



The Effectiveness of *Sistem Informasi Pengelolaan Arsip Surat (SIPAS)* for Retrieval of Incoming and Outgoing Letters at Vocational High Schools 8 Semarang

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ABSTRACT

Vocational High School 8 Semarang is one of the educational institutions that manually still uses agenda books for managing their letters. Therefore, an innovative filing system was created in the form of a Sistem Informasi Pengelolaan Arsip Surat (SIPAS). The purpose of this research is to find out how effective the application of SIPAS was for retrieval of incoming and outgoing letters at Vocational High School Negeri 8 Semarang. The research method used is descriptive quantitative. The results of the data analysis show that SIPAS obtains 100% accuracy in letters archive retrieval and the retrieval time is only 8 to 10 seconds.

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INTISARI

SMKN 8 Semarang merupakan salah satu lembaga pendidikan yang masih secara manual menggunakan buku agenda dalam pengelolaan surat. Oleh karena itu, dibuatlah inovasi sistem pemberkasan berupa Sistem Informasi Pengelolaan Arsip Surat (SIPAS). Tujuan dari penelitian ini adalah untuk mengetahui seberapa efektif penerapan SIPAS untuk pengambilan surat masuk dan surat keluar di SMK Negeri 8 Semarang. Metode penelitian yang digunakan adalah deskriptif kuantitatif. Hasil analisis data menunjukkan bahwa SIPAS memperoleh akurasi 100% dalam pengambilan arsip surat dan waktu pengambilan hanya 8 sampai 10 detik.

KATA KUNCI:

efektivitas

SIPAS

temu kembali

SMKN 8 Semarang

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INTRODUCTION

Technological developments are accompanied by the increasing need for information in every organization. Therefore, archives as a source of information will be very useful if they are able to provide information services easily and quickly (Mulyadi, 2018). Archival information services can be said to be good if they have the effectiveness of a good archive retrieval system. A Retrieval system is an activity or process carried out to find documents needed by users with the aim of obtaining documents that are needed or relevant (Juniarso & Krismayani, 2018). Relevance in question is as said according to (Saracevic, 2008), namely, The objective of relevance judgments in IR tests is to get as close as possible to real-life situations so that test results would have real-life validity. Meanwhile, the effectiveness of archive retrieval is the degree of suitability of the requested document with the user's request or relevance (Karyono et al., 2012). Vocational High School 8 Semarang is one of the educational institutions that manually still uses agenda books in managing incoming and outgoing letters. This makes retrieval of letters archives take a long time. Therefore, researchers are interested in creating an innovation in the form of a filing system called the Letters Archive Management Information System (SIPAS) as a retrieval of incoming and outgoing letters at Vocational High School 8 Semarang. It is hoped that the existence of SIPAS can make it easier for archivists to record, store, and especially retrieve incoming and outgoing letters archives electronically.

RESEARCH METHOD

The subjects used in this study were all administrative employees of Vocational High School 8 Semarang, while the main object of the research was the Letters File Management Information System (SIPAS). The research method used is descriptive research method with a quantitative approach. Descriptive research is research that seeks to describe a symptom, event, event that is happening at the present time. As for the quantitative approach, (Arikunto, 2013) explains that the approach uses quantitative because it uses numbers, starting from data collection, interpretation of the data, and the appearance of the results.

The data collection used in this research includes literature study, interviews, socialization, and experiments. The literature study is used to find information about the creation of an archive system program and how to test the effectiveness of the archive retrieval of the program. The researcher conducted interviews with Mr. Budi Prastowo as the head of Administration and Mrs. Desi Tresiana as one of the archive managers at Vocational High School 8 Semarang, the interviews were conducted to find out the advantages and disadvantages of SIPAS so that SIPAS can be improved even better. The socialization was carried out with the aim of introducing SIPAS to all Administrative employees of Vocational High School 8 Semarang, in this socialization activity, researchers received criticism and suggestions for the perfection of SIPAS.

The last stage is an experiment, an experiment is carried out to test the effectiveness of the SIPAS meeting on each incoming and outgoing letters keywords. The incoming letters has 5 keywords including *Undangan*, *Permohonan*, *Penawaran*, *Lomba*, *Observasi*. Outgoing letters has 9 keywords including *Surat Tugas*, *Cuti*, *Undangan*, *SK*, *MOU*. The effectiveness of each keyword is calculated using the accuracy matrix proposed by Chowdury.

