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Research on Design of Management System Based on Garbage Classification

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Abstract: *In recent years, the term "garbage classification" has become a hot topic. Facing the severe environmental situation, our country has begun to implement a garbage classification system in some cities. By designing a garbage sorting system, this paper analyzes and designs from the aspects of system analysis, system design, system implementation, system use and maintenance. The system analysis is carried out from the feasibility analysis, including economic, technical and management feasibility analysis; the system design mainly elaborates the system design purpose and the UML modeling diagram involved in the system; the system implementation includes the selection of the system development tools and software Hardware environment design; In addition, it also contains system operating instructions and maintenance instructions. Provide users with garbage type inquiry services, fast access to information, accurate release, improve citizens' environmental awareness, provide garbage collection services at home, bring convenience to citizens, and assist in the implementation of the garbage classification system.*

Keywords: *Garbage Classification System, Classification Management, WeChat Mini Program*

1. Introduction

With the development of the times, environmental governance has become a topic that people pay more and more attention to. Traditional garbage disposal methods cause garbage to occupy too much land and garbage classification methods also occupy too much resources, which are not in line with the concept of sustainable development. In order to solve this problem, countries all over the world actively contribute ideas and contributions. At present, garbage classification has become the goal of our efforts. We will classify and recycle garbage and implement it to every resident, reduce unnecessary resource consumption, realize the harmless comprehensive treatment of urban domestic garbage, and realize sustainable economic and environmental development.

In terms of garbage classification in our country, we should first strengthen residents' awareness of garbage classification. The popularization and implementation of garbage classification by governments in developed countries has made residents have a strong awareness of environmental protection and garbage classification. Driven by this awareness, residents gradually consciously regulate their behavior. However, the people in our country have insufficient awareness of garbage classification and insufficient understanding of the types of garbage. In this case, the efficiency of garbage classification will be very low. This requires our government to educate residents, especially children, on the correct disposal of garbage, and consciously develop the good habit of sorting and disposing of garbage; secondly, strictly enforce garbage classification. The implementation of garbage classification requires sound laws and regulations. There are many problems in the implementation of garbage classification. The government should make corresponding efforts to pay attention to the problem of garbage classification and recycling, formulate relevant policies, protect resources through legislation, and establish a sound legal system. In addition, a supervision mechanism is also indispensable, and a strict system is the guarantee for the effective implementation of garbage classification.

Based on the above experience, I chose the topic of "Waste Sorting Management System", aiming to design a convenient and fast small program to help residents inquire about the types of waste, so as to promote the effective implementation of waste sorting management. This system can provide users with the type of garbage, which is convenient for residents to classify garbage correctly. In addition, the system supports door-to-door pickup, which is convenient for restaurants, courier companies and even ordinary users, so that garbage can be returned to "home" without leaving the house. This system is simple to operate, fast and convenient, and is suitable for every citizen. At the same time, it can also

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enhance citizens' environmental awareness and enrich their knowledge of garbage classification, which will help improve the efficiency of garbage disposal and build a civilized and harmonious society.

2. Garbage Classification System Design

2.1. System Characteristics

The garbage classification management system does not require high requirements for the system operating environment, the interface is simple and beautiful, easy to use, the page interaction is humanized, can be used easily, and brings a good user experience to the user. The system mainly has the following characteristics:

(1) The garbage classification management system has a query function. You can query the category of garbage by entering the name of the garbage, which brings convenience to users and is suitable for users of all ages. In addition, the system also popularizes garbage classification knowledge, strengthens residents' knowledge of garbage classification, and raises residents' awareness of environmental protection.

(2) The user releases information and waits for the recycling company to contact for on-site recycling. This service helps reduce unnecessary time and expenses, and improves the efficiency of garbage sorting.

(3) The database is easy to use and easy to manage; the administrator also constantly updates the database according to user feedback, so as to better meet the needs of the public.

(4) To collect information for recycling companies, users provide garbage information to be recycled, phone numbers and addresses, etc., so that recycling companies can choose and contact users. This service helps recycling companies save time and resources and improve work efficiency.

2.2. Feasibility Analysis

2.2.1. Economic Feasibility

The implementation of the system is a WeChat applet. The system involves three parts of personnel: ordinary users, recycling companies, and system administrators. Users, recycling companies and system administrators operate on the small terminal. After the administrator logs in on the front end, they can manage all data. The system does not need to purchase expensive hardware equipment, and meets the requirements of low cost. All personnel information, garbage classification information and other information are stored in the cloud database, which can save resources and costs, and at the same time facilitate the unified management of information. The cost of development, operation and maintenance of the whole system is low and easy for people to accept. Therefore, in terms of economy, the development of the system is feasible.

2.2.2. Technical Feasibility

The front end of this system is presented in the form of a WeChat applet. Ordinary users can query the required content and call the database; publish the garbage information to be recycled, and transfer the data to the cloud database. The user can view the garbage information to be recycled through the applet. The system administrator manages information such as personnel information, garbage classification information, etc., to facilitate the processing of useless information.

