



## Application of Asset Management Applications at CV.Uberma Computer

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### ARTICLE INFO

#### Article history:

Received: 01/11/2020

Revised: 08/11/2020

Accepted: 28/11/2020

#### Keywords:

Application, Asset, Management,  
Sale, Information System,  
Waterfall, Pieces Framework.

### ABSTRACT

The purpose of this research is to identify a problem, analyze needs, and also develop a management information system, especially in managing an asset data and also storing asset data on a cv.uberma computer, this system will be developed using the PHP7 programming language and also the Framework. AdminLTE bootstrap with MySQLi database, using the waterfall method because using the waterfall method can describe a systematic and sequential approach to developing software and also uses the PIECES Framework method to determine the assessment of an application from respondents, with an application asset management information system This will be a solution in presenting an asset data consisting of building assets, store assets, land assets, product assets, computer component assets and computer equipment assets, using an asset management application.

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## 1. Introduction

Asset management basically aims to improve the management of a business owned by a company so that these assets can provide great benefits in managing an asset data, assets are important capital in supporting the performance of the company.

Therefore he made an information system that aims to make efficiency and also effectiveness in analyzing various kinds of data that exist on the cv.uberma computer, and can also be used to monitor or monitor improvements to the cv.uberma computer which is intended to make important decisions in doing a decision that is useful for improving company performance.

Asset management is very supportive of the operational activities of a company every day. If there is no proper management of information it can hamper the company's operational activities. Information needs in companies are very important in improving the performance of a company.

Cv. Uberma Computer has many assets that support operational activities such as CPUs, servers, computer spare parts, vehicles, air conditioners, computer equipment, etc. Currently, the asset management system at Cv. Uberma Computer still uses the system manually using Microsoft Excel, this method is not optimal in carrying out a company asset management, to solve this problem, it is necessary to build an asset management information system that can make it easier to collect assets quickly and accurately so that every data can be stored properly and also makes it easier to find data.

## 2. Literature Review

Research conducted by Maryanah Safitri, Faridi, Delvi Nirmala [1], discusses the Web-Based Asset Management Inventory Application using the waterfall method. The result is that the system provides a solution in accelerating the existing asset inventory system.

Then the research conducted by Sanjaya Pinem, Victor Maruli Pakpahan [2], discusses the Web-Based Asset Inventory Application with the Waterfall Method obtained the results that, the system provides a solution in carrying out a process of recording and reporting asset inventory that can be accessed easily and organized.

Then the research conducted by Suhana Minah Jaya [3], discusses the WEB-Based Asset Management Information System Case Study at the General Administration Bureau of the Muhammadiyah University of Cirebon obtained the results that, the system provides a solution in presenting fixed asset data consisting of building or building assets, land, vehicles and equipment.



Then the research conducted by Welda Mudiar, Ujang Hidayat [4], discusses the Web-Based Asset Management Information System at Perbanas Institute, the results show that, the system provides a solution in carrying out a fast and centralized data management process, data management is more effective and efficient. and the reporting system can be done at any time depending on the needs.

Then the research conducted by Silvia Rasmawanti, Wina Witanti, Puspita Nurul Sabrina [5], discusses the Asset Management Information System at PT. Gamma Solusi Karya Nusantara obtained the result that, the system provides a solution in carrying out an asset recording management from ordering to receiving assets and assets based on the economic life of the assets, asset depreciation and asset maintenance, providing information regarding the notification of procurement approval from dirtek.

