Asia Information System Journal

E-DOCUMENT INFORMATION SYSTEM ON ACADEMIC QUALITY ASSURANCE AGENCY BASED ON MOBILE DEVICE

Agus Mulyanto
Institut Teknologi dan Bisnis Diniyyah Lampung , Jl. Raya Negeri Sakti KM 16 Gedong Tataan, Pesawaran 35366, INDONESIA

Bobby Bachry*
UIN Raden Intan Lampung , Jl. Endro Suratmin, Sukarame, Kec. Sukarame, Bandar Lampung 35131, INDONESIA

Zayyadi
UIN Raden Intan Lampung , Jl. Endro Suratmin, Sukarame, Kec. Sukarame, Bandar Lampung 35131, INDONESIA

Dimas Herjuno
Kyushu Institute of Technology, 1-1 Sensuicho, Tobata Ward, Kitakyushu, Fukuoka 804-8550, JAPAN

Dwi Puspita Sari
State University New York at Albany, 353 Broadway, Albany, New York Y 12207, United State of America

Article Info	Abstract
	In the process of documenting files for academic quality assurance and human resources recruitment, it is still conventional where there is still a physical accumulation of files, so that it can slow down the search for files or data needed, and can result in the risk of losing important data. In addition, the unavailability of a Human Resources (HR) recruitment information system that can facilitate prospective applicants for lecturers and staff The method of system development used in this study is the Structured Systems Analysis and Design (SSAD) Methodology. This methodology has several important stages that must be carried out in designing and building E-Dokument in the IIB Darmajaya Information Systems study program With the existence of a mobile-based quality assurance e-document system, it is hoped that it can assist the department in documenting quality assurance files. This system can be accessed by the KBK department, the department secretary and the head of the department of all str level study programs.

To cite this article :

INTRODUCTION

IIB DARMAJAYA is a private educational institution (PTS) in Bandar Lampung, established in 1995. In this institution, data archiving and document submission are activities that are carried out every day to support every ongoing activity. To achieve this goal, several files must be completed and submitted including Quality Manual (SPMI) (internal quality assurance system), Standards (SOP), Forms, Work Instructions, Provisions (policies/decisions) and Human Resources (HR). In the process of documenting academic quality assurance files and recruitment of Human Resources (HR), it is still conventional where there is still a physical buildup of files, it can also slow down the IIB Darmajaya department when searching for the files or data needed, and can result in a risk of losing important data. In addition, there is no Human Resources (HR) recruitment information system that can facilitate prospective lecturers and staff registrants. Based on the document collection process that has been described, IIB Darmajaya needs information technology to be able to maximize the academic quality assurance documentation process. With E - Document, it is hoped that it will help the study program/department to be able to work optimally in the existing documentation system.

Several studies that have been carried out in connection with the e-document system are as follows:

First,   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.

• **Corresponding author:**
   Bobby Bachry, Information System Study Program, UIN Raden Intan Lampung, Jl. Endro Suratmin, Sukarame, Kec. Sukarame, Kota Bandar Lampung 35131, INDONESIA. ✉bobbybachry@radenintan.ac.id

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 web-based e-document applications that are useful for storing and archiving 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 research 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, and increase document security so that documents are not damaged, make it easier to find documents when needed at any time.[1]

Second, 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 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, implement a system and document maintenance and security to avoid damage. The system was created using the PHP MySQL application to archive web-based documents. to help and 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 the discussion of web-based document archiving at Perumnas Regional-I Medan, the 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[2].

