

ABSTRAK

PENGEMBANGAN APLIKASI *DIGITAL SCHOOL EXAM (DSE)* BERBASIS *WEBSITE* BERDASARKAN STANDAR KUALITAS ISO 25010 MATA PELAJARAN ADMINISTRASI SISTEM JARINGAN

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Sistem pembelajaran merupakan suatu proses interaksi antara peserta didik dengan pendidik untuk mengembangkan kreativitas berpikir dalam melaksanakan suatu proses pembelajaran agar dapat mencapai tujuan. Saat ini, telah banyak dikembangkan sistem ujian *online* yang dapat memudahkan interaksi pendidik dan peserta didik, namun dalam penerapannya ternyata belum efektif dalam menangani pengguna dengan jumlah banyak secara bersamaan. Penelitian ini bertujuan untuk mengembangkan sistem untuk pelaksanaan ujian *online* agar dapat digunakan dengan efektif dan efisien. Kemudian dilakukan tingkat kualitas aplikasi *Digital School Exam (DSE)* berdasarkan standar kualitas ISO 25010 dari 6 karakteristik yaitu *functionality suitability*, *performance efficiency*, *usability*, *reliability*, *security*, dan *portability*. Populasi dalam penelitian ini adalah peserta didik kelas XII TKJ SMK N 1 Bandar Lampung. Sampel dalam penelitian ini yaitu kelas XII TKJ 2 sebagai kelas eksperimen. Pada penelitian ini digunakan metode *Research and Development (R&D)* dengan model *waterfall*. Aplikasi DSE ini dikembangkan dengan menggunakan bahasa pemrograman PHP, *framework codeigniter*, dan *MySQL* sebagai basis data. Hasil dari penelitian berdasarkan standar kualitas ISO 25010 pada karakteristik *functionality suitability* mendapatkan nilai 100% (baik), karakteristik *performance efficiency* mendapatkan waktu *load* rata-rata 1.4 detik (diterima), karakteristik *usability* mendapatkan nilai 87,6% (sangat layak), karakteristik *reliability* mendapatkan nilai 100% (lolos), karakteristik *security* mendapatkan nilai keamanan tingkat 2 (medium), dan karakteristik *portability* mendapatkan nilai terpenuhi karena dapat dijalankan di berbagai *browser*.

Kata kunci : Aplikasi *Website*, *Digital School Exam (DSE)*, ISO 25010,
Research and Development (R&D)

ABSTRACT

DEVELOPMENT OF A WEBSITE-BASED DIGITAL SCHOOL EXAM (DSE) APPLICATION BASED ON ISO 25010 QUALITY STANDARDS FOR NETWORK SYSTEM ADMINISTRATION SUBJECTS

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Learning system is a process of interaction between learners and educators to develop thinking creativity in carrying out a learning process in order to achieve goals. Currently, many online exam systems have been developed that can facilitate the interaction of educators and students, but in its application it turns out that it is not effective in handling large numbers of users simultaneously. This research aims to develop a system for implementing online exams so that it can be used effectively and efficiently. Then the quality level of the Digital School Exam (DSE) application is based on ISO 25010 quality standards from 6 characteristics, namely functionality suitability, performance efficiency, usability, reliability, security, and portability. The population in this study were students of class XII TKJ SMK N 1 Bandar Lampung. The sample in this study was class XII TKJ 2 as an experimental class. In this study, the Research and Development (R&D) method with a waterfall model was used. This DSE application was developed using the PHP programming language, codeigniter framework, and MySQL as a database. The results of the study based on ISO 25010 quality standards on the characteristics of functionality suitability get a value of 100% (good), performance efficiency characteristics get an average load time of 1.4 seconds (acceptable), usability characteristics get a value of 87.6% (very feasible), reliability characteristics get a value of 100% (pass), security characteristics get a level 2 security value (medium), and portability characteristics get a value fulfilled because it can be run on various browsers.

Keywords : Website Application, Digital School Exam (DSE), ISO 25010, Research and Development (R&D)