Web Based Crime Management System For Pune City

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Abstract: *Currently operated criminal reporting rules prevent victims from finding assistance in Pune. Victims need to use the Crime Management System web application to file electronic crime reports while submitting evidence because it has an immediate case monitoring system functionality. The system operates on an XAMPP platform to support servers and includes secure SQL database organization together with real-time AJAX functionality. Obtaining security for strategic information requires two protective methods. Priority must be given to secure encryption systems and role-based access controls. Police forces achieve both operational efficiency alongside enhanced transparency because of this system when dealing with investigation work and strengthening their operational cooperation. Unidentified community members have the ability to submit public safety enhancement reports via the police service.*

Keywords: Crime Management System; FIR; police station; police; criminals; crime; reporting

I. INTRODUCTION

Urban protection and security represent basic functions of modern governance systems requiring both effective prevention measures against crime together with proper management solutions. The fast expansion of urbanization along with rising governmental activities and growing numbers of citizens has led Pune in Maharashtra to experience increasing criminal activities. Effective case management becomes a challenge because delays occur between victims reporting to police stations in person. The effectiveness of case tracking at law enforcement gets compromised due to the manual recording processes and data entry systems which have proven inadequate. Modern technology operational crime management systems should be developed because they would enhance public accessibility while improving reporting on crime and test tracking alongside data security measures. The combination of XAMPP server with AJAX technology enables fast data handling together with instant data refreshment without requiring page reloads. Using the integrated dashboard people are able to report crimes anywhere and upload supporting evidence as well as track cases. Law enforcement agents have access to view cases while assigning civil servants and updating investigation progress and providing victim feedback and enhancing system transparency. Various crimes have remained unreported because victims fear retribution or lack of reporting channels and distrust traditional crime complaint methods. The approval process for undisclosed crime reports makes citizens feel safe enough to report crimes without delay[1]. The platform that permits online complaints offers exceptional benefits for three groups: women, elderly individuals and disabled persons. The combination of digital storage with SQL-based formatted systems enables law enforcement to execute rapid access of case information for analysis purposes. The system shortens inspection timelines and case resolution times through this method. The search and filter tools within the system enable civil servants to analyze criminal patterns and locate risky areas thus enabling them to allocate their resources efficiently. Aggressive birth control programs for reducing crime alongside decreased individual offences combined to establish Pune as a more secure location to live. The collection of evidence for various criminal activities including financial fraud and cybercrime and organized crime necessitates obtaining document and image and video evidence. The system uses encryption to protect evidence from unauthorized access and securely stores data in designated secure servers to avoid any operational or loss incidents. Through law enforcement the department can store important case information which helps different police forces that work on related cases to operate more effectively. With CMS the police establish greater community trust

because the system reveals investigation updates to all members of the public. Automated notification systems enable investigators to update victims about their case progress which cuts down their misunderstandings and reduces their dissatisfaction. Efficient and promptly responding law enforcement services lead to increased community participation during crime prevention operations. People show readiness to report unusual behavior as well as participation in probes and endorsement of law enforcement support programs. Crime patterns become clear to civil servants through time-based analysis of reports which helps them evaluate current guidelines and develop new methods against crime poles. The data-controlled system directs police resources for better effectiveness which creates a safer environment for our society. Rising technological advancement resulted in police records moving from paper-based to digital recording systems which now serve as law enforcement foundations. The transformation leads to both improved efficiency alongside its other benefits. The purpose is establishing a system that accomplishes its goals through enhanced operational effectiveness and safeguards justice along with fairness and accountability.

II. LITERATURE REVIEW

The document "E-Cops: An Online Crime Reporting and Management for Riyadh City" [1] describes Riyadh Saudi Arabia's current online system that allows victims to file reports through the internet and enables police investigators to track records against criminals to identify offenders. The system enables better public police engagement through an Internet platform. The platform allows users to file complaints and view their case updates together with access to crime-related data. The system contains a secure database which offers both transparency and faster investigation times. The study shows that technology strengthens the potential for updating law enforcement systems to boost public security measures.

