

Asset and Inventory Data Monitoring Application Design PT. Transmarco

Didi Kurnaedi^{1)*}, Erna Oktora²⁾, Irfan Nasrullah³⁾, Agung Prayoga⁴⁾, FX Agung Pramanto⁵⁾

¹⁾²⁾³⁾⁴⁾⁵⁾STMIK PGRI Tangerang

Jl. Perintis Kemerdekaan II, Tangerang, Indonesia

¹⁾ddk@pgri.id

²⁾erna@pgri.id

³⁾pejuang2000@gmail.com

⁴⁾agungvz12@gmail.com

⁵⁾agungpramforpgri@gamil.com

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Abstract

The use of IT asset and inventory management information systems can greatly benefit businesses in managing their IT assets. The objective of this study is to develop an information system application that simplifies the management of IT assets by monitoring inventory data, tracking requests for repair, borrowing, purchase, and inventory recording of IT assets. The study was conducted at PT. Transmarco and the development of the information system application involved layout design, diagram design (including an activity diagram), and database design processes. Modular programming languages such as PHP, Sublime Text, MySQL, and CSS were used in the development process. The IT Asset and Inventory Data Monitoring Application provides information on incoming goods data, outgoing goods data, stock goods, and usage history. By implementing this application, it is expected that managing asset data and IT inventory at PT. Transmarco will become much simpler, including managing item data, item history, and stock of goods. This system will enable firm personnel to efficiently manage IT assets according to the desired outcomes. Overall, the development of the IT asset and inventory data monitoring application at PT. Transmarco showcases the potential benefits of IT asset and inventory management information systems for businesses. The streamlining of IT asset management processes can result in improved efficiency, reduced costs, and better decision-making regarding IT asset investments.

I. INTRODUCTION

Both the need for knowledge and the development of information technology are accelerating. For information technology (IT) assets, the presence of data processors in information becomes exceptionally crucial. Asset management is still done straightforwardly, specifically by using a general ledger[1]. The lack of detailed records for goods assets, the difficulty in performing complex calculations such as asset conditions, the limited access to other departments in need, and the managing asset management of goods that cannot provide real-time, accurate, and detailed specification information are just a few of the limitations of this information system[2]. For the administration of the company's assets, it is necessary to improve this information system.[3] [4]

Any business, whether public or private, needs to manage its assets. Of course, the corporation has assets, such as products, machinery, and workspaces[5]. The company's assets, like chairs, tables, printers, computers, laptops, motorised vehicles, and others, have very high capital values and undoubtedly help the company's business operations. These assets must be appropriately managed, maintained, and identified to keep them in good condition.[6]

Assets are tangible fixed assets the company acquires to carry out its operations and cannot be sold, with economic benefits lasting longer than a year. [7]

* Corresponding author

Asset management is a term used to refer to software or applications used in businesses that have many assets that are hard to manage and need IT asset management. Information systems and other forms of technology can assist enterprises in concentrating on their objectives and asset management. The company can also employ internet-based information systems to monitor and inspect IT assets. The development of this information system software offers many functions for managing assets, including the number of goods, categories of goods, upkeep of goods, the input of purchasing goods, and deletion of asset data. [8]

PT. Transmarco is a business that specialises in wholesale shoe distribution and selling. It was founded in 2003. In an era of globalisation like the one we are currently in, computer technology is advancing very quickly. Since almost all fields have been automated, the IT department is responsible for fixing technical issues, such as incorrectly documented data assets in information and technology (IT) facilities. Additionally, because the general ledger is still used in the IT asset data system, which is still run manually, it is challenging for the IT department supervisors to keep track of asset 2 data as it enters and exits both hardware and software. The recording of information about the support or commodities in the company is known as an inventory of goods. Generally speaking, recording the acquisition of items, placement, modification, and maintenance are actions in the list of interests. An organisation's operational activities must be adequately managed for its inventory of commodities to run smoothly. An inventory information system is a tool for making the inventory process more straightforward.[9]

