

Vector vs. Raster Images

Word processors and spreadsheet or presentation applications, although suitable for creating files for office or Internet use, are not recommended for creating digital art for print. Microsoft Office applications are included in this group. In some cases, however, such files may be converted so as to enable use.

Here are 2 examples of an image when magnified or scaled up. You will notice the difference in clarity. The mascot below was designed by Logo Design Works for a client.

Vector Graphics



Vector Graphics typically are generated using drawing or illustration programs (e.g., Adobe Illustrator) and are composed of mathematically-defined geometric shapes—lines, objects and fills. Since vectors entail both magnitude and direction, vector elements thus are comprised of line segments whose length represents magnitude and whose orientation in space represents direction.

Vector graphics usually are easily modified within the creating application and generally are not affected detrimentally by scaling (enlarging or reducing their size). Because vector elements are mathematically-defined, scaling simply requires modification of their mathematical locations. However, vector files do not support photographic imagery well and often can be problematic for cross-platform exchange. Vector graphics typically are saved as EPS format.

Raster Graphics



Raster Images are produced by digital image capture devices: digital scanners or digital cameras, or by pixel editing programs (e.g., Adobe Photoshop). Raster images are composed of a matrix (grid) or bitmap of digital picture elements (pixels). Pixels are squares or rectangles described as black, white, gray or color. Raster images typically are saved as TIFF format, but can be saved as EPS as well. Whereas conversion from vector to raster is easily accomplished, raster conversion to vector is much more difficult (and often is not possible). Raster images typically are easily shared across various platforms, but can be more difficult than vector graphics to modify. As well, raster graphics are impacted by scaling.

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