The document "AICAMS: Artificial Intelligence Crime Analysis and Management System"[2] Details how artificial intelligence powers the existing management system of ottawa capital of Canada which serves only police for record management and investigation. An examination explores how AI technology should be implemented between law enforcement agencies for crime assessment without user or victim interaction. This system bases its operations on machine learning algorithms which predict criminal activity patterns and illegal events through knowledge-based analysis. The system delivers relevant details to law enforcement agencies through processed data to enable effective case management. Using artificial intelligence with crime data helps organizations enhance their decision systems while directing finding allocations more efficiently. The research argues that modern police operations and criminal prevention methods need the implementation of intelligent systems.

The article "IoT-based Architecture for Nigerian Crime Management" [3] offers enhancements to Nigerian crime management through IoT-based architecture that centers on reporting and monitoring and surveillance processes. Real-time information collection and distribution systems help improve the methods to prevent crimes and detect them and respond to them quickly. Researchers explain how camera and sensor applications work in combination with a framework structure supported by the Internet of Things to detect crimes and stop them. The system enables instant criminal surveillance through the combination of analytical tools with both camera and sensor systems with artificial intelligence capabilities. The research implements cloud computing with data transmission technologies to develop better procedures for reporting and investigating crime. Through this research it becomes evident how IoT technology upgrades criminal database management which leads to more effective security results.

The research paper "A Real-Time Crime Records Management System for National Security Agencies" [4] examines current crime management technologies along with their performance restrictions. Data storage through manual means causes various issues including inefficiency and information loss along with extended response durations. Several academic investigations show that automated real-time systems will improve crime tracking operations and decision-making functions. This system has established biometric-based criminal investigation capabilities to let Nigeria Police Force officers better identify suspects alongside minimizing impersonation attempts. Scientists underline the requirement for protected access controls because they stop unapproved breaches of data. Multiple case research indicates web-based solutions together with mobile infrastructure increase the coordination capacity of law enforcement. The author constructs a real-time operational crime records database which would benefit national security agencies across Nigeria.

The document titled "Automated Crime Reporting and Incident Management System"[5] which presents technical procedures to simplify crime reporting together with incident management operations. The method deals with automated complaint registration alongside case tracking and law enforcement operational assistance. Using AI-driven analytics alongside real-time data processing the system works to enhance operational effectiveness. The system achieves its objective by reducing human interaction for faster and more accurate crime management. Public safety and law enforcement need automation according to research findings.

III. METHODOLOGY

The presented management system makes use of backend technologies bound together by HTML along with CSS and JavaScript and PHP and AJAX and MySQL while using XAMPP as the server platform. The methodology presents an organized methodology to build and implement the system.

