Original Research Article

Design and Implementation of Online Crime Report System Using Rapid Application Development (RAD) Methodology

ABSTRACT

In recent years, online crime reporting systems have become increasingly important for law enforcement and community safety. However, many existing systems lack features that enhance usability and accessibility for diverse populations. This paper provides a comprehensive overview of the design and implementation process for an Online Crime Report System, employing the Rapid Application Development (RAD) methodology. Our proposed system integrates advanced data analytics, a multi-language interface, and anonymous reporting capabilities, which address these limitations and provide significant improvements over current solutions. Additionally, the system is designed with scalability, high availability, low latency, reliability, and durability in mind to ensure it can effectively support crime reporting at scale in real-world scenarios. It explores the technical aspects of system development, discusses the challenges encountered, the solutions devised, and evaluates the effectiveness of the RAD approach in this context. By examining this case study, we aim to contribute to the growing body of knowledge on the application of agile development methodologies in law enforcement technology, and to provide insights for future implementations of similar systems.

Keywords: *Anonymous Reporting; Crime Prevention; Iterative Development; Online Crime Reporting System; Rapid Application Development.*

1. INTRODUCTION

In urban areas, an alarming 60% of crimes go unreported due to limitations with traditional in-person reporting methods (Smith et al., 2022). Delays, restricted hours, and geographical barriers discourage victims from coming forward, which not only hampers investigations but also compromises public safety. These limitations also create inefficiencies within police departments. Manual data entry processes, for example, can lead to error rates as high as 18% in some jurisdictions, while report-processing times can extend beyond 72hr in busy precincts (Garcia, 2023). These delays strain police resources and hinder timely responses to criminal activity.

To address these challenges, Online Crime Reporting Systems are emerging as valuable tools for enhancing public safety and streamlining the reporting process. This paper explores the design and implementation of an Online Crime Reporting Systems using the Rapid Application Development methodology – an approach well suited for rapid development and adaptable to user needs (Wang et al., 2012).

Traditional crime reporting methods, such as in-person visits to police stations or phone calls, present significant obstacles to effective law enforcement. A survey by (Johnson et al., 2021) revealed that 45% of those who chose not to report a crime cited inconvenience

as the primary reason. Additionally, police departments often struggle with resource allocation, as up to 30% of officer time is consumed by administrative tasks associated with report filing and processing (Garcia, 2023). These inefficiencies can result in delayed response times, difficulties in data management, and diminished public trust in law enforcement institutions.

Online crime reporting systems provide a digital platform for citizens to report non-emergency crimes, submit tips, and track the status of their reports (Ullah et al., 2023). Studies have confirmed that these systems enhance police operations, improve data accuracy, and promote public engagement in crime prevention efforts (Ashby, 2017). By leveraging web-based technologies, these systems offer round-the-clock accessibility, relieve police personnel from minor incident reporting, and facilitate efficient resource allocation. The Rapid Application Development (RAD) methodology plays a crucial role in streamlining the design and implementation of Online Crime Report Systems in law enforcement by enabling quick iterations and user feedback incorporation. By leveraging cutting-edge technology like facial recognition and CCTV monitoring (Harinee et al., 2024), the system ensures efficient case management and proactive crime prevention (Harinee et al., 2024). RAD expedites the development process, allowing for the integration of map features for location tracking (Kiruthika et al., 2021), and enhancing accessibility for the public and law enforcement agencies (Ijsrem, 2022). Additionally, the use of Internet technology and cloud computing principles in E-policing systems aids in tracking and controlling crime rates (Nicholas, 2019). RAD methodology, coupled with advanced technological solutions, significantly improves the effectiveness and efficiency of Online Crime Report Systems in enhancing public safety and law enforcement capabilities. Rapid Application Development, developed by James Martin in 1991, prioritizes iterative development, rapid prototyping, and continuous user feedback (Martin, 1991). This approach is well-suited for projects with rapidly changing requirements and where user involvement is crucial (Schön et al., 2017). For an Online Crime Report System, the ability to adapt to evolving legal requirements, emerging crime trends, and user feedback is essential for creating an effective and user-friendly system. The Rapid Application Development methodology consists of four main phases: Requirements Planning, User Design, Rapid Construction, and Cutover (Beynon-Davies et al., 1999). This iterative approach allows for continuous refinement of the system based on stakeholder input, ensuring that the final product aligns closely with the needs of law enforcement agencies and the public (Roth et al., 2015). By using Rapid Application Development, the development team can address potential issues early in the process, reduce development time, and deliver a robust and user-centric solution.

Implementing an Online Crime Report System using the Rapid Application Development methodology offers measurable benefits:

i. Improved accessibility: Citizens can report crimes and submit information at any time, potentially increasing reporting rates by up to 25% (Wilson, 2020).
ii. Enhanced data management: Digital reports can be easily stored, retrieved, and analysed, reducing data entry errors by up to 40% (Thompson, 2021).
iii. Increased efficiency: Automating the initial reporting process can free up to 20% of officer time for more critical tasks (Garcia, 2023).
iv. Greater public engagement: User-friendly online systems have been shown to increase citizen tip submissions by up to 35% (Chen et al., 2022).
v. Cost-effectiveness: Implementing Online Crime Report System can lead to a 15-20% reduction in administrative costs for law enforcement agencies (Goodison et al., 2015).

