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# INFORMATION SYSTEM DEVELOPMENT GENERAL CRIME DATA MANAGEMENT KEDIRI CITY DISTRICT ATTORNEY

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***Keywords***

Applications, Information Systems, Waterfall.

**Abstract**

An information system is a combination of hardware, software, and users that form a system whose purpose is to receive data and process it into appropriate information for a particular purpose. A good information system, supported by accurate and secure data, improves the performance of every activity within the company, agency or institution and enables it to be carried out more effectively. The Kediri State Prosecutor's Office is one of the agencies engaged in the field of Community Service. One part of this agency that is important is case data, especially for the general crime section (Pidum). The General Crimes Section has the task of carrying out and controlling the handling of general criminal cases which include pre-prosecution, additional examination, prosecution, judge's determination and court decisions, supervision of the implementation of conditional crimes, supervision crimes, supervision of the implementation of parole decisions and other legal actions. The development of this information system uses the waterfall method which has several sequential stages, namely requirements analysis (Requirement Analysis), system design (System Design), implementation (Implementation), integration and testing (Integration & Testing), implementation and

maintenance of the program (Operation & Maintenance). ). The result of the development of this information system is a web-based application called Smart Pidum which is a case data management application, especially in the general crime section. The development of the Smart Pidum information system can solve problems in managing case data and make it easier for officers to carry out their duties and responsibilities.

## INTRODUCTION

An information system is a combination of hardware, software, and users that form a system whose purpose is to receive data and process it into appropriate information for a particular purpose. A good information system, supported by accurate and secure data, improves the performance of every activity within the company, agency or institution and enables it to be carried out more effectively.

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In this study, the previously applied system still uses conventional methods where data management is done manually by typing and saving into Ms Word and there is no backup storage that is needed at any time when the document that has been created is lost or disappears so that it can cause data loss, time which takes a long time when managing data, and conveying information about case data using a letter which is typed manually. Therefore, the development of an information system that can shorten the time required to process data, simplify the flow of information, and transmit information. The development of this information system goes through several stages starting with a survey at the research site, problem identification, system analysis, business process design using BPMN, designing storage systems using databases and web-based applications using the PHP programming language with the Laravel framework, and MySQL as management. database, an application called Smart Pidum (Data Management Information System for General Crime Cases) was created.

## RESEARCH METHOD

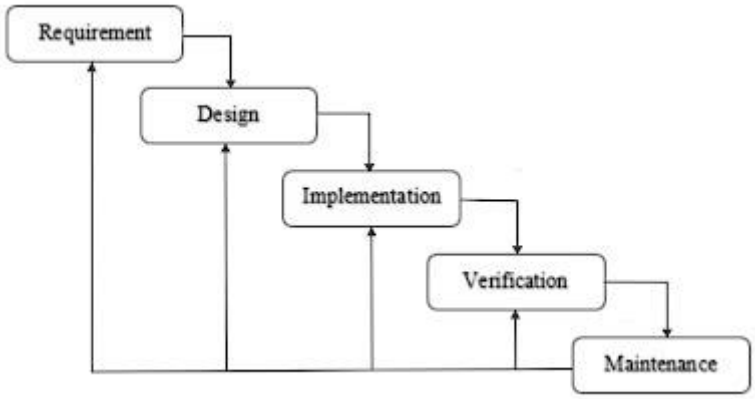


Figure 1. Waterfall model

1. Data Collection Method
   This study uses data collection techniques needed to answer the research problem formulation. Data collection techniques used by researchers in this study are as follows:
   a. Observation
      The observation technique is done by observing directly an ongoing activity on the object of research so that it can be seen and understood how the system works.
   b. Interview
      Interviews were conducted to identify problems that occurred during business processes and to analyze processes in the form of verbal statements about an object.
   c. Documentation
      Documentation contains data that is usually formed, diaries, reports, photos and can also be in the form of a file. The documentation used in this study is a letter of assignment or a court letter containing summons for the defendant, the investigating agency, and the prosecutor.
2. Development Stage
   a. Needs Analysis (Requirements Analysis)
      At this stage, system developers need communication that aims to understand the software expected by users and the limitations of the software. This information is obtained through interviews, discussions or direct surveys. The information is analyzed to get the data needed by the user. In this study, the resource person was the head of the general crime section, namely Mr. Hary Yohanes S.H, M.h.
   b. System Design (System Design)

