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Desktop-Based Office Stationery Management Information System Using Visual Basic at the Rancaekek DTP Health Center, Bandung Regency

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Abstract

The management system at the Rancaekek DTP Health Center is still processed manually, so it is less effective and efficient. Officers are still experiencing difficulties in collecting data. The purpose of this research is to facilitate the management of office stationery. The result of this study is a desktop-based office stationery management information system application at the Rancaekek DTP Public Health Center in Bandung Regency. The data processing method in this study used qualitative and the waterfall software development method, with Analysis and Design tools using UML (Unified Modeling Language), language visual basic programming and Microsoft Access database. The developed application is informative. Login and password will ensure data confidentiality and an attractive interface. We hope this application can speed up the process of managing office stationery and reduce errors of using a manual system, so that reports can be properly accounted.

Keywords: Information systems, Office stationery, Visual basic

Abstrak

Sistem pengelolaan yang selama ini ada di Puskesmas Rancaekek DTP masih secara manual, sehingga kurang efektif dan efisien. Petugas masih mengalami kesulitan dalam mengumpulkan data. Tujuan dari penelitian ini adalah mempermudah pengelolaan alat tulis kantor. Hasil penelitian ini adalah aplikasi sistem informasi pengelolaan alat tulis kantor berbasis desktop di Puskesmas Rancaekek DTP Kabupaten Bandung. Metode pengolahan data dalam penelitian ini yaitu kualitatif dan metode pengembangan perangkat lunak waterfall, dengan alat bantu Analisis dan Perancangan menggunakan UML (Unified Modelling Language), bahasa pemrograman visual basic dan database Microsoft Access. Aplikasi yang dikembangkan ini bersifat informatif. Login dan password akan menjamin kerahasiaan data dan interface yang menarik. Harapannya, aplikasi ini dapat mempercepat proses tata kelola alat tulis kantor dan mengurangi kesalahan yang terjadi ketika masih dengan sistem manual, sehingga laporan dapat dipertanggungjawabkan dengan baik

***Kata-kata kunci**: Sistem informasi, Alat tulis kantor, Visual basic*

1. Introduction

The development of application system technology is so increasingly advanced that brings a must for all institutions and companies to follow it or use one of them, one of which is desktop-based application [1]. Desktop-based applications refer to applications that can be run without an internet network like other applications based on desktop, for example Microsoft Office [2] [3].

The rapidly increasingly developing technology in the current era is no exception for the Community Health Center (Puskesmas), which is a health service facility that organizes public health efforts and first-level individual health efforts by pursuing a preventive attempt in its work area [4].

Puskesmas Rancaekek DTP is located in the Rancaekek District area of Bandung Regency. It has a warehouse section of goods assets, one of which is office stationery which is managed by the treasurer of assets for employee needs, of which management of the initial income of stock of goods, conditions of expenditure of goods per day, and reporting the remaining goods per month and per year was still manually done [6] [7]. So, in processing the data, the officers spend quite a lot of time and result in delays in the process of reporting goods, as well as the results of reports that are less accurate and ineffective. From these problems, the Rancaekek DTP Health Center requires an office stationery management application to facilitate the management and making of reporting so that everything can be accounted for appropriately and correctly.

Currently, almost all fields have used a computerized application system. With the existence of a computerized application system, it will make it easier for us to work and provide information [8].

For this reason, a system is vital so the management of office stationery can be properly integrated. With this, the problem regarding the management of office stationery at the Rancaekek DTP Health Center can be solved by the author by creating a Desktop-Based Office Stationery Management Information System at the Rancaekek DTP Health Center, Bandung Regency. The system will produce more accurate data and can further speed up the office stationery governance process, and can reduce errors of using a manual system.

2. Method

The application system manages office stationery inventory data that can integrate the master data, transaction data, and report data. To create a desktop-based application system that

can provide information on activities in and out and requests for office stationery from each unit at the Rancaekek DTP Health Center, the author hereby designs an Office Stationery Governance information system with the waterfall method [9]. The research was carried out at the Rancaekek DTP Health Center using qualitative data processing methods that consists of [10]:

a. Interview

   The author conducted an interview with the asset treasurer staff who manages office stationery at the Rancaekek Health Center. The purpose of this interview was for the author to get information about the process of managing the inventory of office stationery at the Rancaekek Health Center.

b. Observation

   For the next stage, the author did observations regarding the management of office stationery in the administrative department and the asset treasurer staff.

c. Literature

   The author collect references or libraries as a reference to conduct research related to office stationery.

The author used the waterfall method from Sommerville with a software creation model that is carried out sequentially and very systematically. Waterfall software methods is preesentedin **Figure 1**.