However, the implementation of Online Crime Report System presents various challenges that must be addressed, such as ensuring data security and privacy, verifying report

authenticity, integrating the system with existing law enforcement databases, and providing access to individuals with limited technological literacy or internet access (Tanner et al., 2021). Overcoming these challenges is essential for the successful adoption and long-term viability of online crime reporting systems.

This paper aimed to provide a comprehensive overview of the design and implementation process for an Online Crime Report System using the Rapid Application Development methodology. It will explore the technical aspects of system development, discuss the challenges encountered, solutions devised, and evaluate the effectiveness of the Rapid Application Development approach in this context. By examining this case study, we aim to contribute to the growing body of knowledge on the application of agile development methodologies in law enforcement technology and provide insights for future implementations of similar systems.

2. RELATED WORKS

Crime, reporting mechanisms, and the role of electronic systems are complex issues in Ghana that have a significant impact on society (Ennin, et al., 2019). This literature review focuses on these interconnected topics and examines how they manifest in the Ghanaian context.

Crime is broadly defined as an act that violates criminal law, but its perception varies across cultures (Nnadimma, 2018; Tappan, 2001; Laub et al., 1993). Scholars debate the possibility of a universal crime theory, as they highlight the tension between cultural specificity and shared characteristics (Gottfredson et al., 1990; Laub et al., 1993).

In Ghana, crime poses a significant challenge. As of May 2021, the country's crime index was 48.52, indicating a moderate level of criminal activity (Andoh, 2023). Major issues include violent crime, street crime, human trafficking, and gender-based violence (Burke et al., 2020). The Ghana Police Service has identified numerous crime flashpoints across the country, highlighting the widespread nature of the problem.

The effectiveness of crime reporting, and investigation systems is crucial in addressing these challenges (Galdon, 2022). However, Ghana's current justice system faces several limitations, including negative public perceptions and allegations of corruption (Amagnya, 2024). These factors contribute to underreporting and a lack of public trust in the system.

Electronic crime reporting systems have emerged as potential solutions, offering advantages in accessibility, efficiency, and cost-effectiveness in more developed countries (Armin et al., 2016). Examples of advanced implementations include the United States' Internet Crime Complaint Centre and the Federal Bureau of Investigations Criminal Justice Information Services.

However, Ghana's attempts at electronic crime reporting face significant hurdles. Current systems are often isolated, lack public feedback, and have restricted access (Brown, 2015). These limitations severely hamper their effectiveness and adoption by the public.

There is a clear need for a comprehensive, publicly accessible electronic crime reporting system in Ghana that addresses these shortcomings (Eboibi et al., 2020). Such a system should provide timely feedback on investigations, encompass all types of crime, and be tailored to Ghana's unique cultural and societal context. Developing this kind of system represents a crucial step in improving Ghana's crime reporting infrastructure and, ultimately, its ability to effectively address crime (Facchetti, 2021). Table 1. Shows the strengths, weaknesses, opportunities, and threats analysis of each of the existing related works on online Crime Reporting systems.

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Table 1. SWOT Analysis of Existing Literature on Online Crime Reporting Systems

Author(s)	Year	Strengths	Weaknesses	Opportunities	Threats
Smith and Thompson [29]	2023	Comprehensive analysis of current crime reporting systems.	Lack of user anonymity features in many systems.	Incorporation of user anonymity to increase report rates.	Data breaches due to insufficient security measures.
Chen and Wang [30]	2023	Detailed evaluation of system interfaces and usability.	Limited multi-language support in reviewed systems.	Expansion to multi-language interfaces for broader usability.	Potential resistance to new system adoption.
Brown and Green [31]	2023	Insights into the integration with existing law enforcement.	Insufficient real-time data analytics capabilities.	Leveraging real-time analytics for proactive crime prevention.	Integration issues with existing law enforcement databases.
Patel and Verma [32]	2023	Discussion on the importance of data security.	Poor design consideration for user-friendliness.	Enhancing user interface for better accessibility.	Increasing complexity and cost of robust data security.
Martinez and Singh [33]	2023	Emphasis on the necessity of data security protocols.	Limited focus on system accessibility for low-tech users.	Improving accessibility for users with limited internet access.	Potential challenges in ensuring multi-device compatibility

2.1 Justifications

Current literature on online crime reporting systems reveals several limitations. Many systems do not provide real-time data analytics, limiting the ability to gain timely insights and trends (Smith & Thompson, 2023). Additionally, the lack of multi-language support restricts accessibility for non-native speakers (Chen & Wang, 2023). Furthermore, the absence of anonymous reporting features may deter individuals from reporting sensitive crimes (Patel & Verma, 2023). The proposed system addresses these gaps by integrating advanced data analytics, offering a multi-language interface, and enabling anonymous reporting.

3. RESEARCH METHODS

This study adopts a mixed-methods approach to designing and implementing an Online Crime Report System using the Rapid Application Development methodology. The research process consists of three main phases that align with the Rapid Application Development framework. Figure 1. Shows the Rapid Application Development framework deployed in this research.

