

# Analyzing and Designing a Web Based Fixed Asset Processing System in PT. Suka Maju

Sartika Lina Mulani Sitio <sup>a,1,\*</sup>, Nardiono <sup>a,2</sup>

<sup>a</sup> Program Studi Teknik Informatika, Fakultas Ilmu Komputer, Universitas Pamulang, Tangerang Selatan

<sup>1</sup> dosen00847@unpam.ac.id\*; <sup>2</sup> dosen00834@unpam.ac.id

\* corresponding author

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## ABSTRACT

Fixing management asset is very important for companies in particular financial reports issued by the finance department Problems that often occur at PT. Suka Maju is the whereabouts of fixed assets that are unknown, whether they are still in the warehouse or have been moved to another outlet/center. This is because sometimes the company opens a new branch or the head of the outlet needs fixed assets, then HR/GA moves the fixed assets from the warehouse to the outlet. Without communicating/reporting with central management so that central management does not know the position of the fixed assets. This results in central management not knowing the position of these assets and fixed asset reports not being in accordance with actual conditions. The main objective of this research is to design and develop a system that can manage company fixed assets effectively and efficiently by utilizing web technology. This system is expected to be able to increase accuracy and speed in the process of recording, tracking and managing fixed assets at PT Suka Maju. The research methodology used includes the needs analysis, system design, development and testing stages. At the needs analysis stage, interviews and observations were conducted to identify the needs and problems faced in managing fixed assets in the company. The results of this analysis become the basis for system design which includes database design, user interface, and system functionality. The research results show that this web-based fixed asset management system is able to increase the efficiency and effectiveness of asset management at PT Suka Maju. System users report improvements in the speed of access to information, accuracy of asset data, and ease of reporting and auditing assets. Thus, it is hoped that this system can be the right solution for PT Suka Maju in managing their fixed assets better.

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## I. Introduction

Fixed assets are tangible assets held for internal use production or supply of goods or services, for rental to other parties, or for administrative purposes; and to be used for more than one period. Examples of fixed assets are land, property or buildings, factories, tools production, machinery, vehicles, furniture, office equipment, computers, etc. Except for land, all forms of fixed assets are subject to depreciation [1]. It means the value of fixed assets other than land, decreases with the realized lifespan utilization, until its useful life expires[2]. Fixed asset management is very important to the company, especially the financial reports issued by the finance department [3]. Because the finance department makes a financial statement of profit and loss for each outlet and these fixed assets have a depreciation value which is charged to the profit and loss report, so the existence of



these fixed assets really determines the total depreciation value of an outlet's fixed assets which has an impact on the outlet's profit and loss report [4].

PT. Suka Maju is a company that operates in the restaurant and franchise business sector. Until now, the company is responsible for several brands, including Baso Aci Akang, Iga Bakar Kokojo, Es Teh and Martabak. Currently PT. Suka Maju has several fixed assets. These fixed assets are: refrigerators, dining chairs, dining tables, cooking equipment, etc. The problem faced in relation to fixed assets is that the whereabouts of fixed assets are unknown, whether they are still in the warehouse or have been moved to another outlet/center. This is because sometimes companies open new branches or outlet heads need fixed assets, then HR/GA moves these fixed assets from the warehouse to the outlet without communicating/reporting with central management so that central management does not know the position of these fixed assets. This results in central management not knowing the position of these assets and fixed asset reports not being in accordance with actual conditions. Apart from that, administration and documentation have been using Excel and the large amount of data from various outlets has resulted in longer time in managing fixed assets and calculating depreciation of fixed assets and fixed asset values so that the Accounting section must continue to update the value of fixed assets periodically because of the calculation of depreciation of fixed assets not automatically. This burdens the Accounting department because Accounting has other duties.

PT Suka Maju realizes the need to improve its fixed asset management system in order to compete in a dynamic market. The implementation of a web-based fixed asset management system is expected to be able to overcome various problems currently being faced, such as delays in asset maintenance, difficulties in reporting and auditing, as well as inaccurate asset data. This system is also expected to provide long-term benefits in terms of operational efficiency and cost savings.

This research aims to analyze and design a web-based fixed asset management system that suits the needs of PT Suka Maju. The research process will include user needs analysis, system architecture design, software development, and system testing and evaluation. The methodology used in this research will ensure that the resulting system not only meets the company's functional needs but is also easy to implement and use by staff responsible for asset management [5]. With the existence of a web-based fixed asset management system, PT Suka Maju is expected to increase the efficiency and effectiveness of its fixed asset management. In addition, it is hoped that this research can make a significant contribution in the field of asset management and information technology, and can become a reference for other companies that face similar challenges in managing fixed assets. It is hoped that the implementation of this system will bring PT Suka Maju towards more modern and efficient operations, and be able to compete better in the global market.

