Design of Automatic Archivery Software to Easy Work System in Social Services

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Abstract. In the era of globalization, computer technology has an important role in assisting the process of work activities in agencies and offices, both from government and private institutions. The use of computer equipment as a supporting device for data management and processing is very appropriate with the consideration of computer equipment in any information that is needed in management or office activities. The purpose of this program is to facilitate data management of incoming and outgoing letters at the social service office still using manual methods in data input, in the office world the existence of information technology is also very useful for agencies to facilitate performance in daily activities, especially in managing mail data. incoming and outgoing letters. using qualitative research methods with literature study stage, software design stage using a programming language with flutter framework. The results of the software design that has been successfully created can be carried out in the testing phase or the implementation of the program application to see whether the program created can run according to the desired goal or not. The concept of this program is to change the manual system in filing letters to an automated system. The impact of this program is that it is hoped that the archiving of incoming and outgoing mail will be more effective and more structured. At the end of this program, it is hoped that outgoing and incoming letters will not be mixed and when looking for the required letters or documents it does not take a long time with the existence of this incoming and outgoing mail archiving software, making archiving more effective and more structured. With this software, it is easier for social service employees to process incoming and outgoing mail documents.

Keyword: Archive, Social Service, Software.

1. Introduction

In the era of globalization, computer technology has an important role in assisting the process of work activities in agencies and offices, both from government and private institutions. The use of computer technology as an information technology tool in the office world provides added value to the data processing process, in the office world the existence of information technology is also very useful for the agency to facilitate performance in daily activities, especially in managing incoming and outgoing mail data. Management of incoming and outgoing mail data at the social service office still uses the manual method of inputting data, in the office world the existence of information technology is also very useful for agencies to facilitate performance in daily activities, especially in managing incoming and outgoing mail data. Therefore, the management of incoming mail and outgoing mail data is being sought to be operated using a computer device through a website-based application system, the use of computer functions to input incoming and outgoing mail data.

In research on the design of a website-based mail archive information system at the Youth and Sports Office of East Java Province [1]. It was found that with the existence of an automatic filing system that makes it easier for DIASPORA in management activities, the application made can record, disposition, track incoming mail numbers, and can receive any data from the secretary to the manager or vice versa. The research conducted by [2] uses the method of system design and analysis. This research is in line with the research on the Design and Development of an Automatic Online Newspaper Archiving System, which was researched by [3]. In this research, an automatic newspaper filing system has been developed, based on the principle of a web crawling program using system design and analysis methods. A crawling program that will search online newspaper sites and find recently published news and save recently found pages, can be called a news crawler. News crawl programs are written in the Java programming language. Simple User Interface is designed for users to browse news from archives as well. Users can search for the desired news according to the desired keywords, dates, or from certain websites easily. This is in line with the research on Automatic Archiving and CD-ROM Burning systems of Massive Electronic Documents, which was investigated by [4]. In this research, a massive electronic document archiving system has been created this system able to shorten the time cost for classifying and compressing files. There is also research that is in line with several previous studies, namely, Open-source webcasting and media archiving software for e-learning [5]. In this study, an online attendance system was created to manage student attendance digitally. With this system, it can make it easier for the campus to manage student attendance. As well as research on Office of Archive Web Application Design: Archive Management at BPJS Ketenagakerjaan Surabaya Darmo Branch [6]. only users of this application. With these studies, it can be seen that the existence of this automatic filing system, can make it easier for users to manage the required data.

The purpose of this research is to utilize the automatic filing system to facilitate the mail filing system which is still using conventional methods which are considered inefficient. With this system, you can automatically save letters according to the desired folder and type of letter.

