Web-Based Incoming and Outgoing Mail Information System Using PHP and Mysql Programming Languages In Karanganyar Village

1st Nendy Akbar Rozaq Rais
1Institut Teknologi Bisnis AAS Indonesia
1Jl. Slamet Riyadi No. 361 Windan, Makamhaji, Kartasura, Sukoharjo, Indonesia
1ab.terate@gmail.com

Abstract— Information technology is currently developing rapidly, causing all aspects of human life to always be connected to the development of this technology. The influence of this technological development can be felt in various fields, both academic and non-academic. Manual data processing has begun to be eliminated and changed into a computerized system to facilitate the data processing process so that it can be done quickly and does not take a long time. Karanganyar Village Hall has a letter filing system that is still manual. Incoming letters are still stored in large folders that are sorted by letter number, in addition, archiving incoming letters requires the creation of a disposition to be addressed to the relevant party. The creation of this disposition awaits the leader who as a leader has a lot of busyness or activities. So that the process of making dispositions and making outgoing letters takes a long time. This Incoming and Outgoing Letter Application is one way to handle the processing of correspondence data starting from recording and archiving incoming letters, making dispositions, making outgoing letters, as well as reports of incoming and outgoing letters and is expected to be able to process correspondence data without taking a long time and can be processed. With this application, it is expected to make it easier for employees to manage correspondence. This application is built with PHP and MySQL.

Keywords : Information Systems, Websites, Mail.

I. INTRODUCTION

Information technology is currently developing rapidly, causing all aspects of human life to always be connected to the development of this technology. The influence of this technological development can be felt in various fields, both academic and non-academic. The benefits that can be felt from the development of technology are data processing that can be done precisely, quickly, and accurately. With the help of information technology, all data processing processes in the system can be carried out in various different places so that they can be more effective and efficient.

From the explanation of the description above, data processing that is done manually has begun to be eliminated and changed into a computerized system to facilitate the data processing process so that it can be done quickly and does not require a long time. In addition, data processing and accessing that does not use a system is usually only done in one place so that it can hinder the performance of the company or agency.

Karanganyar Village Hall has a letter filing system that is still manual. Incoming letters are still stored in large folders that are sorted by letter number, in addition, archiving incoming letters requires the creation of a disposition to be addressed to the relevant party. The creation of this disposition awaits the leader who as a leader has a lot of busyness or activities. So that the process of making dispositions and making outgoing letters takes quite a long time.

This Incoming and Outgoing Letter Application is one way to handle the processing of correspondence data starting from recording and archiving incoming letters, making dispositions, making outgoing letters, as well as reports of incoming and outgoing letters and is expected to be able to process correspondence data without taking a long time and can be processed at any Branch Office. So far, the problem that has occurred is that outgoing and incoming letters use conventional methods, are not organized, so it is difficult to track letters that have been received or sent. With this problem, the author created an application to facilitate tracking and archiving and numbering of letters at the Karanganyar Village Hall.

II. RESEARCH METHODS

The author uses the SDLC (Systems Development Life Cycle) research method in writing this Final Assignment report. SDLC is a method used to develop a system (Mulyani. 2016:28). The reason we chose SDLC is because of the process of creating and changing systems and the models and methodologies used to develop these systems according to user needs. This concept generally refers to computer or information systems. SDLC is also a pattern taken to develop software systems, which consists of the following stages: planning, analysis, design, implementation, testing and maintenance. This step involves a clear definition of the purpose of the creation, the expectations of the project creation and the problems that are expected to be solved. At this stage the author collects information to find solutions by conducting

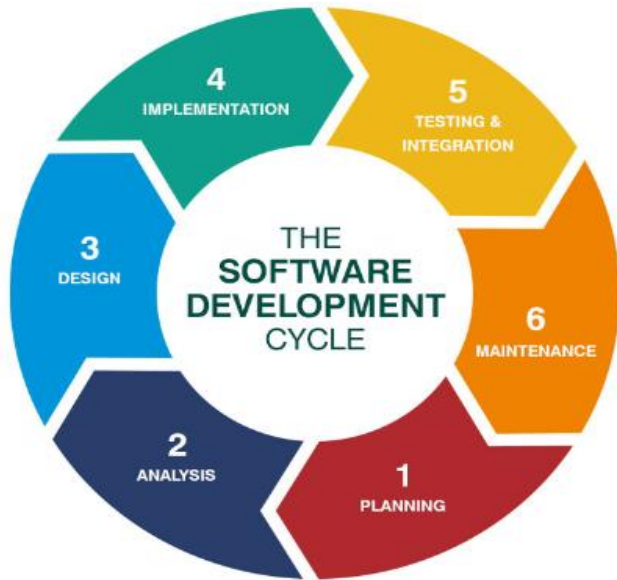observations and interviews. An image of the SDLC method is shown in Figure 1.

