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Research on the Real Asset Management System for the Whole Life Cycle Management of Assets

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Abstract

the physical assets management scientific efficiency, is the whole life cycle of enterprise assets management system of the construction of the important content of scientific and effective physical assets management play a pivotal role to enterprise sustainable development by studying banking physical assets management system, and aimed at the problems existing in the traditional extensive asset management system, put forward the total physical assets life cycle oriented physical assets management structure, and function modules of the design management system, to cure physical assets is the purpose of each process in the whole life cycle, so as to realize the scientific standardization of assets of the enterprise efficiency, dynamic management.

Keywords

physical assets; Asset management system; Physical asset management system.

1. Preface

With the rapid development of the national economy, the banking industry has also developed rapidly, and the types, values, and quantities of physical assets in the banking industry have also increased rapidly. The management of physical assets, which account for a large proportion in the development of the banking industry, has become a corporate management. important part. How to effectively manage a large number of assets, improve the efficiency of physical asset management, and how to track and dynamically manage the circulation of physical assets to ensure the safety and reliability of corporate assets has become an urgent problem to be solved by the banking industry.

2. Analysis of the Current Status of the Physical Asset Management System

Physical assets refer to assets created in social and economic activities for the production of goods and the provision of services [7], which are assets that create wealth and income and create net profits for the economy. With the rapid development of the modern economy and the development of information technology, traditional management has been brought closer to automated management. The physical asset management of the banking industry has the following problems:

(1) The maintenance efficiency of bank asset data is low, error-prone, and information islands exist. Specifically, there are fewer personnel in the asset management posts in the banking industry, more bank assets under management, more complicated tasks, low work efficiency, high labor costs, and no overall control of the bank's asset data. There is no unified and scientific In the database of physical assets [4], asset information is stored in different departments and media, and it is impossible to track and manage the entire process of assets, forming an information island. Homogeneous information is repeatedly recorded between various departments, causing unnecessary waste of human resources and unable to share information in real time.

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(2) The cost of daily operation, maintenance and management of assets is relatively high [5]. There are many types and huge amounts of assets in the banking industry, and it contains a large number of high-value assets and high-frequency assets. If the daily management is improper and the asset loss or damage is not counted in time, it will affect the smooth progress of the bank ’s daily work and bring about Serious consequences.

(3) The offline process of physical asset management is lengthy, there are many approval procedures, and the efficiency of manual circulation is low. The banking industry has many assets and a long approval process, but it is usually urgent. If the process is not completed on time and on time, it will cause great obstacles to the development of the business.

3. Research on the System of Physical Asset Management

With the vigorous development of the national banking industry and the transformation of the bank's automated office system, the banking industry has entered the stage of development from traditional office to automated office, facing more development opportunities, but at the same time, it also proposes to the enterprise's physical asset management system and management model Higher requirements. To realize the scientific management of physical assets [6], we first need to build a physical asset management system suitable for bank operations. This article puts forward the overall idea of constructing a physical asset management system: first, clarify the physical asset management system [3], divide the responsibilities of relevant functional departments and clarify the scope of responsibilities; second, implement the entire life cycle of physical assets in the bank [7] And related approval process; third, use modern information technology and software technology to build a physical asset management platform, clarify relevant functional modules, improve work efficiency, and realize dynamic asset management.

This article combines the current situation of physical asset management of a commercial bank, constructs a physical asset management system, and combines the asset management system and the asset management information system. The physical asset management system is shown in Figure 1.