Third, Halimah, Bobby Bachry, with the title "Utilization of the Enterprise Architecture Planning (EAP) Model for Personnel (Lecturer) E-Document Prototypes in the Human Resources Department at the Darmajaya Institute of Informatics and Business" explained Human Resources in an institution is a very vital organizational asset, therefore its existence in the organization cannot be replaced by other resources. Likewise, information in a company, no matter how small, is a very valuable asset in the decision-making process by the leadership. IBI Darmajaya as an institution engaged in the field of education in achieving the organization's vision and mission should have an information system development plan for the human resources department that supports the implementation of service activities for employees, lecturers and other stakeholders towards achieving the organization's vision and mission as well as organizational goals. . However, there are still many problems that are found, namely the increasing accumulation of documents and the lack of integration between document managers, lecturers have difficulty managing Academic Levels, Promotions, Proposals for Lecturer Certification, Lecturer Performance Burden Reports each semester. In addition, documents are often lost, and tucked away, making it difficult to find data/documents. Therefore, there is a need for an integrated and systematic document management system. The methodology used in this research modelling is Enterprise Architecture Planning (EAP).

In the EAP, the architecture describes the data, applications and technology needed to support the business processes of the human resources bureau at IBI Darmajaya which will produce a blueprint for the data architecture, application and technology architecture. In research, only up to the prototype stage, not to implementation. By utilizing the conceptual model of enterprise information architecture,

digital-based employee e-documents to support integrated information systems, especially in the Human Resources Department, to improve the performance of IIB Darmajaya lecturers[3].

Fourth, Tia Arnova, Imam Ahmad, with the title "E-Document Information System Correspondence at Korem 043/Gatam" explained that 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. The problem with the agency or company is that the filing system that runs at Korem 043/Gatam still uses the manual method, namely by writing in the agenda book so 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 damage or data 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[4].

Fifth, Fuadz Hasyim, and Andi Wijaya, with the title "Improving the Quality of Higher Education Accreditation Using an Electronic Document Management System", explained that Accreditation is an external system which is an important part of ensuring the quality of higher education. To assess the quality of a higher education institution, a tool is needed to uncover and collect data and information called a form. In preparing the accreditation form documents, universities refer to supporting data related to the criteria set by the National Accreditation Board for Higher Education (BAN-PT). The university that is the object of

research is Nurul Jadid University Probolinggo (UNUJA). The problem encountered when applying for accreditation is the difficulty of taking an inventory of supporting data and information which is a requirement for completeness in compiling an accreditation form. This is because there is no management to manage archives properly for supporting documents for accreditation in UNUJA. As a result, even though the required supporting data exist, finding and retrieving it still takes a relatively long time. The solution that can help solve this problem is to use a web-based electronic document management system. Based on the results of tests conducted on 50 system users, 90% of respondents were on system functionality and 74% of respondents were on system usability.[5]

Sixth, Rachmat Destriana, Rochmat Taufiq, and Bintang Eka Suryana with the title "Design and Build a Document Management System Information System for Web-Based Itc-Pcb Lkp Using UML and Php" explained that in an institution, both private and government, in carrying out its activities, it cannot be separated from letter-based activities. correspondence, because the letter has an important function and role in the means of achieving the goals of the company/institution concerned not only as a means of communication but as authentic evidence of the activities that have been carried out. At LKP ITC-PCB, mail management still experiences several problems, namely the absence of a mail database, so it is difficult to find the letter if it is needed at any time. The research method I use uses the waterfall method. The problems studied in this study are about building a Document Management System. From the results of the research I have done, I have received many benefits including increasing my knowledge about building a structured and computerized document management system, as well as adding knowledge to the world of work in the future I will live. later.[6]

Seventh, Sri Hasta Mulyani, with the title "E-Document Information System at the Academic Quality Assurance Agency of the University of Respati Yogyakarta" explained that the Academic Quality Assurance Agency of the University of Respati Yogyakarta is one of the bodies in charge of supervising and controlling the quality assurance of higher education institutions. Activities within the

institutional organization itself cannot be separated from the need for archives/documents. Documents are one of the important factors in measuring the level of achievement of organized activities. The important information contained in the document can be used as a reference in decision making, policy formulation, planning, regulation, monitoring or monitoring activity achievements and evaluating activities.