Figure 1. SDLC Methode

III. RESULT AND ANALYSIS

The author conducted a comprehensive observation of research activities at Karanganyar Office to obtain accurate data on the letter archiving system being developed. To assist the author in analyzing and building letter archiving application systems, the author used several tools for research, including the following:

3.1 Flow Chart

Flowchart or flow chart is a diagram that displays the steps and decisions to carry out a process of a program. Each step is depicted in the form of a diagram and connected by a line or arrow direction. Flowcharts play an important role in deciding a step or functionality of a program creation project that involves many people at once. In addition, by using a flowchart the process of a program will be clearer, more concise, and reduce the possibility of misinterpretation. The use of flowcharts in the programming world is also a great way to connect technical and non-technical needs. flowcharts in correspondence applications can be seen in the image below :
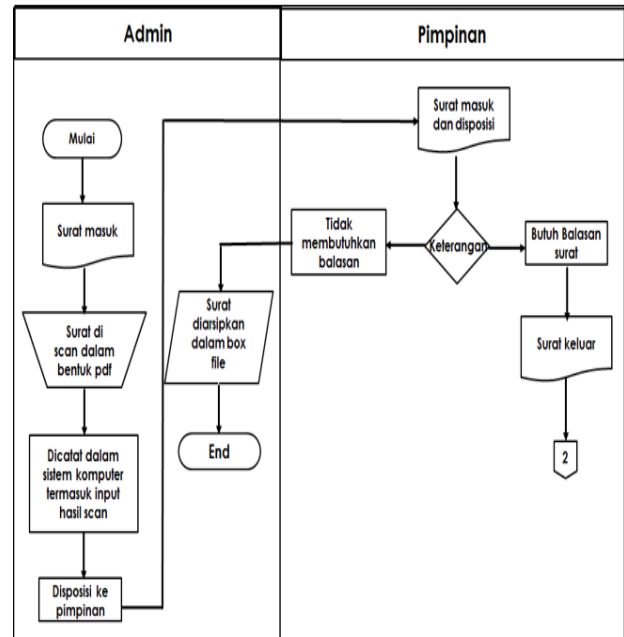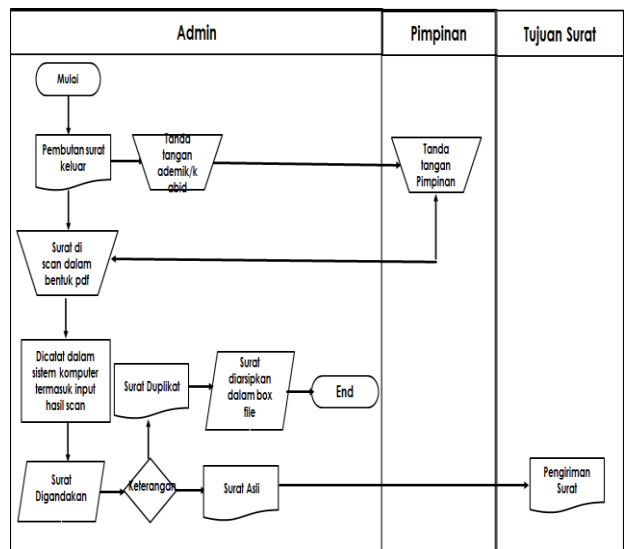

