

Definitions

Introduction to computer software
9 March 1999

| | |
|----------------------------------|--|
| 8.3 | Refers to filenames that can only be 8 characters in length but have a 3-character suffix (file extension). DOS only supported filenames with this syntax. Linux, Unix, and Windows 95/98/NT, however, support longer filenames (with about 255 characters). Mac OS supports filenames with about 31 characters. |
| application program | A.k.a. “application.” A.k.a. “program.” Software that has been designed to perform a specific task that is helpful to a user. (Such tasks include word processing, graphics design, desktop publishing, <i>etc.</i>) To use an application program, you “run,” “launch,” “load,” or “execute” it—all of these terms are synonymous—by typing its name at a command prompt or by double-clicking an icon. |
| character-based interface | A.k.a. “command-line interface.” A not-so-easy-to-use interface to a computer that requires that a user perform tasks by typing commands at a prompt. A character-based interface can only display a fixed set of characters—the letters a through z and A through Z, the numbers 0 through 9, and some punctuation symbols. Recall that this fixed set of characters is called ASCII and comprises 256 or fewer characters. Examples of operating systems with character-based interfaces are DOS, Linux, and Unix. |
| defragmenting | A.k.a. “defragging.” Moving data around on a disk, so that all bits belonging to a file are located in the same geographic locale on a platter. Special programs (like Speed Disk, a program that comes with Norton Utilities) perform this defragmenting; you can’t do it manually. Defragmenting a disk improves that disk’s performance, since files can be opened much more quickly if all of their bits are located close together. |
| driver | A.k.a. “device driver.” A piece of software that allows an operating system to “talk” with a piece of hardware. Before you can use a new printer, for instance, you must install a driver for that printer, so that your computer knows how to send printouts to it. That’s why most hardware devices—printers, CD-ROM drives, sound cards, <i>etc.</i> —come with one or more floppies or CD-ROMs. Those floppies or CD-ROMs contain the driver (and sometimes other software) for the new hardware device. |
| file extension | A suffix appended (along with a period) to the end of a file’s name explaining what kind of file that file is. For instance, .doc, .txt, .bmp, .gif, and .jpg are all common file extensions. Operating systems like DOS and Windows use file extensions to determine what program should be used to open a file. Macs don’t use file extensions; they instead store such information <i>inside of</i> files (in what’s called “resource fork”). |
| freeware | Software that you can obtain (<i>e.g.</i> , via the Web) for free and use at no charge for as long as you’d like. |

| | |
|-------------------------|---|
| GUI | <i>Graphical User Interface.</i> An easy-to-use interface to a computer that allows a user to perform tasks with a mouse or other pointing device as well as with a keyboard. GUIs have windows, icons, folders, menus, and more. Each window in a GUI can contain a different application program or document. You operate a GUI by pointing and clicking on a digital “desktop.” You execute commands by selecting options from menus, rather than by typing commands at prompts. GUIs support WYSIWYG; that is, a document in a GUI’s window appears on the screen much like it will when printed. Finally, a GUI’s set of commands is consistent from program to program; that is, the way you print a file is always the same whether you’re using Adobe Photoshop, Microsoft Word, Netscape Navigator, or some other program. GUIs, then, make it easier to learn new programs because many of your existing skills are transferable. |
| installer | A program that installs (places) software on your computer. |
| multiprocessing | Describes an operating system that can utilize more than one CPU to execute instructions. For example, Windows NT is a multiprocessing OS; hence, it is often installed on computers with more than one CPU. |
| multitasking | Refers to a user’s performing multiple tasks at the same time with different programs. For example, if you are writing an e-mail with Pine while downloading something with Netscape, you are multitasking. Linux, Mac OS, Unix, and Windows 3.x/95/98/NT are multitasking OSes. DOS is not, for you can only run one DOS program at once. |
| multithreading | Describes an operating system that allows individual <i>programs</i> to do more than one task at once. For instance, Windows 95 and 98 are multithreaded; hence, programs like Microsoft Word can print a document <i>while</i> you are typing another, rather than forcing you to wait for the printing to complete. |
| multiuser | Describes an operating system that allows multiple users to use a computer at once. For example, Unix is a multiuser operating system. (Think of how many students have been using fas.harvard.edu during our some of our sections!) |
| operating system | A.k.a. “system software.” Software that makes your computer work. Responsible for the running of your computer, including the control and utilization of hardware. Coordinates activity between you and the computer. Through it, you can tell the computer to do such things as start your word processing program, save a document, and print a file. Examples of operating systems include BeOS, DOS, Linux, Mac OS, OS/2, Windows 3.x, Windows 95, Windows 98, Windows NT Workstation, Windows NT Server, Unix, and VMS. Windows, in its many flavors, is by far the most popular operating system and comes installed on 90% of new computers. |

| | |
|-------------------------------|--|
| path | The exact location of a file on a hard drive, floppy, or some other secondary storage device. For instance, if my resume is stored on my PC in a folder called <code>Work</code> which is stored in a folder called <code>Documents</code> which is stored on my main hard drive (my <code>C:</code> drive), then the path to my resume is <code>C:\Documents\Work\resume.doc</code> . (The slash marks used in this path are called “back-slashes.”) DOS and Windows use such paths; Linux and Unix use similarly formatted paths, but use forward-slashes to separate folder and file names; Macs use colons to separate folder and file names (try renaming a file or folder on a Mac to something with a colon in it sometime—the OS won’t let you, because a colon in a filename would mess up that file’s path). Knowing the path to a file is useful when accessing the file via a character-based interface; in GUIs, though, you can simply point and click your way through folders to find your file. |
| public-domain software | Software that you can obtain (<i>e.g.</i> , via the Web) for free, use at no charge for as long as you’d like, <i>and</i> modify if you’d like (if you’re a programmer). In short, there are no restrictions on what you can do with public-domain software. For instance, BetterTelnet (the program used by sections in the Mac Classroom to connect to <code>fas.harvard.edu</code>) is a modified version of a public-domain program called NCSA Telnet. That is, NCSA decided to place the source code for their telnet program into the public domain, so that others could view and modify the code, to write new and improved telnet programs. |
| shareware | Software that you can obtain (<i>e.g.</i> , via the Web) for free and use, often, for a fixed trial period before you are required to pay a small registration fee to the software’s author. (Shareware programs tend to expire after that fixed trial period if you don’t pay the registration fee; <i>i.e.</i> , the programs stop working.) Sometimes, shareware software is only partly functional; that is, its author does not let you use the software’s full functionality until you pay a fee and obtain a registration code for the software, which “unlocks” its full functionality. |
| software | Basically, series of instructions that tell a computer to do something or how to do something. In contrast with hardware, software is the part of a computer that you can’t physically kick when you’re upset with the computer. Software exists in the form of bits inside of your computer. Two types of software are application programs and operating systems. |
| uninstaller | A program that uninstalls (removes) software from your computer. |
| WYSIWYG | <i>What You See Is What You Get</i> . Describes a program that displays documents on your screen (almost) exactly as they will appear on a printout. For example, Microsoft Word is a WYSIWYG word processor; you see font faces, sizes, and styles on the screen almost exactly as they will appear on a printout. |