

WEB-BASED DEVELOPMENT OF INFORMATION SYSTEM ADMINISTRATION

(Case Study of the Military District Command 1304 Gorontalo)

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Abstract Mail administration information system is a web-based system that can manage incoming-outgoing mails as well as leave applications. The management and preparation of mails, both incoming and outgoing, are often recorded manually in a journal book. The incoming mail is recorded in general and subsidiary journals, while the outgoing mail is recorded in one journal book only. This mail administration information system offers better document management to prevent any document loss. In designing the system, the study relied on system architecture, context diagrams, data flow diagrams, database modeling and ERD (Entity Relationship Diagrams). The purpose of this study is to create an administrative information system that is capable of managing and archiving mails. The system development employed a prototype method. The development resulted in web-based information systems of document archiving. This application is also expected to help the District Military Command in Gorontalo to manage and archive mails for efficient administration.

Keywords: Administration, Web, MySQL Database

1. INTRODUCTION

The Personnel Division (or PASI PERS) of Military District Command (KODIM) 1304 in Gorontalo is a work unit whose main duties are to conduct general administrative affairs. In addition to that, the Division's missions comprise document archiving, including incoming and outgoing mails.

In performing their duties, the division prefers the conventional method of document archiving, i.e., archive book as a written record of incoming-outgoing mails; this is seen as a potential problem in regards to optimization of the division's work efficiency. Within this case, "conventional" refers to the process of archiving each incoming and outgoing mail manually into written general and subsidiary journals.

An information system (IS) that is capable of handling a document archive process is essential as a secure and efficient alternative to the conventional method mentioned above.

The development of administrative IS is expected to support the work system within the PASI PERS division regarding the mail archiving as well as to provide efficient information on each mail's status to each division member without having to interact directly with one another.

The previous context serves as this study's rationale in developing a web-based administration information system of incoming-outgoing mails archiving in KODIM 1304 Gorontalo.

2. Research Methodology

The present study employed prototype-based system software development that involved seven steps: (1) Data collection on needs, (2) Prototype development, (3) Prototype evaluation, (4) System code, (5) System testing, (6) System evaluation, and (7) System implementation.

3. Results and Discussion

3.1 Data collection of needs

a. Functional needs of system

A modeling process of the system functional describes the essential functions executed to fulfill the users' needs; the users comprise the Commander of Military District, the Administration division, the PASI PERS division, and others. The IS of mail administration in KODIM 1304 in Gorontalo is aimed to execute these main functions:

- 1) Performing organizational data entry on incoming mails, outgoing mails, data of soldiers, data of leave application, data of users, and data of decision mail.
- 2) Executing the disposition process of incoming-outgoing mails and decision mails.
- 3) Conducting data verification of leave application.
- 4) Displaying complete information regarding the mails to every division in the district command.
- 5) Displaying information regarding leave application.
- 6) Displaying and printing reports.

b. Non-functional needs of system

Analysis of the system's non-functional needs aims to identify the external needs to operate the developed application. The non-functional needs comprise:

- 1) An information system that is accessible by web browsers in all operating systems in PCs and Smartphones. Web browsers, such as Google Chrome and Mozilla Firefox version 11.0+
- 2) Stable internet connection
- 3) Programming Language: PHP version 5.4.1+
- 4) Sublime Text 3 as the application's coding development space.
- 5) XAMPP (basic package) version 3.2.1.
- 6) MySQL version 5.5.39 as database-storing software to develop the system's database

c. Users' needs

An analysis of the system users' needs is essential to identify the actors to be involved in the system operation as well as to elaborate types of activities performed by each group of actors in accordance with their respective authority. The following is the system users and their needs:

1. **The leader** owns access rights to the system to delegate incoming mails and decide whether a leave application mail is approved or not.
2. **Administrator** possesses the rights to the system to input master data, such as user data.
3. **The PASI PERS division** has the access to the system in inputting and verifying data of incoming-outgoing mails as well as leave application.
4. **Other divisions** own access to data of incoming mails addressed to their respective division.
5. **The administrative division** has the access to the general and subsidiary journals.

3.2 Developing prototype

System architecture

Development of system architecture is regarded important in elaborating the information access flow, the process of online data exchange between the server and clients, as well as user-friendly features that allow further development.

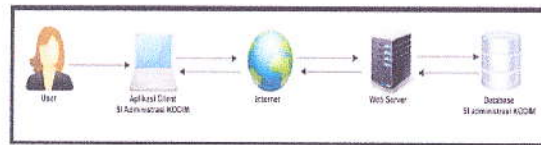


Figure 1 System architecture

3.3 Discussion

The IS development process results in an Information System of Army Wives Union. The development of an information system engages web-based PHP and MySQL programming language as its database. The development process relies on web-based technological utilization to facilitate the duties of KODIM 1304, Gorontalo in document archiving and management.

The IS features information that displays data of soldiers who serve under the KODIM's supervision.



Figure 10 Information system page displaying data of PASI PERS division officers

The developed IS also provides information on incoming-outgoing mails to the Commander of Military District.

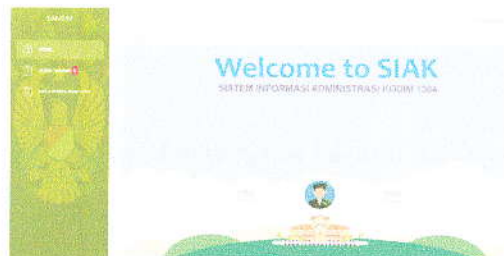


Figure 11 Display of the District Commander's Access Page

The page displaying data of incoming mails is shown in Figure 12 below. The data displayed in this page were previously forwarded by the PASI PERS division.



Figure 12 Display of the Incoming Mails Page

As illustrated in Figure 13, the page also features data of outgoing mails to be signed by the Commander.



Figure 13 Display of the Outgoing Mails Page

The Mail Administration IS also displays an access page for all divisions in the Military District to view data of incoming mails addressed and disposed to their respective office.



Figure 14 Display of Division Access Page

Within this page, one can also access data of incoming mails with the following disposition card.



Figure 15 Display of Information Page on Activity Schedule



Figure 16 Display of Information Page on Activity Schedule

All in all, the development of the Information System of Mail Administration is expected to support document archiving and management in the research site.

4. Conclusion

The developed information system functions to support the office in the archiving process of incoming-outgoing mails and leave application mail. The development process involves: 1) needs analysis, 2) prototype development, 3) prototype evaluation, 4) system coding, 5) system testing, 6) system evaluation, and 7) system implementation. The web-based Information System of Mail Administration in KODIM 1304 Gorontalo is developed to assist the office in the archiving process of incoming-outgoing mails as well as leave application mails proposed by the respective soldier.

5. Recommendations

The research proposes several recommendations as follows:

1. It is required that the developed IS to grant access to the soldiers to facilitate them in efficient processing without having to visit the KODIM office.
2. Further analysis and evaluation are required in terms of the implementation of network security to ensure better system development.

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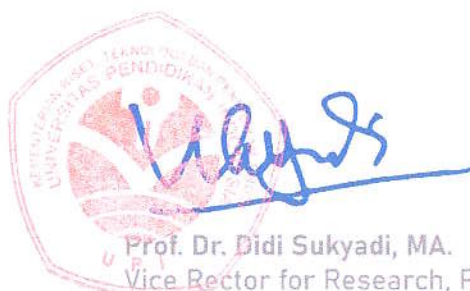
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