# Integrated Crime Case Management Platform

## [1] Prof. R. Hinduja, [2]Ms. Hashini. J, [3]Ms. Danusree K.S

[1]Assistant Professor, Department of Software Systems and AIML, Sri Krishna College of Arts and Science, Coimbatore, India hindujar@skasc.ac.in
[2]Student, Department of Software Systems and AIML, Sri Krishna College of Arts and Science, Coimbatore, India hashinij23bai067@skasc.ac.in
[3]Student, Department of Software Systems and AIML, Sri Krishna College of Arts and Science, Coimbatore, India danusreeks23bai012@skasc.ac.in

**ABSTRACT :**

The digital transformation of government services, particularly in the law enforcement sector, has become essential to improve operational efficiency, transparency, and accountability. This research paper presents the design, development, and evaluation of a Low-Code Integrated Crime Case Management Platform (ICCMP) developed for internal use by law enforcement departments. The platform addresses the limitations of traditional paper-based systems by offering a centralized digital solution to manage the entire lifecycle of crime cases. Built using Zoho Creator, a cloud-based low-code development tool, the ICCMP supports real-time FIR registration, victim and suspect profiling, case tracking, task assignment, and event management. Features such as dynamic dashboards, automated workflows, and instant notifications enhance interdepartmental coordination and reduce delays. The system follows a modular architecture, ensuring scalability and ease of maintenance. With user authentication, role-based access, and audit logs, the platform ensures secure data handling. Evaluation through user testing showed notable improvements in workflow efficiency and data accuracy.

**Keywords**— Crime Case Management, FIR Automation, Zoho Creator, Low-Code Platform, Criminal Profiling, Police Digitalization, Task Assignment System, Real-Time Dashboards, Law Enforcement Software, Case Tracking System.

## Introduction

Crime Investigation and law enforcement frequently calculate on manually maintained records, which can lead to significant challenges similar as detainments in case processing, loss or loss of important documents, and lack of visibility into ongoing examinations. These inefficiencies hamper timely decision- timber, reduce responsibility, and affect the overall performance of police departments. With the growing demand for translucency and functional effectiveness digital metamorphosis in the public security sector has come essential. To address these issues, this paper presents a Zoho Creator-

grounded digital crime case operation platform that enables centralized and real- time shadowing of crime cases, felonious biographies, FIRs, and executive tasks. The platform replaces traditional paperwork with automated workflows, dynamic dashboards, and instant announcements. Unlike conventional high- law enterprise systems, this result is erected using a low- law development approach, allowing for rapid-fire operation structure, easy customization, and deployment. It's particularly suitable for educational and institutional training systems taking quick and adaptable perpetration

## Need for the Project

Traditional, homemade crime tracking systems often lack essential features such as data synchronization, rapid reporting, and secure role-based access control, making them inefficient for modern law enforcement needs. This project addresses these challenges by introducing an easy-to-use, cloud-based platform designed to streamline crime data management. The system allows police officers to seamlessly register and monitor FIRs, maintain criminal profiles, and manage community awareness programs—all within a single, integrated interface. Tailored specifically for non-technical users, the platform eliminates the need for coding expertise and offers cost-effective deployment, making it ideal for small-scale police stations or rural law enforcement units seeking digital solutions.

## Problem Statement

Most local police departments still rely on manual paperwork for registering FIRs, updating case statuses, and maintaining criminal records. This outdated approach leads to data duplication, delays in accessing case histories, inefficiencies in officer coordination, and difficulties during audits or inspections. Additionally, there's a noticeable absence of a unified system that can integrate case tracking, officer assignments, and public crime awareness programs. To address these issues, this project proposes a modular digital system that centralizes all operations. It ensures real-time updates, improves data integrity, streamlines officer workflows, enhances transparency, and makes it easier to monitor criminal activities and engage communities effectively. The system offers role-based access, ensuring data privacy and operational control. It reduces paperwork and administrative

overhead by digitizing core tasks. Audit trails and automated logs help in compliance and accountability. The modular design allows easy customization based on department needs. Overall, it brings transparency, speed, and efficiency to law enforcement operations.

### *Project Objectives*

- To build a unified digital platform for registering and monitoring crime cases efficiently.
- To enable automated email notifications for task assignments and status updates.
- To digitally track crime awareness programs with timely alerts and schedules.
- To offer a real-time dashboard for visualizing case progress and statistics.
- To eliminate manual paperwork by providing an officer-exclusive, user-friendly interface.

### *Existing System*

Conventional law enforcement systems primarily rely on offline filing methods and physical record registers, making data storage and retrieval inefficient. Communication between officers and departments is typically done through phone calls and handwritten memos, leading to delays and missed updates. Awareness programs are monitored manually, lacking proper documentation and timely evaluation. Moreover, there is no structured linkage between crime cases, criminal profiles, and officer assignments, resulting in fragmented data and poor traceability. Generating reports becomes a time- consuming, error-prone process, affecting decision-making, accountability, and overall operational transparency in the department.

