

DEVELOPMENT OF AN ONLINE SOCIETY COMPLAINT PORTAL

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ABSTRACT:

The online Society Complaint Portal is designed to offer a simple and accessible platform for citizens to report complaints about societal issues, including infrastructure, public services, and safety concerns. The system features GPS geotagging, user verification, and the ability to handle complaints across multiple departments. Users can submit complaints, monitor their progress, and get timely updates from the appropriate authorities, all while enhancing transparency and efficiency in addressing public issues.

Keywords: Machine Learning, IoT (Internet of Things), Database Management, User Experience (UX), Security Protocols.

I. INTRODUCTION

Many of these communities are often plagued by residents who struggle to report and resolve problems like road repairs, broken streetlights or water leaks. Currently, traditional complaint systems are slow and inefficient because they rely on paper bureaucracy and physical processes, so local authorities can't respond at a rate and speed that would resolve the issues faced by consumers. It frustrates citizens and slows down action on public concerns. With increasing use of online services and mobile technologies, there is a growing demand for simple digital solutions to improve citizen interactions with authorities, as well as to help simplify the process of reporting a Problem or complaint. The Online Society Complaint Portal addresses these issues by providing a holistic web and mobile app that makes it very easy for people to file a complaint about infrastructure, public services and/or safety. The platform condenses the whole process and makes the process of reporting the problem quick and easy via an intuitive interface.

Geotagging is also added for GPS location to aid in accurate reporting. Whereas, the process of receiving these complaints has been reversed on the one side, as government departments receive all these complaints and therefore can provide prompt and efficient responses. Complaints are assigned automatically to the proper authorities according to complaint type and location, eliminating the need for manual intervention, shortening delays. Furthermore, users are encouraged to be transparent and monitor the progress of their complaints, receive regular updates, register their voice and provide feedback. Online Society Complaint Portal takes advantage of modern technologies in investing the online complaint portal is a more transparent, effective, and responsive approach to accepting public complaints while being more open to better communicating the citizens to the local governments.

In terms of various key measures that we have come across in this paper, modern complaint management systems are superior to traditional methods. In contrast to those which need days or even weeks to solve the difficulties, such digital spaces as SP4N-LAPOR! Solve the problems in 24-48 hours maximum. Because of aspects such as positioning in real-time mode and notifications, client satisfaction ratings are steadily higher than 75%. On the other hand, legacy systems were below 50% and in many cases never achieved that due to such things as delays and lack of disclosure. Furthermore, the

categorization based on an algorithm of machine learning enhances the ability of complaint handling with a precision up to 90 percent followed by 40 to 50 percent within conventional techniques.

II. LITERATURE REVIEW

The rise of online complaint management systems has meant that it is now possible to have a much greater involvement of the citizens also and more transparency in public services. Digital platforms have replaced traditional complaint systems, where most complaint systems were manual and were subject to bureaucratic delays in submitting, tracking and resolving complaints. Research has shown that digital governance platforms help to facilitate communication between citizens and authorities and to provide faster response times and improved accountability in services. In particular, the geo-tagging and multimedia integration technologies have been very useful when it comes to making complaint reporting and resolution more accurate. Users can offer a location and show evidence, and this makes it easier for officials to prioritize and resolve problems. In modern systems, proper engagement in collaboration across various departments is also very important because complaints are sent only to the right government agencies for a quick response (Gupta & Vashishta, 2019). Besides, real-time tracking and updating of status not only inform the citizens, but also keeps the authorities accountable in addressing the problems (Bertot et al., 2010) quickly and enhances citizens' trust in public institutions. These platforms are modular and scalable and can thus accommodate increasing user bases as well as changing civic needs and thereby prove to be resilient solutions for urban governance. Research shows that the responsiveness and effectiveness of these systems can be enhanced still further by automating workflows and adopting predictive analytics, which would enable governments to confront recurring issues proactively (Sharma & Aggarwal, 2020).

