No. C-88-20149-VRW
United States District Court, N.D. California

Apple Computer, Inc. v. Microsoft Corp.

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ORDER

WALKER, District Judge.

This order deals with a series of motions concerning ownership and protectibility against unauthorized copying of the visual displays associated with the Macintosh computer. Previous orders have described the earlier proceedings which led to the present motions. A brief summary of those proceedings will suffice here.

I.

Apple Computer, Inc. ("Apple") filed this copyright infringement action on March 17, 1988, against Microsoft Corporation ("Microsoft") and Hewlett-Packard Company ("HP"), claiming that Microsoft's Windows 2.03 computer software and HP's NewWave computer software infringed seven copyrights held by Apple. The copyrights at issue protect the audiovisual works that Apple claims for the graphical user interface of its Macintosh computer.[1]

[1] The Apple copyrights are: Lisa, reg. no. PA 336 104; Macintosh Finder, reg. no. PA 336 105; LisaDraw, reg. no. PA 336 103; MacDraw, reg. no. PA 336 102; MacPaint, reg. no. PA 336 107; LisaProject, reg. no. PA 336 106; MacProject, reg. no. 336 101.

The litigation arose out of a dispute whether an earlier version of Microsoft's software, Windows 1.0, infringed Apple copyrights. Microsoft and Apple sought to put that dispute to rest by an agreement on November 22, 1985 ("1985 Agreement"). By that agreement, Apple granted to Microsoft a non-exclusive license of the audiovisual displays in Windows 1.0. As the court found on March 20, 1989, however, the 1985 Agreement is not a complete defense to this action, because it was limited to the visual displays in Windows 1.0 and did not cover

displays in Windows 2.03 that were not in the prior work. *Apple Computer, Inc. v. Microsoft Corp.,* 709 F. Supp. 925, 930 (N.D.Cal. 1989).

To allow the court to determine which allegedly infringing Windows 2.03 and NewWave visual displays were not contained in Windows 1.0, to facilitate comparison of the works in suit and to give the court and the parties a means to determine the scope of copyright protection, Apple was asked to submit a list of alleged similarities *1016 between its works and the works of defendants. Apple filed this list on April 7, 1989. The list contained 189 alleged similarities between the Apple audiovisual works and Windows 2.03 and 147 similarities between the Apple works and NewWave.

The court then determined that under the 1985 Agreement 179 of the similarities claimed to be in Windows 2.03 were licensed, *Apple Computer, Inc. v. Microsoft Corp.,* 717 F. Supp. 1428 (N.D.Cal. 1989), and that the agreement would cover all but 54 of the similarities alleged to be in NewWave, assuming of course that HP establishes that Microsoft in turn licensed these features to it, *Apple Computer, Inc. v. Microsoft Corp.,* 759 F. Supp. 1444 (N.D.Cal. 1991).[2]

[2] Apple alleged that Microsoft licensed to HP, for use in NewWave, the visual displays in both Windows 2.03 and 3.0, allegations which both defendants admitted and which HP asserts are uncontested. Letter of J.A. Marshall, June 22, 1992. Apple apparently has recently had second thoughts about its allegations of a Microsoft/HP license, claiming now that HP's discovery responses on this subject have been "evasive," although it is not clear that Apple is withdrawing its allegations. Letter of C.R. Ottenweller, July 1, 1992.

After filing a supplemental complaint on June 28, 1991 that extended its claims to cover Windows 3.0 and NewWave 3.0, the updated versions of the Microsoft and HP works, Apple then filed two supplemental lists of similarities, incorporating the prior lists by reference. The second of the supplemental lists was filed on August 15, 1991 ("Second Supplemental List").

In the meantime, the parties engaged in lengthy and extensive discovery which concluded on January 31, 1992. There followed a deluge of summary judgment motions: two by Apple, seven from Microsoft and nine by HP. The court directed that these motions be taken up in three hearings on the basis of their legal and factual issues. The first was set to encompass all questions of originality, functionality, merger, indispensable expression and scenes a faire; these issues appeared in the Apple motion "as to Substantial Similarity and Certain Affirmative Defenses," the separate Microsoft motions to dismiss claims against Windows 2.03 and 3.0, the HP motions on lack of originality, limited scope of protection, and items excluded from copyright protection, and Microsoft's "Motion for Partial Summary Judgment Dismissing Apple's Claims Against Windows 2.03 and 3.0 Based on Certain Copyrights." At a second hearing, the court intended to hear argument on all questions of similarity contained in the motions, as well as the remaining issues in Apple's motions, and the Microsoft motion to dismiss the contributory infringement claim, and at a third hearing, the court planned to take up argument on the damages issues: Microsoft's motions concerning actual damages and indirect infringer's profits, profits of foreign subsidiaries, and pre-judgment interest; and HP's motions concerning profits from sale of NewWave, actual damages, unjust enrichment, and joint and several liability.

