Research on Internet Product Design Based on Visual Communication

Cuihua Meng*
Guangdong University of Finance & Economics, Guangdong, China, 510000

*E-mail: 530962933@qq.com

Abstract. In this era of rapid development of information, people's way of living is closely related to the network, the Internet has affected all areas of human society, and the survival and development of people have a broad impact. In the interface design of Internet products, color often has the advantage of taking the lead over shape, and the color of the interface will leave the first impression on people. The difference of color can give a person disparate feeling and impression, the interface that gives priority to tonal with blue or green can give a person a kind of cool and refreshing and quiet or vast and distant feeling.

Keywords: Visual Communication, Internet Products, Interface Design, Graphic Design

1. Introduction

A few years ago, it probably never occurred that TianYa, You Tube, could produce a faster and more influential "CCTV fire" report than the mainstream news media. Today, our world has changed. Ever since the Web2.0 era, there has been an endless user-centered debate. Early Internet pioneers believed that user-centered product design would become the central issue of the Internet. Now, the spirit of the Internet has been redefined. Every Internet company in the world is advocating the "user-centered theory", and every enterprise focusing on the future competition is advocating the user-centered theory. In the omnipotent Internet world, the value of respecting users has become the golden rule[1].

2. Analysis of main concepts

2.1. Internet products

In the Internet industry, the term "product" is very abstract: first, products on the Internet are usually software, not physical objects[2]. Second, you typically don't install software on your computer, but instead run it directly on a remote server, or even in the abstract "cloud." Internet products refer to the
entire product system that provides value and services to users through Internet media. The Internet has developed into a new mainstream communication media due to its huge capacity, diverse forms, rapid convenience, global coverage and free interaction. Domestic well-known Internet companies, Internet products can be divided into portal sites, search engines, community, communication tools, e-commerce, online games, and system software.

2.2. User’s visual communication

User experience is a purely subjective process in which users establish their psychological feelings in the process of using a product (service)[3]. Because it is purely subjective, it has certain uncertainty. In real life, individuals are all different, which cannot be completely simulated or reproduced by other means. For example, Figure 1:

![Figure 1. Design with good visual communication effect for users](image)

We can identify the commonalities of these user experiences through well-designed experiments, especially when we have defined the user base. For the realization of the business value of the product life cycle, user experience is the key to the success of the product. The experience here includes all the experiences of the product and the services and interactions generated by the product. In the aspect of information technology application design, the user experience mainly comes from the interaction between the user and the man-machine interface[4].

3. Internet product interface design based on user experience

3.1. Design of visual communication interface

At one level of the process of human and machine interaction, we call it the interface. From the psychological significance, the interface of Internet products can be divided into two parts: sensation (vision, touch, hearing, taste, etc.) and emotion. From an etymological point of view, it can be traced back to ancient Greece, which means face to face, two opposite faces forming a mutual relationship. It expresses the meaning of communication and interaction. In real life, interface is a medium for people to interact with information and a carrier for information transmission. In the field of design and research, interface is a medium mainly composed of visual elements such as color, text, image, symbol and multimedia elements to convey specific information and facilitate man-machine communication. Interface design is an important part of Internet products. Various fields have played an important role in the design of Internet product interface, involving cognitive psychology, design art, design psychology, ergonomics and so on. Three principles of user interface design: user control, interface consistency, and user memory load reduction. The interface design of Internet products is divided into
three steps: structure design, interaction design and visual design\cite{5}.

3.2. Design of user experience

User experience design is a comprehensive design that includes product design, services, activities and environment. Each factor is based on the needs, wishes, beliefs, knowledge, skills, experience and views of individuals or groups. In this process, the user is no longer passively waiting for the design, but directly participating and waiting for the design to ensure that the design is truly in line with the needs of the user. Its characteristics lie in the interaction of participating in the design and the user experience as the center, in order to provide a good feeling for the purpose.

![Apple's desktop wallpaper](image)

**Figure 2.** Apple's desktop wallpaper

For example, in the industry, apple inc. has always been recognized as the leader in user experience design. Both its software development and hardware design pay great attention to user experience and experience the people-oriented design idea. User experience design in other IT and home appliance products enterprises, such as IBM, Nokia, Microsoft, Motorola, HP, eBay, Philips, Siemens, etc., have more than a decade, or even longer actual use history, correspondingly established dozens to hundreds of people scale departments\cite{6}. With the development of information in human society and facing the public, user experience has been widely used in the industry in the process of its continuous development and improvement.

