



The Development of “Archives Portal” Application for Vocational Program

Pudji Rahaju (✉)

Universitas Negeri Surabaya, Surabaya, Indonesia
pudjirahaju@unesa.ac.id

Abstract. Currently, with the restructuring of the bureaucracy and the issuance of the Regulation of the Minister PANRB Number 17 of 2021 concerning Equalizing Administrative Positions into Functional Positions, it has an impact on the realignment of the State Civil Apparatus (ASN). Equalized functional positions include: Administrator Position, Supervisory Position and Implementing Position. Functional positions that are equalized include the Functional Position of Archives. To be able to support the needs of archivists, who have to learn their new assignments in a short time, especially in the work unit of the Vocational Program at Universitas Negeri Surabaya, an information system was created. The method used to create this information system is the waterfall model. Before entering the stages of the waterfall model, problem identification and data collection were carried out. The stages in the waterfall model are: analysis, design, coding, and testing stages. Then it will end with documentation to capture all the stages that have been carried out. This research creates an information system that not only helps in the process of managing and storing archives digitally, but also provides information about physical archive storage, active and inactive years of a letter, as well as archive categorization based on the type of activity. In addition, this information system will also be able to help archivists to shorten the time in studying and carrying out their functional duties by directly implementing them in their work units, especially in the Vocational Program at Universitas Negeri Surabaya.

Keywords: Archives · Information System · Web · Waterfall

1 Introduction

The restructuring of the State Civil Apparatus (ASN) is a discourse that can finally be realized. This is because the bureaucratic work system is considered ineffective and inefficient due to the long bureaucratic path that must be passed. The restructuring was carried out to create a more dynamic and professional bureaucratic climate. The equalization policy is a step taken by the government so that the bureaucratic climate can be more responsive and dynamic in providing services to the community.

The restructuring is embodied in the Regulation of the Minister PANRB Number 17 of 2021 concerning Equalization of Administrative Positions into Functional Positions [1]. Based on the Regulation of the Minister PANRB there are differences in characteristics between administrative positions and functional positions. This difference

has an impact on the implementation of the equalization policy. The affected State Civil Apparatus must immediately adjust to the functional position. Equalized functional positions include: Administrator Position, Supervisory Position and Implementing Position. Functional positions that are equalized include the Functional Position of Archives.

Functional positions as archivists have the following duties: 1) Management of dynamic archives, 2) Management of static archives, 3) Archival development, 4) Processing and presentation of archives into information, 5) Additional tasks [2]. With these tasks there are many things that must be learned, understood and adjusted along with the time, scope and workplace. There are several additional tasks, especially for young expert archivists, including: participation in scientific activities in the field of archives, finding and developing appropriate technology in the archives field (innovation in archive management) that can help and strive to immediately understand and adapt to functional positions that have been assigned.

At this time, what can be applied to support the needs of archivists, especially in the work unit of the Vocational Program at Universitas Negeri Surabaya, is to create an information system that can help shorten the time in studying and implementing their functional tasks. In addition, the information system in the Vocational Program at Universitas Negeri Surabaya has not fulfilled the archivist's functional duties in terms of dynamic archive management, static archive management, and additional tasks. The existing information system only provides management of incoming and outgoing mail.

The information system is made using one of the models in the SDLC (Software Development Life Cycle), namely the waterfall model. This model was chosen because it provides a sequential software life flow approach. The information system is made based on letter data, this is contained in the Regulation of the Head of the National Archives of the Republic of Indonesia Number 4 of 2017 concerning the Implementation of the Functional Position of Archives [3] and the Regulation of the Head of the National Archives of the Republic of Indonesia Number 20 of 2016 concerning Guidelines for Monitoring and Evaluation of the Functional Position of Archives [4] and Regulation of the Head of the National Archives of the Republic of Indonesia Number 5 of 2017 concerning Guidelines for Assessment of Work Performance in Archives Functional Positions [5]. As a complement, there is Regulation of the Chancellor of Universitas Negeri Surabaya Number 13 of 2019 concerning Patterns of Classification of Archives in Work Units at Universitas Negeri Surabaya [6] and Decree The Chancellor of Universitas Negeri Surabaya Number 223/H38/HK/2010 concerning the Schedule of Archives Retention of Universitas Negeri Surabaya [7].

