The Design and Realization of Second-hand Business Transaction Management System

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Abstract—the second-hand business transaction management system is designed and developed in order to help buyers and sellers to buy and sell the second -hand goods safely and smoothly, recycle and reuse the second-hand goods and build low-carbon and saving society. This system adopts the currently popular B/S model and uses the following software such as WAP、JSP、Servlet、Tomact6.0server, Oracle 10g, which make it have a lot of advantages, such as beautiful interface, check integrity, convenient transaction, safety, reliability, and good user feedback.

Index Terms—JSP，Second-hand Business Transaction，B/S model，Oracle 10g database

I. INTRODUCTION

With the advance of science and technology and the development of the society, the world is evolved from the industrial ages to eco-civilization era. The development of the social productivity, the improvement of human's living standards, the imbalance of urban and regional economical development and the income gap result in the different consumption level [1]. According to the current survey, the demand for second-hand business transaction is very large; the maturity of the e-business technology makes it essential to design online transaction system.

II. THE DESIGN OF THE SYSTEM

A. *The general design of the system*

This management system involves two parts: Foreground and background, foreground part mainly includes homepage display, member registration, member shop, hand-in order, and publicity of goods [2]. While the background includes the management of administrator, the management of business, the check for the users, transaction statistic and the management of the products.

B. THE DESIGN OF THE FUNCTION MODEL OF THE SYSTEM

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According to the systematic analysis and the general design, the system model was designed as follow: Fig.1
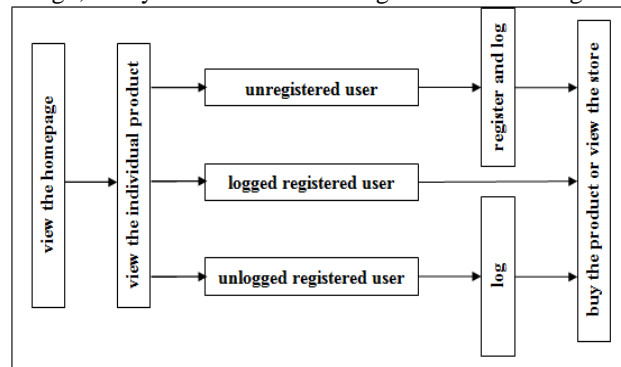

Figure1. Second-hand Goods Transaction system function module

Fig.2 Second-hand goods transaction management system function module diagram. Process Analysis System based on the process analysis for the buying of the users and the personal store. We come to the following Fig.1.
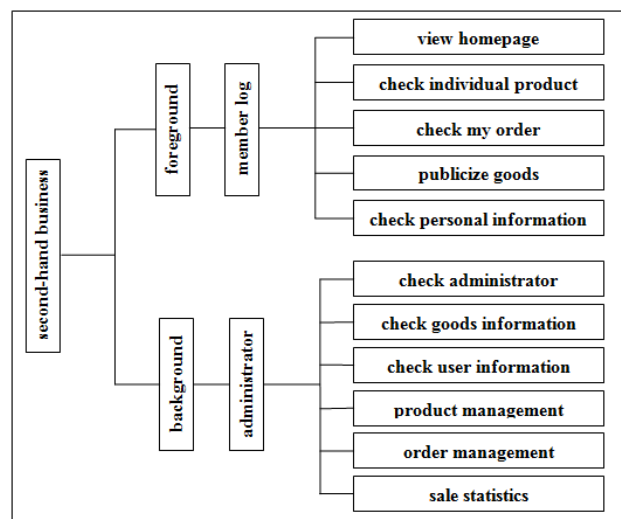

Figure2. Second-hand Goods Transaction Management System

II. THE SYSTEM PROGRAM DESIGN

A. The design of the database

A good system and the reasonable design of the database are very important; part of the management system is the following chart:

TABLE I.
MEMBER

Name	Data type	Length	Empty or not	Description
memberid	number		not	Main key, increase automatically
m_name	varchar	50	not	name of the member
m_tel	varchar	20	empty	Phone number
m_province	varchar	20	empty	province
m_city	varchar	50	empty	city
m_email	varchar	50	not	email
m_postcode	varchar	50	empty	Postal code
m_detiladdress	varchar	50	empty	Detailed address
m_state	varchar	50	empty	state（legal or not）