3.3. Interface design based on user sensory experience

Sensation refers to the five senses of a product or system, including vision, hearing, touch, smell and taste. It is the first sense of a product or system. Feeling is the first step in the user experience design of a product. When the user has no experience with a product, its appearance experience may play a decisive role in the purchase behavior. The appearance is beautiful, delicate and compact, the product that feels comfortable of course should compare those appearance is ugly, heavy and clumsy, simple sense is coarse product more get user favor.
Therefore, after excluding the price and other factors, most users will choose the former. And when the user has used such products, the internal experience of the products will have a more important impact on the purchase behavior. Of course, products with both a high appearance experience and a high internal experience will definitely be the first choice for users.

In this paper, the sensory experience of Internet product interface design is mainly expounded from visual experience and auditory experience. Vision plays an important role in the user's psychology, people use it to understand the world, and then by the brain to think. Research has proved that there are two main factors affecting visual search efficiency: one is the existing experience and habits of people, which is a top-down influence; the other is the visual significance of the picture itself, which is a bottom-up influence. For the former, we all know that people tend to look from the top down and from the left to the right, so a matrix of multi-image pages, its scanning path is almost rigid due to this habit.

3.4. Colour composition of interface design

Good at the use of color to maximize the aesthetic function of color and visual benefits, to create a color interface effect. The color of the graphical interface of Internet products is an important factor affecting the visual communication. The steps of color matching are as follows:

- Determine standard colors. Different color collocation produces different effect, and may affect the visitor's mood.
- With red, green, blue as the three primary colors. Other color can be mixed with these 3 kinds of color and become.
- The background color should be soft, simple but elegant. Soft background color with dark text, read naturally smooth.

For the latter, the visual salience of the picture itself (dynamics, color and its overall aesthetic) constitutes a "salience map", and the user's attention is first drawn by the most visually significant part of the picture. Therefore, the bottom-up factor (the factor of the picture itself) makes it easy for users to select high-quality visual content more efficiently, while the splay habit in the rectangle mode will interfere with the bottom-up factor.

4. Conclusion
The current era is an era of advanced science and technology and highly developed information industry. A satisfactory Internet product interface can not only play all the functions normally and help users to complete the target tasks, but also win the loyalty of users by providing a good user experience, so as to achieve the operation goal of the product. With the rapid development of the network, the past only functional interface can no longer meet the needs of users. How to effectively improve the user experience of the interface has become an urgent problem in the current era. Realistic interface design often fails to make people satisfied, and the user's feelings are ignored or even made the user feel fooled. Therefore, in today's world, interface products in the fierce market competition, just have a powerful function and technology is far from enough.

References

[1] Liu, Yun Ling. Research on the Visual Communication Design Based on Digital Multimedia[J]. Advanced Materials Research, 846-847:1496-1499.

[2] Cho W Y, Kim T H, Lee K S, et al. Research of the Concept Design Based on the Green Creative Product Design: To Discuss of Experiment Teaching in Visual Communication Design[J]. 2014, 70(3Suppl):191.

[3] Iinlin Nong. Research on Multimedia Courseware Design Based on Visual Communication[C]// Workshop on Advanced Research & Technology in Industry Applications. 2016.

[4] He Qing, Zhang Kai, Chu-Fan Zhang. Packaging Design Research and Analysis Based on Graphic Visual[J]. 2012.

[5] Zhang, Zhenyu, Peng, Qingjin, Gu, Peihua. Improvement of User Involvement in Product Design[J]. Procedia Cirp, 36:267-272.

[6] Chen, Si Jie, Gu, Ji Nan, Hu, Dian Chuan. The Mobile Robot Design Research Based on CNC Machine Group[J]. Advanced Materials Research, 468-471:1216-1219.

[7] Johnson, Jennifer E. Influence of Parents, Peers, Internet Product Search and Visual Social Media on College Students’ Purchase Behavior: A Mixed Methods Study[J]. 2015:AEM.00675-15.