2. Method

In this study, the waterfall method was used to design and manufacture automatic mail archiving software. The waterfall method that will be used is carried out in several stages, namely, Requirements, Analysis and Definition, System and Software Design, Implementation and Unit Testing, Integration and System Testing, and Operation and Maintenance [7-10]. At the Requirements stage, this is done by interview and discussion to understand the

expectations of the Social Service for the software to be worked on and what are the limitations of the software, the data needed are document files, user data, PDF files, and data categories. At this stage, information analysis is also carried out to obtain data needed by software users. The next stage is System and Software Design, after obtaining the required data from the first stage, at this stage we will prepare a filing system design, with the system design we can determine the hardware and system requirements needed. The next stage is Implementation and Unit Testing at this stage the system that has been designed is developed in small programs commonly called units, after the system is developed then the system can be integrated. After that, the system unit development can be carried out so that its functionality can be tested. The next stage is Integration and System Testing which is a very important stage because at this stage malfunctions or errors are tested when the software is run. At this last stage, it is no less important, namely Operation and Maintenance, at this stage the operation and maintenance of the software that has been made to check for any errors that were not detected in the previous stage are carried out, and maintenance is carried out in several ways, namely error repair, improvement of system unit implementation, and improvement and adjustment of the system according to user needs.

3. Results and Discussion

Based on the stages of the research method, the next step is the discussion of each stage in the research method as follows:

3.1 Requirement

At this stage, interviews and discussions were carried out with the Social Service to obtain the problems and data needed in this research. In addition to conducting discussions and interviews with related parties, the collection of several references such as journals, articles, internet, books, and so on related to the research was carried out to facilitate the research carried out.

3.2 Analysis and Definition

At this stage, interviews and discussions were carried out with the Social Service to obtain the problems and data needed in this research. In addition to conducting discussions and interviews with related parties, the collection of several references such as journals, articles, internet, books, and so on related to the research was carried out to facilitate the research carried out (see Figure 1).
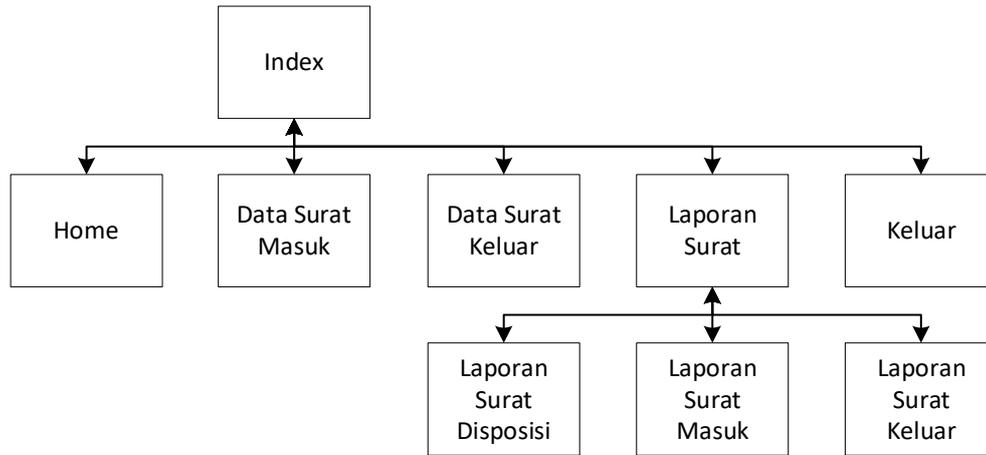
Figure 1. Secretary Navigation Structure.