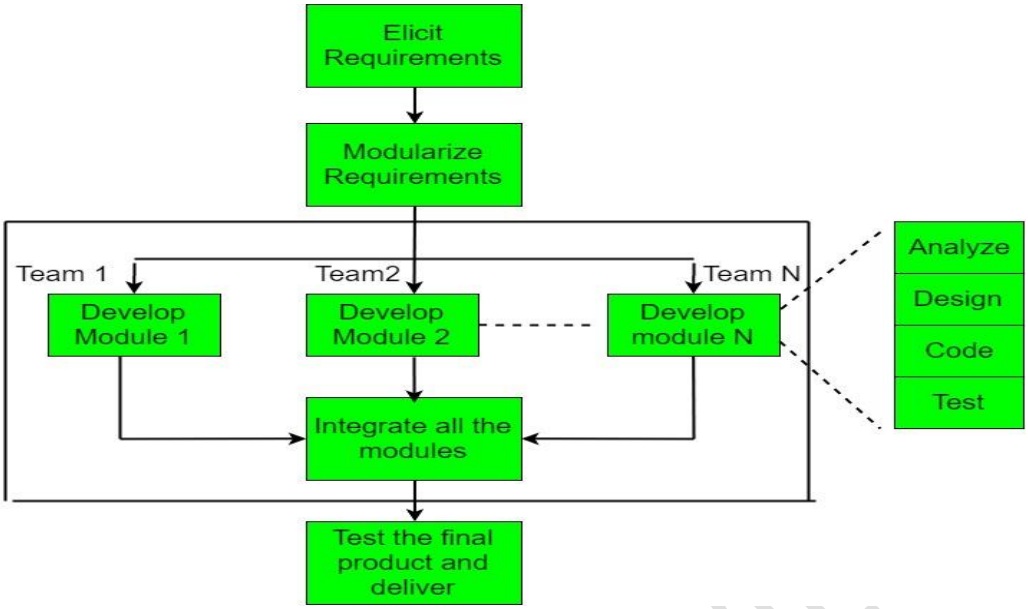

Figure 1. Rapid Application Development Methodology Diagram

3.1 Requirements Planning and Analysis

To establish the theoretical foundation for the project, a comprehensive review of existing literature on online crime reporting systems, the Rapid Application Development (RAD) methodology, and related technologies was conducted. This literature review provided insights into current advancements, best practices, and gaps in the field.

3.1.1 Semi-Structured Interviews

To identify key requirements and potential challenges for the Online Crime Report System, semi-structured interviews were conducted with a diverse group of stakeholders, including law enforcement officials, IT specialists, and community members. These interviews aimed to gather detailed insights and perspectives on the needs and expectations from the system.

3.1.2 Observations

In addition to interviews, observations of current crime reporting processes were carried out in selected police departments. These observations helped to identify existing workflows and pain points, providing a practical understanding of the operational environment.

3.1.3 Requirements Specification

Based on the data gathered from the literature review, interviews, and observations, both functional and non-functional requirements for the Online Crime Report System were specified. The requirements were categorized into the following areas:

1. **User Anonymity:** The system must allow users to submit anonymous reports, ensuring that personal information is not mandatory, thereby encouraging more individuals to report crimes without fear of repercussions.
2. **Multi-Language Interface:** The interface must support multiple languages to cater to a diverse user base, ensuring inclusivity and accessibility for non-native speakers.
3. **Real-time Data Analytics:** Integration of data analytics is crucial to provide real-time insights and trends. This feature will enable law enforcement agencies to quickly identify patterns and respond proactively.
4. **User-Friendly Design:** The design of the user interface must be intuitive and accessible. The system should be easy to navigate, even for individuals with limited technological literacy.

5. **Data Security:** Robust security measures must be implemented to protect user data from unauthorized access and breaches. Ensuring data confidentiality and integrity is paramount.
6. **Interoperability:** The system must integrate seamlessly with existing law enforcement databases and other relevant systems. This will facilitate the efficient sharing and management of information.
7. **Accessibility:** The system should be accessible to individuals with limited internet access or technological skills. It should offer alternative means of access and ensure that the user experience is smooth and straightforward.

3.1.4 Final Requirements

Based on the interviews conducted with law enforcement officials, IT specialists, and community members, the final requirements for the Online Crime Report System were consolidated and are as follows:

1. **User Anonymity:** Allow users to submit anonymous reports.
2. **Multi-Language Interface:** Provide interface options in multiple languages.
3. **Real-time Data Analytics:** Integrate data analytics to offer real-time insights and trends.
4. **User-Friendly Design:** Ensure an intuitive and accessible user interface.
5. **Data Security:** Implement robust security measures to protect user data.
6. **Interoperability:** Ensure the system integrates seamlessly with existing law enforcement databases.
7. **Accessibility:** Make the system accessible to individuals with limited technological literacy or internet access.

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3.2 System Design

Key entities, such as Incident, Type of Crime, User, Location, Security Agency, Gender, and User Role, were identified. Use case diagrams were created to model interactions between different user types that are shown in Figure 2, and Figure 3 (Anonymous Users and Registered Users, and Super Administrator) and the system. Figure 4. was developed to represent the high-level data flow of the system. Database tables were designed for Staff, Crime Code, and Crime information.

