

## DESIGNING AN E-DOCUMENT EMPLOYMENT INFORMATION SYSTEM AT THE OFFICE OF BALAI BESAR WILAYAH SUNGAI MESUJI SEKAMPUNG

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### Article Info

#### Article history:

Received: Feb 20<sup>th</sup>, 2022  
Revised: April 17<sup>th</sup>, 2022  
Accepted: May 31<sup>st</sup>, 2022

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#### Keywords:

Designing,  
e-Document,  
Employment,  
Information System

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### Abstract

Currently the management of employee data, performance appraisal, and incoming and outgoing mail is a routine activity carried out by the Head of Subsection of the Balai Besar Wilayah Sungai Mesuji Sekampung (BBWSMS). Document management is still using Microsoft Office and must be printed first if the document is to be submitted to other employees so that apart from the slow process of sending documents, of course, document files that are piling up are unavoidable. The system development method used in this research is the Structured Systems Analysis and Design (SSAD) methodology. This methodology has several important steps that must be carried out in designing and building e-documents at the BBWSMS Center. a better and maximum work process is produced by using a centralized data storage in a database that can facilitate data addition, search, and publication of data using computer technology. The E-document application would be better if it was developed to be based on Android or mobile so that it can be easily accessed. through mobile devices for all employees at BBWSMS.

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### To cite this article:

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### INTRODUCTION

The Balai Besar Wilayah Sungai Mesuji Sekampung (BBWSMS) is a state-owned agency under the auspices of the Ministry of Public Works and Public Housing (KPUPR). The Center for the BBWSMS has the main task of carrying out water resource management in the river area which includes planning, implementation of construction, operation and maintenance in the context of conservation and utilization of water resources and controlling the destructive power of water in rivers, lakes, reservoirs, dams and other water reservoirs, irrigation, groundwater, raw water, swamps, ponds and beaches[1].

Data archiving is a document storage activity carried out by employees at a company or an agency. Archives are collections of documents that are stored regularly and planned because they have a purpose so that they can be quickly found whenever needed. At this time the management of employee data,

employee performance appraisals, and incoming and outgoing letters are routine activities carried out by the head of the Sub-Division of the BBWSMS. Document management is done by still using Microsoft Office and must be printed first if the document is to be handed over to other employees so that apart from the slow process of sending documents, of course, document files that are piling up can't be avoided[2].

The system still found obstacles and was not optimal in sharing the necessary information in sections such as information on routine activities and employee performance appraisals. Therefore, an E-Document information technology system is needed that is integrated into the database and can be accessed online by all employees. With the existence of a web-based staffing e-document information system, it is hoped that it can assist in archiving activities at the BBWSMS related to granting access rights to Head of

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Service, Head of Subdivision of Personnel and Officers. This system produces data that is following what is inputted by the user such as employee data, employee performance appraisal data and incoming and outgoing letters per period[3].

## 2. Study-related

Based on previous studies conducted about system E-Documents. The study was conducted by :

1. Halimah, Neni Purwati, Fadil Raditya NZ with the title " E-Document Information System at the Academic and Student Administration Bureau (BAAK) Darmajaya Institute of Informatics and Business " explained that Documents in an organization, company, or agency are needed to be authentic (authentic) evidence. of a fact. A document is a record that stores various important information and is a work responsibility that must always be maintained, cared for and protected. Current technology allows documents to be made in the electronic form to minimize the accumulation of paper base documents in filing cabinets which sometimes makes it difficult to find, prone to loss of documents, and document corruption. The Bureau of Academic and Student Administration at the Darmajaya Institute of Informatics and Business is a unit that is the centre of academic administration, so the application of digital archiving or e-documents is an alternative solution to the problems that have existed so far. The research method used is RUP (Rational Unified Process) software development approach that is carried out repeatedly focuses on architecture and is more directed based on use cases (use case driven). The stages of this method are Inception (beginning), Elaboration (expansion or ). planning), Construction (construction), Transition (transition). With software development tools using the Unified Modeling Language (UML) and using the Pear Hypertext Preprocessor (PHP) programming language. The e-document system that is built can maintain data and information security from unwanted hazards such as fire, flood, document loss, document damage and so on, can facilitate document searches without a long process and can minimize the use of very large cabinets and rooms. or a lot[4].