III. PROPOSED SYSTEM

This proposed system is a complaint portal that is built around a Web and Mobile-based platform to empower citizens to submit complaints directly to the specific government department. The system uses geotagging technology to pinpoint the exact location at which the problem occurred, so authorities are able to find it and fix it more quickly. For complaints associated with infrastructure—damaged roads, broken streetlights, sanitation issues — precise location information is a particularly useful additional detail to provide so that the resolution of this problem can come quickly. Users can also send text-based complaints, but can also upload media files such as images or videos which will give authorities a better understanding of the severity and context of the issue. Complaints which come to the platform are automatically routed to the right authorities, bringing into play faster response times. This integration across various departments allows them to communicate better, delays at minimal, and in the end help them effectively in handling complaints. The system, with its user-friendly interface and a long list of features, makes it easier for citizens to interact with local authorities and ensures more transparency of the way public concerns are addressed. Indonesian complaint management digital platform SP4N-LAPOR! For the public sector; Recent studies prove the efficiency and transparency effectiveness. These systems provide the consumer with the chance to let authorities know of these problems, follow events in the media, and even get updates on immediate dispensation. When the technologies of geolocation are applied, these problems are localized, allowing the authorities to solve them faster due to the high accuracy of the location. The sort of technology used is with the aim of improving public satisfaction with the services received along with enhancing the speed at which the local government replies to inquiries made.

IV. SYSTEM WORKING

The Online Society Complaint Portal platform also aims to ensure that the process of submitting, managing and resolving complaints between departments is simple. They register in the portal (via web app or mobile app), and they start from there. It includes information like name, email, and phone number only and then OTP (One Time

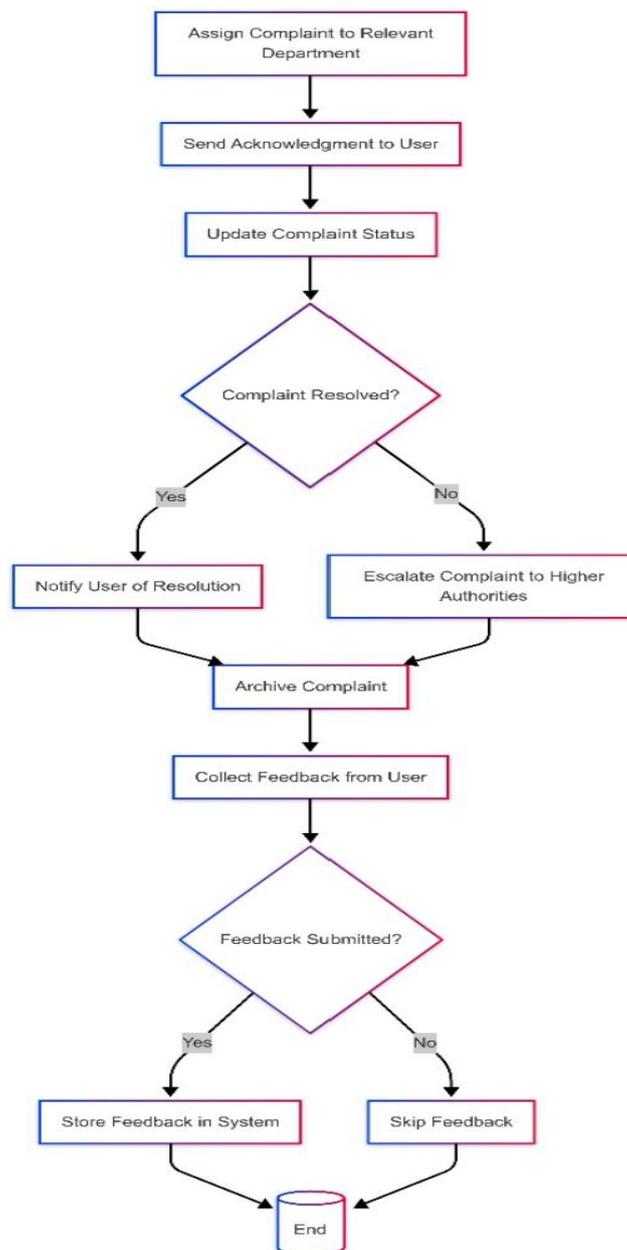
Password Verification) for security purposes only. After registration has been completed, users can create login credentials used for future access. When they log in, users then submit complaints in the 'Raise Issue' section. The man or woman has to fill in a form containing the type of complaint (sanitation, water supply, safety), where the complaint occurred, and a short description. Users can then upload the system incorporates multimedia evidence such as photos and videos and related comments in the context. One of its pros is that it is geolocation integrated. The technology uses GPS for geotagging the location automatically of every complaint, essentially the exact coordinates (latitude and longitude) of where the anonymous problem was reported.