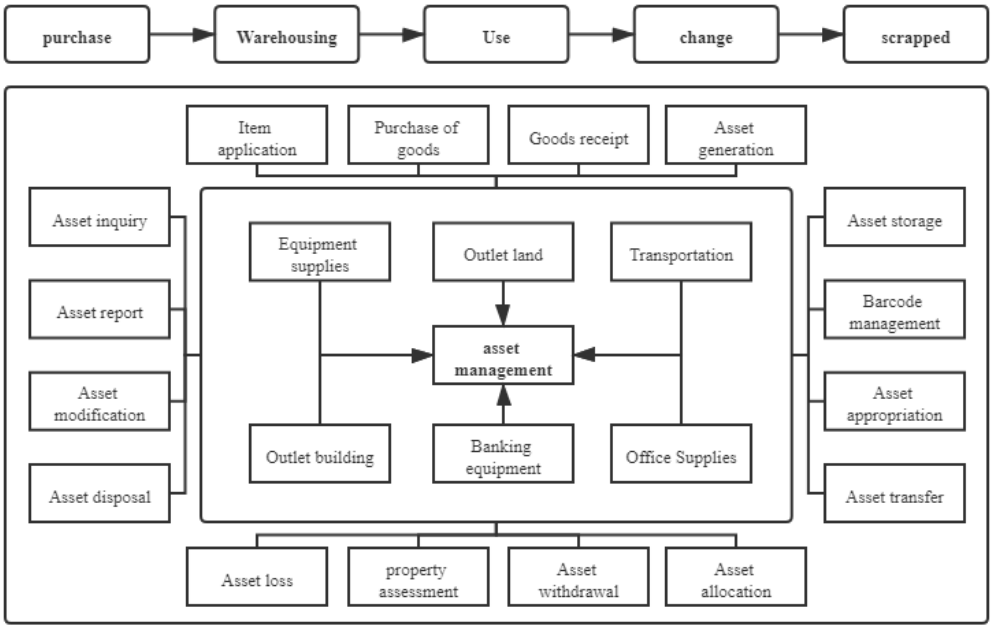

Figure 1. Physical asset management system

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4. Organizational Structure of Physical Asset Management

The organizational structure of physical asset management is the core of the physical asset system, which determines the relevant responsible units, responsible departments and persons responsible for asset circulation, and is an indispensable part of the entire life cycle of physical assets. The organizational structure of physical asset management is mainly composed of responsible units, responsible departments, and responsible persons.

(1) Responsible unit: Represents various types of entity organizations, usually refers to different subsidiaries or first-level subsidiaries under the same enterprise. Although they are managed by the same enterprise, the accounts are managed by independent entity organizations. The project group used to represent different functions is the root node of asset circulation.

(2) Responsible department: represents a sub-unit under the responsible unit or a management entity with a more detailed functional scope. Usually refers to a type of entity organization with different management responsibilities, which is more prominent than the unit in its professional management and is an intermediate node for asset circulation.

(3) Responsible person: represents the actual staff under the responsible department, and is the lowest leaf node of physical asset management. Most of the entire life cycle of physical assets is in the process of the responsible person.

Units, departments, personnel, and assets are a specific class of objects in physical asset management. The main data of physical asset management is stored in the type of information and flows among units, departments, and personnel. These types of information can be divided into many subtypes, and each type of information is used to describe a specific business scenario or association with other types.

5. Architecture Design of Physical Asset Management System

This system is an enterprise physical asset management system based on the B / S system. It is designed and implemented using the Spring Cloud microservice architecture. This system mainly involves eight modules: basic data management, warehouse management, procurement management, daily management, quick work, authority management, system query, and inventory management. The main task is to establish an enterprise physical asset automated management system, realize the entire process of enterprise physical asset management, improve the efficiency of enterprise asset management, reduce management costs, and realize real-time monitoring of each stage of the entire life cycle of the asset [2] To improve the stability of the system, the system architecture is shown in Figure 2.

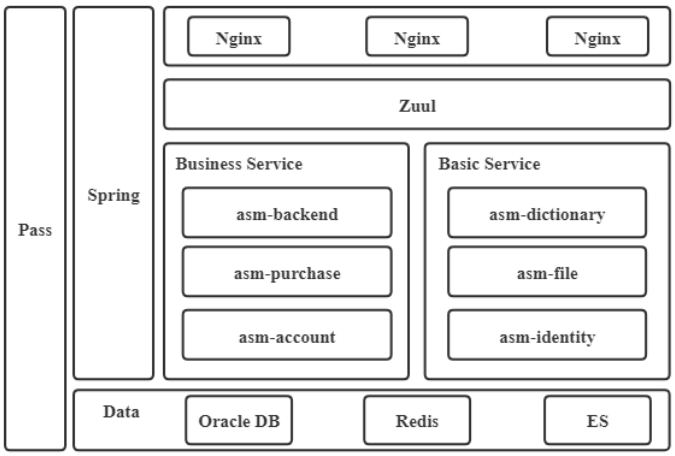

Figure 2. Architecture diagram of physical asset management system

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5.1. Barcode Management Mode

The physical asset management system uses bar code technology to give each physical object that forms an asset card

The unique barcode label, as its "identity information", realizes the full life cycle management from the conversion of commodities to assets to the end of scrapping. The specific process of barcode management is as follows.

