

# Analysis based on computer graphic design and visual communication design

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## Abstract

The development and application of computer graphic design and visual communication design greatly changes people's life. Designers can use design tools, which are highly-advanced and professional to create a broader scope of design and design theme works. In our daily life, computer graphics technology is widely applied into various fields, such as the military, medical, communication, art etc. Computer graphics and image technology has been emphasized in the visual field, which improves the overall effect and the level of visual communication design to a large extent. This article mentioned the definition of the technology of computer graphics and the visual communication, then described the significance of realizing the visual communication design elements, and hoped the results will be helpful to relative fields.

*Keywords:* computer graphics, visual communication, the overall effect, the significance

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## 1 Introduction

Since the computer generated, the software technology has gradually penetrated into every corner of people's life with further extension and development of modern technology. From the visual communication way, the whole concept of visual communication design elements appeared for a long time, but the theory of visual communication design elements and computer graphics technology proposed in recent decades. If the technology of computer graphics and visual communication design elements are well-linked, it will be more convenient and easily for the viewer to understand the concept and the intrinsic meaning. Therefore, we can say that the computer graphics technology has important significance for the design of the visual communication elements.

## 2 The definition of computer technology graphics and visual communication design

Technology of computer graphics and visual communication design refers to use a sort of computer technology as a means to do design data processing in its dram, and show the design drawings in the display or in the drawing software. From the perspective of the angle of visual communication design, it refers to the basic elements of text, colour, graphics, layout and other information through the computer technology to create, and we usually call it the computer graphics technology [1]. Visual communication refers to the visual symbols as the channel of information transfer, use visual language as

expression and transmission way, which means people use "view" as a means to communicate with others. Visual communication design aims at processing the design content and let it have the visual function. Visual communication design mostly refers to the graphic design, and printed matter as the media, which include book design, corporate image design, logo design, packaging design, advertising design etc. Visual communication design is mainly aimed at colour, graphics, layout, text and other elements of artistic creation, which plays an extremely important role in people's life. Graphics is a kind of visual symbol, and the intonation is intuitive and conscious. Computer graphics and image processing technology have been fully applied in the visual communication fields, and its prosperous development has brought a breakthrough in the visual communication design field.

The rapid development in computer technology today, which can not only enrich people's cultural and spiritual world with applying the computer graphics and image technology in visual communication design, but also play an important role which should not be ignored in the development of the art design [2, 3].

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### 3 The significance of computer graphics technology to the visual communication design elements

#### 3.1 THE SIGNIFICANCE OF COMPUTER GRAPHICS TO REALIZE THE LAYOUT ELEMENTS

It is of great significance of computer graphics technology in the layout elements of visual communication, and the layout elements includes a wide range of fields, such as advertising design, creative imagery which has a close contact with it. Perfect layout on the advertising and image picture can bring extraordinary creative effects. One of the main branches of the art design is the creative visual design, which has obvious business purpose; but it provides people who appreciate design with a broad design space, consequently, a growing number of designers become interested in designing the computer graphics, and their creativity and innovation make the visual communication more creative and has obvious personal characteristics. It is a particular demanding job in advertising photography and hand-painted for the visual communication arrangement elements. The purpose is to use the visual communication design to make the company's packaging style, the behaviour of enterprise idea, management idea, management characteristics, marketing strategy and guidelines into a complete and unified image, and it hopes to make the product layout satisfactory through computer graphics technology [4]. In addition, the imagination and creativity of computer image design is very rich, and it can make the totally unrelated things united by using the powerful graphics processing software, the image can be totally changed by using a variety of replacement and modification technology. For example, we can achieve the effect which exceed our expectations by designing the layout of fruit juice beverage bottles, and we often see the pattern design character with tick juice fall into the mouth, thus it is not only enhance the realistic visual effect, but also make people feel fresh and lovely. There are a number of such graphic design and bring great economic benefits for manufacturers.

#### 3.2 THE SIGNIFICANCE TO REALIZE COMPUTER GRAPHICS AND IMAGE PROCESSING TECHNOLOGY ON COLOR ELEMENTS

Colour is the first feeling for eyes when receive the visible light, so in visual communication, colour element is one important element among them. Computer can adjust and grasp the colour, brightness and purity, then reproduce the three dimensional effect so as to let people observe a thing more intuitively. Consequently, computer designers can make use of the computer graphics and image technology to transmit the rich and colourful life to the viewers, then viewers can know more about the world by the information created by the computer, and applied this information into all works of life. For example, the packaging design is always the first thing to attract consumer's eyes, so we would see the novel and unique packaging design in our

daily life. The garment packaging, and food packaging are closely related to communication design of computer graphics [5]. The packaging of goods is the means to realize the value and the use value of goods, and whether we see posters, brochures, or the book cover we are reading, these graphic printings have rich visual effect. To arouse people's interest, the first thing to do is to design the novel colour through computer graphics design software. Only by doing this can arouse more interest, and enhance the understanding of the cultural, intellectual and ideological aspects. As long as we set the product different transparency and colour, different visual effects will be created.

