

## The Role of Database Applications of Digital Archive Management in The Era of Society 5.0

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### ABSTRACT

We will encounter many technologies in the 4.0 revolution era, such as cloud computing, artificial intelligence, the internet, 5G, digitalization, and big data. All of these technologies have potential in the world of education. Based on information about some of the problems faced by teachers at ASPAPI Member Vocational Schools in the DKI Jakarta area, they must be addressed as soon as possible as a solution to increasing knowledge, abilities, and skills in running database applications on digital archives as one of the development and utilization of information and communication technology in the Industrial Revolution 4.0 era and the 5.0 social era. Therefore, the community service team tries to offer solutions to these problems through the following main activities: 1) increasing the understanding and skills of ASPAPI Member Vocational High School teachers in the DKI Jakarta area, 2) increasing abilities in teaching and learning activities for digital archives, especially the use of database applications. The method used for providing training consists of planning, action execution, observation, and reflection. We generate an application called Dive Apps, where these apps can manage archives with a digitalization system and can also be used by teachers in archival learning.

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## **INTRODUCTION**

The teacher is one component that plays a central role in education, many competencies, and improvement to the school—surrounding communities, including the progress of a country.

The development of the industrial revolution era 4.0 and the social era 5.0 requires us to balance and live side by side with information and communication technology (Heryanti, 2019). Digital transformation has changed people's and industries' habits and ways of life. The Japanese government has started introducing Society 5.0 or society 5.0, where digital technology is applied and centered on human life.

Utilizing technology properly will provide benefits and affect the course of office work (Marsofiyati, 2019). In the digital era and the disruption of the 21st century, the task of teachers is increasingly complex and full of challenges. Teachers are not only tasked with transferring knowledge and skills but what is more important is how to present learning using technology or information and communication technology (ICT) based learning.

In this pandemic era, the task of a teacher must be more maximal in using ICT. Learning which is usually delivered in class face to face is constrained by efforts to break the chain of the spread of Covid-19, which causes both teachers and students to teach and learn from home via the online system. (Balipost, 2020).

The increasing number of document preparation and data distribution that refers to the use of Information and Communication Technology (ICT) urges the Ministry of National Education (Kemdiknas) to implement ICT into the education system. The aim is to improve management and administration efficiency, improve communication, and support improved curriculum delivery and classroom learning. ICT application is closely related to transparency as regulated in the Law on Public Information Openness (UU KIP).

Management of education by maximizing the use of ICT is expected to encourage the active participation of the community in monitoring and evaluating educational development in the coming years. So far, the unavailability of ICT makes data distribution (education) not optimal. The reason is that in many areas, data distribution is still using manual methods, and in some other places, they are forced to use more traditional methods (handwriting). There are no computers, but there are still some areas where electricity is not available." The unavailability of ICT forces the distribution of data using manual methods. We need ICT to convey many things to the public (Kompas.com, 2011).

The quality teachers who are empty of technology will not be able to instill "critical power" in students to become revolutionary humans. So they are hampered from exploring their potential. Ignorant teachers (stuttering technology) will reduce the degree of credibility in front of their students. Students tend to underestimate if the teacher is an idiot in the middle of the metropolitan world. A phenomenon that often exists and happens all around us.

Teachers may be products of the 90s, but their scientific capacity should not be inferior to the competition of the times. Wherever and whenever, a teacher must be more intelligent than his students, not only in the pedagogical context but also must be updated in all fields. The teacher is the place for students. Suppose the teacher does not have the passion for increasing his potential. In that case, the teacher will certainly lose the scientific level of his students, considering that learning resources are currently scattered in cyberspace every second. In response to this, teachers should not be technologically savvy and must always try to motivate themselves in technology. Teachers should not be lazy to access information and technology if they do not want to be left behind. They need to study seriously to be able to operate information technology devices in front of their students. Professional teachers will more easily understand the needs of students during the increasingly complete availability of facilities and infrastructure (Damhuri, 2017).

Based on the description above, there is an Expertise Competency Test (UKK), where this exam is an office practice exam. This skill competency test tests 10 test items, one of which is archived. Archival practice activities, where the facilities used are agenda books, archive books, letters as archives, disposition sheets, guides, and selected maps. This skill competency test is still paper-based, even though most companies are paperless in all official activities.

1. Teachers do not understand ICT-based office applications.
2. Teachers lack information about ICT-based office applications.
3. Teachers are still confused about how to choose the correct application to help with office work.
4. Teachers do not yet know the characteristics, requirements, abilities, and skills needed in managing ICT-based office applications as one of the supporting archiving learning in the Industrial Revolution 4.0 and the Social 5.0 era.

## **LITERATURE REVIEW**

Today's learning process can take advantage of various applications that are created. Jogiyanto explained that the application is a process from a manual method that is transformed into a computer by creating a system or program to process the data more efficiently and optimally (Rahman & Sunतोso, 2015). Furthermore, Harip Santoso said that the application is also a group of files (form, class, report) that aims to perform certain activities that are interrelated (Neyfa & Tamara, 2016).

The application developed in this activity is the Database in Digital Archive Management. The application is an application that is used as a database to use the archive system to facilitate the work so that the work can run efficiently.

A mobile application is software that runs on a mobile device such as a smartphone (Saputra, 2021). Mobile applications can be found on several sites, one of which is Google Play, to be able to download the desired mobile application. An office in English is often called an office which can mean obliga-

tions, duties, and functions (Marsofiyati, 2015). An office can be defined as a workspace, a gathering room, or a space where the leader and his employees can carry out their work.

## **MATERIAL AND METHOD**

Based on information about some of the problems faced by teachers at ASPAPI Member Vocational Schools in the DKI Jakarta area, of course, it must be addressed as soon as possible as a solution to increasing knowledge, abilities, and skills in running database applications on digital archives as one of the development and utilization information and communication technology in the era of the Industrial Revolution 4.0 and the social era 5.0. Therefore, the community service team tried to offer solutions to these problems through the following main activities: 1) improving the understanding and skills of ASPAPI Member Vocational School teachers in the DKI Jakarta area, 2) improving the ability in teaching and learning activities of digital archives, especially the use of database applications.

Partners in this community service activity are SMK teachers as ASPAPI members in the DKI Jakarta area. This community service activity can run well with active participation by community service participants, namely the partners themselves. This activity will be held on Friday, September 3, 2021, through the Zoom Meeting application. Archive management was given by the committee using Microsoft Excel Macro. The application is effortless but can be well received by the community service participants because it is considered simple to be used as learning material for archive management students. Participants are engaged in studying archive management. Implementation of archive database applications through Zoom meetings could be seen in Figure 1. Presentation of resource material and resource material could be seen in Figure 2. and Figure 3.

