Features and Design of Electronic Products Based on Innovation Ideals

Xiao-Xue WANG¹, a, Shao-Rong XIAO¹, b,*

¹Nanjing University of Information Science and Technology, Nanjing 21, Jiangsu, China

a pinkmind@126.com, b srxiao@nuist.edu.cn

*Corresponding author

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Abstract: With the diversified development of electronic products (EP), electronic product function also shows characteristics of diversity. The growing "Internet plus" and the concept of low-carbon development, electronic product design (EPD) puts forward innovation ideas. In order to design various EP, an innovation idea of EPD are needed. At present, EPD have some obvious characteristics. Reliability and stability are basis of the EP. Meanwhile, practicality and differentiation are quite important in EPD. Furthermore, both appearance and fashion-ability are also respected. In addition, functional coordination is the EPD important foundation. Ecological design is the trend of EPD.

Introduction

With the rapid development of modernization and the continuous improvement of electronic information technology, the electronic products design (EPD) has had a series of characteristics of the times. Throughout the development history of the electronic products (EP), we can clearly know that EP gradually have a series of features with the development of science and technology, coupled with the change of people's aesthetic taste[1,2].

Generally speaking, EP is a related products based on electric energy for work, which mainly including telephone, TV, DVD, VCD, SVCD, DVD, video recorders, video cameras, radios, tape recorder, combination of speakers, CD player (CD), computers, mobile communication products, etc. With EPD of human-computer interaction intelligent technology research and development, a new type of industry is a technology-intensive. The scope of its technology and adaptability in the application level of science and technology, the human-computer interaction intelligent technology has been widely used. Virtual Reality (VR) and 3D printing technologies are also widely used in EPD in recent years. Appearance design is not only an important contents of EPD, but also can direct affect the public ideas. According to the investigation of the public psychology and the requirement of EP, the principle and method of making the appearance of EP is the premise of ensuring the scientific, innovative and practical of EP. At present, EPD software and new methods emerge in endlessly, in addition to the related EP special design software, some software of graphics and image processing functions, such as, GIS, MATLAB, CAD, and 3DMAX plays a positive role in EPD of multidimensional presentation and spatial expression. No matter how the design of EP, in addition to the need to consider the 3D space plastic arts and other factors, the appearance of the EP and their characteristics of the combination of friendly features also must be considered. For EP, security is also very important. Designer should take consideration of all the characteristics and made much reliability EP for the user.

Innovation design can not only create social economic value and cultural value at the present stage, and has become one of the country and enterprise key competitiveness. At the same time, combined with the current status of the electronic industry, the future of electronic materials and market trends in the exploration and outlook, no doubt has important forward-looking and realistic necessity.
Ideas and Ways of Innovation EPD

Constantly improve the people's spirit of the product function demand, which puts forward new requirements for EPD. The key concept of EP innovation is to design innovative products, so the concept of product development and design of the products is a decisive role in product innovation phase. Therefore, the conceptual design is regarded as the most important in the process of design, the key and the most creative stage, can reflect the product design in enterprises under the condition of existing production innovation concept and level.

The product concept, technology solutions (technical feasibility, requirements, and ability etc.) and cost composition (material, price) are quite fundamental. Independent research and development can break the fixed thinking modes in a sense. Intelligent EPD to master the knowledge is wide, such as electronic circuits, semiconductor and IGBT, SCM, etc., Need to learn analog and digital circuit, learn product periphery connection of the PLC, computer and software, understand the process of the product appearance design, mechanical design, etc. Comprehensive and learning related to the market of electronic commerce, marketing strategy, product production enterprise management, the standard formulation principle, and so on.

Based on the innovation concept, the organic combination of the product function information, cultural and historical information, human aesthetic taste and the level of production processes, the scientific and reasonable EP appearance can be designed. In the specific EPD process, people from many types of products summed up the various methods, the elements of design, functional design method, and integrated design method is commonly used in EPD methods. In the EPD, functional design methods have also been concerned about. Furthermore, depending on the functional components, designers based on the analysis of EP functions, EP is decomposed into basic components of a variety of functions of several modules, the existing elements of Applied Science in the express the design task and through the combination and the selection of these basic elements to built different EP. Integrated design method is to use the computer to recognize the EP characteristics corresponding knowledge base and reasoning mechanism, reuse of domain knowledge is stored and the establishment of the reasoning mechanism to accomplish computer aided EPD.

