Visual Design of Web Interface Based on Computer Image Processing Technology

Ping Wang1,*
1School of art design, Shandong Youth university of Political Science, Jinan, Shandong,, 250100, China
*Corresponding author e-mail: sdyuzy@sdyu.edu.cn

Abstract. With the development of science and technology, computer graphics graphics have played a very important role in the design of web interface.it greatly enriches the design of web interface. Computer graphics helps to expand the space of web interface design, it enrich the theme, form and function, and it satisfies the diverse design needs. Combining the relationship between computing graphics and web interface design, this paper discusses the application of computer graphics in web interface design.

Keywords: Computer Image Processing Technology, Web Design

1. Introduction
With the improvement of people's living standards, the Internet has penetrated into every household. At present, the website is the main way for people to obtain information, and the web design determines the quality of the website. Computer image processing technology is a common technology in web design. Its main purpose is to improve the overall artistic sense of the web pages, so that diversified content can be presented to the viewer. If we use computer image processing technology to design web, it can effectively improve the artistic sense of web design. At the same time, it can also make the web page more infectious and the viewers can gain the resonance [1].

2. Basic concepts of computer image processing technology
Computer image processing technology, in simple terms, is that we use computers to process images according to our needs to ensure the web page effect we want. Of course, computer image processing technology involves many fields, and its content is also rich. Such as multimedia, virtualization, three-dimensional simulation, recognition, etc. are its main areas of involvement. The characteristics of computer image processing technology are shown in Figure 1 [2].
3. The importance of images in web design
Image occupies a larger proportion in web design, and it is also one of the most attractive factors for viewers. The function of images in web design can be divided into the following two aspects: First, the function of visual attraction. Compared with text, images are more intuitive to viewers, and can effectively attract viewers' attention and stimulate viewers' interest, thereby increasing the browsing rate of the website. It is precisely because of this that the intuitive function of images can play a finishing touch to the overall web design and improve the artistic sense of the overall web design. A survey report shows that images are an important factor in determining the interest of visitors to the website; secondly, the information guidance function. The fundamental purpose of web page design is to meet the diverse needs of different viewers, so that viewers can quickly find the information they need in the web page [3,4]. The image has a certain information guidance function, which can enable the viewer to quickly find the content they need in a large amount of information, saving a lot of time. At the same time, the simple text can be beautiful through images to improve the attractiveness of the web page, thereby ensuring the number of page views of the website. The specific process of web design is shown in Figure 1:

4. Computer image processing technique

4.1. Image denoising
When the computer system takes the image, some noise may appear, which is mainly caused by the hardware characteristics of the computer. These noises will also have a corresponding impact on the quality of the image, so computer image processing technology can be used for denoising processing to improve the quality of the image [5].

4.2. Image enhancement
Image enhancement refers to the targeted enhancement of a certain fixed area of the image, so as to highlight the core information of the image, and at the same time weaken the influence of non-important information, so as to facilitate the subsequent application of the image in web page design. Image enhancement is a commonly used image processing method in web design, mainly used to change the image quality. This is because when the computer collects images, it will be restricted by
various factors such as environment and resolution, resulting in a weak stereoscopic image, so corresponding enhancement processing is required. Currently, there are many methods of image enhancement, such as edge enhancement, color enhancement, sharpening enhancement and so on. Although image enhancement technology does not increase the amount of information in the image, the prominent key content has important significance for web design.

4.3. **Image compression**

Properly compress the image data to ensure the effectiveness of image transmission, and at the same time avoid possible distortion during image transmission.

5. **The role of images in the web design process**

5.1. **Fully attract the attention of viewers**

In the browsing process of any form of information media, images are more attractive than text. Therefore, in web design, the application of images can help the website's attention and click-through rate to increase. Therefore, in the web design process, the content, size, direction, and color of the image need to be processed. Only in this way can it have a direct impact on the overall impression of the image. Therefore, the application of images can enhance the interestingness of the web page. In real life, most people will choose attractive websites instead of boring text-only websites.

5.2. **Helping viewers to obtain information**

In the process of web browsing, the image can guide the viewer to fully understand the various information contained in the website. The application of images can directly reflect the specific text content related to it. With the help of images, viewers can directly think of the relevant reading content, thereby effectively saving the time for viewers to search for information and effectively understanding the relevant connotation of the content. Therefore, images can make the pages of a website richer and more aesthetically pleasing, and allow viewers to fully appreciate the theories and related design intent of the web page designer, and enable the viewers to obtain effective information [6].