### 3. Research Methods

In conducting this research, researchers used a software model development method, namely by using the waterfall method. This method is a derivative of the SDLC (Software Developing Life Cycle) method which carries the systematic / sequential development of software. In the waterfall method, the work of a system is done sequentially or linearly. [6]

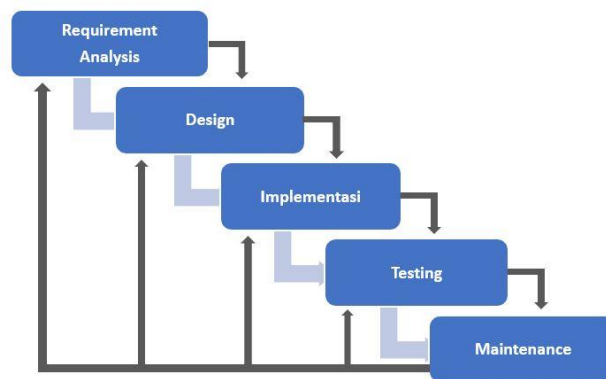


Fig 1. Waterfall Method Stages

#### 3.1 Requirements Analysis

The method in collecting research data is related to the development of asset management control applications as follows:

- Literature study: namely activities in gathering information relevant to the topic or problem to be studied, from national and international standard journals.
- Observation: namely by collecting data through direct observation or careful observation in the field by visiting the research location, namely Uberma Computer.
- Interview: namely by carrying out a process of gathering an information by asking the owner of the cv.uberma computer.

In the planning results that you want to develop for an asset management research, it can be explained from the flowchart that has been made as follows:

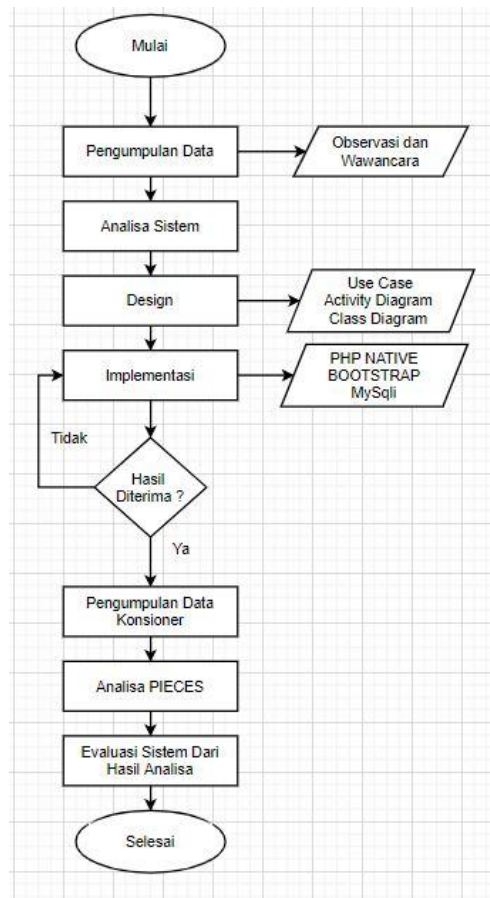


Fig 2. Asset Management Design Concepts

**3.2 System Design**

At this stage, it performs a process of making a flow such as, process, and appearance of a system or application. This stage, performs a system design stage that will be built using a Unifiard Modeling Language (UML) as a system modeling and will also use entity relationship diagrams (ERD) for modeling data structures and relationships between data. [10]

**3.3 Implementation**

The implementation stage will carry out a programming or design an information system in accordance with the results that have been previously designed by looking at the design stage and system design that has been previously made.

**3.4 Testing System**

In the testing process on an existing system, the system will be tested using the black box testing method, if the output results are not suitable then an improvement will be needed until the system is made according to the results as expected.

**3.5 Questionnaire Data Collection**

In this process, a question will be made that will be asked of the respondents targeted at students, lecturers, and the general public, related to comparing an asset management information system that has been designed.

