

Application of Computer Aided Design in Industrial Product Design: Algorithm Implementation Based on C#

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Abstract: With the rapid development of the socialist market economy, industrial design plays an important role in the process of economic and cultural development. Industrial design has an important impact on the design and manufacture of industrial products. The gradual development of computer-aided design in the process of industrial design Application has greatly promoted the development of industrial design and the development of industrial network informatization. Computer-aided design abbreviated CAD is engineering and technical personnel under the assistance of computer hardware and software systems A technique for designing. Originally used for scientific computing , control and office automation , it has developed rapidly in recent years.

Keywords: Computer Aided Design, Industrial Product Design, Algorithm Implementation, C#

1. INTRODUCTION

The application of CAD technology is a new technology formed with the development of computer and its peripheral equipment since the 1950s. The earliest application of CAD technology to practice was the American General Motors Company and IBM Company, which used computers to design the car front window glass profile [1]. From conceptual design to production design to manufacturing, man-machine dialogue can be realized, and the designer can [2] modify the graphics on the display arbitrarily. Until the entire design work is completed. Although China is a big agricultural country [3], the industry has achieved great development in recent years. The development of design has brought great convenience to people's lives. my country's industrial products have gradually shifted from initial import to export, and industrial design products have brought more benefits to our [4] production and life. The retrospective method is a statement of the problem A set of solutions for which there is a possibly optimal solution. The idea of the recursive backtracking method is very simple [5].

It can traverse the search space and find the optimal solution to the knapsack problem. The disadvantage is that the set of solutions to the knapsack problem will increase with the geometric progression of 2 as the number of items n increases. The past eyelashes that did not follow the computer to the Chinese market [6]. The advantages of computer-aided design, such as high rate, high precision and easy modification, have attracted the attention of the majority of design enthusiasts. With the ever-increasing commodity [7] competition and market competition, it is not only required to shorten the replacement cycle of products, but also require products to be diversified and high-end products [8]. Quality, small batch conversion, so the traditional manual design method can not adapt to the requirements of this change [9].

At the same time , with the development of computer technology and electronic technology , there have been many types of computer hardware and peripheral devices with good performance . Such as graphic displays, digitizers, light pens, automatic plotters and other graphic processing devices with increasingly rich varieties and functions. The application of computer-aided design plays an important role in promoting the design and production of industrial products, and is conducive to the formation of industrial products with Chinese characteristics. Design and production system, the

application of computer-aided design can improve the level and efficiency of industrial design. Branch-bound is different from the method of backtracking to expand E-node. It is another method of traversing the solution set comprehensively. According to this algorithm, any live node can only be changed to E-node once. When a node is changed to E node, some new nodes (that is, branches) will be generated at the same time, and the newly generated nodes are realized by jumping one step from the original node [10].

Exploring the application of software in product modeling design [Ten Sum Summary Product modeling design is a branch of industrial design, which is called industrial modeling design by many people [11], from the point of view of software production. In fact, whether it is product design or industrial design. With the development of commodity [12] economy, the market economy is becoming more and more international today, the pace of people's life is accelerating year by year, and whoever can meet people's ever-changing needs will survive and develop, and whoever will be rejected disuse [13]. Using computer-aided design to rely on and develop industrial design has become a key technology for economic take-off and speeding up the construction of the national economy. With the development of [14] computer information technology and the arrival of the information age, the application of computer-aided design in industrial design and the integration of computer and industrial design are more and more, which has an important impact on industrial production and people's lives [15].

The retrospective method is an algorithm for querying the answer to a question [16] on the result space tree T of the question. The backtracking method searches the result space tree from the root node according to the depth-first method in the result space tree of all solutions. When the algorithm searches to each node of the result space tree, it first checks to see if there is no result [17]. For two-dimensional data processing software. Take lb's plan for a product as an example. The first step is to set the servant himself to use simple lines to outline the outline and details of the machine on the paper L with his bare hands, and then use the computer to express the empty space in the form of dimensional software or three-dimensional software. The rapid development is benefited from computer-aided design, and it is also an advantage that many traditional designs cannot match [18].

2. THE PROPOSED METHODOLOGY

2.1 The Computer Aided Design

At present, computer-aided design has been widely used in industrial design (including product modeling design, packaging design, advertising design, environmental design), such as high-speed, comfortable modern transportation, elegant living environment, convenient and light office information terminals, Clean and tidy electrified kitchen utensils, sophisticated and safe advanced medical equipment, wonderful and exciting entertainment products, and industrial design are a comprehensive discipline that covers ergonomics, design aesthetics, and product design. In the process of industrial production, industrial design is of great significance to the design and manufacture of industrial products and the handling of the relationship between products and consumers. Only modern design means can improve the level of industrial design, and computer-aided industrial design has opened up the development of modern industrial design. Milestone, it adapts to the challenges of market competition and high technology to industrial design to a great extent, therefore, the application of computer technology is an important symbol of the development of industrial design from low-level to high-level.

