Research on the Construction and Design of Women's clothing E-commerce Platform Based on B2C

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Abstract: With the development of computer and Internet technologies, online shopping has become one of the main consumption channels. At present, e-commerce platforms are widely used in various industries, especially in the women's wear industry. The e-commerce platform is mainly divided into three major types: B2B, B2C and C2C. Among them, B2C is widely used in women's e-commerce with its many advantages. However, from the current research status of women's B2C e-commerce platform, there are many problems in the management and design process. Therefore, the paper mainly analyzes the construction and design of B2C women's e-commerce platform, and promotes the development of B2C e-commerce in the women's wear industry to a certain extent.

1. Introduction

Online shopping has changed the way people shop, making shopping a thing that is not limited by time and space. Consumers can view all the details of the product at any time, and the information is much more accurate than the physical store. The specific parameters such as shoulder width, bust, length, sleeve length and waist circumference of the garment will be measured for consumers' reference. The consumer selects the size of the product according to these judgments [1]. Consumers can communicate with customer service at any time with any questions, and there is no reason to return the goods in seven days, which greatly improves the purchasing efficiency. In order to enhance market competitiveness and achieve rapid development of the apparel industry, the B2C e-commerce website with quality assurance is inevitably the main development trend. At present, there are many successful cases of women's B2C e-commerce platform, which provides advanced experience for the research of this article. However, there are still some problems that need further improvement and improvement. The article mainly analyzes the construction and design of B2C women's e-commerce platform from the technical level.

2. B2C women's e-commerce platform function analysis

For the merchants, it is required to realize the e-commerce of the women's clothing store, and the product classification category can be added by itself, which enhances the scalability of the operation. The background maintenance is simple and easy to operate, which is convenient for the seller to maintain. If there is a fault, it must be able to recover the system in a short time, so it is necessary to keep multiple backups of the system data in time to prepare for the emergency. This also needs to consider network security issues, to find and update system vulnerabilities in a timely manner, install firewalls and protection software [2]. For the user, the required functions mainly include: the front desk display is fast, compatible with multiple browsers, and supports high concurrency, which is convenient for users to browse and purchase. With the development of Internet technology, browsers have become one of the main platforms for displaying information. Compared with the traditional data display platform, the browser as a display platform has lower requirements for the client computer hardware and software configuration [3]. In addition, the functions that users need include: login and registration, browsing product information, detail display, shopping cart, purchased product display, product evaluation, etc. In short, it mainly includes functions such as user management, product management, product recommendation, product search, shopping cart, purchased goods, and product evaluation.

2.1 User Management

The system can determine the identity of the user based on the login information. If the input account is illegal, the user is prompted to "This account does not exist", and this page has a registration entry. If the user enters the correct account password and is logged in as an administrator, the background entry can be successfully seen after login. There are permission to add, delete, and modify the website category, product label, and product information.

If the user enters the account password correctly and is not an administrator, the user is a member of the website. The user has the right to browse the website information, add the product to the shopping cart, view the shopping cart, purchase the product, view the information of the purchased product, and evaluate the purchased product.

2.2 Commodity management

This function needs to log in as an administrator and enter the background to operate. The administrator's main permissions include: Adding front-end display categories, modifying and deleting original categories; adding product tags, modifying and deleting original tags; adding product details, modifying and deleting original product information. Due to the inconvenience of adding and modifying product tags and images, this feature is placed separately on the details page of the product backend.

2.3 Product recommendation

Front-end display features are visible to all users. The user opens the website and enters the home page. The top page of the home page displays the details of the products and products of interest to the user, and the display on the left side is recommended. If the user has already logged in, the product with a high number of views of the user is preferentially displayed, and if the number of the browsed products is less than eight, the product with a high rating is added. If the user is not logged in, the item with the highest rating is displayed.

2.4 Product Search

This feature is available for all users. Users need to enter the search keyword in the search bar at the top of the homepage (temporarily support search for categories and product names after word splitting). The front-end JS adds a hint function for a more user-friendly experience, and the search results can be displayed on the search results page.

