Design and Development of Online Mobile Phone Sales System Based On Java

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Abstract. With the rise of a new economic form named "Internet +" , the traditional mobile phone sales industry is also seeking the new cooperation opportunity, hoping to find cross-border integration and use Internet information to improve sales levels. Mobile phone sales industry will integrate efficient and optimization information which obtained from the Internet, then put forward more market-oriented sales program in order to access to consumers’ recognition and thus make a high sales record. In order to meet the needs of mobile phone sales industry, this paper has designed and developed the Java-based system, and developed the online mobile phone sales system with iPhone as an example. Firstly, the demand analysis and feasibility analysis of the system were carried out. After the feasibility of the system was analyzed, the overall design and function design of the system were carried out. The system use Java, servlet,. Net and other technologies, combined with oracle database, and use object-oriented approach to the preparation of procedures to achieve the function, including the users’ login and registration, purchasing of mobile phones, paying orders and the administrator's mobile phones’ model management, mobile phones’ information management, users’ information management and modifying administrator’s information.

1. Design background

"Design and development of mobile phone sales system based on Java" is a set of system to make users use the Internet to shop online and improve shopping and sales efficiency. Currently, there are two main ways to sell mobile phones in the market, namely, online and offline. Although offline sales can provide users with intuitive feelings and better experience of goods, so as to compare goods. On the one hand, the seller needs to spend manpower and material resources to increase the cost of sales. On the other hand, users also need to devote special time and energy to purchase, causing some unnecessary waste of time. Taking the form of online sales, it not only saves the cost of sales, but also provides all kinds of convenience to customers, so the idea of designing this system has come into being. At the same time, through the more rigorous and real market research with the majority of middle-aged and young people
as the main body, the author makes a survey of the more inclined consumption patterns of the vast number of consumers, and finds that consumers emphasize optimistic and supportive attitude towards online shopping. And are willing to trust the reliability of online goods. In addition, at a time when Apple's phones are being updated so quickly, the system has a promising future because consumers are in increasing demand for it. In order to better provide time and space convenience for this kind of mobile phone consumers, through the simple and easy-to-understand operation interface, we can really enjoy the convenience of the first time to get the mobile phone without leaving home. Compared with the traditional offline mobile phone sales mode, the system can reduce the workload of employees, carry out unified and standardized operation, and can ensure the privacy and high efficiency, so that the buyers are more comfortable and less worried.

2. System analysis

2.1 Demand analysis
The users of this system are the marketing managers of Apple and those who are about to buy Apple's mobile phone products. The general goal is to provide marketing managers with timely and effective sales information, develop corresponding sales plans, and obtain better economic benefits. And to provide users with a new way to buy products without leaving home, save users' time and energy, select the most satisfied mobile phone in the shortest time. By analyzing the needs of users, two types of users are summarized: administrators and users. The main functions of the administrator are mobile phone model management, mobile phone information management and users’ information management. The mobile phone information management includes the addition, modification and deletion of the model, color, price and other information. Users’ information management mainly includes query user information and other operations. The main functions of users are to login and purchase products. According to the analysis of the two types of users in the system, the process that the mobile sales system should have is as follows: first, the user registers the login account, and after the user logs in, the mobile phone commodity information is queried. Next, the user chooses the phone according to the preference for the model and storage. Finally, the purchase is completed after the user pays successfully. Therefore, it can be analyzed that the main functions of the entire online sales system of Apple mobile phone are as follows:
1. Users sign up and log in
2. Users buy goods
3. Users pay orders
4. The administrator manages the categories of goods
5. The administrator manages the details of goods
6. The administrator manages user’s information
7. The administrator revises information
Therefore, it is imperative to establish a mobile phone sales system that meets all the above requirements. We need to solve the problem caused by traditional retail stores with modern methods and give users real enjoyment of shopping.

2.2 Feasibility analysis
The adoption of information systems can help managers sell mobile phones and satisfy buyers' desire to buy ideal products. It can also establish long-term relationship between the company and customers and provide convenience for shopping. The feasibility study of the system is as follows:

Technical Feasibility: technical conditions are the key conditions for the successful completion of the development work. This system adopts .NET and Oracle database, which are convenient for users to develop the system. At the same time, the use of Oracle database reduces the cost of managing commodity and all users’ information, which is characterized by high efficiency, high reliability and high intelligence.
The operation feasibility: the system adopts a simple and generous interface design, and the interface operation is humanized. The system not only provides convenience for consumers to quickly select their favorite products, but also provides convenience for managers to collect sales information.

Economic feasibility: with the rapid development of hardware, the price is becoming more and more affordable to meet the needs of users. Compared with the way of offline sales, the online mobile phone sales system reduces operating costs and saves resources such as manpower and material resources. In addition, the system development and later maintenance cost less.

Management feasibility: on the one hand, the technology adopted by the system is convenient for system management and system maintenance. On the other hand, the management can update and modify the model, color, price and other information of the mobile phone through the system.

3. System design

3.1 The overall design
This system uses B/S (browser/server) structure for distributed management. The overall network structure of the system is shown in figure 1 below:

![Figure 1: System architecture](image)

Functional design
Mobile marketing system functions can be divided into two parts. The functional structure of the system is shown in figure 2:

![Figure 2: Functional structure of the system](image)

3.2 Database design
According to the scale of business data, this system uses Oracle database. There are two tables in the database, as follows:

| Name     | Type          | Length | Empty | Instructions          |
|----------|---------------|--------|-------|-----------------------|
| username | VARCHAR2      | 50     | No    | length between 2 and 15 |
| userphone| VARCHAR2      | 50     | No    | 11 digits             |
| useraddress | VARCHAR2  | 50     | No    |                       |
| password | VARCHAR2      | 50     | Yes   | length between 2 and 15 |

Table 1: User’s information
### Table2 Product order information

| Name           | Type         | Length | Empty | Instructions                     |
|----------------|--------------|--------|-------|-----------------------------------|
| productname    | VARCHAR2     | 50     | No    |                                   |
| productprice   | VARCHAR2     | 50     | No    |                                   |
| productnumber  | NUMBER       |        | No    |                                   |
| producedate    | VARCHAR2     | 50     | No    | The date of production            |
| postage        | VARCHAR2     | 50     | Yes   |                                   |

4. **Summary**

4.1 *Implemented functions*
User registration, user login, user order payment and administrator management.

4.2 *Functions to be perfected*

4.2.1 *Payment method*
Users can choose payment methods such as Ali pay, credit card and so on according to their own situation.

4.2.2 *Sales report generation*
The system, according to the sales status of each model of mobile phones, generates statistical charts for managers to develop a more perfect sales plan.

4.2.3 *User evaluation and information feedback*
After users receive the mobile phone, they can evaluate the mobile phone. The manager gives feedback to the user's evaluation.

**References**

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