2 Literature Review

2.1 Archive Definition

Based on the Law of the Republic of Indonesia Number 43 of 2009 in General Provisions Article 1 paragraph 2, what is meant by archives are recordings of activities or events in various forms and media in accordance with the development of information and communication technology made and accepted by state institutions, regional governments, educational institutions, companies, political organizations, community organizations, and individuals in the implementation of social, national and state life [8]. The meaning

of archive is also contained in Government Regulation Number 28 of 2012 concerning Implementing Regulations of Law Number 43 of 2009 concerning Archives [9].

In the Indonesian Dictionary, archives are written documents that have historical value, stored and maintained in a special place for reference [10]. Some of the meanings of archives according to experts are as follows:

- (1) According to Sovia Rosalin in the book *Dynamic Archives Management*, archives are recordings of activities or events that can occur in various forms and media in accordance with the development of information and communication technology made and accepted by state institutions, local governments, educational institutions, companies [11].
- (2) According to Maulana in (Sattar, S.E., M.Sc., 2019), archives are records that contain data about many circumstances and company activities, in the form of letters, printed data (information that can provide data), cards, sheets and notebooks containing correspondence, rules [12].

2.2 Archive Retention Schedule

Archives Retention Schedule is a list that containing at least the storage or retention period, types of archives and information containing recommendations regarding the determination of a type of archive to be destroyed, reassessed or permanent which is used as a guideline for shrinking and saving archives [13].

2.3 Types of Archives Based on Their Functions

Based on its function, archives can be categorized into two, namely dynamic archives and static archives.

- (1) Dynamic archives are archives that are used directly in the activities of archive creators and are stored for a certain period of time.
In dynamic archives can be categorized into active dynamic archives and inactive dynamic archives. Active archives are archives whose usage frequency is high and/or continuously, while inactive archives are archives whose usage frequency has decreased.
- (2) Static archives are archives produced by archive creators because they have historical use values, have exhausted their retention, and provide permanent information that have been verified either directly or indirectly [14].

2.4 Web-Based Information System

2.4.1 Information System Definition

The system is a set of components that are interrelated with each other and work together towards a common goal or output [15]. While information is data that is processed to be more meaningful for the recipient [16]. Thus, the information system is a system that processes input in the form of data into information that can benefit the recipient.

2.4.2 Web Definition

The web is a collection of pages that display text data information, still or moving image data, animation data, sound, video and or a combination of all of them [17]. Many are familiar with the website with the term WWW (World Wide Web). WWW is an internet service that contains web pages that are connected to each other that form a jungle of information [18].

3 Research Methods

The method used for the development of information systems in this study is the waterfall model. The waterfall model is one of the SDLC (Software Development Life Cycle) models that provides a sequential or sequential software life flow approach [19]. Before the waterfall model is used, there are several stages that must be completed. The schematic of the method used can be seen in Fig. 1.

The stages of the method used in this research are as follows:

(1) Identifying the problem

At this stage, the problems that exist in the Vocational Program at Universitas Negeri Surabaya are identified to find out what potential can be developed.