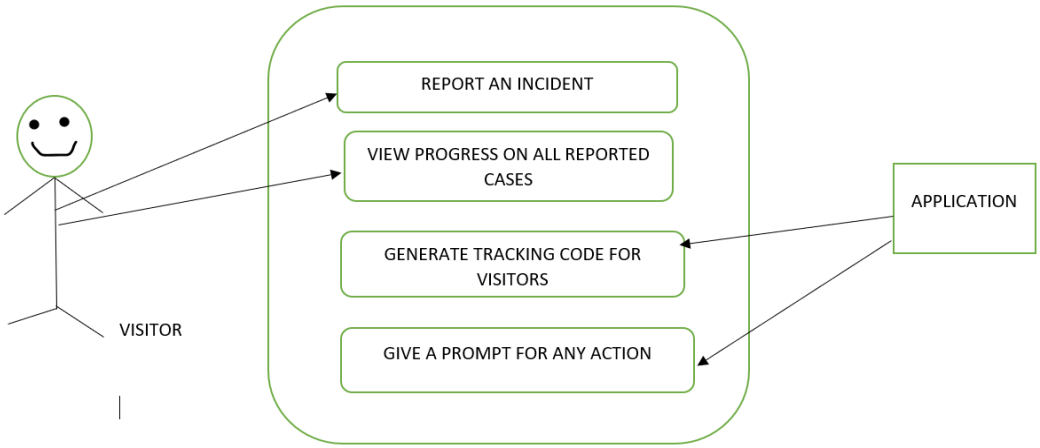

Figure 2. Interaction between an anonymous user and the application

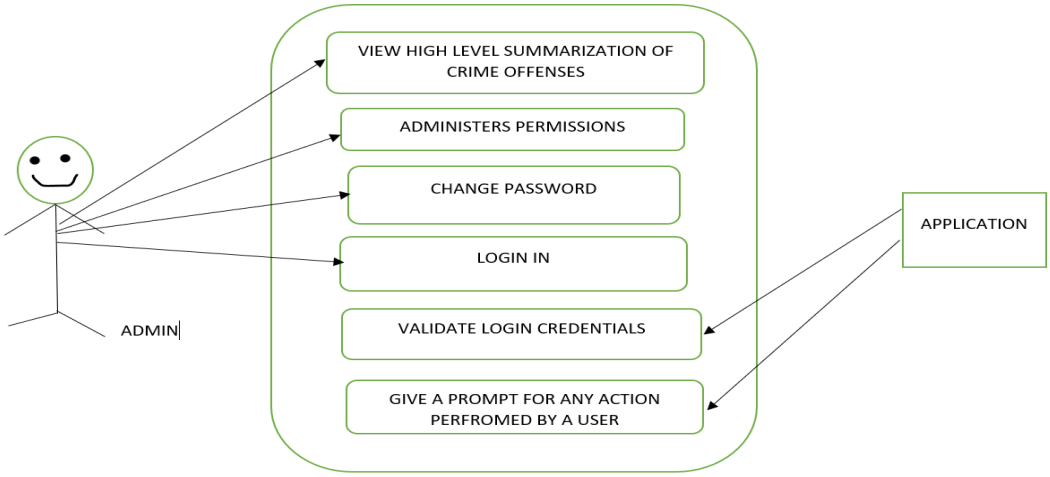

Figure 3. Interaction between the super admin and the application

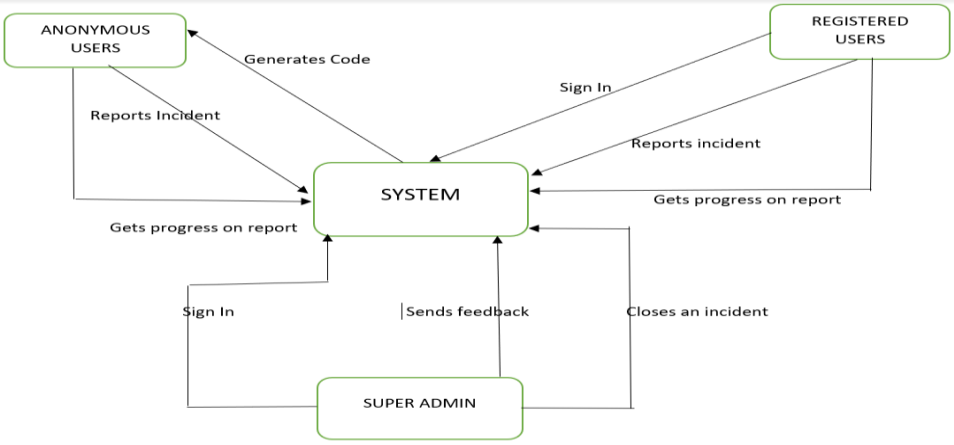

Figure 4. Context data diagram for the system

3.2.2 Database Structure and Entity Relationships

The system distinguishes anonymous users in the backend by generating unique anonymous user IDs for each session. These IDs are stored in the database and are associated with the reports submitted during that session. The database schema includes a table for user sessions, where each session is logged with its corresponding anonymous user ID, timestamp, and report details. This approach ensures that while the user's identity remains confidential, the system can still track and manage reports effectively. Table 2. organizes data efficiently and ensures data integrity. It involves creating tables to store data, defining fields (columns) for each table, and setting up keys to uniquely identify records and establish relationships between tables. Table 3. defines how tables in a database are related to one another

Table 2: Database Schema

Table Names	Fields
Users	UserID (Primary Key), Username, Password, Email, Role (e.g., admin, user, officer)

CrimeReports	ReportID (Primary Key), UserID (Foreign Key to Users), ReportDate, ReportType, Description, Status
Officers	OfficerID (Primary Key), Name, Rank, AssignedReports (Foreign Key to CrimeReports)
ReportStatus	StatusID (Primary Key), StatusDescription

Table 3. Entity Relationships

Relationship	Description
Users to CrimeReports	One-to-Many (one user can file multiple crime reports)
CrimeReports to Officers	Many-to-One (many crime reports can be assigned to one officer)
CrimeReports to ReportStatus	Many-to-One (many crime reports can have one status)

3.3 Implementation

The system was developed using a combination of technologies and algorithms to secure data privacies and system robustness. Visual Studio Code was used as the primary code editor, while Cross-platform Apache MySQL PHP Perl (XAMPP) served as the web server solution stack. Hypertext Pre-processor (PHP) was utilized for server-side scripting, while Hypertext Markup Language (HTML), Cascading Style Sheets (CSS), and JavaScript were employed for front-end development. The Bootstrap framework was chosen for responsive design, and My Structured Query Language (MySQL) was used for database management. This system developed an optimization technique to enhance data privacy such as encryption schemas (Azure et al., 2023). The system was developed in short; iterative cycles following the RAD methodology, with black box testing employed to verify the full operation of each system function.

