THE MAIL INFORMATION SYSTEM DESIGN WEBSITE BASED BY USING THE INTERNET NETWORK IN INDONESIAN NAVAL TECHNOLOGY COLLEGE ENVIRONMENT

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ABSTRACT

Secretariat section or Indonesian Naval Technology College Secretariat Section is a work unit under Setlem as the secretary of the institution in charge of administering administrative services in the form of correspondence. Good incoming mail management procedures include; grouping of letters, checking of mail, recording of lmail and distributing mails as well as filing of mails, while for outgoing mail include; drafting mails, mail draft approval, letter typing, numbering, lmail preparation, mail delivery. At this time the mail processing process is still done manually so that it affects the decision making quickly and accurately and minimizes errors. To build a service unit that is integrated and capable of providing excellent service quality, it is necessary to have a management that encourages efficiency and accelerates the process of implementing service tasks and functions. The management includes the Standard Operation System (SOP) and the implementation of E-Office for the implementation of the duties and functions of the service unit as well as the documentation or archive system. With the website-based mail information system in the Indonesian Naval Technology College environment, all forms of mail, both incoming and outgoing letters, will be carried out electronically, which is integrated from the Commander to the Work unit Work unit below. From the results of this study, the ease of processing letters can help in making decisions accurately and quickly.

Keywords: E-Office, Indonesian Naval Technology College Secretariat section, Information System, mail.

1. INTRODUCTION

In the era of globalization and rapid development of information technology, efficiency in data management and administration is one of the key factors for the success of an organization. In higher education institutions such as the Indonesian Navy Technology College, the process of administrative correspondence plays an important role in supporting smooth operations and formal communication between units within the organization. Letters, both physical and electronic, are used as a means to convey information, instructions, decisions, and documentation related to various academic, administrative, and operational activities. However, as in many other institutions, the correspondence process at Indonesian Naval Technology College is still largely carried out conventionally, namely by using physical letters that require a manual process in making, archiving, and distributing. This manual system has a number of weaknesses that have an impact on work effectiveness and efficiency. Obstacles that are often faced include longer times in distributing letters, the potential for errors in managing letter archives, and the lack of ability to track letter status in real time. This condition causes obstacles to the flow of communication between units, which in turn can disrupt overall operational and administrative performance.

To answer these problems, the use of information technology in the form of a website-based letter information system is a relevant solution. This system offers various conveniences, from creating more structured and automatic letters, to managing archives that are integrated digitally. Through this system, letter distribution can be done online, without the need for time-consuming physical delivery, and the status of the letter can be monitored more easily by the relevant users. In addition, with a digital system, the possibility of errors due to human error can be minimized, while document searching and archiving can be done quickly and accurately.

The use of the internet network in the Indonesian Naval Technology College environment also provides additional benefits. The existing network infrastructure allows this system to be implemented and easily accessed by all related units, both locally and more widely, according to the needs of the agency. With a website-based system, the entire letter management process becomes more efficient and transparent, and supports the digital transformation efforts that are currently developing in various government and educational institutions in Indonesia.

The development of this website-based letter information system will use a structured software development method, such as the Waterfall method or the Agile method, to ensure that each stage of system development runs according to user needs. The stages that will be carried out include analyzing user needs in the Indonesian Naval Technology College environment, designing a comprehensive system, developing software that is in accordance with technical specifications, to the testing and implementation stages. In addition, the aspect of data security is also a major focus in the development of this system, considering the importance of maintaining the confidentiality and integrity of important documents in military institutions. The main objective of this study is to design and build a website-based letter information system that can be accessed online in the Indonesian Naval Technology College environment. This system is expected to provide an effective solution in increasing the efficiency of correspondence management, reducing paper use, and providing convenience for all users in managing and monitoring letter documents better. With this system, it is expected that there will be significant improvements in terms of the speed of letter distribution, archiving accuracy, and increasing operational productivity in all Indonesian Naval Technology College units.

With a good system handling and processing data will be easier. Currently the correspondence system at Indonesian Naval Technology College is still carried out manually which will take a relatively long time because it must be delivered by staff or orders to the secretariat, another problem is that it takes a long time to classify letters, prone to loss of archives, so decision making will be slower. To facilitate the work in the secretarial field, the author will make a "Design of a Website-Based Mail Information System By Utilizing the Internet Network in the Indonesian Naval Technology College Environment", in the application contains all letters, both incoming and outgoing letters in electronic form that are integrated from the Commander to the Work unit below. by using Indonesian Naval Technology College's local network, this application will help the commander and work units for time efficiency as well as making decisions accurately and quickly).

