



## Design of Web-Based Incoming and Outgoing Letter Archiving Software for the West Kalimantan Provincial Inspectorate

Sebri Julianto<sup>1</sup>, Nurman hariyanto<sup>2\*</sup>, Adha Maulana<sup>3</sup>, Dian Anggraini<sup>4</sup>

<sup>1</sup>Information Systems Study Program Universitas Nahdlatul Ulama Kalimantan Barat, Universitas Pendidikan Indonesia, Indonesia

Correspondence: E-mail: [sebrijulianto@gmail.com](mailto:sebrijulianto@gmail.com)

### ABSTRACT

The Inspectorate of West Kalimantan Province is a government agency that has the duty and responsibility to realize quality governance. The West Kalimantan Inspectorate Secretariat has a Sub-section for Administration and General Affairs, which manages incoming and outgoing mail. Manual recording requires a relatively long time, creating recurring problems in searching letter data. Hopefully, this filling design can be used as a system recommendation for the West Kalimantan Provincial Inspectorate in the administration and general section. The system design method in this study uses the system development life cycle (SDLC) method with the waterfall model. Data collection was carried out by observation, interview, and literature study. This research produced an information system to help manage correspondence activities. Forms created are limited to issues in creating views of incoming mail, outgoing mail, login pages, job title pages, home pages and user pages.

### ARTICLE INFO

**Article History:**

Submitted/Received 28 Oct 2023

First Revised 10 Nov 2023

Accepted 27 Nov 2023

First Available online 01 Dec 2023

Publication Date 01 Dec 2023

**Keyword:**

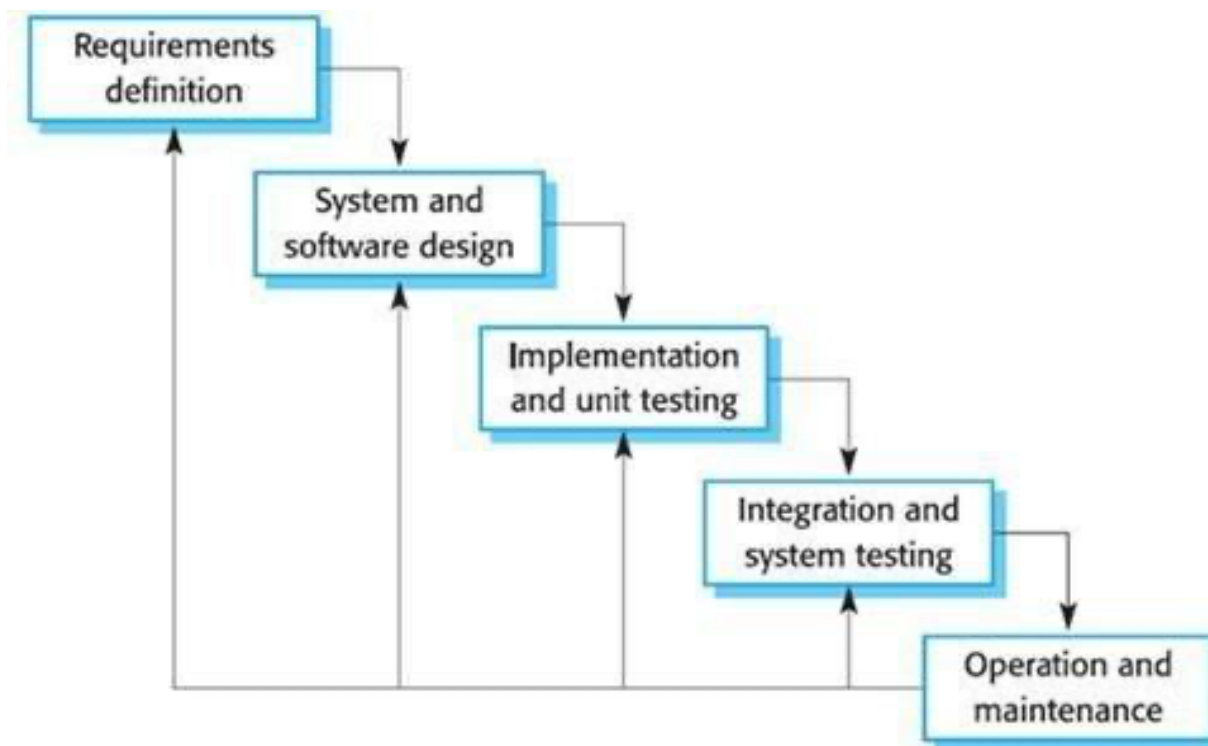
Design of filling incoming and outgoing mail,  
West Kalimantan Provincial Inspectorate,  
Waterfall.

