

# Application of Computer Image Processing Technology in Visual Communication Design

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## Abstract

With the comprehensive construction of the information society, our daily lives have been covered by computer image visual communication design. Computer image visual communication design is no longer just the development of science and technology, but also a work that combines artistic imagery with intelligent technology. At the same time, computer image visual communication design is a carrier, a perfect combination of art and technology. In the current era of huge amount of information, information design needs to rely on the artistic expression of visual design to be accepted by more audiences. Diversified subject matter such as subway signs, bus stop signs, city maps and social media apps on mobile device terminals in modern cities can all become the carrier of computer image visual communication, providing a work display platform for information and visual design and helping audiences More direct contact with visual art works. In the art field of visual design and communication, information and visual design are two key points that complement each other. Information design is to transform complex data content into two-dimensional visual expressions, so as to reach the audience for knowledge transmission, record facts and The purpose of emotional communication. Currently, the main manifestations of information design include website pages, mobile device application interfaces, map displays, etc. When designing computer image visual communication, information design needs to concise data and information through design to meet the audience's information resource acquisition needs.

**Keywords:** Computer Graphics, Visual Communication, Design;

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## 1. Introduction

Computer image visual communication design mainly uses visual elements to convey information, so that people can easily analyze and remember the necessary visual design works to express the meaning. There are many types of visual elements. The information transmission of textual elements belongs to a relatively unique form of visual design expression. The formation and development of text cannot be separated from the long history and unique culture of various places and the external image, font, In terms of pronunciation and connotation, there are elements that can be used by designers. The display effect of text is different from

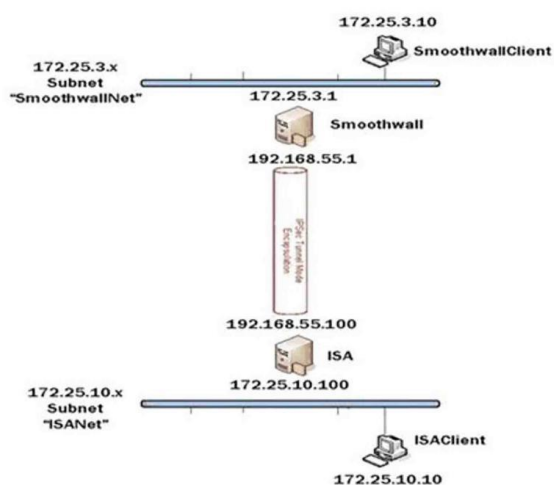
other painting symbols such as colors and graphics. It can not only supplement the visual perception of the screen design, but also use its own pronunciation and meaning. Communicate visual content very directly. Designers can organize and design the text structure, color, font, size, texture, etc. reasonably according to the artistic characteristics of different texts and the overall overview of the design work, so that some key information can be directly passed through simple and understandable text symbols. It can also make appropriate supplements and adjustments to the overall external image of the design work. Through the fusion and application of textual elements, it can achieve the purpose of

contributing to the visual communication of computer images<sup>[1]</sup>.

## 2. Innovative design of computer graphics

### 2.1. Lenovo thinking innovation

Associative thinking is a relatively common mode of thinking and an important mode of thinking for creative design in art communication design activities. When creating works, visual communication designers use associative thinking, recombining and integrating various imagery thinking in their minds. Combining the nature of the object of association to compare association and causal association, close association and similar association, etc. Contrastive association refers to the combination of the opposition or differentiation of different things; and proximity association refers to the closeness in time and space, which can cause people to associate different things; causal association refers to the existence of two things Causality, which triggers people's thinking and perception. Similar associations refer to associations between things due to similar nature or external characteristics and meanings. Associative thinking is more logical and objective and calm. The application of associative thinking can show the relevance of things<sup>[2]</sup>. The Visual communication system is in the figure below.

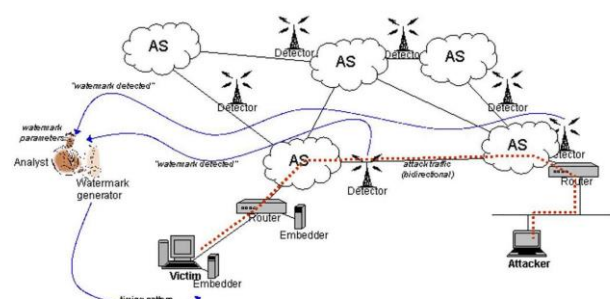


**Figure1.** Visual communication system.

### 2.2. Reverse thinking innovation

Reverse thinking refers to the concept or habit formed by people and conduct reverse thinking.

