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Design and implementation of college garbage management system based on JAVA

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Abstract: This paper organically combines the application environment of garbage classification and research status in recent years. This system includes garbage classification management platform and classification project, which can be used for all households, groups, individuals and organizations who are very concerned about the whole garbage classification construction and information management. Java language is adopted, the function of MYSQL is used, which is a powerful query program, the system builds a relational database, based on SSM architecture, the system administrator is responsible for the background information management, including the deletion, addition and modification of information, in order to manage efficiently, the garbage system is divided into front and back. The main executive function of our users is to recycle garbage to promote environmental protection. Of course, garbage recycling can also be exchanged for commodities.

Key words: Garbage sorting; University waste management system; MYSQL

I. Introduction

In the new century, with the continuous increase of population, the expansion of the number of top students, the continuous development of science and technology, the continuous improvement of people's living standards, followed by a large area of environmental pollution, and the cause of these environmental pollution is discarded by human beings[1]. In order to protect the environment, in order to protect the living environment of the earth, the researchers put forward, The recycling and reuse of garbage has become an important issue faced by many university research institutes, which needs to be solved urgently. The non-recycling of garbage will affect the beauty of the city and human health. In colleges and universities, a large amount of waste comes from dormitories and canteens[2]. These wastes if not timely recycling treatment, will lead to a large amount of resources consumption, so, now, many colleges and universities are ready to establish a set of college household garbage classification system, the purpose is to achieve automatic, systematic garbage treatment function, this system can effectively solve the problem of garbage classification recycling treatment, promote the use of resources, reduce environmental pollution.

II. Demand analysis of university waste management system

A. Service Requirements

This system adopts the JSP development tool of SUN Company and uses the powerful query language function of MYSQL to realize the efficient garbage management system, establish the problem of relational database, and combines the SSM structure to build the total business process of garbage classification management system[3], such as Figure 1.

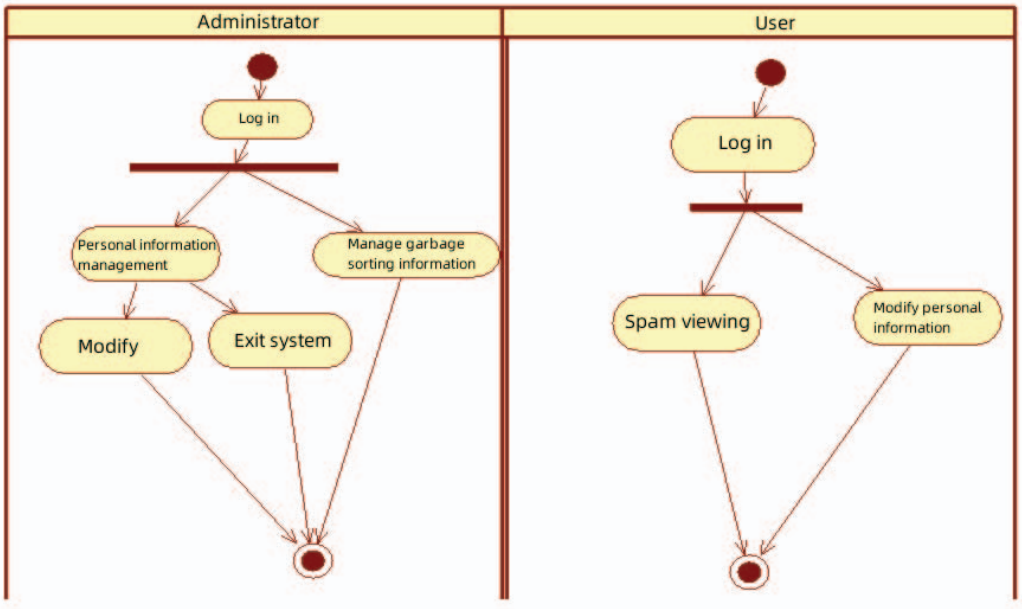

Figure 1. Overall business flow chart

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B. Functional Requirements

The system combines a series of functional information about garbage recycling, such as personal information announcement, information website information, garbage information. Before the classification of each project, the background, the background is the information of the garbage classification system controlled by the administrator, and the foreground is the place for general users to browse the web and express their opinions on the Internet. There are also student modules for operating and accessing the system[4].

