

ABSTRAK

Perkembangan teknologi informasi mendorong digitalisasi pengelolaan keuangan pada Usaha Mikro, Kecil, dan Menengah (UMKM). Toko Geunta Parfum masih melakukan pencatatan transaksi secara manual pada setiap cabang, sehingga menyulitkan proses monitoring, rekapitulasi data, dan meningkatkan risiko kesalahan serta ancaman keamanan digital. Penelitian ini bertujuan merancang dan membangun Sistem Informasi Keuangan Terintegrasi Multi-Cabang Berbasis Web dengan penerapan *Two-Factor Authentication* (2FA) berbasis *One-Time Password* (OTP) melalui Gmail serta fitur analitik penjualan menggunakan metode *Moving Average* 3 Periode (MA-3). Sistem dikembangkan menggunakan metode *Rapid Application Development* (RAD) dengan framework Laravel dan basis data MySQL. Pengujian fungsional dilakukan menggunakan Katalon Studio, sedangkan pengujian keamanan menggunakan SQLMap untuk menguji kerentanan SQL Injection dan OWASP ZAP, Fuzzer untuk menguji ketahanan terhadap serangan Brute Force. Hasil pengujian menunjukkan bahwa seluruh fungsi sistem berjalan sesuai kebutuhan, tidak ditemukan kerentanan SQL Injection pada skenario yang diuji, serta mekanisme autentikasi berhasil membatasi percobaan login ilegal melalui verifikasi OTP. Sistem yang dibangun mampu mendukung pengelolaan keuangan multi-cabang secara lebih terintegrasi dan aman.

Kata Kunci: Sistem Informasi Keuangan, Multi-Cabang, *Rapid Application Development*, *Two-Factor Authentication*, SQLMap, *Moving Average*, OWASP ZAP.

ABSTRACT

The advancement of information technology has encouraged the digitalization of financial management in Micro, Small, and Medium Enterprises (MSMEs). Geunta Parfum Store still records financial transactions manually at each branch, resulting in difficulties in monitoring, data recapitulation, and increased risks of recording errors and digital security threats. This study aims to design and develop a Web-Based Multi-Branch Financial Information System by implementing Two-Factor Authentication (2FA) using Gmail-based One-Time Password (OTP) and a sales analytics feature based on the 3-Period Moving Average (MA-3) method. The system was developed using the Rapid Application Development (RAD) methodology with the Laravel framework and MySQL database. Functional testing was conducted using Katalon Studio, while security testing employed SQLMap to assess SQL Injection vulnerabilities and OWASP Zed Attack Proxy (ZAP), Fuzzer to evaluate the system's resistance to Brute Force attacks. The testing results indicate that all system functions operated as expected, no SQL Injection vulnerabilities were identified in the tested scenarios, and the authentication mechanism successfully restricted unauthorized login attempts through OTP verification. The developed system supports more integrated, efficient, and secure financial management across multiple branches.

Keywords: *Financial Information System, Multi-Branch, Rapid Application Development, Two-Factor Authentication, SQLMap, Moving Average, OWASP ZAP.*