3.3 System and Software Design

At this stage, a modelling or design process is carried out, in which the modelling process is carried out by translating the needs of the problems obtained at the requirements stage. At this stage, it focuses on the design of data structures, web-based software architecture design, and interface representation (see Figures 2 and 3).
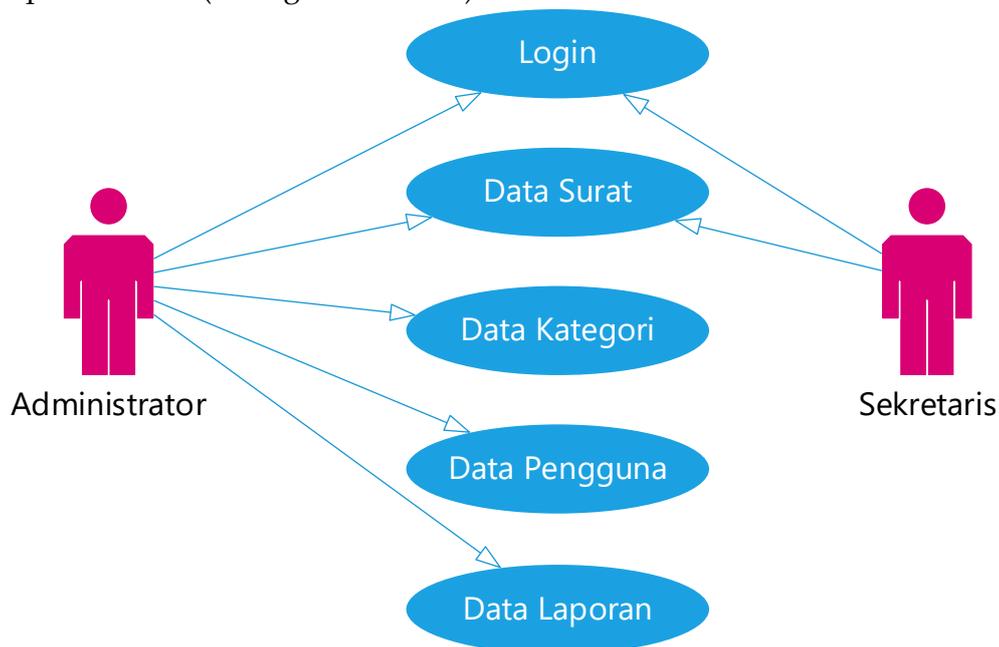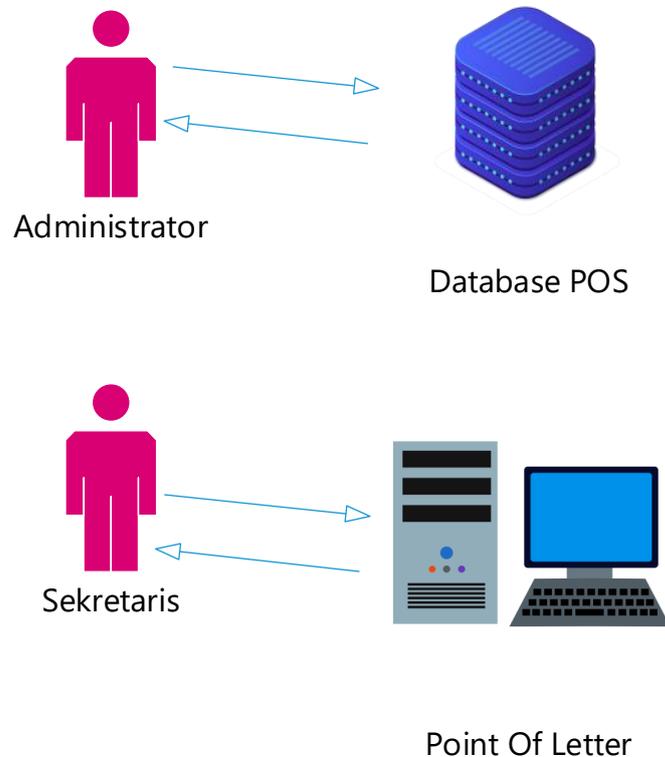

Figure 2. Use Case Diagram.

Figure 3. Architecture Point of Letter.