## II. Method

The methods used in this research are [6]:

### 1. Data Collection Method

In this research, the data collection method used includes several techniques to obtain accurate and relevant information regarding the needs and problems of fixed asset management at PT Suka Maju. Here are some of the methods used:

- a. Interviews: Interviews were conducted with several parties directly involved in managing fixed assets at PT Suka Maju, including asset managers, operational staff and finance. The purpose of this interview is to understand current business processes, identify problems encountered, and gather specific user needs regarding fixed asset management systems. Interviews were conducted in a structured manner with guided questions that had been prepared beforehand, but also allowed for further exploration based on the respondent's answers.
- b. Observation: Direct observation is carried out to see how the fixed asset management process is carried out on a daily basis. This observation includes recording, maintaining, tracking and reporting fixed assets. By conducting observations, researchers can get a

real picture of work flow and identify practical obstacles that may not be revealed in interviews.

- c. Literature Review: A literature study was conducted to collect information and knowledge from existing literature related to web-based fixed asset management systems. References from books, journals, articles and online sources are used to gain insight into best practices, relevant technologies and case studies successfully implemented in other companies.

## 2. System Development Method

The model used in system development is waterfall. Waterfall is a traditional software development process commonly used in popular software development projects. It is a sequential model, so that completion of one set of activities causes the start of the next activity [7]. This is called a waterfall because the process flows systematically from one stage to another in a downward fashion. The following are the stages of the waterfall method used [8][9]:

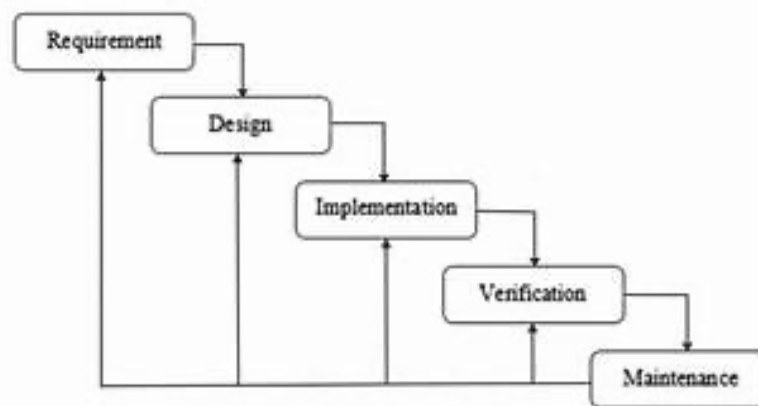


Fig. 1. Stages of The Waterfall Method

Following description of each of the steps involved in figure 1[10]:

### a. Requirement

This first stage involves gathering and analyzing needs from users and stakeholders. The goal is to understand what is expected from a fixed asset management system. Activities in this stage include interviews, observations, collecting documentation, and distributing questionnaires. The result is a detailed requirements specification document, which will become a reference for subsequent stages

### b. Design

Based on the needs that have been analyzed, this stage focuses on designing the system architecture and detailed design of software components. This design includes database design, user interface, and functional modules of the system. A good design must consider aspects of scalability, security, and ease of use. The result of this stage is a detailed system design document.

### c. Implementation

At this stage, the system design that has been created is translated into program code. Software developers will write code using the chosen programming language and framework, such as HTML, CSS, JavaScript, PHP, and MySQL. Each module is developed according to design specifications and tested individually to ensure that they function correctly.

d. Verification

After all system components are implemented, the testing stage is carried out to ensure that the system functions according to the specified specifications. Testing includes various types, such as unit testing, integration testing, system testing, and user acceptance testing. This stage aims to identify and fix bugs or errors before the system is fully implemented.

e. Maintenance

The final stage is maintenance, where the system that has been implemented will continue to be monitored and updated as needed. Maintenance includes fixing bugs that may be discovered after deployment, system upgrades, and adding new features according to user needs. This stage ensures that the system continues to run well and can adapt to changing business needs.

