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Jan Samasya Portal – A Grievance Redressal Platform

Sanika Mawale[1], Suhani Naidu[2], Rajnandini Nagargoje[3], SrushtiNagargoje[4], Dipti B. Aghor[5]

[1,2,3,4]B.TECH CSE, Dept. of Computer Science and Engineering, MGM's College of Engineering, Nanded , India
[5]Assistant Professor, Dept. of Computer Science and Engineering, MGM's College of Engineering, Nanded , India

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ABSTRACT

The Unified Citizen Service and Grievance Redressal Platform is designed to streamline the interaction between citizens and government agencies by providing a single, integrated interface for lodging service requests and grievances. This platform consolidates multiple service portals into one accessible system, enabling users to submit complaints, requests, and feedback efficiently without navigating complex bureaucratic processes. By leveraging digital technologies, the platform aims to enhance transparency, reduce response time, and improve overall citizen satisfaction in public service delivery. A key feature of the platform is real-time status tracking, which allows citizens to monitor the progress of their submissions at every stage, ensuring accountability and timely resolution. Automated notifications and updates empower users with relevant information, while the backend facilitates seamless communication between various departments involved in addressing the issues. Ultimately, this project fosters a more responsive governance ecosystem, promoting civic engagement and trust through effective grievance redressal and service management.

Keywords: Grievance Redressal Platform, Web-Based Application, Database Management System, Administrative Dashboard, Frontend–Backend Integration.

INTRODUCTION

A Grievance Redressal Platform is a digital system that enables users to submit, track, and resolve complaints in an organized and transparent way. Traditional grievance-handling methods are often manual, slow, and inefficient, leading to delays, miscommunication, and unresolved issues. By shifting the process to an online platform, organizations can ensure that complaints are properly recorded, securely stored, and easily accessible, improving overall efficiency and reliability.

The platform allows users to lodge grievances anytime and from anywhere using digital devices. Each complaint is assigned a unique tracking ID, categorized, and forwarded to the appropriate authority. Users can upload supporting documents and monitor the real-time status of their complaint, eliminating the need for repeated office visits or manual follow-ups. Automated notifications keep users informed at every stage of the resolution process.

From an administrative perspective, the system provides a centralized dashboard for managing large volumes of complaints. Authorities can prioritize urgent issues, monitor deadlines, and escalate unresolved grievances. Analytical reports help identify recurring problems and performance gaps, enabling data-driven decision-making and improvements in service quality. The digital workflow ensures accountability, as every action is recorded and traceable. Overall, the Grievance Redressal Platform enhances transparency, accessibility, and trust between users and institutions. It reduces paperwork, minimizes human errors, and ensures timely resolution of complaints. By improving communication, strengthening accountability, and supporting continuous improvement, the platform becomes an essential tool for modern organizations seeking efficient and responsive grievance management.

LITERATURE SURVEY

1. Traditional Grievance Redressal Systems

- **Common practices included:** Paper-based registers, physical complaint submissions, and manual tracking of grievance status made traditional grievance redressal systems slow, inefficient, error-prone, and lacking transparency.
- **Major limitations:** Delays in grievance resolution, lack of transparency and accountability, risk of data loss and inconsistency, and difficulty in monitoring and analysis significantly reduced the effectiveness of traditional grievance redressal systems.

2. Emergence of Digital Grievance Redressal Platforms

- Recent studies highlight the adoption of web-based grievance systems.

- **Key improvements offered:** Centralized databases for grievance storage, automated workflows for complaint handling, and role-based access control for users and administrators improve efficiency, security, and accountability in digital grievance redressal systems.
- **Supporting development tools enhance system quality:** Version control systems such as Git, along with deployment, CI/CD tools, and testing frameworks, enhance development efficiency, system reliability, and overall performance.