In implementing this community service, he follows the implementation of action research activities which consist of:

### **1. Planning**

The planning activities are as follows:

- a. Coordinate with LPPM
- b. Universitas Negeri Jakarta
- c. Socialization of Service Activities to Vocational Teachers, Members of ASPAPI DKI Jakarta Region as partners.
- d. The preparation of the service program is based on the results of situation analysis, teacher analysis, digital archives in Vocational High Schools, the number of students and teachers of Office Administration Department of Office Administration Automation (OTKP).

### **2. Action Execution**

- a. Introducing the database application as one of the applications in digital archives, which is a new research-based application,

- b. Introducing information relevant to database applications,
- c. The existence of a training program on the use of database applications in archive management for teachers,
- d. Training on introduction to database applications
- e. Observation and Evaluation

3. Observation

Observation activities are carried out directly by the implementing team. Observations in the form of participants' work on ICT implementation training and database applications in digital archive management. The evaluation process is carried out to find out the shortcomings and obstacles in implementing community service activities.

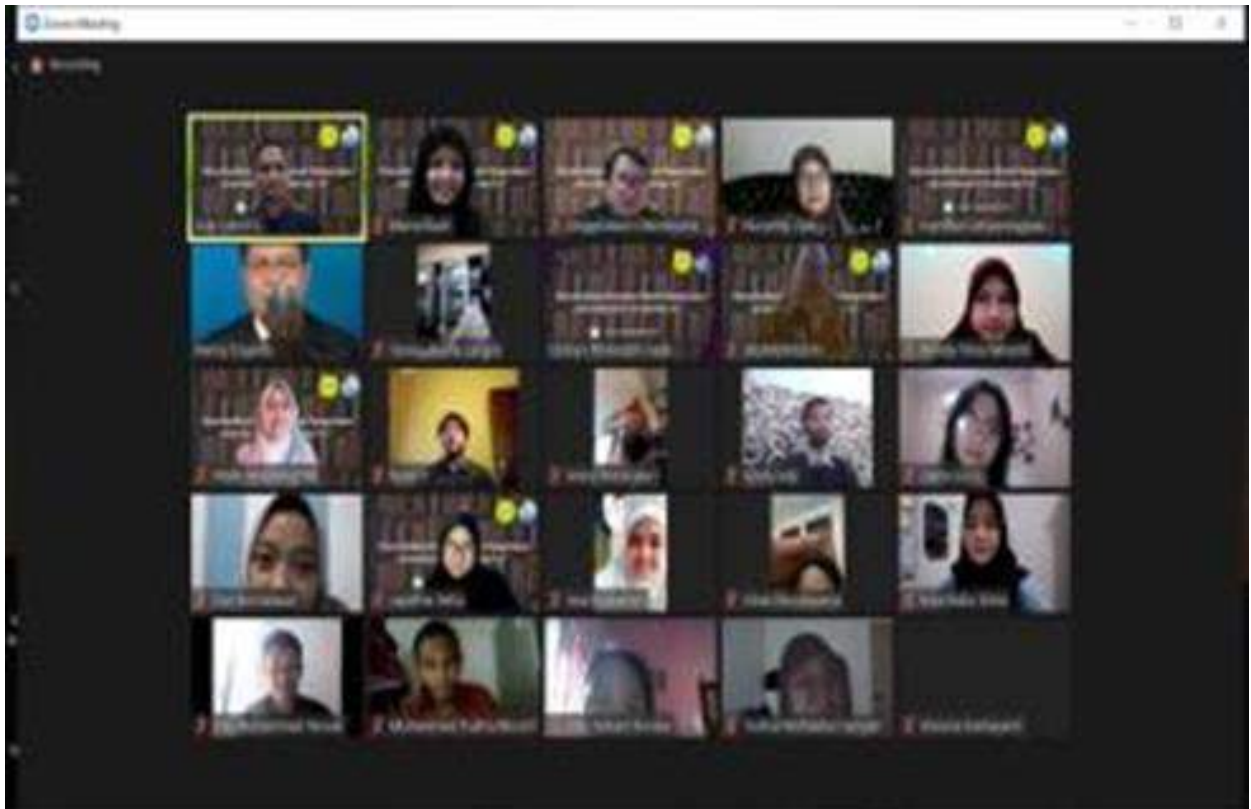
4. Reflection

Reflection is carried out jointly between the team and participants. Find out the entire process of implementing activities.

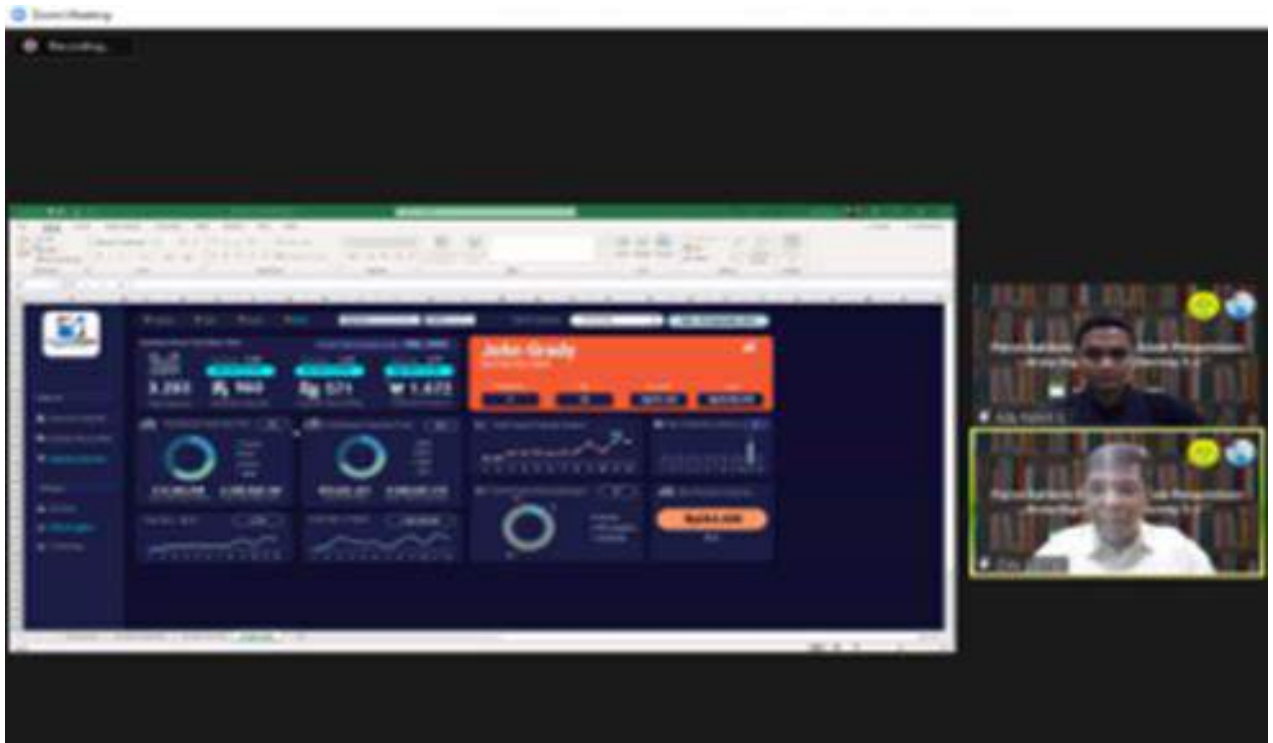
The transfer of science and technology carried out by the team at each stage received by partners was carried out through the process of listening, knowing, trying, evaluating, accepting, believing, and implementing, namely:

