

A Review on JanMat – A Unified Crowdsourced Platform for Civic Engagement

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Abstract - Modern digital tools have changed how people connect with their local governments around the world. This study looks at the JanMat system, a new online tool created to solve ongoing problems between citizens and government offices when reporting local issues. The system makes a major step forward in digital democracy by using automatic location tracking, letting communities decide which problems are most important, and providing clear ways for officials to manage complaints. This paper examines how this internet-based platform helps people talk directly with government workers through features similar to social media, automatic location checking, and different user permissions that fix problems found in older complaint systems. The technology uses modern website building tools like React.js for the user interface, Supabase for storing information, and various online services to make everything work better. This review checks how well the platform encourages people to participate in local government, studies how it is built and designed, and compares it with other similar technology solutions already available. The results show great promise for making local government work better by getting more citizens involved and making it easier to handle and solve community problems.

Keywords: Digital democracy, React.js, Supabase, community problems, local governments.

I. INTRODUCTION

1.1 Background and Context

Today's digital world has created new ways for people to get involved in how their communities are run and participate in making decisions. With smartphones and social media being so common, it's now easier for people to share information and organize their communities, which opens up new ways for citizens to talk with their government. But old complaint systems often have problems like being slow, not being clear about what happens, and not getting people involved enough.

The JanMat platform was created to fix these long-standing problems by offering a complete digital solution that

combines modern website technology with design that focuses on what users need. The platform's name comes from a Hindi word meaning "what people think," which shows its main goal of making citizen voices louder and helping people participate in democracy at the local level in meaningful ways.

1.2 Research Objectives and Scope

This review looks at how the JanMat platform contributes to civic technology, studying how it's built technically, how users experience it, and what impact it might have on how local governments work. The analysis focuses on the platform's new features, including systems that automatically track location, ways for communities to decide what problems are most important, and clear ways to track progress.

The review also looks at where the platform fits among other digital democracy tools, comparing how it works and its approach with other civic engagement platforms that already exist. This comparison gives us insights into what makes the platform unique and how well it might address ongoing challenges in communication between citizens and government.

II. EXISTING SOLUTIONS

2.1 Current Landscape of Civic Technology Platforms

The digital democracy world includes many different platforms designed to help citizens participate and make governments more transparent. These solutions range from simple complaint reporting systems to complete engagement platforms that include many different ways to interact.

CitizenLab's Go Vocal platform shows one way to approach digital democracy, focusing on community participation through tools like letting people vote on how money is spent, polling systems, and working together to develop ideas. The platform uses a business model that offers both free and paid versions, showing the different ways civic technology can make money while staying accessible.

The I Change My City platform focuses specifically on local civic problems, using a system where communities decide priorities and citizens can work together to highlight

important problems through voting. This approach recognizes how valuable community agreement is in identifying pressing local concerns.

We Solve offers a more complete engagement package, including game-like elements and project management tools to keep citizens participating for a long time. The platform's focus on working together shows growing recognition that sustained engagement is more important than one-time interactions.

2.2 Government-Initiated Solutions

Government-developed platforms like CPGRAMS in India represent efforts by institutions to digitize traditional complaint handling processes. These systems typically focus on formal complaint submission and tracking, giving citizens visibility into how their problems are being resolved while maintaining government oversight.

The Swachhata App, developed under India's Clean India Mission, shows specialized applications targeting specific local challenges. By focusing on cleanliness and sanitation issues, the platform achieves deep coverage in one particular area while giving up broader civic engagement.

Local government efforts, such as the Nagpur Municipal Corporation's complaint portal, show the challenges faced by local authorities in developing effective digital engagement tools. These platforms often struggle with limited interaction, slow resolution processes, and not enough community engagement features.

2.3 Problems and Missing Features

Analysis of existing civic technology solutions reveals several persistent challenges that limit their effectiveness:

User Engagement Deficits: Many platforms fail to sustain long-term user participation due to limited interactive features and poor user experience design. The absence of social engagement mechanisms reduces community involvement and platform vitality.

Technical Limitations: Manual location input systems create opportunities for misinformation and reduce the accuracy of issue reporting. Limited real-time capabilities hinder responsive communication between citizens and authorities.

Transparency Concerns: Insufficient status tracking and feedback mechanisms undermine citizen trust in governmental responsiveness. Many platforms lack comprehensive visibility into issue resolution processes.

Accessibility Barriers: Complex interfaces and limited mobile optimization create barriers to participation, particularly among demographic groups that could benefit most from

improved civic engagement tools.

III. PROPOSED SOLUTION

3.1 System Overview and Design Philosophy

The JanMat platform adopts a comprehensive approach to civic engagement, integrating multiple interaction modalities within a unified system architecture. The platform's design philosophy emphasizes user accessibility, transparency, and community-driven prioritization of civic issues.

