

INTISARI

RANCANG BANGUN SISTEM INFORMASI *SALES ORDER SERVICE PART* BERBASIS *WEB* DENGAN *APPROVAL* BERJENJANG DIGITAL DI PT HMMI

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Proses penanganan *sales order (SO) service part* pelanggan luar negeri di PT Hino Motors Manufacturing Indonesia (PT HMMI) yang sebelumnya manual berbasis Microsoft Excel rentan terhadap *human error* dan keterlambatan persetujuan. Penelitian ini bertujuan membangun sistem informasi SO berbasis *web* dengan fitur persetujuan berjenjang digital. Sistem dikembangkan menggunakan metode *Waterfall*, *framework* ASP.NET Core 8.0, arsitektur MVC, SQL Server, dan *library* antarmuka DevExtreme untuk optimasi *rendering* data masif. Hasil *Black Box Testing* mengonfirmasi seluruh fungsionalitas berjalan tanpa kegagalan. Evaluasi UAT memperoleh tingkat penerimaan 100% dari Staf PIC dan *Department Head*, serta 96% dari *Division Head*. Pengujian performa *frontend* (Google Lighthouse) sebanyak lima kali pengujian meraih rata-rata *performance score* 92,6 (*Dashboard*) dan 99 (*Create SO*). Pengujian *backend (Load testing)* menunjukkan *response time* stabil di bawah 1000 ms dengan *error rate* 0%, didukung optimasi *in-memory caching* yang mempercepat waktu respons hingga 99,08%. Sistem ini teruji fungsional, andal, dan layak diimplementasikan untuk operasional perusahaan.

Kata kunci: sistem informasi, ASP.NET Core, DevExtreme, Google Lighthouse, *Load testing*

ABSTRACT

DESIGN AND DEVELOPMENT OF A WEB-BASED SERVICE PARTS SALES ORDER INFORMATION SYSTEM WITH DIGITAL MULTI-LEVEL APPROVAL AT PT HMMI

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The handling of service part sales orders (SO) for overseas customers at PT Hino Motors Manufacturing Indonesia (PT HMMI) was previously conducted manually using Microsoft Excel, making it prone to human errors and approval delays. This study aimed to develop a web-based SO information system featuring a digital multi-level approval mechanism. The system was developed using the Waterfall method, ASP.NET Core 8.0 framework, MVC architecture, SQL Server, and DevExtreme library to optimize massive data rendering. Black Box Testing confirmed all functionalities operated without failure. User Acceptance Testing (UAT) achieved a 100% acceptance rate from the PIC Staff and Department Head, and 96% from the Division Head. Frontend performance testing (Google Lighthouse) across five test iterations recorded an average performance score of 92.6 (Dashboard) and 99 (Create SO). Backend evaluation (Load testing) demonstrated a stable response time below 1000 ms with a 0% error rate, supported by in-memory caching that accelerated response times by 99.08%. The system is functionally validated, highly reliable, and suitable for company operations..

Keywords: information system, ASP.NET Core, DevExtreme, Google Lighthouse, Load testing