- a. Interviews with teachers who are willing to be assisted in providing training on database applications in managing digital records to be more effective and efficient.
- b. Lectures and face-to-face
- c. Introduction to database application management in digital archive management through up-to-date presentations of papers and cases.
- d. Holding discussions to generate feedback on database applications in digital archive management with chronological evidence and constraints.
- e. Digital information technology application training with the aim of all facilities to realize digital archives can be carried out correctly and neatly.

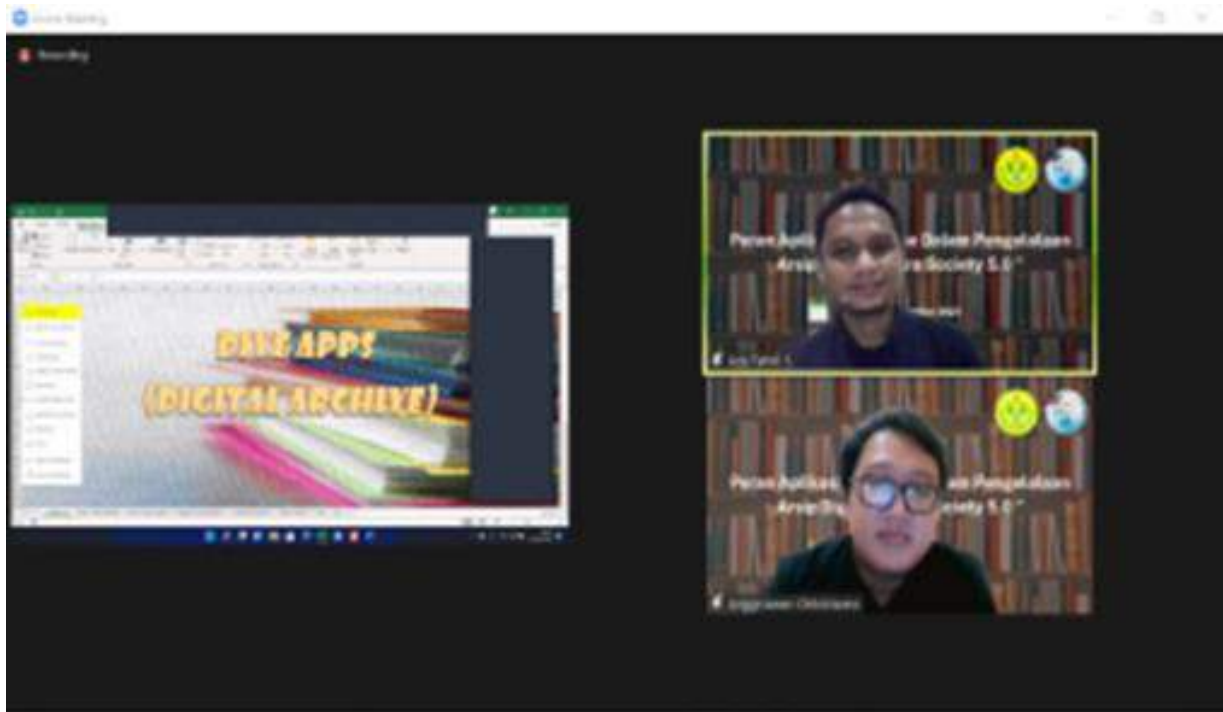
ASPAPI member SMK teachers in the DKI Jakarta area who are partners in this science and technology activity actively participate in every activity held. In providing database application training in digital archive management, partners actively participate in studying, asking, giving input, and applying it in teaching and learning activities. As participants, partners play a role in providing training venues and cooperating with the team in conducting training consumption so that the participation of partners is very supportive of the overall implementation of this science and technology program.



**Figure 1 .**  
Implementation of Archive Database Applications Through Zoom Meetings



**Figure 2.**  
Presentation of Resource Material



**Figure 3.**  
Presentation of Resource Material



## RESULTS AND DISCUSSION

The application developed and used in this activity uses Microsoft Excel Macro, which we later named Dive Apps (Digital Archive). Some of the features that we made were tailored to archiving needs. Some of these features include:

1. Dashboard

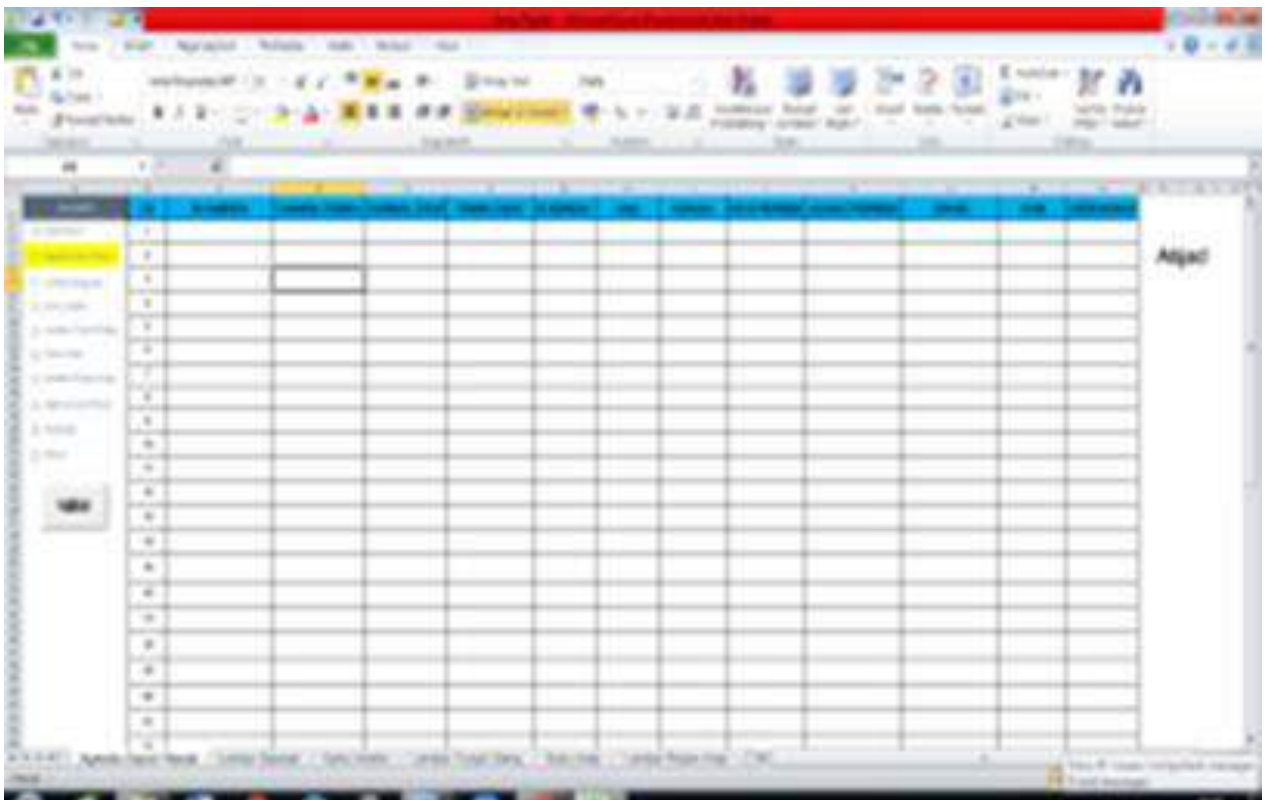
Is the prominent display of the application that displays the entire menu on the application. As can see in Figure 4. below.



**Figure 4.**  
Dashboard of Application

2. Incoming mail agenda

It is a feature to record incoming emails, consisting the of number, date of the le was received, letter number, brief contents of the letter, sender's name, and recipient's name. As can see in Figure 5. below.

The image shows a screenshot of a software application window titled "Jurnal Pemberdayaan Masyarakat Madani". The main area of the window is a table with a grid structure. The table has several columns, but the text is too small to read the specific headers. The table is currently empty. On the left side of the window, there is a sidebar with a list of items, some of which are highlighted in yellow. At the top of the window, there is a toolbar with various icons for file operations and editing. The overall appearance is that of a standard desktop application interface.

**Figure 5.**  
Incoming Mail Agenda

3. Disposition sheet

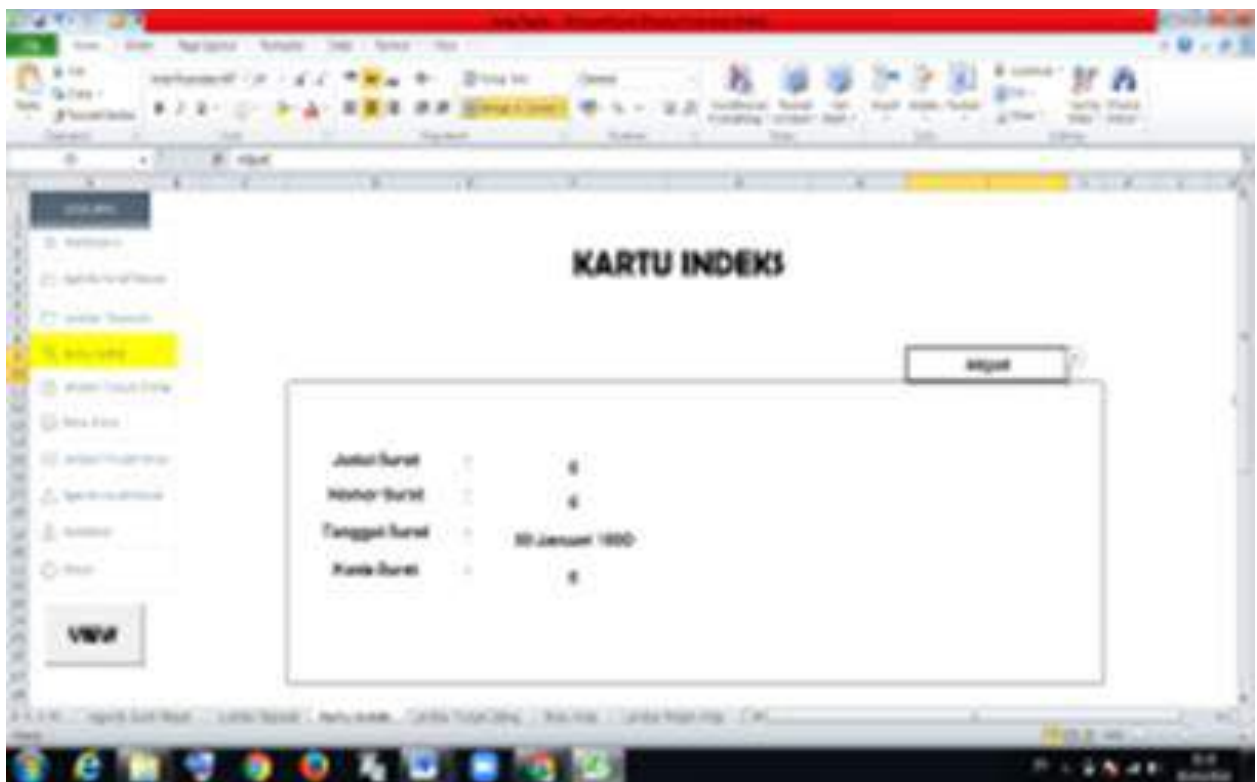
A disposition sheet contains the disposition/instruction/ of the leadership to be followed up. On the disposition sheet, there is an index column, no. Agenda, date of the letter, brief content, instructions/information, letter, letter number, the origin of the letter, date of use, and letter return. As can see in Figure 6. below.

