Aviation Logistics Information System Based on SSM Framework

YONGGANG ZUO and WEIPING ZHU

ABSTRACT

Aiming at the low efficiency of aviation logistics information transmission and the problem of slow searching, the aviation logistics information system based on springmvc, spring and mybatis is developed according to the specific aviation logistics business demand. The system uses the MVC layer and B / S architecture under the java and other development techniques to achieve the aviation logistics information system storage management functions, exhibition functions, freight management functions, decision analysis function. For the transmission of aviation logistics information to improve efficiency.

KEYWORDS

Aviation logistics; Springmvc, workflow.

INTRODUCTION

Logistics information of the times have come, in the practice of production, due to information asymmetry or information transmission is not timely and unreasonable way of information transmission and other reasons, to bring huge losses to the enterprise. This paper mainly constructs an aviation logistics information system to realize the functions of warehousing management (including purchase orders, warehouses, goods, bar codes, warehouses, warehouses, returns, inventory, inventory, and so on). In this paper, Inventory limit alarm, statistical query) and exhibition management (including: exhibition management, a single management), the formation of a unified digital management of goods. To achieve the completion of the whole process of freight management functions, including purchase and sale contracts, shipping table statistics, export bills of lading, HOME packing list, packing list, power of attorney, invoices, financial statistics. Complete the decision analysis function (including: cost analysis, sales statistics, key customers, operating over the same period statistics, job performance).

BUSINESS NEEDS ANALYSIS

Aviation logistics system to achieve the information management of warehousing, management can keep abreast of the purchase, shipping, loss and inventory, for the
fine management, 0 inventory business objectives laid a solid foundation. In the exhibition quickly print out the customer care products for customers to save valuable time to win the recognition of customers, and promote the sales staff on-site signing probability. So that the business process more smoothly, more rapid delivery of information, improve the efficiency of handling and improve the ability to spread the department around the world. Make full use of the computer's rapid calculation, the customer from the daily chores liberation, you can put more energy into the company's business.

We will be divided into seven departments of aviation logistics, namely, chairman, general manager, administrative department, sales department, air transport department, finance department, development department. The Ministry of Finance is responsible for accounting review, invoicing and collection; the development department is responsible for the maintenance of the software system. The department is responsible for the maintenance of the software system. The chairman and general manager of all the data can be viewed and printed at any time. Other departments can only see their own data, cannot browse other departments of the data.

Freight management consists of six core, the specific purchase and sale contracts, export declaration, packing, commission, invoices, finance. The purchase and sale contract is a contract signed with the manufacturer.

Purchase and sale contract business is more complex, the purchase and sale of the contract mainly consists of three parts, purchase and sale of the main contract information, purchase and sale under the contract of multiple cargo information, the goods under a number of annex information. They are two-tier one-to-many. Then the goods also need a manufacturer, they are many-to-one relationship; accessories also need a manufacturer, they are also many-to-one relationship. Attachments also need a base table to get classified. In the purchase and sale of the contract I also achieved a complex report of the print. In this report print, you need to insert the user's LOGO pictures, you need to insert multiple goods pictures, a page to print a cargo or two goods, in the printing of two goods, the user has a request, print the same manufacturer of the goods can be placed on a page, different manufacturers of information must be another page.

Export delivery: When the sales focus on the purchase and sale of the contract, confirmed correct, he reported purchase and sale of the contract, then the newspaper dedicated registration system can see the sale of the purchase and sale of the contract,
choose the purchase and sale contracts for delivery processing. The main business is the declaration. When the goods related to the transaction under the contract, not like the associated way, must be sent by the newspaper to find multiple contracts, and then through each contract to find multiple cargo information, and directly through the interrupt field, the use of sql in subquery From the shipment directly to find the goods under the contract information. This reduces the relevance of query efficiency greatly improved. When the system user data more and more, the more business-related level.

TECHNICAL INTRODUCTION

SpringMVC + Spring + MyBatis (maven) Today's most popular business framework, using annotations. Spring is an open source framework derived from some of the ideas and archeets described by Rod Johnson in his book. It is created to address the complexity of enterprise application development. Spring uses basic JavaBeans to accomplish things that could only be done by EJBs. However, the use of Spring is not limited to server-side development. From the point of view of simplicity, testability, and loosely coupled, any Java application can benefit from Spring. In simple terms, Spring is a lightweight control inversion (IoC) and face-oriented (AOP) container framework. Spring MVC belongs to SpringFrame Work follow-up products, has been integrated in the Spring Web Flow inside. Spring MVC separates the roles of controllers, model objects, dispatchers, and handler objects, making it easier to customize. In the case of MyBatis this is an open source i apache project, 2010 this project from the apache software foundation to the google code, and renamed MyBatis. MyBatis is a Java-based persistence layer framework. MyBatis uses simple XML or annotations for configuration and raw mapping, mapping interfaces and Java POJOs (Plain Old Java Objects, common Java objects) into records in the database.

maven is a software project management tool that can manage project construction, reporting, and documentation with a small piece of descriptive information. Maven project how to increase dependence, rely on the principle: the main core framework springmvc, spring, mybatis, database c3p0, oracle / mysql driver, third party core jar, daily other jar log4j, junit, poi, excluding conflict jar servlet.jar TOMCAT implementation.