3. Technological Trends and Infrastructure

- Shift from relational (SQL) databases to NoSQL solutions like MongoDB.
- **Advantages of NoSQL databases**: Scalability for large and dynamic data, flexibility in handling unstructured grievance information, and improved performance for real-time updates make modern databases suitable for grievance redressal systems.
- **Increased adoption of:** Cloud-based infrastructure, real-time data synchronization, and analytics-driven performance monitoring enhance system scalability, responsiveness, and decision-making efficiency.

4. Insights from Existing Grievance Redressal Systems

- **Public Platforms**
  - **CPGRAMS:** Nationwide grievance handling with auto-routing, feedback, and appeal mechanisms improves accessibility and transparency, though challenges in coordination and usability can affect resolution efficiency[5].
  - **e-Jagriti:** End-to-end digital consumer grievance handling with virtual hearings and role-based dashboards enhances efficiency and accessibility, although occasional technical issues may affect user experience[7].
- **Municipal and Institutional Platforms**
  - **E-Gov Citizen Complaint Resolution System:** Geo-tagged complaints with GIS mapping and real-time notifications through dashboards improve tracking and accountability, but effectiveness depends on the responsiveness of local authorities[8].

METHODOLOGY

1. Architectural Design and Technology Selection

The methodology commenced with defining a robust, multi-tier architectural design to support citizen interaction, administrative oversight, and data management. The system employs a clear separation of concerns, primarily addressing three distinct user roles: Citizen, Administrator, and the Government/Resolver authority. The core of the system relies on a secure registration and login module to ensure data integrity and user accountability. A critical component of the design is the Issue Data Model, which standardizes reported information, including mandatory fields such as Issue Title, Issue Category, Urgency Level (Low, Medium, High), and Status (Open, Resolved). This structured data model is essential for the subsequent analysis and administrative functions, allowing for efficient tracking and performance evaluation.

2. Implementation and Citizen Engagement Workflow

The implementation focused on developing an intuitive and accessible interface for the primary user—the citizen. The workflow begins with user registration or login. The core function, report a Municipal Issue, is designed as a simple, guided process requiring input fields for textual details (Title, Description, Location) and media (Upload Photos, Max 5MB JPG/PNG) to validate the complaint. Crucially, the citizen must specify the issue's Urgency Level, directly influencing administrative prioritization. Post-submission, the citizen can engage in the tracking phase by viewing their personal My Reported Issues dashboard, which lists the issue Title, Status, and Date Reported, ensuring transparency and closing the communication loop.

3. Administrative Management and Resolution Process

The administrative workflow is the cornerstone of the system's effectiveness. The Admin Dashboard serves as the central command centre, offering graphical summaries of the system's operational health, specifically showing the distribution of issues by Urgency and overall Issue Status (Open vs. Resolved). This visual data immediately highlights bottlenecks and critical issues. Administrators perform data analysis by reviewing key performance indicators such as Issues Reported, Issues Resolved, and the system's Satisfaction Rate. The most vital action is task delegation: the admin views the list of All Reported Issues and uses the Assign action to direct the task to the responsible Government/Resolver entity, initiating the resolution cycle.

4. Performance Evaluation and Data Analysis

The final stage of the methodology involves the continuous collection and analysis of performance data to evaluate the system's impact on municipal efficiency. The platform itself is the primary data source, automatically generating statistics like $12548+$ Issues Reported, $9732+$ Issues Resolved, and a 78% Satisfaction Rate. The admin can export this detailed log via the Download Issues CSV function for further in-depth analysis. Evaluation metrics focus

on two key areas: Resolution Efficiency (measured by the ratio of resolved to reported issues) and Responsiveness (measured by the Average Response Time). This quantitative feedback loop ensures the platform's sustained efficacy and informs necessary operational adjustments or future feature extensions.

WORKFLOW

1.Home Page and Authentication:

The workflow of the project begins at the home page, which serves as the entry point for all users. From this page, individuals can either register or log in to the system. The application supports two distinct types of log-in: user login and admin login. Registered users log in using their email credentials to access user-specific functionalities, while administrators log in using authorized admin email credentials to manage and oversee the grievance handling process.