No Agenda	Tanggal Surat	No Ringkas	Induk/Informasi	Jenis	Tanggal Penyusunan	Nomor Surat	Isi	Struktur Agenda
	04 Januari 2022							
Sebutan Puncak yang dihandalkan								
Pencat								
Tempat								

Figure 6.  
Disposition Sheet

4. Index card

The index card is a card that contains information about the archive to be stored, including the letter title, letter number, letter date, and letter code. On the index card, there is a tab in the shape of a rectangle with a protrusion on it. The tab is a letter guide that contains a letter code based on the system. As can see in Figure 7. below.



**Figure 7.**  
Index Card

5. Cross pointing sheet

A cross-pointing sheet is a tool for finding archives other than index cards. The cross-pointing sheet is also a guide in the storage area, which indicates the location of an archive. As can see in Figure 8. below.

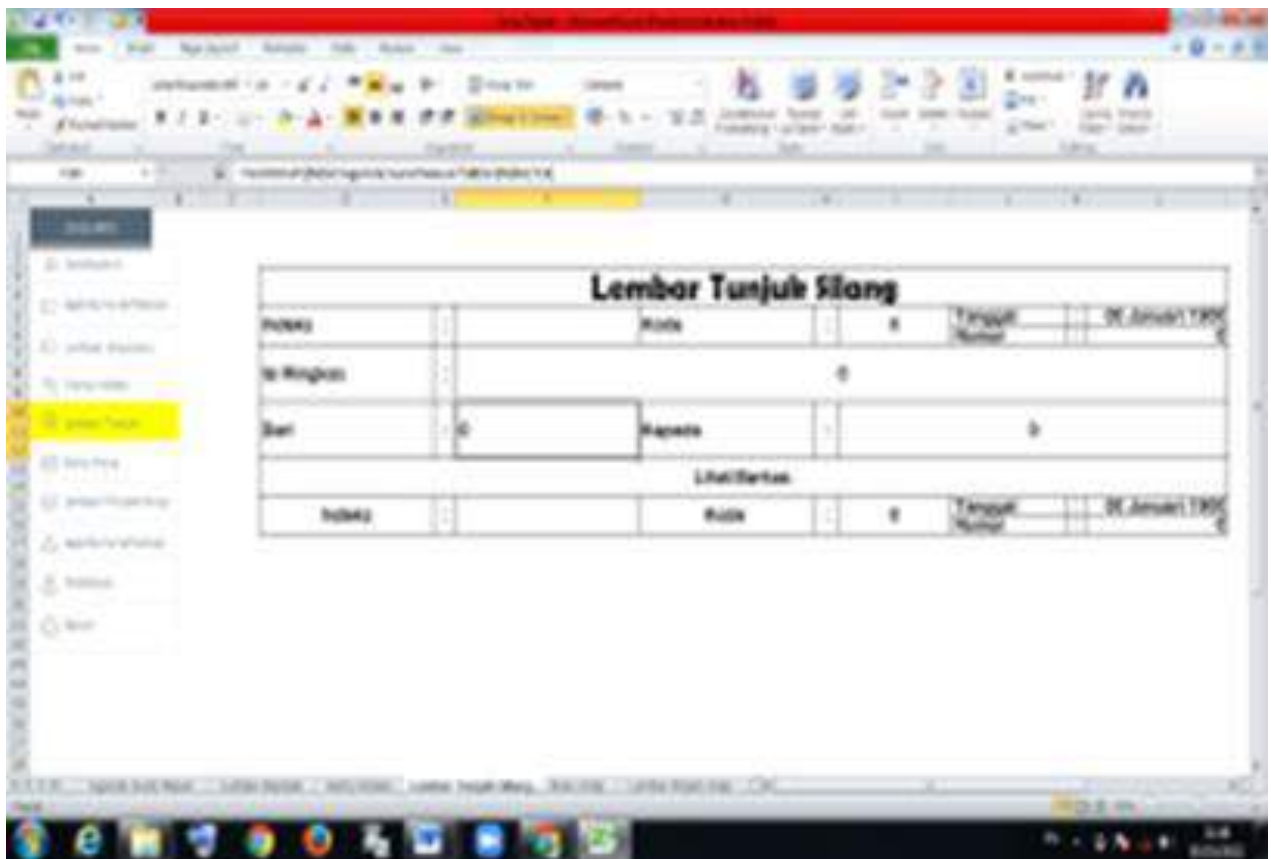


Figure 8.  
Cross pointing sheet

6. Archive book

An archive book is a book that is created and intended to record all information related to the archive to be stored. Letter codes sort mail storage according to the serial number on the letter. In the archive book, there are several entries: the date of entry and exit, the date of incoming and outgoing letters, the number of incoming and outgoing letters, the purposes of entry and exit regarding incoming and outgoing letters, and incoming and outgoing letters codes, and information. As can see in Figure 9. below.

The image shows a screenshot of a spreadsheet application with the title "BUKU ARSIP". The spreadsheet contains a table with the following columns: "No", "Tanggal", "Nomor Surat", "Tipe Surat", "Kategori Surat", "Status Surat", and "Keterangan". The table is filled with data, and the "Kategori Surat" column is highlighted in yellow. The spreadsheet is displayed within a window with a standard toolbar and a taskbar at the bottom.

Figure 9.  
Archive book

7. Archive loan sheet

An archive loan sheet is a sheet or form used to record every archive borrowing. As can see in Figure 10. below.

