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Evaluasi usability dan redesain antarmuka sistem monitoring returnable package di PT Hino Motors Manufacturing Indonesia menggunakan metode Heuristic Evaluation dan User Centered Design
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INTISARI

EVALUASI *USABILITY* DAN REDESAIN ANTARMUKA SISTEM MONITORING *RETURNABLE PACKAGE* DI PT HINO MOTORS MANUFACTURING INDONESIA MENGGUNAKAN METODE *HEURISTIC EVALUATION*

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Sistem monitoring *returnable package* di PT Hino Motors Manufacturing Indonesia (HMMI) berfungsi untuk memantau pergerakan kemasan berulang pakai dalam rantai pasok otomotif. Berdasarkan hasil observasi dan diskusi dengan *stakeholder*, ditemukan beberapa kendala pada antarmuka sistem yang berpotensi menghambat efektivitas penggunaan. Namun, sistem tersebut belum pernah dievaluasi *usability* secara formal sehingga kemudahan penggunaan dan kesesuaian antarmukanya dengan kebutuhan pengguna belum diketahui. Penelitian ini bertujuan mengidentifikasi permasalahan *usability* antarmuka, menyusun rekomendasi perbaikan berdasarkan hasil evaluasi, dan memvalidasi rancangan antarmuka melalui *user testing*. Penelitian menggunakan pendekatan *mixed method* dengan data kuantitatif dari *severity rating* dan metrik *user testing* (*success rate, completion time,* dan *misclick rate*), serta data kualitatif dari identifikasi permasalahan *usability* dan umpan balik partisipan. Evaluasi dilakukan melalui *Heuristic Evaluation* oleh lima evaluator terhadap 15 fitur representatif. Hasil evaluasi menjadi dasar redesain menggunakan *User Centered Design* (UCD). Redesain kemudian divalidasi melalui *user testing* pada platform Maze yang melibatkan 10 partisipan dari tiga peran pengguna. Hasil evaluasi mengidentifikasi 35 permasalahan *usability* dengan tingkat keparahan *cosmetic* hingga *catastrophic*. Enam permasalahan prioritas diredesain dan divalidasi melalui *user testing*, dengan rata-rata *success rate* 100% dan seluruh umpan balik partisipan bersifat positif. Rancangan antarmuka hasil redesain terbukti valid berdasarkan metrik *success rate, completion time, misclick rate,* serta umpan balik partisipan.

Kata kunci: *Usability, Heuristic Evaluation, User Centered Design,* Redesain antarmuka*, Returnable package*

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ABSTRACT

USABILITY EVALUATION AND INTERFACE REDESIGN OF THE RETURNABLE PACKAGE MONITORING SYSTEM AT PT HINO MOTORS MANUFACTURING INDONESIA USING THE HEURISTIC EVALUATION METHOD

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The Returnable Package Monitoring System at PT Hino Motors Manufacturing Indonesia (HMMI) is used to monitor the movement of reusable packaging within the automotive supply chain. Based on observations and discussions with stakeholders, several interface issues were identified that have the potential to hinder the system's effectiveness. However, the system has never undergone a formal usability evaluation; therefore, its ease of use and the suitability of its interface for users' needs remain unknown. This study aims to identify usability issues in the system interface, develop improvement recommendations based on the evaluation results, and validate the redesigned interface through user testing. A mixed-method approach was employed, combining quantitative data from severity ratings and user testing metrics (success rate, completion time, and misclick rate) with qualitative data from usability issue identification and participant feedback. The usability evaluation was conducted using Heuristic Evaluation involving five evaluators across 15 representative features. The evaluation results served as the basis for the redesign using the User-Centered Design (UCD) approach. The redesigned interface was subsequently validated through user testing on the Maze platform involving 10 participants representing three user roles. The evaluation identified 35 usability issues ranging from cosmetic to catastrophic severity levels. Six prioritized usability issues were redesigned and validated through user testing, resulting in an average success rate of 100%, while all participant feedback was positive. The redesigned interface was validated based on the success rate, completion time, misclick rate, and participant feedback.

Keywords: usability, Heuristic Evaluation, User Centered Design, interface redesign, Returnable package