2. Imam Solikin, M Soekarno Putra with the title " E-Document Application at the Website-Based Tugu Jaya Village Head Office" explained that the Tugu Jaya Village Head Office, Ogan Komering Ilir Regency needed very good document storage or archiving process. Currently, the process of storing or archiving documents is still done manually, that is, all documents (paper files) are stored in a storage cupboard. Based on this process, problems that occur such as increasing the number of documents every day cause an increase in the need for document storage. In addition, other problems are difficulties in finding documents when needed, the risk of losing documents due to the preparation of documents that are not neatly arranged, and even document damage caused by the length of time documents are stored or by animals. The solution to these problems is the need for the development of storage media such as e-document-based applications and useful websites for saving and filing documents electronically. The application development method used in this study is the waterfall method with several stages, namely communication, planning, modelling, construction, and deployment. Data collection techniques used are observation techniques, interview techniques and documentation techniques. This study resulted in an e-document application at the office of the head of the Tugu Jaya village, Ogan Komering Ilir Regency, which was web-based and aims to facilitate storage, increase document security so that documents are not damaged, make it easier to find documents when needed at any time[5].

3. Rukmi, Alvida Mustika and Budi, Daryono with the title " Prototype of E-Document Application Based on Digital Signatures to Support Digital Document Authentication Prototype of E-Document Application Based on Digital Signatures to Support Digital Document Authentication" explained The purpose of this research is to develop a prototype of a web-based application that can be used to provide digital signatures on files or digital documents. This prototype uses a digital signature mechanism issued by the Ministry of Communication and Information of the Republic of Indonesia (KOMINFO). The results of the research conducted by using the alpha test showed that

all functionalities in the application have been able to run well. While the authentication test shows that any changes made to a document that has a digital signature will invalidate the digital signature, which means that there are attempts to falsify documents and their authenticity can be identified. This is because documents that have a digital signature will have a certain hash value which if the document is changed or modified, then the hash value will change. This is what determines whether a document is still original or has modified its contents, namely by comparing the hash value contained in the document[6].

4. Fernando Pratama Arianto with the title " Designing an E-Document Information System as an Implementation of E-Government " explained the State Police School (SPN) Kemiling Polda Lampung, which is located on Jalan Untung Surapati No. in the field of government, the implementation element of the Lampung Regional Police which is under the Lampung Regional Police Chief whose task is to carry out education, especially the National Police Officer as well as education and training according to the program or policy of the Lampung Regional Police leadership. The system development method uses the Extreme Programming method, the system design uses the UML system design and the testing method uses the black box testing method. So that this research is not subjective, the authors also use research methods in the form of observations, interviews, and documentation in the management of e-documents. The goal is to create a web-based e-document information system and to help make it easier to record data storage at the Lampung Regional Police Kemiling SPN. A web-based information system that can be used for SPN Kemiling Polda Lampung admin requires a system development using the Extreme Programming (XP) development method starting from planning, design, coding, and testing. The analysis used is Pieces Analysis, System Requirements Analysis, Feasibility Analysis, Actor Analysis, and Usecase Analysis. From this development stage, a design is made system design using UML, namely with the use case diagram design model and sequence diagram. Implementation in this system uses PHP (Sublime text) and MySQL. The results of the tests were carried

out using the black box testing method, namely by conducting tests based on the program workflow. Based on the test results show the number 100% which in the table of respondents' score criteria shows that the system that has been made is feasible to be implemented[7].

5. Agustina Simangunsong with the title " Agustina Web-Based Document Archiving Information System " explained that archives have an important role in an agency or company and are used to support administrative processes or activities carried out in the company. If the archives that are owned are not properly managed, it can make it difficult to find information that has been stored and can eventually hinder the next stage of the work process. Therefore, archives should be managed using a good and correct archive management system. In this study, we discuss how to design, and implement a system and document maintenance and security to avoid damage. The system was created using the PHP MySQL application with the aim of archiving web-based documents to help prevent a very long process of storing and searching for a document that is needed in a fast, precise and detailed time. Therefore, this system is very helpful for HR at Perumnas Regional - I Medan in doing work effectively and efficiently. Data collection methods in this study are literature study, interviews, observations, and documents. Based on archiving discussion web-based documents at Perumnas Regional-I Medan, researchers hope that the system created will help and facilitate the HR department in the process of storing, searching and documenting documents that are not easily lost or scattered[8].

6. Sri Hasta Mulyani with the title "E-Document Information System at the Academic Quality Assurance Agency of Universitas Respati Yogyakarta" explained that Based on the development of document digitization technology and internet services that already exist in universities, this study aims to design an electronic document management system in universities. The system was developed with development software, namely: PHP, Drupal 7.20 and MySQL Database Management System. The results of the research are expected to help universities in managing better documents by storing physical copies of documents in

electronic media, speeding up the process of searching for documents electronically with access via the internet, and being efficient in providing facilities and infrastructure for document storage[9].