3.4. Operation and Maintenance

3.4.1. Login Page
The login page shown in Figure 4 is the first page that can be accessed by admins and secretaries. On the login page, several data must be filled in, namely the correct username and password. After entering the data correctly, you will be directed to the home page.
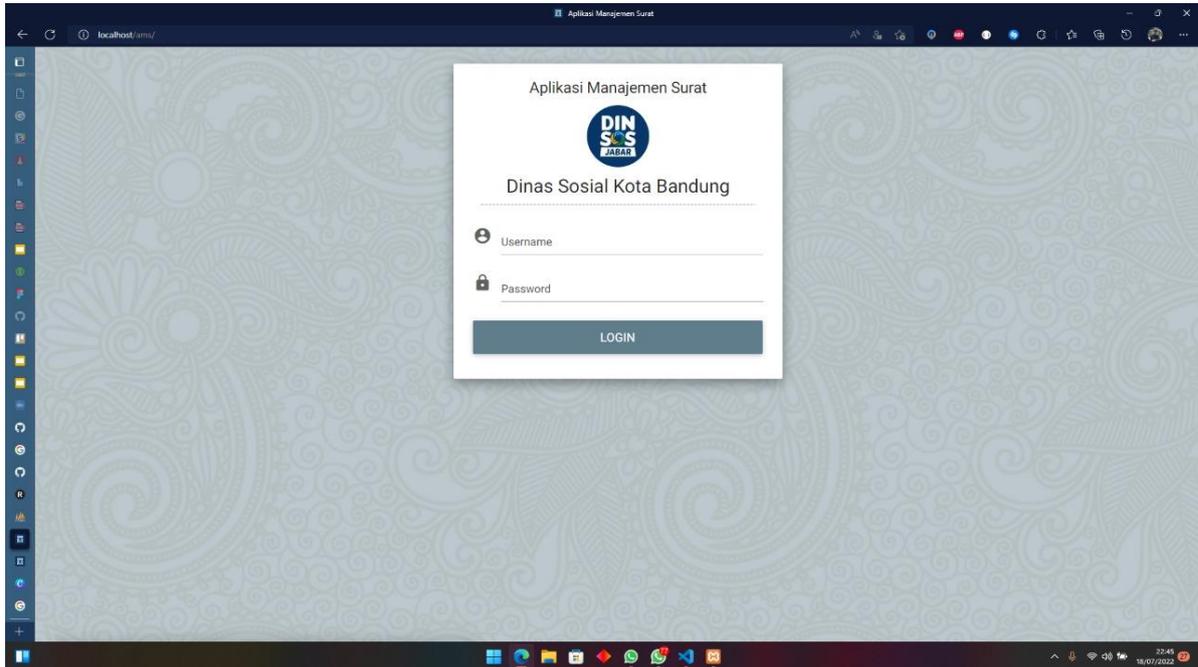
Figure 4. Login Page.

3.4.2. Homepage

The home page shown in Figure 5 is the front page that can be accessed by administrators and secretaries if they successfully enter the username and password correctly. On this page, there are several features such as incoming mail, number of outgoing letters, number of disposition letters, letter classification, and number of users.
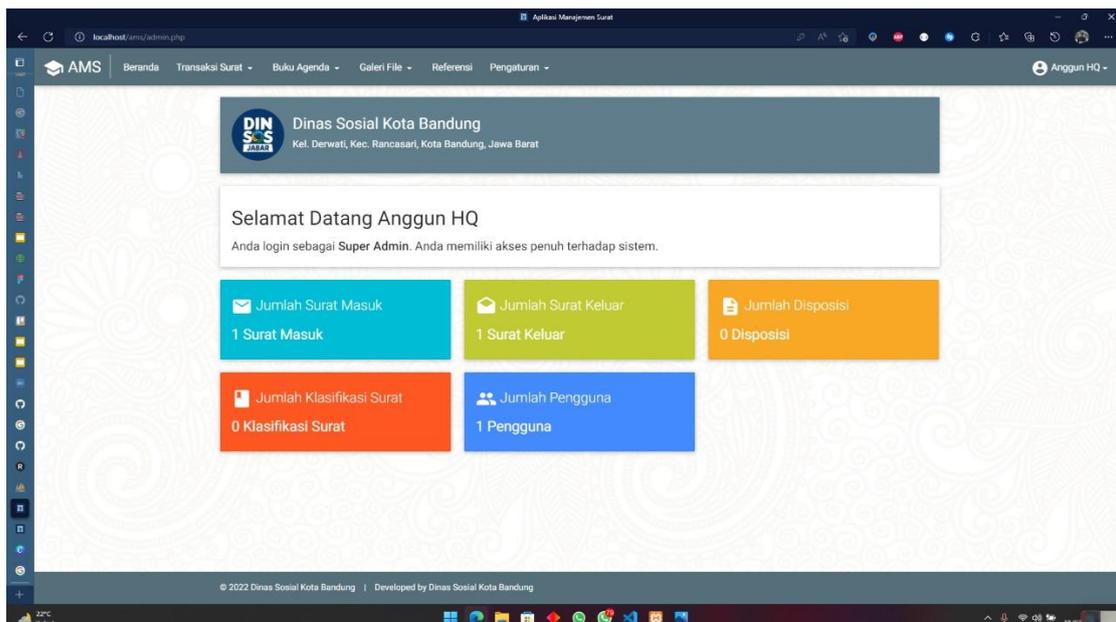

Figure 5. Homepage.

