Making Digital Facsimiles of Documents
Part 5: Image File Formats

There are many different formats for image files [1]. Some formats are designed for specific computer platforms, such as PICT for the Macintosh and BMP for Windows. Other formats are designed to be portable across a wide range of platforms. GIF and TIFF are examples. Others, such as PNG, are designed for the Web. Some formats are native to specific applications. For example, Photoshop® has its own format, which is not recognized by most other computer programs.

Most image-manipulation programs offer a choice of file formats for saving images produced by scans.

For the purpose of making digital facsimiles, the best format is TIFF [2]. TIFF is supported by almost all image-manipulation programs and page layout programs.

Some other formats can be used, although it may be necessary to convert them to TIFF before placing them in a page-layout document.

There are two image file formats that should not be used: GIF and JPEG.

GIF does not store resolution information. Instead, all images are assumed to have a resolution of 72 ppi. If a scan is done at 400 ppi and saved as a GIF file, when that file is placed in a page-layout document, its dimensions will be multiplied by 400/72 — and be more than 5.5 times what they should be. GIF also limits the number of different colors in a file to 256. This may be a problem for some color images.

JPEG uses a lossy compression algorithm to make very compact files. Lossy compression discards information and may degrade image quality. This is inappropriate for making digital facsimiles.

File Compression

TIFF files can be saved compressed or uncompressed. TIFF compression makes files smaller, and it is lossless and there is no degradation of image quality.

Choosing to compress or not compress TIFF files is an operational matter. PDF does its own compression, and it makes no difference whether the TIFF files used are compressed or not.

Compression saves disk space at the expense of processing time. On a fast computer, however, the amount of time involved in handling compressed TIFF files may not be noticeable. On the other hand, most modern fast computers also have large amounts of hard disk space, so saving space may not be an important consideration either.

Compression becomes important when image files are transferred from one computer to another or are archived. There are, however, archiving programs, such as Zip [3], that not only compress files but also allow many files to be combined into a single file. This can be a considerable help in bookkeeping.

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References

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3. *What is a Zip File, Anyhow?*: http://www.winzip.com/aboutzip.htm

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