II. RELATED WORKS/LITERATURE REVIEW (OPTIONAL)

Asset

All things a firm owns intended to be used for profit are considered assets[10]. Asset management refers to all of the actions taken by the business to maintain all of its assets. Companies can use asset management to execute organised asset maintenance, keep track of each asset's condition, and calculate asset depreciation to decide if an asset is still worth maintaining or has to be replaced. [11]

Asset Control

Planning asset needs, obtaining investments, conducting legal audits, appraisal, operating, maintaining, renewing, or eliminating to transfer assets effectively and efficiently are all part of asset management, which is the science and art of guiding wealth management. The process of planning asset needs, obtaining assets, inventorying them, conducting legal audits, assessing them, operating them, maintaining them, updating them, or removing them to transfer them effectively and efficiently is known as asset management. It is a science and an art that serves as a framework for wealth management.[12]

Monitoring

High-level monitoring is carried out to take measurements over time that show movement either towards or away from a destination. Monitoring is defined as awareness of what you want to know. Monitoring will provide information about the status and trends that measurements and evaluations are completed repeatedly over time; monitoring is typically performed for a specific purpose, to check against the following process objects or to evaluate the condition or progress toward the management's objectives on the results of some actions, such as actions to maintain ongoing control[13]. Inventory asset inventory is a set of procedures used to record, track, report, and document tangible and intangible assets at a specific time. The inventory comprises several processes that determine the type and amount of assets, considering their physical and legal dimensions. A firm or government organisation must compile an asset inventory to determine their assets' number and condition.[14]

System for Asset Management Information

Asset management information systems are software or applications used in businesses with many assets that are hard to manage and necessitate a dedicated division for asset management[7]. Information systems and other forms of technology can assist businesses in concentrating on their objectives and asset management. Companies can also utilise information systems that use intranet networks to monitor and check their assets. This information system software's development offers several asset management capabilities, including asset inspection, asset requests, purchases, data input, asset data deletion, and creating final reports[15].

Asset management uses asset optimisation as a work process to make the most of assets in terms of use and utilisation. Based on this viewpoint, it can be deduced that optimisation best uses a resource's potential to yield additional advantages or generate cash[16]

Kodular Designer

A website called Kodular offers drag-and-drop block programming tools for building Android applications. Codular's block programming capability is a cornerstone; we can construct Android applications without manually inputting any code. Modular has small dBse and store functionalities, allowing us to upload and save data as we see fit. Codular's GUI and appearance can be altered using a theme (theme) to make our application look more modern and polished. The code recorded with the file's existence is (.aia), and the plugin's presence is coded (.aix). The Java command code for this existence plugin is composed of multiple lines; the next (.java) will be converted into an existence plugin file (.aix) [17]

III. METHODS

Data Gathering Technique, The author utilised the following techniques to gather data:

1. Observation
Researchers of PT make direct observations. TRANSMARCO's IT asset management procedure. Researchers then gather data from these observations, a crucial source of information for analysis within the context of system development[18].
2. Interview
This strategy involves asking and receiving questions from several speakers at the business where the research is being conducted. When conducting direct observations, this strategy is used to get more precise data and strengthen earlier data[19].
3. Literature Review
By researching topics linked to the thesis, specifically by looking for reference materials from numerous sources, including articles, books, journals, and scientific papers from the internet and libraries, this strategy is used to collect information and data from several sources (literature). The following describes the data collection's findings based on the information already gathered, including the research's subject, challenges, and potential solutions[20].

IV. RESULTS

The following steps can be used to submit an Android-Based IT Asset and Inventory Data Monitoring Application currently used at PT. Transmarco:

Asset Lending

In this asset loan, the user will input the loan data; then the IT Staff will check or prepare the products you want to lend; after that, there will be a filling in the receipt of the borrowed goods.