2. LITERATURE REVIEW

2.1 Information Systems

An information system is a set of hardware, software, brain ware, procedures and or rules that are integrally organized to process data into useful information for problem solving and decision making. In the information system, it is necessary to classify the flow of information, this is due to the diversity of needs for information by information users. The criteria of the information system, among others, are flexible, effective and efficient.

2.2. Website

Website is a collection of web pages that are summarized in a domain or subdomain where it is located on the World Wide Web (WWW) on the Internet. The WWW consists of all publicly available websites. The pages of a website (web page) are accessed from a Uniform Resource Locator (URL) which is the "root" (root), or called the homepage which is the parent page, and is translated into "homepage" or "front page", web page. URLs are organized into a hierarchy, although the hyperlinks on the page set the reader up to tell them the overall structure and how this information flows as desired.

2.3 Bootstrap

Bootstrap.css is a framework that manages and manages website layouts. HTML is for managing the content and structure of web pages, while Cascading Style Sheets (CSS) are concerned with site layout. Therefore, these two structures must work together to perform certain actions. By using CSS, you can display a uniform appearance on many web pages. All this thanks to the existence of its function. Users do not need to spend hours just to change, for example, the width of the design and so on. If you're using CSS, all you need to do is refer to or redirect the web page to our CSS file. Later all changes can be made in only one file. CSS functions are not limited to text styles but can be used to create other aspects of web pages, such as the appearance of tables and images.

2.4 PHP

PHP is a programming language that is often inserted into HTML. PHP itself comes from the word Hypertext Preprocessor. History PHP was originally short for Personal Home Page (Personal site). PHP was first created by Rasmus Lerdorf in 1995. At that time PHP was still called Form Interpreted (FI), which was in the form of a set of scripts used to process form data from the web.

This programming language uses a server-side system. Server-side programming is a type of programming language in which the script or program will be executed or processed by the server. The advantages are that it is easy to use, simple, and easy to understand and learn. PHP programming language can help researchers to develop web-based applications that are quite complex, reliable, and fast. Depends on business specifications, hosting usage, experience level, application requirements, and development timeframe. In addition, there are many PHP frameworks that you can choose from.

2.5 HTML

HTML stands for Hyper Text Markup Language, which is the standard programming language used to create a web page, which can then be accessed to display various information in an Internet web browser (Browser). HTML can also be used as links between files on a site or on a computer using localhost, or links between sites on the internet. In order to produce an integrated form display Simple hypertext formatting is written in ASCII format files so that it becomes a web page with HTML commands. Currently HTML is an Internet standard that is controlled and defined by the World Wide Web Consortium (W3C). In 1989, HTML was created by Berners-lee Robert's collaboration with Caillau TIM while they were working at CERN (CERN is a high energy physics research institute in Geneva).

2.6 Database

Database is a collection of information stored in a computer systematically so that it can be checked using a computer program to obtain information from the database. Database is a representation of a collection of interconnected facts stored together in such a way and without unnecessary repetition, to meet various needs.

The database is a collection of interrelated information on a particular subject for a specific purpose. Database is an arrangement of complete operational data records of an organization or company, which is organized and stored in an integrated manner using certain methods on a computer so that it is able to meet the optimal information needed by users.

Database (database) or as a database is a collection of information stored in a computer system systematically so that it can be checked using a computer program in order to obtain information from the database. The software used to manage and call database queries is called a database management system (DBMS). In database systems, it can be studied in information science.

2.7 MySQL

MySQL is a software or SQL database management system software or DBMS Multithread and multi-user. MySQL is actually a derivative of one of the main concepts in databases for selection or selection and data entry that allows data operations to be carried out easily and automatically. MySQL was created by Michael "Monty" Widenius in 1979, a Swedish computer programmer who developed a simple database system called UNIREG that uses the low-level connection of the InnoDB engine with indexing.

The advantages of MySQL in its use in databases are:
a.   Free or free so that MySQL can easily get it.
b.   MySQL is stable and robust in operation.
c.   My SQL has a pretty good security system.
d.   Very supportive of transactions and has many support from the community.
e.   Very flexible with various programs.