The requirements specifications from the previous stage will be studied in this phase and the system design is prepared. System Design helps in determining hardware, system requirements and also helps in defining the overall system architecture.

c. Implementation
   At this stage, the system is first developed in small programs called units, which are integrated in later stages. Each unit is developed and tested for functionality which is referred to as unit testing.
d. Integration and Testing (Integration and Testing)
   All units developed in the implementation phase are integrated into the system after the tests carried out by each unit. After integration the whole system is tested to check for any failures or errors.
e. Operation and Maintenance (Operation and Maintenance)
   The final stage in the waterfall model. Software that has been finished, run and carried out maintenance. Maintenance includes fixing errors not found in the previous step.

## RESULTS AND DISCUSSION

The Kediri State Prosecutor's Office is one of the institutions engaged in the field of Community Service. One part of this agency that is important is case data, especially for the general crime section (Pidum). The General Crimes Section has the task of carrying out and controlling the handling of general criminal cases which include pre-prosecution, additional examination, prosecution, judge's determination and court decisions, supervision of the implementation of conditional crimes, supervision crimes, supervision of the implementation of parole decisions and other legal actions.

Therefore, it is necessary to develop an information system that can shorten the time needed to process data, simplify the flow of information, and send information related to case data. So that the benefits that can be expected in the information system are that it can help solve problems related to the management of case data, especially in the general crime section and provide convenience in managing case data and can provide information easily. So that it can improve the quality of service for the community

### Planning

1. Analysis of business processes before the system is created and developed.
   Before the development of this information system, there were 2 main business processes, namely managing case data and making court letters. The following is a business process before this information system was created.
   The analysis is described using BPMN (Business Process Modeling Notation):

a. Managing case data

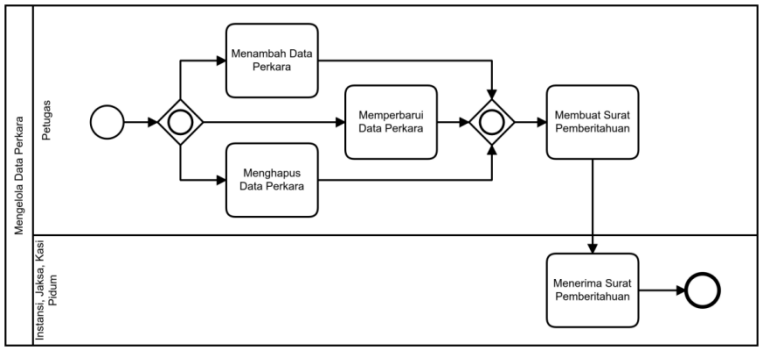


Figure 1. Process of managing case data

Case data management is done by making documents in the form of Ms. Office Word with a predetermined format. If there is an update (update) of data such as the date of entry of the case file, change of case status, and date of extension of detention, the officer will make edits to the document that has been made and notify the change in this case data to the investigating agency, prosecutor, and kasi pidum (Section Head). General Crimes) by making conventional notification letters.

b. Make a court letter

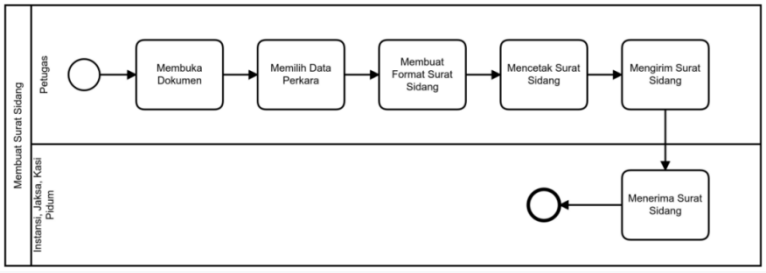


Figure 2. The process of making a trial letter

Making a trial letter also uses a document in the form of Ms. Office Word with a predetermined format. The officer enters the case data that has been previously entered into the court letter format. A trial letter is made when the case data changes its status and a trial will be conducted. The trial letter was sent to 3 main parties, namely the investigating agency, the prosecutor, and the pidum section.