Springmvc running process, create springmvc ioc container and refresh (), from the Servlet Context to get Spring ioc container and set the father and son Application Context relationship, initialization Servlet need to use the strategy tools, such as:
initialization file upload tools, international tools, Handler Mappings, Handler Adapters, View resolver. From the container to take out all Handler Mapping set to dispatch her Servlet. Handler Mappings, from the container to take out all the Handler Adapter set to dispatcher Servlet. Handle rAdapters, from the container out View Resolver set to dispatcher Servlet. view Resolvers, if there is no container, you can read from the package Dispatcher Servlet. properties are configured, the servlet request will be forwarded to do Dispatcher for processing, check the request is multipart /form-data content type, use multipart Resolver parsing package, traverse handler MaPpings, the implementation of mapping. gethandler (request), to see who first returned non-empty Handlerchain (the chain contains interceptors) traverse handler Adaptors, the implementation of adaptor. Supports (handler Chain.get Handler ()), to see who is the first match on the adapter to get all the interceptors from the chain to carry out traversal implementation interceptor. Pre Handle (req, res, handler).

POI is a Java API that creates and maintains operations that conform to the Office Open XML (OOXML) standard and Microsoft's OLE 2 Composite Document Format (OLE2). Use it to read and create and modify MS Excel files using Java, and you can also use Java to read and create MS Word and MSPowerPoint files. Apache POI provides Java operation for Excel solutions.

Customer requirements can track its orders, our system for customers to provide a WebService service, we use the most powerful Apache CXF as a WebService service. Modify the export report form Service layer to transform it into WebService. WebService entity objects must be serialized, so ensure that po objects are serialized. The parameters of the method invoked in the WebService can not be an interface object. Must be transformed into a concrete implementation class. And then use the cxf core configuration file cxf-servlet.xml to publish the WebService service. When the system starts, the cxf container starts at the same time, just as the external system provides access to the address. For example: we have a customer his system is to use. Net technology to achieve, we publish the WebService. Give him the manual, he integrated Web Service in his system. It can be directly to his system to track their orders, direct real-time understanding of the order to go to which process.

Workflow using the latest Activiti5 5.16 version, it will automatically create 24 tables, more than a log table. In the purchase and sale contracts reported when the process at the same time start. Sales dedicated to the purchase and sale of the contract on the deal, and then submit the process to the approval of the sales department, the approval of the sales department after approval, submitted to the air transport department. The air transport department is responsible for handling the delivery business, processing is completed, submitted to the Air Transport Manager to review the manager, the delivery manager after the audit, he submitted to the air transport department responsible for packing. The air transport department packing is responsible for handling the packing business, the processing is completed and submitted to the packing manager for approval, the packing manager approves, submits the entrustment to the entrustment, entrusts specially handles the entrusting business, completes the processing to the invoice manager approval, the invoice manager passes the approval To the Ministry of Finance.
AVIATION LOGISTICS INFORMATION SYSTEM DEVELOPMENT PROCESS

We create new Maven Project in eclipse (java project development editor), copy interface framework css, js, images, js, copy tool class, modify pom.xml, build database (utf-8), create PDM, create table, execute SQL script, create PO, Mapper.xml, dao, service, controller, jsp file, configuration file sqlMapConfig.xml, beans.xml, jdbc.properties, springmvc-servlet.xml, web.xml deployment, testing.

CONCLUSION

Aviation logistics information system is a large number of basic investigation, sort out the relationship between the various departments and links, and then on the needs of the above analysis, the use of SpringMVC, Spring, mybatis framework is a very good framework to meet business needs. The process uses workflow and other technologies, also called the webservice service, with good scalability and security.

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<configuration
    PUBLIC "-//mybatis.org//DTD Config 3.0//EN"
    "http://mybatis.org/dtd/mybatis-3-config.dtd">
  <properties>
    <property name="dialect" value="mysql"/>
  </properties>

  <plugins>
    <plugin interceptor="cn.itcast.jk.pagination.PageInterceptor">
      <property name="databaseType" value="mysql"/>
    </plugin>
  </plugins>
</configuration>

Figure 3: MyBatis configures sqlMapConfig.xml

```xml
<mvc:annotation-driven/>
<context:component-scan base-package="cn.itcast.jk.controller"/>
<bean id="jspViewResolver" class="org.springframework.web.servlet.view.InternalResourceViewResolver">
  <property name="prefix" value="/WEB-INF/pages/">
    <property name="suffix" value=""/>
  </bean>

<bean id="multipartResolver" class="org.springframework.web.multipart.commons.CommonsMultipartResolver">
  <property name="maxUploadSize" value="10485760"/>
</bean>

Figure 4. springmvc configuration springmvc-servlet.xml.

537
ACKNOWLEDGMENTS

Thank you my teacher Zhu Weiping, thanks for the financial aid from the National Social Science Foundation of China (number 16BGL014).

Corresponding author: Yonggang Zuo, 10203809@qq.com. College of Air Transportation, Shanghai University of Engineering Science, shanghai201620, China.

REFERENCES