Learn through various learning websites to look up materials, at the undergraduate level, I have a certain understanding of various design software and development tools, and have a certain learning ability. During the development process, I get the guidance and help of the teacher to better improve the system functions.

In addition, similar garbage classification software already exists on the market, which can be used for learning.

Therefore, in terms of technology, the development of the system is feasible.

2.2.3. Management Feasibility

As far as this system is concerned, the system administrator requires a certain level of management. After negotiating with users, the recycling company can send push messages to remind users of the

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recycling time and contact information to improve recycling efficiency; system administrators manage all information, including recycling company information, garbage information to be recycled, feedback information, System administrators such as order information and garbage classification information have certain management knowledge, which will make the system run more smoothly. Dividing the system into primary and secondary administrators and granting secondary administrators different permissions can make the division of labor clear and improve the management level of the entire system backstage.

Therefore, in terms of management, the development of the system is feasible.

2.3. System Flow Design

There are four main types of participants in the garbage sorting management system: users, recycling companies, first-level administrators, and second-level administrators.

(1) User:

Users inquire about personal information and garbage classification information;

Enter phone number and address, publish, modify and delete spam messages to be collected;

For spam that cannot be queried, feedback is provided to facilitate the system administrator to continuously update the database.

(2) Recycling company:

Browse information and actively contact users for negotiation;

Arrange for door-to-door recycling services;

After the transaction is completed, an order is generated and submitted to the background to be managed by the administrator.

(3) First-level system administrator:

Enter the spam category and specific spam information in a timely manner for users to inquire;

Review the feedback information, and update the database in time after the review is passed;

Manage the information of the second-level system managers;

Manage the information to be recovered, and delete the information that does not meet the requirements in a timely manner.

(4) Secondary system administrator:

Enter the spam category and specific spam information in a timely manner for users to inquire;

Review the feedback information, and update the database in time after the review is passed;

Manage the information to be recovered, and delete the information that does not meet the requirements in a timely manner.

This system mainly has two activities:

(1) Door-to-door recycling activities

The user uploads the garbage information to be recycled, the user's address and contact information, and applies for pickup. The recycling company contacts the user for negotiation. After the negotiation is successful, the user changes the status of the information to recycling. The recycling company can send a push message to the user, stating the phone number and the recycling time, etc., so as to facilitate good communication with the user. After the recycling company performs the door-to-door pickup service, the order is generated and managed by the administrator.

(2) Information feedback processing

When the user queries the garbage classification information, but does not find the relevant information, he can input the name of the garbage and its classification information through feedback, and submit it. The system administrator reviews the feedback information, and after the review is passed, the spam information is added to the database.

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2.4. System Design Goals

2.4.1. Complete Functions

The functions of the system must be complete and meet the needs of residents. Every achievable function must be perfected, and the functional modules must be directly and relatively independent.

(1) The database is easy to update. The garbage classification system is a system that needs to continuously update the database, because it must be updated in a timely and accurate manner, and batch additions and deletions are allowed.

(2) Support fuzzy query, bring a good user experience to users.

(3) The system is easy to operate and has good data stability.

Friendly interface

There are a wide range of user design groups using the system, from children to the elderly. Therefore, the user's use efficiency must be improved. The interface is clear and easy to understand, and the relevant location prompts are obvious. This can save the user's time and bring a good user experience.

2.4.2. System Function Structure

The garbage classification management system is divided by roles and mainly includes the following parts.

(1) The user logs in to release detailed data such as garbage information to be recycled, including the name, contact number and address of the garbage to be recycled. The data is stored in the cloud database for easy query and recall; the user queries the specific information of garbage classification and understands the garbage classification Knowledge.

(2) The recycling company can browse the garbage information to be recycled, contact users offline, and pick up items at home, etc.

(3) The first-level system administrator enters the garbage classification information in a timely manner, updates the garbage classification information, and modifies the database; manages the basic information of the second-level administrator, and can add, delete or modify the information of the second-level administrator; view the first-level management Staff information; manage the feedback information and modify the database.

(4) The user enters information such as the name of the rubbish and feeds the information back to the system backend, and the system administrator reviews and handles it. After the review, the rubbish information is added to the database.

3. Conclusion

In this paper, by designing a convenient small program of waste sorting management system, it helps residents to query the types of waste, thereby promoting the effective implementation of waste sorting management. This system can provide users with the type of garbage, which is convenient for residents to classify garbage correctly. In addition, the system supports door-to-door pickup, which is convenient for restaurants, courier companies and even ordinary users, so that garbage can be returned to "home" without leaving the house. This system is simple to operate, fast and convenient, and is suitable for every citizen. At the same time, it can also enhance citizens' environmental awareness and enrich their knowledge of garbage classification, which will help improve the efficiency of garbage disposal and build a civilized and harmonious society.

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