2. Analysis of business processes after the system is created and developed.
   After this system is created and developed, there are 4 running business processes, namely application logins, managing case data, managing agency data, and making trial letters.

a. App login

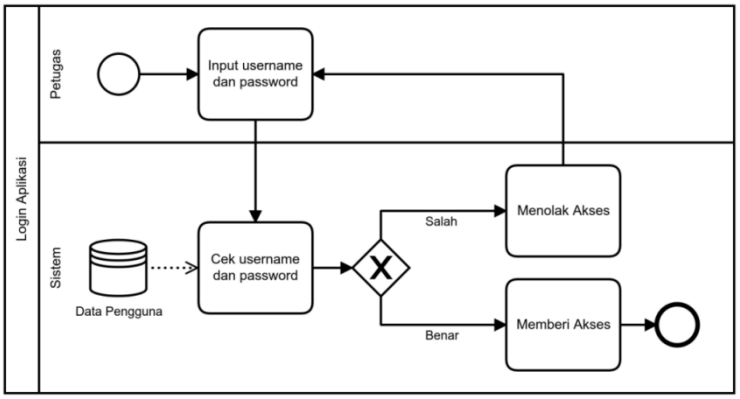


Figure 3. Application login process

The application login business process begins with the officer opening the application then logging in by entering the username and password, when the officer logs in, the system will check whether the data entered by the officer is correct or incorrect with the user data in the system. If it is wrong, the system will not give access to the officer and return the officer to the login page. If correct, the system will give access to the officer and display the main application page.

b. Managing case data (new)

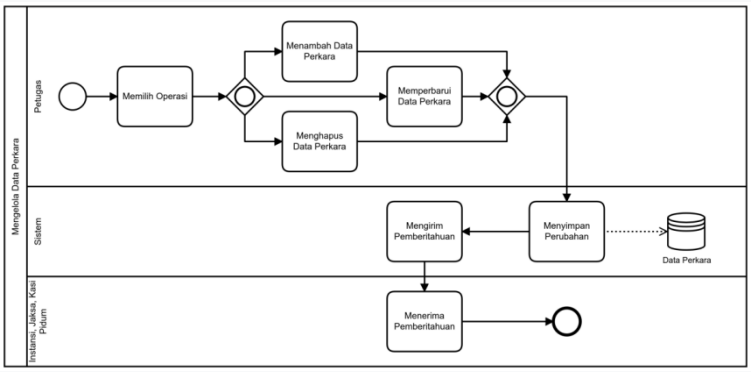


Figure 4. Process of managing case data (new)

After the application login process is successfully carried out, the officer will select the case data menu and then begin to perform data management including adding new case data, changing data, and deleting case data. In this process, when new data is created, the system will automatically send notifications regarding new case data, as well as changes and data deletions. Notifications are sent to the investigating agency, the prosecutor and the head of the pidum. Notifications are sent using the Whatsapp API chat service.

c. Managing agency data

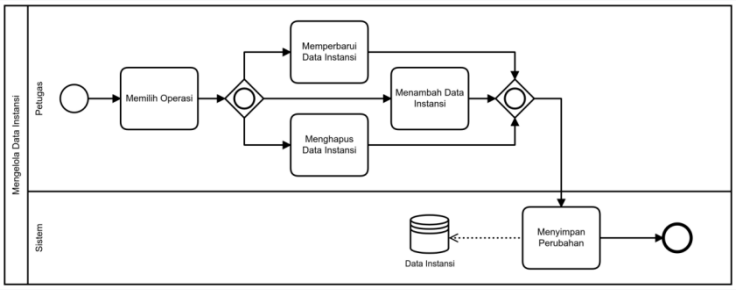


Figure 5. Process of managing agency data

This process is almost the same as the previous process, the difference is the data that is managed. in this process the data that is managed is agency data in which there is the name of the agency and the Whatsapp number of the agency. In this process, employees can perform operations to add, change and delete agency data.

c. Make a trial letter (new)

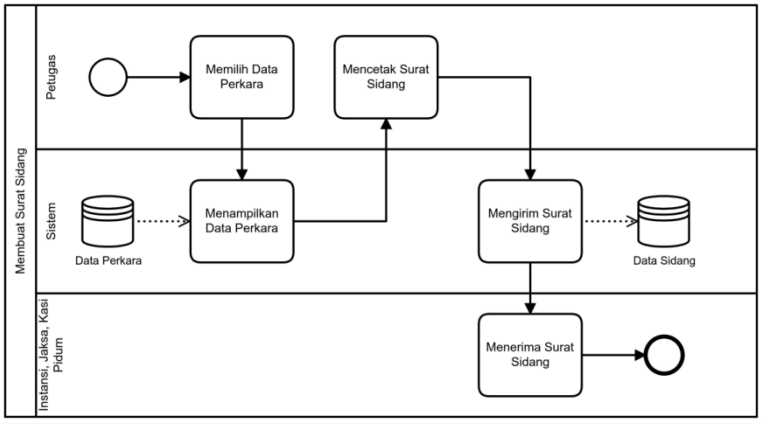


Figure 6. The process of making a trial letter (new)

