complaints. Key features include a user-friendly interface for easy submission, real- time tracking for citizens, and a comprehensive dashboard for administrators to manage and assign complaints to the appropriate departments. The system's primary goal is to enhance transparency, ensure accountability, and provide a timely and effective resolution to public grievances.

III. PROPOSED SYSTEM

The proposed "Citizen Desk" platform is designed as a complete web-based solution that supports the entire lifecycle of civic grievance management designed to provide a structured and technology-driven approach to civic grievance management. Unlike existing systems, it balances municipal-level functionality with a user-centric design to resolve hyperlocal issues like potholes or improper waste management. A. Core Objectives The primary goal of Citizen Desk is to develop a centralized portal for citizens to submit and track grievances in real-time. Key objectives include: Intelligent Routing: Automatically assigning complaints to the correct municipal department based on category. Verification: Providing an interface for on-field authorities to report completed work with photographic evidence. Gamification: Implementing a reward system where citizens earn points for constructive reporting to foster community ownership. B. Problem Definition Addressed The system specifically targets the manual inefficiencies and communication gaps found in traditional methods like helpline numbers or in person visits. It replaces disconnected tracking with a transparent, verifiable audit trail for every complaint from submission to resolution.

IV. SYSTEM ARCHI & METHODOLOGY

The architecture of Citizen Desk is built on a unique four role framework to ensure accountability at every level of the grievance lifecycle.

A. Actor Interactions As illustrated in Fig. 1 the system identifies four key actors: Citizen: Submits new complaints with photographic evidence and tracks real-time status. Department Officer: Views complaints within their department and assigns them to field workers. Local Authority (Worker): Receives assigned tasks and updates task status upon completion. Admin: Supervises the entire system, manages user accounts, and generates performance reports.
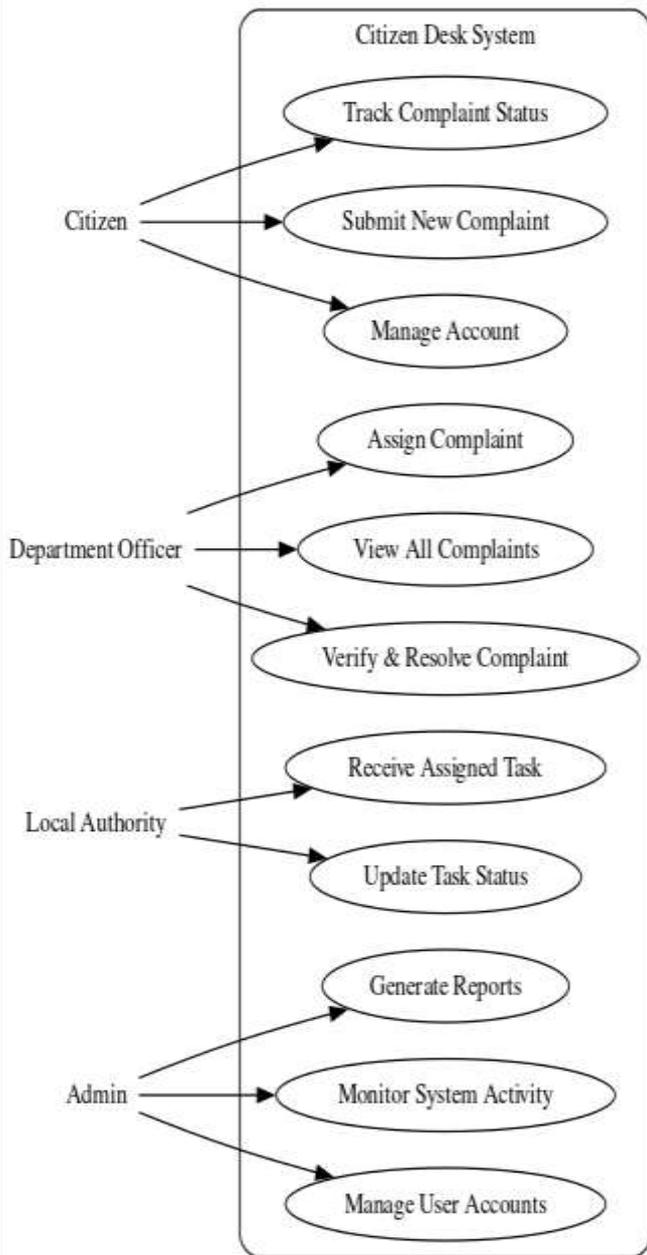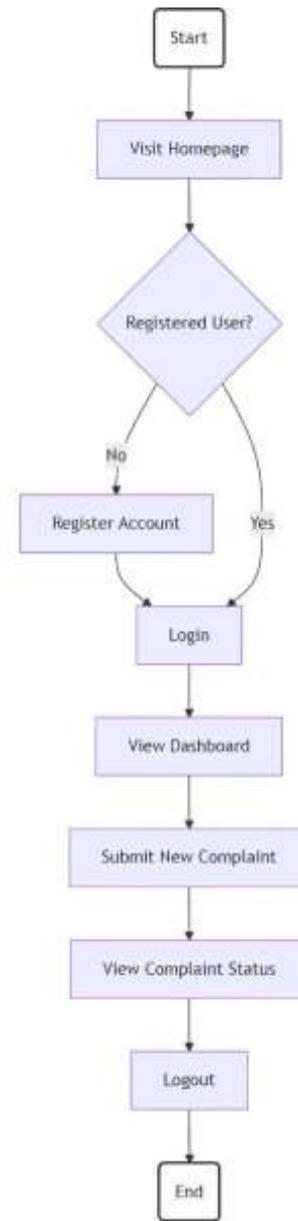
Fig. 1 Use Case Diagram.

