

Research on some solutions to prevent data attacks on e-commerce websites

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Abstract: This study investigates effective solutions for preventing data attacks on e-commerce websites, addressing the increasing threats to sensitive customer and transaction data. Given the critical role of e-commerce in the digital economy, vulnerabilities such as SQL injection, cross-site scripting (XSS), and data breaches pose significant risks to both businesses and consumers. The research systematically analyzes common attack vectors targeting e-commerce platforms and evaluates existing security mechanisms. Through a combination of theoretical analysis and practical experimentation, several countermeasures are proposed, including enhanced input validation, secure authentication protocols, encryption techniques, and real-time monitoring systems. The effectiveness of these solutions is assessed through simulated attack scenarios and performance metrics. Findings indicate that a multi-layered security approach significantly reduces vulnerability exposure while maintaining system usability. This study contributes to the field of web security by providing actionable recommendations for developers and administrators to safeguard e-commerce platforms against evolving cyber threats, ultimately supporting the integrity and trustworthiness of online commercial transactions.

Keywords: SQL injection, XSS, web security, e-commerce