(2) Collecting data

After knowing the problems faced and what potential can be developed in the work unit of the Vocational Program at Universitas Negeri Surabaya, then data collection

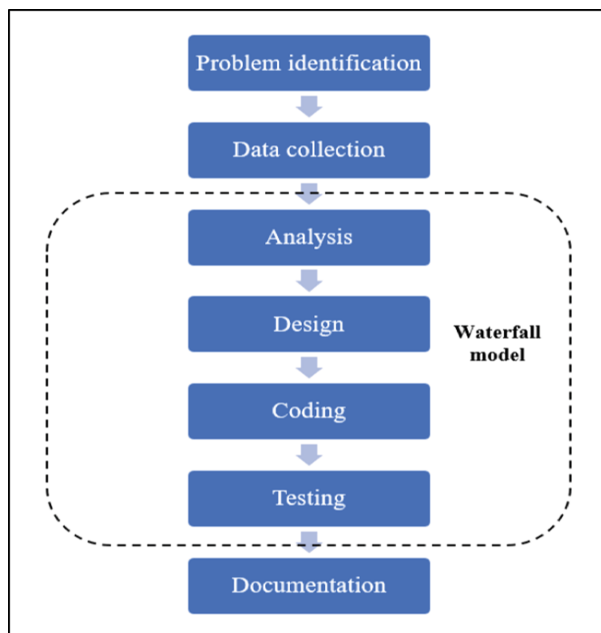


Fig. 1. Waterfall process

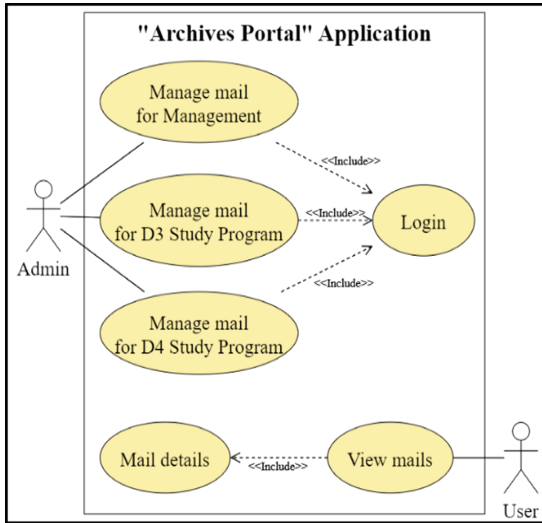


Fig. 2. Use case diagrams

was carried out by conducting literature studies and collecting materials for the manufacture of information systems.

(3) Analysis

At this stage, the data that has been collected is then analyzed according to the needs of making an information system.

(4) Design

After analyzing the needs, the information system began to be designed using UML (Unified Modeling Language) which consisted of use case diagrams, Data Flow Diagrams (DFD), activity diagrams and class diagram. In addition, the user interface design has also begun to be designed. The design of the user interface is made in graphical form to facilitate the process of making information systems.

Use case diagram shows how the system will be used from the perspective of the actors [20]. The use case diagram can be seen in Figure 2.

Data Flow Diagram (DFD) is a graphical representation of the data flow of an information system [20]. The data flow diagram can be seen in Figure 3.

Activity diagram is a flowchart that focuses on the flow of control from a series of activities [21]. The activity diagram can be seen in Figure 4.

Class diagrams represent the relationships that occur between classes in an information system. Class diagrams are usually used to model the static design view of an information system [22]. The class diagram can be seen in Figure 5.

(5) Coding

After the design is completed, a web-based information system begins to be created using the Laravel framework. The result of this stage is an information system with a design that has been made previously.