**Table 1.**  
Linkert Scale Criteria Table

Score	Abbreviation	Answer Options
5	SS	Strongly agree
4	S	Agree
3	Doubtful	Doubtful
2	TS	Disagree
1	STS	Strongly Disagree

**3.6 Tahao PIECES Analysis**

In the questions that have been collected from the collected questionnaire data, the next step is to compare a system to find an average rating to respondent satisfaction on the aspects of Performance,



Information, Economy, Control, Efficiency, and Service using Kaplan and Norton's definitions Can be explained in the formula below this:

$$RK = \frac{JK}{N}$$

Information:

RK = Mean or average satisfaction

JK = Total score of the questionnaire

N = Number of respondents

**Table 2.**

Respondents Satisfaction Level Table

Criteria	Satisfaction Level
4.0 - 5.0	Very Worth it
3.0 - 3.9	Well worth it
2.0 - 2.9	Decent enough
1.0 -1.9	Not feasible
0 - 0.9	Very Unworthy

### 3.7 System Evaluation Stage

The application of the PIECES evaluation framework is useful for seeing problems in a program. The PIECES method process is divided into several aspects including: Performance, Information, Economy, Control, Efficiency, and Service

**Table 3.**

System Evaluation Table

Indicator	The system is running	System Usage
Performance	Asset management data recap is made manually so that it requires more time and effort and the storage is not organized.	With computers and websites, asset management data recap processing can be done quickly, integrated and data stored properly.
Information	Information dissemination is limited because it still uses a manual system.	With the information dissemination website can be accessed quickly and widely
Economy	In inputting data, only individuals can not be flexible.	The use of the database as a center for information and data can be input anywhere and also saves costs.
Control	Requires full control because the data used are not centralized to one another.	Centralized control with different access rights on the system
Efficiency	Requires a lot of money and is inefficient in using paper.	Data is digital and does not require paper so it is more efficient
Service	Data collection that is difficult to monitor directly is long and difficult.	Systematic services can be done quickly and easily.

### 3.8 Maintenance

In the final stage, applications that have been developed or installed for use are as planned and carry out system repairs or system maintenance.

### 3.9 Hypertext Preprocessor (PHP)

PHP (Hypertext Preprocessor) is an open source programming language used by programmers in creating a website, Php is used to access databases such as MySQLi which runs on a webserver.

### 3.10 Bootstrap Framework

The Bootstrap framework is a framework that has been made specifically for developing a front end on a website, which provides a collection of basic interface components on the web that have been designed in such a way. In addition to the interface components, Bootstrap also provides the means to easily build a page layout. and also neat. [6]

### 3.11 BlackBox Testing

In this test, the testing that will be used using this BlackBox Testing tester is a system or application that must be done to determine whether every function on the system is running well or there are still bugs or



errors. One type of system testing is BlackBox testing or black box testing. Black box testing can be performed by the user, programmer or tester by defining a list of input processes on a system and testing the methods and functions that run on the running system. [10]

**4. Results and Discussion**

**4.1 Current System Analysis**

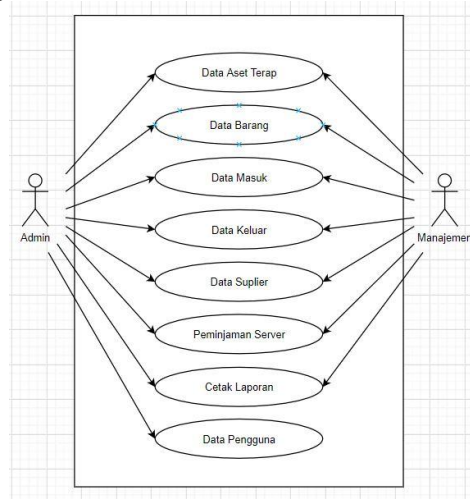
Analysis of the systems that are already owned or in use, namely, the admin does all the data collection or monitors the asset data, while the management department is assigned almost the same as the admin except that management cannot create users. Asset data processing starts from inputting fixed asset data, inputting incoming data, inputting expenditure data, inputting or checking server borrowing, monitoring incoming reports as well as outgoing reports, submitting assets can be done by the cv owner. uberma computer, after submission is complete, then existing asset data will be checked and maintained periodically.

