

NAMMACITYFIX – FROM COMPLAINTS TO COMPLETION

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Keywords:

Civic Complaint System, Image Classification, Machine Learning, Smart City, Complaint Tracking, Automation.

Introduction:

Urban areas face a large number of civic issues such as potholes, garbage accumulation, sewage leakage, and electrical faults. Traditionally, reporting these problems involves manual processes that are slow, inefficient, and lack proper tracking mechanisms. Citizens often do not receive timely updates, leading to dissatisfaction and delayed resolutions.

To address these challenges, the project NammaCityFix introduces a smart web-based civic complaint management system. This platform allows users to report issues by uploading images along with location details. The system integrates Machine Learning techniques to automatically classify the complaint based on the uploaded image and route it to the appropriate government department.

Additionally, the system provides real-time tracking using a unique ticket ID, role-based dashboards for authorities, and notification services through email and SMS. This ensures faster, transparent, and efficient resolution of civic issues, thereby improving urban governance.

Objectives:

1. To develop a web-based civic issue reporting system.
2. To integrate a ResNet-based image classification mode.
3. To provide role-based dashboards.
4. To reduce manual effort and resolution time.
5. To improve transparency and accountability.
6. To encourage digital civic engagement.

Methodology:

The project follows an incremental development approach for building a scalable and efficient system.

Initially, users submit complaints through a web interface by providing details such as description, image, and location. The uploaded image is processed using a trained Convolutional Neural Network (ResNet18 model) to classify the type of issue. Based on this classification, the complaint is automatically routed to the appropriate department.

The system stores all complaint data in an SQLite database and generates a unique ticket ID for tracking. Authorities access the system through role-based dashboards, where department heads assign complaints to junior engineers. The engineers update the status of complaints and upload resolution proofs.

Additional features such as email notifications, SMS alerts, and map integration enhance user experience and system efficiency. The overall architecture ensures smooth communication between users and authorities while maintaining transparency.

Result and Conclusion:

The developed system successfully enables users to report civic issues easily and track their status in real time. The integration of machine learning for automatic classification improves the efficiency of complaint routing and reduces manual intervention.

The role-based dashboards allow authorities to manage complaints effectively, leading to faster resolution. The system enhances transparency, accountability, and citizen engagement.

In conclusion, NammaCityFix provides a smart and efficient solution for urban issue management, bridging the gap between citizens and government authorities and contributing to smarter city development.

References:

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Future Scope:

The future scope of this project includes:

1. Mobile Application Development
2. Advanced Machine Learning Models
3. Cloud Deployment and Scalability
4. Government System Integration