PENGUJIAN PERFORMA, TINGKAT STRESS, DAN KEAMANAN PADA WEBSITE SEKOLAH MENENGAH ATAS NEGERI (SMAN) KABUPATEN BULELENG

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ABSTRAK

Pemanfaatan website sekolah sebagai layanan informasi digital menjadi kebutuhan penting dalam sektor pendidikan. *Website* sekolah tidak hanya berfungsi sebagai media penyampaian informasi, tetapi juga mendukung komunikasi, transparansi, dan aktivitas akademik. Agar berfungsi optimal, *website* harus memiliki performa yang baik, stabilitas tinggi, serta keamanan yang memadai. Di Kabupaten Buleleng terdapat 17 Sekolah Menengah Atas Negeri (SMAN) yang telah menggunakan website resmi, namun peningkatan trafik pada waktu tertentu berpotensi menimbulkan beban server tinggi, menurunkan kinerja, dan meningkatkan risiko keamanan. Penelitian ini bertujuan untuk mengevaluasi performa, tingkat stabilitas beban (stress), dan keamanan *website* SMAN di Kabupaten Buleleng menggunakan alat uji GTMetrix, LoadImpact K6.io, dan OWASP ZAP Scan. Hasil penelitian diharapkan memberikan gambaran kondisi aktual *website* sekolah serta rekomendasi strategis untuk meningkatkan kecepatan, stabilitas, dan keamanan layanan pendidikan digital.

Kata kunci: GTmetrix; Keamanan Website; Pengujian Kinerja; Pengujian Stres; Pemindaian OWASP ZAP.

PERFORMANCE, STRESS LEVEL, AND SECURITY TESTING ON THE WEBSITE OF THE BULELENG REGENCY STATE SENIOR HIGH SCHOOL

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ABSTRACT

The use of school websites as digital information services has become an important necessity in the education sector. School websites not only serve as a medium for conveying information, but also support communication, transparency, and academic activities. In order to function optimally, websites must have good performance, high stability, and adequate security. In Buleleng Regency, there are 17 public high schools (SMAN) that have official websites, but increased traffic at certain times has the potential to cause high server loads, reduce performance, and increase security risks. This study aims to evaluate the performance, stress level, and security of SMAN websites in Buleleng Regency using the GTMetrix, LoadImpact K6.io, and OWASP ZAP Scan testing tools. The results of this study are expected to provide an overview of the actual condition of school websites and strategic recommendations to improve the speed, stability, and security of digital education services.

Keywords: GTmetrix; Owasp Zap Scan; Performance Testing; Stress Testing; Website Security