## 1. INTRODUCTION

Management of incoming and outgoing letters at West Kalimantan provincial inspectorate agencies involves many manuscript books or papers that must be filled in to record and classify incoming and outgoing letters. Manual recording takes a relatively long to recapitulate data for periodic letter reports. This problem can be solved by having a system following technological developments, this system makes everything computerized. This research was carried out at the West Kalimantan provincial inspectorate office. The procedure analyzed is archiving files in the West Kalimantan provincial inspectorate, general administration section. This research aims to produce a web-based archiving software design for the inspectorate to recommend a system that can help manage, search, and recapitulate archives in the inspectorate quickly, precisely and accurately. A database is a collection of data structured in a unified whole archived on computer hardware regularly according to a system that can be processed through computer software. The entity relationship diagram (ERD) describes the ERD model containing components. Unified Modeling Language (UML) is a general modeling standard in computer science and software engineering. Use case diagrams work by describing typical interactions between users of a particular system through a story about how a system is used. Activity diagrams describe the workflow or activities of a system, business processes or menus in the software. The waterfall method has a linear sequential model or classic life flow starting from stage one to the next stage systematically.

## 2. METHODS

This research was carried out to develop archiving software design at the West Kalimantan provincial inspectorate. The system design method in the research is the SDLC (System Development Life Cycle) method, and the model chosen is the waterfall model. The waterfall method has five stages in this method as follows:



**Figure 1.** Waterfall Method

Requirement analysis and definition, system and software design, implementation and unit testing, integration and system testing, operation, and maintenance. Of the five stages, only two take place: requirements analysis and definition and system and software design. The author took the two stages of requirements analysis and definition because they have system boundaries and objectives determined through consultation with system users. For system and software design, there is a software design process to determine the overall system architecture.

#### 1. Requirements Analysis and Definition

This stage will produce a user requirements document or data related to the user's desires in creating a system obtained from the results of interviews. This document will be a reference for translating into a programming language. Then, the analysis results are described in a flow map diagram, which explains each system flow in detail.

#### 2. System and Software Design

This stage is carried out to create a system design for solutions to existing problems using system modeling tools such as use cases and activity diagrams. The author uses Entity Relationship Diagrams (ERD) and Logical Record Structure (LRS), table specifications, input designs, output design, navigation design and mockup of design results for database modeling.

### 2.1. Method of Collecting Data

#### 1. Observation

Observations were carried out by conducting observations at the General Administration Section of the West Kalimantan Provincial Inspectorate. The things observed in this observation are the process of managing incoming and outgoing mail in the General Administration section and the duties of each employee who manages incoming and outgoing mail.

#### 2. Interview

Interviews were conducted to collect data needed in developing the Archiving Software Design. Interviews were conducted with several people at the West Kalimantan Provincial Inspectorate.

#### 3. Literature Review

A literature study is a data collection method that seeks data and information through research journals, e-books, the internet, and books that support the thesis writing process. The author uses the references above to produce scientific work that has credibility.