3.4.3. Incoming and Outgoing Mail Transaction Page
The incoming and outgoing mail transaction pages shown in Figures 6 and 7 are the pages used when creating incoming and outgoing letters, to make it easier for users to write letters and classify the types of letters.
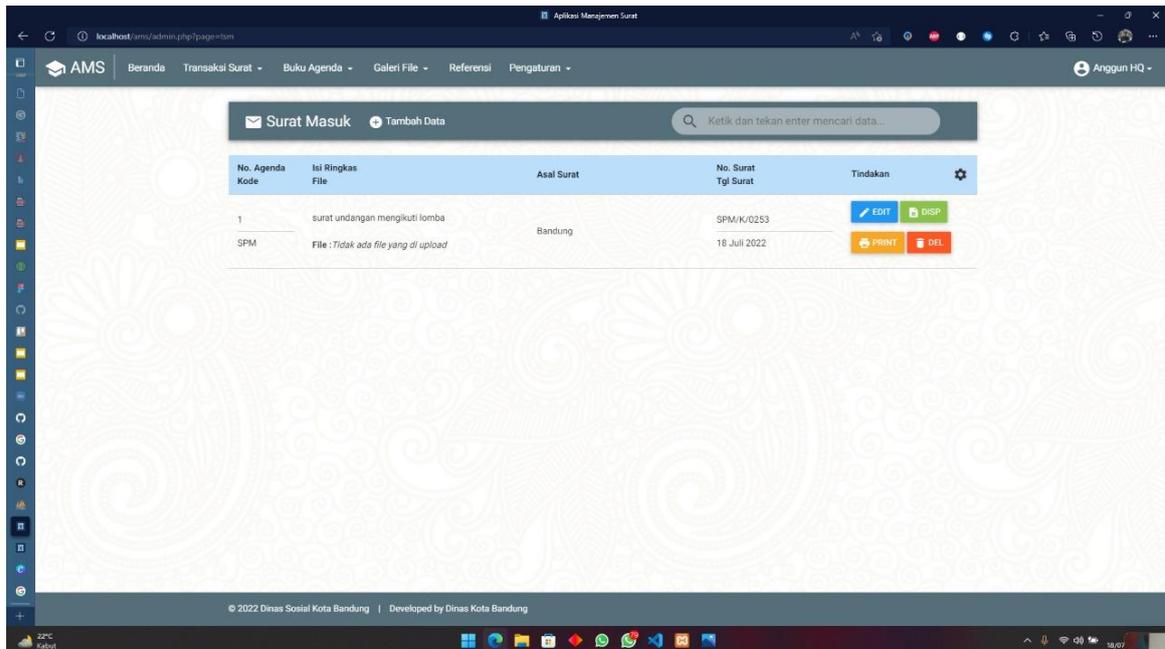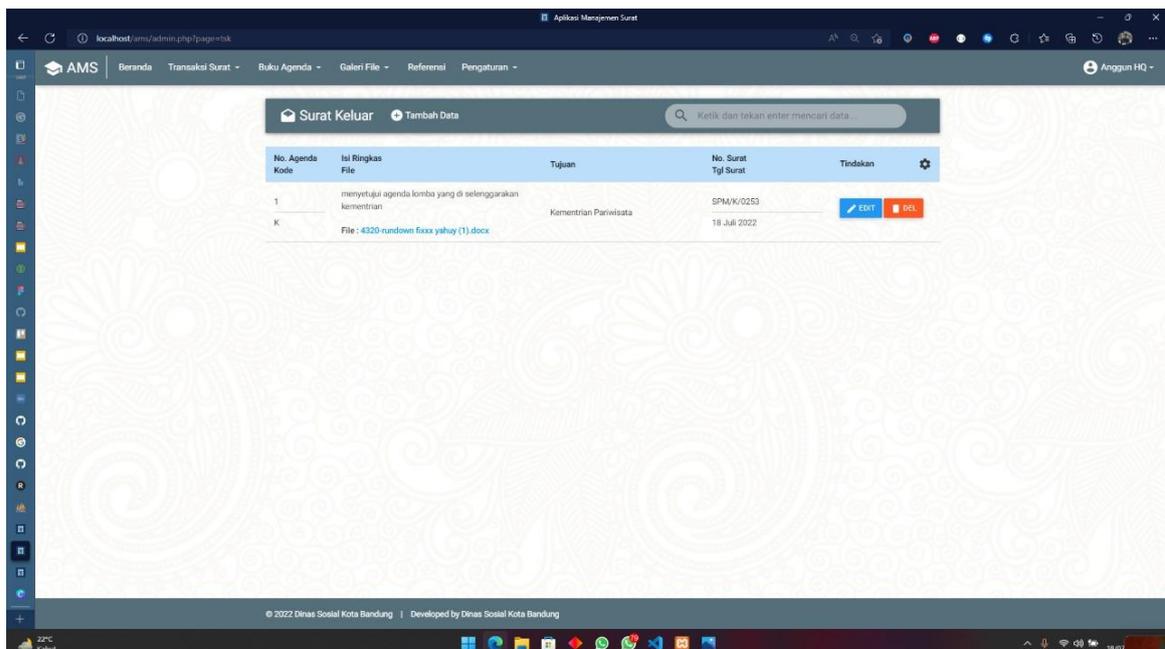