Tabel 1. Matrix of Accuracy(Source: (Chowdury,2004))

Query	Relevant	Irrelevant	Total
Rediscovered	a (success)	b (disturbance)	a+b
Not Found	c (negligent)	d (rejected)	c+d
	a+c	b+d	a+b+c+d

Based on the table above, the accuracy and acquisition will be obtained with the following formula:

Acquisition = $[a / (a + c)] \times 100\%$ Accuracy = $[a / (a + b)] \times 100\%$

In Principle:
Retrieval =

Number of relevant records recovered / Number of archives relevant to the collection

Accuracy =

Number of relevant records recovered / Number of recovered files

In addition to using the accuracy matrix proposed by Chowdury to test the effectiveness of the accuracy of incoming and outgoing letters retrieval, the researcher also examines how long it takes to conduct retrieval using a stopwatch on each of the incoming and outgoing letters keywords. The time needed to do archive retrieval manually is 30 minutes, if the retrieval time is faster using SIPAS than manually, then SIPAS retrieval can be said to be efficient and effective. The results of the research that have been calculated will be described to clarify the conclusions from the results of the calculation of the accuracy matrix.

RESULTS AND DISCUSSION

Effectiveness of SIPAS Retrieval on The Incoming Letters

NO SURAT MASUK	TGL SURAT MASUK	NO SURAT ASAL	TGL SURAT ASAL	PENGERIM	PERHAL
005/540/2022	Oct. 26, 2022	147.002/UND/BEM_FISIP/X/2022	Oct. 24, 2022	Univ 17 Agustus	Undangan seminar "Membid..."
005/538/2022	Oct. 24, 2022	005/43935	Oct. 18, 2022	Dinas Pertanian dan Perkebunan	Undangan peliputan
005/534/2022	Oct. 21, 2022	058/UDN-Pajak-FEB/X/2022	Oct. 13, 2022	Univ 17 Agustus	Undangan tax competition...
800/534/2022	Oct. 21, 2022	896/17201	Oct. 24, 2022	BPSDMD	Undangan upacara orienta...

Figure 1. Research Results with Keywords: *Undangan*
Source: Research Documentation

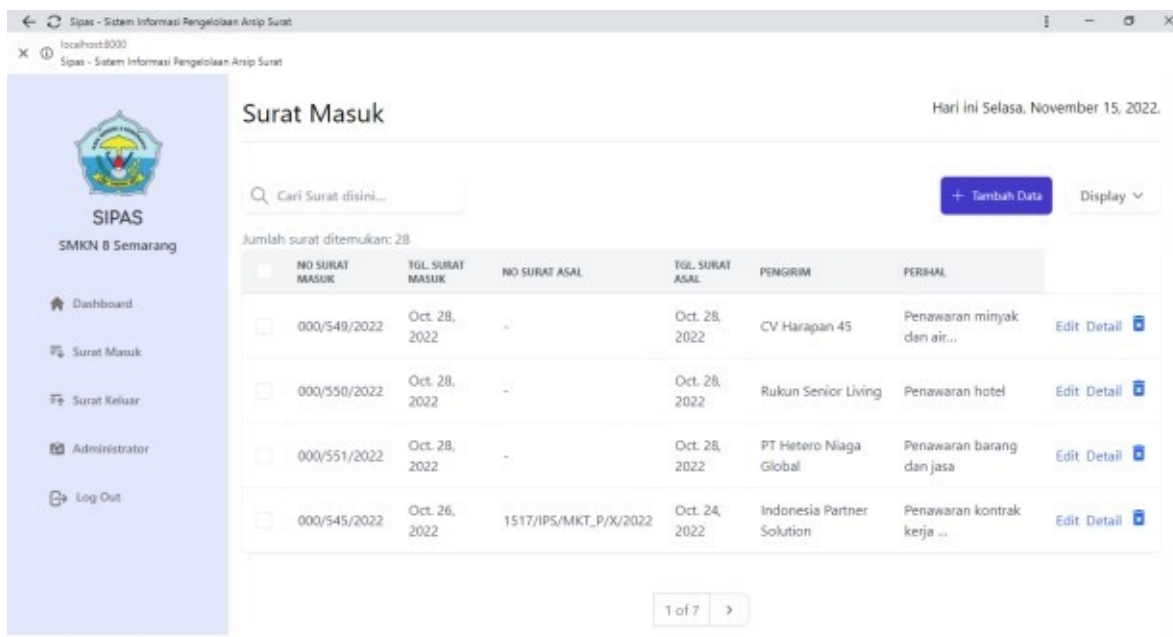


Figure 2. Research Results with Keywords: *Penawaran*
Source: Research Documentation

Table 2. Research Results with Keywords: *Undangan*

<i>Undangan</i>	Relevant	Irrelevant	Total
Rediscovered	38	0	38
Not Found	0	74	74
Total	38	74	112

$$\text{Acquisition: } \frac{38}{38} \times 100\% = 100\%$$

$$\text{Accuracy: } \frac{38}{38} \times 100\% = 100\%$$

The results of the research on the SIPAS effectiveness test on the incoming letters menu with the keyword *Undangan* obtained 100% accuracy results where the archive was recovered, namely relevant was 38 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 74. In total, there are 112 letters at Vocational High School 8 Semarang. Retrieval is only done within 8seconds.

