

Design and Implementation of Food and Beverage Platform System Based on Java

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Abstract: In China, the catering industry plays a vital role in the growth of GDP. The catering industry is a rapidly developing industry in society today. To occupy a favorable position in the competitive market, we must standardize scientific management and strengthen service construction. The main determinant of the operation status of the catering enterprise is the scientific management of daily affairs. The main goal of the catering platform system based on JAVA is standardization and automated management. It can not only completely replace the original manual catering management method, but also prevent the occurrence of problems caused by management personnel due to wrong management and wrong operation of service personnel. Effective management tools and management.

1. Introduction

This article mainly describes the catering platform system based on JAVA. In the process of developing the catering platform system, a detailed demand analysis was performed on the system, including feasibility analysis, data flow chart and business flow chart analysis. Through the analysis of system requirements, as well as data flow charts and entity connection diagrams, the system is designed from various aspects of data storage and function realization. Use Tomcat8.0 and JDK1.8 and use JAVA development tools to complete the system development. In the process of developing the system, it consolidated and deepened the knowledge of the management information system, and accumulated experience for the next system development work.

2. Literature Review

Ji Xinxuan^[1] put forward the traditional service model in China's domestic catering industry reflects the following problems: First, can not intuitively see the use of the table, so that customers have to wait a long time to solve their own problems, customers' dining mood is affected. Second, customers need to check the traditional menu to order, at this time the service staff record the name of the order, and transfer to the cook, so the process takes too long, the use of more manpower. Third, because the service staff is not only to serve a customer therefore need to view the order, because the service staff's handwriting is not uniform, or the service staff's handwriting is not clear lead to mistakes, resulting in ordering errors, to the restaurant enterprises bring economic losses. Fourth, in the customer after the meal checkout process, the use of manual calculation of the total consumption is easy to calculate errors, guests' meal records, raw credentials easy to lose. Fifth, with the accumulation of time, the amount of data is also growing, through manual data statistics process is very complex^[1]. Lu Yu^[2] believes that in order to solve the problems of these traditional catering services industry, some system development companies have developed various types of catering platform management systems, but most of them are for large catering enterprises to provide services, but because of too complex functions, high costs and higher maintenance costs, so for small and medium-sized catering enterprises are almost non-applicable. For these traditional catering enterprises exposed problems^[2].

3. Relevant Technical Concepts

3.1 Springmvc Framework

In the MVC framework, control processing usually runs at the control layer, but in Spring MVC, we have to take steps to complete the control work. In the MVC schema, the control layer returns to the view layer and the model layer after receiving request and response parameters. The returned model is of cred type, but operations controlled in Spring MVC usually return results as views. This pattern cannot be adopted. JSP is primarily responsible for the interface of the view layer, servlet handles the control layer, and the model layer is primarily responsible for coordinating the DAO layer and the controller layer using the JAVA language. The DAO layer performs processing operations after the model layer, primarily specific to the database.

3.2 Mysql Database

MySQL is a small and medium-sized relationship database management system with high frequency of use. The relationship database does not store all the data in a large data warehouse. Instead, the data is carefully stored in different tables, allowing for increased speed and flexibility, and the data tables that store the data remain important throughout the development project

4. System Analysis

4.1 Feasibility Analysis

The operating system uses JAVA, Tomcat, SSM framework development, MySQL database technology, using web browser and network implementation. To sum up, it is technically feasible. The system requires only one computer, a server, and some software that can be downloaded directly from the Internet, so the cost is low^[3]. After development and operation, it can save manpower, material and financial resources, and greatly improve the efficiency of management. As a result, economic costs have been squeezed very low. The system is not difficult to operate, high-level management personnel and cashiers can be used directly, low-level service personnel need only simple training to be skilled in the use of the system.

4.2 Functional Requirements

The catering platform system mainly realizes the system login function, the personnel management function, the vegetable management function, the order function, the checkout function, the monthly settlement function plate, and the interaction relationship may be established between the data of each plate. Requirements analysis identifies data and functional requirements and lays the foundation for the use of data centers and capabilities^[4].