Asset Repair

- (a) In this Asset Repair, the user will request the repair of asset goods after checking if there is damage that cannot be handled or must replace spare parts; the user must make a request to the part management for spare part replacement.
- (b). Asset Returns After submitting the asset goods, the user will fill out the return form in this Return of Assets. The IT staff will then complete the receipt after verifying that the asset goods are complete and meet loan requirements.
- (c) Asset Acquisition In this Asset Procurement, the user will submit the asset procurement form, intended for new products and spare part replacement services.

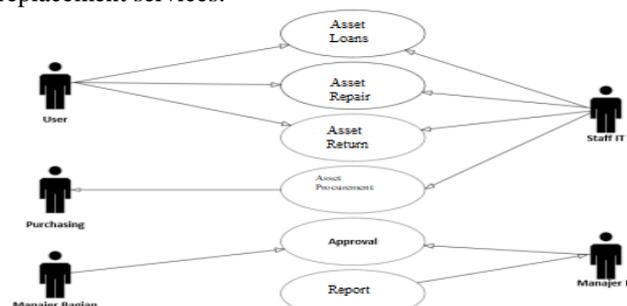


Fig. 1 Use Case

Figure 1 shows a use case as a short series of stages explaining the interaction between the system's initiator, or "actor," and the existing system. The use case diagram that follows examines the function of actors in their communication with the system. Case Study Diagram of PT. Transmarco's Android-based IT Asset and Inventory Data Monitoring Application.

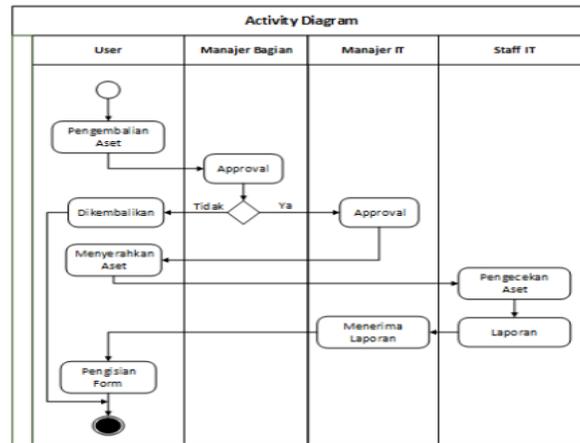


Fig. 2 Activity Diagram

This activity will be grouped into several categories by the tasks users and IT staff can perform using this program. The asset return, asset request, and asset repair activity request information are below.

A flowchart visualises the logic and stages involved in an activity, how information is handled, or how a program's processes are organised. Analysts and programmers can more easily divide problems into manageable chunks using flowcharts and analyse potential solutions. Symbols on flowcharts also represent different concepts used to design the system. This flowchart is used as a basis for bias by a system analyst to suggest a program to programmers or developers.

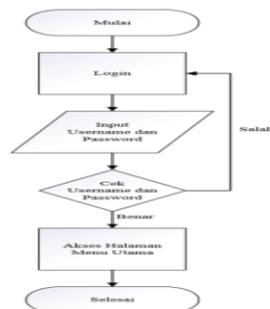


Fig. 3 Flowchart Login

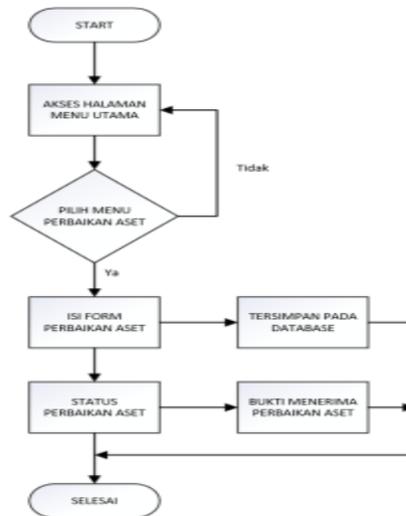


Fig 4 Flowchart Aset

V. DISCUSSION

To make program execution easier, the computer hardware utilised in this programming system needs to have appropriate specifications. Supporters of computerised systems need recommendations for implementing them since, with this help, computers can function as they should. As a result, before creating a computer system, the following preparation is necessary in terms of the hardware and software requirements needed to support the program:

1. Operating System

First The Windows operating system was employed during the design phase. The operating system, Windows 11 64 bit, which computer users commonly use, aids users in this area.

