

ONLINE CRIME REPORTING MANAGEMENT SYSTEM POLICE COMPLAINT FIR AND CSR

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ABSTRACT

Crime reporting is a crucial process that enables law enforcement agencies to record, investigate, and address criminal activities. Traditionally, crime reporting requires individuals to visit police stations, fill out paperwork, and undergo lengthy procedures, which can be inconvenient and time-consuming. Additionally, many people hesitate to report crimes due to fear, lack of trust, or the inefficiency of the existing system. The drawbacks of the existing system include delays in filing complaints, lack of transparency in case progress, difficulty in tracking complaints, and inefficient data management. Victims may face challenges in providing necessary evidence, and law enforcement agencies struggle with manual record-keeping, making crime analysis and prevention difficult. To address these issues, the proposed Online Crime Reporting Management System is a web-based platform that enables citizens to report crimes online in a secure and efficient manner. Users can register, submit complaints with details and supporting evidence (images, videos, documents), and track the progress of their cases in real time. Law enforcement officers can review, assign, and update cases through an administrative dashboard. The system also integrates emergency helplines, crime analytics, and secure data storage to enhance transparency and operational efficiency. A key innovation of this system is the integration of Blockchain technology to record and manage complaint transactions. Blockchain ensures tamper-proof, immutable records of all activities, thereby enhancing data security, accountability, and trust in the reporting process. By providing a transparent and decentralized ledger of all submitted reports and status updates, the system reduces the risk of data manipulation and improves credibility. This project streamlines crime reporting, reduces processing time, and improves public trust in law enforcement. By digitizing the crime reporting process and leveraging blockchain for secure transaction records, the system ensures faster response times, better data integrity, and improved crime prevention strategies—ultimately contributing to a safer society.

Keywords: Online Crime Reporting, Blockchain Technology, Law Enforcement Efficiency, Secure Data Management, Public Trust and Transparency.

1. INTRODUCTION

An FIR (First Information Report) is a fundamental and legally binding document in the Indian criminal justice system. It serves as the first official record of a cognizable offence, which refers to a serious crime where police have the authority to register a case, investigate, and arrest the accused without needing prior approval from a magistrate. The FIR is typically filed at the local police station that holds jurisdiction over the area where the crime occurred. It marks the beginning of the formal investigation process and must contain essential details such as the identity of the complainant, the time and place of the incident, a description of the crime, and, if known, the identity of the accused. Common examples of cases requiring an FIR include theft, assault, kidnapping, or murder. In contrast, a CIR (Cybercrime Incident Report) is a specialized report designed specifically to address cybercrimes, and is currently implemented by the Bangalore City Police. Unlike the general nature of an FIR, a CIR is tailored to record details unique to cyber-related offences, such as hacking, cyberstalking, phishing, identity theft, or cyberbullying.

It is part of a strategic initiative by Bangalore authorities to deal more efficiently with the growing number of digital crimes. While a CIR also initiates police action, it is limited in jurisdiction to Bangalore and focuses exclusively on crimes that occur in cyberspace. The main distinction lies in their scope and applicability. An FIR is a broad legal document applicable to any cognizable crime and can be filed at any police station in India.

A CIR, on the other hand, is region-specific and domain-specific, primarily used to handle cybercrimes within Bangalore's jurisdiction. CIRs often include technical details such as the type of cyberattack, affected platforms, user details, and digital evidence, which are not usually part of a conventional FIR. In summary, while both FIR and CIR serve to report crimes and initiate investigations, the FIR is a universal document for serious, traditional crimes,

whereas the CIR is a focused mechanism aimed at combating digital threats in Bangalore. Their coexistence highlights the evolving nature of law enforcement in response to both physical and digital criminal landscapes.

2. LITERATURE SURVEY

The Online Crime Reporting System is designed to facilitate individuals in reporting crimes online from the crime location itself. This system ensures that every user is tracked via their profile picture and Aadhar card details, enabling the department to maintain a record of all users. Developed using C#, ASP, and SQL Server, this project aims to provide a comprehensive crime management solution that is easily accessible to the public. The system allows users to file complaints online, eliminating the need to visit a police station physically.

It manages criminal records in a centralized database and streamlines crime reporting, addressing issues in traditional reporting systems. Given the increasing crime rates, governments and individuals must work together to reduce crime through advanced technological solutions. Unlike conventional crime reporting systems, which rely on phone calls, messaging, or face-to-face interactions, this online platform allows users to file complaints, crime reports, and missing reports while tracking their status. Registration is required, ensuring security and authenticity in complaint filing.