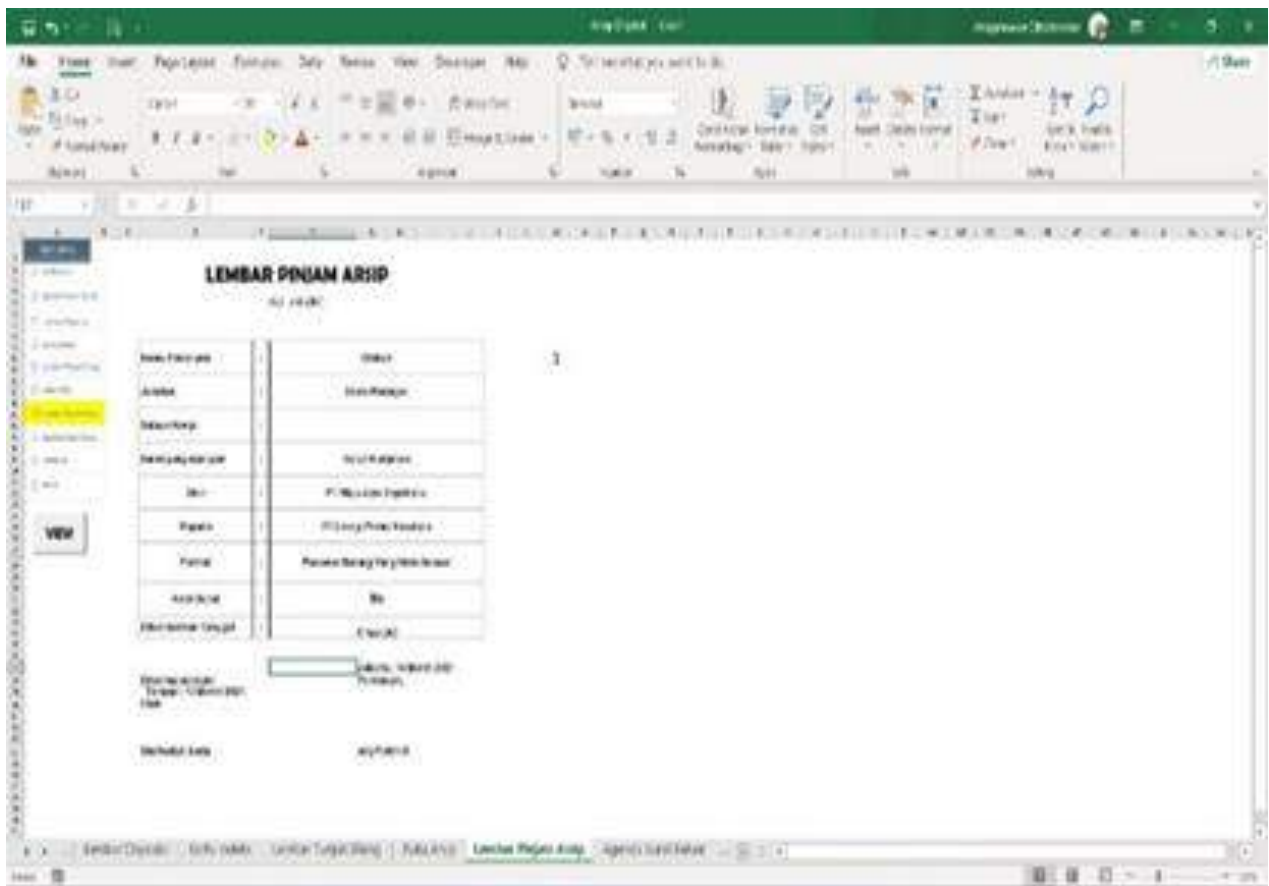


Figure 10.  
Archive loan sheet

8. Outgoing mail agenda

Outgoing mail agenda is made to record outgoing or sent letters. As can see in Figure 11. below.

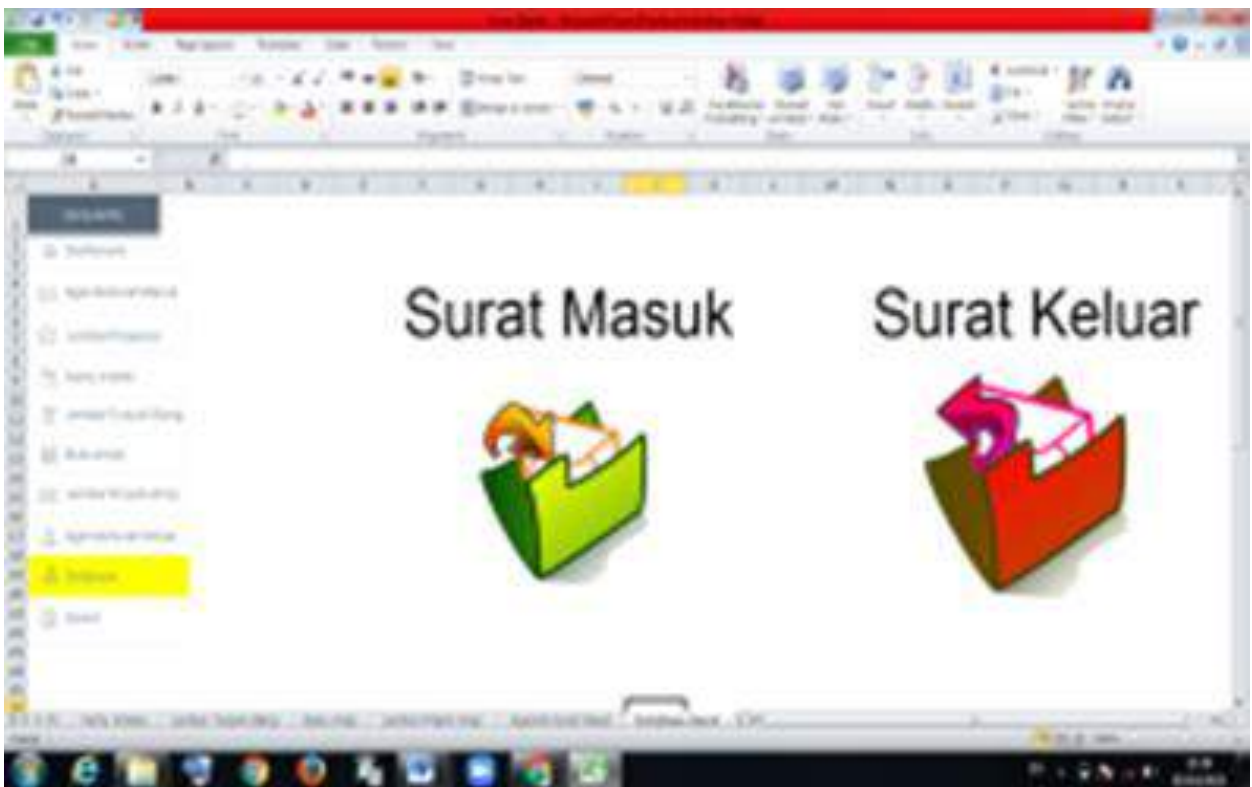
No	No. Agenda	Tanggal Surat	Nomor Surat	Di Kirimkan	Dan	Kepada	Kota Pengirim	Alamat Pengirim	Kota
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									

Figure 11.  
Outgoing mail agenda



9. Databases

A database is a database or collection of data that has been managed in such a way on the dive apps application based on specific interrelated provisions. There is a database for incoming and outgoing mail in this dive app. As can see in Figure 12. below.



**Figure 12.**  
Database

10. About

On display in the about feature, it contains brief information about the application development team, namely the names of the development team, email, and contact persons who can be contacted. As can see in Figure 13. below.