7. Tia Arnova, Imam Ahmad with the title "E-Document Information System Correspondence at Korem 043/Gatam" explained Korem/043 Gatam is a state-owned agency engaged in the military field. Has the main task of upholding the sovereignty of the State, maintaining the territorial integrity of the Lampung province based on Pancasila and the 1945 Constitution, protecting the entire nation and the entire homeland of Indonesia in the land territory of the Lampung province from threats and disturbances. Problems in The agency or company is an archiving system that runs at Korem 043/Gatam still using the manual method, namely by writing in the agenda book so that searching for letters takes a long time because they have to check the agenda book one by one and there is no report to the Head of Ops every month. Data collection methods used are interviews, observations, and literature review. By designing and implementing a correspondence e-document information system at Korem 043/Gatam the storage process becomes more effective so that the search for incoming and outgoing mail is faster and minimizes data damage or loss. Making reports of incoming and outgoing letters as needed, making it easier for operational staff in providing reports to the Head of Operations and Danrem. then developed with the waterfall system development method making Context Diagrams, DFD Level 0, ERD, and making applications using Borland Delphi 7.0 and Mysql[10].

### METHOD

The research method used in this research is the Structured Systems Analysis and Design (SSAD) methodology. This methodology has several important steps that must be carried out in designing and building an e-document[11] at the BBWSMS. The process stages that will be used include the following.

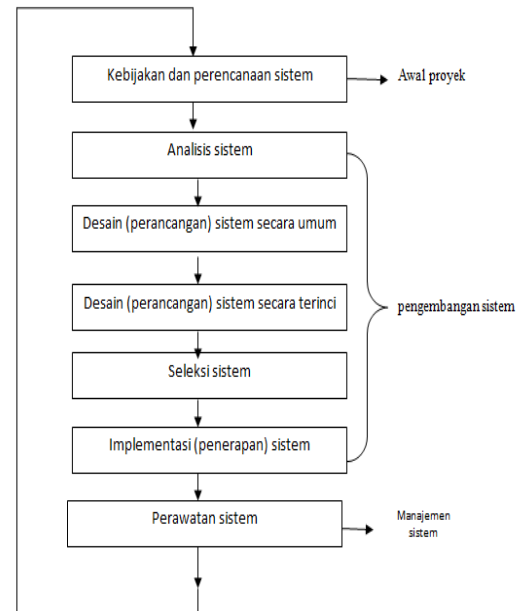


Figure 1 Structured Systems Analysis and Design (SSAD) Cycle

#### System Policy and Planning

System policies and planning are carried out to request research approval and determine the object of research at the BBWSMS. This stage is carried out for the process of collecting the necessary data such as the process of collecting data documents based on personnel documents, employee performance appraisals, as well as incoming and outgoing mail documents at BBWSMS[12].

#### System Analysis

System analysis was carried out to identify problems with the document storage system currently running at the BBWSMS. This stage is carried out in several stages which include :

##### System analysis running

Analysis of the current system is carried out by describing the flow of the document collection system which is currently running at the BBWSMS

##### Figure 2 Analysis of the Running System

#### The proposed system design

The following is a proposed system model e-document designed to overcome the problems that exist in the e-document system at the Great Hall of the BBWSMS including employee processing, employee performance appraisal and management of incoming and

outgoing mail. The system flows The proposed e-document is displayed in the form of context diagrams and data flow diagrams:

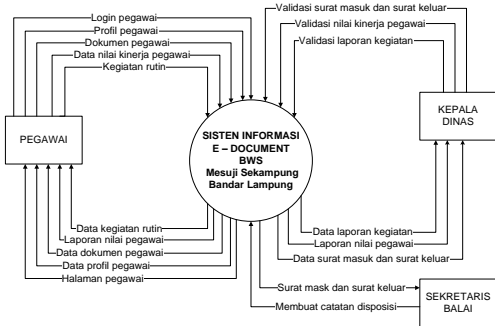


Figure 3 Context Diagram Proposed System.

Figure 3 Shows system context diagram e-documents The proposed system design describes the overall data flow including employee data management, employee performance appraisal and processing of incoming and outgoing letters at the BBWSMS.