Natural language processing (NLP) techniques have the potential to enhance various aspects of the criminal justice industry, particularly in crime data analysis. This study focuses on extracting substantial relations between named entities in crime reports by using a hierarchical graph-based clustering technique.

The research considers crime-related textual corpora, specifically crimes against women in India, and identifies key relationships between crime-related entities. A weighted graph is created by measuring similarities between entity pairs using context words. The clustering algorithm iteratively groups named entities into clusters based on crime aspects, aiding crime pattern analysis. The findings demonstrate the effectiveness of this method in extracting crime-related relations, with future improvements suggested in paraphrase extraction for enhanced relation labeling.

Crime-related events are frequently reported on news portals and social media. Existing crime event extraction methods primarily focus on resource-rich languages such as English and Chinese. This study introduces a parallel corpus-based approach tailored for low-resource languages, utilizing a closed-domain event extraction method. The approach extracts crime events from news articles in multiple languages without requiring a pre-annotated corpus.

The method employs an enhanced pattern-based technique for the source language and a cross-lingual event extraction transfer technique for the target language, leveraging multilingual synonym dictionaries and logical-linguistic equations. The proposed system successfully extracts various crime event types, such as arrests, trials, injuries, and traffic accidents, achieving an F1-measure of 82% for the source language and 63% for the target language. The results highlight the potential of utilizing parallel corpora for crime event extraction in underrepresented languages.

3. PROPOSED SYSTEM

The proposed system of the project is a secure, web-based platform developed to overcome the limitations of the traditional crime reporting process. It empowers citizens to report crimes conveniently and allows law enforcement agencies to manage and respond to complaints efficiently. The proposed system is designed with multiple user roles, including citizens, police administrators, and investigating officers, ensuring a seamless and structured communication flow.

User-Friendly Crime Reporting Portal

The system provides a user interface where citizens can register and log in securely. Through this portal, users can file crime complaints by filling out structured digital forms and attaching relevant evidence such as images, videos, or documents. This online method eliminates the need to visit police stations, thereby improving accessibility and comfort for users.

Real-Time Case Tracking

One of the key features of the proposed system is the ability for users to track the real-time status of their complaints. The system provides regular updates through the portal or via email/SMS notifications, enhancing transparency and reducing the need for physical follow-ups.

Administrative Dashboard for Law Enforcement

Law enforcement officers have access to a dedicated dashboard where they can view, assign, and update the status of cases. The system facilitates the efficient allocation of cases to the appropriate personnel and ensures accountability through digital logs and audit trails.

Blockchain Integration for Security and Transparency

The system integrates Blockchain technology to ensure that all transactions—such as complaint submissions, updates, and case transfers—are recorded in a secure, immutable ledger. This ensures data integrity, builds public trust, and prevents unauthorized tampering or deletion of records.

4. MODULES

Crime Reporting Web App

This module is the foundation of the entire system, built using PHP for the backend, MySQL as the relational database, and Bootstrap for the responsive frontend interface. Hosted locally via WAMP Server, the web application offers a secure and user-friendly interface for both public users and law enforcement authorities. The design focuses on clean navigation, ease of access to forms, and mobile responsiveness. All core functionalities—including registration, complaint submission, file uploads, and real-time tracking—are integrated within this platform. The application ensures session-based user control, encrypted communications, and smooth data flow across all modules.

End User Dashboard

- Citizens / Public Users:** This sub-module provides public users with an intuitive dashboard where they can log in, register new complaints, and upload evidence such as documents, images, or videos. Users can view their complaint history and track each case's progress in real time. The dashboard also offers access to emergency contact information and helpdesk support for critical situations.
- Police Officials / Law Enforcement Agencies:** Authorized police personnel access a dedicated interface where they can log in securely to manage complaints. They can view all submitted complaints, filter them based on type or urgency, and assign each case to the relevant department or officer. Officers can update the complaint status (e.g., under review, in progress, resolved), upload investigative notes, and add remarks to aid in resolution and documentation.
- System Administrators:** System administrators have complete control over the backend configuration. They can add and manage various police departments and officers, generate login credentials, and oversee all user activities. Admins can view all registered complaints, manage user roles, reset passwords, and ensure system integrity by monitoring logs and data consistency across modules.

Crime Complaint Module

This module is where the actual crime complaints are filed and managed. It includes digital forms for submitting detailed information such as type of crime, location, time, description, and involved parties. It integrates validation checks and allows users to categorize their complaints for better routing. Each complaint is automatically logged with a unique case ID for tracking and record-keeping.

Evidence Management Module

This module supports the secure uploading and storage of multimedia files that serve as evidence for complaints. Citizens can upload photos, videos, scanned documents, or audio recordings. These files are encrypted and stored in a structured manner linked to the specific complaint ID. The system ensures access control so that only authorized police officers and admins can view or download the evidence.