Reverse thinking can assist designers in visually communicating their work to get rid of the shackles of traditional thinking and effectively combine innovative ideas and innovative concepts. In visual communication design, in order to further enrich and reflect the effects of visual communication designers, exaggerated or strong methods are usually used to display works. In order to reflect the creativity, the designer tried every means to activate his thinking before creating and create his own through reverse thinking, reflecting the unique artistic style and vision. At present, all kinds of visual design works in society have sprung up in numerous creations like bamboo shoots after a rain. How to stand out from the crowd with innovation must reflect the designer's rich imagination and superb art and also show unique thinking concepts. This is also the current situation. In visual communication design, designers want to explore and reflect. A good visual communication design should have innovative concepts and concepts to be able to attract the audience in a short time and achieve a good visual communication design communication effect. Reverse thinking is mainly to break traditional thinking habits and give people a visual impact and strong contrast. The creation of visual communication works through reverse thinking will achieve unexpected artistic expression effects<sup>[3]</sup>. The embedder system is in the figure below.

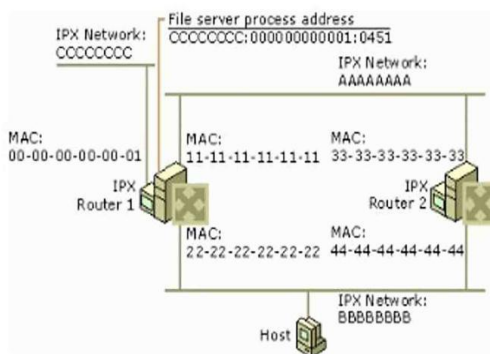


**Figure2.** embedder system.

### 2.3. Divergent thinking innovation

Divergent thinking is an innovative thinking mode, which mainly emphasizes the divergence and pioneering nature of thinking. Using different

directions and different angles to analyze and compare the same problem can help test whether a person has the ability to innovate. Divergent thinking requires gradual expansion from a certain point to different aspects to expand people's thinking space. For example, in the creation of works of art, you can think about and connect according to the color style, material, pattern and other factors of the work to find the optimal design. For example, the logo of the Olympic Games has been created using divergent thinking, combining text and graphics. The five rings represent the Olympic Games and represent the unity of the people on the five continents, while the text 2008 refers to the Chinese knot with Chinese characteristics, with bright colors and vivid images. Strong contrast. This logo not only reflects the unique cultural characteristics of China, but also gives people a refreshing feeling. It also meets the diverse needs of people of different countries, ages and cultural levels and can be widely accepted by the people<sup>[4]</sup>. The visual communication mac system is in the figure below.

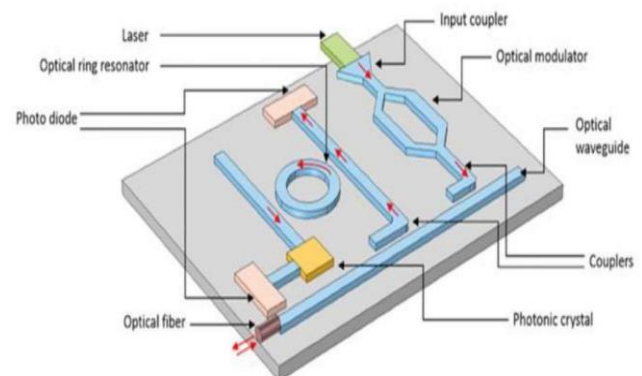


**Figure3.** Visual Communication mac system.

### 3. Visual communication design

Classification of computer image visual communication design Computer image visual communication design includes album design, web art design, packaging design, DM computer image visual communication design, brand image computer image visual communication design, poster design, graphic media design, POP computer image visual communication Design, logo design, book design, magazine design, VI (corporate image recognition

system) design, etc. An excellent visual communication of computer images must be through the most creative graphic design, coupled with clever language to play a finishing touch, so that the picture and language support each other and complement each other. Smart visual communication of computer images does not even require words. It relies entirely on images and pictures to inspire infinite associations, achieve the purpose of appeal and achieve the effect of silent than sound. Visual communication design has the concept of picture composition. The most basic point, line and surface are points, lines and surfaces to form a complete picture. Those who study art know the virtual reality of the picture. This is like a designer knowing that the design of the picture should be left blank. The reason is that every designer has his own style. The white space in the visual communication of a flat computer image is to highlight the theme, just like you have to highlight a person and no other person can appear around him. Every designer will look for a lot of inspiration to complete his work when doing graphic computer image visual communication. A good work is created with inspiration and action, so inspiration is very important to the designer. With inspiration, we must also consider the composition of the picture and also think about combining with other elements to create a perfect work. The visual communication of a finished flat computer image must not only impress itself, but also arouse consumers' desire to buy goods<sup>[5]</sup>. The visual communication system is in the figure below.