### RESULTS AND DISCUSSION

Results from System E – Personnel Document at the Central Office of BBWSMS is as follows :

#### a. Index / Main Page



Figure 4. Index / Main page

The picture above is the main page of the e-document Information System on the BBWSMS.

#### b. Manage Employee Data

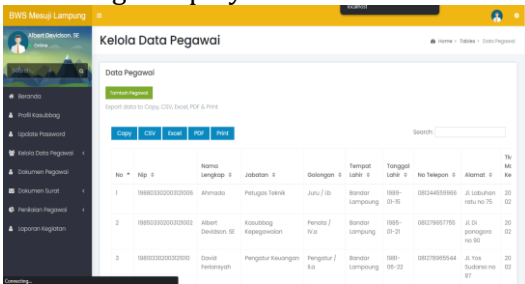


Figure 5. manage Employee Data

A page for the head of the sub-section of personnel to manage employee data

#### c. Manage Employee Documents

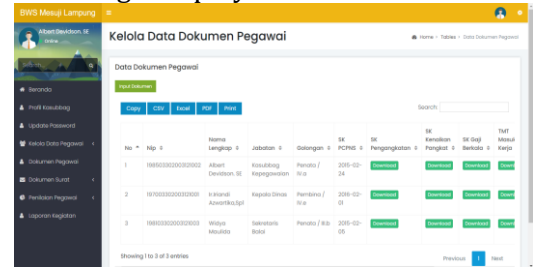


Figure 6. Page Employee Documents

Pages for the sub-section of personnel to manage document category data.

#### d. Entry Document

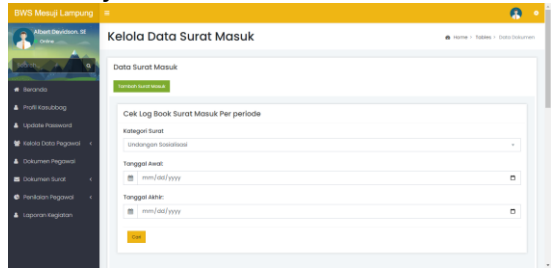


Figure 7. Page Entry Document

A page for the sub-section of personnel to add incoming mail data

#### e. Outgoing Document

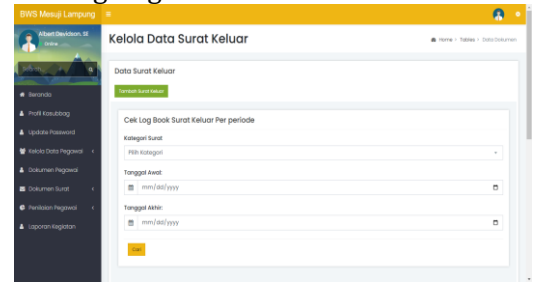


Figure 8 . Outgoing Document Page

A page for the sub-section of personnel to add outgoing mail data

#### f. Employee Rating

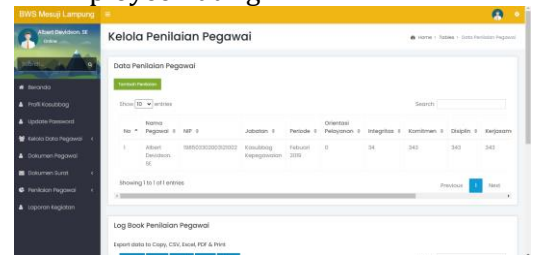


Figure 9. Employee Rating Page

A page for the head of the sub-section of personnel to assess employee performance.

### g. Activity Report

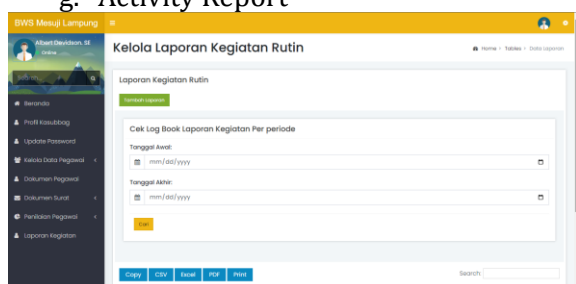


Figure 10. Activity Report Page

The page for the head of the sub-section of personnel to see the report on employee performance values.

## CONCLUSION

1. The system to be built is intended to manage E-document data at the BBWSMS based on a website so that a better and maximum work process can be produced by using centralized data storage in a database that can facilitate data addition activities, search, and publication of data using computer technology.
2. The proposed system is expected to further optimize the document management process and the creation of employment reports, incoming and outgoing letters, employee performance appraisals and routine activities per period of the BBWSMS.

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