Case Tracking Module

Users can monitor the progress of their complaints through this module. It displays live updates such as changes in status, officer comments, and dates of last activity. This module significantly improves transparency and reduces the need for physical follow-ups. A visual timeline can be implemented to show case progression from registration to closure.

Blockchain Integration Module

To ensure tamper-proof storage and enhance transparency, the system uses a Blockchain ledger to record all complaint transactions. Every activity—such as complaint submission, evidence upload, status update, and reassignment—is recorded immutably. This integration prevents unauthorized alterations, ensures trust in the digital process, and makes all entries traceable for auditing and legal compliance.

Notification Module

This module ensures timely communication with users and police officers through email and SMS notifications. Users receive alerts when their complaint is received, reviewed, updated, or closed. Police officers are notified of new complaint assignments and important actions pending in the system. This keeps all stakeholders informed and promotes faster response and resolution times.

5. RESULTS

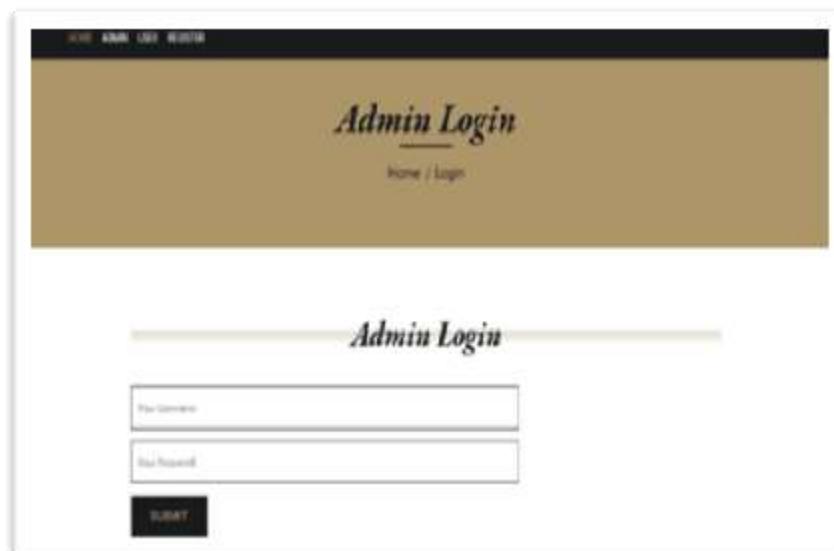


Figure 1: Admin Login



Figure 2: WAMPS Homepage

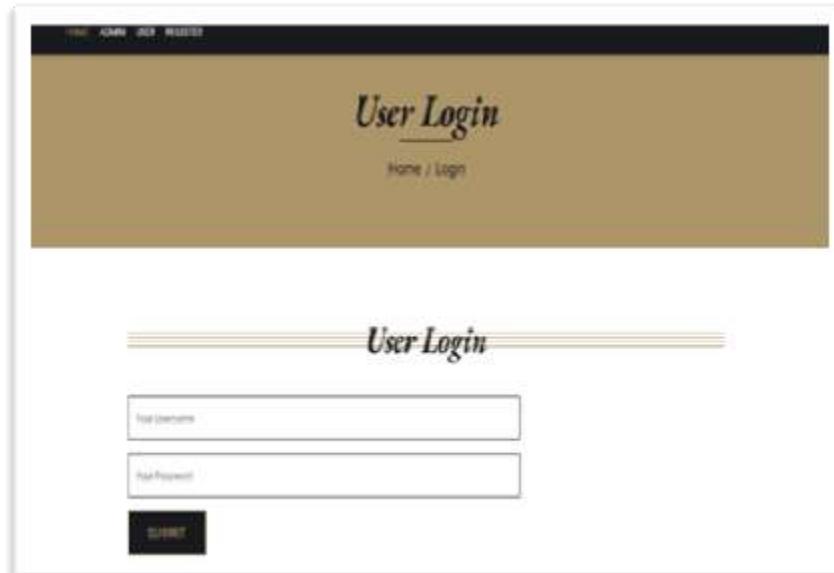


Figure 3: User Login



Figure 4: Register

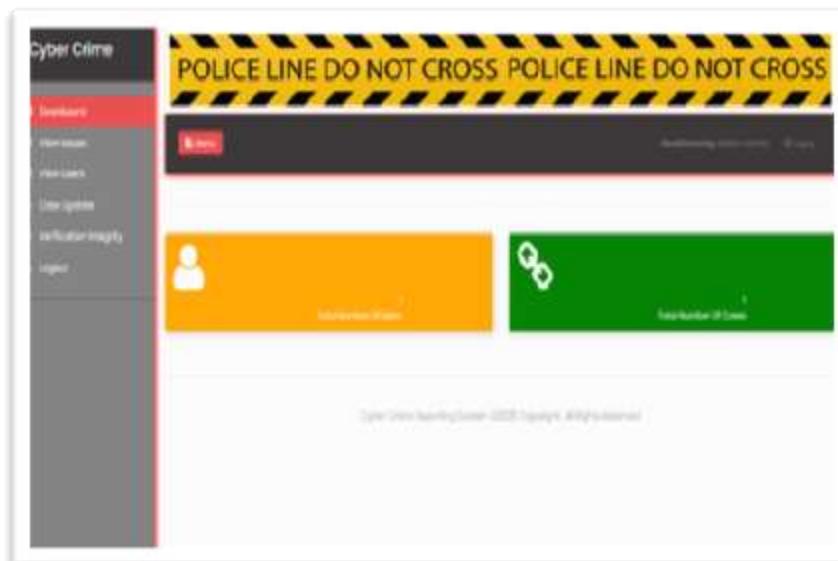


Figure 5: Cybercrime Dashboard



Figure 6: view issues



Figure 7: View Users



Figure 8: Case Update

6. CONCLUSIONS

In conclusion, this project presents a citizen-friendly Online Crime Reporting System that aims to overcome the limitations of traditional crime reporting methods. The manual process of lodging complaints often involves long wait times, physical visits to police stations, and a lack of transparency, which discourages many victims from reporting crimes. This system seeks to address these challenges by offering a convenient and accessible platform that allows users to report crimes from anywhere, at any time. The proposed system simplifies the process by allowing citizens to register and file complaints online, upload evidence, and monitor the status of their cases in real time. It eliminates the need for physical paperwork and reduces unnecessary delays by automating key aspects of the reporting and investigation process. Users receive timely updates, while law enforcement officials are provided with tools to view, assign, and update case statuses more efficiently. One of the notable