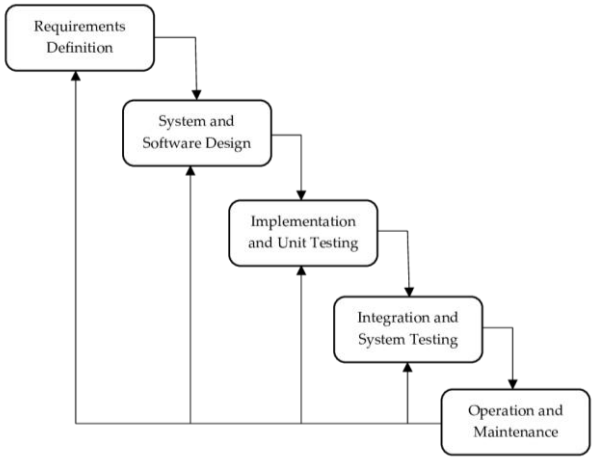

Figure 1. Waterfall Software Methods

For the stage of designing the system, UML (Unified Modelling Language) was used, and for implementation it is used as a benchmark for the success of the office stationery management system that was made, namely by conducting Blackbox testing, analyzing software and hardware needs, and maintaining the current system.

3. Results and Discussion

As explained The results of the author's findings in making an office stationery management application using the waterfall method with a visual basic programming language and the author database using Microsoft Access with Analysis and Design tools using UML (Unified Modelling Language) are as follows.

a. Presenting Result

1) System Analysis

Rancaekek Health Center has a staff section of the asset treasurer where one of its duties is to manage office stationery regarding income, expenditure, inventory, and reporting with the beginning of the process of each unit applying for office stationery needed annually coordinated by the person in charge of each unit. Of each unit, submissions are submitted to the asset treasurer and planning team. The planning team manages and checks the office stationery submission file if it is in accordance with the needs and standard unit price then the planning team, the asset treasurer makes a list of names of goods to be inputted into the budget business plan.

If the budget business plan has been validated by the relevant party, then for the submission of office stationery shopping, the treasurer of expenditure makes a memorandum of office stationery submission for requests for procurement of office stationery goods to the commitment making officer. With that, commitment making officer contacted the 3rd party for the shopping process and delivery of goods. If the goods have been sent by the 3rd party to the Rancaekek Health Center, it is continued to check whether the goods are in accordance or not with those listed in the Budget Business Plan. If the goods have been entered into the asset warehouse,each unit can submit daily requests according to the proposed submission at the beginning of the year.

2) Activity Diagram of the Initial Process for Procurement of Office Stationery that is running

Activity diagram of the office stationery procurement process is presented in Figure 2.

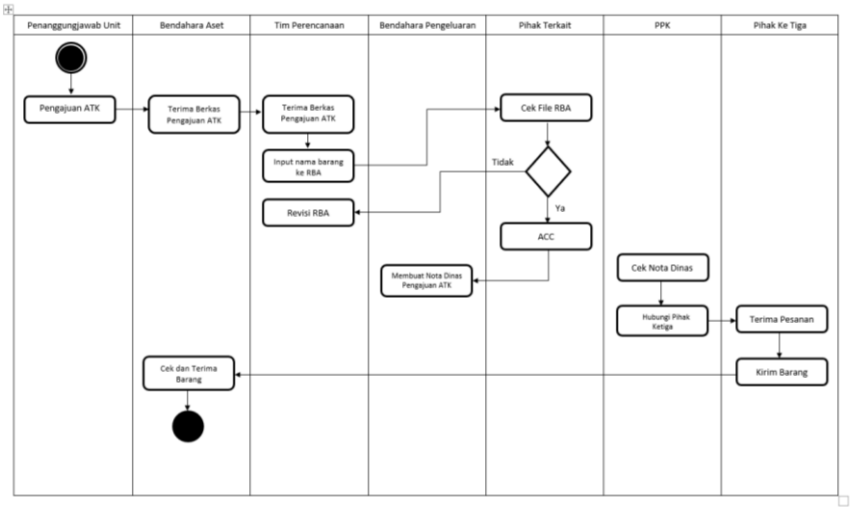

Figure 2. Activity Diagram of the Office Stationery Procurement Process

An Activity Diagram is a diagram that can model the processes that occur in a system. Figure 2 describes the process of procuring office stationery from the start of submitting each person in charge of the unit to receiving goods from third parties to the Rancaekek Health Center.