Table 3. Research Results with Keywords: *Penawaran*

<i>Penawaran</i>	Relevant	Irrelevant	Total
Rediscovered	28	0	28
Not Found	0	84	84
Total	28	84	112

$$\text{Acquisition: } \frac{28}{28} \times 100\% = 100\%$$

$$\text{Accuracy: } \frac{28}{28} \times 100\% = 100\%$$

The results of the research on the SIPAS effectiveness test on the incoming letters menu with the keyword *Penawaran* obtained 100% accuracy results where the archive was recovered, namely relevant was 28 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 84. In total, there are 112 letters at Vocational High School 8 Semarang. Retrieval is only done within 10 seconds.

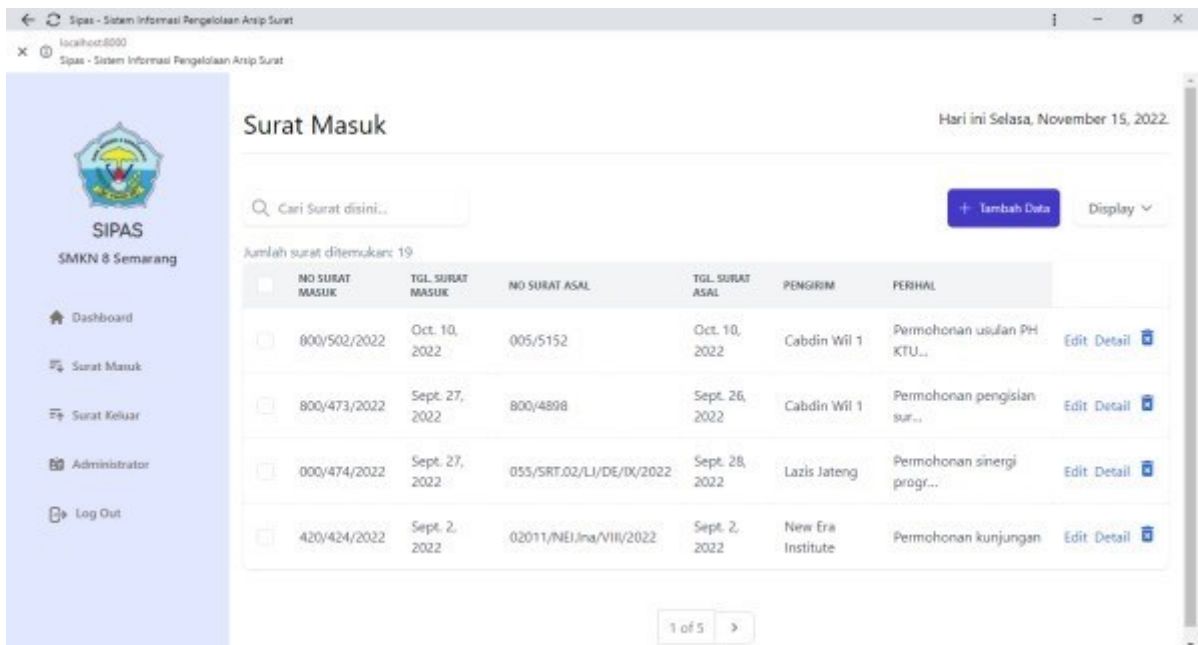


Figure 3. Research Results with Keywords: *Permohonan*
Source: Research Documentation