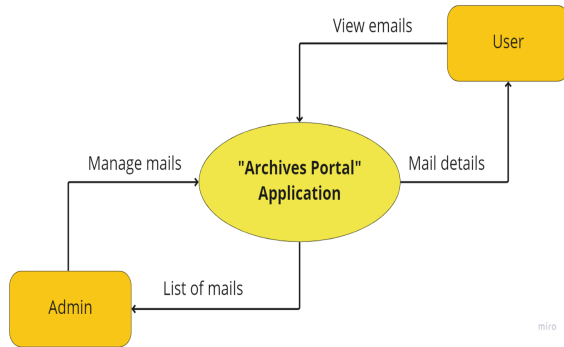


Fig. 3. Data flow diagrams

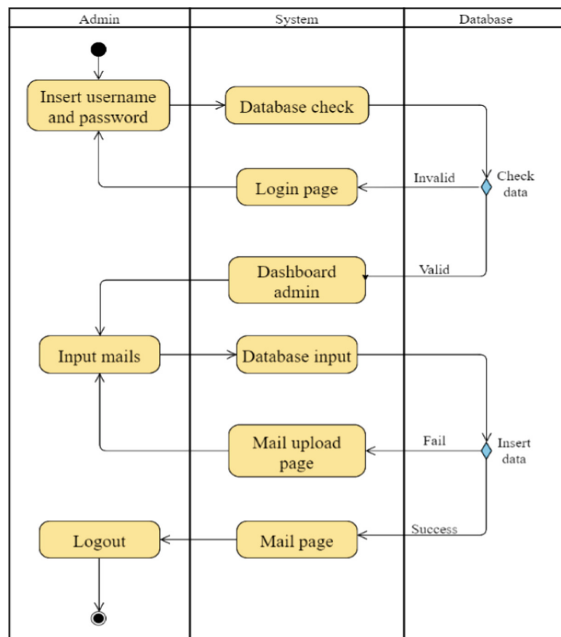


Fig. 4. Activity diagrams

(6) Testing

Tests are carried out to ensure that all menus and features in the information system run well. In addition, at this stage an assessment of the usability aspect is also carried out based on ISO 25023: 2016 concerning Measurement of System and Software Product Quality. [23]

(7) Documentation

The documentation stage is carried out to capture all the stages that have been carried out in the manufacture of information systems. Documentation can also assist the evaluation process if necessary.

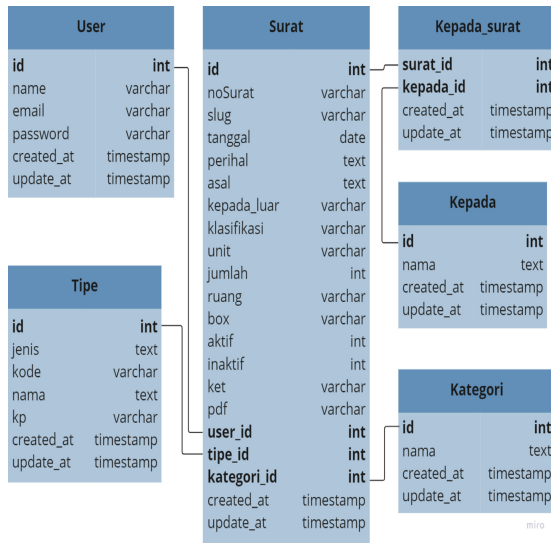


Fig. 5. Class diagrams

4 Result

The display on the "Archive Portal" application for the Vocational Program at Universitas Negeri Surabaya is prioritized for archivists who will input incoming and outgoing letters. In addition, the archivist is also tasked with adding information on where the physical letter will be stored, the active and inactive years of a letter, as well as the categorization of archives based on the type of activity.

Other users can use this application to get information about incoming and outgoing letters in the Vocational Program, Universitas Negeri Surabaya.

4.1 Pages for Admin

4.1.1 Login Page

The login page is used by the archivist to enter the admin menu. On this page, the archivist must enter an email and password. The class diagram can be seen in Fig. 6.

4.1.2 Admin Dashboard

The main page of the admin is the dashboard. On the dashboard displays the number of mails that have been input. The admin dashboard can be seen in Fig. 7.