3) Activity Diagram of Office Stationery Requests Each Unit

This activity diagram shows the process of requesting office stationery from the unit to the asset treasurer by inputting the demand for goods through the office stationery management application. Activity diagram of office stationery requests each unit is presented in **Figure 3**.

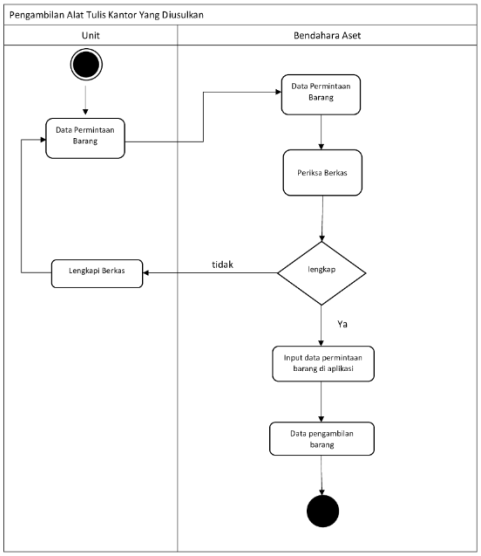

Figure 3. Activity Diagram of Office Stationery Requests Each Unit

4) Use Case Diagram of the Office Stationery Application Process

There are three actors in the use case diagram below, starting from the unit that submits office stationery, followed by the determination of goods data by staff, and reports received by

the head of UPTD/Puskesmas. Use case diagram of office stationery application process is presented on **Figure 4**.

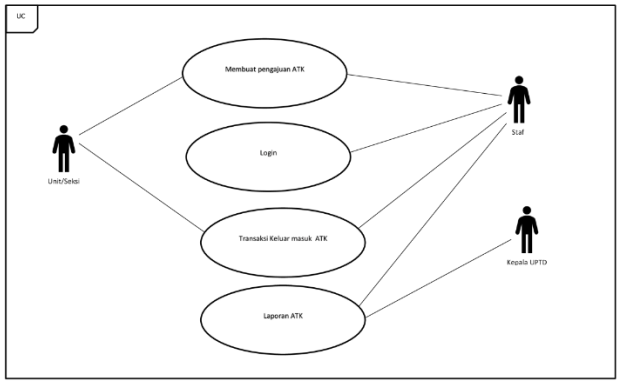

Figure 4. Use Case Diagram of Office Stationery Application Process

5) Class Diagram

Office stationery management application system design diagram classis presented in **Figure 5**.

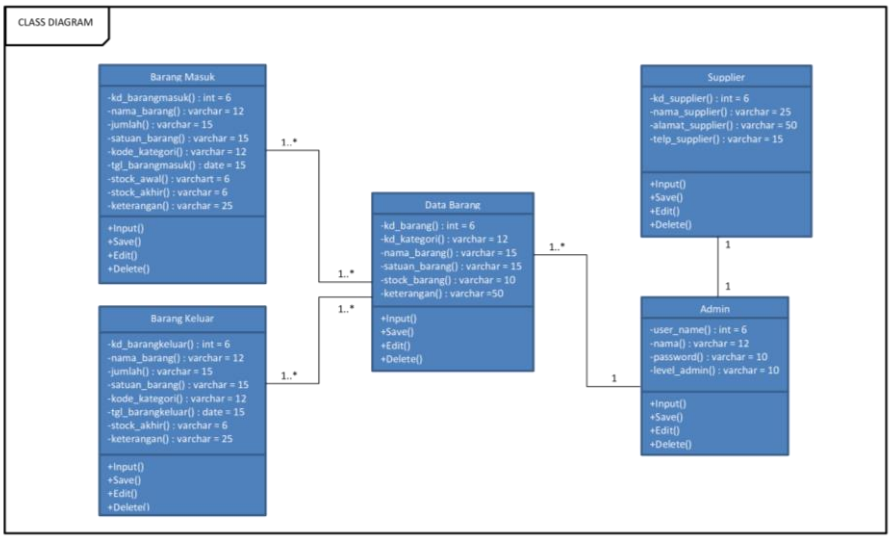

Figure 5. Office Stationery Management Application System Design Diagram Class

b. Sequence Diagram

In **Figure 6** is four sequences that interact with each other, that is: login, system, database, and dashboard.

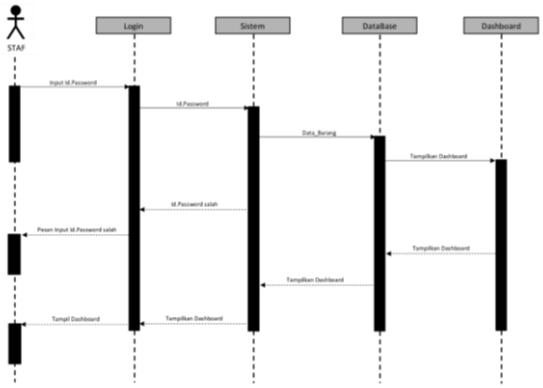

Figure 6. Application System Diagram Sequence

c. Application System Display

1) Application Start Menu View

In **Figure 7** above is the initial view of the office stationery management application.