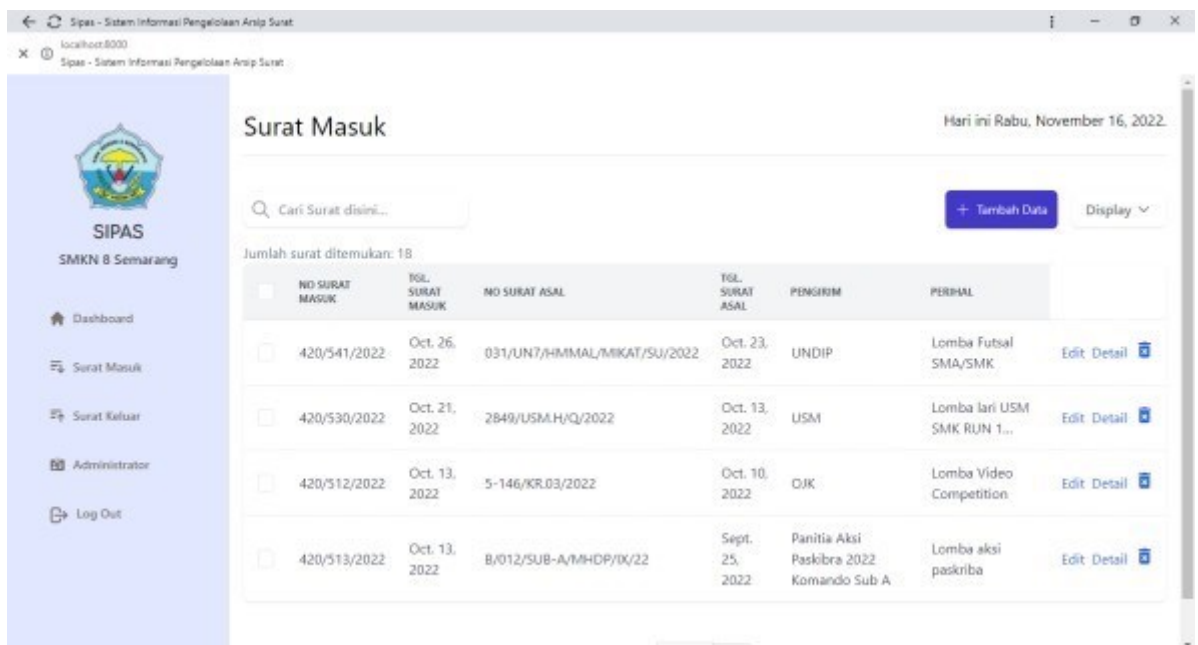


Figure 4. Research Results with Keywords: *Lomba*
Source: Research Documentation

Table 4. Research Results with Keywords: *Permohonan*

<i>Permohonan</i>	Relevant	Irrelevant	Total
Rediscovered	19	0	19
Not Found	0	93	93
Total	19	93	112

Acquisition: $\frac{19}{19} \times 100\% = 100\%$

Accuracy: $\frac{19}{19} \times 100\% = 100\%$

Table 5. Research Results with Keywords: *Lomba*

<i>Lomba</i>	Relevant	Irrelevant	Total
Rediscovered	18	0	18
Not Found	0	94	94
Total	18	94	112

Acquisition: $\frac{18}{18} \times 100\% = 100\%$

Accuracy: $\frac{18}{18} \times 100\% = 100\%$

The results of the research on the SIPAS effectiveness test on the incoming letters menu with the keyword *Lomba* obtained 100% accuracy results where the archive was recovered, namely relevant was 18 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 94. In total, there are 112 letters at Vocational High School 8 Semarang. Retrieval is only done within 8seconds.

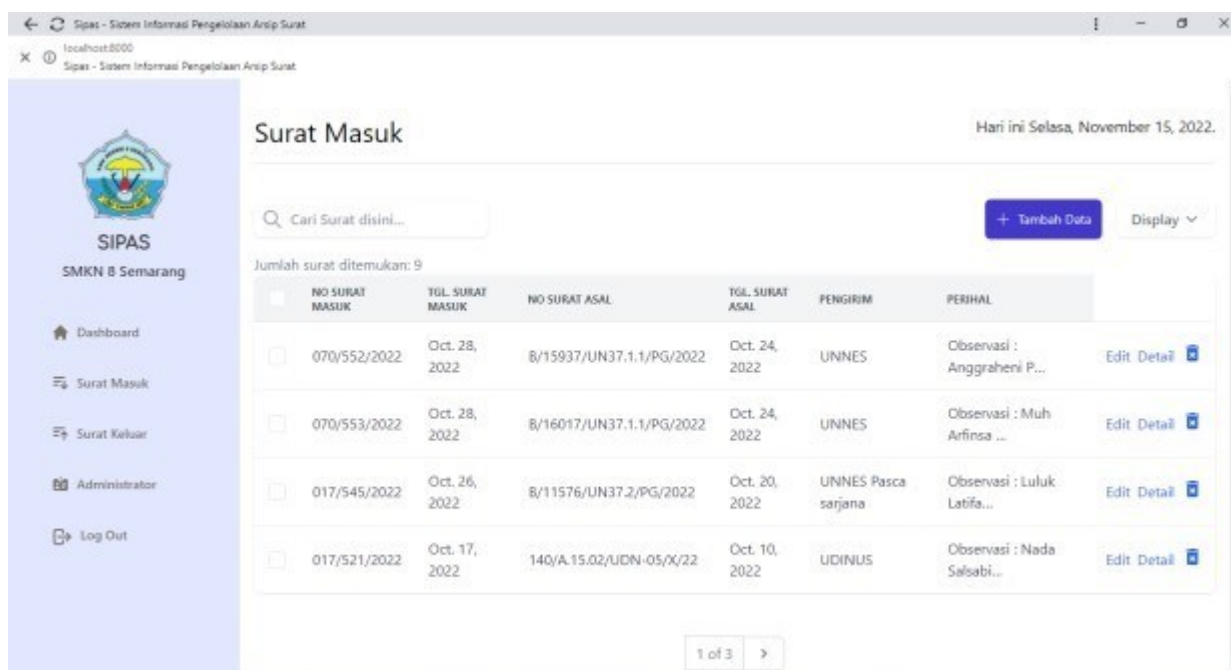


Figure 5. Research Results with Keywords: *Observasi*
Source: Research Documentation