3.4 Data Analysis

Quantitative data from system usage metrics will be analyzed using descriptive statistics. Qualitative data from interviews and observational notes will be analyzed using thematic analysis to identify key themes and user experiences (Armah et al., 2023; Wiredu et al., 2024). This approach combines the structured development process of Rapid Application Development with rigorous data collection and analysis methods. The iterative nature of the methodology enables continuous refinement of the system based on user input throughout the development process, ensuring that the final Online Crime Reporting System meets the needs of both law enforcement agencies and the public.

3.5 Deployment Details

The Online Crime Report System was deployed locally, utilizing a dedicated server to ensure control and security. This local deployment was chosen to accommodate smaller-scale implementations and regions with limited internet connectivity. Hosting the system locally provided reliable access and efficient handling of data without relying on cloud infrastructure, making it suitable for environments where internet access may be inconsistent.

3.6 Project Management Details

This study utilized the Rapid Application Development (RAD) methodology for our Crime Reporting System project, emphasizing quick iterations, prototyping, and active user involvement.

3.6.1 Project Planning

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We conducted iterative planning meetings to define project scope, prioritize features, and outline development phases, allowing for ongoing adjustments based on feedback.

3.6.2 Team Collaboration

A multidisciplinary team collaborated through daily stand-ups, weekly reviews, and tools like Slack and Trello, ensuring alignment and prompt issue resolution.

3.6.3 Task Allocation

Tasks were assigned based on expertise and project needs, using an agile approach to prioritize and manage smaller, manageable tasks.

3.6.4 Timelines and Milestones

Short, iterative development cycles (2-4 weeks) were established, with specific milestones set for each cycle to maintain momentum and provide clear targets.

3.6.5 User Feedback and Iteration

Prototypes and functional increments were presented to end-users after each cycle, with their feedback used to refine the system and ensure it met user needs.

3.7 Technical Implementation

This Crime Reporting System includes comprehensive technical implementation details. The study provided detailed diagrams and descriptions of the database schema, illustrating data organization and relationships between entities. A sequence diagram shows interactions between system components over time, mapping the flow of information and operations like crime reporting and status updates. Our CI/CD processes involve automated testing, continuous integration, and automated deployments, ensuring code is regularly integrated, tested, and deployed efficiently. Additionally, we detailed the design and functionality of APIs, specifying endpoints, request/response formats, authentication, and error handling to ensure ease of use and integration with other systems.

4. Results and Discussion

The implementation of the Online Crime Reporting System using the Rapid Application Development methodology yielded significant results in terms of system functionality, user interface design, and overall performance. This section discussed the outcomes of the system development process, the key features implemented, and their implications for improving crime reporting efficiency and accessibility.

4.1 System Architecture and Interface Design

The Online Crime Reporting System was successfully developed as a web-based application, ensuring accessibility across various devices and browsers. The system's architecture comprises several key components.

4.1.1 Main Interface

The main interface is the central hub, providing easy access to critical functions without registration to reduce barriers to crime reporting. Key components include a report page for submitting crime reports, a view report status page for tracking progress, an anonymous page for submitting reports without revealing identity, and an about page detailing the system's purpose. The design prioritizes simplicity and intuitiveness to encourage usage by a diverse range of individuals, especially those hesitant to report crimes using conventional methods.

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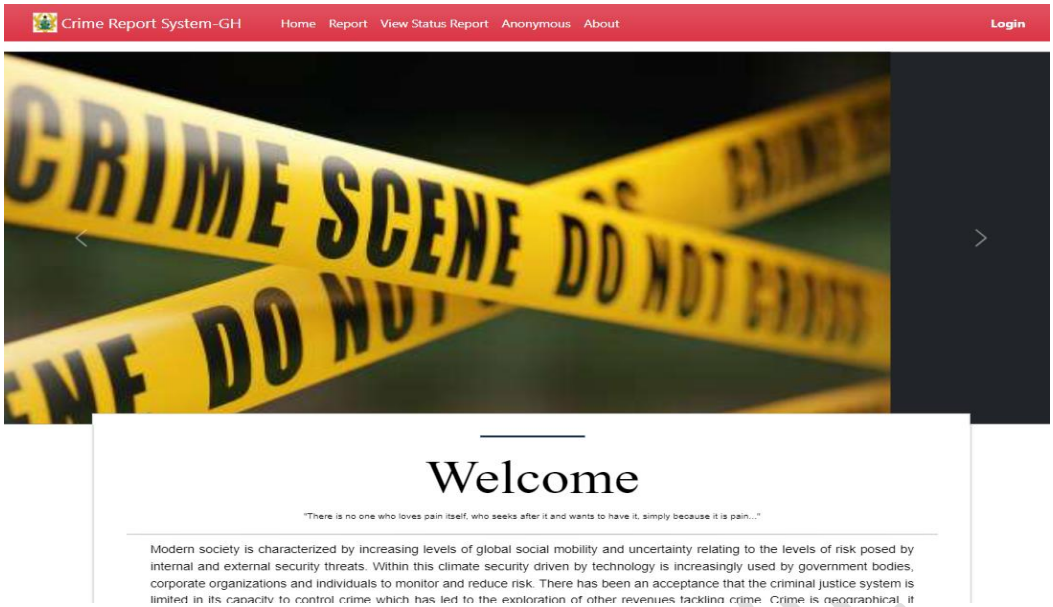