Through AJAX requests the system operates as a client-server platform to enable asynchronous frontend-backend communications. Forefront PHP scripts are saved on the XAMPP server which establishes a working relationship with the MySQL relational database.
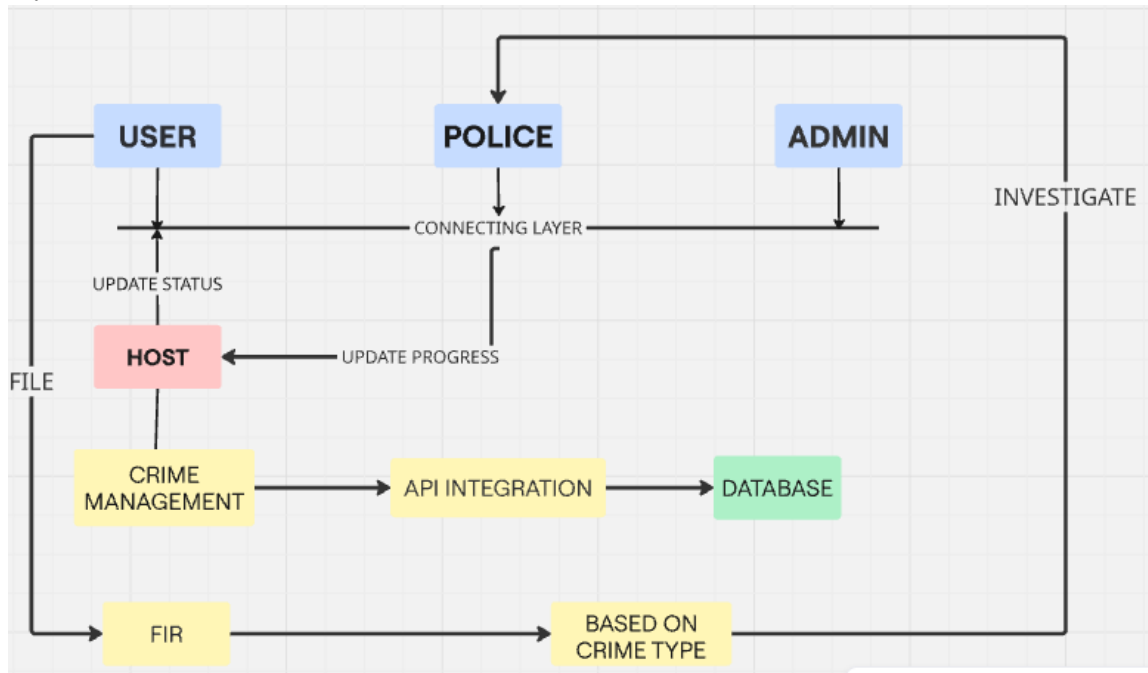

Fig.1. System Design

Fig.1. Illustrates web-based Crime Management System allows users to file FIRs (First Information Reports) with evidence and specify the crime type (e.g., theft, assault, cybercrime). The system automatically assigns the case to a police officer specialized in that crime category.

User's Role (Citizen) is to register/login securely and file a FIR with details, crime type, and upload evidence (images/docs). User can track FIR status too (Pending/Approved/Rejected/Solved). Police Role (Assigned Officer) is to receive real-time notifications of new FIRs. approve (start investigation) or Reject and updates progress (%) (e.g., 30% investigation done) as Solved/Partially Solved/Pending to keep track of the case.Admin Role is to manage police officers, stations, criminals' records. View all cases, filters by status (Solved/Pending) generates reports and analytics based on crime type.
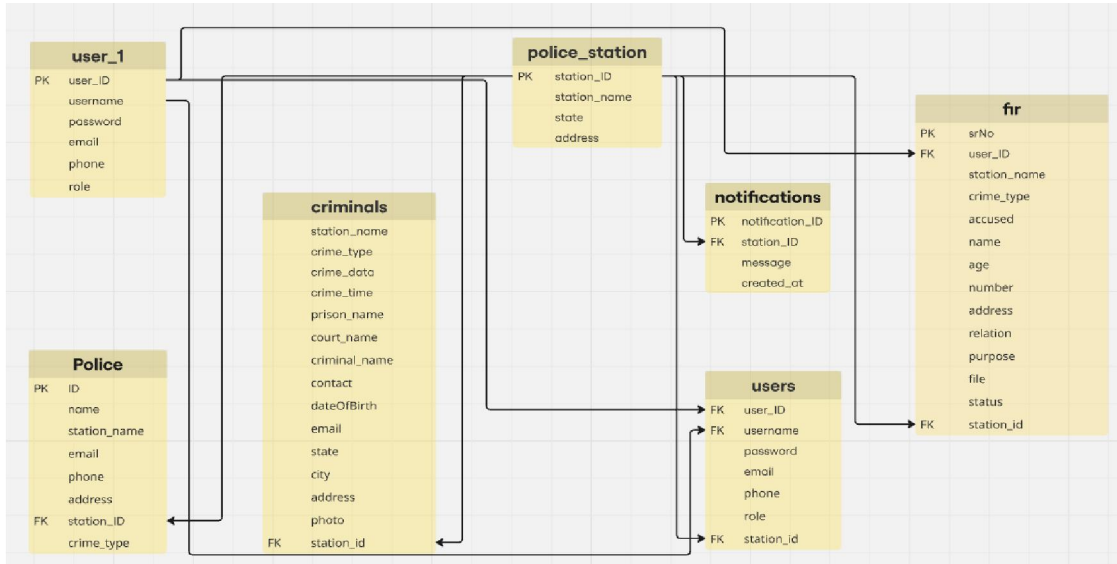
Fig.2. Database design

