UNDERGRADUATE THESIS

DEVELOPMENT OF RECEIPT DATA EXTRACTION IN FINANCIAL MANAGEMENT APPLICATIONS USING OPTICAL CHARACTER RECOGNITION

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APPROVAL SHEET

DEVELOPMENT OF RECEIPT DATA EXTRACTION IN FINANCIAL MANAGEMENT APPLICATIONS USING OPTICAL CHARACTER RECOGNITION

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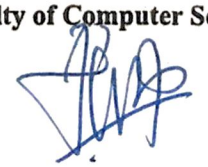

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STATEMENT OF ORIGINALITY

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ABSTRACT

Student Name / NPM	:	Syammari Rama Janitra/20081010150
Thesis Title	:	Development of Receipt Data Extraction in Financial Management Applications Using Optical Character Recognition
Advisor	:	1. Dr. Firza Prima Aditiawan, S.Kom., MTI 2. Hendra Maulana, S.Kom, M.Kom

Personal financial management often faces obstacles in terms of consistency in recording transactions due to manual data entry processes that are time-consuming and prone to human error. This research aims to develop a web-based financial management application called Pockane that integrates Optical Character Recognition (OCR) technology for automated data extraction from shopping receipts. The system is built using a decoupled architecture, utilizing the Laravel framework for the user interface and Flask deployed on DigitalOcean infrastructure as the OCR processing engine using Tesseract. The research method includes the implementation of various image preprocessing techniques such as grayscaling, denoising, and binarization to improve character recognition accuracy. The test results show that the combination of image preprocessing significantly reduces the Character Error Rate (CER) in various receipt conditions. System quality evaluation conducted by a few respondents using the System Usability Scale (SUS) method resulted in a score of 75, categorizing the Pockane application in the "Good" predicate. Thus, the integration of OCR in the Pockane application is proven effective in assisting users to perform financial recording automatically, accurately, and efficiently.

Keywords: Financial Management, OCR, Tesseract, Laravel, Flask, Preprocessing, System Usability Scale.

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The author recognizes that this undergraduate thesis is far from perfect and may contain shortcomings. Therefore, constructive criticism and suggestions from all readers are highly welcomed for the improvement of this work. Finally, despite its limitations, the author sincerely hopes that this report will be beneficial to all readers in general and to the author in particular.

Surabaya, July 20 2026

Author

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