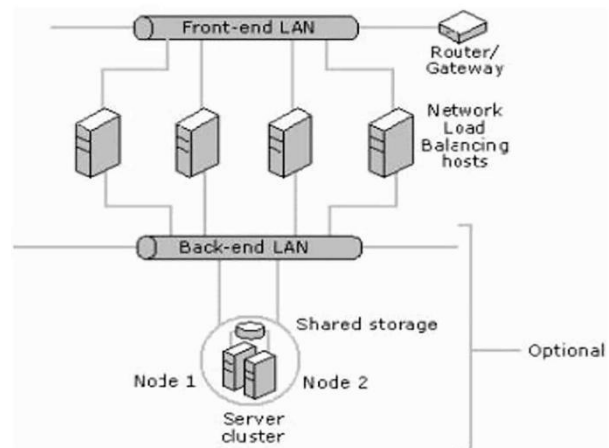


**Figure4.** Visual Communication system.

#### 4. The role of computer technology in the development of visual communication

##### 4.1. Use information design to process visual design elements

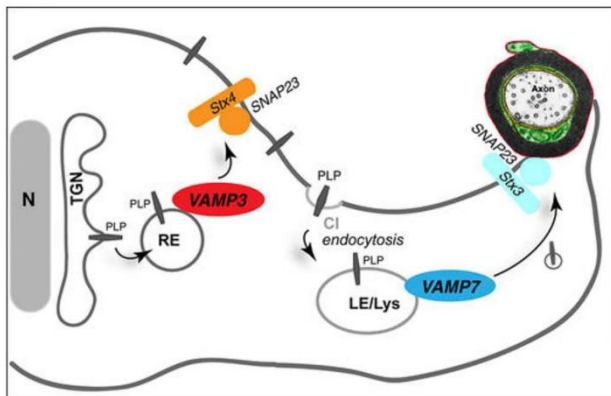
The artistic elements presented in visual design usually have strong national characteristics and ancient cultural characteristics, such as blue and white porcelain, murals, bronzes, etc. The rich and diverse artistic elements not only reflect the artistic beauty of traditional pictures, but also contain a certain amount of calligraphy culture. Among the elements of visual design, images from different regions and different cultural backgrounds often contain different artistic essence. Graphics is the most commonly used design element in modern visual design, which can reflect rich cultural connotations. The form of expression of the graphics is more direct and external and the emotion expressed in it can be transmitted through strong visual impact. The integration of visual design and information design is mainly reflected in the processing of visual design elements by information design. The graphic elements in modern visual design are divided into positive and negative. The application of information design can cut and debug graphic elements, so that the presentation form of positive graphic elements is broken and negative graphics are formed. Information technology can be presented in a more three-dimensional, more exaggerated and more modern way without losing the connotation and emotion of the graphic elements in the visual design and can create effects such as light and shadow, reflecting a stronger sense of information, It also brings a stronger visual impact to the audience and creates brand new visual works<sup>[6]</sup>. The Visual communication service system is in the figure below.



**Figure5.** Visual Communication service system.

##### 4.2. The integration of visual design elements and information design style

The development of science and technology has created a brand-new technical platform for visual design, allowing designers to fully express their design concepts and realize the integration of visual design and information design by adding digital style in the design process. Digital style mainly refers to the use of advanced graphic design systems to digitally edit the visual design, thereby organically fusing visual design and information design to form a novel overall visual communication work. In traditional visual design, color only exists as an embellishment element, which can bring a certain visual art experience. When information technology is integrated, different colors can present different artistic styles, which in turn brings completely different psychological feelings to the audience. For example, in digital design, black represents seriousness and elegance, white represents purity and sacredness and red represents passion and joy. Adding colors that represent different feelings and emotions to the design can make the visual design show a stronger sense of modernity, greatly enhance the richness of the artistic content of the visual design and make the design more exaggerated and more appealing, thereby making the visual Design and information design play an artistic effect of  $1+1>2$ . The Visual communication system is in the figure below.



**Figure6.** Visual Communication system.

## 5. Conclusion

The existence of computer image visual communication is a "double-edged sword". Proper use can not only guide consumption, but also increase the main benefits of computer image visual communication. Improper use will destroy the economy of the society, cause businesses to form an antagonistic state and cause social instability. It will also make people tired of not believing in the visual transmission of computer images, thereby misleading consumers, causing bad habits in the society and ultimately Affect the economic development on the market. Graphic computer image visual communication design is a profession. It lies in computer proficiency, understanding of fine arts and inspiration to make a perfect work. In contemporary society, graphic computer image visual communication design has become a kind of A new profession and this profession requires a deep understanding of color and graphics, typography and font design, so that people can use computers to create a perfect flat computer image vision through graphics software. Convey the work. The visual communication of flat computer images requires themes and text, as well as creativity and screen layout to create a visual communication work of computer images that attracts the attention of consumers.

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