Figure 6. Incoming Mail Transaction Page.
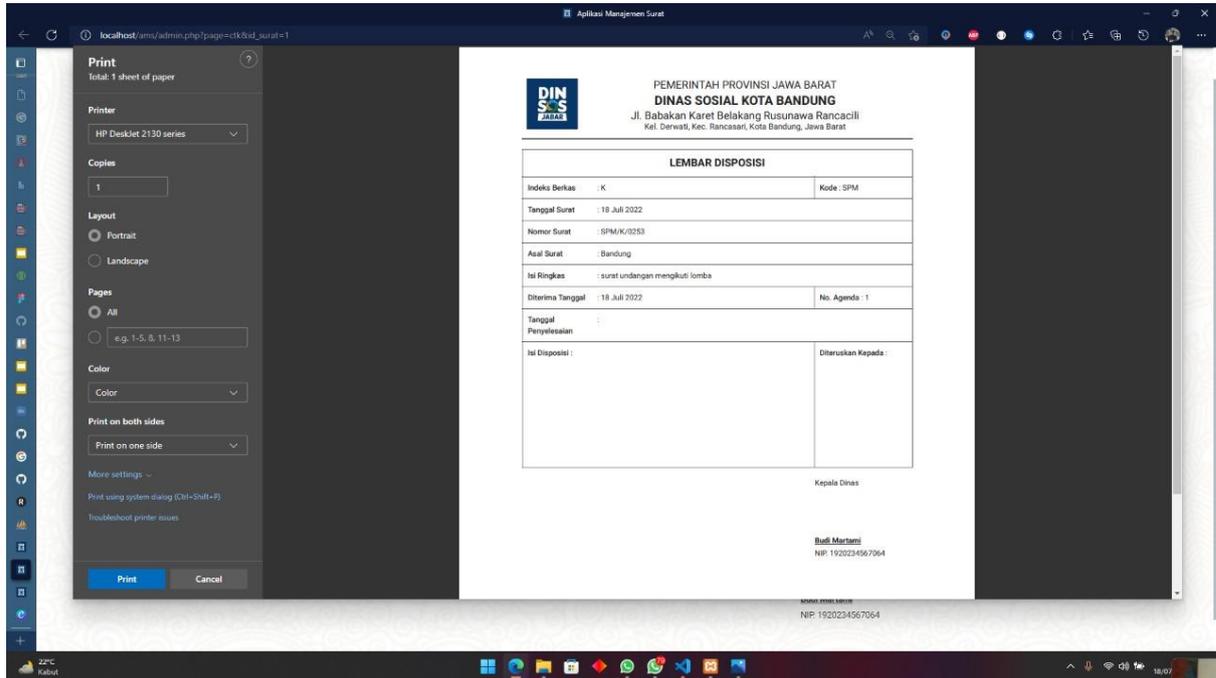

Figure 7. Outgoing Mail Transaction Page.

Figure 8. Sample Letters.