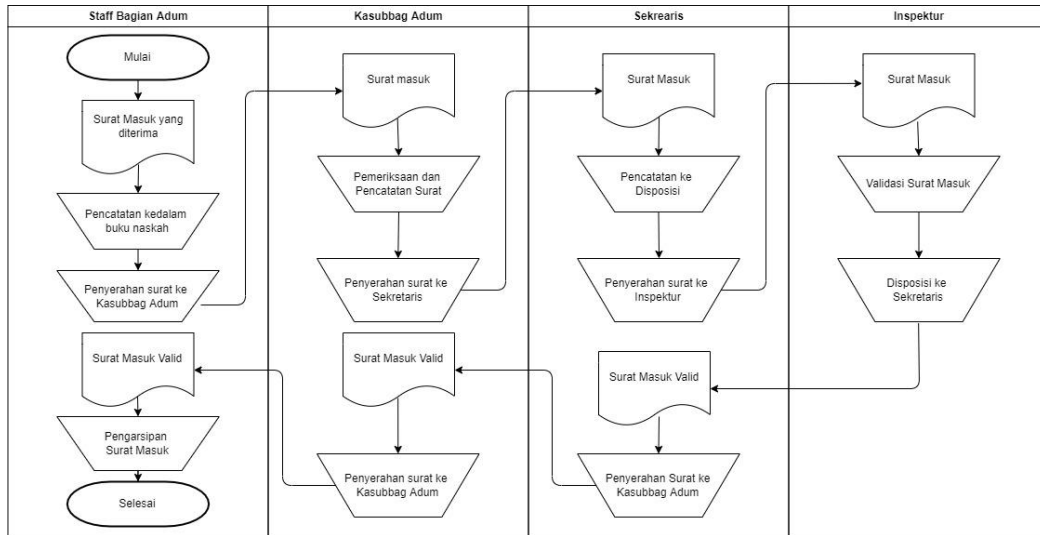
### 3. RESULTS AND DISCUSSION

#### 3.1. Running System Analysis

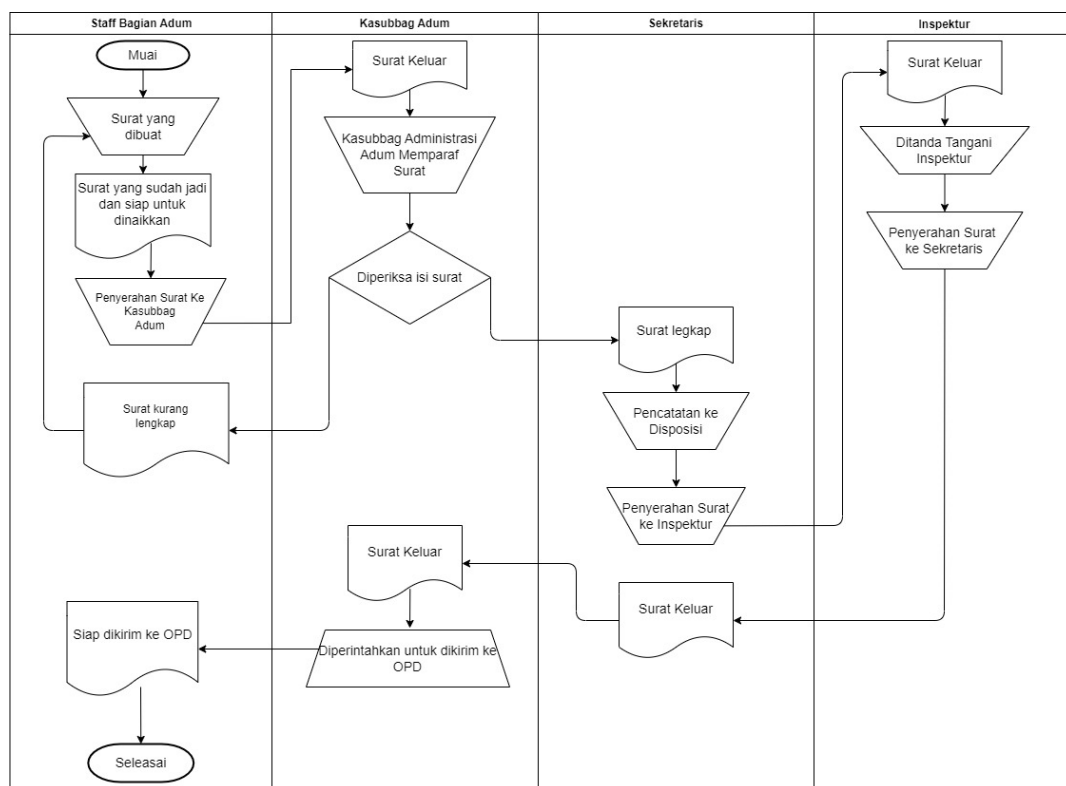
The current system analysis systematically describes the incoming and outgoing mail system activities at the West Kalimantan Provincial Inspectorate. The West Kalimantan Provincial Inspectorate is an agency that operates in the area of regional apparatus where

data management of incoming and outgoing letters in this agency still uses manual procedures.