5.3. **Images presented as information content**

In the process of web page design, there are big differences in the purpose and form of applying images. Sometimes the purpose of applying pictures is to highlight the theme of the interface, and sometimes it is to make relevant web content better displayed. In order to make the images fully meet the various requirements of web page design, it is necessary to perform necessary processing on these images to be able to effectively present relevant information. Therefore, although the captured pictures have good intuition and objectivity, the specific size and color may deviate from the actual needs of the web page. Therefore, it is necessary to perform computer software on the obtained pictures first. Processing, and use this to effectively integrate the pictures and related content, so as to ensure the overall page layout and interface beauty [7]. At this stage, there are a lot of computer software that can be used for image processing, so web page designers need to make targeted selection of processing software based on their actual needs. When necessary, it is often necessary to use a mode combined with other types of technologies to achieve good image processing effects. This also requires web designers to have a certain degree of artistic attainment and computer application level in order to make the The connotation and aesthetics of the webpage can fully meet the actual needs of viewers.

6. **Specific application of computer image processing technology in web page technology**

6.1. **Apply multiple image forms in web design**

In the process of web page design, with the help of the application of diversified image forms, it can fully demonstrate the artistic sense of the entire web page. In the process of shooting for the actual situation, the pictures taken by it also have a very strong objectivity and intuitiveness, so that readers
can experience the relevant picture content immersively. At this stage, major mainstream media are in the process of web design, after processing the photos taken by computer image processing technology, it can make the text and pictures better integrate, and bring readers a visual enjoyment.

6.2. Effectively deal with the positioning of pictures on web pages
There are also big differences in the role of different images in web pages, and the size, shape and location of the images will directly affect the viewers' feelings. In the process of web page design, the application of pictures can make the design style of the web page more colorful, and can intuitively display some web page information to the viewers. In addition to serving as a background in the web design process, images can also play a certain role in navigation [8]. For example, in the process of using a picture as a background, in addition to effectively processing the content that the picture wants to express, it can also enrich the content of the entire web page through relevant text and other forms. Based on the actual demands of users, the aesthetic value of the web page can be further improved.

6.3. Images presented as information content
In the process of web page design, there are big differences in the purpose and form of applying images. Sometimes the purpose of applying pictures is to highlight the theme of the interface, and sometimes it is to make relevant web content better displayed. In order to make images fully meet the various needs of web design, it is necessary to process these images to effectively present relevant information. Therefore, although the captured pictures have good intuition and objectivity, the specific size and color may deviate from the actual needs of the web page. Therefore, it is necessary to perform computer software on the obtained pictures first. Processing, and use this to effectively integrate the pictures and related content, so as to ensure the overall page layout and interface beauty. At this stage, there are a lot of computer software that can be used for image processing, so web page designers need to make targeted selection of processing software based on their actual needs. When necessary, it is often necessary to use a mode combined with other types of technologies to achieve good image processing effects. This also requires web designers to have a certain level of artistic attainment and computer application. So that the connotation and aesthetics of the webpage can fully meet the actual needs of viewers." [9].

7. The use of images in web pages
When we design the web page composition, the color matching of the web page we design should also be reasonable. Because the subjective impression of the viewer will give us the emotional color of the web page, so the different color matching of the web page is very important. When we match colors, we must match them according to their actual needs and the layout of the web page space. Usually, a good web page has three standard colors, so that the external image and internal preservation of the web page we design can be guaranteed [10]. Of course we want to achieve this, scientific and reasonable color coordination and color uniformity. It is essential, and we cannot ignore the embellishment and decoration of other colors.

8. Conclusion
In the design of web pages, We should apply computer image processing technology more skilled, this not only makes the design more diversified, but also improves the speed and efficiency of web browsing. We can use this technology to adjust the format and clarity of the image. In addition, it can also improve the aesthetics and artistic sense of web design, thereby increasing the browsing rate of the website.

References
[1] Guan Yi Bo. Application of computer image processing technology in web design [J]. Wireless Interconnection Technology, 2019: 149-150.
[2] Lei Meng. How to use computer image processing technology in web design [J]. Information
and Computers (Theoretical Edition), 2016: 162-163.
[3] Liu Shuhong. Application of computer image processing technology in web design [J]. Computer Products and Circulation, 2017: 14.
[4] TIAN J. Application of computer image processing technology in web design [J]. The Digital World, 2018.
[5] Xiang Shang. Application of computer image processing technology in web design [C], 2019.
[6] Xin Ling. How to use computer image processing technology in web design [J]. Geek, 2018: 26.
[7] Zhang Hongjun. Application of computer image processing technology in web design [J]. Electronic Technology and Software Engineering, 2017: 69-69.
[8] Zhang Jie. Discussion on the Application of Computer Image Processing Technology in Web Design [J]. Digital World, 2019: 97-98.
[9] Zhang Wei. Application of computer image processing technology in web design [J]. Information Systems Engineering, 2017: 16-16, 1 page.
[10] Zhou Xiaoshu. Application of image processing technology in computer web design [J]. Computer Products and Circulation, 2019: 252.