Application of Graphics and Image Processing in Visual Communication Design

Guozhi Luo¹, Sudan Zhan²,*

¹Visual Communication Design, College of Education and Arts, Guangzhou Huashang Vocational College, Guangzhou, Guangdong, China.
²Faculty of Creativity and Design, Guangzhou Huashang University, Guangzhou, Guangdong 511300, China.


Received: May 20, 2022
Accepted: June 15, 2022
Published: July 1, 2022

*Corresponding author: Sudan Zhan, Faculty of Creativity and Design, Guangzhou Huashang University, Guangzhou, Guangdong 511300, China.

Abstract

At present, the pace of people’s life is accelerating, and many people’s daily work is highly repetitive, mainly in the busy way of two o’clock and one line, the rest time is relatively short, but also more fixed, basically no time to go out for entertainment. In the current information age, how to make efficient use of time and create value is one of the issues that people pay close attention to. Mobile phones, computers and other mobile terminals are highly popular, and information has become diverse. In order to make these information attract people’s attention and remember it, and then let people take the initiative to be a communicator, it is necessary to make full use of graphics and image processing technology to effectively play the role of optimizing visual communication design. The visual communication design project is analyzed and the necessity of using graphic image processing technology is summarized, with the aim of improving the overall effect of visual communication design through the study of graphic image processing technology, fully satisfying the basic needs of art and design, and providing reference for the innovative development of the industry.

Keywords

Graphic Image Processing, Visual Communication Project Design

In the context of the development of network information technology, visual communication as a form of communication, through visual communication design, can be diversified to show the advantages of the use of information technology. With the operation and development of the computer industry, new technologies should be introduced into the visual communication in the image design and production, and through the selection of the optimal communication method, the image processing content can be perfectly displayed to enhance people's visual perception and finally realize the purpose of visual communication. Along with the operation and development of multi-media industry, the integration of computer software and graphic image processing technology can enrich the consciousness effect of visual communication of images and reflect the information comprehensively to fully meet the sustainable development needs of the industry.

1. Brief analysis of computer graphics image processing technology

1.1 Concept and design thinking

For computer information technology, this technology can be applied to modify and process graphics, which belongs to a kind of advanced image processing technology, in the actual application process is only the use of some software to meet the increasingly high-quality picture requirements. In order to achieve the best visual effect, the graphic image processing technology needs to be optimized, so as to further improve the visual impact of graphic
images on people, which is conducive to achieving the effect of eye-catching. At present, people give full play to their role as information disseminators. “In the application of graphic image processing technology, attention should be paid to the optimization of the creator’s creative means, to enhance the creator’s innovative ability as a key starting point, providing the creator with a richer source of information and emotional sources, turning something impossible to achieve in life into reality, so as to make the creation of a richer connotation of the work” (Tang Wei, 2021).

1.2 Design means and technology

From the current development situation at home and abroad, the level of modern technology is constantly improving, especially for computer and electronic information technology, which has become a common technical requirement for social development, and has played an important role as a bridge in modern economic development, making the operation mode of many industries and enterprises to be effectively innovated, making them aware of “keeping up with the times” in the development process. In particular, when carrying out design work, the advanced functions of computer information technology can be used to repeatedly optimize design solutions. In the future, attention should be paid to creating conditions conducive to the communication of information, so that this valuable information can be shared with the public in a timely manner. In the current background of information globalization, social development cannot be separated from the design of computer graphics and images, whether it is news, advertising or movies, all of which have become important information media, which can show the public colorful information content, and in the process of information display, the application of computer graphics and image processing technology has been very extensive, which also makes the computer technology itself fast data transmission, design integrity, design content This makes the advantages of computer technology, such as data transmission, design integrity, design content richness, have been reflected. Moreover, China has started to independently develop relevant computer graphics image processing software, and the use of these software tools has achieved detailed and clear adjustment of images and graphics, optimizing the visual experience of the viewer as a whole.

2. Similarities and differences between computer graphic design and visual communication design

2.1 Similarities

For computer graphic design, the relationship between it and visual communication design is difficult to clearly delineate, and in the application of this design method, it should find its fit with the product, for example, in the study of basic professional courses, it will involve the drawing of flat graphics, and also need to reasonably match the corresponding color system, which has certain complexity. In terms of beauty appreciation, both computer graphic design and visual communication design can use points, lines, surfaces and bodies to arrange the overall structure, and through the use of these symbols, the common value of culture is reflected, which is more conducive to the development of the corresponding cultural communication. In addition to the above-mentioned similarities, the combination of design communication design and computer graphics can also be seen as a combination of graphics and color, which can be integrated with each other and can also guide each other.