2. Programming Language

Mysql and PHP are used in the programming language. The author creates a web-based computer support system utilising PHP and Mysql, two open-source programming languages used on the server side to build and develop websites. This gives the system more flexibility and user-friendliness.

3. Software

The operating system and the software required to run the program are crucial components in creating a plan. The application :

a. PhpMyAdmin

The open-source internet application PhpMyAdmin was created using PHP, XHTML, CSS, JavaScript, and other programming languages to process databases.

b. XAMPP

Software known as XAMPP is named from the acronyms for Apache, MySQL/MariaDB, PHP, and Perl. While the prefix "X" at the beginning of the word indicates that this application can run on four operating systems, including Linux OS, Windows OS, Mac OS, and even Solaris, it derives from the term cross-platform. XAMPP is a local server that loads various data types when web pages change over time.

c. Codular Codular

Is a website that offers tools for building Android apps using block programming comparable to MIT App Inventor. In other words, writing program code by hand is not required to create an Android app. By building blocks of IDE extension programs by developer requests, Kodular offers developers the benefit of features like Kodular Store and Kodular Extension IDE (now AppyBuilder Code Editor), which can make it simpler for developers to upload Android applications into the Kodular Store.

d. Hardware

Hardware comprises the components that go into a computer system and the components that help the computer carry out its functions. The following hardware requirements are suggested for this system: 1. Windows 11

Professional 64-bit Secondly, English (Regional Setting: English) Dell Inc., system manufacturer 3. 4. The system's Inspiron 7460 model. 5. Intel Core i5-7200U CPU (processor) 6. RAM size: 12288 MB RA.

A Computer Screen

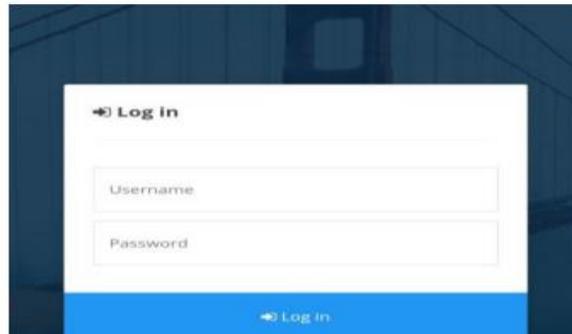


Fig. 5 Login to see

Figure 5 shows the system login screen for administrators and users. .

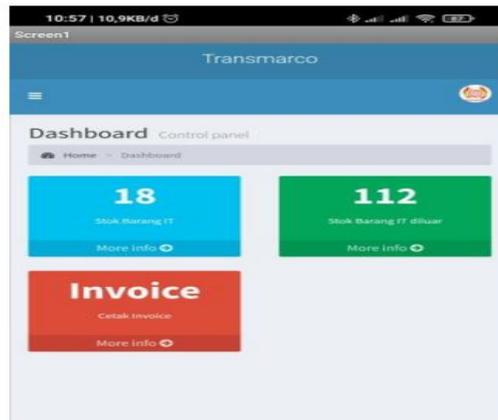


Fig. 6 Dashboard

Figure 6 shows a dashboard display of items in stock, outside the stores, and invoices.