III. Result and Discussion

1. System Planning

System design is a process that involves developing technical and operational specifications to achieve the goals of a system. This process includes various stages aimed at understanding user needs, designing solutions that meet those needs, and ensuring these solutions can be implemented effectively and efficiently.

a. Entity Relationship Diagram (ERD)

The following is a entity relationship diagram of the fixed asset management system:

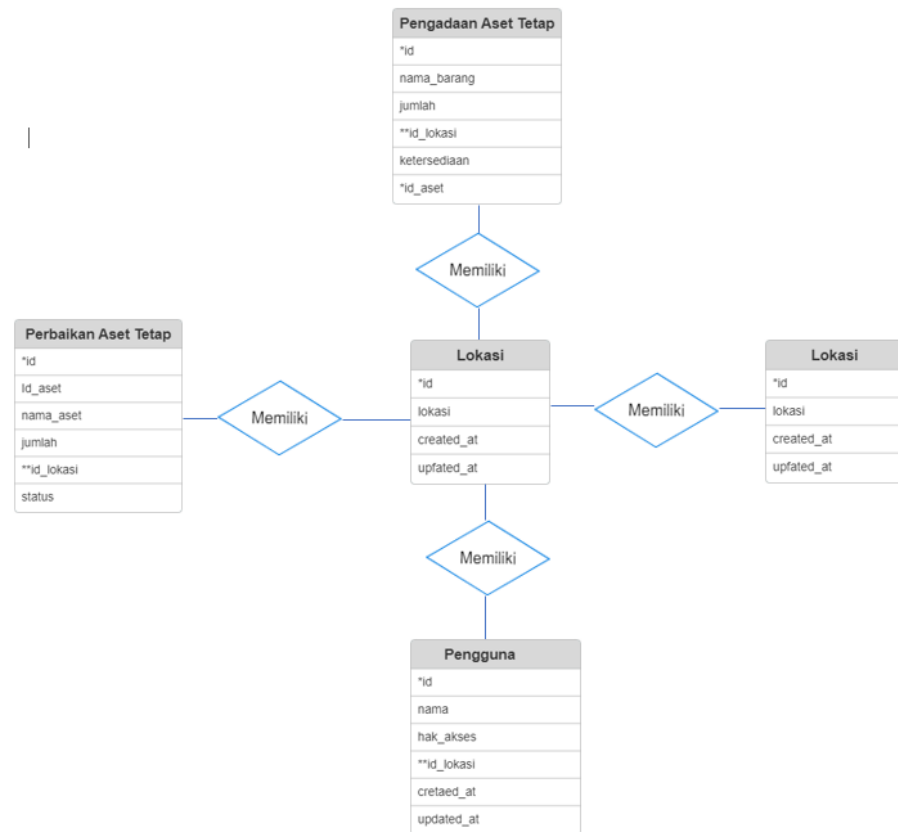


Fig. 2. Entity Relationship Diagram (ERD)

b. Class Diagram

Class diagrams are a type of diagram used in object-oriented modeling to describe the system structure by showing the classes in the system and the relationships between these classes. Class diagrams are one of the main diagrams in the Unified Modeling Language (UML), which is a standard modeling language used in software engineering.