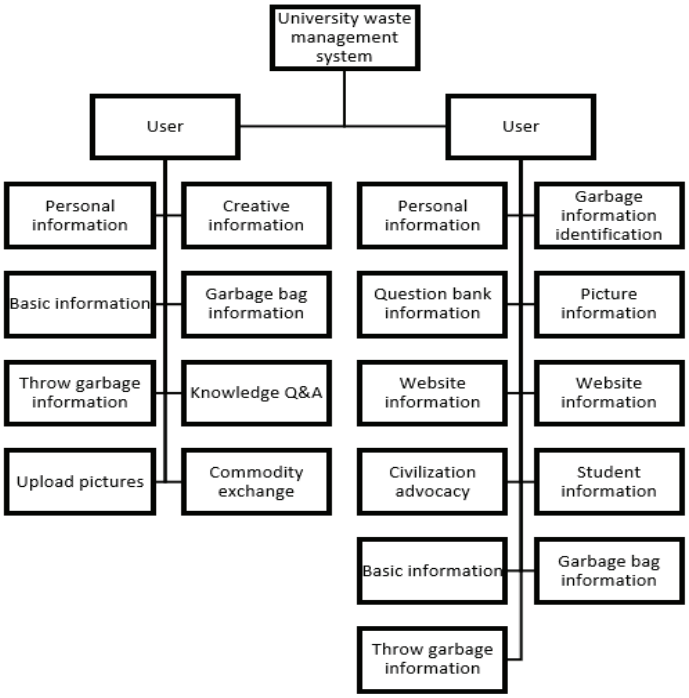

Figure 2. Overall business flow chart

III. University waste management system database design and interface implementation

A. System database design

The database is a way of storing data in computer. The following are some specific design structures and corresponding functions of the main data forms of the waste management system in universities, as shown in Table 1 to 9.

(1) The administrator serial number is the unique identification of the primary key. The information table managed by the administrator is also stored in the administrator system information, including three fields, as shown in Table 1.

Table 1 t_admin administrator information

Field name	Field meaning	Data type	Primary key/allowed null
adminId	Serial number	VARCHAR(100)	PRIMARY KEY
adminName	Account number	VARCHAR(100)	NOT NULL
adminPassword	password	VARCHAR(100)	NOT NULL

(2) The bulletin information table contains six fields, which are used to store system announcements issued by the administrator. The structure of the table is shown in Table 2.

Table 2 t_gonggao Bulletin Information table

Field name	Field meaning	Data type	Primary key/allowed null
gonggaoId	number	VARCHAR(31)	PRIMARY KEY
gonggaoName	Title of announcement	VARCHAR(31)	NOT NULL
gonggaoMark	Announcement content	VARCHAR(31)	NOT NULL
gonggaoImg	picture	VARCHAR(31)	NOT NULL
gonggaoDate	Release time	VARCHAR(31)	NOT NULL
ggtypeName	Bulletin type	VARCHAR(31)	NOT NULL

(3) The civilization advocacy information table is the information that stores the content of advanced garbage classification advocacy. The specific structure is shown in Table 3.

Table 3 Information table of t_sjduochu civilization advocacy

Field name	Field meaning	Data type	Primary key/allowed null
sjduochuId	Serial number	VARCHAR(31)	PRIMARY KEY
sjduochuName	name	VARCHAR(31)	NOT NULL
sjduochuMark	remarks	VARCHAR(31)	NOT NULL
sjduochuMark1	introduce	VARCHAR(31)	NOT NULL
sjduochuMark2	content	VARCHAR(31)	NOT NULL

(4) The commodity information table is used to store the commodity information details for users to redeem points, as shown in Table 4.

