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Detection of SQL Injection based on Event Generation

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Abstract

Web applications are increasingly vulnerable to SQL injection (SQLi) attacks, posing significant risks to data integrity and user privacy. Despite employing robust security measures such as token-based authentication and password hashing, vulnerabilities persist, especially in functionalities like email-based help pages. This project proposes a novel approach for detecting SQL injection vulnerabilities using event generation. The system safeguards against unauthorized access by employing a robust hashing algorithm to encrypt passwords. To mitigate malicious user input, a token-based validation mechanism is implemented. The system meticulously inspects user input for irregularities. If malevolent code is identified, it is neutralized through a sanitization process that removes the malicious characters and replaces them with spaces. This ensures the integrity of the data while preserving functionality. The user interface is designed using HTML and CSS for a user-friendly experience. Improvements over traditional methods: Event generation may provide additional insights into potential SQL injection attempts, enabling more comprehensive detection. Token-based validation offers a strong layer of defense against various injection techniques.