The functional requirements of the system are described below:

The platform has the following features:

(1) System login module: can achieve the staff login system, in addition to the system to identify users, if the administrator can enter the administrator interface for vegetable management, personnel management, view monthly settlement. In the case of cashier status, go to the operator interface to view the status of the order and perform the cash register operation. If you are a waiter, go to the operator interface to place an order and other related operations.

(2) Personnel management function module: This function can only be used by administrators, other workers are prohibited from using it. Information is entered into the staff member who participates in the work, and the work account password of the person is registered.

(3) Food management function module: this function can only be used by administrators, other staff prohibited operation. Delete and check the information of the added dishes, and enter the information of the dishes that have not been entered.

(4) Order function module: This function can only be used by waiters, other staff members are prohibited from using the relevant. The customer order information is entered, and the customer's needs such as addition, reduction of food and other related operations.

(5) Checkout function module: This function can only be used by cashiers. Other staff members are prohibited from using it. When the customer's consumption is completed, checkout, cash register, change and other operations.

(6) Monthly billing function module: This function can only be operated by administrators. Other workers are prohibited from operating. Review the amount of revenue for the month and the sales of the dishes to make changes to your marketing strategy for the following month.

5. The Main Problems Encountered in System Development and Solutions

5.1 Chinese Problem with Garbled Code

(1) Problem description: when interacting with background data at the front end of the web page, such as when entering food information at the front desk, when the background is entered into the database by method, the data stored in the database is garbled, the data is extracted through the database, and the data is displayed as garbled at the front end after the method.

(2) Solution: By searching for the problem and trying various solutions, and finally taking the interactive approach by changing the code to UTF-8, the problem is finally resolved.

5.2 Session Loss Issue

(1) During the user's login process, because of the use of Session to record the user's login status, so Session lost too often, resulting in the login interface can not appear in the correct way, especially after the system function update problem is particularly obvious.

(2) Solution: By studying and reading a large number of references, it is found that the problem is concentrated in the initial stage of system operation, due to the initial configuration of the system, the relevant DLL files need to be updated, you can modify the web. config file, using State Server mode to manage Session.

6. Summary

This paper elaborates on the core ideas of SSM framework, and applies the core ideas of SSM framework to every link of system development, which provides great help to system requirements analysis, system design, system implementation and system testing of system development.^[1] By using the SSM framework, the traditional development model has been completely improved on the basis of the original, resulting in a completely new development architecture that not only separates the data model, interface display and control modules. Support is also provided for the module's support and business logic layers.^[2] By using the SSM framework, no matter how the front-end page changes, only the background model layer needs to be modified, and the modification of the database will not have a significant impact on the system. As a result, the use of the framework has significantly reduced the working hours and intensity of the staff and increased the reusability of the system.^[3] In terms of specific architecture use, the SSM framework is applied in every aspect of the design of the catering platform system, and the configuration and use of the framework are described in detail, and the design and implementation of the persistence layer, control layer and so on are also described. The use of architecture to develop the catering platform system not only meets the requirements of system development, but also shortens the time required for development, improves the efficiency of staff development, and provides a strong support for the construction of enterprise computer information. But the system itself also has shortcomings, the article on the catering platform system design structure is not perfect, there is still a need to improve the place, this is the next time the development of the system needs to note

7. Conclusion

In order to develop a qualified information management system, we should first plan, analyze, implement and operate the system according to the market demand. Then according to the difficulty of the system and their own programming speed, self-evaluation, for the future further development tasks have laid a solid foundation. In the development process of food and beverage platform management system is a review of their past knowledge, but also the process of finding their own short board. Through the use of this system, the real implementation of the staff online operation, greatly shorten the staff in the specific work steps of the time spent, improve work efficiency, for managers to make decisions in the interests of enterprise development provides a strong data support. Let the modern catering management system is moving towards information, diversified direction, which will be the future of the overall direction of the catering industry.

(1) Through the combination of catering platform management system and other applications, real-time upload of data can be realized to provide powerful help to the relevant government departments, such as uploading income to the tax department to assist the department in tax administration

(2) Sales can be forecasted through the catering management system. "Statistics are made on the sales of the previous quarter and systematic analysis is carried out using scientific analysis methods, so that managers can forecast the sales of the next quarter and reasonably arrange personnel and working hours to formulate appropriate marketing strategies, so as to maximize the benefits."

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