## Proposed System Overview

The Integrated Crime Case Management Platform is built on Zoho Creator with the following key modules:

- Officer List
- Criminal Profile
- Case Tracker
- Awareness Program

Dashboard and Reports It supports automationsuch as:
- Email notifications when cases or programs are assigned
- Reminder mails when no updates occur
- Pop-up alerts when tasks are completed

## Module Description

The proposed system is composed of five key functional modules. Each module is designed to digitize and streamline essential law enforcement processes such as officer assignment, case management, criminal profiling, awareness tracking, and data visualization.

### A. Officer List

This module maintains a comprehensive directory of all active police officers within the jurisdiction. It stores essential details such as officer ID, name, rank, designation, contact information, and current availability status. The module is primarily used for linking officers to specific cases, facilitating internal communication, and triggering email alerts when new tasks or status changes occur. It ensures that only verified personnel can operate within the system, maintaining data security and role-based access.

### B. Criminal Profile

The Criminal Profile module records all relevant identification and status details of individuals involved in crime cases. It captures attributes like name, age, gender, photograph, and identification marks, along with a dynamic status field indicating whether the individual is "Under Watching," "In Jail," or "On Bail." Each profile is automatically linked to one or more Case IDs, allowing users to track an individual's complete criminal history. This module supports efficient background checks and ensures centralized access to offender data



### C. Case Tracker

This is the core operational module of the system, enabling officers to register new cases and monitor their progress in real-time. Upon case creation, it allows assignment to specific officers and provides dropdown options to update the case status as "Open," "Ongoing," or "Closed." The system automatically generates notifications and email alerts during key transitions, such as new assignments or status updates. The Case Tracker also supports search and filter functions for quick retrieval based on crime type, location, or assigned officer.
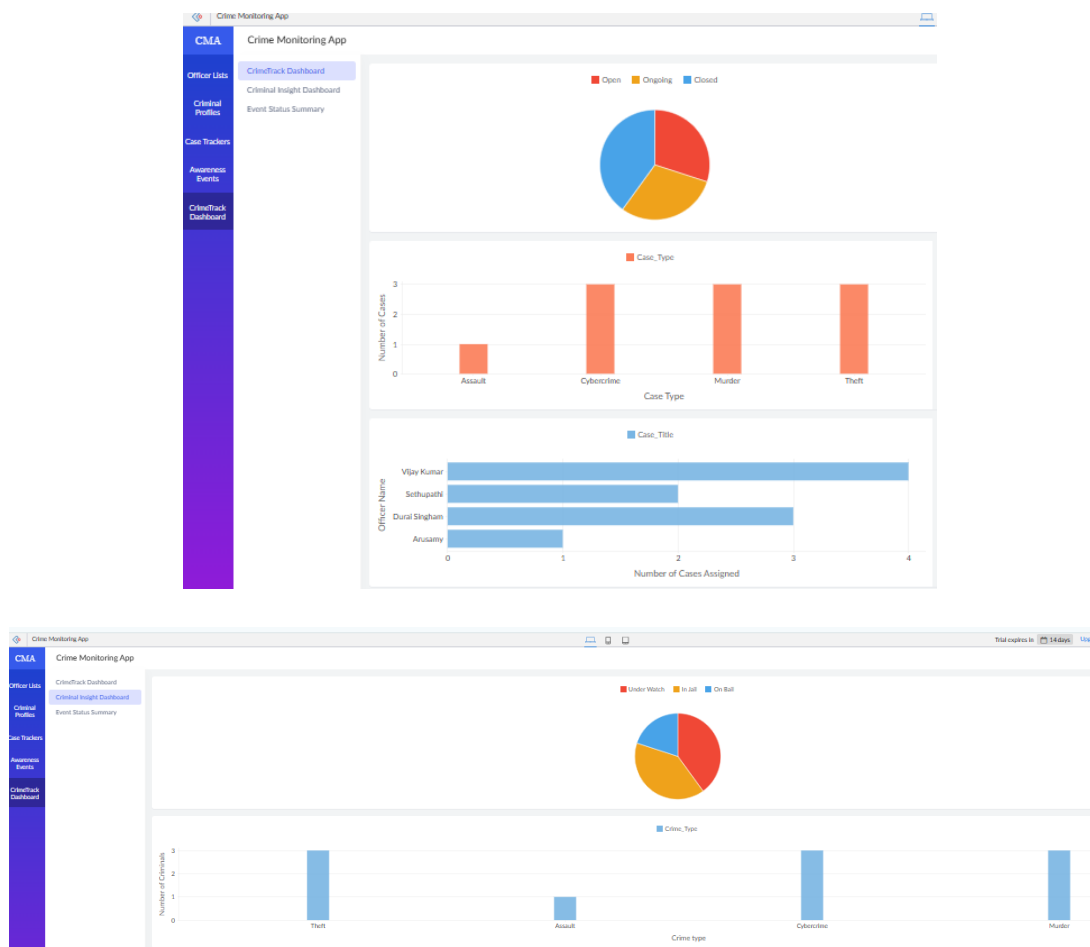