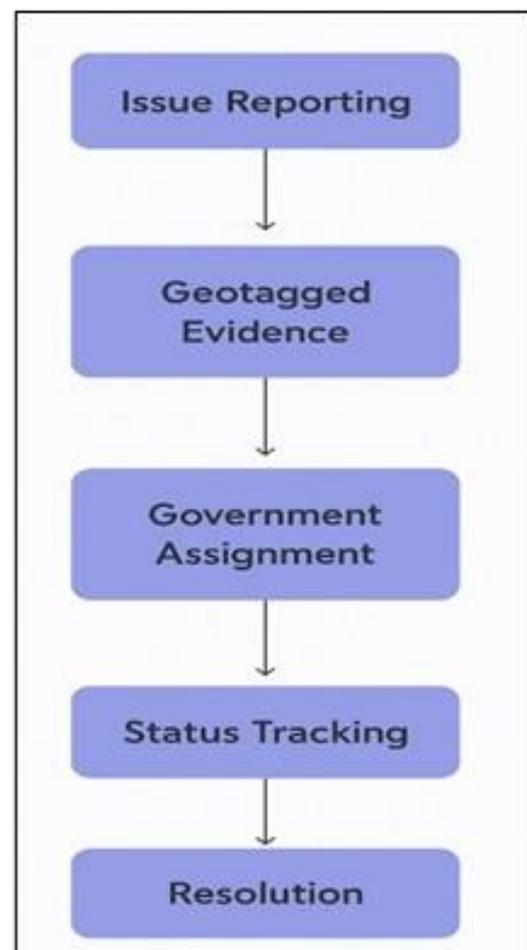


Figure 1: Issue Management

The system's architecture implements a clear separation between citizen and government user roles, with distinct interfaces and capabilities tailored to each user type's needs and responsibilities. This role-based approach ensures appropriate access controls while maintaining system security and data integrity.

3.2 Technical Infrastructure and Technology Stack

The platform's technical foundation employs contemporary web development frameworks and cloud-based services to ensure scalability, reliability, and performance.

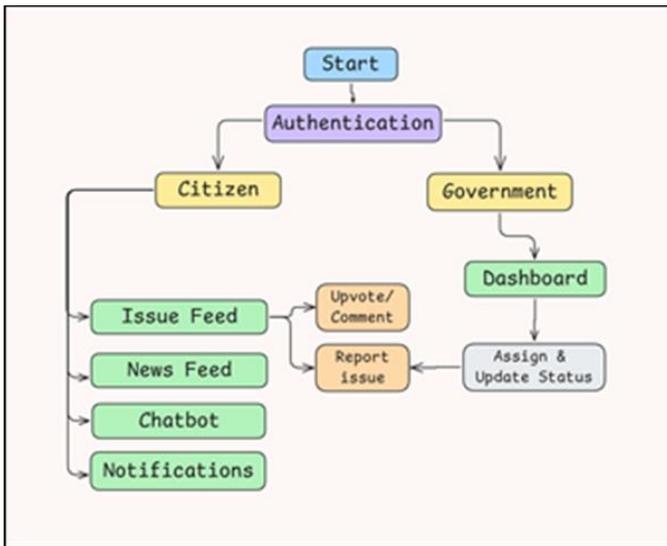


Figure 2: JanMat Workflow Diagram

1. Frontend Architecture: The user interface utilizes React.js as the primary framework, enhanced with TypeScript for type safety and improved code maintainability. Tailwind CSS provides utility-first styling capabilities, enabling rapid development and consistent design implementation across the platform.
2. Backend Systems: Supabase serves as the backend platform, providing managed PostgreSQL database services, user authentication systems, and real-time data synchronization capabilities. This serverless architecture reduces operational complexity while ensuring scalability and reliability.
3. Security Implementation: Row Level Security (RLS) policies enforce fine-grained access controls, ensuring users can only access data appropriate to their roles and permissions. This approach maintains data privacy while supporting the platform's collaborative features.

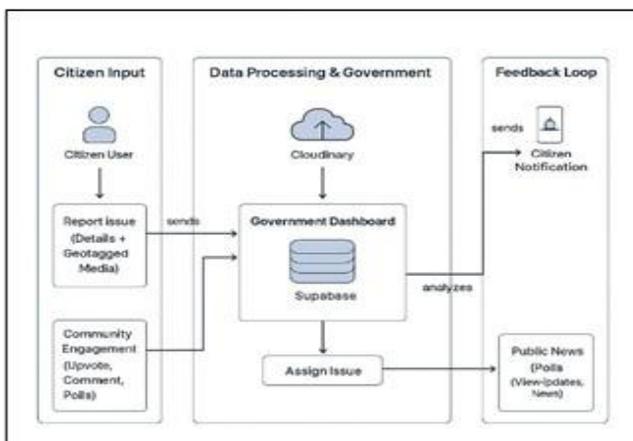


Figure 3: JanMat Workflow Diagram

4. External Integrations: The platform incorporates several third-party APIs to enhance functionality including GNews API for personalized news content, Mapbox API for location-based services, and Cloudinary API for image management.
5. Deployment and Hosting: Vercel provides serverless hosting with global CDN support and automatic scalability, ensuring optimal performance across diverse geographical locations and user loads.

IV. CONCLUSION

The JanMat platform represents a complete approach to digital civic engagement that addresses many limitations present in existing civic technology solutions. Through its integration of modern web technologies, user-focused design principles, and new engagement methods, the platform offers significant potential for improving citizen-government communication and local governance processes.

The platform's emphasis on transparency, community-driven prioritization, and real-time communication creates new possibilities for democratic participation and government accountability. The technical design demonstrates effective approaches to building scalable, secure civic technology solutions while maintaining user accessibility and engagement.

However, the platform's ultimate success will depend on factors beyond its technical capabilities, including government adoption, community engagement sustainability, and integration with existing management systems. Future research should examine long-term user engagement patterns, government response effectiveness, and the platform's impact on actual civic issue resolution outcomes.

The JanMat platform contributes valuable insights to the civic technology field and provides a foundation for continued innovation in digital democracy tools. As communities worldwide seek to improve citizen-government communication, platforms like JanMat offer promising approaches to building more responsive, transparent, and participatory governance systems.

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