To make the calculation of the upper bound function more convenient, we might as well Let the items be sorted in descending order by weight value. When executing, the function fanwei is used to find the upper bound of the latest node. Only when the right subtree is to be entered, the upper bound function fanwei is calculated to determine whether the right subtree is to be used. Deleted. Because of the high resolution requirements of the fruit collection circle, the hardware design requirements of the computer itself are relatively high in the process of making this software. However, the post-processing of software such as Photoshop is very good. . So it has also been widely promoted by many design enthusiasts. Industrial design has become an important factor in promoting social development today. At this stage, the level of industrial design in China is far lower than that of Western European and American countries, and the technology and design system are not perfect. It needs to be gradually perfected in the actual design and production process. Graphical processing devices with increasingly rich varieties and functions, such as graphic displays, digitizers, light pens, automatic plotters, etc. In recent years, computer software technology has been greatly improved, database technology has been developed, a large number of graphic software and various application software that are compatible with modern design theory have been developed. High-tech achievements and mature commercial software The emergence of CAD technology has promoted the application and development of CAD technology. The application of computer-aided design in industrial design is the need of industrial development at this stage and the necessity of the development of socialist market economy, and the use of advanced technology and technology to develop industry is the embodiment of scientific.

2.2 The Applications in Industrial Product Design

The commonly used operations of collecting, dispatching and signing are designed as buttons with pictures, and the camera can be called up with one key to take pictures. In the information age, computer technology is ubiquitous, and the integration of computer technology and industrial design has greatly promoted the development of the industrial product

design industry. and Industrial design guided by humanized and sustainable design concepts is booming. Locking is freed from repetitive design work, so that ingenuity and energy can be invested in new technology development research, modern design theory and method research, and creative work that cannot be replaced by computers. d. Conducive to product standardization, serialization and generalization. Applying the CAD method, the product series design can be easily realized by changing the input parameters.

2.3 The Algorithm implementation based on C#

The statistics of collection and delivery are displayed by day in the form of a list. Click to view the list of all shipments of the day, and click the list of shipments to view The detailed information of the shipment is displayed in the form of a time axis, which is convenient to check the status of the shipment. It is accounted for by the two-dimensional production software that was mocked by Tiao. If we divide the dredging process of Fadei Minguo's shyness into modeling and Ranyanmo, I think that there is no three-dimensional software that is fully capable of product design. With the continuous development of people's material life To be satisfied, people's requirements for industrial products are getting higher and higher, and they are no longer satisfied with practicality and the function of the product itself, and the requirements for humanized and emotional design outside industrial products have increased.

Therefore, the application of computer-aided design software in the industry The design process is of great significance. It is beneficial to the development of computer-aided manufacturing (CAM), and through the integration of CAD/CAM, the integration of product design and manufacturing is realized. This paper deeply studies the key technologies in the development of express management system based on Android platform Foundation, system physical architecture, business process design, function design, database design, interface design. The joint development mode of client-side Android native APP and server-side Java Web platform is proposed. The application form of computer-aided design in industrial product design is mainly the drawing of industrial product drawings, the production of product models, and the design of products with design aesthetics.

In the computer-aided design, the shape and color of industrial products have an important influence on the beauty of the form of industrial products. And the solution of the new SME mobile application cloud platform service using MoPaaS to deploy server applications. The system has been applied in a city express company, which effectively solves the management problem of the courier's workload information statistics query. In order to synchronize the time between the video key frame image of the light and small UAV and the GPS information, the GPS information can be combined with the GPS information using time. One-to-one correspondence between key frame images. The dual-frequency GPS for mapping and single-frequency GPS for navigation in the flight control system are mainly installed on the light and small UAV flying platform. In the process of product design, software such as Pro E and UG Solidworks needs to be used to make structural models. In this process, the structural model is more planned and completed by the structural engineer. , the GPS information at any time during the video stream image data collection process can be obtained. In the research of UAV video streaming image data processing, the focus is on the application of GPS positioning data to ensure

that the extracted key frame images at any point in time have GPS information, and the GPS data should be interpolated. In the increasingly mature multimedia technology era. It's computer-aided pedal technology is gradually being improved and updated, but Mr. Lr should not only focus on the innovation of software and ignore the importance of rf painting. Having a solid artistic foundation is very important to the application of computer-aided software. fire effect.

3. CONCLUSIONS

The application form of computer-aided design in industrial product design is mainly the drawing of industrial product drawings, the production of product models, and the design of products with design aesthetics. Has an important impact. We say that the soul of design is creativity and innovation, and software is an auxiliary tool to help design the realization of ideas. Let the designer control the software instead of being bound by the software. Shape and color are what consumers and buyers first perceive through sight, hearing and touch when choosing industrial products. The shape and color of industrial products will affect the market competition of products. and product form beauty design.

4. REFERENCES

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