In the business process after this information system is developed, it is enough to make a court letter by selecting the case data for which a trial letter will be made, the system will automatically create a court letter with the same format as in the business process before this system was developed, and the system will also automatically send the trial letter that has been made to the investigating agency, prosecutor, and head of pidum.

**Implementation**

a. Login Page


Figure 7. Display the login page

When opening the application for the first time, the page that is displayed is the login page, on this page the user will login by entering the username and password in the login form.

b. Case Data Page

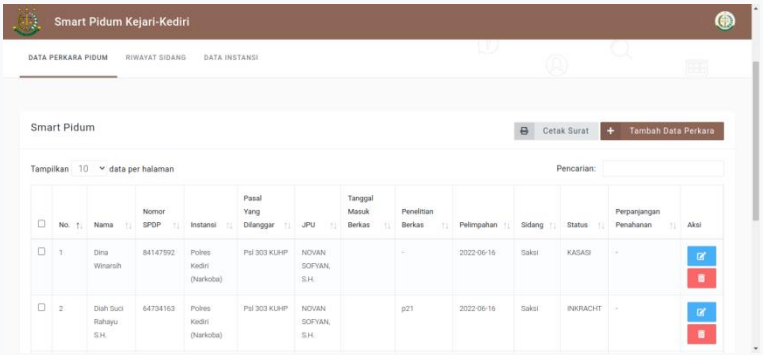


Figure 8. Display of case data page

After the user logs in, the system will check whether the username and password entered is correct or incorrect, if incorrect, the user will be returned to the login page, if correct, the user will be directed to the main application page. On the main page of the application there are 3 navigation menus, the first for navigation to the case data page, the second navigation menu for the trial history page, and the last navigation menu for the agency data page.

On the case data page, case data is presented in tabular form and each row of data has an edit and delete button on the right, and a check button to select data on the left. At the top of the table there are 2 buttons, namely add case data and print a trial letter. The add case data button serves to display a window containing a form to enter new case data. And the print letter button functions to display a window containing a form to enter information when the trial will be held after the user

selects which data to make a trial letter.

c. Session History Page

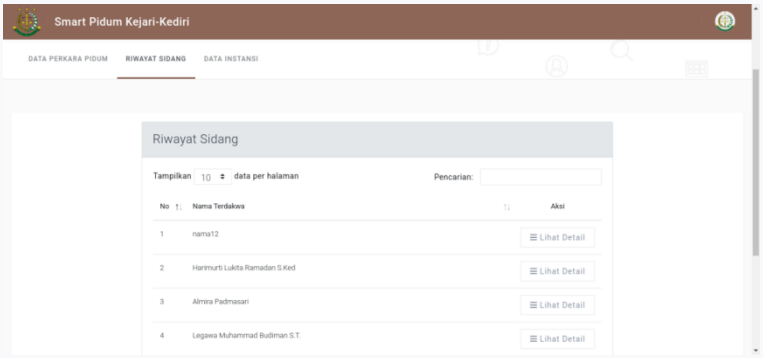


Figure 9. Display of the trial history page

The trial history page displays trial data which is case data for which a trial letter has been made.

d. Agency Data Page

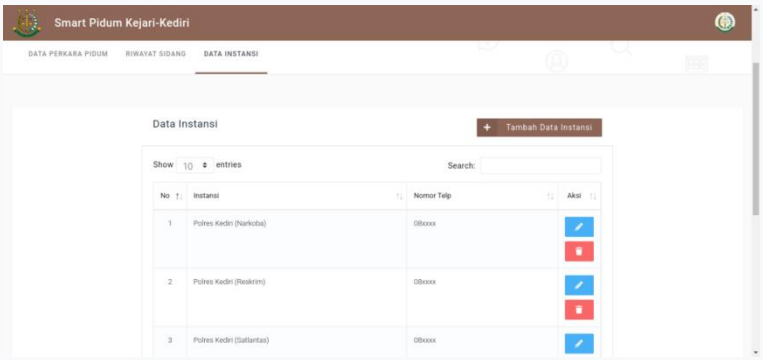


Figure 10. Agency data page display

On the agency data page, agency data is presented in tabular form with displays and buttons that have almost the same function as the case data page.

