

Research on the processing of graphic files in e-books

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Abstract

This paper introduces commonly used graphic image file formats such as BMP, ITF, DXF, WMF, EPS, JPG, etc., combined with the features of Founder Book 9.x, CC (TLAETX Chinese) intelligent technology typesetting system and WORD200, WPS200, and books. The method of obtaining various forms of graphic image files in electronic documents mainly introduces the acquisition and optimization of graphic image files in ITF and EPS format and the method of image and text mixing in different typesetting systems, and selects relatively optimized for different types of graphic image files. Processing strategy.

Keywords.

Books, electronic documents, graphic files, processing strategies.

1. Introduction to common graphic image files

The editing and publishing technology of books has already entered the era of optoelectronics. With the addition of WTO in China, the pace of internationalization of books has accelerated, and the technical means of book editing and publishing has been continuously improved.

At present, many journal editorial departments use computers to typeset themselves, breaking the relatively independent mode of editing, scheduling, and schooling in the past, forming a new mode of editing, scheduling, and teaching. This model has a large proportion in the book editing department. This model is constantly developing and expanding for the characteristics of strong book, limited readership and small circulation. At present, Chinese books mainly use system layout such as Founder, WORD2000, wsP2000 and CCT (LATEX Hanhua). Despite the powerful functions of WORD and WPS200, it has become the most commonly used word processing system in various offices. However, these word processing software can not meet the professional standards of publishing and printing, so it is rarely used in publishing and printing. The CCT intelligent technology typesetting system is properly configured on the basis of EMTEX, adding commands and environments related to processing Chinese, and providing a variety of Chinese fonts. This system allows a primary user to pass - some simple Commands can be used to discharge professional-grade, internationally compliant layouts. Because LATEX can discharge very complicated mathematical formulas and tables, and the normative design of the layout has reached an exceptionally beautiful level, it has become an internationally recognized standard typesetting software - and thus - some scientific paper magazines and publishers use. LATEX is a kind of free software that supports DOS, Windows, Linux and other platforms. The Chinese TEX package software can be obtained from <http://www.ctxe.or>, and there are many users among researchers. However, the most used in the typesetting process is the Founder Book Edition system. This system was developed earlier. Founder Book 6.x and 7.x are based on DOS. Currently, Founder Book 9.x is in Simplified Chinese. 32-bit batch book publishing software running on Chinese windows95/98/NT/2000 system, which inherits the layout mode and layout process of 6.light 7.x, guarantees compatibility with low version, and on this basis A lot of improvements and functional expansions have been made. Book version 9.x gives full play to Chinese Window. The characteristics of the platform have increased the functions of the series to meet the requirements of the times and users. It has strong stability, openness and compatibility. It is the preferred typesetting software for book production, and has won the favor of customers with its unique advantages.

In files with both text and graphics, the graphics are generally stored in ITF format, and the text is generally stored in text format. The coexistence of graphics and text depends on graphics and text mixing software, such as Quark X-Press, PageMaker and so on. Usually use graphic and text mixing software to typeset, arrange and output into PS file format, and then convert the PS file format into dot matrix format and output it into film through RIP. The graphic format of this is straight to the ITF format. The graphic file formats accepted by all these typesetting software are ITF and EPs.

Image data is generally stored in a computer in two ways, a bit map BMP (Bitmap), that is, a bitmap mode; the other is a vector (Vector) process, also known as a vector mode. The bit map is to store the value of each point of the image in a matrix of bytes. When the image is monochrome, 8 points of image data can be stored per byte; 16-color images are stored with -bytes every two points; 256-color images are stored with -bytes per point. This storage mode is more suitable for images with complex content and real photos. The disadvantage is that the file size is large. Vector graphics files are mathematically described - a graphical image of geometric elements. The feature of the vector graphics file is that the file size is small and can be arbitrarily scaled without changing the image quality, which is suitable for describing graphics.

1.1 Bmp graphic image file format introduction

BMP is the standard image file format in Window and has become the de facto industry standard in PC/Windows systems, both compressed and uncompressed. It describes bitmaps in a device-independent way, stores image data in an uncompressed format, decodes fast, and supports multiple image storage. The graphics image software running in the Windows environment supports the BMP image format.