Figure 2. Flowchart mail in

Figure 3. Flowchart mail out

3.2 Usecase

Usecase is a technique used in the development of software or information systems to capture the functional requirements of the system in question. Usecase describes the interactions that occur between 'actors' initiators of the interaction of the system itself with the existing system. A usecase is represented by a sequence of steps. simple. From the results of the needs analysis carried out in the previous report, the Usecase system diagram is shown in Figure 4.
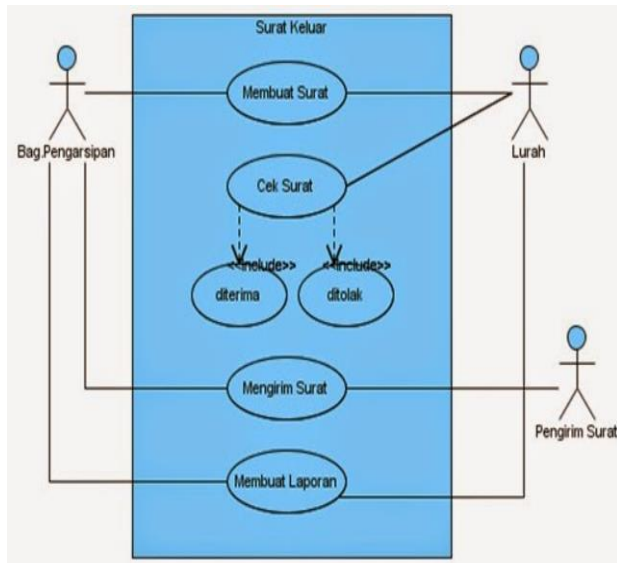
Figure 4. Usecase

3.3 Activity Diagram

A sequence diagram is a diagram that shows or displays interactions between objects in a system that are arranged in a sequence or time series. Sequence Diagrams are used to describe a scenario or series of steps taken as a response to an event to produce a certain output. The following is a system sequence diagram created based on the use case discussed in the previous sub-chapter, which can be seen in Figure 5.
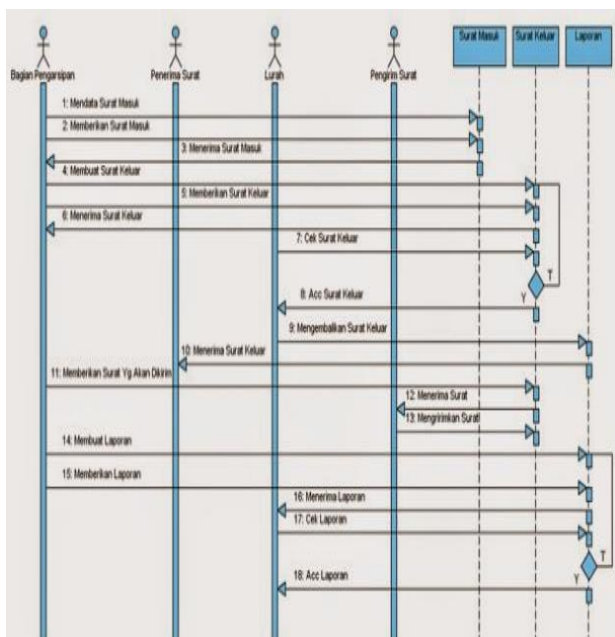

Figure 5. Squence Diagram

3.4 Context Diagram

Data Flow Diagram is a tool that shows the flow of data in a system in graphical form. The important elements of DFD are data flow, process, data storage and data sources. The analysis system creates DFD based on levels. High-level DFD only identifies large processes (Irwansyah, 2014). In the data flow diagram also does not have control over its flow, so there are no rules related to decisions or repetition. The form of depiction is in the form of data flowchart with a more specific scheme. According to Kenneth Kozar, the purpose of the DFD itself is as a provider or bridge between users and the system. Following is the System Architecture shown in the figure 6.
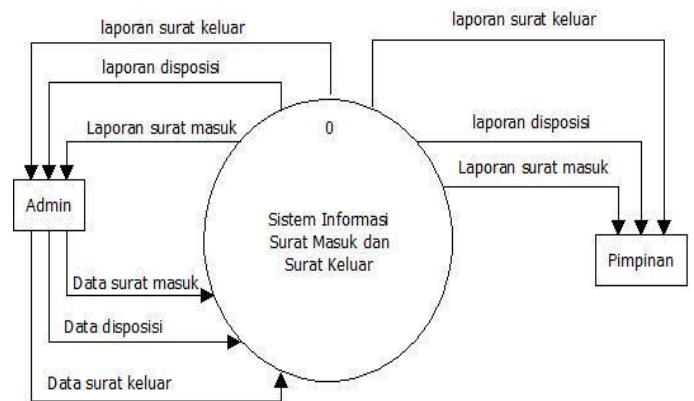

