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Smart Crime Reporting for Women's Safety

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ABSTRACT:

The rising trend of online complaint registration has raised significant concerns about user privacy. This project introduces a Secure Crime Reporting and Complaint Registration System, developed to protect user identity by incorporating encryption techniques and VPN support. The system is crafted to ensure a smooth user experience while maintaining strict security standards. Initial feedback suggests that the system is easy to navigate and effectively safeguards user information.

Keywords: Confidential and Online Complaint Registration, Cybersecurity, Identity Protection, Secure Communication, Secure Crime Reporting, VPN Support.

1.Introduction

As digital services continue to expand, the number of online platforms for crime reporting has also grown. While these platforms offer convenience, they raise serious concerns about user privacy and data security. To address these risks, the proposed system integrates advanced encryption methods along with VPN technology, creating a secure space for individuals to report crimes confidently. This approach ensures that users' identities and sensitive information remain protected throughout the process [2-5].

2. Review of Literature

Talwekar (2024) emphasized the importance of a digital system that simplifies complaint processes, fostering improved communication between citizens and authorities [1].

Maslennikova et al. (2021) offered a comparative analysis of online crime reporting tools, recognizing their ease of use while highlighting concerns over security loopholes and legal challenges [2].

A study published by the International Journal of Scientific Research in Engineering and Management (2022) explored various digital complaint systems, underlining persistent shortcomings such as insufficient data security, poor administrative control, and non-intuitive interfaces [3].

Debnath, Chakraborty, and Krishna (2021) introduced a web-based complaint system aimed at minimizing paperwork and promoting a user-first approach [4].

Research presented in the International Journal of Innovative Technology and Exploring Engineering detailed a system based on ASP.NET, focusing on secure complaint management through robust database handling [5].

Kale (2024) examined how online reporting platforms can enhance public engagement and streamline case management through better accessibility [6]. Priya, Srivastava, and Islam (2019) pointed out the need for mobile-friendly solutions and instant alert services to boost the efficiency of reporting systems [7].

Shih et al. (2019) presented a cloud-based solution designed to protect the identities of domestic violence survivors, stressing complete user confidentiality [8].

3.Methodology

The system architecture is divided into three major components: User Interface, Admin Panel, and Secure Database.

User Interface:

Users fill out encrypted forms, where data is protected through AES-256 encryption before being transmitted, ensuring end-to-end data safety.

Admin Panel:

Authorized administrators access, categorize, and manage submitted complaints through a secured portal. Multi-level authentication and logging mechanisms are employed to strengthen security.

Secure Database:

Complaint records are encrypted and stored within a protected MySQL database, with restricted administrative access according to data privacy policies. Furthermore, user connections are routed via a VPN to mask IP addresses and enhance transmission security. The system is scalable and designed for seamless integration of new features as user needs evolve.



Fig. 1 Data Flow Diagram for the proposed system

Result and Discussion

The "Smart Crime Reporting for Women's Safety" system was developed and tested to ensure an efficient and accessible platform for users and administrators. The platform's functionality and effectiveness were evaluated through its key components as outlined below:

User Registration and Login

The system's registration page (Fig. 2) enables users to securely create an account by providing essential details. This secure entry point ensures that only verified users can log complaints, maintaining the integrity of the system. Smooth navigation and user-friendly design were key focuses, resulting in a streamlined registration and authentication process.

Administrative Portal

The admin portal (Fig. 3) acts as the system's control center, allowing administrators to view complaints, manage user queries, and send timely responses. The portal efficiently organizes complaints based on categories such as safety concerns, legal assistance, counseling needs, and emergency housing, helping authorities to prioritize cases effectively.

Available Services

The Services page (Fig. 4) categorizes different types of complaints, offering users clear and structured options. This modular approach minimizes confusion and helps users select the appropriate complaint type, improving the quality and relevance of reports submitted.



Fig. 2 Registration Page

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Fig. 3 Admin Portal

Helpline Integration

The Helpline section (Fig. 5) provides quick access to important contact numbers for immediate assistance. By integrating helpline information directly into the platform, users can seek urgent help without delay, enhancing the system's responsiveness to emergencies.

Emergency Helpline Support

The Emergency Helpline Support feature (Fig. 6) ensures that users facing immediate threats can rapidly connect to safety resources. This functionality bridges the critical gap between reporting and receiving immediate assistance, particularly vital for situations involving women's safety.

Discussion

The overall performance of the system demonstrates its potential to support law enforcement and public users by providing a digital channel for crime reporting and safety concerns. Compared to traditional manual reporting systems, the online approach significantly reduces reporting delays, increases transparency, and enhances user empowerment. Furthermore, the categorization of services and integration of helpline information streamline the response process, making it easier for authorities to prioritize and address complaints. Further enhancements could include mobile app development, real-time tracking of complaint status, and AI-based threat analysis for predictive safety alerts.







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5. Conclusion

The Secure Crime Reporting and Complaint Registration System demonstrates that modern encryption and VPN technologies can greatly enhance privacy in crime reporting. By prioritizing both ease of use and data security, the platform successfully addresses common barriers to online complaint registration. Future developments aim to expand access through mobile integration and smarter analytics, further strengthening the system's capabilities.

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