Additionally, we also use a keyword-recognizing algorithm to direct complaints to the effective department depending on what type of problem occurred. For example, a word like 'leak', 'pipe' or 'water' will automatically bounce the complaint to the water department. Once a complaint is submitted, it is sent to the department with the relevant staff who can pull the complaint from their dashboard to view and manage the complaints that are assigned to them.

At every stage, complaints can be updated in departments (for instance, "Received", "In Progress", "Resolved", or "Closed"), and users are notified about the status update through SMS, email or in-app alerts. Users are made aware during the entire process because this level of transparency exists. Users can respond once the issue is fixed, and the response is

recorded for performance evaluation. Moreover, the system produces reports on open, closed and pending complaints to determine the efficiency of each department and to help the administrators with the understanding of public service performance in an overall sense.

Backend processing involves the use of databases to store data of public service complaint management systems, and the use of databases to secure the users' credentials. Complaints are tagged depending on the text, that is, problems are given labels depending on the keywords used or past records using machine learning models such as SVM or BERT. The clustering method helps in grouping related issues for priority action to be taken while the geolocation complements the APIs for instance Google Maps to locate the complaints. While specific resource allocation based on predictive analytics makes the design more flexible and able to respond to the user's input faster, the event-driven architecture of the needed applications ensures real-time updates.



Working of the model 1.1

V. FEATURES INCLUDE

A number of features are provided to make the use of the Online Society Complaint Portal more efficient, clearer and transparent. The OTP-based secure login is a standout feature where only verified users can enter the system. This adds a security layer and stops misuse. In addition, the geolocation functionality should also be integrated in as the complaint should automatically bear GPS coordinates added to it. This geo-tagging helps officials to know where to deal with the issue quicker. In addition, users are able to upload multimedia files, e.g., photos, videos, or audio recordings, in order to support their complaints. The capability, of course, gives officials a better idea of the situation at hand and provides them with the right response. Also, this system has available departmental content filtration, automatically complaints to the requisite department according to some keywords, thus reducing the delays that are possible when manual processing. The day users hear from you is the day they pass around your business card, and at every stage of the process, every metric can be tracked in real time with notifications: when they submit their complaint, when they receive acknowledgment and when their complaint is resolved. Specialized dashboards for efficient complaint management are available for both administrators and department officials. The admin dashboard provides a look at all activities in the system while the departmental dashboard displays what is happening in the system pertaining to the concerns of an official. Users may also see their complaint history and trace their submissions: they can look up the status of their complaint at any time. Powerful search and filtering tools are incorporated in the system that make the task easier for both users and officials to search for and address specific complaints on the basis of different criteria, such as location, date or status. Finally, the system can collect performance analytics that help administrators monitor departmental efficiency and take informed decisions.

Using a three-layered modular structure designed to achieve scalability, security and efficient complaint processing, Online Society Complaint Portal's system architecture is thoughtful Design. The Presentation Layer is at the top, being the user interface that also has mobile applications as well as a web portal. This layer makes it easy for citizens to lodge a complaint, track it and get timely notifications. The web portal is made using HTML/CSS, the mobile app is made natively for both Android and iOS platforms to give users experience great with all types of devices. This gives users a good intuitive interface to the system, whether it is to submit a complaint or to monitor an ongoing issue. The key functions of the system, such as processing complaints and directing them to the right government departments, and the notifications are handled by the Business Logic Layer. OTP (One-Time Password) verification is used to protect data integrity and privacy on this layer, which in turn provides security as well as the user's authentication. It also provides up-to-date status updates to the user and authorities about any progress or change made. It is built to communicate seamlessly with the database and the frontend via the APIs to ensure abrupt nothing is different from what the database / frontend is.

The system core is the Data Layer, which happens to be focused around having a central database that hosts details of users, complaints, multimedia files and geolocation data. Keeping a record of discussions, tracking a complaint status, and generating reports, are a vital part of this database. A specialized geolocation service was also added in order to improve the system's capabilities for real-time geotag complaints by interfacing with GPS data. Mapping technologies such as Google Maps further seem to add to the service by giving authorities the ability to know exactly where reported issues are and respond quickly. This architecture performs well not only in the aspect of upgrading and scaling, but also because scaling and upgrading the system becomes easier over time, adaptable to a growing user base and changing civic needs. Online society Complaint Portal is a strong, forward-looking civic issue management solution due to this adaptability.