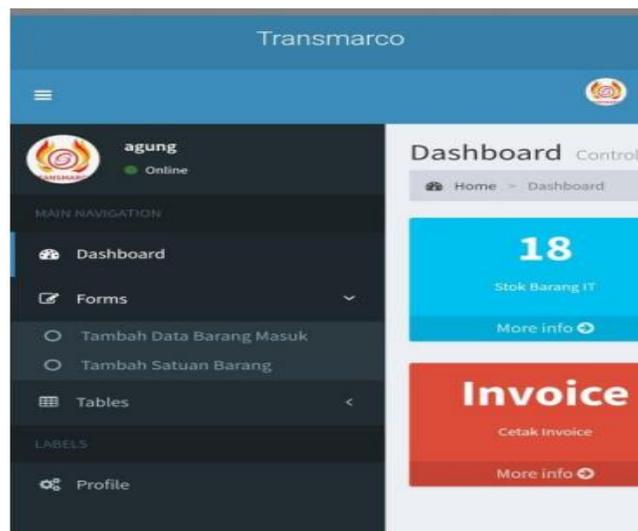


Fig. 7 Form View

Figure 7', form display includes the following fields: add incoming goods data and units of goods.



Fig. 8 Table View

Figure 8 explains the table display, which consists of a table for incoming goods, a table for outgoing goods, a table for the unit, a table for the master of goods, and a table for the master of location.

Here is a manual comparison between the system's design and an Android-based one:

1. An aged system
 - a. Manual systems, like writing on ledgers or paper, can result in the loss of evidence, be modified, and be more effective.
 - b. The ledger/paper needs to accurately reflect the total number of items and the history of IT assets.
 - c. Submit reports on paper or with ledgers to managers.
2. New Method
 - a. Consumers and IT workers may find using the Android system simpler.
 - b. Information on the number of items and the history of all IT assets can be obtained using the Android system.
 - c. Directly learn using the Android Manager system.

VI. CONCLUSIONS

The author outlines the following aspects based on the research findings and the creation of asset and inventory data applications: 1. An application system for IT assets and inventory data is designed to eliminate confusion and accurately track inventory, allowing for more automatic systemisation. 2. Because it has been systematised to be more effective, the general ledger/paper form can be completed using this asset data application.