### D. Awareness Event

The Awareness Event module is designed to digitally organize and track public crime awareness programs. Users can schedule new events by entering details such as event title, location, description, and date. When an event is marked as "Planned," the system triggers scheduled email alerts to relevant officers and departments. Once the event is conducted and marked as "Completed," the system logs confirmation and archives it for future reference. This module ensures proper documentation and timely communication of community outreach efforts

### E. Dashboard

The Dashboard provides a visual summary of the system's key statistics and performance indicators. It displays live counters and dynamic charts that reflect the total number of registered cases, active criminal profiles, case status distribution (e.g., Open, Ongoing, Closed), and the progress of awareness events (e.g., Planned, Completed). This module is especially useful for senior officers and administrative users to gain real-time insights and support data-driven decision- making. The dashboard refreshes automatically and presents information in a clean, interactive format.

## Tools and Technologies Used

The proposed system was developed entirely within the Zoho Creator platform, utilizing its built-in features and components. The tools and technologies used are as follows:

- **Zoho Creator:** A cloud-based low-code platform used for designing, developing, and deploying the application without external infrastructure.
- **Deluge Script:** Zoho Creator's native scripting language used to implement form logic, task automation, and data validations within the application.
- **Built-in Relational Database:** An internal database system provided by Zoho Creator to store and manage structured data such as FIR records, officer details, and criminal profiles.
- **Dashboard Widgets:** Built-in reporting tools used to display real-time metrics such as case counts, event statuses, and officer assignments through visual elements like charts and counters.

## Sample Workflow Scenario

Officer Ramesh logs into the system and creates a new Criminal Profile for suspect ID #3021. A new case is registered and automatically linked to this profile. As soon as the case is assigned, Officer Ramesh receives an email alert. The system marks it as "Ongoing." After 3 days with no status update, a reminder is triggered. Once resolved, he updates the status to "Closed," and the system automatically updates the criminal status to "In Jail."

## Results and Advantages

- Minimized Paperwork: Eliminates manual case files, reducing clerical workload and human errors.
- Centralized Record Access: All officer, criminal, case, and event data is available in a single, connected platform.
- Automation of Notifications: System automatically sends task alerts, reminders, and status confirmations to officers.

- Improved Accountability: Case tracking and officer activity are transparent through status updates and audit logs.

- Quick Deployment: Built with a low-code platform that allows fast development and future scalability.
- Dashboard Analytics: Real-time charts display case status, criminal count, and event summaries for better decision-making.
- Cloud-based Accessibility: Accessible from any device with internet access, improving flexibility.
- No Coding Skills Required: Can be managed by officers or clerks without programming knowledge.
- Audit-Ready Reports: Data can be exported for reporting, making audit preparation faster and more accurate.
- Cost-Effective Solution: Built using a free trial version of Zoho Creator with the potential to upgrade as needed.

## Conclusion

The project demonstrates the capability of low-code tools like Zoho Creator in creating real-world applications for public sectors, particularly law enforcement. By digitizing manual records and integrating case workflows into a centralized system, the platform significantly reduces paperwork, improves communication, and minimizes data entry errors. It empowers police personnel to efficiently assign, monitor, and close cases through a streamlined interface. The awareness program module ensures that community outreach is planned and tracked, enhancing public safety initiatives. Automated email notifications reduce human oversight by informing officers of case assignments, pending updates, and scheduled events. Real-time dashboards allow officers to visualize crime patterns, event coverage, and system activity instantly. The intuitive design makes the platform accessible even to users without technical expertise, ensuring widespread adoption.

Overall, the system represents a scalable and efficient solution that enhances operational transparency, boosts departmental accountability, and lays the groundwork for more advanced integrations in the future.

## REFERENCES

**Book Reference:**
1. Pressman, R. S., & Maxim, B. R. (2014). *Software Engineering: A Practitioner's Approach* (8th ed.). McGraw-Hill Education.
2. Sommerville, I. (2016). *Software Engineering* (10th ed.). Pearson Education.
3. Ambler, S. W. (2002). *Agile Modeling: Effective Practices for eXtreme Programming and the Unified Process*. John Wiley & Sons.
4. Arora, A., & Bhatia, P. K. (2013). *Software Testing and Quality Assurance*. Khanna Publishing House.
5. Kendall, K. E., & Kendall, J. E. (2010). *Systems Analysis and Design* (8th ed.). Pearson Education.

**Web Reference:**
1. Zoho Corporation, *Zoho Creator Help Documentation*, Available: https://www.zoho.com/creator/help/
2. Zoho Corporation, *Deluge Scripting Language Guide*, Available: https://www.zoho.com/deluge/help/
3. Postman, *API Testing and Integration Guide*, Available: https://learning.postman.com
4. GeeksforGeeks, *MySQL Tutorial for Beginners*, Available: https://www.geeksforgeeks.org/mysql- tutorial/
5. YouTube, *Zoho Creator App Tutorial*, Available: https://www.youtube.com/watch?v=10V6n4S3LqE