Figure 6. Konteks Diagram

3.5 Diagram HIPO

1) HIPO (Hierarchy Input Process Output) is a methodology developed and supported by IBM. HIPO is actually a program documentation tool. However, now, it is widely used as a design tool and documentation technique in the system development cycle based on functions, namely each module in the system is described by its main function. According to Jogiyanto HM in the book Analysis & Design of Information Systems (2005:787) HIPO (Hierarchy plus Input-Process-Output) is a design tool and documentation technique in the system development cycle. The HIPO diagram of the letter filing system developed by the author at Karanganyar office is shown in the image below.
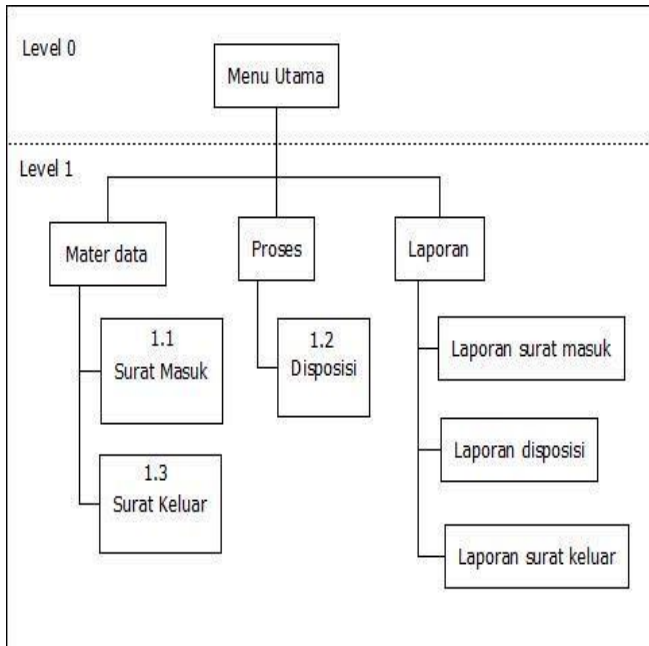
Figure 7. HIPO Diagram

Figure 8. DFD Level 1

3.6 Chart and Table

Charts and tables must be centered. Large graphs and tables can be stretched on both columns. Any table or figure that covers a width of more than 1 column must be positioned at the top or bottom of the page.

Graphics are allowed in color. All colors will be saved on the CDROM. Images may not use dotted patterns because there is a possibility that they cannot be printed in the original. Use contrasting solid coloring both for display on a computer screen, as well as for prints in black and white, as shown in Figure 1.

Figure 2. Show an example of an image with a low resolution that is less appropriate, whereas Fig. 3 shows an example of an image with adequate resolution. Check that the image resolution is sufficient to reveal important details in the image.

3.7 DFD Level 1

Data flow diagram (DFD) is a system model to describe the division of the system into smaller modules. One of the advantages of using a data flow diagram is that it makes it easier for users who are less proficient in computers to understand the system to be built. Data Flow Diagram (DFD) level 1 is a diagram that details the processes in DFD level 0. DFD level 1 aims to provide a more in-depth picture of the entire system. The following is a description of the DFD level 1 of the letter archiving system that the author developed at Karanganyar Office.
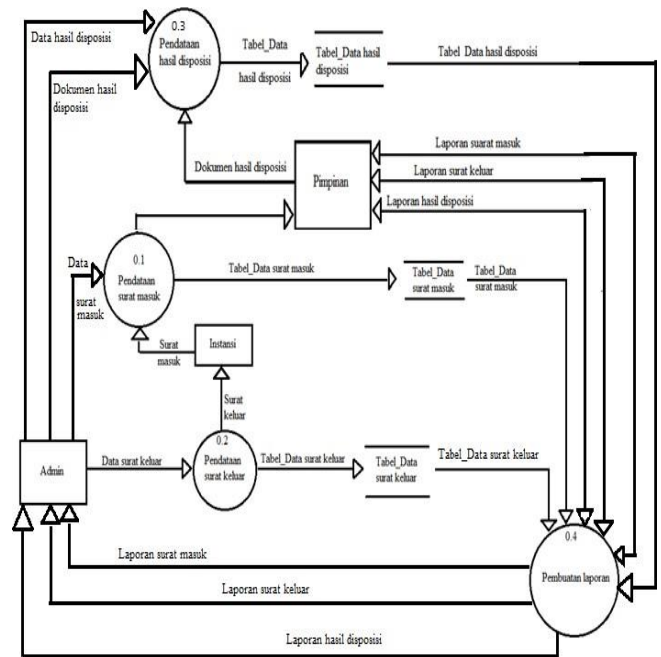
The context diagram contains the agency admin and the leader, the first is the admin receives incoming mail then creates a record of incoming mail then creates a table of incoming mail data then creates an incoming mail report, the leader inputs it into the report creation process, after processing the leader obtains the report creation results then forwards it to the admin.
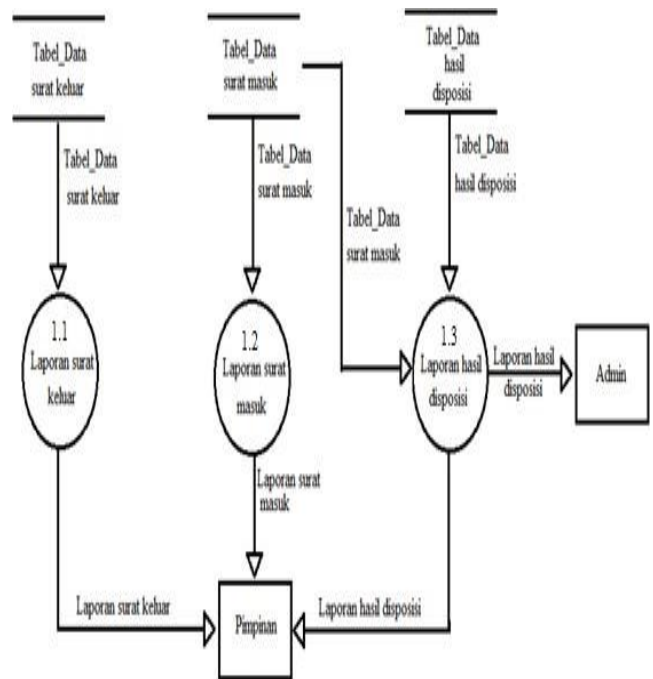