2.User Dashboard Workflow:

After successful user login, the user is redirected to the user dashboard. From the dashboard, the user can file a grievance by selecting the appropriate category available on the website and submitting the required details. Once submitted, the grievance is stored in the system and automatically forwarded to the admin for review. The user dashboard also allows users to view the status of their complaints, enabling them to know whether their grievance has been seen and assigned by the admin.

3. Admin Dashboard Workflow:

When an admin logs in, they are directed to the admin dashboard, where they can view the total number of grievances along with detailed information for each complaint. The admin reviews the submitted grievances and assigns them to the respective departments responsible for resolving the issues. After assignment, the system updates the complaint status, which becomes visible to the user, ensuring transparency and effective communication between users and administrators.

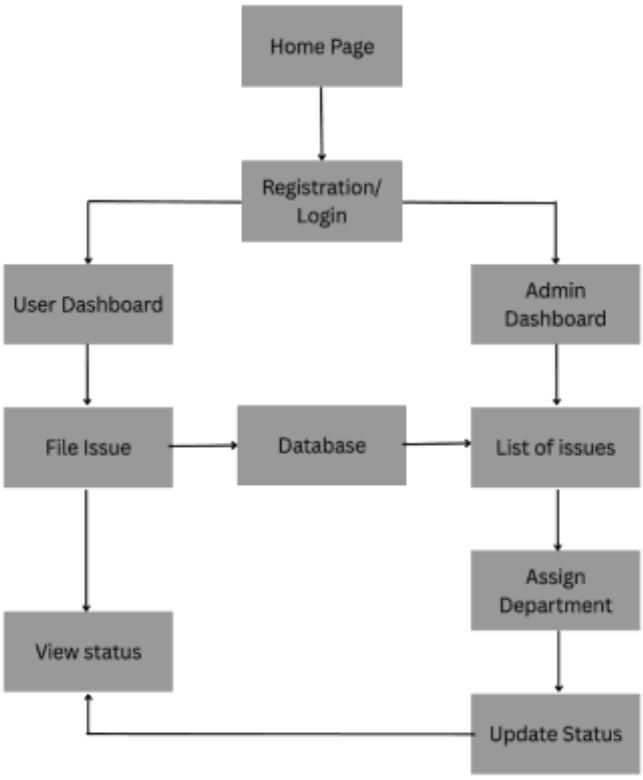

Fig1: Workflow of Jan Samasya Portal

IMPLEMENTATION

Home Page : This page is implemented as a responsive web-based homepage using HTML for structure, CSS (or a framework like Bootstrap) for styling, and icons for visual clarity. The navigation bar provides links for Home, Login, Register, About, and Contact, enabling easy user navigation. A hero section with a banner image and call-to-action button ("Join Now") is used to engage users and encourage registration. The "How It Works" section visually explains the grievance process using icons and brief descriptions. The page is typically connected to a backend framework (such as Flask) to handle authentication and dynamic content rendering.

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Fig2: Home Page

User Dashboard: A navigation bar handles routing to Home, Report Issue, My Issues, Dashboard, and authentication actions. The hero section uses a full-width background image with overlay text and a call-to-action button ("Report an Issue"). Below it, statistic cards dynamically display counts like issues reported/resolved, satisfaction rate, and response time, usually fetched from the backend database.