Table 6. Research Results with Keywords: *Observasi*

<i>Observasi</i>	Relevant	Irrelevant	Total
Rediscovered	9	0	9
Not Found	0	103	103
Total	9	103	112

Acquisition: $\frac{9}{9} \times 100\% = 100\%$

Accuracy: $\frac{9}{9} \times 100\% = 100\%$

The results of the research on the SIPAS effectiveness test on the incoming letters menu with the keyword *Observasi* obtained 100% accuracy results where the archive was recovered, namely relevant was 9 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 103. In total, there are 112 letters at Vocational High School 8 Semarang. Retrieval is only done within 8 seconds.

Effectiveness of SIPAS Retrieval on The Outgoing Letters

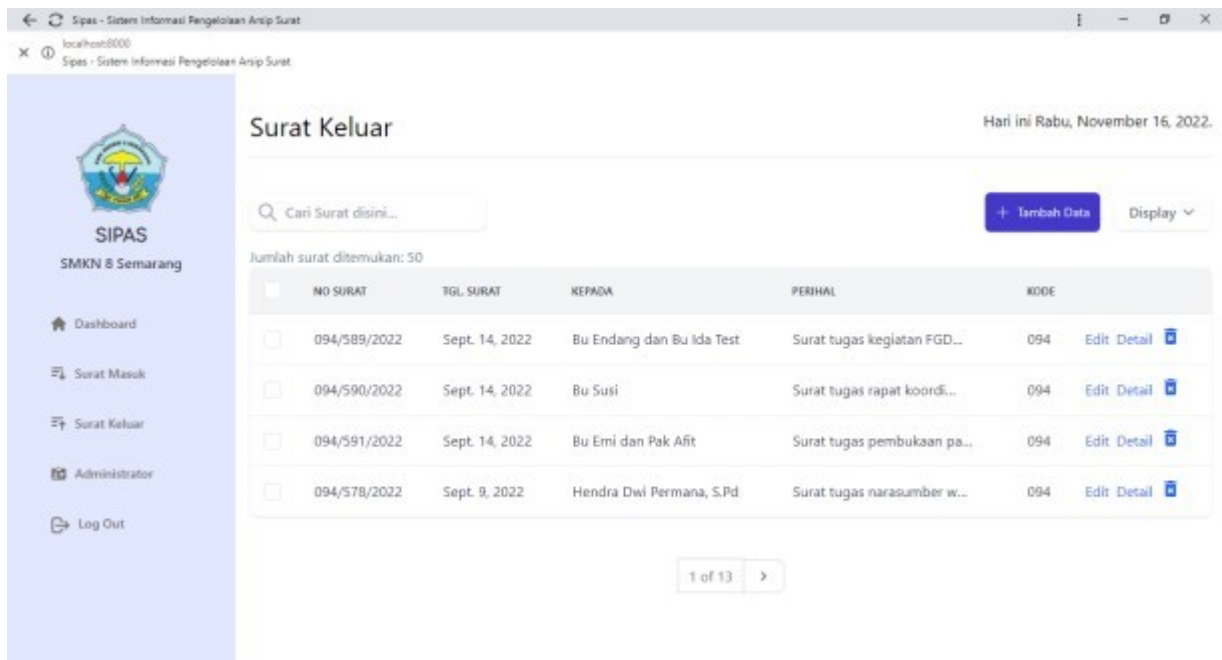


Figure 6. Research Results with Keywords: *Surat Tugas*
Source: Research Documentation

Table 7. Research Results with Keywords: *Surat Tugas*

<i>Surat Tugas</i>	Relevant	Irrelevant	Total
Rediscovered	50	0	50
Not Found	0	40	40
Total	50	40	90

$$\text{Acquisition: } \frac{50}{50} \times 100\% = 100\%$$

$$\text{Accuracy: } \frac{50}{50} \times 100\% = 100\%$$

The results of the research on the SIPAS effectiveness test on the outgoing letters menu with the keyword *Surat Tugas* obtained 100% accuracy results where the archive was recovered, namely relevant was 50 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 40. In total, there are 90 letters at Vocational High School 8 Semarang. Retrieval is only done within 10 seconds.