Figure 9. DFD level 1 Admin

The following is an explanation for DFD Level 1 which is a breakdown of DFD Level 0, in this chart there are two entities, namely the leader and the admin. There are three tables that function as data storage, namely the Outgoing Letter Data Table, Incoming Letter Data Table and Disposition Results Table. And there are three places to process data into reports, namely Outgoing Letter Reports, Incoming Letter Reports, and Disposition Results Reports. The flow of the DFD Level 1 chart starts from the data stored in the Outgoing Letter Data Table then goes into processing the Outgoing Letter Report, after processing the Outgoing Letter Report will be forwarded to the leadership. Furthermore, from the data stored in the Incoming Letter Data Table, then enter the Incoming Letter Report processing, it will be forwarded to the leadership and from the Incoming Letter Data Table data is processed again into a Disposition Result Report. Finally, from the data stored in the Disposition Results Table then enter the Disposition Results Report processing, in the Disposition Results Report processing, data is obtained from two data storage places, namely the Incoming Letter Data Table and the Disposition Results Table, after the Disposition Results Report processing is complete, the Disposition Results Report will be forwarded to the leadership and admin.

3.8 Database

A database is a collection of data that is managed in such a way based on certain provisions that are interconnected so that it is easy to manage. Through this management, users can easily find information, store information and dispose of information.
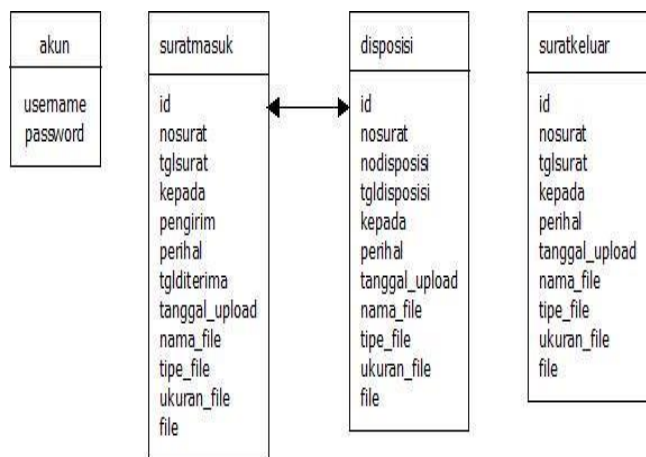

Figure 10. Database

The *database* design that the author made for the letter filing system at Karanganyar Office consists of four tables, namely:

Table 1. Account

Nama_filed	Type data	Lebar
Username	Varchar40	
Password	Varchar40	

Table 2. Disposition

Nama_filed	Type data	Lebar
Id *	Int	11
No surat	Varchar	25
No disposisi	Varchar	25
Tgl disposisi	Date	10
Kepada	Varchar	50
Perihal	Varchar	50
Tanggal_upload	Date	10
Nama_file	Varchar	100
Tipe_file	Varchar	10
Ukuran_file	Varchar	20

