

Product Packaging Design Support System Development Under B/S Mode: from C to C#

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Abstract:Based on the BS model, this paper aims at the problem of remote customer interaction, and establishes a set of packaging product interaction design system. Adding the design module of packaging product modification and display to deliver effective customer information to the designer can solve the details of the design process in time and improve the efficiency of the overall design process. The design and implementation of the client-side product packaging sketch editing module. Three main interactive functions are designed in this module: the working area for drawing customer requirements, the working area for modifying sketches for customers, and the working area for editing sketches for designers. In the technical realization of this functional module item, two solutions were listed, namely based on the IPLAB image processing software SDK and based on the c# system class library. After comparison and testing, the second solution, the c# system class library, was finally selected.

Keywords: Product Package, Packaging Design, B/S Mode, C#

1. INTRODUCTION

With the globalization and networking of enterprise production and operation activities, the application of the network in enterprises is becoming more and more popular. In the process of transforming the traditional production process to the networked production process, there is more and more collaboration and cooperation between enterprises and between enterprises and customers. The development of network information technology, especially the emergence of the production and operation mode based on the Internet as a platform environment, has made it a reality for the majority of enterprises to share resources and work together in a wider space and a wider field. The collaborative design of packaging products based on the network can break the boundaries between enterprises and the limitation of geographical space, establish a product design work mode based on collaborative cooperation, and effectively improve the efficiency of product development and the competitiveness of enterprises. Intelligent manufacturing has become an objective trend in the development of global manufacturing. Therefore, intelligent manufacturing technology is being vigorously promoted and applied in major industrialized countries [1-6].

Intelligent manufacturing is the core of industrial upgrade planning such as German Industry 4.0, "Made in China 2025", and the US "Industrial Internet". Facing the current trend of deep integration of the global manufacturing industry and the information industry, under the new corporate competitive environment and technological background, the intelligentization of modern factories has gradually focused on integrating the new generation of information technology and products such as the Internet of Things, big data, and cloud computing. Integration of life cycle management. In particular, the proposal of German Industry 4.0 applies the integration of manufacturing technology, digital technology and network technology to "design-production-management-service", and performs perception, analysis, decision-making and control in the manufacturing process to achieve Dynamic response to product demand, rapid development of new products, and real-time optimization of production and supply

chain manufacturing activities. Manufacturing independent innovation is usually carried out around product innovation, and product innovation involves more and more complex design activities. People work together to design together. Packaging design is a design process. It not only includes packaging-related knowledge and product design knowledge, but also requires a lot of practical experience. It takes a lot of time and energy to analyze and think in order to design a reasonable plan [7-14].

The most important thing is that in some product design processes, there are many problems that are non-quantitative, not based on mathematical formulas or mathematical models, but need to rely on the designer's own practical experience to think and judge. In the entire life cycle of the product, the design plan plays the most critical role. The quality of the designer's plan will determine the quality of the final product packaging design plan. Packaging is a product of the development of human civilization. It is integrated into a variety of disciplines. It contains, protects and stores products, and conveys content information to consumers. It needs to have both aesthetics and technology. In today's fierce business environment, packaging designers face not only understanding packaging appearance and technology, but also understanding the needs of society, people's requirements and customer wishes. In the design process of traditional packaging products, designers formulate design concepts, draw sketches, and finally use computers to draw out the effect drawings of the packaging products. Designers use several packaging effect drawings to communicate with customers, listen to customer requirements, and then modify the design. Scheme until the completion of the finished packaging [15-21].

With the emergence of the network as a big platform, the process of designing products has changed from a designer's unilateral to customer-oriented product human-computer interaction design. What the intelligent manufacturing system should reflect is not only the automation in the production and manufacturing process, but also the realization of a leap in production flexibility based on this, and at the same time,

combined with modern Internet information technology to achieve the requirements of a global production intelligence. Industry 4.0 proposes two major themes: smart factories and smart production, that is, groups composed of machines will organize themselves, and production and supply chains will automatically coordinate. This requires the manufacturing system to further enhance the adaptability of industrial production under the premise of reducing costs and relying on a new generation of information technology, while conforming to the development direction of enterprise convenient management and personalized consumption, and moving towards the goal of an intelligent manufacturing industrial model oriented to personalized customization. The goal of system design is to build a platform for collaborative work between enterprises and between enterprises and customers [22-24].

2. THE PROPOSED METHODOLOGY

2.1 The B/S Model

GaBi is a sustainability evaluation software for all products developed by a German company for more than 20 years. It is a commercial software widely used by manufacturing companies all over the world. Its involved industries include: automotive, construction, chemical, packaging, education. Clustering algorithm is an unsupervised learning algorithm, which is to classify similar samples into one category. In the clustering algorithm of point cloud, according to the characteristics of point location and reflection intensity, using different similarity algorithms, we can get Different clustering effects.