3.4.4. Add Latter's Page

The Adding incoming and outgoing mail page shown in Figure 9 is the page that is used when adding incoming and outgoing mail, to add any letters to be included in the folder.
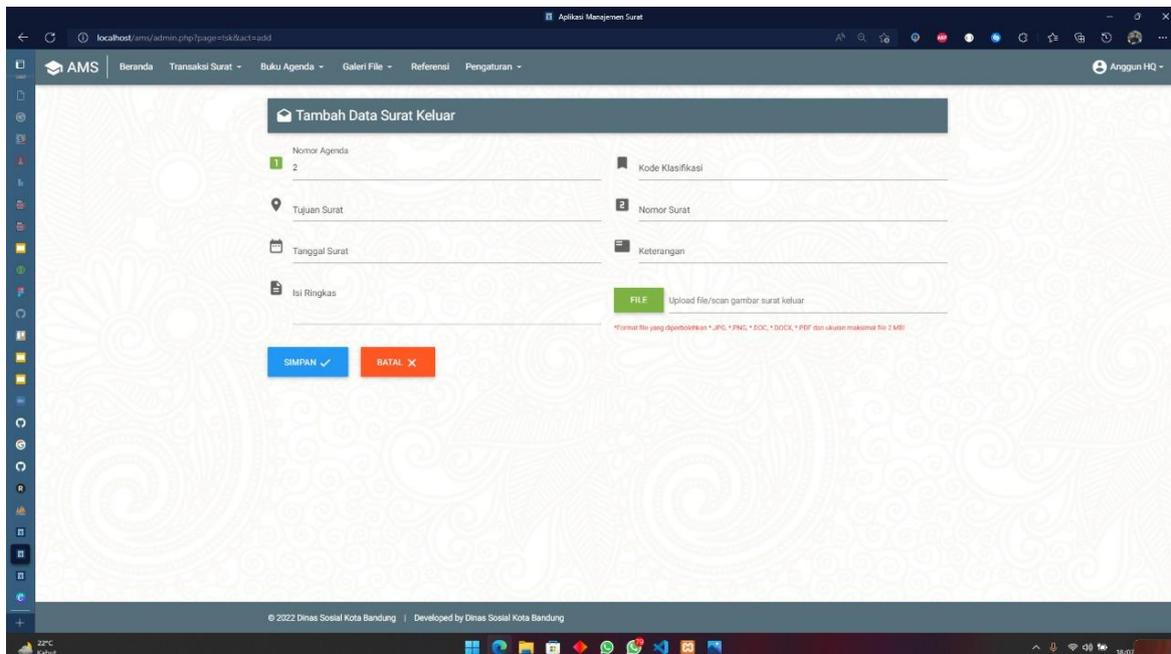

Figure 9. Pages Adding Letters.

3.4.5. Agenda Book Page

The agenda book page shown in Figure 10 is the page that is used to see if there is an agenda for making any letters that have been made on that day or date.
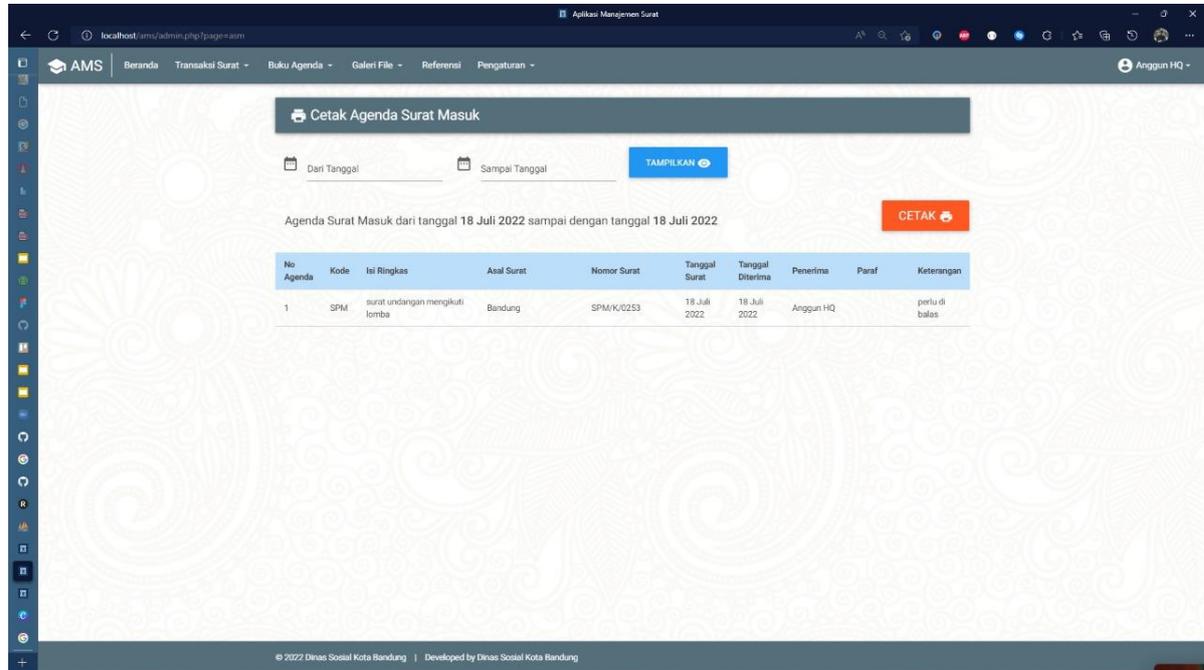