However, in document management, there are still some problems, namely: frequent loss of archives/documents, difficulty in searching archives/documents, and archives/documents stored irregularly and still in units within the institutional organization, resulting in delays in making reports. , takes a long time in searching archives/documents, and requires a lot of space for archive and document storage. 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 is 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 better document management by storing physical copies of documents in electronic media, speeding up the process of searching for documents electronically with access via the internet, and efficient in providing facilities and infrastructure for document storage [7].

METHOD

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 an E-Document in the Information Systems Study Program of IIB Darmajaya. The process stages that will be used include the following:

3.1   System Policy and Planning

Policy and system planning is carried out to request research approval and to determine the object of research in the Information Systems Study Program of IIB Darmajaya. This stage is carried out for the process of collecting the necessary data, such as what is the process of collecting data documents based on the Internal Quality Assurance System (SPMI) document, Standards (SOP), forms, work instructions, provisions (policies/decisions) and Human Resources Recruitment (HR) Information Systems Study Program IIB Darmajaya. The data collection methods used in this study are as follows:

1. Interview Method

Interviews were conducted by interviewing parties related to the use of information systems at the Information Systems Study Program IIB Darmajaya. The parties interviewed included: the Secretary of the Information Systems study program and QAC IIB Darmajaya staff. This interview technique was conducted to obtain the latest information regarding the problem of collecting the Quality Manual (SPMI) document of the Internal Quality Assurance System, Standards (SOP), forms, work instructions, provisions (policies/decisions) and Human Resources (HR),

2. Observation Method (observation)

The observation method is carried out by direct observation of the object under study so that it can be understood how the system works. Observations were made several times during the research period to learn how the processes running in the document collection system at IIB Darmajaya were.

3. Literature Review

A literature review is carried out by reading, citing, and collecting theoretical data on documentation, the internet and studying reference documents and other records that support the research process.

3.2   Analysis

At this stage, an analysis of the system running at the Quality Assurance Center IIB Darmajaya is carried out to identify existing problems so that system development can be proposed. The following is an analysis of the current system and its weaknesses of the system.

a. The current quality assurance document system procedures.

The following is the flow of the ongoing quality assurance document
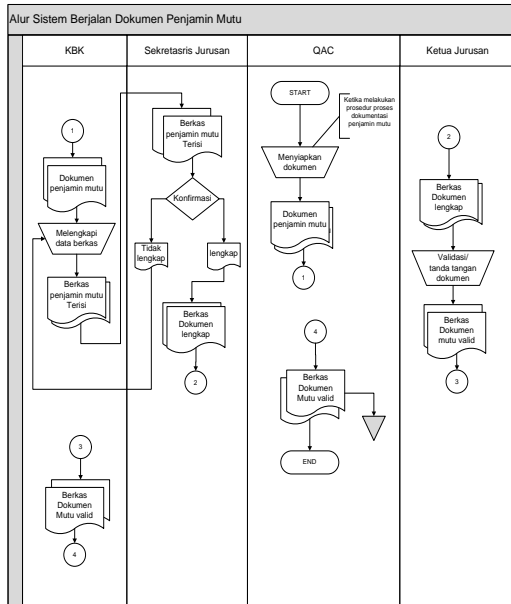

Figure 1 Quality Assurance Document Flowchart.

a. **Human Resources Recruitment (HR) system procedure.**

The following is the current flow of human resource recruitment:
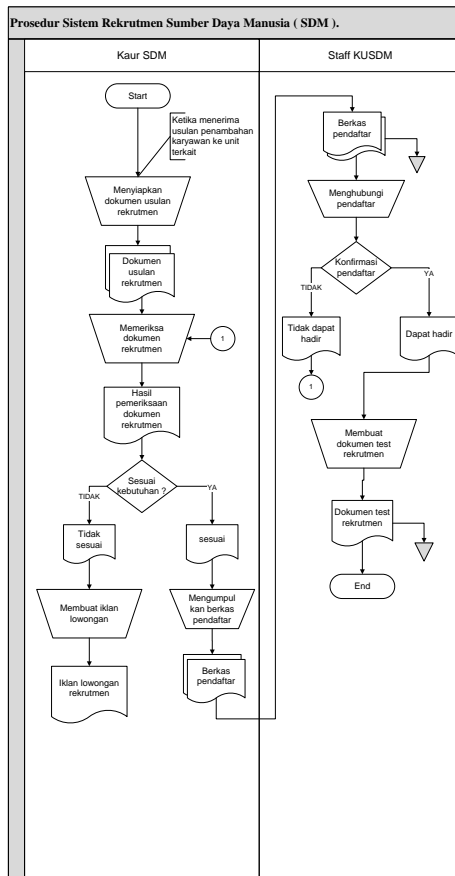