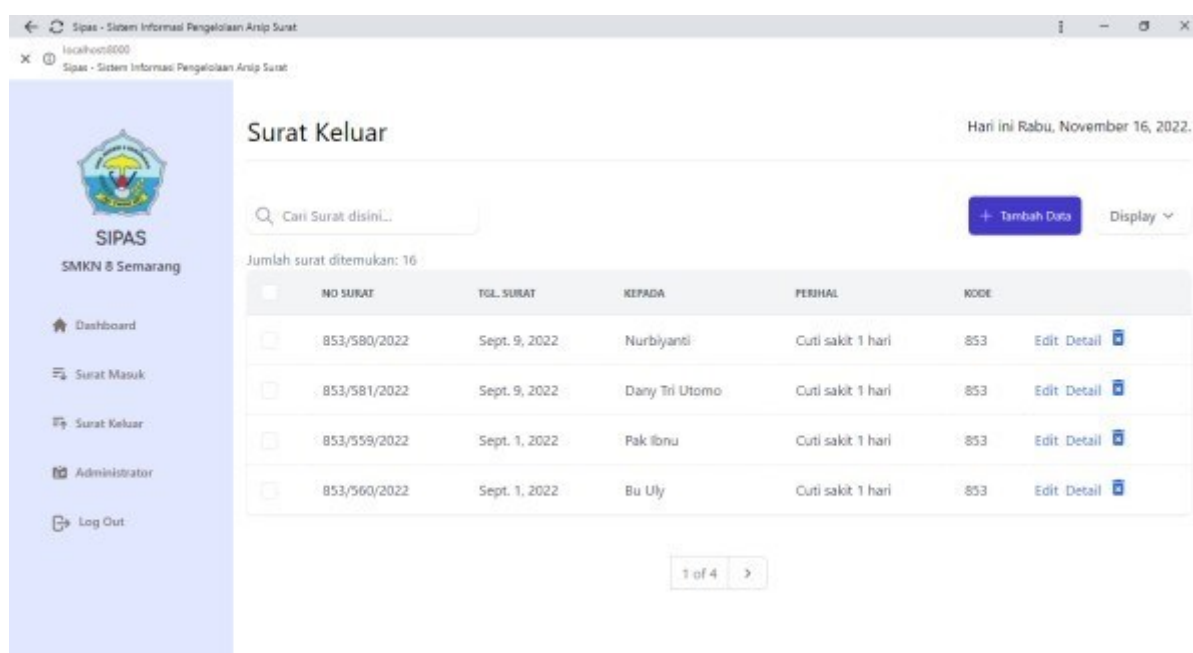


Figure 7. Research Results with Keywords: *Cuti*
Source: Research Documentation

Table 8. Research Results with Keywords: *Cuti*

<i>Cuti</i>	Relevant	Irrelevant	Total
Rediscovered	16	0	16
Not Found	0	74	74
Total	16	74	90

$$\text{Acquisition: } \frac{16}{16} \times 100\% = 100\%$$

$$\text{Accuracy: } \frac{16}{16} \times 100\% = 100\%$$

The results of the research on the SIPAS effectiveness test on the outgoing letters menu with the keyword *Cuti* obtained 100% accuracy results where the archive was recovered, namely relevant was 16 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 74. In total, there are 90 letters at Vocational High School 8 Semarang. Retrieval is only done within 8 seconds.

