Lecture4

Text

What is Text?

Text is the graphic representation of speech. Unlike speech, however, text is silent, easily stored, and easily manipulated. Text in multimedia presentations makes it possible to convey large amounts of information using very little storage space.

Computers customarily represent text using the ASCII (American Standard Code for Information Interchange) system. The ASCII system assigns a number for each of the characters found on a typical typewriter. Each character is represented as a binary number which can be understood by the computer. On the internet ASCII can be transmitted from one computer to another over telephone lines. Non-text files (like graphics) can also be encoded as ASCII files for transmission. Once received, the ASCII file can be translated by decoding software back into its original format.

Fonts

The graphic representation of speech can take many forms. These forms are referred to as fonts or typefaces. Fonts can be characterized by their proportionality and their serif characteristics.

Non-proportional fonts, also known as monospaced fonts, assign exactly the same amount of horizontal space to each character. Monospaced fonts are ideal for creating tables of information where columns of characters must be aligned. Text created with non-proportional fonts often look as though they were

produced on a typewriter. Two commonly-used non-proportional fonts are Courier and Monaco on the Macintosh and Courier New and FixedSys on Windows.

Proportional fonts vary the spacing between characters according to the width required by each letter. For example, an "l" requires less horizontal space than a "d." Words created with proportional fonts look more like they were typeset by a professional typographer. Two commonly-used proportional fonts are Times and Helvetica on the Macintosh and Times New Roman and Arial on Windows. This article is written using proportional fonts.

Serif fonts are designed with small ticks at the bottom of each character. These ticks aid the reader in following the text. Serif fonts are generally used for text in the body of an article because they are easier to read than Sans Serif fonts. The body text in this article is written using a serif font. Two commonly-used serif fonts are Times and Courier on the Macintosh and Times New Roman and Courier New on Windows. The body text in this article uses a serif font that is proportional.

Sans Serif fonts are designed without small ticks at the bottom of each character. Sans Serif fonts are generally used for headers within an article because they create an attractive contrast with the Serif fonts used in the body text. The section headers in this article are written using a sans serif font. Two commonly-used sans serif

fonts are Helvetica and Monaco on the Macintosh and Arial and FixedSys on Windows. The headings in this article use a sans serif font that is proportional.

Font Standards

There are basically two font standards of interest today. The first is called Postscript. Postscript fonts are designed to produce exceptionally good looking type when printed on a high-resolution printer. To use a Postscript font, a set of files must be installed on the host computer. These files include a printer font that is downloaded to the printer when a page containing the font is printed, and a set of screen fonts which represent the font on screen at various point sizes. If the user chooses to view the font at a size not provided for by the font file, the computer interpolates and produces an unattractive font on screen. The printed output, however, will always appear attractive. Postscript is a complete page description language that encompasses all elements of a printed page including high-resolution graphics. Postscript was created by Adobe in the mid 1980s and, combined with the introduction of the Macintosh and the Apple LaserWriter printer, created an industry called desktop publishing.

The second standard is called TrueType. TrueType fonts use a variant of postscript technology. To use a TrueType font only one file must be installed on the host computer. This file is used by the printer and by the screen to produce attractive text at any point size. TrueType technology, however, is limited to text. For high-resolution graphics, Postscript is the standard to use. TrueType was

created in the early 1990s by Microsoft in cooperation with Apple Computer and others.

Both Macintosh and Windows laptop and desktop computers commonly use TrueType fonts. Postscript technology, however, is much more commonly available on the Macintosh platform because of its dominance in the desktop publishing and multimedia production industries.

Styles and Sizes

Styles such as Bold, Underlined, and Italics can be applied to most fonts.

The size of the font also can be altered through software commands.

File Formats

Text created on a computer is stored as a file on a hard disk or floppy disk. The ASCII file format, also known as plain text, is universally understood by all computer systems. A more complex standard called Rich Text Format (RTF) was developed by Microsoft to allow for the exchange of word processing files that include formatting such as text alignment, font styles, and font sizes. Although RTF is proprietary technology, it has become a defacto standard for exchanging formatted text documents. A quickly-emerging replacement for RTF, however, is HTML (HyperText Markup Language) which is used for creating Web pages. HTML files are really just ASCII text files. The content of HTML files, however, contains a standard set of markings to indicate text styles, alignments, hypertext links, graphics, and other

formatting essentials. HTML files can be read by Web browser software like Netscape Navigator. Many word processors today are also equipped to interpret HTML. Other file formats such as the native file formats used by Microsoft Word, WordPerfect, and AppleWorks are proprietary and not universally understood. When preparing electronic documents for a wide audience, therefore, it is best to use ASCII, RTF, or HTML.

Font size:

The **font size** or **text size** is the overall size (generally height) of a font shown on a screen or printed on a page. A font is typically measured in a **point** (**pt**) size, which is the vertical measurement of the lettering. There are approximately 72 (72.272) points in one inch or 2.54 cm.

Example:

What is the real size of text font for which is equal to 12 points on your computer?

Solution:

Point =1/72 inch

The real font size = 12 * 1/72 = 1/6 inch.