Technical Implementation: For frontend HTML, CSS, JavaScript, Bootstrap used. However, at backend PHP handles FIR submission, approvals, progress tracking. Database managed by MySQL (stores FIRs, police data, criminal records).Server is Apache (XAMPP for local testing before deployment)

This database schema represents a police crime management system, connecting users, police officers, criminals, FIR records, and notifications through a relational structure. It includes key entities such as users, police officers, police stations, criminals, and FIRs, with relationships maintained using foreign keys (e.g., station_ID, user_ID). The design fig.2. ensures data integrity by linking crime reports, user authentication, and police records efficiently. With three distinct access levels User, Police, and Admin the Crime Management System's fig. 3 homepage offers an intuitive user interface. In addition to reporting crimes, victims can upload evidence, monitor the status of their cases, and manage their accounts by changing their passwords or updating their profiles. To handle cases, communicate with victims, update investigation statuses, analyse crime type graphs, and safely change account information, police officers have a dedicated dashboard. Admins are in charge of database security, police station administration, user registration, and account management functions like password resets and user access. For every user, the homepage guarantees smooth account management, safe role-based access, effective navigation, and real-time updates. Fig. 4 shows the admin's interface gives admin the ability to manage police stations, police officers, criminals, and FIR records after logging in as an administrator. By entering information like name, police ID, state, and address, the administrator can add and manage police stations. Additionally, they have the ability to manage police officers, which includes updating their information and assigning them to particular stations. The system ensures effective case tracking and monitoring by enabling the administrator to view FIR records. For easy communication, contact information such as a mobile number and email address is also kept up to date. In user's interface includes FIR Form and FIR History sections once a user has signed in. The FIR Form enables users to submit complaints when they provide essential information about crime type, accused names and applicants, police station location, evidence documentation and contact information. Users have the ability to state the cause for filing a FIR while specifying their relationship with the suspect. Users can view submitted FIRs along with the status information showing sent or approved figures in addition to accessing evidence materials in FIR History. Through the system users have transparency access while maintaining the capability to track their lodge complaints. Users who authenticate as police officers can access via interface the Criminals section and FIR section together. The Criminals module enables police officials to maintain criminal records through name storage and input of data about crime date along with court name and contact information and criminal type descriptions. The FIR module allows police users to monitor all registered complaints while enabling them to label them through different

status types. Through the system police operators can ensure efficient documentation and data processing for crime tracking functions. The interface maintains a notification function that sends alerts to police about fresh FIR fig.6 which ensures prompt responses and proper case administration. The interface assists police in both FIR handling and criminal record organization processing. Within this system only the police assigned to a particular police station can retrieve and handle files from specific users who submit complaints to their station. The system employs several security features to maintain data integrity by stopping unauthorized access and utilizes PHP sessions and password hashing for authentication and prepared MySQL statements for SQL injection prevention alongside AJAX input validation for valid server/client data transfer.