Figure 5. OCRS Main Interface

Figure 5. serves as the central hub, providing easy access to critical functions without registration to reduce barriers to crime reporting. The Online Crime Reporting System includes several key interface components: a report page for submitting crime reports, a view report status page for tracking report progress, an anonymous page for submitting reports without revealing identity, and an about page detailing the system's purpose and functionality. The interface design prioritizes simplicity and intuitiveness to encourage usage by a diverse range of individuals, especially those hesitant to report crimes using conventional methods.

4.1.2 User Report Interface

Figure 6. streamlines the process of lodging a complaint, presenting users with a straightforward form to input relevant details about the incident. The design prioritizes ease of use, which is essential for ensuring accurate and complete reporting, especially in stressful situations.

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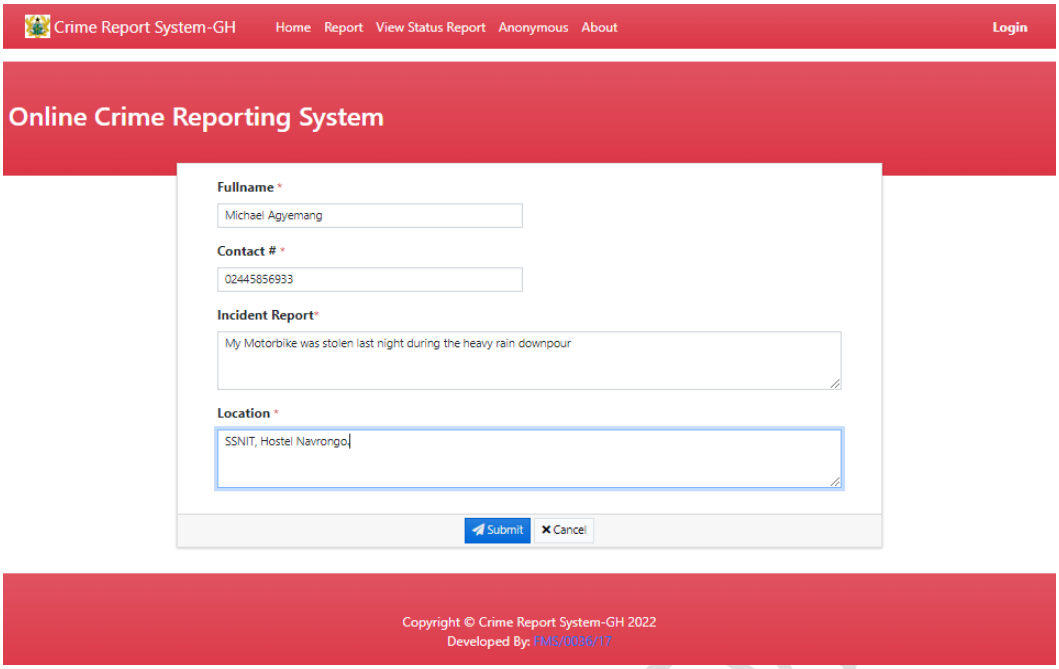

Figure 6. User Report Interface

4.1.3 Anonymous Report Interface

The inclusion of an anonymous reporting option is a significant feature that addresses privacy concerns and may encourage reporting of sensitive crimes. Figure 7. maintains the simplicity of the standard reporting form while ensuring user anonymity.

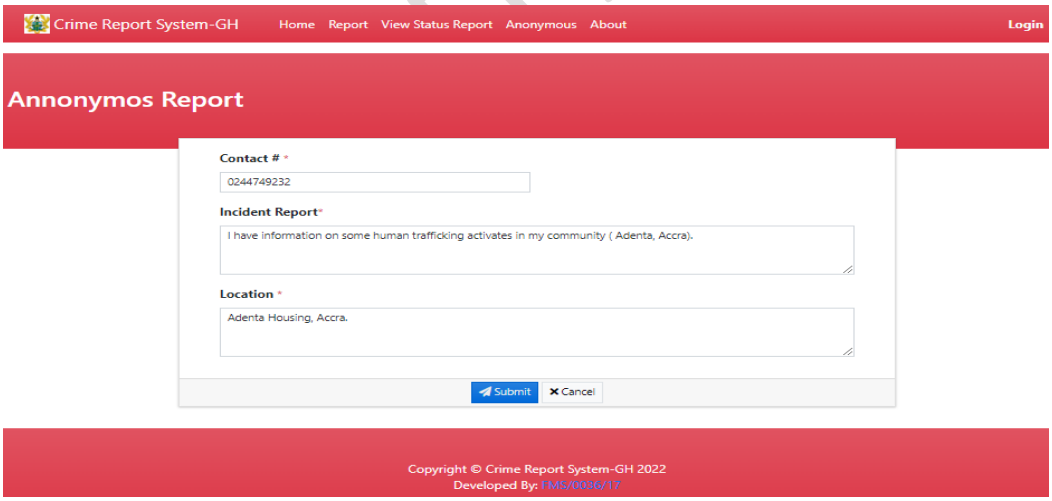

Figure 7. Anonymous Report Interface

4.1.4 Search Report Status Interface

Figure 8. allows users to track the progress of their reports, enhancing transparency in the crime reporting process. The ability to search and view report statuses can increase user engagement and trust in the system.