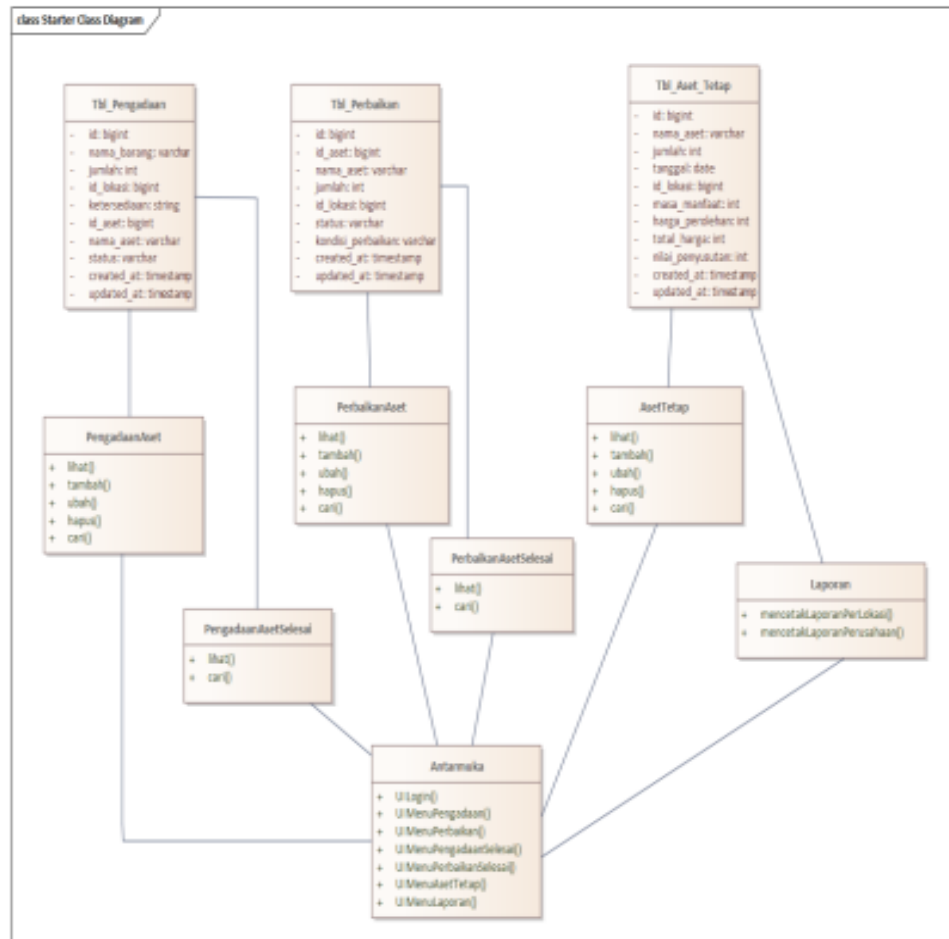


Fig. 3. Class Diagram

2. Menu Interface

The following is a web view of asset management in PT. Suka Maju:

a. Home menu display

The home page display functions to provide general information to the user. On the home page, each user has different views, menus and displays of data and information according to the user's access rights. The following is a display of the home page based on the access rights you have:

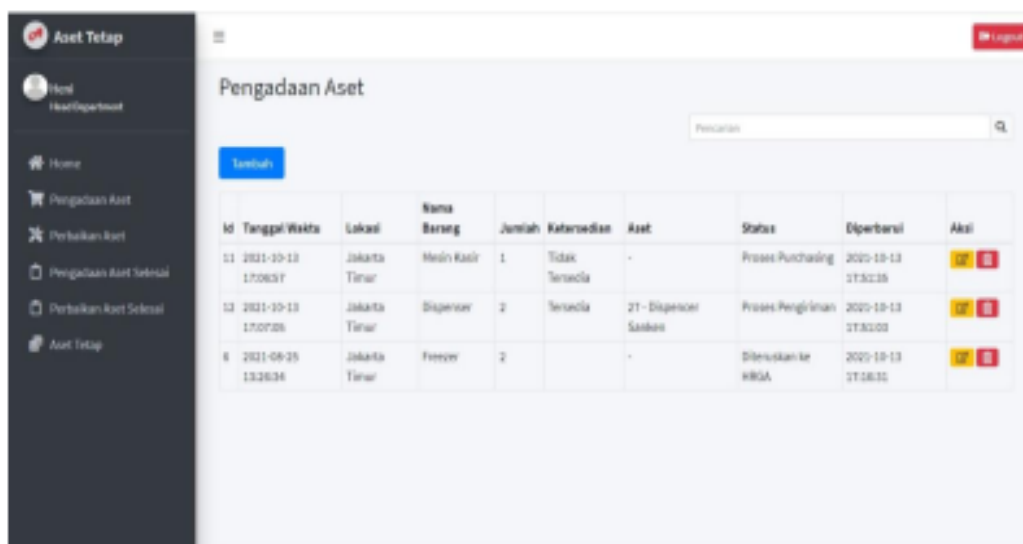


Fig. 4. Home Menu Display

b. Display of the asset procurement menu

The asset procurement menu display functions to manage asset procurement which is in process. On the asset procurement page each user has different views, features and data displays according to access rights owned by the user. The asset procurement page can only be accessed by the Head Department, HRGA, and Accounting. On the asset procurement page there are features add, change, delete and search. However, this feature can be used in accordance with owned access rights. The asset procurement page will not display data procurement of assets whose status is complete.



Fig. 5. Display of the aset procurement menu

IV. Conclusion

The conclusion obtained are as follows:

1. By creating a fixed asset management system, Head Department, HR/GA, Engineering Department and Accounting can coordinate with each other monitor the movement of fixed assets and manage fixed assets so that location data fixed assets in accordance with actual conditions.
2. The web-based fixed asset management system designed has succeeded in increasing effectiveness and efficiency in asset management at PT. Suka Maju. This system enables real-time monitoring and management of assets, reduces human error, and speeds up administration processes.

3. By creating a fixed asset management system, it has succeeded in making it easier for Accounting to create reports on fixed asset depreciation and fixed asset value at any time.

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