Fig. 2. System Workflow Activity Diagram.

B. System Workflow The user journey begins with a secure authentication process. Upon login, the user accesses a personal dashboard to either file a new report or view the status of existing ones. The system ensures that municipal authorities are automatically notified when a citizen submits a report and vice-versa upon resolution.

V. FUTURE SCOPE

Future Scope In the next phase, the system can be upgraded with:

AI Integration: Automatically identifying the department from the uploaded image.

Mobile App: A dedicated Android/iOS app for easier access.

SMS Alerts: Notifying citizens via SMS as soon as their problem is solved.

VI. CONCLUSION

The proposed Citizen Desk system illustrates how a centralized digital platform can improve the efficiency and transparency of traditional grievance handling processes. The system ensures transparency, as citizens can track their issues, and authorities are held accountable for timely resolutions

VII. ACKNOWLEDGMENT

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BIOGRAPHIES

Prarag S. Mohod is an Assistant Professor in the Department of Information Technology at Prof. Ram Meghe College of Engineering and Management, Badnera, where he has been serving for the past twelve years. received his B.E. degree in Computer Science And Engineering and his M.Tech degree in Computer Science And Engineering. Currently pursuing a Ph.D in Computer Science .

Aditya Diwase is a final-year undergraduate student in the Department of Information Technology at Prof. Ram Meghe College of Engineering and Management, Badnera. His research interests include "frontend UI/UX, responsive design". He is currently involved in developing software applications related to Citizen Desk web portal.

Vishwajit Jadhao is a final-year undergraduate student in the Department of Information Technology at Prof. Ram Meghe College of Engineering and Management, Badnera. His research interests include "backend APIs, real-time systems" and Artificial Intelligence. He is currently involved in developing software applications related to Citizen Desk web portal.

Krutuja Gharde is a final-year undergraduate student in the Department of Information Technology at Prof. Ram Meghe College of Engineering and Management, Badnera. Her research interests include Web Development and Artificial Intelligence. She is currently working on projects related to smart Citizen Desk web portal.

Amit Doifode is a final-year undergraduate student in the Department of Information Technology at Prof. Ram Meghe College of Engineering and Management, Badnera. His research interests include "database optimization, cloud". He is currently working on innovative projects focused on Citizen Desk web portal.