4.1.3 Sidebar Menu

The sidebar menu serves to assist the archivist in determining where the letter will be uploaded. On the menu sidebar there are Management menus, D3 Study Programs, D4 Study Programs and Search. The management menu contains several choices, namely

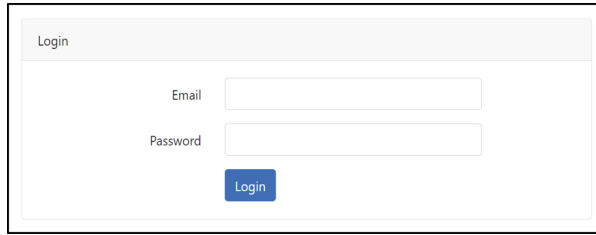


Fig. 6. Login page



Fig. 7. Admin dashboard

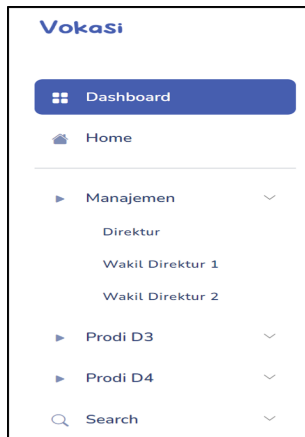


Fig. 8. Sidebar menu

director, deputy director 1 and deputy director 2. The study program menu contains choices for study programs in the Vocational Program, Universitas Negeri Surabaya. The sidebar menu can be seen in Fig. 8.

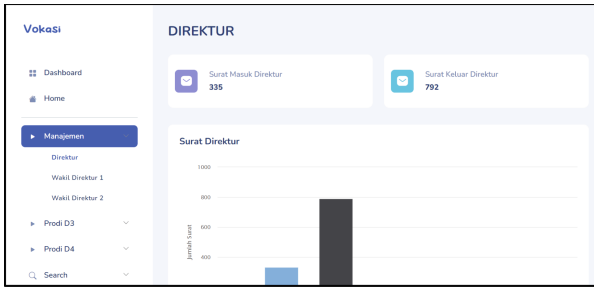


Fig. 9. Mail select page

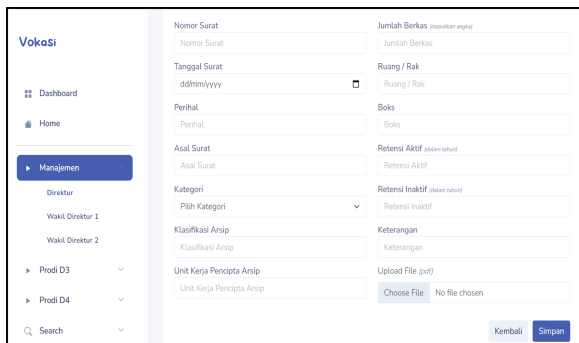


Fig. 10. Mail upload page

4.1.4 Mail Select Page

This page contains a menu of mail options, namely incoming mail or outgoing mail. The archiver simply chooses whether the uploaded letter is an incoming letter or an outgoing letter. The mail select page can be seen in Fig. 9.

4.1.5 Mail Upload Page

This page is created so that archivists can enter letter data. The letter data that must be entered by the archivist is the letter number, date of the letter, subject, origin of the letter (if it is indeed an incoming letter), category, archive classification, archive creator work unit, number of files, file space/shelf, where the file is stored, active retention, inactive retention, captions and uploading mail files. The mail upload page can be seen in Fig. 10.

4.1.6 Search Page

This page was created to make it easier for archivists to search for letter data based on the type of activity and archive classification. The search page can be seen in Fig. 11.



No	No Surat	Tanggal	Perihal	Kategori	Detail
1	47004/UN38.23/KP.09.09/2021	24-09-2021	Surat Tugas	Workshop	Detail
2	B/47757/UN38.23/LT.02.03/2021	29-09-2021	Izin Survei Penilaian Tugas Akhir	Tugas Akhir	Detail
3	B/47846/UN38.23/KP.00.00/2021	29-09-2021	Pemohonan Narasumber Seminar Nasional	Seminar Nasional	Detail
4	47868/UN38.23/KP.09.09/2021	29-09-2021	Tugas melakukan Kunjungan Industri ke PT. Solusi Bangun Beton	AAA	Detail
5	47603/UN38.23/KS.01/2021	17-06-2021	MoA antara Program Vokasi Universitas Negeri Surabaya dengan PT. Pelabuhan Indonesia III (Persero)	MoU dan MoA	Detail

Fig. 11. Search page



Fig. 12. Welcome page

4.2 Pages for Users

4.2.1 Welcome Page

This page is the opening page of the information system “Portal Archives of the Vocational Program, Universitas Negeri Surabaya”. On this page there is a door that can be opened if the user points the pointer towards the closed door. After the door opens, the user clicks to move to the next page, namely the home page. The welcome page can be seen in Fig. 12.