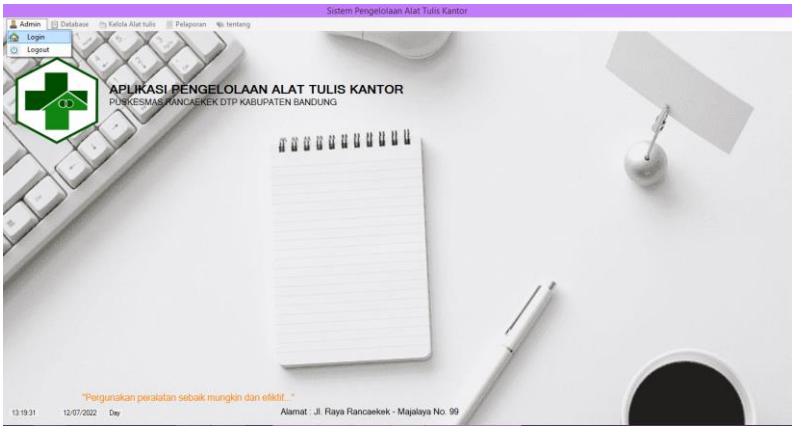

Figure 7. Application Start Menu Form Display

2) Login View

The login display can be accessed by the asset treasurer by entering the appropriate username and password. If the user successfully logs in, the menus in the application can be accessed. Login view is presented on **Figure 8**.

Figure 8. Login View

3) Office Stationery Goods Master Data View

The master data form serves for inputting where the beginning of new goods enters the Rancaekek Health Center. Office stationery goods master data view is presented in **Figure 9**.

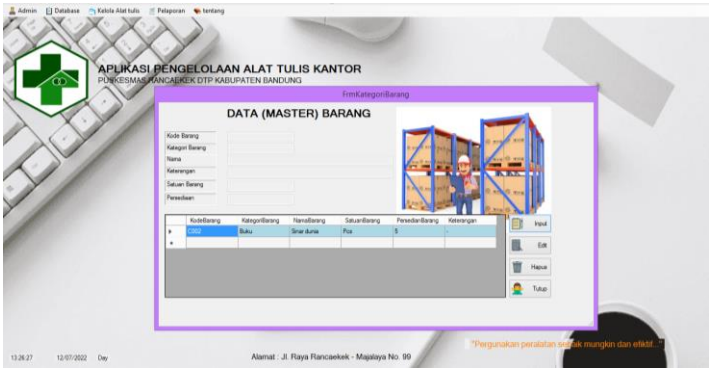

Figure 9. Office Stationery Goods Master Data View

4) Incoming Goods Input Display

The incoming goods input form has a table display to display the goods that have entered the Rancaekek Health Center. Incoming goods input display is presented in **Figure 10**.

Figure 10. Incoming Goods Input Display

5) Outgoing Item Display

The outgoing goods form is a record of office stationery expenditure when there is an office stationery request from each unit, the goods will be input to the form. Outgoing item display is presented on **Figure 11**.

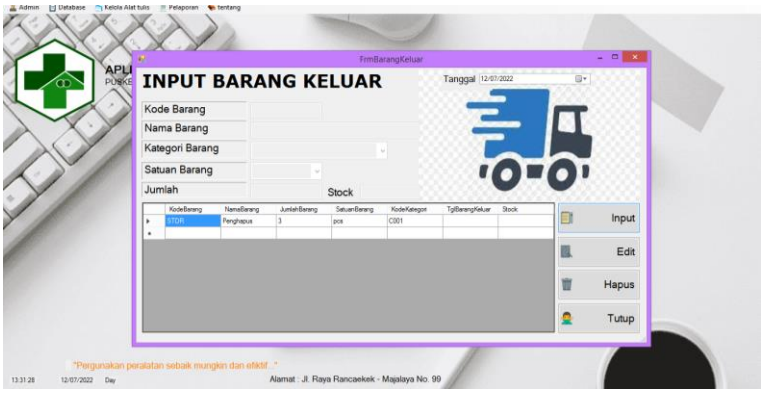

Figure 11. Outgoing Item Display

6) Office Stationery Application Database View

Figure 12 shows the database storage of a Visual Basic application regarding the Office Stationery Management application.