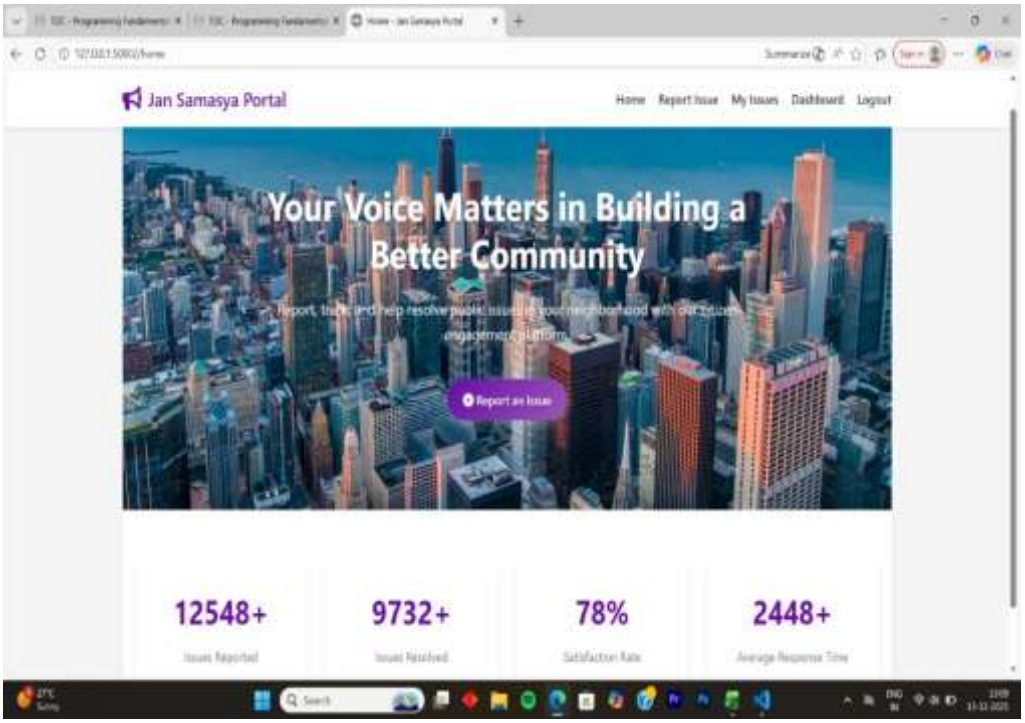

Fig3: User Dashboard

Report Issue Page: It includes validated input fields (title, description, category, location) to ensure required data is provided. An image upload component allows users to attach photos with file type and size restrictions. Urgency selection is handled through interactive buttons, and the complete form data is submitted to the backend for storage and processing.

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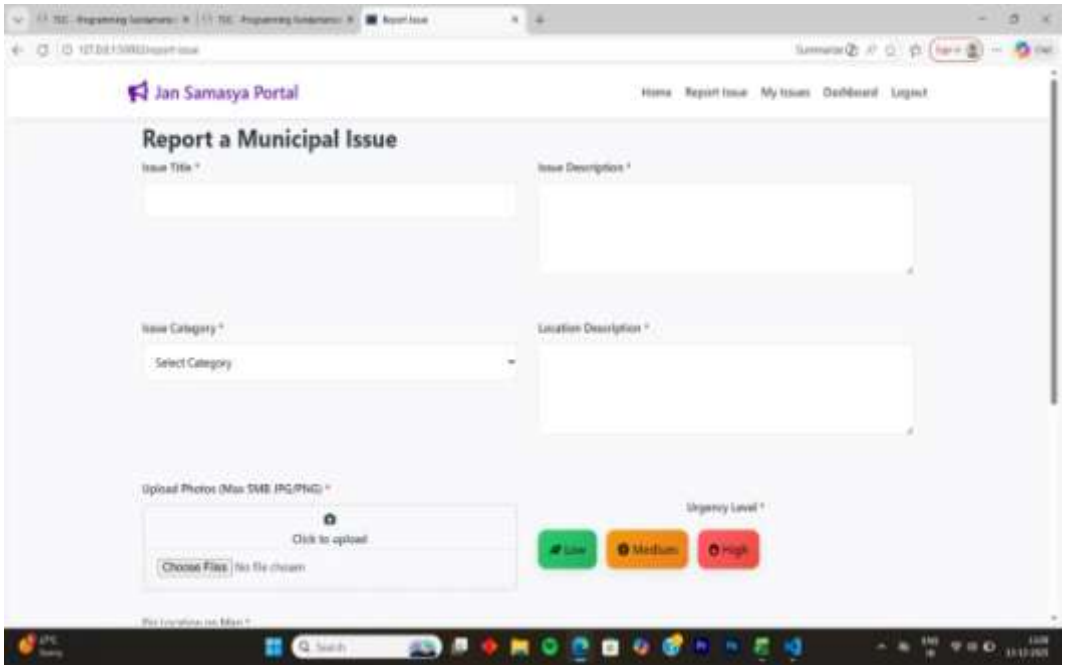