VI. ADMIN VALUE

The admin module is a important component for providing centralized control of the system's operations. Admins are able to control their users by approving or blocking simply their activity and behavior on the system. Administrators are also responsible for verifying users when necessary, to verify the submission of invalid complaints and unusual activity. Beyond that, they also manage departments. These include departments registration, updates to department information and assigning departmental roles to officials. The complaint mechanism is used to ensure that the right department gets alerted to complaints and that also if complaints are being addressed efficiently.

The admin module also has a key function to manage complaints. They can also take charge over all complaints filed across all departments. This also empowers them to raise such unresolved issues with other authorities so that no matter arises. Also, the system generates reports comprising trends of complaints, times to resolve, and departmental performance to enable administrators to identify problem areas that must be improved. Of course, admins also have to watch over the keywords used for complaint categorization. So they can enhance and tweak keywords in order to keep the system in line with shifting social issues. In cases where users start submitting invalid complaints again and again, admins can block those users so that other users can't misbehave on the platform.

It has been easy for residents to submit complaints about their communities they wouldn't have done traditionally, meaning we've seen a massive increase in the number of complaints being submitted through these channels to the portal itself. Additionally, the system of automatically assigning complaints has cut down on the length of the response times significantly and enabled departments to handle their problems efficiently. The real-time notification feature has proven to

be invaluable, and it has really helped departments to be so effective and be the way that they need to respond as quickly as they do. The process is transparent both for users and officials. The second important outcome is an improvement in the transparency and responsibility of the system. This allows citizens to be aware of the status of their complaints (in real time) and stay on top of what's going with their issues. As computers running the product have become more transparent, so too has there been greater accountability from departments, as unresolved complaints are now visible to both users and admins. Thanks to the ability of the system to support administrators in making data-driven decisions based on analytics and reports, administrators have been able to detect recurring issues and use resources more efficiently. This has helped augment public service delivery as well as speed up problem solving. Furthermore, the system has nearly eliminated the manual labor required by departments in handling complaint management functions, allowing them to spend the extra time concerned with resolving complaints versus handling administrative matters. Here, it describes every component of the Online Society Complaint Portal in detail, including how the system works, what its features are, architecture, administrative controls, and the outcomes that have worked well.

VII. RESULTS

The Introducing Online Society Complaint Portal has greatly improved upon how civic issues are handled. This turns out to be a big result in the terms of boosting the citizen engagement. With the intuitive design of the portal and mobile app, it's been easy for residents to submit complaints about their communities they wouldn't have done traditionally, meaning we've seen a massive increase in the number of complaints being submitted through these channels to the portal itself. Additionally, the system of automatically assigning the complaints has cut down on the length of the response times significantly and enabled departments to handle their problems efficiently. The real time notification feature has proven to be invaluable and it has really helped departments to be so effective and be the way that they need to respond as quickly as they do. The process is transparent both for users and officials. The second important outcome is an improvement of transparency and responsibility of the system. This allows citizens to be aware of the status of their complaints (in real time) and stay on top of what's going with their issues. As computers running the product become more transparent, so too has there been greater accountability from departments, as unresolved complaints are now visible to both users and admins. Thanks to the ability of the system to support administrators in making data driven decisions based on analytics and reports, administrators have been able to detect recurring issues and use resources more efficiently. This has helped augment public service delivery as well as speed up the problem solving. Furthermore, the system has nearly eliminated the manual labor required by departments in handling complaint management functions, allowing them to spend the extra time concerned with resolving complaints versus handling administrative matter. Here, it describes every component of Online Society Complaint Portal in detail including how the system works, what are its features, architecture, administrative controls, and the outcomes that have worked well.

VIII. CONCLUSION

Online Society Complaint Portal, an Online Society Complaint Portal, resolves the shortcomings of conventional complaint mechanisms through an exhaustive digital solution. With this initiative, they are hoping to increase citizen engagement as problems related to infrastructure and public service grievances are being reported easily. This enables individuals with a user-friendly platform to forward complaints raised directly without necessarily involving other people. Geo-tagging is another feature which helps staff pinpoint issues more precisely, and multimedia support enables the uploading of images and videos for good measure. Therefore, real-time notifications help the users and a department that should be involved in the complaint resolution, at every step of the process, become more transparent and become accountable. Online Society Complaint Portal simplifies the complaint management process, as it facilitates communication between citizens and authorities, making sure issues are resolved quickly and appropriately. In addition to speeding up the resolution process, this digital platform builds into more advanced approach to improving community services. Thus, the portal contributes to making the bond firm between local governments and the public, and as a result improves the governance, enhances transparency and helps enliven the quality of public services.

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