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PENERAPAN METODE PIECES DALAM PERANCANGAN SISTEM
PENGADUAN INVENTARIS ALAT ELEKTRONIK PT KAI DAOP IV KOTA
SEMARANG BERBASIS WEB

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ABSTRAK

Karyawan PT. KAI DAOP IV Kota Semarang menghadapi masalah dalam pengaduan alat elektronik berupa proses manual menggunakan Excel dan WhatsApp yang menyebabkan data tidak terpusat, keterlambatan penanganan akibat tidak adanya sistem pelacakan laporan yang real-time, masalah kerahasiaan, dan kesulitan dokumentasi. Penelitian ini mengembangkan sistem berbasis web guna mengotomasi pelaporan dan pembuatan berita acara troubleshooting atau instalasi IT. Metode pengembangan menggunakan model Waterfall (Summerville) yang berisi terdiri dari requirement definition, System and software design, implementation and testing, Integration and system testing, dan operation and maintenance dengan analisis kebutuhan melalui PIECES yang sudah dilakukan pada kegiatan wawancara maupun observasi yang menghasilkan kebutuhan fungsional dan non fungsional sistem. Sistem diuji dengan Blackbox, Whitebox, dan User Acceptance Test (UAT). Hasil metode pengembangan dan pengujian sistem dapat menunjukkan sistem yang dibuat mampu meringankan beban kerja pada proses manual dengan formulir digital terpusat, mempercepat pembuatan berita acara otomatis, dan meningkatkan kerahasiaan data. Sehingga Penelitian selanjutnya direkomendasikan pengembangan versi Android untuk fleksibilitas penggunaan.

Kata Kunci: Sistem Pengaduan Alat Elektronik, Otomasi Berita Acara, Waterfall, metode PIECES, manajemen inventaris.

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APPLICATION OF THE PIECES METHOD IN DESIGNING A WEB-BASED
ELECTRONIC EQUIPMENT INVENTORY COMPLAINT SYSTEM FOR PT
KAI DAOP IV SEMARANG

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ABSTRACT

Employees of PT. KAI DAOP IV Semarang challenges in handling electronic equipment complaints due to manual processes using Excel and WhatsApp, resulting in decentralized data, delayed handling due to the absence of real-time tracking, confidentiality issues, and documentation difficulties. This research develops a web-based system to automate reporting and generate troubleshooting or IT installation reports. The development employs the Waterfall model (Sommerville), consisting of requirement definition, system and software design, implementation and testing, integration and system testing, and operation and maintenance. Requirements analysis was conducted using the PIECES framework through interviews and observations, identifying functional and non-functional system requirements. The system was tested using Blackbox, Whitebox, and User Acceptance Test (UAT) methods. The results demonstrate that the developed system reduces the workload of manual processes with centralized digital forms, accelerates the automatic generation of reports, and enhances data confidentiality. Future research is recommended to develop an Android version for greater usage flexibility.

Keyword : Electronic Complaint System, PIECES Analysis,
Waterfall, Inventory Management