2.5 Shopping cart

This feature is available to all users, and items added to the shopping cart are stored in cookies. The user puts the selected item into the shopping cart, and can click the home menu bar or the top navigation bar to enter the shopping cart to view. The shopping cart page shows all the items the user has added to the shopping cart. On this page, users can increase or decrease the number of items or delete items, or choose to continue shopping or settlement.

2.6 Purchased goods

This feature is only available for registered and logged in users. If the user is not logged in, click on the purchased item entry and automatically jump to the login page. If the user is already logged in, click on the home page entry and the page will jump to the purchased item page. The user can view the items that have already been purchased, or click on the item to go to the item details page to purchase again. Users can also click on "Date evaluation" on this page to evaluate and rate the products.

2.7 Product evaluation

This feature is only available to logged in users. The user enters the purchased product page, finds the evaluation portal for evaluation and scoring, and each product can only be evaluated once. The products that have been evaluated are canceled on the original "Date evaluation" entry on the purchased product page and replaced with the gray "Evaluated".

3. B2C women's clothing e-commerce platform design

The information management system is widely used, and its structural model has undergone various upgrades and changes from the host structure mode, the file server structure mode, the C/S structure mode to the B/S structure mode and has also achieved great results during this period.

This system is the basic e-commerce website of B/S structure, which can support user registration and login, product browsing, shopping cart, and product evaluation as well as administrator's management function of goods.

Due to time and objective conditions, the middle payment and logistics links are omitted, and the basic functions of online shopping can be realized with higher quality.

3.1 System design goals

B2C-based women's dresses e-commerce platform should focus on the current management and development of the apparel industry, should have the following characteristics:

(1) Object-oriented architecture design, the front-end interface uses JSP technology plus CSS, JS style design, with the development of inter-network technology, browser becomes one of the main platforms for displaying information, and traditional data display platform. In contrast, the browser as a display platform has lower requirements for client computer hardware and software configuration. A true browser/server (B/S) architecture.

(2) Full-featured, including registration, search, order placement, shopping cart, clothing management, user management, order management, sales view and other modules.

(3) System interface design should be simple, easy to use, easy to understand, beautiful, generous, standard, and compatible.

(4) From the user's point of view, it is highly intelligent, easy to use, simple and quick to operate.

3.2 Conceptual Structure Design

The database plays a very important role in an information management system. The quality of the database structure design will directly affect the efficiency of the application system and the effect of the implementation. Database design is the core system technology in information development. MySQL database is used by the system. The Table is the basis of the database. In the system database, multiple data Tables will be created according to the needs of data storage in each stage. Each data Table is user or commodity. For the main body, each Table is searched and established by using a user ID, a product ID, etc., to achieve data matching.

3.3 Logical structure design

The cycle and overall performance of the entire development system are directly affected by the design of the overall structure of the database and will also affect the actual use efficiency of the application software of the system. It is desirable to optimize the internal organizational structure, less efficient data access time, and secure data. Sexuality and consistency are guaranteed, and a reasonable and effective database structure model must be designed. The logical design of the database determines the most suiTable data model, storage structure, storage method and processing scheme for a given application environment.

First store the user's user Uid, account number and password need to establish the user basic information Table. Where the administrator's account password and the ordinary user's account password are stored in the user's basic information Table, through the User Administrator form to associate the administrator ID with the Uid, thus establishing the administrator identity. The user Details form holds the user registration personal information. As shown in Tables 1 to 2.

The product category Table is used to store the product category and the parent class ID. The first category does not store the specific product, that is, the product is stored only when the parent ID is not zero. The product label Table is used to store the product label attribute, and the item is associated with the label through the product parameter Table. The user product browsing record Table is used to record the user's browsing corresponding products, and the background is counted by the calculation, and the front-end recommended display is sorted according to the number of

times the user browses. The design is shown in Table 3.