2.8 Web Server

Is a software that provides data services that have the function of receiving Hyper Text Transfer Protocol (HTTP) or Hyper Text Transfer Protocol Secure (HTTPS) requests sent by users via a web browser and sending back the results in the form of web pages which are generally in the form of HTML documents (HTTPS). HyperText Markup Language). The web server is useful as a place for web applications and as a recipient of requests from clients (Indra Warman & Zahni, 2013). In general, web servers are also equipped with script language translation engines that allow the web server to provide dynamic website services by utilizing additional libraries such as Hypertext Preprocessor (PHP) and Active Server Pages (ASP). The client makes an HTTP request to the web server and the web server will return the request in the form of a website page including HTML, images, CSS, and javascript.

The server can also query or request data to the database if the user or user wants to manage the data. The database will return a request from the server in the form of data and the server displays it in the form of a web page to the user. Researchers will use the Indonesian Naval Technology College web service as the location for the application data to be made because Indonesian Naval Technology College cooperates with companies engaged in telecommunications so that data security can be well maintained.

2.9   System Analysis and Design

System analysis can be defined as a complete description of the components to identify and evaluate the problems and requirements desired by the user. System analysis is the most important stage of the program because there is an early stage to evaluate the problems encountered and that occur. An effective analysis will accelerate the development of the initial plan that is made so that it is easier for the next stage.

In systems analysis there are several basic steps that must be carried out by a systems analyst including:

a.   Identify, which is to identify the problem.
b.   Understand, namely understanding the work of the existing system.
c.   Analyze, namely analyzing the system.
d.   Report, which is to make a report on the results of the analysis.

At the design design stage, a systems analyst must be able to identify and analyze problems to determine the factors that become problems in the existing or used system. The data is found from external sources (system users) then collected, compiled, for consideration for a systems analyst. After all problems have been found, the next step is to study the workflow of a system that will be created or is being used. The next step is to analyze and compare the system used with the system to be made which is then reported.

3.   RESEARCH METHODS

3.1   Research design

The design of this research is research by conducting development which aims to make a final project with a system that has been made from previous research so as to get better results. This final project also includes research on information systems that apply knowledge to become information in order to obtain information as needed. The system is a design element that is combined with various methods into a system that fulfills certain goals.

This research will be carried out with mail management then processed into information data by the program to become electronic information data, namely incoming letters to Indonesian Naval Technology College and outgoing letters from Indonesian Naval Technology College will be processed into website-based electronic mail data.

In the organizational structure, Seklem is assisted by the secretarial division which has access rights as Administrator who controls incoming mail with the aim of Indonesian Naval Technology College Commander and outgoing letters on behalf of the Indonesian Naval Technology College Commander and archiving letters. The commander as a user has access to dispose of incoming letters, give approval or provide revisions to outgoing letters and sign outgoing letters, the commander can also access the archive of letters as needed. The Work unit as a User can draft letters, dispose of letters addressed to the Work unit and access archives as needed.

3.2   Data collection

One of the important components in research is the research process in data collection. Errors made in the data collection process will make the analysis process inaccurate. In addition, the results and conclusions that will be obtained will be inaccurate if the data collection is carried out incorrectly. Data collection is a method of searching for information and data needed in research so that it can present correct information by paying attention to user satisfaction.

To determine user satisfaction, it can be measured using the End User Computing Satisfaction (EUCS) method. The following categories determine user satisfaction.

a.   Content (Content).
b.   Accuracy (Accuracy).
c.   Shape (Format).
d.   Ease of Use (Ease of Use).
e.   Timeliness (Timeless).

3.3   Data processing

Data processing is the processing stage of the data that has been collected and then processed to be presented and applied in the system being studied by the author. The main purpose of testing this application is to find out whether the application made can meet the needs of the final project and whether the application can provide the expected results.

The trial is carried out by evaluating and testing the functions contained in the system. When an error is found in the system, it will be repaired and then evaluated or tested again until the application runs optimally according to needs.

4.   ANALYSIS AND DISCUSSION

4.1   System Analysis

In general, the system is a unity, both real or abstract objects consisting of various components or elements that are interrelated, interdependent, mutually supportive, and as a whole unite in one unit to achieve certain goals effectively and efficiently. The purpose of system implementation is to explain

the module manual to the simulation system testers who will use the system. So that the system examiner can respond to what is displayed on the system and provide input to the system maker to make improvements so that this letter information system is even better.

