

## **Design and Development of a Web-Based**

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### **ABSTRACT**

Balung Regional Hospital, particularly within its Central Operating Room, currently lacks a web-based electronic system for documenting surgical procedures. This manual approach has led to a high rate of incomplete operation reports, with the highest number recorded in the fourth quarter—1,083 incomplete forms out of 1,144 surgical cases. This study aims to design and develop a web-based Operation Report Information System (E-Operation) to enhance the quality and efficiency of service delivery by medical personnel, including doctors and nurses, in completing surgical documentation. The system development follows the Waterfall model, encompassing the following phases: requirements analysis and definition, system and software design, implementation and unit testing, as well as integration and system testing. Data collection methods include direct observation and semi-structured interviews with relevant informants. The resulting system is a web-based electronic surgical report platform with integrated user authentication. It features master data management for users, patients, surgical procedures, and examination records, which contribute to the generation of surgical data. Additional functionalities include data visualization through surgical graphs, tracking the number of operations performed, and monitoring the types of anesthesia administered. This system is designed to support healthcare professionals in producing complete, accurate, and timely operation reports, thereby contributing to improved service quality and operational efficiency at Balung Regional Hospital.

**Keywords :** Waterfall Method, Electronic Operation Report, Incomplete Operation Report