

***Design and Development of a Medical Record Retention and Media Conversion
System Using Optical Character Recognition (OCR) at Rumah Sakit Umum***

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ABSTRACT

Medical record management at Rumah Sakit Umum Kaliwates Jember still faces several challenges, including the accumulation of medical record documents due to the increasing number of patient visits, limited storage capacity, retention activities that have not been fully implemented in accordance with the Standard Operating Procedures (SOP), and the absence of an information system to support medical record retention and media conversion. These conditions have resulted in inefficient document management, slower document retrieval, and an increased risk of document damage and loss. This study aimed to design and develop a medical record retention and media conversion information system by implementing Optical Character Recognition (OCR). The system was developed using the Waterfall software development model, which consists of requirements analysis, system design, implementation, and testing. Data were collected through observation, interviews, and documentation. The system was developed using Laravel 12 and MySQL, while the OCR functionality was implemented using Google Vision and Gemini AI to convert scanned medical record documents into searchable and machine-readable text. The result of this study is a web-based information system equipped with master data management, media conversion, retention, destruction, destruction approval, automatic reporting, activity logging. The developed system is expected to support retention activities in accordance with the SOP, accelerate media conversion and document retrieval processes, improve the efficiency of medical record management, and support the implementation of Electronic Medical Records (EMR) at Rumah Sakit Umum Kaliwates Jember

Keywords: *Media Conversion, Medical Records, Optical Character Recognition (OCR), Retention, Waterfall*