In this final project research on a website-based mail information system in the Indonesian Naval Technology College environment, the result of the research is a review of the trial results of the research. The discussion of the results of this study can be equated with the original thoughts of the researcher to provide an explanation of the research results that have been analyzed in order to answer the research questions. In essence, the discussion of research results is a discussion of the findings obtained. This description is associated with the results of theoretical studies and other relevant research results including network specifications, server computer implementation, software implementation and applications built.

4.2   Website Design

The next stage is the website design stage, at this stage the author will explain to the user the appearance of the application in detail. This application system is a website-based application so it requires a web browser to run it, there are several main processes, including:

a.   Login Process
b.   Incoming Mail Agenda Process
c.   Incoming Disposition Process
d.   Outgoing Letter Concept Process
e.   Outgoing mail Agenda Process
f.   Archiving Process and Archive Search
g.   Process Print Outgoing Mail, print
      disposition, Print Agenda.

4.2   Database Design

Database design is a collection of data tables that are stored systematically in the computer and processed to determine the flow of the system so that the information system runs according to the required system design. Database design aims to provide information to users according to their needs. Researchers will create a database with the name disposition.sql, in the database will be created several tables.

4.3   Website Implementation

4.3.1   Login Menu

Figure 4.1 Login Menu.
Source: (processed author's data).

The login page is the initial page that is viewed or accessed by all internet users, this menu contains a password and username where the user must fill in the data to be able to enter the next page, this login menu will set the user's access rights according to their authority according to the password and username specified. inputted.
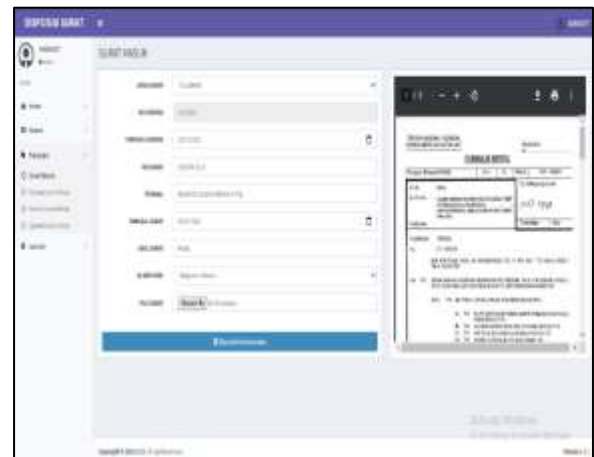
4.3.2   Incoming Mail Agenda Menu

Figure 4.2 Incoming Mail Agenda
Source: (processed author's data).

Halaman ini berisi data surat masuk sebelumnya atau histori surat terakhir yang sudah di diagendakan dan didisposisi oleh Komandan dan Kawork unit dalam menu ini Setlem atau KaSecretariat section dapat melihat disposisi, mengedit data surat, mencetak dan menghapus data surat.
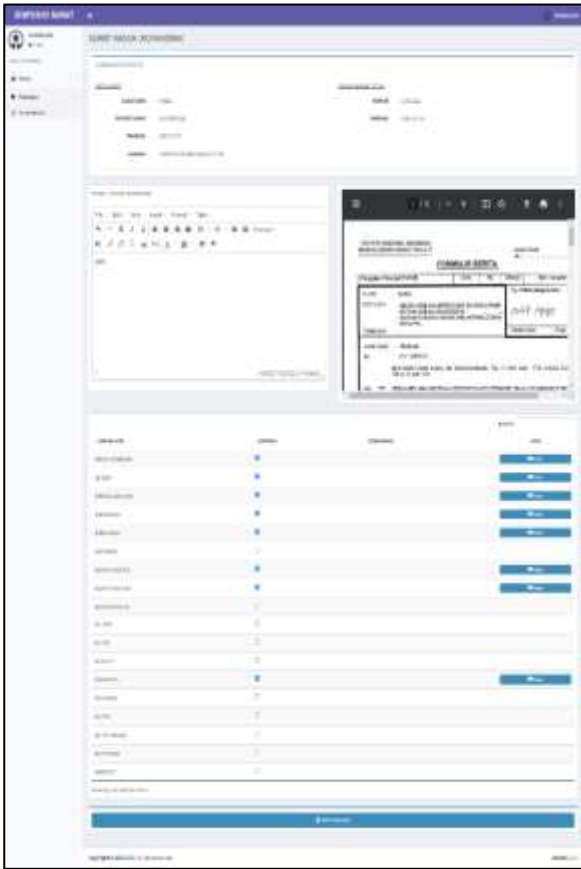
4.3.3   Incoming Mail Disposition Menu

Figure 4.3 Outgoing Letter Concept
Source: (processed author's data).