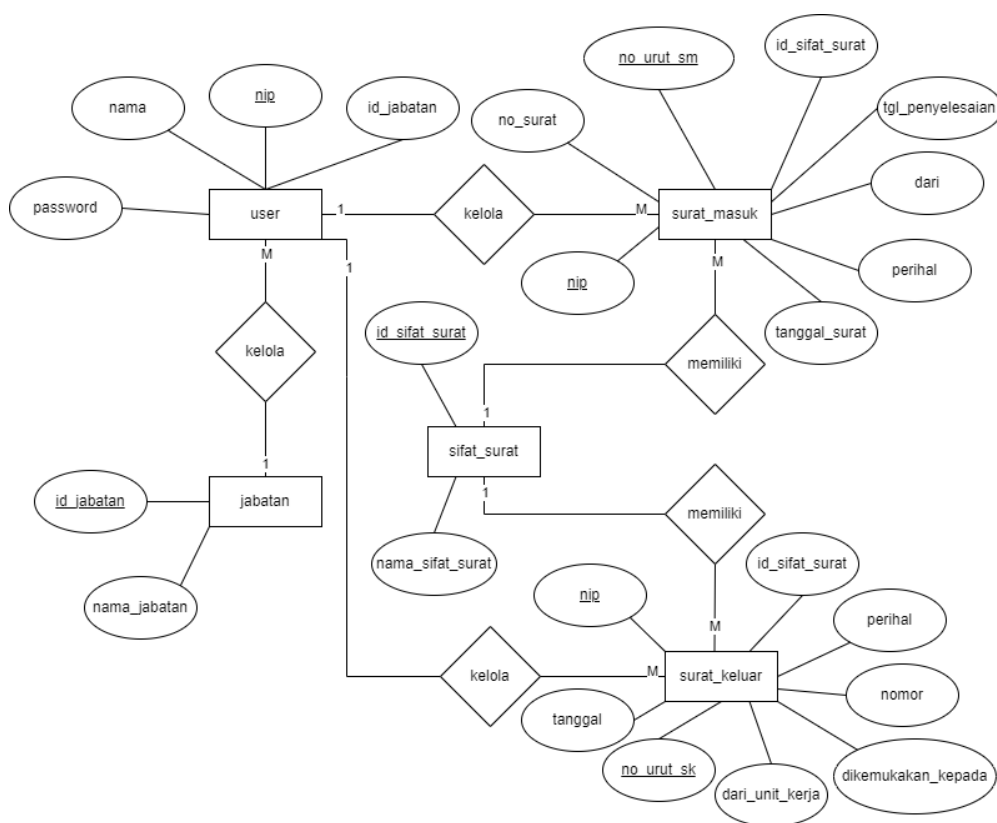
Several procedures in this agency's incoming and outgoing mail system are translated into flow map form. To get a clearer picture of the system used at the West Kalimantan Provincial Inspectorate, the procedures that occur can be described as follows:



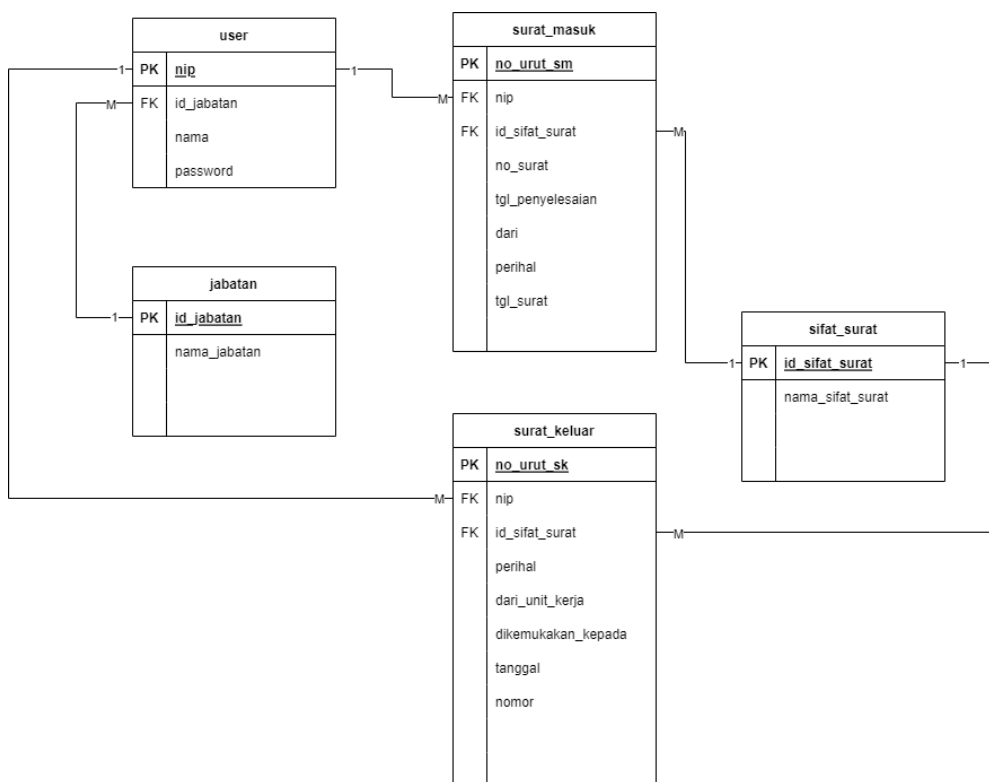
**Figure 2.** Flow Map Information System for Archiving Incoming Letters at the Inspectorate of West Kalimantan Province



**Figure 3.** Flow Map Information System for Archiving Incoming Letters at the Inspectorate of West Kalimantan Province



**Figure 4.** ERD Archiving Software



**Figure 5.** Logical Record Structure (LRS) Archiving Software

#### 4. CONCLUSION

Based on the results and research analysis, the Web-based Incoming and Outgoing Letter Archiving Software Design was successfully created by adapting to the needs of the Administrative and General Filing section at the West Kalimantan Provincial Inspectorate. This system can help manage, search, and recapitulate archival data in the agency.

#### 5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

#### 6. REFERENCES

- Badri, Al (2019) *Perancangan Sistem Informasi Pengolahan Data Produksi Sawit Pada PT. Tebo Plasma Inti Lestari (PT. TPIL) Berbasis Web. Skripsi Thesis, STIKOM Dinamika Bangsa Jambi.*
- Batubara, S. (2018). *Analisis Dan Perancangan Sistem Informasi Akuntansi Pengolahan Pendapatan Dan Pengeluaran Biaya Menggunakan Metodework System Framework. Jurnal Teknik Dan Informatika, 5(1), 53.*
- Christiono, K. and Sama, H. (2020). *Studi Komparasi Database Management System Antara Maria Db Dan Postgresql Terhadap Efisiensi Penggunaan Sumber Daya Komputer. Conference on Business, Social Sciences and Innovation Technology, 19(1), 1.*
- Kurniawan, T. B. and Syarifuddin. (2020). *Perancangan Sistem Aplikasi Pemesanan Makanan Dan Minuman Pada Cafeteria No Caffee Di Tanjung Balai Karimun Menggunakan Bahasa Pemograman Php Dan Mysql. Jurnal TIKAR, 1(2), 192.*
- Simatupang, J. and Sianturi, S. (2019). *Perancangan Sistem Informasi Pemesanan Tiket Bus Pada Po. Handoyo Berbasis Online. Jurnal Intra-Tech, 3(2), 12.*
- Sukmaindrayana, A. and Sidik, R. (2017). *Aplikasi Grosir Pada Toko Rsidik Bungursari Tasikmalaya. JUMIKA, 4(2), 31.*
- Taufik, A. (2019). *Perancangan Sistem Informasi Penjualan Makanan Kucing Dan Anjing Berbasis Web. Jumika, 6(2), 61.*