First, the purchased goods are received through the warehouse. After the warehouse manager accepts and accepts the goods, an asset card is formed in the system. Each commodity corresponds to unique asset card information, and then the corresponding asset barcode is generated by the label printer. The asset name, asset number, responsible department, responsible person, etc. will be recorded on the asset label, and each physical object corresponds to a label, so that one object and one code can be managed. When performing bank-wide or branch-counting, inventory personnel can scan the barcode on the physical object through a handheld barcode scanner, and store the corresponding information in the database to achieve asset information management.

5.2. Physical Asset Management System

The physical asset management system takes assets as the dimension and realizes the dynamic management of the entire life cycle of assets from procurement, receipt, acceptance, storage, capitalization, transfer, transfer, inventory (inventory / inventory) to asset withdrawal and retirement.

(1) In the physical asset management system, the assets are classified and managed according to different business scenarios, giving the assets corresponding business meaning. After being divided by lines, it is possible to facilitate the query and editing of different classified assets in different business scenarios, so as to quickly locate assets. By assigning line information to assets, you can control the user's data authority from the user's line authority, and realize the flexibility of system role definition and data authority control.

(2) For daily management business such as asset transfer, allocation, and withdrawal, real-time processing of such business is realized through the physical asset management system, which solves the long offline approval process cycle, the information cannot be updated in real time, and the delay of account push The historical records query is cumbersome and other issues, real-time tracking of asset status.

(3) In the physical asset management system, the commodities are divided into stock and non-stock commodities. Treasury goods refer to the products that users usually purchase frequently, use a lot, or have a long procurement cycle. Such goods are routinely stocked by the warehouse, so that users can receive them in time when they are used, and improve work efficiency. Non-stocked commodities refer to commodities that users use less often and have higher economic value and are not suitable for inventory, so as not to occupy unnecessary inventory resources, reduce inventory pressure, and release cash flow.

(4) When performing asset inventory work of the entire bank or branch, collect barcode information through a handheld terminal, and check the collected data with asset accounts to obtain asset inventory loss and inventory profit results, and improve the efficiency of asset inventory work.

6. Design and Implementation of Physical Asset Management System

6.1. System Objectives

This article proposes a physical asset management system for the entire life cycle of assets. The design and development of this system aims to use modern information technology to

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assist enterprises in asset management, improve the efficiency of enterprise employees, and realize modernization, refinement, and automated management of enterprise assets 1]. According to the current status of enterprise management, the main goal of the system is to integrate various tasks in asset management into a modern management system through the analysis of the needs of various business scenarios to achieve dynamic management of the entire life cycle of assets.

From the perspective of system function realization, the entire system should achieve the following goals:

(1) Establish a unified physical asset management database to realize centralized management of various business data of assets.

(2) Break through barriers between various departments to realize real-time tracking of asset status.

(3) Regulate the management system of physical asset management.

(4) Improve the enterprise's ability to process and analyze different business scenarios.

(5) Save and read the relevant files of the asset business process in the cloud to realize information management of enterprise data.

From the perspective of system technology implementation, the entire system design should achieve the following goals:

(1) System stability

(2) The scalability of the system

(3) System security, data security

(4) High-availability of the system in large concurrent scenarios

6.2. System Function Design

According to the physical asset management system architecture, the system function modules are divided into the following eight modules. The system function structure is shown in Figure 3.

(1)Basic data management. Including: unit organization management, employee management, asset classification management, supplier management, data dictionary management.

(2)Warehouse management. Including: purchase order storage, receipt acceptance management, receipt acceptance query, inventory query.

(3)Procurement management. Including: purchase order management, purchase order allocation, manual creation of purchase orders.

(4)Daily management. Including: intra-department asset transfer, personal asset transfer, cross-department asset transfer, cross-unit asset transfer, withdrawal application, asset classification modification, asset withdrawal, asset transfer query

(5) Quick work. Including: to-do items, application for application, library application.

(6) Authority management. Including: menu permissions, role definitions, user permissions.

(7) System query. Including: asset query, asset report query, exit order query, receipt order query, exited asset query, valid asset query.

(8) Inventory management. Including: inventory task management, inventory loss application, inventory task tracking.