Table1 Basic information Table of users

Field name	Primary key	Field type	Field length	Null	Unique
Uid(user ID)	Y	Uint	9	Y	Y
username	N	varchar	45	Y	Y
password	N	varchar	45	Y	Y
Email	N	varchar	20	N	N
Tel	N	char	11	N	N
address	N	varchar	500	N	N

Table 2 Administrator Table

Field name	Primary key	Field type	Field length	Null	Unique
UaId(administrator ID)	Y	Uint	9	Y	Y
Uid(user ID)	N	Uint	9	Y	Y

Table 3 List of product categories

Field name	Primary key	Field type	Field length	Null	Unique
pcId (category ID)	Y	Uint	9	Y	Y
catName (category name)	N	varchar	45	Y	Y
parentPcid (parent category ID)	N	Uint	9	N	N

The product basic information Table can be used to store product information. This includes the product name, quantity, and image of the product category. In order to distinguish between products added by different administrators, Uid can be added to the Table. There is also a product details Table that records product details, including product prices, attributes, and detailed information. The design is detailed in Table 4.

Table 4 Basic information Table of products

Field name	Primary key	Field type	Field length	Null	Unique
pId(category ID)	Y	Uint	9	Y	Y
productName (product name)	N	varchar	45	Y	Y
Uid(user ID)	N	Uint	9	N	N
pcid(category ID)	N	Uint	9	N	N
num(product number)	N	Tinyint	20	N	N
image(product mark)	N	varchar	20	N	N
image(product image)	N	varchar	50	Y	Y
price(price)	N	ushort	4	N	N

A product evaluation form for recording the user's rating and detailed evaluation of the product. A product image Table for storing product display images. Table 5 for the detailed design of the two Tables.

Table 5 Product evaluation Table

Field name	Primary key	Field type	Field length	Null	Unique
pcId(product evaluation ID)	Y	Uint	9	Y	Y
pId(product ID)	N	Uint	9	Y	N
level(product evaluation level)	N	Float		Y	N
Uid(user ID)	N	Uint	9	Y	N
Detail(evaluation detail)	N	Text		N	N
commentTime (comment time)	N	datatime		N	Y

The product purchase form records the user purchase details. In order to determine whether the user has evaluated the item, the item evaluation field is added, and the default is 0, indicating that

there is no evaluation. In order to speed up the search, the product price is taken out separately, and a product price list is created to record the product price. See Table 6 for details.

Table 6 Product purchase list

Field name	Primary key	Field type	Field length	Null	Unique
pbId(product purchase ID)	Y	Uint	9	Y	Y
pId(product ID)	N	Uint	9	Y	N
uId(user ID)	N	Uint	9	N	N
Num(purchase number)	N	tinyInt		N	N
buyTime(buy time)	N	datatime		Y	N
Status(comment status)	N	tinyInt		N	N

In the full-text index, the process needs to be locked after the word is split, and the index needs to be updated asynchronously. Therefore, a Table needs to be created to store the update information, so a task Table is needed.

In order to make the front-page display more friendly, the boutique recommendation is added, so a Table needs to be created to store the user's browsing history. The browsing history Table is shown in Table 7.

Table 7 User-product- browsing records

Field name	Primary key	Field type	Field length	Null	Unique
upvId(user product view ID)	Y	Uint	9	Y	Y
uId(user ID)	N	Uint	9	Y	Y
pId(product ID)	N	Uint	9	Y	Y
visitTime(visit time)	N	datatime		Y	N

3.4 Physical structure design

In order to facilitate the search for products, a clustered index is established for the products. In this shopping system, the merchant can display his own products to each user, and can adjust the price of the products according to the actual situation of the market, combined with his own interests, or modify the information of products. Basic Tables, views, and indexes are built according to the relational schema, and the design of the access process is completed.

4. Conclusion

The e-commerce website designed in this paper is based on the B/S structure. To achieve the goal of B2C e-commerce platform, the resources are efficiently integrated. It can realize functions such as user registration and login, product browsing, shopping cart, product evaluation, and administrator management of products.

Acknowledgments

References

[1] Chen Tingwen. Online shopping, clothing and apparel have sprung up [J]. Business Culture, 2009, (4): 107-108.

[2] Chen Jiaxun. Analysis of SQL Injection Vulnerabilities Based on ASP Source Code[J].Net and Information, 2008, (6), 78-80.

[3] Chen Chuanhong. Application of database management information system based on three-tier structure [D]. Chongqing: Chongqing University, 2004.