**4.2 Proposed System Design**

The researcher goes through the analysis phase of a system that has been proposed to provide a solution for the system that is currently being used. The proposed system design is illustrated by usecase diagrams, activity diagrams and class diagrams.

**a. Use Case Diagram**

In the Use Case Diagram the admin can input fixed asset data, but the admin must first do a login to access asset data collection, after inputting fixed asset data, the next step is to enter goods data, incoming data, outgoing data, supplier data , data borrowing and data reports, this process can perform a data input, edit data and delete existing data, the admin can also create a new access to management when new management registers.



**Fig 3.** Use Case Diagram

**b. Activity Diagram**

Admin logs in, the system requires a username and password to log in, then the system will process the login username and password. If the data does not match, it will repeat the login process, if the data is suitable then it will enter the main page. The admin inputs fixed asset data, incoming asset data, outgoing assets, supplier data, loan data, user data and makes a report on the entry of goods and also the release of goods. Then the system can display the data that has been inputted and can monitor income and expenditure asset data.

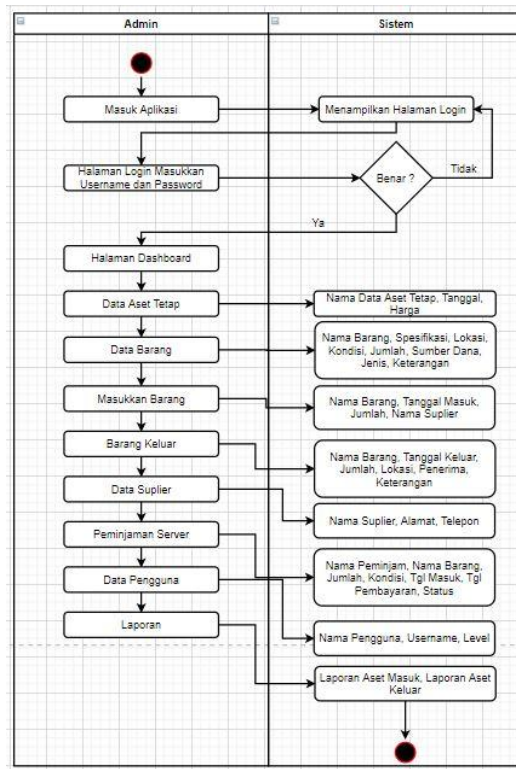


Fig 4. Activity Diagram

c. Class Diagram

In the Class Diagram that has been created, we can see each workflow process in the system, for more details, we can see the results of the class diagram process in Figure 5.

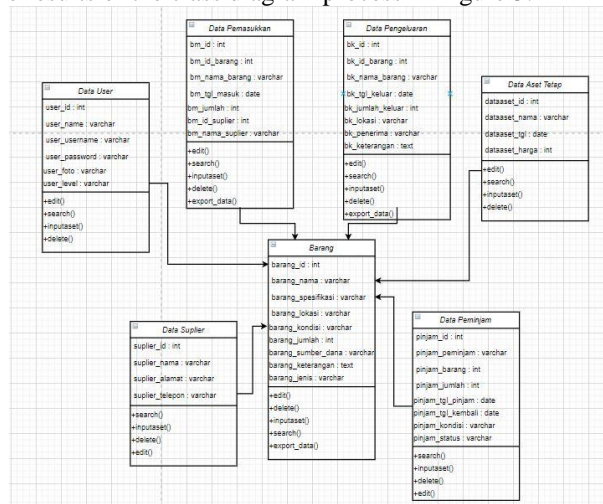


Fig 5. Class Diagram

4.3 Program Implementation

a. Login page

Admin and management must input the username and password into the login form. If the username and password are registered, the admin or management will be able to proceed to the dashboard menu, if there is an error message on the login form admin or management must repeat the login process





Fig 6. Login page

**b. Dashboard page**

The following display is the admin dashboard page, here we can see the number of items and also fixed asset data on the dashboard display