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REFERENCES

- [1] S. A. Rakhma, R. Tullah, And S. M. Mustafa, “Sistem Monitoring Data Aset Dan Inventaris It Berbasis Web Pada Pt. Pan Brothers Tbk,” *Jurnal Teknologi*, 2022.
- [2] M. K. H. S. B. M. S. Drs. Mahpud, “Perancangan Aplikasi Monitoring Data Aset Dan Inventaris It Berbasis Web Pada Pt. Tms Logistics,” *JURNAL TEKNIK Teknik Informatika ~ Teknik Mesin ~ Teknik Sipil Teknik Elektro ~ Teknik Industri*, Vol. 3, No. 2, Pp. 136–142, 2015.
- [3] A. Ahmad And R. Maulana, “Perancangan Sistem Informasi Manajemen Aset Pada Pt. Acehlink Media Berbasis Android,” *Journal Informatic, Education And Management*, Vol. 2, No. 2, 2020.
- [4] A. M. Alfannisa Annurullah Fajrin, “Penerapan Data Mining Untuk Analisis Pola Pembelian Konsumen Dengan Algoritma FpGrowth Pada Data Transaksi Penjualan Spare Part Motor,” *Kumpulan Jurnal Ilmu Komputer (Klik)*, Vol. 5, No. 1, Pp. 27–36, 2018.
- [5] Chika Riyanti; Santoso Tri Raharjo, “Asset Based Community Development Dalam Program Corporate Social Responsibility (Csr) Santoso Tri Raharjo,” *Jurnal Kolaborasi Resolusi Konflik*, Vol. 3, No. 1, Pp. 115–126, 2020.
- [6] D. Purser, “Aset And Rset: Addressing Some Issues In Relation To Occupant Behaviour And Tenability,” 2003.
- [7] A. Supardianto; Binsar Tampubolon, “Penerapan Ucd (User Centered Design) Pada Perancangan Sistem Informasi,” 2020. [Online]. Available: [Http://jurnal.Polibatam.Ac.Id/Index.Php/Jaic](http://jurnal.polibatam.ac.id/index.php/jaic)
- [8] F. Aditian And A. Kharisma Hidayah, “Sistem Informasi Inventaris Berbasis Android Menggunakan Metode Client Server,” 2021.
- [9] N. R. I. Erlina Masayu, “Analisis Perancangan Sistem Informasi Manajemen Aset Pt. Multi Traktor Utama Berbasis Java,” 2019. [Online]. Available: [Https://journal.Budiluhur.Ac.Id/Index.Php/Bit](https://journal.budiluhur.ac.id/index.php/bit)
- [10] Y. Christian And D. Haryadi Setiabudi, “Pembuatan Sistem Informasi Manajemen Aset Berbasis Website Pada Perusahaan Elektronika X,” 2020.
- [11] P. Tretten And R. Karim, “Enhancing The Usability Of Maintenance Data Management Systems,” *J Qual Maint Eng*, Vol. 20, No. 3, Pp. 290–303, Aug. 2014, Doi: 10.1108/Jqme-05-2014-0032.
- [12] T. Meiriati, A. S. Sukamto, N. Mutiah, J. Prof, And H. H. Nawawi, “Tata Kelola Manajemen Aset Ti Menggunakan Framework Cobit 5 Dan Itam,” 2020.
- [13] A. Hermawan And S. Rahayu, “Sistem Informasi Manajemen Dan Tracking Berkas (Studi Kasus : Ptsp Kecamatan Kebon Jeruk,” 2019. [Online]. Available: [Https://jurnal.Ikhafi.Or.Id/Index.Php/Jusibi/49](https://jurnal.ikhafi.or.id/index.php/jusibi/49)
- [14] Arif Wicaksana; Harmono; Sari Yuniarti, “Pengaruh Inventarisasi Aset, Penggunaan Aset, Pengamanan Dan Pemeliharaan Aset Terhadap Optimalisasi Aset Tetap Tanah Melalui Pemanfaatan Aset Pada Pemerintah Kabupaten Malang,” *Jurnal Ilmu Administrasi Publik*, Vol. 6, No. 1, Pp. 2541–2515, 2021.
- [15] Y. Christian And D. Haryadi Setiabudi, “Pembuatan Sistem Informasi Manajemen Aset Berbasis Website Pada Perusahaan Elektronika X,” 2020.
- [16] Agustina Ester, “Pengaruh Manajemen Aset Dalam Optimalisasi Aset Tetap (Tanah Dan Bangunan) Pemerintah Daerah (Studi Di Kabupaten Paniai),” *Jurnal Manajemen & Bisnis Universitas Cenderawasih*, Vol. 1, No. 2, Pp. 37–47, 2017.
- [17] M. R. Syarlisjisman, Sukarmin, And D. Wahyuningsih, “The Development Of E-Modules Using Kodular Software With Problem-Based Learning Models In Momentum And Impulse Material,” In *Iop Conference Series: Earth And Environmental Science*, Iop Publishing Ltd, Mar. 2021. Doi: 10.1088/1742-6596/1796/1/012078.
- [18] N. Cholish And N. Hasanah, “Rancang Bangun Sistem Manajemen Aset It Untuk Pencatatan History Maintenance Sebagai Pendukung Keputusan,” Vol. 4, No. 2, P. 3, 2018.
- [19] Risky Kawasati, “Teknik Pengumpulan Data Metode Kualitatif,” *Ekonomi Syariah Sekolah Tinggi Agama Islam Negeri (Stain) Sorong*, 2019.
- [20] M. Rijal Fadli, “Memahami Desain Metode Penelitian Kualitatif,” Vol. 21, No. 1, Pp. 33–54, 2021, Doi: 10.21831/Hum.V21i1.