Figure 2 HR Recruitment Document Flowchart

b. **The weakness of the system that runs on quality assurance documents and Human Resources (HR) documents of IIB Darmajaya.**

1. *an online* document storage system that can minimize the accumulation of files and the risk of file damage or even loss.

2. There is no integrated data processing into the database that can facilitate the Quality Assurance Center staff.

c. **General Model Design**

The following is a proposed system model designed to optimize the existing system in the quality assurance *e-document system at the* Quality Assurance Center IIB Darmajaya. The proposed system flow is displayed in the form of *context diagrams* and *data flow diagrams.*
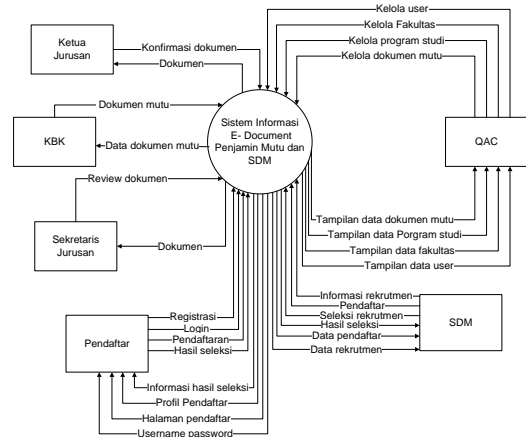

Figure 3 *Context Diagram* of the Proposed System

Figure 3 shows the *context diagram* of the proposed system, the system design describes the overall data flow

RESULTS AND DISCUSSION

a) **Main page**

The image below is the main page of the system. The display index / main page can be seen in Figure 4.

Figure 4 Main Page.

b) Manage Quality Documents

Displaying quality document data managed by Quality Assurance Center staff can be seen in Figure 5
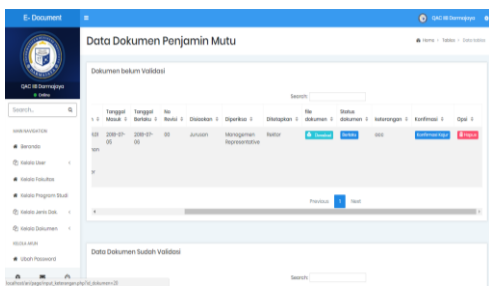

Figure 5 Manage Quality Documents

c) Manage Study Program Data

Showing study program data managed by Quality Assurance Center staff can be seen in Figure 6
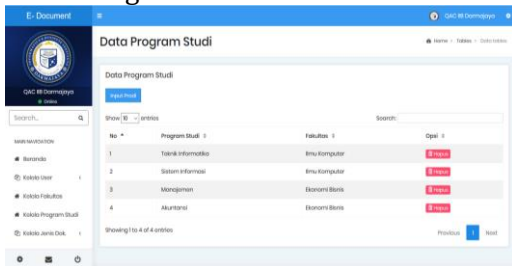

Figure 6. Manage Study Program Data

d) Quality Document Validation

Showing validation of quality document data managed by Quality Assurance Center staff can be seen in Figure 7.
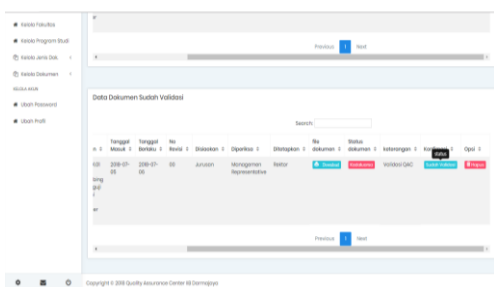