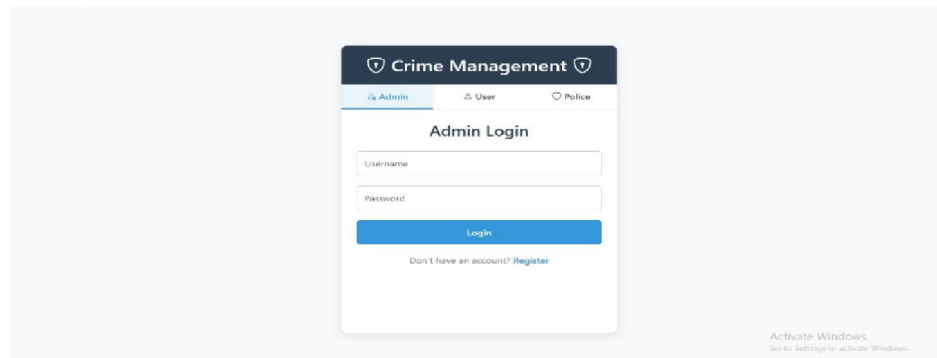## IV. RESULTS AND ANALYSIS

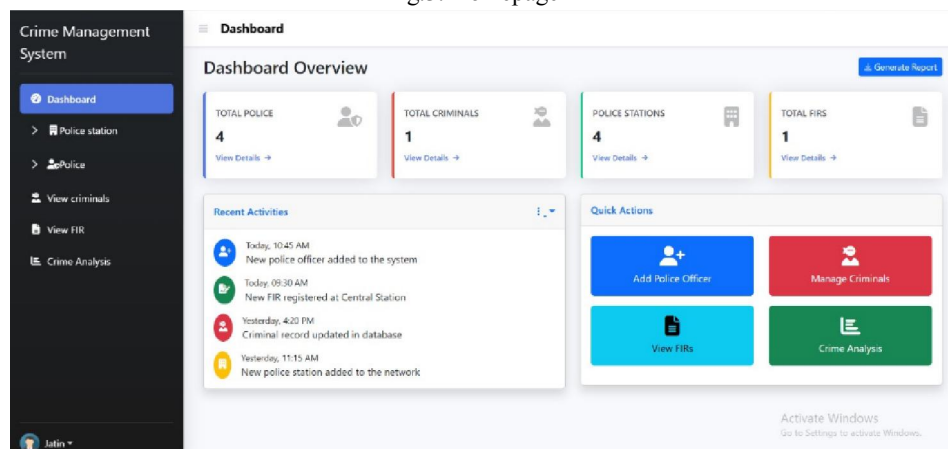### 4.1 Interface

Fig.3. Homepage
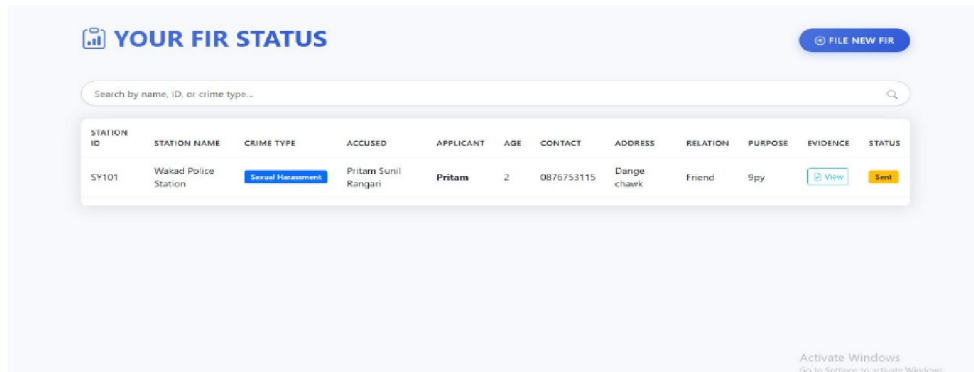

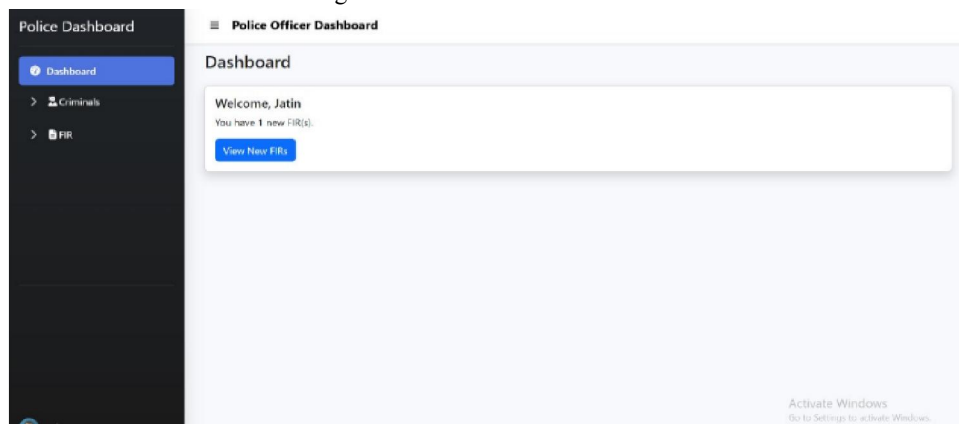Fig.4. After logging in admin

Fig.5. User Can see the Status

Fig.6.police getting notification

4.2. Comparative analysis

Criteria	Normal crime management system	Web based crime management system
Data Security & Management	Paper-based or standalone digital files, prone to loss.	Organized database system implements encryption and authentication features with backup protocols.
Accessibility	The platform is restricted to administrative spaces.	Accessible from anywhere via the internet.
Efficiency	Manual processes, time-consuming record retrieval.	Automated case management, faster operations.
Crime Reporting	The public needs to visit police stations for complaint submission.	Online complaint filing available anytime.
Crime Analysis & Prediction	No real-time analysis	Analysis of data enables experts to recognize crime pattern
Integration with Other Systems	System with limited external connectivity.	System capable to connect with data base networks.
Cost & Maintenance	Low initial cost but high long-term expenses for storage and maintenance	High initial investment yet benefits from automatized maintenance procedures.

V. CONCLUSION AND FUTURE SCOPE

5.1. Conclusion:

A better reporting system within the proposed Crime Management System enhances current police operations by improving crime investigative powers. The application uses PHP and MySQL web-based technologies supported by AJAX and XAMPP to provide real-time data processing while managing urgent communications between victims administrators and investigators. The open interface enables users to enjoy superior security protection during their session because they can report violent incidents including digital evidence while viewing case tracking through the system platform. Specialized permissions and automated warning systems linked to organized information arrangement allow investigators to function optimally in law enforcement teams which subsequently accelerates criminal investigations. The system defends stored data contents while preventing unauthorized access following successful authentication combined with encryption verification procedures. Public trust enables smoother crime investigations and police achieve higher outcomes in their urban crime management responsibilities through this system.

