

ABSTRACT

PT Nadhif Putra Sejahtera is a company engaged in the heavy equipment rental and contractor service sector. The company faces operational challenges, particularly in managing equipment rentals and transactions, which are still performed manually. This leads to a high risk of recording errors and limited access to information for clients. This study aims to design a web-based heavy equipment rental management application using the Waterfall methodology as a systematic solution to these issues. The system design process includes requirements analysis, system design using UML, implementation, and testing using Blackbox Testing and User Acceptance Test (UAT), based on the ISO 25010:2023 software quality standard.

The validation results show that the developed system successfully improves the efficiency of the rental process and expands the reach of service information to customers. The website provides features such as equipment information, a digital rental form, and a direct communication channel via WhatsApp. The UAT results indicate a satisfaction level of 95%, demonstrating that the system is highly aligned with user needs. Therefore, this application not only enhances the company's internal productivity but also strengthens its competitive advantage in the heavy equipment rental industry.

Keywords – Heavy equipment rental, web-based application, Waterfall methodology, ISO 25010