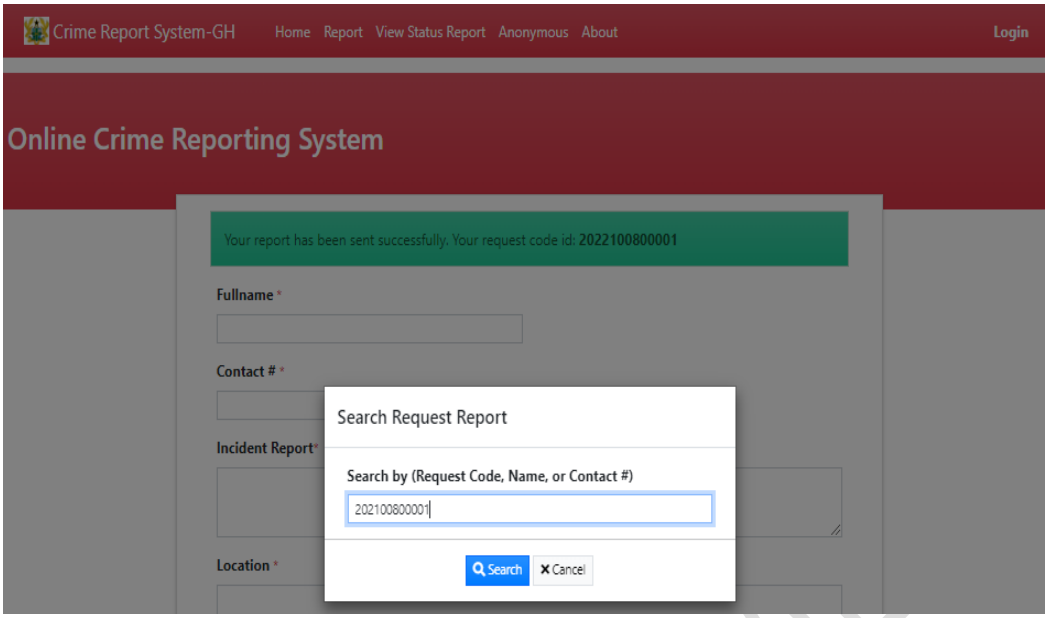

Figure 8. Search Report Status Interface

4.1.5 Admin Interface

The administrative side of the Online Crime Reporting System includes several key components:

The admin interface of the Online Crime Reporting System includes several essential components that facilitate efficient management and handling of responses. These components consist of an Admin Login Page in Figure 9, which securely grants access to the backend system. Additionally, Figure 10. provides a comprehensive overview of reported cases, streamlining case management and assignment processes.

Figure 9. Admin Login Interface

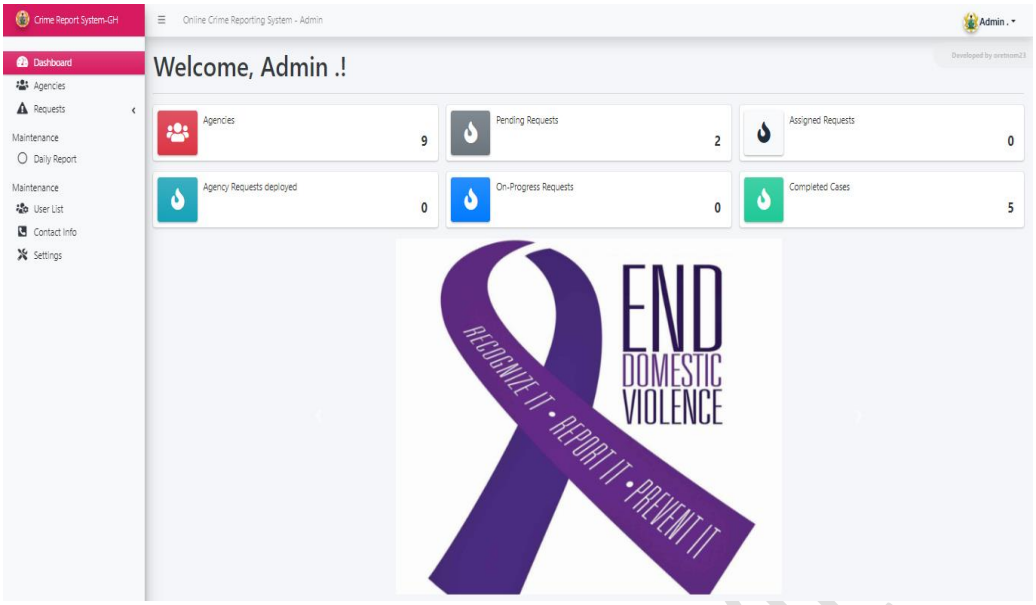

Figure 10. Admin Dashboard Interface

4.2 System Functionality and Performance

The Online Crime Reporting System demonstrated robust functionality across various testing phases, indicating its readiness for real-world deployment. Key findings from the system testing and validation process include:

4.2.1 Unit Testing

Individual modules of the system were tested to ensure they met specified requirements. This process allowed for the identification and resolution of errors at the component level, contributing to the overall stability of the integrated system.