5.2. Future Scope:

Law enforcement activities will likely have their predictive policing methods evolved by AI-based automated crime pattern evaluation systems. The aim of goal area detection relies on historical crime data which Scikit-Learn analyzes using Python machine learning. The criminal pattern assessment data needs specific display capabilities from Matplotlib as well as Chart.js.

Through their combination Smart Surveillance and IoT produce an operational system that detects criminal activity automatically while conducting facial recognition on processed live video feed.

The blockchain evidence management security prevents any modifications to stored digital evidence or crime records after completion of storage procedures and when system trust levels rise. Mobile App for Accessibility: By enabling crime reporting while on the go, a mobile-friendly version of the system can boost public involvement and participation.

Users in the future will benefit from multilingual support and nationwide system expansion to make the platform inclusive for multiple communities across various regions.

Improved Cooperation with Law Enforcement: For improved cross-jurisdictional investigations and case linking, the system can be integrated with forensic systems and national databases.

Facial Recognition for Suspects: Use OpenCV to match suspects' images with a criminal database using facial recognition. For police use, keep the results in your database.

Text Summarisation for Crime Reports: To condense long FIRs and reports, use AI-based natural language processing (NLP) tools like spaCy and NLTK. Display a succinct synopsis on the case management dashboard.

Using AI-based speech recognition (Google Speech-to-Text API), the Voice-to-Text Reporting System enables victims or law enforcement personnel to dictate crime reports.

The Crime Management System can develop into a comprehensive, AI-powered, and extremely secure crime prevention tool by putting these future developments into practice, which will make the law enforcement ecosystem safer and more effective.

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