1.2 Itf graphic image file format introduction

TIF (Tagged Image File Format) is a graphics file format developed by Aldus for Macintosh machines. It was first popularized on the Macintosh, and is now supported by mainstream image applications on Windows. It is currently the most widely used bitmap format on Macintosh and PC. It is very convenient to transplant ITF graphics images on these two hardware platforms, and most scanners can also output image files in ITF format. The format supports up to 16M colors, which are characterized by high quality of stored images, but also occupy a very large storage space, which is 3 times that of the corresponding GIF image and 10 times that of the PJG image. More, it is conducive to the reproduction of the original tone and color. The format is compressed and uncompressed. The compressed form uses the LZW lossless compression scheme, but the compression ratio is very small, only 2:1. The ITF format has been developed to version 6.0 and is copyrighted jointly by As and Micorsoftl, but its format is free to use. ITF files are used to store - colorful and well-conceived texture files. It combines 3DS, Macintosh, and Photoshop, and ITF files are a good cross-platform format.

1.3 Eps graphic image file format introduction

EPS is an ASCII graphics file format described in the posterity language. It can print high-quality graphic images on postscript graphics printers, and can represent 32-bit graphics images. The format is divided into Photoshop EPS format and standard EPS format, and the standard EPS format can be divided into graphic format and image format. The EPS format contains Photoshop's complete definition of the image. Similar to other programming languages, it is called page description language. Its instructions are stored in ASCII format for printers and other output devices that can be interpreted. It is worth noting that only EPS files in image format can be opened in Photoshop. The EPS format consists of two parts: the first part is the low-resolution image displayed on the screen, which is convenient for previewing and positioning during image processing; the second part contains separate data of each color separation. The EPS file is stored in CMYK format. The file contains separate data of four colors of CMYK, which can directly output four-color mesh. However, in addition to being more reliable on Postscript printers, the EPS format has many drawbacks: First, the EPS format stores image efficiency is extremely low; secondly, the EPS format compression scheme is also poor, and the same image is compressed by the ITF LZW. After that, it is 3 to 4 times smaller than the EPS image.

1.4 Introduction to other graphic image file formats

DXF is a graphic file format in Auto CAD. It stores graphics in ASCII format and is very accurate in representing the size of graphics. It can be edited by large software such as Coer1Draw and 3DS.WMF (Windows Metafile Format) is a common metafile format in Windows. It has the characteristics of short file and pattern modeling. The whole graphic is often composed of individual components, but the graphics are often rough. Editing can only be called in .The JPC image format is currently an image storage format that is widely used.The compression of digital image files is divided into lossy compression and lossless compression.PJG is lossy compression with a compression ratio between 2:1 and 40:1.The larger the compression ratio, the smaller the specified image file can be compressed, but the more detail in the image will be lost.

2. Common graphic image file acquisition methods

At present, most of the documents received by the editorial department are arranged by word processing software such as WORD2000 or wPs2000.These electronic documents usually have to be re-plated after the rearrangement of the Founder Book System, CCT system, etc.The Founder Book version 9.x makes good use of these electronic documents.For the Founder Book 6.x and 7.x systems, you should save the Word or W document as a plain text file, and only use the text part of these documents. For the CCT system, you can use the plugin WORDZTEX to convert the WORD document into a TEX document. .The WORDZTEX plugin is available for download from the stay.A lot of genres have been formed for the processing and utilization of graphic images in electronic documents.

Founder Book 9.x has been enhanced in the picture insertion function. Currently, it can support seven image file formats of JPG, GIF, BMP, TIF, EPS, GRH and PIC, but the best for image and text mixing is ITF and EPS formats.For EPS files, use Ps to annotate the format: !PS<filename>仁<picture place size>][;<picture actual size>"<above empty space>"<<lower space>][<left space>][<Right space>] Ren <starting point>][<排法>"[,DY]仁#[;,<rotation degree>" For the ITF file, the TP annotation format is used to indicate the insertion type - the appropriate name is *. The picture of TIF is high.If the illustration is typeset with !PSI, the length and width will be exactly as specified in the order.If the size of the command is different from the original image, the image will be deformed by changing the aspect ratio after output.Use ITPI to annotate the typesetting picture, following the principle of "larger limit". If the length or width is the same as the size specified in the order, the illustration will be output according to this size, regardless of whether the other size meets the requirements. The length to width ratio does not change.In WORD2000 or WPS2000, you can insert various types of pictures at will..