The Disposition menu page display contains the data for the letter that has been inputted and then a disposition sheet is given according to the data entered in the incoming letter, the display of the letter and the disposition sheet can be seen in the image above.
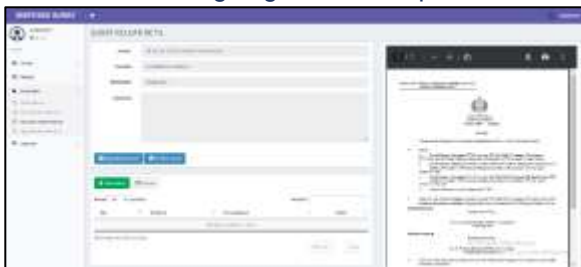
4.3.4   Outgoing Mail Concept Menu

Figure 4.4 Outgoing Letter Concept
Source: (processed author's data).

This page is an outgoing letter concept where users can fill out outgoing mail data and provide notes to the admin and upload an outgoing letter concept file in pdf form.

4.3.5   Mail Archive Menu

Figure 4.5 Incoming Mail Archive Data
Source: (processed author's data).

The display in Figure 4.5 above is a menu of incoming mail archive options, admins can search for incoming mail archive data, view and print incoming mail archives.

5.   CONCLUSIONS AND SUGGESTIONS

5.1   Conclusion

As for the results of this research trial, the following conclusions can be drawn:

a.   In this study, we succeeded in obtaining an application system that is able to process electronic mail based on a   website that has been tested at the Indonesian Naval Technology College secretariat.

b.   Based on the tests that have been carried out, it can be seen that this letter information system can simplify and be able to save time in processing letters.

5.2   Suggestion

The suggestions from the author for this research are:

a.   In this study, the letter signing system is still done manually, so there is a need for a digital signature system to facilitate the signing of outgoing letters.

b.   There is a need for a Manuscript System to facilitate the grouping of interrelated letters.

insightful comments, which have significantly improved this article.

REFERENCES

Adi Surono. (2012). Mahasiswa Prodi S1 Teknik Menejemen Industri angkatan XXXI: Perancangan Sistem Persuratan di Kobangdikal. Skripsi. STTAL.

Dian Rosdiana, Taufiq Hariawan. (2014). Mahasiswa D3 Teknik Informatika angkatan VII: Rancang Bangun Sistem Agenda Surat Berbasis Website Di Sekolah Tinggi Teknologi Angkatan Laut. Tugas Akhir. STTAL.

Setiawan, s. (2020). Pengertian Database Dan Perangkat Lunak. Retrieved from https://www.gurupendidikan.co.id/pengertian-database/ diakses pada Sabtu 01/05/2021 pukul 13.19 WIB.

Syafnidawati (2020). DBMS (Database Management System). Retrieved from https://raharja.ac.id/2020/04/25/dbms-database-management-system/ diakses pada Sabtu 01/05/2021 pukul 13.50 WIB.

Syafriadi (2021) Perancangan Sistem Informasi Pengelolaan Surat Pada Universitas Cokroaminoto Palopo. Palopo From https://ijns.org/journal/index.php/speed/article/view/1369/1355 syafriadi82@gmail.com diakses pada Sabtu 01/05/2021 pukul 13.20 WIB

https://www.yuksinau.id/pengertian-sistem-informasi/ diakses pada Sabtu 01/05/2021 pukul 13.40 WIB

http://Indonesian Naval Technology College.ac.id/profil/sejarah/ diakses Sabtu 01/05/2021 pukul 14.00 WIB

https://www.gurupendidikan.co.id/pengertian-sistem-informasi/ diakses pada Sabtu 01/05/2021 pukul 14.16 WIB

https://www.proweb.co.id/articles/web_design/website_adalah.html diakses pada Sabtu 01/05/2021 pukul 15.04 WIB

https://www.hostinger.co.id/tutorial/apa-itu-bootstrap/ diakses pada Sabtu 01/05/2021 pukul 15.20 WIB

https://www.dosenpendidikan.co.id/surat-adalah/ diakses pada Rabu 21/07/2021 pukul 07.30 WIB.

http://www.dataglobal.co.id/pengertian-lan-man-wan-beserta-fungsi-kelebihan-kekurangannya/ diakses pada Rabu 21/07/2021 pukul 07.20 WIB

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