

Design and Implementation of Logistics Enterprise Operation Supervision and Management and Supervision System Based on Computer Database

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ABSTRACT: Logistics industry has the characteristics of cross regional, multi process, in order to adapt to the future market requirements and logistics services should adhere to the information transformation. China's logistics industry started relatively late, hardware and software infrastructure are relatively weak, and regulatory authorities are not clear. The lack of specialized logistics legal system, and 'no supervision' of software product support, resulted in a large number of regulatory loopholes. Computer database technology in the logistics enterprise information has made some achievements, but in the field of logistics information management, it is still blank. But the independent development, management and maintenance of a logistics information systems is very costly. It is difficult for a small and medium lodistics enterprise to achieve it. Logistics information management system needs docking of numerous logistics enterprises management system, and computer database technology. It will be relatively independent of each logistics information system while communicated, making the original loose information resources more compact and service to interact.

Keywords: Service oriented architecture, Logistics information monitoring, Forecasting, Event warning

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1. Introduction

Modern logistics is the goods transportation, storage, handling, delivery and service sectors to achieve information management, disposal and testing set with all the functional flow of the logistics in the process of integration [1]. Logistics information management system arises at the historic moment, using the modern means of science and technology and network technology, enterprise management, human resources, business processing, after-sales service to the same platform, in order to improve the work efficiency[2]. And service quality of the enterprise is improved which helps the enterprise responsible person who

provides data support based on decision-making [3].

Logistics information management system provides the regulatory department of logistics, built on top of each logistics enterprise management system by research of logistics enterprise data collection, cleaning, integration and analysis, where it masters the logistics enterprises in the general situation of the enterprise, operation, development prospects and supervise[4]. On the other hand, in the data obtained in the supervision of the logistics to carry out in-depth analysis mining, it is found that the industry's own problems restrict its development factors, and find the method to solve the bottleneck, so as to enhance the core competitiveness [5].

In addition, logistics enterprises to monitor the operation of the system is stable. The data resources of the courier company incorporated increase the capacity of the basic information, as the public security management and control resources, of key personnel, phone number, mailing address, and sensitive items such as element field implementation of surveillance, to detect and dispose of suspicious circumstances.

2. State of the Art

2.1 Computer Database

The concept of computer database is put forward by Gartner, Inc. in 1996, accompanied by the development of the Internet and its rise, it serves the system of the division standard[6]. The dispersion of the functional organization in accordance with the coarse-grained points for business services, where business service is relatively independent, interoperable and reusable[7]. Computer database is one of the effective and efficient methods for the current enterprise system architecture design, where its business function is a good distinction, to guarantee the relative independence of each service module[8]. It provides a very efficient architecture design ideas [9]. Basically contemporary enterprises are set up to store and manage the business data and core database. For most legitimate users, the core database is a very convenient way to store critical information. And from the view of attacker the benefits of directly damaging the database is much larger than the benefits of exploration data in the network. Database security includes the operating system and network security, and it is same as the security of computer systems [10] as shown in Figure 1.



Figure 1. Computer Database

In Computer database reference architecture there is no uniform international standard as industry does not have recognized standard. All the manufacturers develop according to the characteristics of their own good technology and conforms to their own characteristics and style as per the technical reference architecture. There are some differences between the relevant manufacturers in the description of the standards, but the main design ideas are the service standardization and loose coupling. According to the different development platforms and the concrete realization technology, the service is the smallest unit, where the basic characteristic of the system is loose coupling and coarse grain size. Measures to guarantee data security is commonly used: separated portion of the database needs to be protected, and other sections; user access control methods should be carried out in accordance with the authorization rules, such as marking and identification mechanisms, mandatory access, independent access and view. The data stored in the database will be subject to auditing and encryption. Data accuracy, compatibility and effectiveness are data integrity. Data input value is consistent with the data table field types which is called as validity; different users using the same data are the same is called compatibility, while in real applications for the value segment

the theoretical values in the database to meet is called the validity. In order to ensure the integrity of the data, it must be for legitimate users using incompatible with semantic data input and output is prevented(As shown in Figure 2).