4.2.2 Home Page

This page contains the title of the website-based application that was created, namely “The Archives Portal for the Vocational Program, Universitas Negeri Surabaya”. On this page there is a “Log in” button which will direct the user to the profile page of the Vocational Program at Universitas Negeri Surabaya. The home page can be seen in Fig. 13.



Fig. 13. Home page

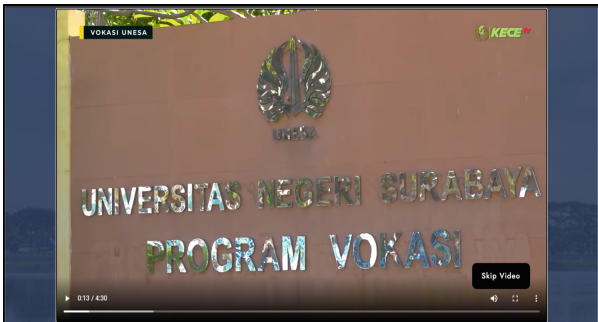


Fig. 14. Profile page

4.2.3 Profile Page

This page contains a video profile of the Vocational Program of Universitas Negeri Surabaya. The “Skip Video” button will appear after the page has loaded for ten seconds. This button will direct the user to the menu page. The profile page can be seen in Fig. 14.

4.2.4 Menu Page

This page contains the main menu in this application. On this page there are two main buttons, namely “Management” and “Study Program”. The “Management” button will direct the user to the management page and the “Study Program” button will direct the user to the study program page. The menu page can be seen in Fig. 15.

4.2.5 Management Page

This page contains the ranks of the leadership in the Vocational Program at Universitas Negeri Surabaya, which consists of the Director, Deputy Director 1 and Deputy Director 2. On this page there are three buttons that will direct the user to the respective leader’s page. The management page can be seen in Fig. 16.

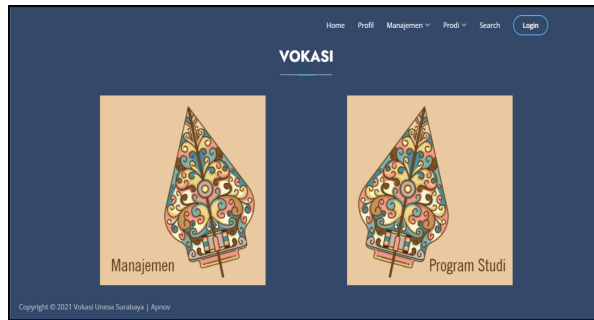


Fig. 15. Menu page

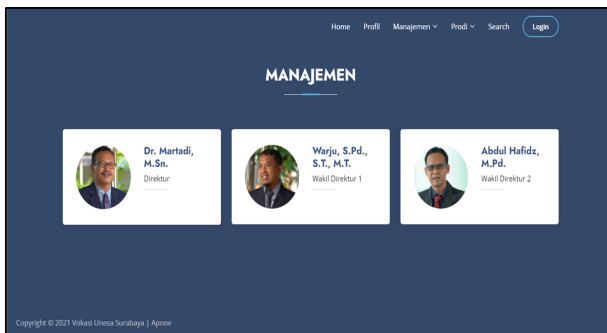


Fig. 16. Management page



Fig. 17. Management Mail Menu Page

4.2.6 Management Mail Menu Page

This page contains the choice of which letters the user wants to display. On this page there are two buttons, namely “Incoming Mail” which will direct users to the director’s incoming mail page and “Outgoing Mail” which will direct the user to the director’s outgoing letter page. The management mail menu page can be seen in Fig. 17.