Fig 7. Dashboard page

**c. Fixed Asset Data page**

The following display is a fixed asset data page, in this view we can see fixed asset data such as land, houses, and vehicles

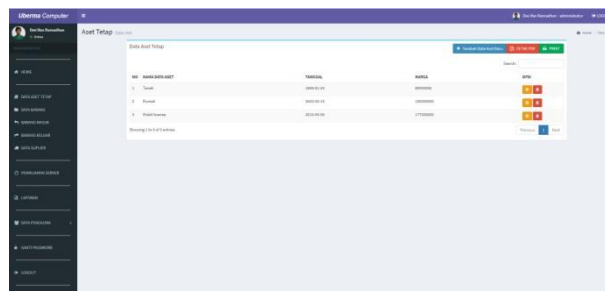


Fig 8. Fixed Asset Data page

**d. Item Data page**

The following display is the Item Data page, here we can see the data on what items are in the company

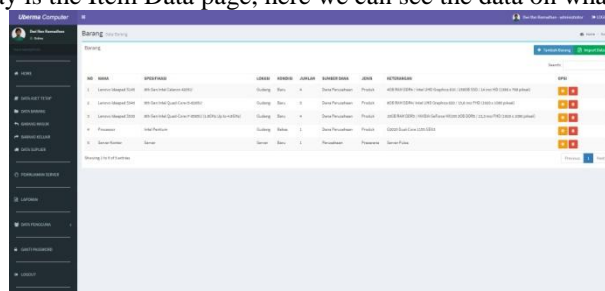


Fig 9. Item Data page

**e. Import Data page**

The following display is the Import Data page, here we can import Microsoft Excel data without having to input it manually

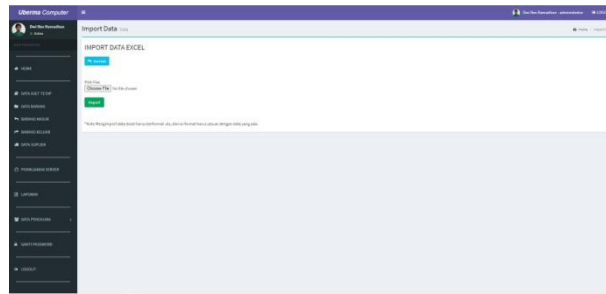


Fig 10.Import Data page

f. **Login Data page**

The following display is an asset entry page. On this page, we can input each item that is inputted

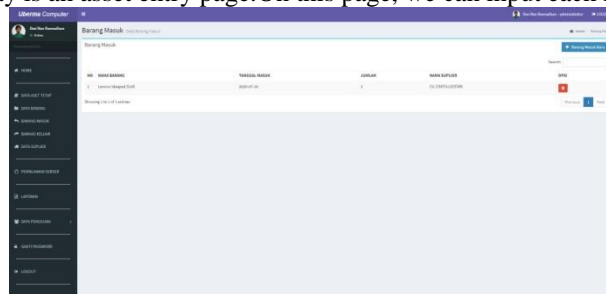


Fig 11. Login Data page

g. **Loan Data page**

The following display is the Lending page on this page we can see who is borrowing company assets

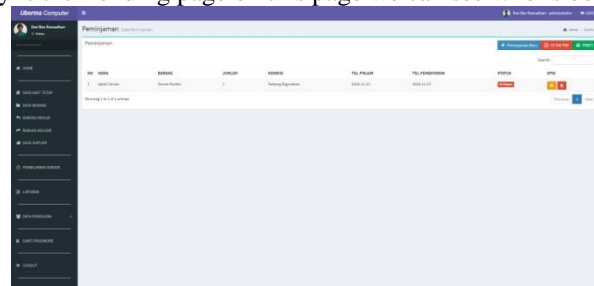


Fig 12. Loan Data page

h. **Reports page**

The following display is a report page and a printed report page on this page we can monitor every month or every year