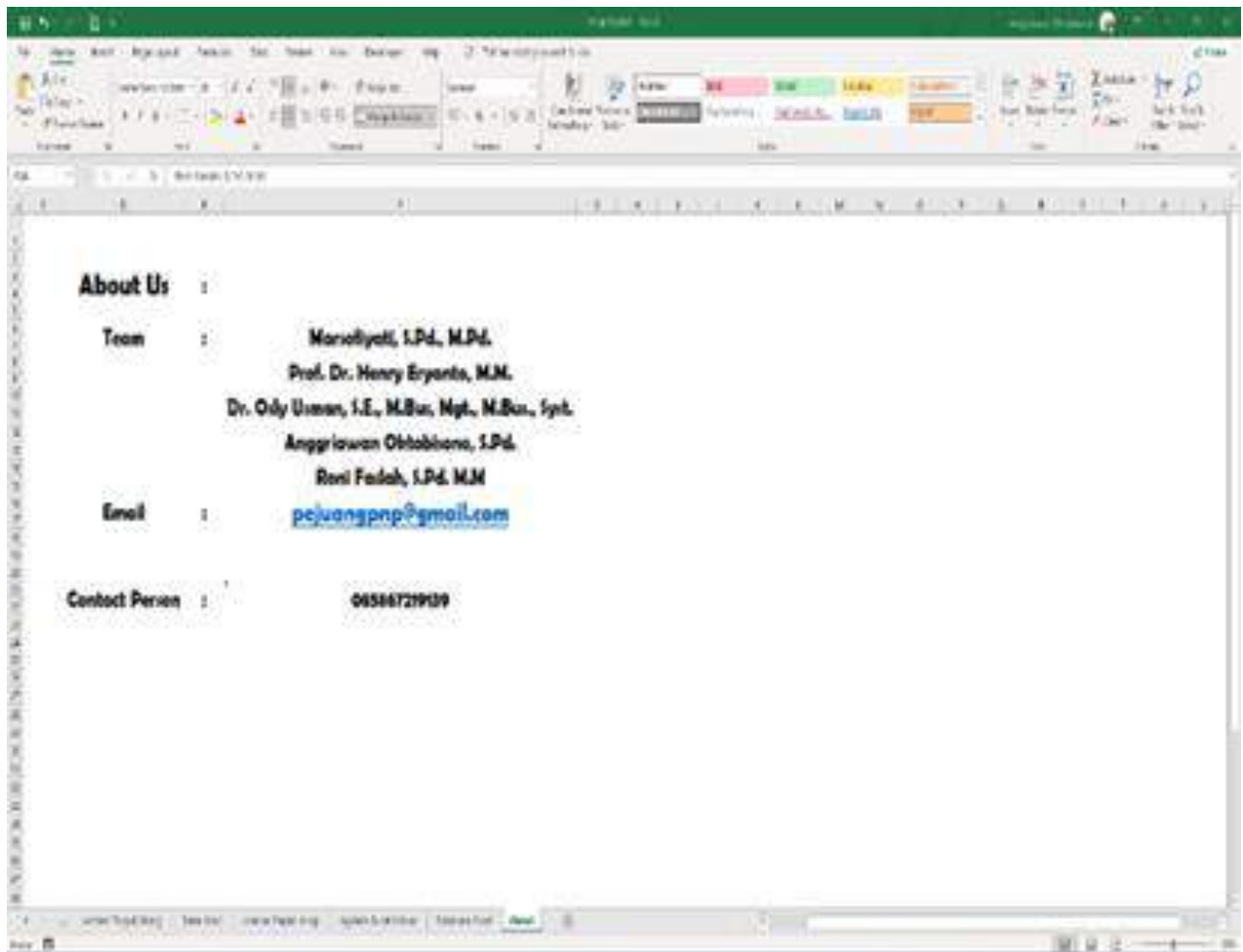


Figure 13.  
About

11. Input the incoming mail

Incoming mail input is one of the features in the application to information or record incoming mail received. In the input of incoming mail, several fields must be filled in, namely agenda number, date of receipt, date of the letter, letter number, brief contents, from, to, sending city, sender address, subject, code, and description. When all fields have been filled in completely, you can click the save button at the bottom of the incoming mail input. As can see in Figure 14. below.