features of the system is the use of blockchain technology, which ensures that all complaint-related transactions are securely recorded and immutable. This fosters transparency and builds public trust, as it guarantees that the records cannot be altered or deleted once entered into the system. The system also includes administrative controls to manage users and complaints effectively, along with modules for case tracking, evidence management, and notifications. These features work together to create a more organized and responsive crime reporting environment. Overall, this project plays a vital role in enhancing public safety by making crime reporting easier, more transparent, and more efficient. It encourages community engagement, supports timely action by law enforcement agencies, and promotes accountability at every stage of the complaint

lifecycle. By transforming how crimes are reported and handled, the system helps build a more trustworthy and responsive justice system

7. REFERENCES

- [1] Kumar, S. Agarwal and A. Jain, "Design and Development of Secure Online Crime Reporting System", Journal of Information Security and Applications, vol. 58, no. 2, pp. 128-135, 2022.
- [2] S. E. Fogbound and A. K. Mordi, "A Review of Cloud- Based Solutions for Crime Reporting", Journal of Cloud Computing, vol. 8, pp. 1-14, 2021.
- [3] M. Farooq and S. Beg, "An Efficient and Secure Online Crime Reporting System for Indian Police", International Journal of Emerging Trends in Engineering Research, vol. 8, no. 9, pp. 5548-5554, 2020.
- [4] D. Garfinkel and G. Spafford, "Practical UNIX & Internet Security", 3rd ed. O'Reilly Media, 2019.
- [5] J. Smith and T. Nguyen, "Cloud Infrastructure for Scalable and Secure Crime Reporting Applications", IEEE Cloud Computing, vol. 6, no. 3, pp. 22-30, 2019.
- [6] Mahmood, "Design and Implementation of a Secure Online Crime Reporting System", Journal of Information Technology & Software Engineering, vol. 9, pp. 145-160, 2020.
- [7] R. Gupta, P. Chhabra and A. Singhal, "Real-Time Crime Data Analytics: Using Machine Learning and Data Mining Techniques", IEEE Access, vol. 8, pp. 16751-16762, 2020.
- [8] R. Lakshman, S. Dhar and M. Varadarajan, "A Framework for the Adoption of AI in Crime Prevention and Law Enforcement", IEEE Transactions on Emerging Topics in Computing, vol. 10, no. 3, pp. 678-688, 2022.
- [9] Sivana Aleela and S. Rajesh, "Crime analysis and prediction using fuzzy c-means algorithm", Proc. International conference on Trends in Electronics and Informatics (ICOEI) 2019, pp. 595-599, February 201