Table 4 t_project commodity information table

Field name	Field meaning	Data type	Primary key/allowed null
projectName	name	VARCHAR(31)	PRIMARY KEY
projectFact	manufacturer	VARCHAR(31)	NOT NULL
projectMark	remarks	VARCHAR(31)	NOT NULL
projectScore	integral	VARCHAR(31)	NOT NULL
projecImage	thumbnail	VARCHAR(31)	NOT NULL
Status	state	int	NOT NULL
createtime	time	datetime	NOT NULL

(5) The user information table stores student information, including login name, name, password, gender and other fields, as shown in Table 5.

Table 5 t_user user information table

Field name	Field meaning	Data type	Primary key/allowed null
loginName	Login name	VARCHAR(31)	PRIMARY KEY
Name	name	VARCHAR(31)	NOT NULL
password	password	VARCHAR(31)	NOT NULL
sex	sex	int	NOT NULL
phone	phone	VARCHAR(11)	NOT NULL
age	age	int	NOT NULL
class	class	VARCHAR(31)	NOT NULL

(6) The question bank stores the information of garbage classification. The specific question bank information is shown in Table 6 below.

Table 6 Information table of t_ks_question

Field name	Field meaning	Data type	Primary key/allowed null
tkId	Title id	VARCHAR(31)	PRIMARY KEY
Question	Question	VARCHAR(31)	NOT NULL
Answer	option	VARCHAR(31)	NOT NULL
Type	Question bank type	VARCHAR(31)	NOT NULL
RightAnswer	Correct answer	VARCHAR(31)	NOT NULL

(7) The image recognition information table is as follows.

Table 7 Image recognition information table of t_ks_image

Field name	Field meaning	Data type	Primary key/allowed null
tkId	Identification id	VARCHAR(31)	PRIMARY KEY
imageURL	Image URL	VARCHAR(31)	NOT NULL
Answer	Recognize garbage name	VARCHAR(31)	NOT NULL
Type	Identify garbage types (recyclable garbage, kitchen waste, hazardous garbage, other garbage)	VARCHAR(31)	NOT NULL

(8) The garbage bag information table is shown in Table 8.

Table 8 t_shuju garbage bag information table

Field name	Field meaning	Data type	Primary key/allowed null
shujuId	Serial number	VARCHAR(31)	PRIMARY KEY
shujuName	name	VARCHAR(31)	NOT NULL
shujuMark	Remarks	VARCHAR(31)	NOT NULL
shujuMark1	Selling price	VARCHAR(31)	NOT NULL
sjleixingNam	Garbage type	VARCHAR(31)	NOT NULL

(9) The garbage can information table is as follows.

Table 9 t_sjlaiyuan garbage can information table

Field name	Field meaning	Data type	Primary key/allowed null
sjlaiyuanId	Serial number	VARCHAR(31)	PRIMARY KEY
sjlaiyuanName	name	VARCHAR(31)	NOT NULL
sjlaiyuanMark	remarks	VARCHAR(31)	NOT NULL
sjlaiyuanMark1	introduce	VARCHAR(31)	NOT NULL
sjlaiyuanMark2	content	VARCHAR(31)	NOT NULL
sjlaiyuanDate	Generation time	DATE	NOTNULL

B. Interface Implementation

1) Login page

First of all, we want to log in to choose the identity, student or system administrator, we have to fill in the correct username and password to log in, choose different identities, login is not the same as the background interface, login interface division is for the system to better get different user information from the background, in order to maintain the independence and separation of front and back user information. See Figure 3.

Figure 3. Login interface

2) Administrator function

The functions of the administrator include a lot, it can use the account password to log in the administrator system, the difference between the administrator and the ordinary user is that the administrator can have the rights of all users, and can update the information in real time, master the information that the ordinary user can not grasp. The administrator function page is shown in Figure 4 below.