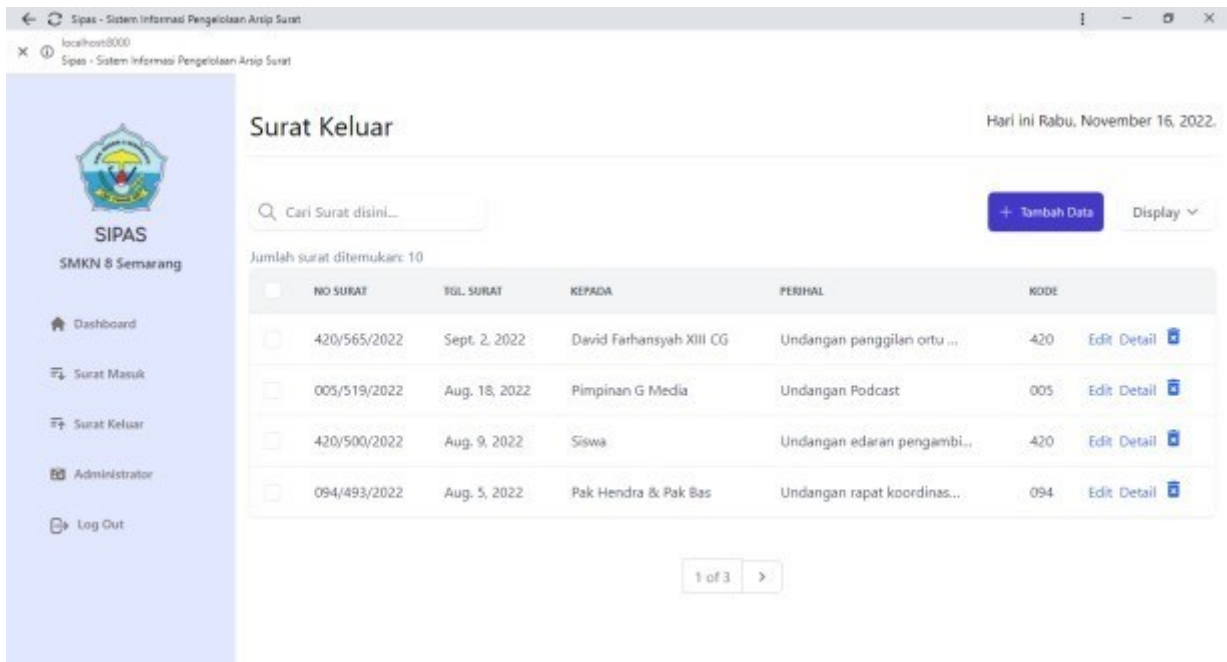


Figure 8. Research Results with Keywords: *Undangan*
Source: Research Documentation

Table 9. Research Results with Keywords: *Undangan*

<i>Undangan</i>	Relevant	Irrelevant	Total
Rediscovered	10	0	10
Not Found	0	80	80
Total	10	80	90

$$\text{Acquisition: } \frac{10}{10} \times 100\% = 100\%$$

$$\text{Accuracy: } \frac{10}{10} \times 100\% = 100\%$$

The results of the research on the SIPAS effectiveness test on the outgoing letters menu with the keyword *Undangan* obtained 100% accuracy results where the archive was recovered, namely relevant was 10 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 80. In total, there are 90 letters at Vocational High School 8 Semarang. Retrieval is only done within 8seconds.

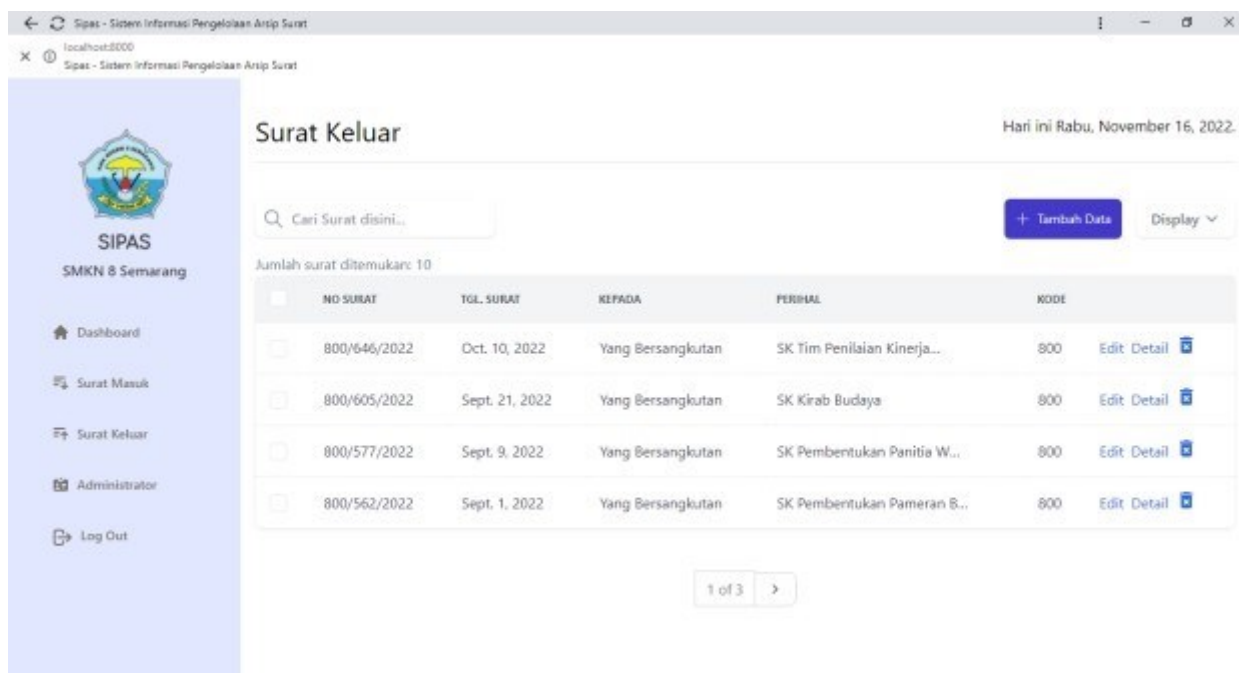


Figure 9. Research Results with Keywords: *SK*
Source: Research Documentation

Table 10. Research Results with Keywords: *SK*

<i>SK</i>	Relevant	Irrelevant	Total
Rediscovered	10	0	10
Not Found	0	80	80
Total	10	80	90

$$\text{Acquisition: } \frac{10}{10} \times 100\% = 100\%$$

$$\text{Accuracy: } \frac{10}{10} \times 100\% = 100\%$$

The results of the research on the SIPAS effectiveness test on the outgoing letters menu with the keyword *SK* obtained 100% accuracy results where the archive was recovered, namely relevant was 10 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 80. In total, there are 90 letters at Vocational HighSchool 8 Semarang. Retrieval is only done within 8 seconds.