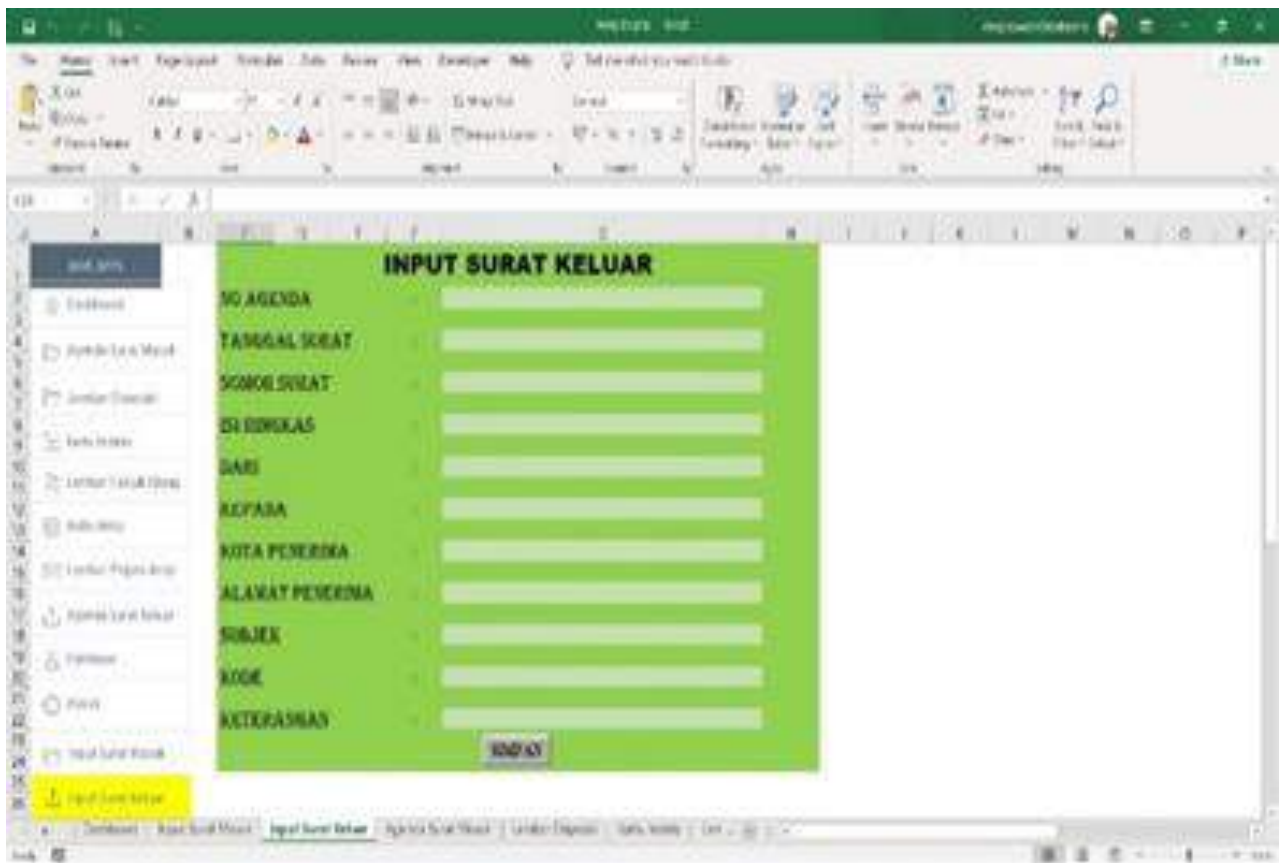


Figure 14.  
Input the incoming mail

12. Input the outgoing mail

Input outgoing mail is one of the application features to input or record outgoing letters sent by the company to other parties. In the outgoing letter input, several fields must be filled in, namely agenda number, date of the letter, letter number, concise content, from, recipient city, recipient address, subject, code, and description. When all fields have been filled in completely, you can click the save button at the bottom of the outgoing mail input. As can see in Figure 15. below.

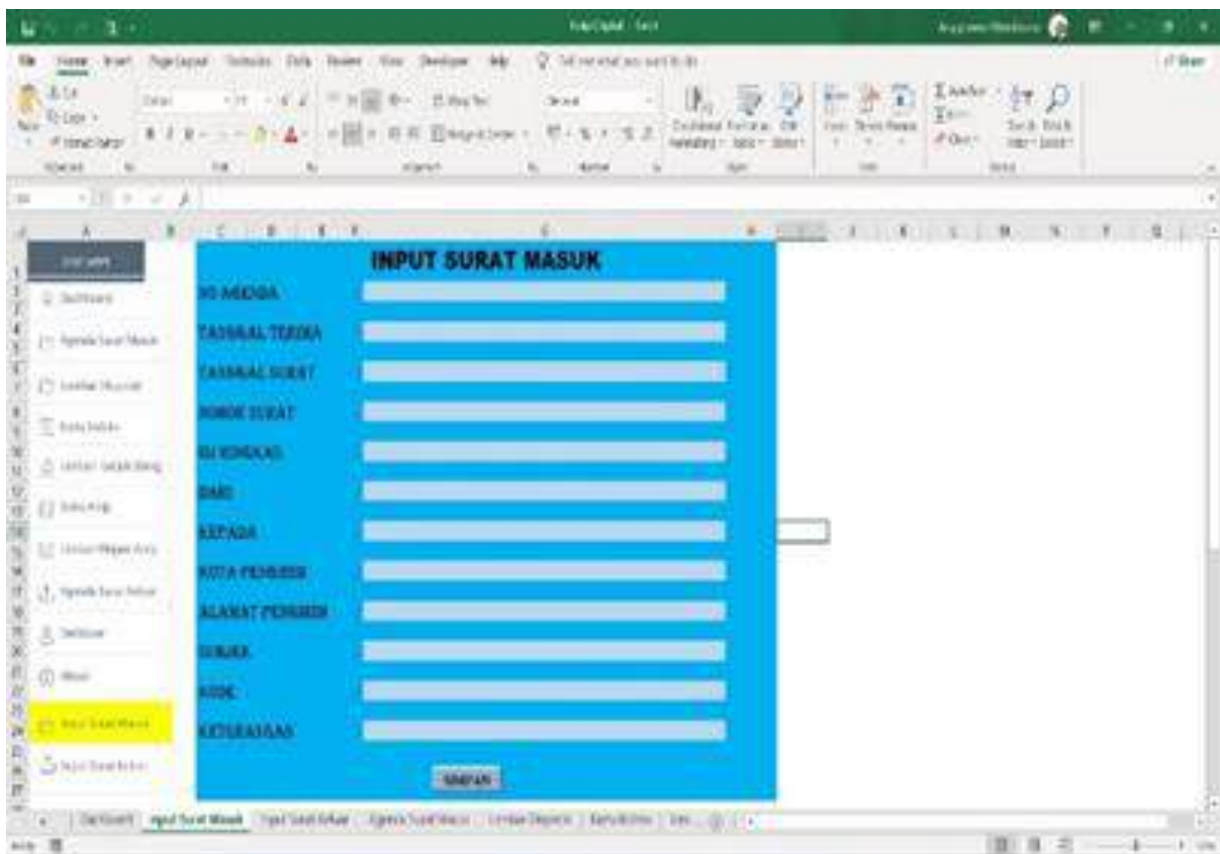


Figure 15.  
Input the outgoing mail

The features that we present adjust to archiving needs as they are usually used when managing archives manually. Dive Apps (Digital Archives) are here to help manage archives with a digitalization system and can also be used by teachers in archival learning. This application is also a form of archiving automation, of course, by utilizing effortless technology.

The outputs of this Community Service are:

1. Knowledge training on recognizing database applications in digital archive management aims:
  - a. The target group's ability to increase by 80% in understanding database applications.
  - b. The target group can carry out digital-based digital archives through ICT developments, especially using database applications.
2. The Role of Schools in Database Implementation Training, with the objectives of:
  - a. Increasing the ability of teachers to understand the benefits and roles of database applications by 80%.
  - b. Increasing school facilities and infrastructure in supporting digital archive learning activities, especially using database applications, by 80%.
3. Training on the application of database applications as a means of managing archives, with the following objectives:
  - a. The ability of the target group to increase in the areas of interest and talent through information technology by 90%.
  - b. The availability of information technology media to improve archive management by 80%.

## **CONCLUSION AND RECOMMENDATION**

The Archive Database application in the era of revolution 5.0 is needed, especially in a school or office environment, where it facilitates work and does not lag behind existing developments. After this community service activity, which is given in training, we hope there will be monitoring. Considering that this training is about digital archives that can be used as learning materials, it is necessary to see if there are any developments provided through the monitoring. Furthermore, it is essential to provide supporting facilities such as computer labs and qualified teachers to deliver digital archives material to students.

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