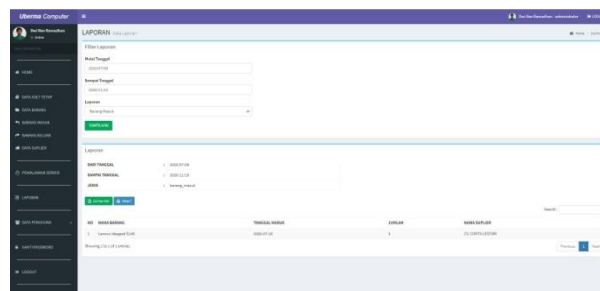


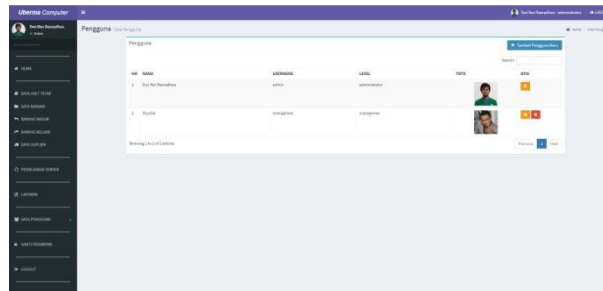
Fig 13. Report Form page



Fig 14. PDF Report Pages

**i. User Data page**

The following display is the User Data page on this page we can see user data, this user data can only be seen by the admin



**Fig 15.** User Data page

**4.4 Testing System**

**a. BlackBox Testing**

**Table 4.**  
BlackBox Testing

No.	Testing	Expected results	Test result
1	Login Page	Enter the username and password if all data match it will enter the main page.	It works
2	Fixed Data	Entering asset data can go well	It works
3	Inventory	Displays all item data in the item asset data	It works
4	Entry Data	Input each arrival of goods data according to the schedule and criteria	It works
5	Expenditure Data	Enter data on expenditures for each sale of goods	It works
6	Loan Data	Displays each company asset lending data	It works
7	Report Data	Monitor every incoming and outgoing data and can print any existing reports	It works

In system testing, the Black Box method is used for the functionality of the system, where a thorough testing is carried out through several interface tests and business processes that run on the system.

Based on the results of testing using the Black Box method for functional testing on the system, there are several test results including:

- 1) All website pages and the data collection process on the system can run well, seen in Figure 13 and Figure 14 there is a report of the results of the entry.
- 2) Component components on the system such as buttons and image forms can function properly and as expected.

**b. Questionnaire Data Analysis**

Based on the results of a questionnaire distributed to 30 respondents to analyze the level of user satisfaction with the asset management system using the PIECES method which is basically the aspects of performance, information, economic, control & security; efficiency and service.

- 1) Performance Aspects

**Table 5**  
Performance Aspects

No.	Question	Mean score	Information
1	Question A	4.4	Very Worth it
2	Question B	4.2	Very Worth it
<b>Total</b>		<b>8.6</b>	

The results of the analysis of the two questions asked related to the performance aspect were  $8.6 / 2 = 4.3$  with the respondent's level of satisfaction as Very Feasible.



2) Information Aspect

**Table 6.**  
Performance Aspects

No.	Question	Mean score	Information
1	Question A	4.3	Very Worth it
2	Question B	4.1	Very Worth it
<b>Total</b>		<b>8.4</b>	

The results of the analysis of the two questions asked related to the information aspect of  $8.4 / 2 = 4.2$  with the respondent's level of satisfaction are very feasible.

3) Economic Aspects

**Table 7.**  
Economic Aspects

No.	Question	Mean score	Information
1	Question A	4.4	Very Worth it
2	Question B	3.8	Well worth it
<b>Total</b>		<b>8.2</b>	

The results of the analysis of the two questions raised related to the economic aspect of  $8.2 / 2 = 4.1$  with the respondent's satisfaction level are very feasible.