2.2 Differences

“The design background is different. Visual communication design in the early stage of the development of painting and advertising industry has been expanding, and gradually began to try to combine the promotion of painting and advertising, and it is because of the use of this promotion method makes the efficiency of information communication and dissemination significantly improved” (Yang Xiaoyun, 2021). With the widespread use of computer information technology in the world, which also makes people’s life, learning and work mode has changed a lot, in the use of computer graphic design, should be applied to printers, plotters and multimedia equipment to promote the development of graphic design work, the current view, computer graphic design has begun to develop to the three-dimensional field; the second aspect is objectives and tasks different. For visual communication design, the design goal is to enhance the dynamic beauty of the work, to establish a more perfect image, and to master the dynamics of the work by mastering the media dynamics. For computer graphic design, in the actual process, it is mainly to combine the dynamic mode with the static mode, through this way to achieve the effective
shaping of two-dimensional space and three-dimensional space; different technical methods. Visual communication design is based on core technologies, such as advertising design and product packaging which makes the composition of visual design more rich. “The overall view of visual communication design is often boring, while for computer graphic design, it is much more interesting, in the development of this design work, not only involves a number of professional core courses, but also needs to control the content of video editing, layout and printing, which also makes the work involved in a richer content in the process of graphic design will often get some novelty, is a dynamic experience” (Zang Yange, 2020). It is a dynamic design work.

3. Graphic Image Design and Visual Communication Design

3.1 Graphic image design

By analyzing the graphic image design solutions and applying them to different fields, the advantages of graphic image design can be demonstrated through the use of processing technology and computer technology to improve the processing effect of picture data and optimize the operation scheme of equipment. In graphic image processing, through the use of a variety of information technologies, it is possible to determine specific processing objectives based on the characteristics of color and level, so that the visual communication design can achieve the final design effect and improve the demand for the use of software systems, as well as to provide data support for the dissemination of network information and the presentation of web page information. “Therefore, in the context of the continuous development of computer technology, the use of graphic image technology and visual communication technology can be combined with the operational characteristics of different industries to carry out the artistic integration of visual communication and gradually enhance the artistic effect of visual communication, which will also meet the innovative development needs of the industry” (Wang Qiong, 2019).

3.2 Visual Communication Design

In the process of human perception and access to information, the main visual as the core way, because the visual communication itself as a way of emerging transmission, in actual life and work, people can grasp the relevant information in the visual communication design by observing issues, graphics and color, and finally achieve the purpose of information transmission. Moreover, in visual communication design, designers will combine the characteristics of graphic images to further process the image and graphic content, enhance the effect of graphic design, and meet the development needs of many industries. In general, the design elements in visual communication include: First, text design. In visual communication design, through the use of the concept of text design, the font can be used as the core of visual communication, gradually strengthen the emotional communication between people, provide reference for the visualization of information transmission, show the purpose of artistic expression of text and innovation of design concepts, and show the overall level of the work design. Second, graphic design. In graphic design, as a holistic and connotative form of visual communication, its use in visual communication design can fully demonstrate the artistic value of graphic design through the use of graphic design solutions, enrich the expression of graphic art, and realize the artistic communication of graphics, colors and textures. In the process of graphic design, visual communication can be conceptualized as a concept, and people’s visual cognition can be enhanced through the use of information communication schemes and the display of visualized resources. Third, color design. Color design, as a very traditional Chinese medicine component in visual communication, can enrich the value of artistic communication in color design through the determination of color light pole elements, the use of color image elements and the comprehensive use of color psychological elements, etc., and the value of physical visual communication and artistic design.

4. Similarities and differences between graphic image design and visual communication design

4.1 Differences

In the analysis of graphic image processing and visual communication design, the differences between the two are reflected in the following aspects: First, the difference of design purpose, for the concept of visual communication design, mainly the art image, moving image as the design object, to a certain extent, has a sense of beauty and dynamic artistic effect. For the computer graphic image design program, the main focus is on static images and dynamic images, through a high degree of combination and the use of technology, the use of computers for two-dimensional space and three-dimensional space construction, to show the effect of visual art communication;
second, the design skills are more different. For visual communication design, its core technology is based on product packaging and advertising design, and the specific design needs to have certain theoretical support. For computer graphics technology, its main content is to carry out video editing, printing, etc., graphic image designers should master professional software operation means, such as, in practice, the correct use of Adobe Illustrator Free Hand and other professional software to improve the overall effect of graphic image editing.

4.2 Similarities

According to the analysis of the use of graphic image processing as well as visual communication design solutions, the technical similarities are reflected in the following aspects: First, the technical application fields are the same. In the use of graphic image processing technology and visual communication technology, both forms of technology require designers to master the foundation of several rounds of professional, and through the use of design software, the design elements of electricity, lines, etc., combined to enrich the artistic effect of graphic design; second, the same language and thinking mode, according to the characteristics of the use of graphic image technology and visual communication technology, in the actual use of technology, the two. There is a consistency of language thinking as well as design concepts, for example, in the use of cultural symbols, through the building blocks of stylized design solutions, the artistic nature of graphic images and visual communication can be brought into play to meet the innovative development and artistic and innovative needs of the industry.