Yang Qing proposed that when using Photoshop to draw book illustrations, the value of the gradation level is set to 170-210, and the characters played are clear and smooth, and there is no such thing as "lost". Yu Min, Cai Wen, and Wu Xiaoyong proposed two ways to use the illustrations in Word files. Paste the illustrations in the Word file into IDRAW. If you can use the output function, the output will be *.itf file, then Photoshop^[1]If you can't use the output function, copy the illustration to Photoshop^[1] by screen copying. It is necessary to calculate the image file with predetermined precision through detailed calculation. The method is cumbersome.Wang Huiping and Zhang Kaiying simplified this method on the basis of the literature. Firstly, the position and size of the illustration were set in Word by using the function of "set object format", thus generating a picture with high precision without any image noise.Wang Xiaowei, Yang Bo, Pan Qishu proposed to paste the illustrations in the word file into a newly opened Founder Feiteng file, and then use the "partial order" command to directly generate the contents of the EPS format, but the illustrations The text and symbol processing on it is also cumbersome.Chen Zhuang, Wang Shengliu, and Shi Rong introduced some techniques for drawing book illustrations with Auto CAD. AutoCAD's drawing functions are powerful, flexible, and accurate.However, drawing with AutoCAD is very professional, and it is not easy to master the various operations.AutoCAD also has shortcomings in text annotation, making it

difficult to label special characters, formulas, and so on. Lan Junsi, Liu Bin, Ye Guangxiong, Tang Qingbu did not use the first party software to modify and use in Word. AutoCAD, and other software draw graphics after inserting, then use a virtual printer to print a PDF file, and then use cAorhat4.0 to crop the generated PDF file and export it as an EPS file. I have introduced the use of drawing tools in FLASH to draw a line drawing that can be used in the Founder book system. FL is a graphic system based on vector format. The drawing method is very simple. It can be easily drawn and simulated for general flow charts and graphs. It is also better for graphics with MOD files after drawing with AutoCAD, Visio and software. Use it, paste these types of graphics into FLASH, then break up and re-edit. It is also very convenient to mark texts and formulas in FLASH. The FLASH file can export graphic files in EPS format without using third-party software, or can be exported to graphic files in ITF format. The size of the shape is difficult to control, and complicated conversion work is required. The operation of AutoCAD is complicated and has high requirements for the configuration of the computer. However, journals related to mechanical manufacturing and engineering design can adopt this mode because they are collected in these journals. Most of the illustrations in the electronic files are drawn by AutoCAD; it is a kind of compromise mode, which is easy to learn by using Flash drawing and tracing methods. Flash software takes up very little space, about 50M, the generated files are very small, usually only a few tens of K, and Flash can make good use of electronic illustrations in WORD. This work will be described in another article. Although there are excellent graphics export functions, its text annotation function is flawed, especially the formula and superscript. So the pattern is the first choice for tech publishers to handle graphics strategies.

3. Graphics image file processing strategy

With the current popular typesetting software and word processing software, graphic image files in itf and eps format are still the preferred format for illustration. Therefore, research should focus on how to generate itf and eps files suitable for typesetting, and how to convert illustrations in electronic documents into itf and eps files. In the processing strategy of graphic image files, it can be divided into direct conversion method and indirect conversion method.

3.1 Direct conversion method

Commonly used graphic image processing software, such as Photoshop, Flash, AutoCAD, Visio, 1, etc. can directly generate graphic image files in ITF or EPS format. If the author is able to provide the graphics files generated by these software, the files in ITF or EPS format can be generated by exporting or saving in the file menu of the corresponding software. It can be saved as an ITF file in AutoCAD; it can be exported as an ITF and EPS file in Flash. However, the resolution of some software-generated ITF and EPS files is not satisfactory, but this method can easily obtain graphic files that can be accepted by the typesetting software, thereby making full use of electronic document resources, reducing the workload of book typesetting and shortening. The publishing cycle saves on publishing costs.

3.2 Indirect Conversion Method

Because the direct conversion method sometimes fails to produce satisfactory results, we try to use indirect conversion to optimize graphics, that is, to introduce third-party graphics software. Through practice, we found that different versions of (C)er1Dawr have graphics export functions that other graphics software can't match. At present, the configuration of computers is relatively high, and the processing speed and processing efficiency of graphics by indirect conversion method are not too high. The big impact. Among these modes, the preferred one is Flash+coer1Draw mode. After pasting the image in WORD, the output resolution of the graphic and

4. Summary

The development of computer technology has effectively promoted the modernization of book editing techniques. The cumbersome editing and publishing process has become simple and clear, which has reduced the workload of editors and publishers, thus forming a three-body editing and publishing

mode of editing, scheduling and teaching. In this mode, editors must be able to make full use of the graphic information in electronic manuscripts, so as to fundamentally improve work efficiency, shorten the publishing cycle of books, and report the latest scientific research results in a timely and high-quality manner. The use of graphic image files in electronic manuscripts is difficult. There are many formats for graphic image files, but there are several file formats that can be accepted by the typesetting system. It can also generate graphic image files in itf or eps format. The graphic image files of these two formats are acceptable for the current typesetting system.

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