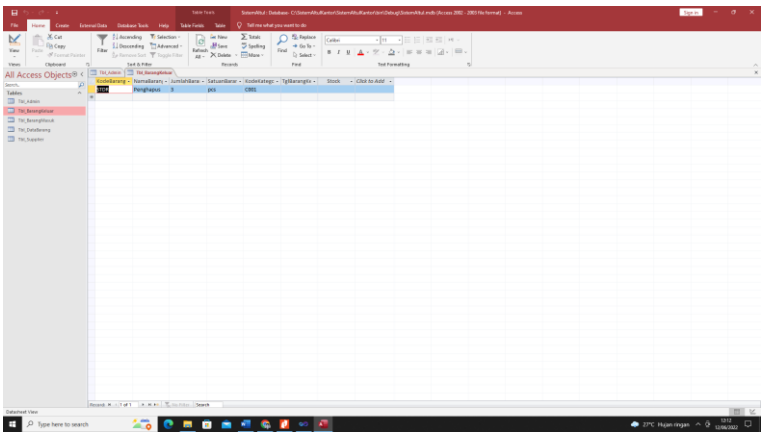

Figure 12. Office Stationery Application Database View

7) Office Stationery Stock Opname Report Display

Figure 13 shows an example of the results of the office stationery stock report at the Rancaekek Health Center.

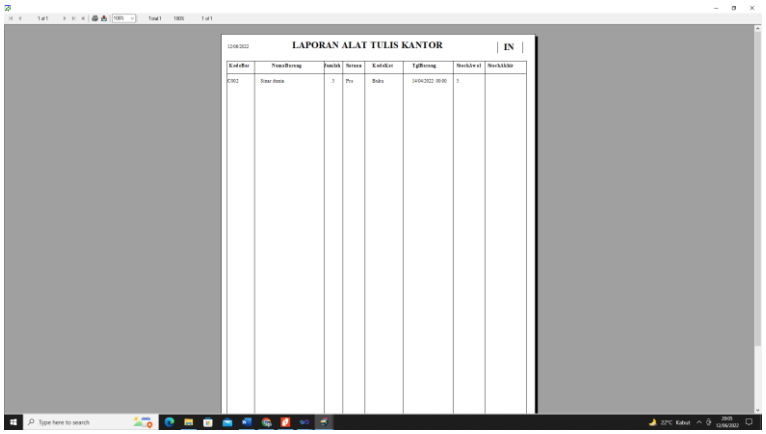

Figure 13. Office Stationery Report

d. Software and Hardware Implementation

The implementation of this software and hardware is needed to find out the need for minimal criteria in a laptop or computer that users will use for office stationery management applications. Required Software Implementation on **Table 1** and **Table 2**.

Table 1. Required Software Implementation

No	Software Name	Specifications
1	Microsoft Visual Basic	V2010
2	Microsoft Access	V2013
3	Operation System	Windows 7/8/10

Table 2. Hardware Implementation required

No	Hardware Name	Specifications
1	RAM	4 GB
2	HDD	500 GB
3	Processor	I3Core

e. Blackbox Testing

Based on the test **Table 3**, the system has been functioning and running according to the expected results.

Table 3. Testing with Blackbox Method Login Button Function in Application

No	Testing	Due Result	Test Results
1	Login with the correct username and password	Successful login	Succeed
2	Login with the wrong username and password	Unable to Login	Succeed
3	Login without username and password	Unable to Login	Succeed

This Blackbox testing table aims to check the system, and it can be seen from **Table 4** above that the input button from the input menu of incoming goods has run according to the meaning that if you input goods, the data of incoming goods in the application will increase.

Table 4. Testing with Blackbox Method Incoming Goods Input Function

No	Testing	Due Result	Test Results
1	Input item in with item code	Inputted items	Succeed
2	Input without item code	Uninterrupted items	Succeed

Based on **Table 5** in the Blackbox test, the system has worked and if inputting in the outgoing goods menu, the goods will decrease according to the number of inputting goods out.

Table 5. Testing with Blackbox Method Outgoing Goods Input Function

No	Testing	Due Result	Test Result
1	Input item out with item code	Inputted items	Succeed
2	Input without item code	Uninterrupted items	Succeed

4. Conclusion

The conclusion of this study is below.

a. A computerized system can increase the efficiency and effectiveness of work processes and can produce information faster when needed.

b. With this office stationery management application, the asset treasurer will be easier to calculate and find out the existing stock of goods and those that will run out and make it easier to make reports.

c. The existence of login and password features in the application will guarantee the confidentiality of data.

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