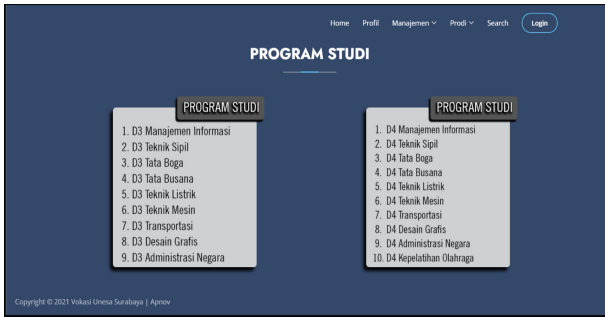


Fig. 18. Study program selection page



Fig. 19. Study program page

4.2.7 Study Program Selection Page

This page contains the level of study programs in the Vocational Program, State University of Surabaya, which consists of the D3 study program and the D4 study program. On this page there are two buttons that will direct the user to the page of each study program. The study program selection page can be seen in Fig. 18.

4.2.8 Study Program Page

This page contains study programs of Vocational Program at Universitas Negeri Surabaya. On this page there are nine buttons that will direct the user to the page of each study program. The study program page can be seen in Fig. 19.

4.2.9 Mail Search Menu Page

This page contains the menu options of the mail search. On this page there are two buttons, namely “Type of Activity” which will direct users to a mail search page based on category and “Archive Classification” which will direct users to a mail search page based on archive classification. The mail search menu page can be seen in Fig. 20.



Fig. 20. Mail search menu page

No	No Surat	Tanggal	Perihal	Kategori	Detail
1	B/40703/UN38.23/TU.00.01/2021	20-08-2021	Surat Undangan Pengenalan Kehidupan Kampus Mahasiswa Baru (PKKMB) Tahun 2021 untuk panita (Mahasiswa)	PKKMB	Detail
2	B/40702/UN38.23/TU.00.01/2021	20-08-2021	Surat Undangan Pengenalan Kehidupan Kampus Mahasiswa Baru (PKKMB) Tahun 2021 untuk Panitia (Dosen dan Tenaga Kependidikan)	PKKMB	Detail
3	B/41058/UN38.23/KM.00.00/2021	23-08-2021	Pemohonan Pematorn PKKMB tentang Informasi Ormaswa Fakultas	PKKMB	Detail
4	40862/UN38.23/TU.00.00/2021	20-08-2021	Surat Tugas melaksanakan Lembar Dalam Rangka Penyiapan Kegiatan Pengenalan Kehidupan Kampus Mahasiswa Baru (PKKMB) Program Volaksi Universitas Negeri	PKKMB	Detail

Fig. 21. Mail Search Page

4.2.10 Mail Search Page

This page is used to search for letters based on the letter category keywords. Users simply enter the keyword category to be searched in the search field that has been provided. The mail search page can be seen in Fig. 21.

5 Conclusion

The conclusion obtained from this research is the creation of an information system that not only assists in the process of managing and storing archives digitally, but also provides information about physical archive storage, active and inactive years of a letter, as well as archive categorization based on the type of activity. In addition, this information system will also be able to help archivists to shorten the time in studying and carrying out their functional duties by directly implementing them in their work units, especially in the Vocational Program at Universitas Negeri Surabaya.

Acknowledgments. The author would like to thanks to Rector of Universitas Negeri Surabaya which has funded this present research.

Authors' Contributions. The author contributed writing, correcting, editing, read, and approved the final manuscript.

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3. Head of ANRI. *Regulation of the Head of the National Archives of the Republic of Indonesia Number 4 of 2017 concerning the Implementation of Archives' Functional Duties and Positions*. 2017.
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