ISSN: 2688-9323

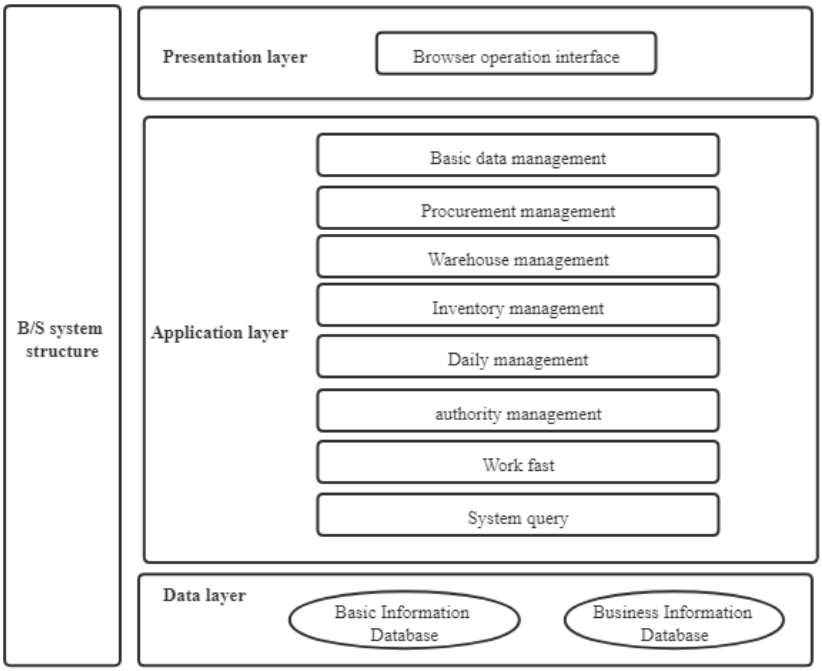

Figure 3. System function structure diagram

6.3. System Implementation

The system is implemented with a three-tier architecture B/S structure, implemented using mature J2EE development standards, rapid development based on SSM microservice architecture, using front-end and back-end separation development, to achieve front-end and back-end decoupling, and using fastdfs to achieve distributed production The storage of related files enables the system to continue to serve enterprises efficiently and reliably. In terms of software, this system uses Spring, Spring Boot, Spring Cloud framework and Oracle 10g database, and uses RESTful interface development specifications to improve system scalability. The system network topology structure is shown in Figure 4.

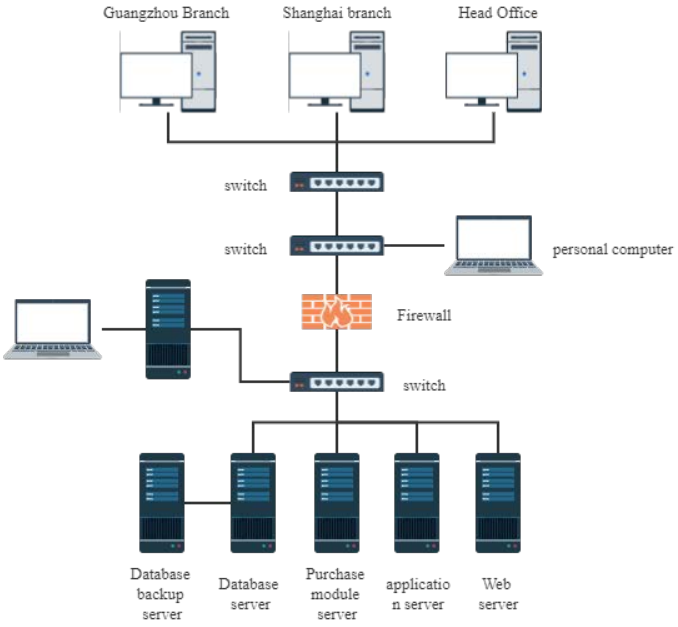

Figure 4. System network topology structure diagram.

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7. Summary

This article develops an information system with asset circulation as the core and asset inventory management, transfer management, exit management, procurement management, inventory management, asset query, etc. as the main functional modules, aiming to realize the assets from procurement, receipt, acceptance, and formation of assets , The integration of all stages from asset circulation and maintenance to asset withdrawal and disposal, full life cycle management. Through the establishment of a physical asset management system, the main energy of the asset manager can be concentrated on daily management and data maintenance, and data entry, submission, approval, etc. can be fully responsible for each user department or responsible department, which ensures asset information. The accuracy and real-time performance of the company have realized the real-time and dynamic management of asset information.

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