

ABSTRAK

Dukcapil Smart Bantul merupakan *electronic service* berbasis *website* yang dikembangkan oleh Dinas Kependudukan dan Pencatatan Sipil Kabupaten Bantul untuk menggantikan aplikasi berbasis *mobile* sebelumnya. Permasalahannya, pengujian yang dilakukan sebelum peluncuran hanya berfokus pada aspek fungsional dan keamanan. Akibatnya, potensi kekurangan yang terdapat pada *website* tersebut belum teridentifikasi secara menyeluruh. Penelitian ini bertujuan untuk mengetahui *kualitas* website Dukcapil Smart Bantul pada awal penerapannya berdasarkan ISO/IEC 25010 serta untuk mengidentifikasi potensi kekurangannya agar dapat segera dilakukan perbaikan.

Evaluasi formatif dilakukan menggunakan model *Product Quality* dalam ISO/IEC 25010 dengan menguji kedelapan karakteristiknya. Pengujian melibatkan metode *black-box testing*, alat bantu otomatis (GTmetrix, SortSite, JMeter, ZAP, SonarQube, dan BrowserStack), dan kuesioner USE Questionnaire.

Pada *Functional Suitability*, ditemukan 1 dari 45 fitur gagal berfungsi sebagaimana mestinya. *Performance Efficiency* memiliki skor struktur 81-93%, tetapi masih banyak audit yang perlu ditindaklanjuti. Pada *Compatibility*, ditemukan masalah properti CSS yang tidak didukung sebagian *browser*. *Usability* menunjukkan aspek *Ease of Use* menjadi prioritas perbaikan karena mendapatkan persentase terendah. Uji beban *Reliability* menunjukkan server sanggup melayani 1.000 pengguna secara bersamaan, tetapi terdapat *error* 1,14% dengan waktu respons yang lambat. Pada *Security*, ditemukan berbagai kerentanan dengan risiko rendah hingga tinggi. Pengujian *Maintainability* mendeteksi adanya isu yang memengaruhi pemeliharaan kode. Pengujian *Portability* berhasil sepenuhnya pada perangkat *desktop*, tetapi CSS dan JavaScript gagal di *browser* versi lama pada perangkat *mobile*. Penelitian ini menghasilkan rekomendasi bagi pengembang untuk mengoptimalkan kualitas *website* Dukcapil Smart Bantul.

Berdasarkan hasil pengujian, dapat disimpulkan bahwa Dukcapil Smart Bantul masih memerlukan perbaikan karena terdapat berbagai temuan negatif, walaupun sebagian lainnya menunjukkan capaian yang cukup baik.

Kata kunci: ISO/IEC 25010, Dukcapil Smart Bantul, evaluasi kualitas perangkat lunak, kualitas *website*

ABSTRACT

Dukcapil Smart Bantul is a website-based electronic service developed by the Population and Civil Registry Office of Bantul Regency to replace its previous mobile-based application. The problem is that the testing conducted before its launch only focused on functional and security aspects. Consequently, potential deficiencies within the website were not thoroughly identified. This study aims to determine the quality of the Dukcapil Smart Bantul website at the beginning of its implementation based on ISO/IEC 25010 and to identify its potential shortcomings so that immediate improvements can be made.

Formative evaluation was carried out using the Product Quality model in ISO/IEC 25010 by testing all eight characteristics. The testing involved black-box testing methods, automated tools (GTmetrix, SortSite, JMeter, ZAP, SonarQube, and BrowserStack), and the USE Questionnaire.

In Functional Suitability, 1 out of 45 features was found to fail to function as intended. Performance Efficiency scored a structure score of 81-93%, but many audits still require follow-up. In Compatibility, unsupported CSS property issues were found in some browsers. Usability indicated that the Ease of Use aspect should be prioritized for improvement as it received the lowest percentage. Reliability load testing showed that the server is capable of serving 1,000 concurrent users, but there was a 1.14% error rate with slow response times. In Security, various vulnerabilities with low to high risks were found. Maintainability testing detected issues that affect code maintenance. Portability testing was fully successful on desktop devices, but CSS and JavaScript failed on older browser versions on mobile devices. This research provides recommendations for developers to optimize the quality of the Dukcapil Smart Bantul website.

Based on the testing results, it can be concluded that Dukcapil Smart Bantul still requires improvements due to various negative findings, although some other aspects showed fairly good achievements.

Keywords: ISO/IEC 25010, Dukcapil Smart Bantul, software quality evaluation, website quality