Figure 2. Database reference architecture

In the course of practice, the construction method of many computer database has been summarized, which corresponds to each stage of IT, mainly has the service oriented analysis and design. The main design process including service discovery, service description and service design and implementation and the development process of the service, need a detailed description of the role, activities, etc [5]. Problems in operating systems lie in the virus, backdoors, relevance, database systems, and operating systems. First of all, in terms of viruses, Trojans may exist in the operating system and database system is a great threat. A Trojan horse program on settled program of password for modified and bang password update hire information of password also will lead to invasion who get it; second, in operating system of behind aspects, although database management member due to database system of features parameter is convenient, but while backdoor in database server hosts the operating system. So the backdoor hacker may on Access database and has associated with the characteristics and exists



Figure 3. Logistics enterprise of computer database management

in the Yu database system and operating system of Zhijian. It is a function of the operating system files management. Document management documents including the database files can be authorized through the use of access control reading and writing

for the constraint, execution, and for user logon and password authentication controls, the programs of the operating system are monitored. Therefore, the operating system and hardware devices that provide an environment can guarantee the security of database systems. Users of information network security do not have enough attention; no one really realizes the importance of database security and do not implement safety measures. The security events occur frequently, and these are due to the problems caused by neglect of safety management. Unduly restriction of the access to the database server reduce the attack surface, but this does not mean that it cannot fix. Many surveys have found that the database administrator periodically repairs the database system patches as shown in Figure 3.

3. Methodology

Logistics information management system use computer database architecture model. The system is divided into database layer, middleware layer, database service layer and data application layer. The database layer is based on the analytical database, stores the basic data and the data analysis model, and provides the application access control for the middleware layer. Database service layer, according to the business requirements, design a data service interface for the upper application, and the business is divided into data cleaning, import, collection, analysis and other services model. Data application layer to achieve business needs, include monitoring and inquiry, early warning settings, trends analysis display, query operation, etc [6]. Database security can refer to its protection of database hacking, and data in the database will not be stolen, resulting from the unlawful use, tampering, and security issues. Database technology to the level of safety is one of the important indexs to measure the quality of database systems. Sharing databases is a major advantage, but at the same time, the data sharing, will inevitably bring about problems affecting the security of the database. However, sharing in the database is not absolute, and is not to say that all data must be shared. Instead, some involving the interests of the state and military secrets, trade secrets, personal secrets, medical records, bank accounts, passwords and other data, are not only be shared but also to strengthen security measures. Therefore, some sharing between data access at the same time, certain security measures must be taken, for example in the DBMS under unified control, where the usage rights are strictly controlled. When the user access, data encryption, mandatory access control (MAC) and view system, only legitimate users can use permissions-related operations as shown in Figure 3.



Figure 4. Logistics information management system

Database service layer use the soap engine and web services framework, unified the use network protocol, data cleaning services, data import service, data service acquisition and analysis of excavation service management implementation (As shown in Figure).