Figure 10. Pages of Agenda Book.

4. Conclusion

This web-based automatic archiving software design is designed to make it easier for Bandung City Social Service employees to make letters and classify the types of letters that are made so that they no longer use conventional methods. With this web-based software, Bandung City Social Service employees can save time and effort because letter templates and letter storage areas already exist automatically on the web.

Acknowledgement

References

[1] Deng, S., Li, Y., & Zhang, B. (2018, August). Research on Automatic Archiving and CD-ROM Burning System of Massive Electronic Documents. In 2018 3rd *International Conference on Control, Automation and Artificial Intelligence* (CAAI 2018) (pp. 26-30). Atlantis Press.

[2] Redfern, R. O., Langlotz, C. P., Abbuhl, S. B., Polansky, M., Horii, S. C., & Kundel, H. I. (2002). The effect of PACS on the time required for technologists to produce radiographic images in the emergency department radiology suite. *Journal of Digital Imaging*, 15, 153-160.

[3] Khan Tithi, T., Chakraborty, T. R., Akter, P., Islam, H., & Khan Sabah, A. (2021). Context, design and conveyance of information: ICT-enabled agricultural information services for rural women in Bangladesh. *AI & Society*, *36*(1), 277-287.

[4] Scully, B., & Mitchell, K. N. (2015). Archival automatic identification system (AIS) data for navigation project performance evaluation.

[5] Ponomareva, N., Gomez, J. M., & Pekar, V. (2010). Air: a semi-automatic system for archiving institutional repositories. In *Natural Language Processing and Information Systems: 14th International Conference on Applications of Natural Language to Information Systems, NLDB 2009, Saarbrücken, Germany, June 24-26, 2009. Revised Papers 14* (pp. 169-181). Springer Berlin Heidelberg.

[6] Habib, A., A Jani, M., Adi Pratama, D., & Ronando, E. (2020). Development of Archives Management Information System with RFID and SMS Gateway Development of Archives Management Information System with RFID and SMS Gateway. *International Journal of Psychosocial Rehabilitation*, *24*(04), 5227-5243.

[7] Schleyer, T. K., & Forrest, J. L. (2000). Methods for the design and administration of web-based surveys. *Journal of the American Medical Informatics Association*, 7(4), 416-425.

[8] Sudarto, F., & Yondari, A. (2020). Web-Based Population Cencus Design In Neighborhood Building. *Aptisi Transactions on Technopreneurship* (ATT), 2(1), 18-24.

[9] Wijaya, J. E. C. (2018). *PA: Rancang Bangun Sistem Informasi Arsip Surat Berbasis Website pada Dinas Kepemudaan dan Olahraga Provinsi Jawa Timur* (Doctoral dissertation, Institut Bisnis dan Informatika Stikom Surabaya).

[10] Yamaguchi, S. N., Ohnishi, Y., & Nishino, K. (2012). The design of an automatic lecture archiving system offering video based on teacher's demands. In *Intelligent Interactive Multimedia: Systems and Services: Proceedings of the 5th International Conference on Intelligent Interactive Multimedia Systems and Services (IIMSS 2012)* (pp. 599-608). Springer Berlin Heidelberg.