TABLE II
GOODS

Name	Data type	Length	Empty or not	Description
goodsid	number		not	Main key, increase automatically
g_sailprice	number(8,2)		not	Selling price
g_img	varchar	20	not	Picture name
g_typeone	number		not	The first grade id
g_typetwo	number		not	The second grade id
g_typethree	number		not	The third grade id
g_brandid	number		not	Brand name id
g_information	varchar	50	not	Detailed description
g_condition	varchar	50	not	Condition
g_online	varchar	50	not	Online transaction
g_outline	varchar	50	not	Outlinel transaction
g_memberid	number		not	Seller's member id
g_time	date	50	not	Sale time

TABLE Ⅲ
ORDERABLE

Name	Datatype	Length	Empty or not	Description
o_ordertableid	number		not	Main key, increase automatically
o_sailmemberid	number		not	Seller's member id
o_time	varchar	20	not	Buying time
o_summoney	number(8,2)		not	Sum money
o_address	varchar	50	not	Member address
o_tel	varchar	50	not	Phone number
o_postcode	varchar	50	not	Postal code
o_name	varchar	50	not	Name
o_buymemberid	number		not	Buyer's memberid
o_goodsid	varchar	50	not	Goods id

Ⅲ. THE FUNCTIONAL DESIGN OF THE SYSTEM

A. The design of the homepage

Simple and clear picture, words and background color. The main part of the website should be pictures combined with wording in order to simply the sale information, so that the customers can read the website pleasantly and choose what they like best [3].

B. The design of the administrator's function

The administrator can not only log on the background platform and write off the membership of some members who have released the illegal sale information on this system, but he also can check out the detailed information about the membership, products and orders. In addition, the administrator can revise, delete and check out the store, the types and brands of the products to ensure the reasonable classification and management for the products and make it convenient for the users to search the website according to the different types and brands, then they can easily identify what they like best [4]. The administrator also can check all the detailed information about the successful orders, the monthly 3D polyline charts which helps the owner to check order volume and predict the trend of the order volume [5].

C. The design of the administrator's function

The new user has to fill out his email address when they want to register, because email address is unique which can avoid the second retrieval on whether the name of the user is used or not [6]. The member users have to fill out their names, password, email address, and they don't need to fill out the other information such as postal code, telephone numbers, and address.

D. The design of the users' logging function

The registered users can log in the website:（userlogin.jsp）which is made of model window. The member id cannot be detected when the users are buying goods or window shopping personal store (the member id is stored automatically after the users log in.) and then the model window appears to remind the users to log in [7]. The login function is realized through the Ajax technology of the foreground page script and then the related information about the name is transmitted to the Servlet by which the users' information can be searched to compare with the password to identify whether the logging is successful.

E. The design of freely published information

When the users log in, they can click on the "publish information freely" to enter the page of freely published information. The member users can freely upload the detailed information about the goods they want to sell: including names, pictures, condition and price etc. The relatively perfect checking system makes the goods draw much more attention [8].

F. The design of personal store

After logging in, the member users can view personal store, which includes personal information of the member user, the detailed information of the published goods, and the goods they buy or sell. As for the detailed information

about the goods, red color represents the products has been sold out, while the green color stands for that the product is still on sale, which makes it convenient for the users to check out.

G. The design of the detailed information about individual product

After the users can search what they like based on their favorite type, they can find out some products, and then click on it, they will enter a detailed homepage about it, under the magnifier, the product is even more clear. The magnifier is quoted from is document in order to magnify a part of the product on this page, the visitor can also read the detailed information about the products to better understand them.

H. The design of the products which the member users buy

After they choose what they want to buy, the member users can decide online transaction or offline transaction [9]. As for online transaction, the user's name can be seen and the users only need to fill out some information, hand in their order and then pay the bill, while as for off line transaction, the users need to refill out the information, hand in the order and deposit the money in pay card, after they meet each other and agree that the transaction is successful, the money will be transferred to the seller [10].

Ⅳ. CONCLUSION

After the Preliminary investigation and the late development and test, the second-hand business transaction management system is developed and reached the pre-planning goal. It can be used to register, log in, check goods, buy goods, check personal store, check orders and polyline charts etc. This system helps the users

to publish their products and buy their favorite products; the users' feedback is good.

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