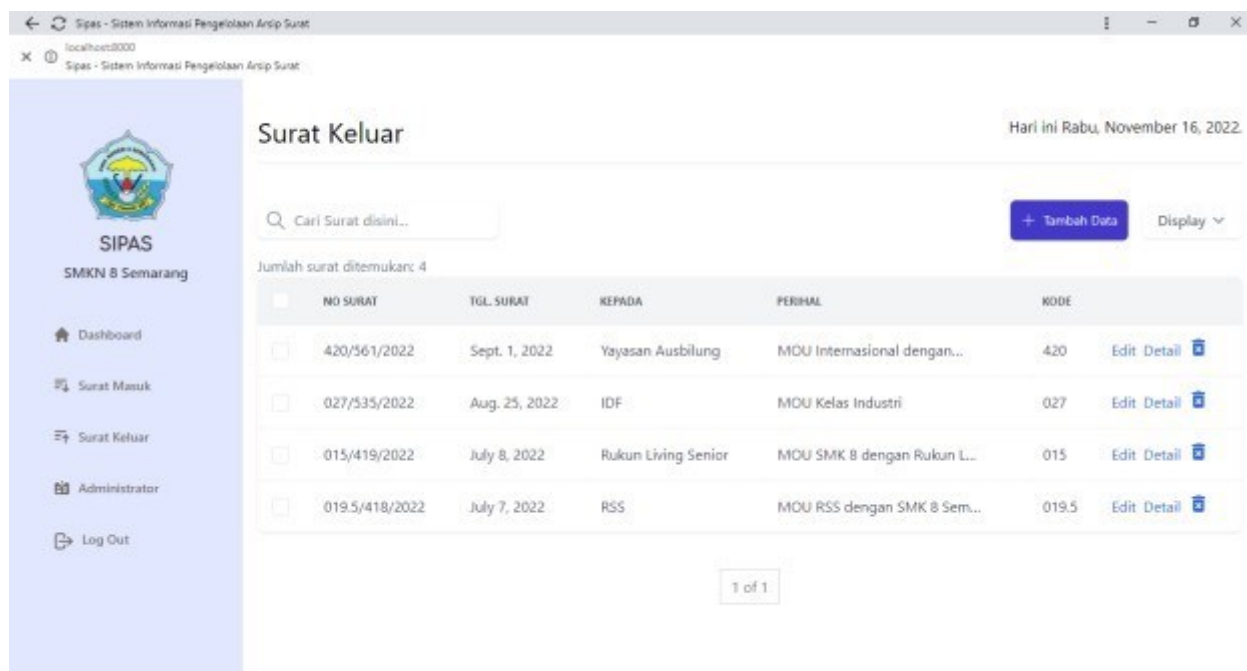


Figure 10. Research Results with Keywords: *MOU*
Source: Research Documentation

Table 11. Research Results with Keywords: *MOU*

<i>MOU</i>	Relevant	Irrelevant	Total
Rediscovered	4	0	4
Not Found	0	86	86
Total	4	86	90

$$\text{Acquisition: } \frac{4}{4} \times 100\% = 100\%$$

$$\text{Accuracy: } \frac{4}{4} \times 100\% = 100\%$$

The results of the research on the SIPAS effectiveness test on the outgoing letters menu with the keyword *MOU* obtained 100% accuracy results where the archive was recovered, namely relevant was 4 and irrelevant was 0. While the archive was not recovered, namely relevant was 0 and irrelevant was 86. In total, there are 90 letters at Vocational HighSchool 8 Semarang. Retrieval is only done within 6 seconds.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that Vocational High School Negeri 8 Semarang accepts the SIPAS program as a substitute for the agenda book in the management of active archives, especially incoming and outgoing letters electronically. SIPAS has good effectiveness in archive retrieval, both incoming and outgoing letters. The results of the effectiveness test of incoming and outgoing letters retrieval on each keyword obtained an accuracy of 100%. Retrieval which was previously done manually took approximately 30 minutes, with SIPAS archive retrieval only took between 8 to 10 seconds. Researchers have high hopes that SIPAS can be useful to support the archival system, especially the management of incoming and outgoing letters.

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