Characteristics of Modern Electronic Products

EP are closely related to people's daily life, therefore, in order to realize scientific and reasonable design, we need to create a constantly innovation. All in all, EPD should also adapt to the diversification of the objective need of modern society.

Reliability and Stability Are Basis of the EP

The reliability of the EPD is the important foundation of the EP security and stable operation. In product design phase, according to the standard of reliability design, reasonable reliability design must be carried out.

Depending on reliability and stability of the EP, we can predict EP working environment and using environment. This is a series of problems needed our attention, otherwise, the EP will appear serious problems result in an immeasurable loss.

Practicality and Differentiation Are Quite Important

Primary principle as the EPD of practical, reflect the certainty degree of the designer of product appearance design. First of all to meet the convenience, high efficiency, safety requirements, to achieve its function is the leading idea of the EPD, EP practicability and advancement is quite obviously. At the same time, it is also necessary to meet users healthy aesthetic concept and custom hobby, it will cause the user antipathy, the pursuit of ultra modern design idea conforms to aesthetic needs, but ignore the whole electronic market of the public. Therefore, the EP in the pursuit of the general concept of the needs of today's society in the context of the general concept, but also have to fully retain the practical EP use.
The particularity of EPD is often considered. The importance of humanized features is personalized, EPD should be suitable for the use of different populations and different environment. Many elements of EP, such as, the refined user classification, continuous innovation of user-friendly EP, and individualized personal EP consumer become the important factors that affect the user to select EP. The time of user pursuing personalized EP has come.

**Both Appearance and Fashion-Ability Are Also Respected**

At present, the increasingly market competition, EP updates faster and faster, the appearance is also constantly updated to accommodate the needs and development of the market[3]. Enterprises need to accelerate EP innovation speed, make the products reflecting the unity of fashion and sense of the times. It will be possible to meet the needs of users and drive. EP style is a common embodiment of national material civilization and spiritual civilization. It is an organic combination of social production and social progress, and also an important embodiment of historical and cultural features. Innovation has its own aesthetic orientation and cultural characteristics of EP[4].

Form of EP of the degrees of freedom of an unprecedented broad, electronic market competition also contributed to the degree of innovation in EP appearance, which will play ultimately crucial role in the user choice. User is special and individual, meanwhile, the final embodiment of humanization and art should contain to meet the individual needs.

**Conclusions**

Based on Internet and coordination thinking innovation concept, promoting EPD innovation ability and EP research and development innovation, furthermore, the all-round EP development should be upgraded with the Internet thinking.

**Reasonable Scientific Design Is an Objective Need of EP Use**

Modern EP type is diversity. Reasonable scientific design is an objective need of EP use. Electronic market does not lack of a lot of bizarre appearance products in recent years. As a result of EPD innovation ideal, EP may have the special connotation, sizes, colors, and so on. Meanwhile, EP user interface is simple, operation is simple and easy to understand.

**Functional Coordination Is the EPD Important Foundation**

In EPD, aesthetic features and functions of product appearance design is harmonious and unified. The organic combination of EP structure to the shape and appearance of proportion, color settings, and many other factors, reflecting the connotation and EP characteristics, they run through in the whole process of EPD. The functional coordination is quite important.

**Ecological Design Is the Trend of EPD**

EPD is based on natural design concept and the trend of ecological design of EP. There are quite important.

Using renewable materials and low carbon materials as far as possible is an important starting point for the green EPD[5]. At the same time, the EPD also needs to be combined with the concept of sustainable development, saving the use of raw materials and recycling of waste resources.

The rapid development of information network are all the time of changing people's production and living ways, encourage the development of new industrial revolution. At present, the EPD is mainly characterized by the aid of computer, micro design and intelligent design. Although the comprehensive use of these methods not only with the EPD is closely related to the accumulation of knowledge, but also involves various types of electronic information technology. The growing "Internet plus" and the concept of low-carbon development are no doubt to the future of EPD and puts forward innovation ideas.
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References