5. Application of graphic image processing in visual communication design

5.1 Application in text design

Through the analysis of graphic image processing technology, text design, as the most basic design scheme, has the characteristic of difficult operation. For example, in the photo shop software design, when the designers use the tools in the toolbar, they have to enter the text in the text box after selecting all the fonts, sizes and other colors of the design, and finally show the artistic effect of the text design. Moreover, in the text design, it is used in the graphic image processing and visual communication, which can show the artistic characteristics of the text design, improve the artistic effect of the text design, and realize the artistic heritage value of the text visual communication design through the use of graphic image processing scheme. Moreover, this design concept needs to be applied in visual communication in text design. For example, in the advertising picture of the text outside the reasoning of the computer image outside the use of technology should be combined with the project design of the special disaster now right effect of the text change in the advertising picture of the text processing, through the use of computer image processing technology should be combined with the characteristics of the project design to achieve effective text change, show the advertising effect and advertising atmosphere to create the purpose. “In the process of applying this text design concept, the appeal rate of the creative work can be improved, and the effect of visual art communication will also be enhanced to provide a reference for the communication of advertising information” (Li Shou, 2020).

5.2 Application in packaging design

The application of graphic image processing in the visual communication of packaging can be combined with the characteristics of food, food and other packaging products, innovative pattern design methods, for example, in the packaging design of a certain coffee product, through the use of graphic image processing technology to enrich the product art communication effect, but also to attract more groups to buy the product, and ultimately achieve the purpose of visual communication as well as artistic innovation, to play the value of goods as well. The purpose of visual communication and artistic innovation is to maximize the value of products and the benefits of artistic design. For example, in the design of posters and book covers in packaging design, visual communication is used in printing design, and designers can use computer image design software systems to scientifically process the design content and enhance people’s attraction through the integration of ideas and innovation of cultural content, so as to realize the purpose of artistic communication in packaging design. Another example is that in TV commercials as well as image design, the designers should be interested in using computers to process graphic images, and after image art processing, they can provide people with the artistic embodiment of style differences and show the purpose of the state of art in advertising packaging. “Therefore, in the operation and development of the television industry, it is necessary to use a large number of advertising design solutions in order to improve the design effect of
graphic image processing in visual communication, so that people can perceive the design value of product promotion in a diverse visual communication" (Huang Biyun, 2019).

5.3 The use of advertising interface design

Along with the operation and development of social economy, as people’s living standards gradually improve, electronic products become the focus of people’s daily use, the use of these electronic devices, people can simply browse a variety of interfaces through the operation of electronic devices, usually, in the combination of graphic image processing and visual communication, designers can combine the characteristics of the project design, design a strong ornamental art content, the improve people’s viewing power of advertising information. Therefore, in the current operation and development of the advertising industry, in order to better achieve the effect of creative advertising design, designers should adopt reasonable and exaggerated design methods through the use of graphic image processing technology and visual communication solutions to attract more groups and achieve the purpose of advertising interface design and artistic communication. “Therefore, for advertising designers, in the actual project design, they should pay attention to the importance of advertising design, and integrate design concepts as well as design features through the use of visual communication as well as design means to provide reference for the communication of advertising art” (Huang Biyun, 2019).

6. Conclusion

In conclusion, at this stage, the speed of China’s social development is accelerating, and the level of information technology is also improving, which has been applied to many traditional industries in China. For visual communication design, in the actual implementation of this work, the content involved is more complicated, and it is not easy to finely control the design links. Under the background of the current high-speed development of society, people’s access to information is becoming more and more diversified, but no matter how rich the access, the eye is needed as the first information bearing medium. Therefore, a product attracts people’s attention mainly because it is first “recognized” by the eyes, and the eyes have a memory of it, and the main reason for the generation of this memory is the product’s appearance characteristics and functional characteristics, for many products, its appearance characteristics occupy a very important proportion, almost become the main basis for people to buy goods. For many products, their appearance features occupy a very important proportion, and almost become the main basis for people to buy goods, so we should actively develop and use the graphic image processing technology, and effectively combine it with the current visual communication design, so that the relationship between the two is more harmonious, and play a role in conveying information. The presentation of visual communication effect should be based on advanced technical means to determine the content and direction of the corresponding information transmission, accurate description of product characteristics, through this way to achieve the optimization of the visual communication effect, so that people can observe the product at the same time, in a relatively short period of time to produce a deep memory of it, so as to achieve advertising effectiveness, so that the visual communication achieved by the effect of visual communication is more outstanding. Thus, in the future, the relevant enterprises and research and development departments in China should further increase the research and promotion of computer graphics processing technology, so as to contribute to the overall development of China’s social operation.

References