Fig4: Report Issue Page

Admin Dashboard: This page is implemented as an admin dashboard using a structured HTML layout with CSS for responsive design. User and issue data are fetched from the backend database and displayed in a scrollable user list with issue counts. Charts (pie and donut) visualize urgency distribution and issue status using a JavaScript chart library. Admin actions like viewing user issues and exporting data as CSV are handled through backend routes and API calls.

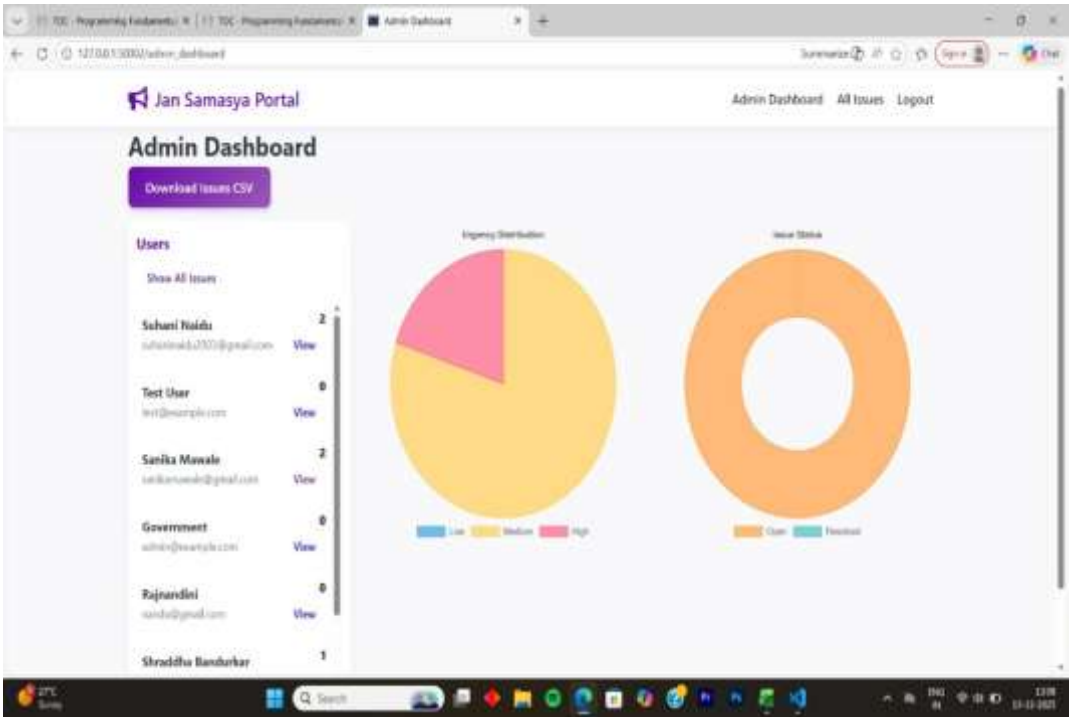

Fig5: Admin Dashboard

All Issues Page: This page is implemented as an admin issue management table using HTML and CSS for structured tabular layout. All reported issues are retrieved from the database and dynamically rendered with details like category, reporter, status, urgency, and date. Admins can assign issues to departments/groups using dropdowns, with actions handled via backend routes. Action buttons allow viewing details, updating assignments, and deleting issues, enabling complete administrative control**.**