Generally, the result of point cloud clustering is multiple point cloud sets (point cloud clusters). In smart home fire detection, accuracy must be the first priority. A reasonable and appropriate algorithm must be used to process the signal. In the whole process of fuzzy reasoning, the system selects the three characteristic signals of the fire as CO concentration, smoke concentration and temperature signal as the input signal of the whole system. Green ecological technology plays a decisive role in building a good ecological environment and realizing the sustainable development of ecological technology. First of all, the development of new resources and new energy through ecological technology can alleviate the pressure of resource shortage and resource scarcity faced by human beings, such as modern exploration technology.

First, input the frame images before and after the video into the optical flow estimation algorithm model in related studies, and obtain the motion vector of each pixel position of the next frame image relative to the previous frame image. For the convenience of the following description, the correlation result is represented in the form of a vector, and the elements in the vector are arranged in a raster scan order. In the previous chapters, the objective video quality evaluation methods were briefly introduced from three directions. Here, the proposed full reference video quality evaluation method will be introduced in detail.

2.2 The Product Packaging Design Support System Development

The intelligent candy packaging system for personalized customization needs to provide all users with a convenient and friendly interactive mode, so that it can satisfy users' self-service as much as possible. Therefore, the cloud service system in this article will provide all users with corresponding Web service application support. When users obtain the self-service of the smart candy packaging system, they can use the

browser to register and bind information on the registration page of the web portal of the system, and provide corresponding mobile terminal APP download support for different users. Monitor and analyze the current logistics and transportation environment, and fully understand the various environmental hazards that the product/packaging system will face.

Product characteristic analysis. Understand the structural characteristics of the product, and conduct tests on the product itself to determine the product's own ability to withstand various hazards, that is, the "product fragility value". (3) Product improvement. Based on product characteristics and test results, the product itself is improved. If the product design is too strong, its brittle value can be appropriately reduced; if it is too weak, its brittle value can be increased. (4) Determine the performance of packaging materials. Finding a suitable packaging material can not only meet the protection design requirements of the product, but also reduce the weight of the product packaging and save the packaging cost. (5) Packaging design. Comprehensive environmental factors, product fragility and packaging material performance, and at the same time design the product/packaging system according to cost and logistics requirements. (6) Test verification. For the designed packaging, a series of test verifications are carried out in the laboratory in conjunction with the product to confirm that all the designs fully meet the requirements of the product for packaging. Interaction design is the design of interactive products, which are often closely related to our study and life. In detail, interaction design is to expand the way of interaction between people, whether from work, study, or communication, it is to let people experience a new way of communication. Winograd (1997) described interaction design as "the design of human communication and interactive space".

Network design can also be called "visual interaction design". It can not only convey information to users, but users can also feedback information. This involves the core problem: products should be easy to use and effective. A successful interactive website has a great influence on the creation of the company's brand, the number of clicks, the customer retention rate and customer satisfaction.

Oral harmony vocabulary requires the brain to complete the auditory imagination of the harmony in advance and form the visual imagination on the keyboard.

2.3 The C# And C Language

Comparing the classification accuracy rates of the two methods, the improved bag-of-words model of stratified sampling is superior to the bag-of-words model method of direct sampling under any number of words in the experiment: the maximum difference in classification accuracy is 3%. In the transition season, the energy consumption control system communicates with the air conditioner host, sets the set values of the chilled water supply temperature and return water temperature of the host, and sets the original host operating condition (7-12°C) to (9-14°C), etc., Adapt to the local climate environment, ensure comfort, and the host is more energy-efficient.

The control flow chart of the increase/decrease of the air conditioner host based on load prediction is shown in Figure 4-14. In this section, we will discuss and analyze the performance of the lightweight edge computing platform, including network forwarding delay performance, request processing capability, power consumption performance, migration efficiency, and performance evaluation of container

service orchestration methods. In each experiment, we detail the experimental preparation, experimental procedure, and analysis of experimental results. In our experimental environment, the real-time collection of information model information such as supply and return water temperature, flow rate, host power, and pump power, based on the algorithm of the fuzzy control model, analyzes the operating process and the energy consumption characteristics of each link equipment, adjusts the operating frequency of the pump, and makes the water system change. Under the premise of ensuring the cooling capacity, the overall cooling energy efficiency ratio and the water transmission coefficient are the highest

3. CONCLUSIONS

This article first creates an overall architecture for the interactive product packaging design system. The functions include four modules: product packaging editing sketches, product packaging virtual interactive display, customer management and database. From the formulation of the sketches to the three-dimensional product display, customers can participate in the process of modifying the product design together with the designer, and communicate with the designer in a timely manner. And use it as a file to be uploaded later, and use it as an attachment, with the explanatory text, so that the designer can more directly understand the intention.

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