ABSTRAK

Fikri Abdi Azzaki G, NIM 4223250018 (2026), Analisis Kualitas Website E-Surat Digital Melalui Proses Verifikasi dan Validasi: Studi Kasus DPRD Provinsi Sumatera Utara dengan Pendekatan Grey Box Testing

Penelitian ini menganalisis kualitas sistem E-Surat digital yang diterapkan di Dewan Perwakilan Rakyat Daerah (DPRD) Provinsi Sumatera Utara melalui proses verifikasi dan validasi menggunakan pendekatan Grey Box Testing. Sistem ini bertujuan untuk mempermudah pengelolaan surat resmi, meningkatkan efisiensi, transparansi, dan keandalan. Penelitian ini berfokus pada evaluasi kesesuaian antara kode sistem dengan spesifikasi teknis yang telah ditetapkan, serta memastikan bahwa sistem yang dibangun memenuhi kebutuhan fungsional dan harapan pengguna. Metodologi yang digunakan melibatkan tinjauan mendalam terhadap desain sistem, dokumen, dan kode program melalui verifikasi, serta pengujian fungsional dan integrasi menggunakan Grey Box Testing. Hasil penelitian menunjukkan bahwa penerapan metode ini dapat mengurangi kesalahan dan meningkatkan kualitas operasional sistem secara signifikan. Selain itu, penelitian ini memberikan kontribusi terhadap pengembangan sistem digital di instansi pemerintahan dengan menyediakan pendekatan sistematis untuk mengevaluasi kinerja, keamanan, dan kemudahan penggunaan. Temuan dari penelitian ini memberikan wawasan berharga untuk perbaikan dan optimasi platform e-Government di masa mendatang.

Kata Kunci: Verifikasi dan Validasi, Grey Box Testing, Kualitas Sistem, Pengujian Perangkat Lunak, E-Surat Digital

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ABSTRACT

Fikri Abdi Azzaki G, NIM 4223250018 (2026), Analysis of the Quality of the Digital E-Letter Website Through Verification and Validation Processes: A Case Study of the DPRD of North Sumatra Province with the Grey Box Testing Approach

This research analyzes the quality of the digital E-Letter system implemented in the Regional People's Representative Council (DPRD) of North Sumatra Province through the verification and validation processes using the Grey Box Testing approach. The system aims to simplify the management of official letters, enhancing efficiency, transparency, and reliability. This study focuses on evaluating the alignment between the system's code and the established technical specifications, ensuring that the developed system meets functional needs and user expectations. The methodology involves a thorough review of the system design, documentation, and code through verification, as well as functional and integration testing using Grey Box Testing. The results show that the application of this method significantly reduces errors and improves the system's operational quality. Furthermore, this research contributes to the development of digital systems in government institutions by providing a systematic approach to evaluating performance, security, and usability. The findings from this study provide valuable insights for future improvements and optimization of e-Government platforms.

Keywords: Verification and Validation, Grey Box Testing, System Quality, Software Testing, Digital E-Letter

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