#### 3.3 THE SIGNIFICANCE OF REALIZING GRAPHIC ELEMENTS AND TEXT ELEMENTS

The adjustments and division of the graphics and image are two main parts in terms of the significance of computer graphics and image technology. The acquisition images can be adjusted and processed by computer graphics technology in two aspects. One is good for the design need, which can do effects of filters, colour adjustment and image synthesis processing. The second is to draw with the computer drawing technology, for example, a graphic or image can achieve large number of scattered in vertical and horizontal by technical parameter settings, meanwhile, more changes in colour, transparency, shape, and these changes are finished in a few seconds. It is impossible to achieve it in such a short time if hand-painted is used. The graphics and image are clear divided into vector graphics and bitmap by using computer graphics and image technology. The bitmap is bit by bit to draw Icon, but vector record and plot the various elements of the geometric figure painting in the digital form. The former can design the rich colour and brightness of the image, while the latter can show things the original contours and lines. In addition, the computer graphic design can also be applied to character design, and it is easy to operate. In the commonly used software, and in the toolbar, as long as you choose to design "front colour" "typeface" "font size", then input the text, then you can do the art-processing. The text will experience a sort of changes after processed by the computer graphic design technology, and it is not only enhancing the visual effect, but also improve the work demand rate. For instance, a variety of text design is not only enhance the advertising effect but also transmit the happiness atmosphere; therefore, computer graphics design can make any form of words realize its potential image value.

## 4 The field of computer graphic design with visual communication application

### 4.1 TEXT DESIGN

Character design is the most basic application of graphic design, software operation is simple/ Such as Photoshop, as long as one choose to design “typeface” “font size” “font colour”, then select areas on the selected input text box, you can input the text and word [6]. Afterwards, you can do the art processing. When the text encounter image design processed, everything will be changed. It is stressed that the hotkey settings is very skilled in software tools, and some sets of data should be noted. Set the word adjustment ratio of 0, and select the pixels “Ctrl+ Shift+ Q”. When we want to trim the Kerning decrease or increase to 20 -1000 ems, please use “Alt+ /”. However, we should use “Ctrl+ Alt+ /” to trim the kerning decrease or increase to 100-1000 ems. Computer graphics design can let the text or words have a variety of changes, and improve the work demand, and in addition, it can also enhance the communication visual effect. For instance, a variety of text design is not only enhancing the advertising effect but also transmit the happiness atmosphere.

### 4.2 PACKAGING AND ADVERTISING DESIGN

When we walk in the market, a shopping center or a small supermarket, all kinds of packaging of various commodities, and its novel and unique design can often attract the attention of consumers. The packaging of food or clothing cannot exist without the visual communication design of computer graphic image. Packaging is a means to realize the value of the commodity. Whether we are reading the book cover, or see posters, brochures in the street, these graphic paintings have rich visual communication effects. Most of them need computer graphic design to do art processing to let more people interested in it, then achieve a deep understanding of the ideological, cultural and intellectual nature. Different colours and different opacity can convey different visual effect. Creative advertising design and image cannot do without a computer graphic image processing, and it will bring out different creative effect if we do reasonable and exaggerated treatment on the picture. Visual creative design is a branch of the art design, such design usually does not have obvious business purpose, but because it provides a broad space for the general design enthusiasts, so more and more designers began to learn computer image design, creative visual communication and add the individual characteristic and style [7]. Advertising

photography and hand-painted are very strict work for visual communication. It is a means that make enterprise business philosophy, behaviour concept, management characteristics, packaging, marketing style guidelines and strategies reach an overall image, the final product can get a satisfied effect after image design modification. In addition, image innovation is the specialty of computer image design, we can make the objects which have no relevance together through the powerful computer graphic image software, moreover, the replacement technology can make the image totally changed. The design of tick coffee falling into the mouth of the characters that enhances coffee cup visual vivid effect, and make people feel fresh and lovely, so graphic design will bring great advertising benefits and economic benefits to the coffee cup manufacturers.

### 4.3 PAINTING INTERFACE DESIGN

Many illustration design producers often use the pencil to draw a draft, then use the colouring method of graphic design software to draw illustrations, since the software has good function of computer image design and colour painting [8]. In addition, pixel art is very popular in recent years also for designers to use image design works, these works have strong visual impact. The success of iPhone, which is largely attributed to the exquisite interface design, and show the most incisive visual performance, details decide the excellence! The interface of iPhone design is solemn and elegant, and let a person feel it with quality. Computer graphics interface design is no longer an emerging field, which attracts more and more attention, and most designers use the computer graphic software to design the visual communication.

## 5 Conclusions

This research made a brief analysis and research mainly in computer graphics and image processing technology to realize the significance of visual communication design elements and other aspects. The graphic design and visual communication design can be effectively improved with the help of computer image processing software and provide sufficient design content to the designers, and allow designers to use more processing techniques and processing method on the design of the works to adjust or perfect. In addition, the combination of graphic images and visual communication design is able to create a more vibrant, more appealing works of art, and constantly promote people to use modern tools to show their own thinking and innovative ability

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