Table 3.3 Mail Out

Nama_filed	Type data	Lebar
Id *	Int	11
No surat	Varchar	25
No disposisi	Varchar	25
Tgl disposisi	Date	10
Kepada	Varchar	50
Perihal	Varchar	50
Tanggal_upload	Date	10
Nama_file	Varchar	100
Tipe_file	Varchar	10
Ukuran_file	Varchar	20

Table 3.4 Mail In

Nama_filed	Type data	Lebar
Id *	Int	11
Nosurat	Varchar	25
Tglsurat	Date	10

3.9 Desain Interface

UI or user interface design is the process of building an interface that focuses on style and looks interactive to the user. The goal is to create an

interface that is simple, accessible to users and aesthetically pleasing. UI Design adapts concepts from visual design, interaction, and information architecture. So, the work anticipates what users will need and do while using an application, website, or other digital device. In addition, the design must also communicate the brand value to the user.
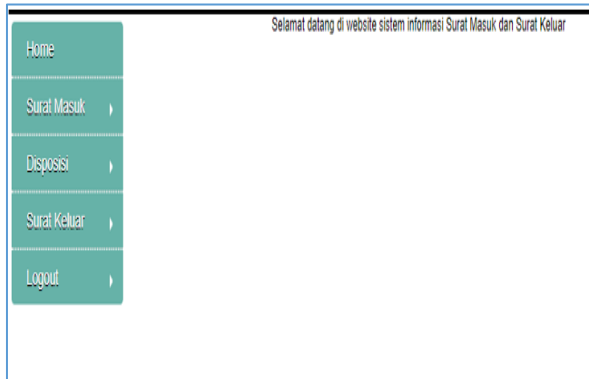

Figure 11. Home

The incoming letter menu is used to input incoming letter data, edit incoming letters and delete incoming letter data. Incoming letters are inputted through the incoming letter form, the data is entered according to the contents of the existing incoming letter form. After the incoming letter data is complete, click save to end the incoming letter input process. If the incoming letter is correct, a confirmation will appear that the incoming letter data has been successfully saved. The following is a view of the incoming letter form.

Figure 12. Input Mail in

Figure 13. View Mail in

VI. CONCLUSION

Based on the analysis that has been discussed in this final project report, the authors can conclude several things, including the management of incoming and outgoing letters at the Karanganyar office still uses a manual method, namely the administrative officer fills in the incoming and outgoing letter book every time and makes a disposition sheet based on incoming and outgoing letters, doing this according to the author is less effective and efficient. The author seeks to design and build a web-based incoming and outgoing mail application system, which aims to replace the old system to a computerized system. The goal is to increase the efficiency of processing data on incoming and outgoing mail recording activities in the Karanganyar office.

REFERENCES

[1] Budiarto, Eko Dan Dewi Anggraeni. 2003. Epidemiologi. Jakarta: Penerbit Buku Kedokteran Egc.

[2] Cahyaningrum, Nuning. 2013. Sistem Informasi Pengarsipan Surat Masuk dan Surat Keluar di SMK Batik Perbaik Purworejo.

[3] Fatta, Hanif Al. 2007. Analisis & Perancangan Sistem Informasi. Yogyakarta: Andi Offset.

[4] Jaenuri, Muhammad. 2013. Perancangan Pengolahan Data Perpustakaan Madrasah Aliyah Negri 1 Lasem Berbasis Internet. Indonesian Journal on Networking and Security

[5] Ladjamudin, Al-bahra. 2013. Analisis dan Desain Sistem Informasi.Yogyakarta: Graha Ilmu.

[6] Maniyeni, Peter N. 2017. Perancangan Sistem Informasi Pengolahan Surat Masuk dan Keluar Berbasis Web dengan Codeignitier Kantor Bappepda Kota Salatiga.

[7] Mcleod, Reymond Dan George P. Schell. Sistem Informasi Manajemen. Sumatra Barat: Salemba Empat

[8] Mulyani, Sri. 2016. Metode Analisis dan Perancangan Sistem. Bandung : Abdi Sistematika.

[9] Pramudya, Joni Supriyono Arif. 2013. Pembuatan Mobile Berbasis Android OS Untuk Mengetahui Lokasi Tempat Wisata di Daerah Istimewa Yogyakarta.

[10] Rahman Hakim, Edu Arif. 2015. Rancang Bangun Sistem Informasi Persuratan Pelanggaran Kode Etik Penyelenggara Pemilu Jakarta.

[11] Wursanto. 2010. Cetakan Ketiga. Kearsipan. Jakarta.

[12] Yuhefizard. 2008. Database Management. Jakarta: Elex Media Komputindo.