4) Control & Security Aspects

**Table 8.**  
Control & Security Aspects

No.	Question	Mean score	Information
1	Question A	4.5	Very Worth it
2	Question B	4.2	Very Worth it
<b>Total</b>		<b>8.7</b>	

The results of the analysis of the two questions raised related to the control & security aspects are  $8.7 / 2 = 4.35$  with the respondent's satisfaction level is Very Feasible.

5) Efficiency Aspect

**Table 9.**  
Efficiency Aspect

No.	Question	Mean score	Information
1	Question A	4.3	Very Worth it
2	Question B	3.9	Well worth it
<b>Total</b>		<b>8.2</b>	

The results of the analysis of the two questions that have been asked related to the Efficiency aspect of  $8.2 / 2 = 4.1$  with the respondent's level of satisfaction are Very Appropriate.

6) Service Aspects

**Table 10.**  
Service Aspects

No.	Question	Mean score	Information
1	Question A	4.5	Very Worth it
2	Question B	4.0	Well worth it
<b>Total</b>		<b>8.5</b>	

The results of the analysis of the two questions raised related to the Service aspect are  $8.5 / 2 = 4.25$  with the respondent's satisfaction level is Very Feasible.



**Fig 16.** Questionnaire Results Graph

From the results of the assessment of the results of the questionnaire from the PIECES aspect value, the level of user satisfaction in the system can be calculated in the form of a percentage as follows:

$$\text{Maen Skor Keseluruhan} = \frac{\sum \text{Maen Skor PIECES}}{6}$$

(1)

$$\frac{\text{Maen Skor Keseluruhan}}{4.3 + 4.2 + 4.1 + 4.35 + 4.1 + 4.25} =$$

(2)

$$\text{Maen Total Keseluruhan} = 4.216$$

(3)

$$\text{Presentase Penilaian} = \frac{4.216}{5} \times 100\%$$

(4)

$$\text{Presentase Penilaian} = 84.32 \%$$

(5)

From the conclusions of the above calculations, the results of the average assessment of the total score for each aspect of the PIECES were 4,216 or 84.32% of respondents said it was feasible with this system.

## 5. Conclusion

Based on the results of implementation and testing, it can be concluded that from fixed asset data and data on goods assets can be stored properly and also in order, this can be concluded from fixed asset data and goods asset data as well as incoming data, outgoing data, borrowing data, and also Get the results of income and expenditure reports in pdf format, website-based asset management applications can also monitor every incoming and outgoing goods every month or every year, while from the aspect of respondent assessment based on the results of the questionnaire containing 12 questions that analyze the system from 6 aspects PIECES can be concluded that the asset management system of 30 respondents stated that from the performance aspect of 8.6 with the respondent's satisfaction level is Very Appropriate, the information aspect is 8.4 with the respondent's satisfaction level very feasible, the economic aspect of 8.2 with the respondent's satisfaction level very feasible, the control & security aspect of 8.7 with the respondent's satisfaction level very feasible, the efficiency aspect of 8.2 with the respondent's satisfaction level very feasible, the service aspect of 8.5 with the level of respondent satisfaction is Very Eligible. From the results of the average assessment of the total score of the PIECES aspect, it was obtained 4,216 or 84.32% of respondents expressed satisfaction with this system.2 with the respondent's satisfaction level is Very Feasible, the Service aspect is 8.5 with the respondent's satisfaction level is Very Feasible, From the results of the average assessment of the total score for the PIECES aspect, it is obtained at 4.216 or 84.32% of respondents said they were satisfied with this system.2 with the respondent's satisfaction level is Very Feasible, the Service aspect is 8.5 with the respondent's satisfaction level is Very Feasible. From the results of the average assessment of the total score for the PIECES aspect, it is obtained at 4.216 or 84.32% of respondents said they were satisfied with this system.

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