

## **VECTOR-BASED SOFTWARE, RASTER-BASED SOFTWARE, PAGE LAYOUT SOFTWARE**

**The vector drawing software,** Adobe Illustrator, is object-oriented. This means that the computer keeps track of the mathematical formula needed to establish each line (or slope) on the screen (using the same principles as high school algebra). What we call an object drawn in Illustrator is really made up of a series of vectors, which are coordinates that establish a point (something like a dot-to-dot drawing). The computer recognizes connected vectors as an object. When drawn from point to point Illustrator recognizes a path. Illustrator recognizes open paths and closed paths (closed paths can contain a fill element). With Illustrator, you can make shapes, place them onto a page, move them around and stack them on the page. You can enlarge them and/or reduce them without sacrificing image quality. Another vector drawing application with which you may be familiar is Macromedia FreeHand.

**The raster-based (or image processing) software,** Adobe Photoshop, is used to create 'painterly' images, or to adjust or manipulate graphic images (photographs, for example) that have been scanned into the computer. Photoshop is a bit-mapped application. This means that the computer keeps track of the image based on the color of each dot on the screen (the dots are called pixels, and there are 72 pixels to an inch). You can change the color of each dot independently (think of Seurat's Pointillism). Raster-based images cannot be enlarged without sacrificing image quality.

**The page layout software,** QuarkXPress is used primarily to organize visual elements (in a very precise manner) upon a page. Page layout software is used in assembling text and graphics—including placed images that were adjusted or produced in raster and/or vector software applications (often referred to as 'supporting graphics')—onto a page. There are certain components of page layout software that deal specifically with the graphic arts industry/the printing industry. Most often, a document produced with page layout software is designed to be output in its final form by a printing press. Other page layout application software with which you may be familiar are Adobe's InDesign and PageMaker.

**Proofing and Distribution software** allows the user to produce documents in raster, vector and/or page layout software applications and save them in Portable Document Format, known as PDF. Adobe Acrobat software produces PDF files. It is designed to work across platforms, meaning that you may create your document on a Macintosh or a PC computer and open it on any other Mac or PC regardless of whether the host computer has the software, supporting graphic files or fonts that were used to create the original document. To read a PDF file, the host computer must simply have Acrobat Reader installed—it is available free as an internet download. Acrobat can make high-resolution PDF files that can be used to create high-quality printed documents. Alternately, Acrobats can produce compressed PDF files at low resolutions to permit ease of electronic distribution (i.e. for proofing purposes or on-screen displays).