Figure 7. Validation of Quality Documents

e) Manage Recruitment Data

Displaying the recruitment data management page that can be accessed by the HR department for registrant selection can be seen in Figure 8.
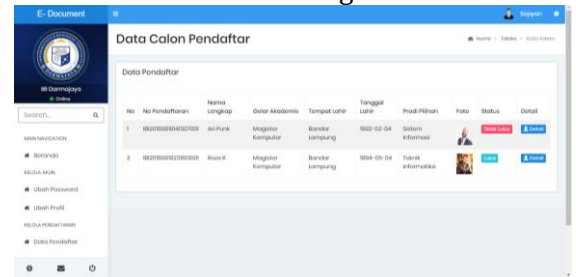

Figure 8. Manage Recruitment Data.

This information system can help the institution in recommendations so that using this system can minimize errors that occur [8][9][10].

CONCLUSION

1. With the existence of a mobile-based quality assurance e-document system, it is hoped that it can assist the department in documenting quality assurance files. This system can be accessed by the department's KBK section, the department's secretary and the department head of all undergraduate programs at IIB Darmajaya.

2. After the establishment of the quality assurance e-document information system and HR documents, the stored data can be backed up to minimize data damage or loss. Preparation of quality assurance reports and HR documents as needed, making it easier for Quality Assurance Center staff to report to the Rector of IIB Darmajaya.

REFERENCES

[1]   I. Solikin and MS Putra, "E-DOCUMENT APPLICATION IN THE OFFICE OF THE VILLAGE HEAD OF TUGU JAYA," vol. XVI, pp. 89–94, 2018.

[2]   A. Simangunsong, "Web-Based Document Archiving Information System," vol. 2, no. 1, pp. 11–19, 2018.

[3]   J. Systems, "Faculty of Computer Science."

[4]   K. Gatam, "CORRESPONDENCY E-DOCUMENT INFORMATION SYSTEMS ON," vol. 1, no. 2, pp. 15–18, 2015.

[5]　M. System and M. Document, "Improving the quality of higher education accreditation using an electronic document management system," pp. 79–84.

[6]　M. Uml and DAN Php, "DESIGN AND DEVELOPMENT OF WEB-BASED DOCUMENT MANAGEMENT INFORMATION SYSTEM IN ITC-PCB LKP," pp. 64–71.

[7]　S. H. Mulyani, "E DOCUMENT INFORMATION SYSTEMS IN THE GUARANTEE AGENCY," 2014.

[8]　J. Fitra, D. Ramadaniah, and M. el-K. Kesuma, "SISTEM PENDUKUNG KEPUTUSAN PENENTUAN JURUSAN," SEAT, vol. 1, no. 1, pp. 7–14, 2021, [Online]. Available: http://journal.instidla.ac.id/index.php/seat/article/view/14.

[9]　M. E.-K. Kesuma, I. Yunita, and M. C. Putri, "Penggunaan Sistem Klasifikasi di Perpustakaan Daerah provinsi Lampung Sebagai Bentuk Peningkatan Pengelolaan Perpustakaan," Baitul 'Ulum J. Ilmu Perpust. dan Inf., vol. 5, no. 2, pp. 85–96, 2022, doi: 10.30631/baitululum.v5i2.108.

[10]　M. Kesuma, F. Mathar, F. Eka, M. Agustin, and W. Farah, "PERANCANGAN DAN IMPLEMENTASI APLIKASI PENUNJANG DALAM MELAKUKAN AUDIT (STUDI KASUS UIN SYARIF HIDAYATULLAH JAKARTA)," J. Sist. Inf., vol. 14, no. 1, pp. 2473–2488, 2022.