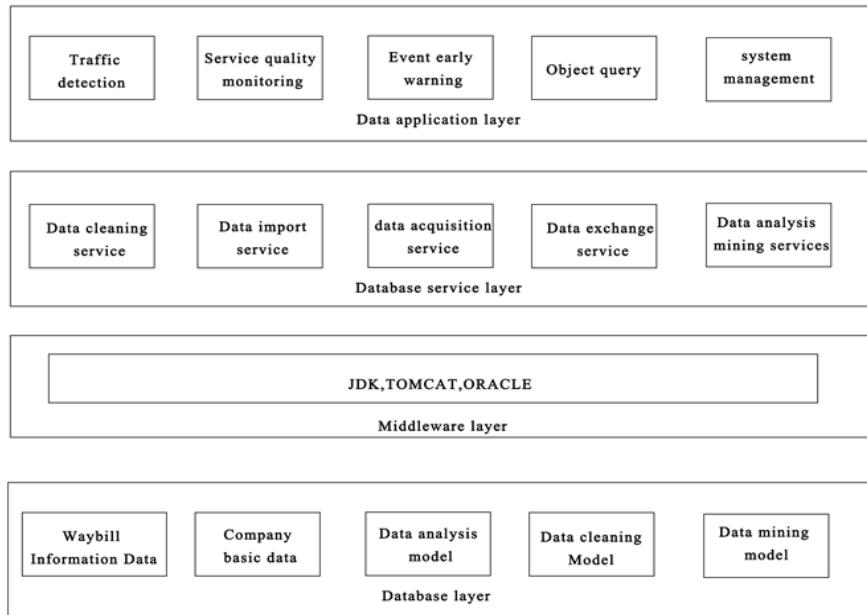


Figure 5. Overall framework of logistics information management system

4. Result Analysis and Discussion

Name	type	Field name	As empty
ID	NUMBER(10)	number	
RECIPIENT_NUM	VARCHAR2(200)	number	
SEND_DATETIME	DATE	Send date	
EXPRESS_COMPANY	VARCHAR2(200)	Logistics company name	
RECIPIENT_NAME	VARCHAR2(200)	Recipient name	Y
RECIPIENT_ADDRESS	VARCHAR2(400)	Recipient address	Y
RECIPIENT_COMPANY	VARCHAR2(200)	Recipient company	Y
RECIPIENT_MOBILE	VARCHAR2(200)	Recipient mobile	Y
RECIPIENT_TEL	VARCHAR2(200)	Recipient telephone	Y
SENDER_NAME	VARCHAR2(200)	Sender name	Y
SENDER_ADDRESS	VARCHAR2(400)	Sender address	Y
SENDER_COMPANY	VARCHAR2(200)	Sender company	Y
SENDER_MOBILE	VARCHAR2(200)	Sender mobile	Y
SENDER_TEL	VARCHAR2(200)	Serder telephone	Y
ITEMS_NAME	VARCHAR2(100)	Items name	Y
ITEMS_WEIGHT	VARCHAR2(200)	Items weight	Y
ITEMS_SIZE	VARCHAR2(200)	Items size	Y
ITEMS_COUNT	VARCHAR2(200)	Items count	Y

Table 1. Logistics object record field information

Logistics information management system is a data analysis type system, focusing on the data query and analysis. The starting point of the design is based on the large amount of data query and analysis as well as the analysis of the design and analysis of the results of the show. The main design of the business volume statistics, service quality detection, event warning, object query, system management and other functional modules, as well as its display, according to the function module design the database main table structure. The database design considers the preservation of three basic data and the record of the state of the process and the preservation of the system parameters.

Logistics data sheet: the main thing is to send the data generated by the object, such as customer information. Complete data and information is the basis for subsequent data analysis.

Logistics object record to provide the basis of the query data, and can be linked with other records, the records are interrelated, so that users with access to record the full access to the object information. Therefore, the system will view the key areas in order to determine what data information to find in the logistics object records.

Name	Type	Notes	Primary key	foreign key	As empty
ID	NUMBER(10)	number	Y		
CODE	VARCHAR2(20)	Area code			Y
NAME	VARCHAR2(50)	Name			Y
NAME_OTHER	VARCHAR2(50)	Abbreviation			Y
PARENT_CODE	VARCHAR2(20)	Superior area code			Y
PARENT_FULLNAME	VARCHAR2(200)	all parent address			Y

Table 2. Administrative division table record field information

The administrative division is a record of all provinces and cities in the country, as well as the jurisdiction of the county's information. The data classification is mainly based on the flow direction and the regional operation monitoring.

5. Conclusion

On the basis of the theoretical system of logistics information management and computer database, the main function modules of the system are determined, and the system is designed to realize the logistics information management system. The technology of computer database is studied, and the feasibility of using the computer database in the logistics information supervision system is analyzed. Through the logistics information management system to achieve the full function of the demand analysis, extract the basic business module, and each function module has the detailed description and design. According to the whole business module, it is classified as a number of services, and according to the requirements of each service and business requirements, the service input and output parameters are defined, designed and implemented in a number of services.

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