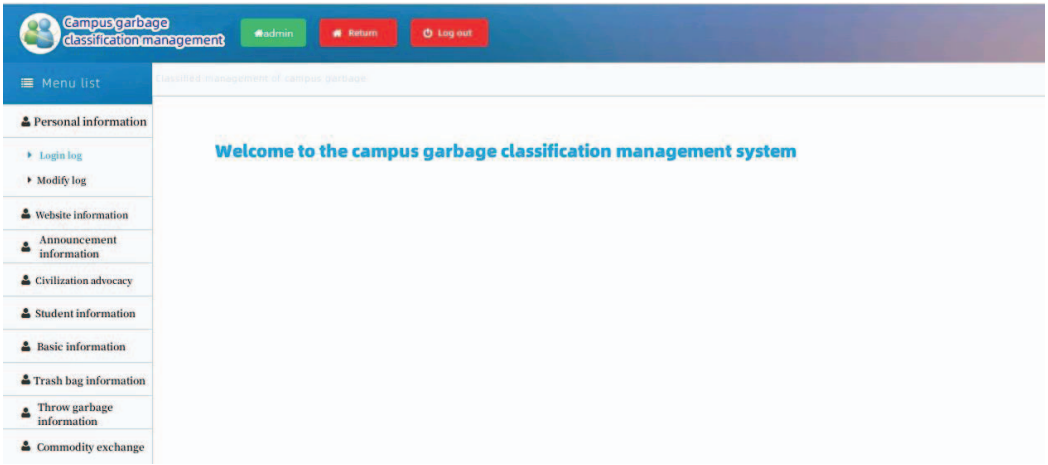

Figure 4. Administrator function page diagram

3) User function

When students enter the user system, they can find relevant information about the system, including garbage classification announcements, civilized advocacy and some answer modules, etc., some important information[5]. Users can view the patterns of each information through the home page and skip each module, which makes it convenient for many students to use the campus garbage recycling system. The functional page of the home page is shown in Figure 5.

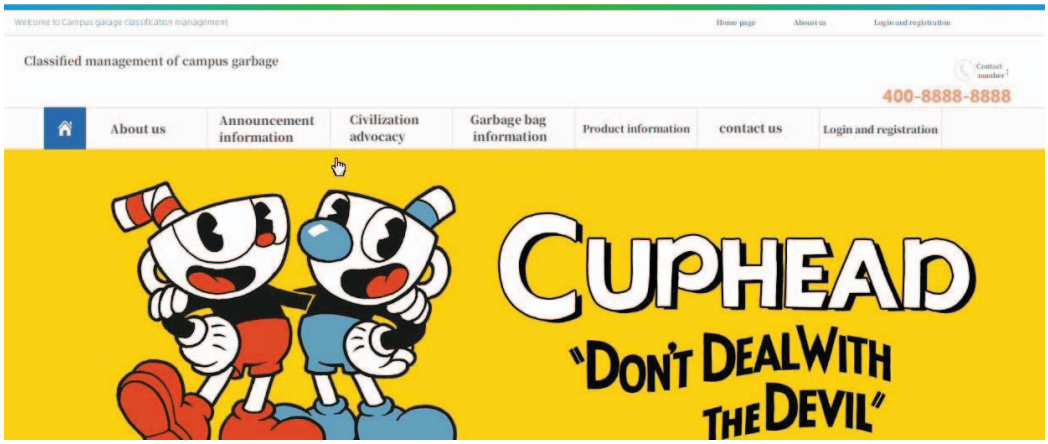

Figure 5. Functional page of the home page

The painstaking practice and adjustment has been perfect and good application prospect. First of all, the interface of the system is very flexible and simple, garbage classification construction jump, can be said to have formed a relatively complete technical classification principle.

IV. Conclusion

First of all, this paper introduces the design and implementation of garbage classification management system based on SSM technology, and builds a web page model based on SSM. General users of this system can view relevant information about garbage classification after logging in, and can also view the garbage information of the place where users live and the feedback information of users. The administrator is responsible for the operation and management of the whole system can be added to the garbage classification, can also be added to the user's information delete and query, and for some user feedback adjustment and summary. In fact, the key to the new technology of the system is the actual operation of garbage classification system, users can do more practice, in order to faster skilled garbage classification system, and the administrator needs rich management experience, enough accumulation, if there is not enough accumulation, there will be a lot of problems about garbage classification system can not be night, In order to make the whole system more complete and excellent, the system must be the appearance of the web page, in line with the public aesthetic and functional sound, simple operation.

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