

ABSTRACT

This study aims to develop the car rental website for CV. QUTA RENT using the Waterfall method and analyze information security risks based on the ISO 27001 standard. The research was conducted through several stages, including requirements analysis, system design, implementation, testing, and risk analysis to ensure security and operational efficiency. The testing results indicate that the system successfully implemented key features such as vehicle data management, online booking, and revenue reporting.

The risk analysis identified four main risk categories: data loss (high risk), hosting issues (high risk), fake orders (medium risk), and data input errors (medium risk). Each risk was assigned a mitigation strategy with an implementation plan spanning from Q1 to Q4 of 2024. Recommended improvements include implementing an automatic backup system, CAPTCHA verification to prevent fake orders, optimizing server infrastructure, and enhancing data validation to reduce input errors.

The findings demonstrate that the Waterfall method is effective for systematic and structured website development, while the application of ISO 27001 helps identify and mitigate system security risks. With the implemented mitigation strategies, this website is expected to improve operational efficiency and provide a more secure and reliable car rental service.

Keywords: car rental, website, Waterfall method, risk management, ISO 27001