**Control or supervision**

Table 1 System test table

| No | Process | | | Succeed/ Fail | Tested by | Date |
|---|---|---|---|---|---|---|
| 1 | Test Name | : | Login | Succeed | Galih Satriya Permadi, S.H. (Opr. Development of | June 16, 2021 |
| | Test Description | : | Verification of access rights can only be accessed by registered users | | | |
| | Test Case | : | - Username: admin | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | - Password: admin | | Science and Technology Facilities) | |
| | Expected results | : | | | |
| 2 | Test Name | : Adding General Criminal Case Data | Succeed | Galih Satriya Permadi, S.H. (Opr. Development of Science and Technology Facilities) | June 16, 2021 |
| | Test Description | : Verification of General Criminal Case Data input | | | |

Table 2 System test table (continued)

| No | Proses | | | Berhasil / Gagal | Diuji oleh | Tanggal |
|---|---|---|---|---|---|---|
| | Test Case | : | - Name: HERMIN Binti DARMO SUWITO | | | |
| | Expected results | : | - SPDP Number: SPDP/02/III/2021/Polsek Pesantren | | | |

Table 3 System test table (continued)

| No | Proses | | | Berhasil / Gagal | Diuji oleh | Tanggal |
|---|---|---|---|---|---|---|
| | | | and displays the data entered in the pidum data table, then the system will send a notification message via whatsapp to the party concerned | | | |
| 3 | Test Name | : | - If it fails, the system will display a notification 'Failed to add data' | Succeed | Galih Satriya Permadi, | June 16, 2021 |

Table 4. System test table (continued)

| | | | | | |
|---|---|---|---|---|---|
| | Test Description : Updating General Criminal Case Data<br>Test Case : Verify enter General Criminal Case Data | | | S.H. (Opr. Development of Science and Technology Facilities ) | |
| No | Proses | | Berhasil / Gagal | Diuji oleh | Tanggal |
| | | NANING MARINI S.E., S.H., M.H.,<br>- File Entry Date: 2021-04-14<br>- File Research: p21<br>- Delegation: 2021-05-06<br>- Status: CASE<br>- Extension of Detention: Received since Date: March 31, 2021 | | | |
| 4 | Test Name | : Deleting General Criminal Case Data | Succeed | Galih Satriya Permadi, S.H. (Opr. Development of Science and Technology Facilities ) | June 16, 2021 |
| | Test Description | : Deleted data verification | | | |
| | Test Case | : Select the data to be deleted, then click the button with the trash icon | | | |
| | Expected results | : - If successful it will display a notification 'Data has been deleted' and the data is deleted from the case data table | | | |

Table 5. System test table (continued)

| No | Proses | Berhasil | Diuji oleh | Tanggal |
|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| | | | / Gagal | | |
| 5 | Test Name | : Print court papers | Succeed | Galih Satriya Permadi, S.H. (Opr. Development of Science and Technology Facilities) | June 16, 2021 |
| | Test Description | : Selection of data to be made a court letter | | | |
| | Test Case | : - Three data are selected and the trial will be held on June 18 at 09:00 WIB | | | |
| | Expected results | : - If successful, the system will make a court letter in pdf format, and the system will send a notification along with a trial letter to the party concerned | | | |

**CONCLUSION**

The Smart Pidum Information System is a case data management application, especially in the general crime section. The information system developed is a web-based application. This application has the ability to manage data, make court letters, and send notifications related to case data to parties related to the case data. The development of the Smart Pidum information system can solve problems in managing case data and make it easier for officers to carry out their duties and responsibilities.

Suggestions

Based on the results of the development that has been done, suggestions for further research are expected to develop this system to use more specialized platforms such as mobile and desktop applications so that their use becomes more practical, and create their own Whatsapp API service in order to reduce costs for renting Whatsapp API services from third parties. other. So that the Smart Pidum information system can be implemented properly. The following things need to be done:

1. Maintenance of the application so that it can still carry out its functions as it should.
2. Keeping connected to the internet when using the app.
3. Keeping the services connected to the application active so that the features of the application continue to run.
4. For officers who are responsible for data management, it is better to read the documentation first, so that they can fully take advantage of the existing features.

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