4.2.2 Integration Testing

The successful integration of individual modules into a cohesive system was confirmed through integration testing. This phase verified that different components, such as user authentication, database interactions, and report management functions, worked together seamlessly.

4.2.3 Functionality Testing

Comprehensive functionality testing confirmed that the Online Crime Reporting System met its specified functional requirements. All system links, including anchor and internal links, operated correctly. Forms functioned as intended, with the capability to detect and flag duplicate reports. The system demonstrated robustness by successfully managing diverse user inputs and scenarios, validating its reliability for real-world usage. The reporting UI has a field for the time of the incident. Users are prompted to enter the specific time when the incident occurred, in addition to the date and location. This additional detail helps law enforcement agencies in their investigations by providing a more precise timeline of events.

4.2.4 Interface Testing

The interface testing phase confirmed that user requests were correctly transmitted to the database, outputs displayed on the user end were legible and easily interpretable, and the runtime environment performed without service interruptions. These results indicate that

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the Online Crime Reporting Systems provides a reliable and user-friendly interface for both citizens and law enforcement personnel.

4.2.5 Database Testing

The database, a critical component of the Online Crime Reporting System, demonstrated strong performance, with no errors during query execution, maintained data integrity throughout create, update, and delete operations, and accurately displayed retrieved data on the system's web interface. These findings suggest that the Online Crime Reporting System can reliably handle the storage, retrieval, and management of crime report data, essential for its long-term effectiveness and reliability.

4.2.6 Compatibility Testing

The Online Crime Reporting System showed impressive compatibility across various platforms, with browser compatibility tests revealing a 96% consistency across major browsers. Full functionality was observed in Microsoft Edge, Google Chrome, and Firefox, while minor inconsistencies were noted in Torch Browser and Brave Browser, primarily related to advanced form elements and some Cascading Style sheet styling issues. The system displayed correctly on devices with smaller screens, such as mobile phones and tablets, when tested using Google Chrome, with responsive design ensuring that 98% of interface elements adapted appropriately to different screen sizes. Compatibility was confirmed with Windows 10 and 11 operating systems, with all features functioning as intended on both platforms. These results indicate that the Online Crime Reporting System is accessible to a wide range of users, regardless of their preferred device or browser, which is crucial for maximizing the system's reach and effectiveness.

4.2.7 Security Testing

Security testing revealed several important features that protect user data and system integrity. Access to web pages is restricted to authenticated users only, and automatic session termination is implemented after 12 minutes of user inactivity. These measures aim to protect user information and prevent unauthorized access. By implementing these security measures, the system demonstrates its commitment to safeguarding sensitive information and maintaining user trust. To prevent spam reporting, the system includes validation mechanisms for both location and contact numbers. The location provided by the user is cross-referenced with a geolocation API, which verifies the accuracy and existence of the address. Additionally, the contact number is validated using a two-step process: first, through format verification based on country-specific rules, and second, by sending a confirmation code via SMS that the user must enter to complete the report submission. These measures help ensure that the information provided is legitimate and reduce the incidence of false reports.

4.3 Implications and Impact

The successful implementation of the Online Crime Reporting System using the Rapid Application Development methodology has several significant implications for crime reporting and law enforcement processes:

4.3.1 Improved Accessibility

By providing a user-friendly, web-based interface accessible from various devices, the Online Crime Reporting System removes many of the barriers associated with traditional crime reporting methods. The option for anonymous reporting further enhances accessibility, potentially encouraging the reporting of sensitive crimes that might otherwise go unreported.

4.3.2 Enhanced Efficiency

The streamlined reporting process and automated case assignment features have the potential to significantly reduce the administrative burden on law enforcement agencies. This efficiency could lead to faster response times and more effective allocation of resources.

4.3.3 Increased Transparency

The ability for users to track the status of their reports promotes transparency in the crime reporting and investigation process. This feature may help build public trust in law enforcement agencies and encourage more active citizen participation in community safety efforts.

4.3.4 Scalability and Adaptability

The modular design of the Online Crime Reporting System, developed using the Rapid Application Development methodology, allows for easy updates and additions to the system. This flexibility ensures that the system can evolve to meet changing needs and incorporate new technologies as they emerge.

5. CONCLUSION

The findings of this study highlight significant gaps in Ghana's crime reporting ecosystem, emphasizing the necessity for a comprehensive and user-friendly online crime reporting system. Currently, Ghana lacks a unified platform for crime reporting, with existing systems being fragmented and specialized. Moreover, limited cooperation between security agencies, driven by institutional ego and public recognition concerns, hampers effective crime management. Privacy concerns further deter individuals from reporting sensitive crimes, exacerbated by inadequate feedback mechanisms that diminish transparency and public trust in current systems.

In response to these challenges, the Online Crime Reporting System prototype developed in this study addresses these gaps comprehensively. It introduces a centralized platform for nationwide crime reporting, ensures user anonymity to protect privacy, implements a feedback mechanism for tracking report progress, and offers summarized crime indexes for contextual crime rate information. These features enhance accountability for both reporters and security agents, fostering transparency through transparent tracking mechanisms.

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Disclaimer (Artificial intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

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