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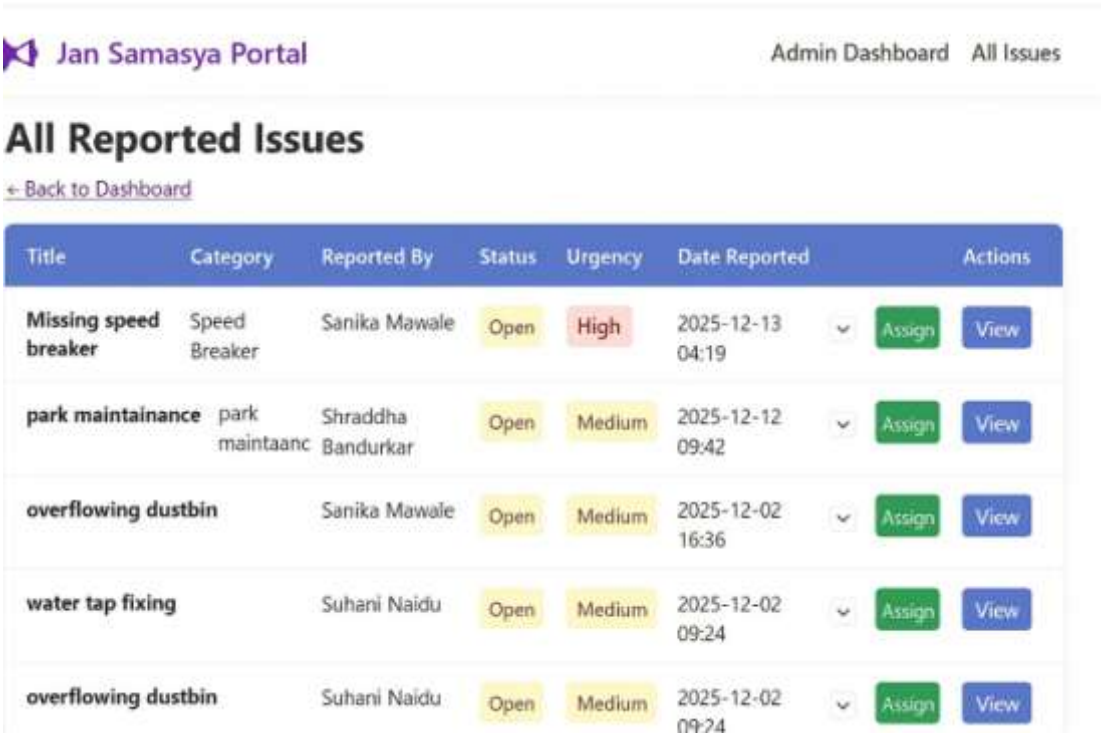

Fig6: All Issues

FUTURE SCOPE

The future scope of the Grievance Redressal Platform is highly promising, with strong potential to enhance efficiency, transparency, and user satisfaction. By adopting advanced technologies such as Artificial Intelligence and Machine Learning, the platform can automate grievance categorization, assess urgency, predict recurring issues, and recommend solutions based on historical data. Features like AI-powered chatbots and Natural Language Processing can make grievance submission more intuitive and accessible, reducing manual effort while enabling faster and more accurate responses from administrators.

In addition, advanced data analytics and business intelligence tools can provide valuable insights through interactive dashboards and reports, supporting data-driven decision-making and proactive grievance management. Expanding the platform through mobile applications, real-time notifications, geo-tagging, multilingual support, and secure authentication methods can significantly improve accessibility and inclusivity. Future integration of cloud computing, blockchain for tamper-proof records, and interoperability with other organizational systems can further enhance scalability, security, and reliability, transforming the platform into a comprehensive and intelligent digital grievance management solution.

CONCLUSION

The Grievance Redressal Platform is a vital system that ensures complaints are systematically recorded, monitored, and resolved with transparency and efficiency. By automating grievance submission, notifications, and escalation processes, it minimizes delays, reduces human errors, and promotes accountability across departments. The platform enables fair and timely resolution of issues while providing valuable insights through analytics to identify recurring problems and support data-driven improvements. With easy online access, it empowers users to voice their concerns conveniently, enhances communication between users and authorities, and strengthens trust, governance, and overall organizational effectiveness.

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