But as often happens with the best laid plans, this scenario was upset when Apple refused to join the issues raised in defendants' motions. Apple contended that its own lists of similarities are not exact descriptions of any infringing features, but merely examples of the overall similarity of defendants' works. Sticking stubbornly to a "look

and feel" or "gestalt" theory of this lawsuit, Apple was apparently of the belief that these passwords would automatically get its case around summary judgment motions and to a jury, regardless whether any of the visual displays that potentially comprise this "look and feel" are themselves protectible expression. Accordingly, Apple's response to the detailed arguments against protectibility that defendants made on an item-by-item basis was that, "we do not attempt here to chase every rabbit loosed by defendants' continuing focus on irrelevant detail." Apple Mem in Resp to Def'ts Motions at 9-10. Unaided by any effective opposition from Apple to defendants' motions, the court on April 14, 1992, after analytically dissecting the works in suit as best it could under the circumstances, determined that the 1017 10 remaining items alleged against Windows *1017 2.03 were not protectible under copyright law, and that 53 of the 54 alleged similarities in NewWave were subject to no or little copyright protection.[3] Apple promptly moved for reconsideration and, for the first time, addressed the merits of defendants' motions.[4]

[3] To assist the court in its consideration of the issues at bar, on October 31, 1991, the parties gave the court and staff a tutorial in the use of their respective programs, and each party left with the court equipment on which the works in suit can be run. The use of these machines and programs at issue has been essential to the sorting out of the issues raised by these motions, which could not have been decided without the court's personal familiarity with the graphic displays and animation in suit and the hardware manipulation necessary to generate them.

[4] The court also ruled that 26 of the alleged Windows 3.0 similarities were previously deemed covered by the 1985 Agreement when found in Windows 2.03, and hence are licensed. Reconsideration of this determination has not been requested.

II.

As noted in earlier orders, Apple's Macintosh microcomputer turned out to be one of the major commercial triumphs of the 1980s.[5] Much of that success seemed to rest on the visual displays or images which the Macintosh generated on its computer screens. These proved highly intuitive, facilitated users' learning of how to operate the Macintosh and introduced millions to the wonderful capabilities for useful tasks which computers offer.

The combination of a computer monitor's visual displays and the user command functions on the keyboard or other input devices[6] is called the computer's user interface. On the Macintosh, the screen displays include icons or symbols to represent programs or information, pull down menus or lists of commands or information, use of windows to display information and the ability to move, re-size, open or close those windows to retrieve, put away or modify information, and a display of text by a proportionally spaced font in all menu items, title bars, icon names and text directories for a consistent and distinctive appearance. When a computer's visual displays incorporate significant graphic elements, as does the Macintosh, it is referred to as a graphical user interface (GUI or, in the argot of the trade, "gooey").

[6] These may include, among others, a mouse, joystick or pointer.

Apple came into existence in the 1970s. By late in that decade, Apple had enjoyed some success with its Apple II home computer and was seeking to develop new products. On at least two occasions in December 1979, Apple personnel (including its founder Steven Jobs) visited Xerox Corporation's Palo Alto Research Center ("PARC"). That facility had for several years done extensive work to make the operations of and images generated by computers more appealing and comprehensible to those lacking technical training or bent. An underlying assumption of Xerox's product

development program was that the users of its products would not be particularly interested in computers themselves, but instead in what tasks or functions computers could perform. An overriding objective of Xerox's efforts was to make computer images and usage appealing and intuitive.

During the visits, Xerox's Larry Tesler demonstrated to the Apple people Xerox's Smalltalk software. Smalltalk had moveable rectangular overlapping windows, window tabs that represented files and information, a muted background to make the windows and tabs stand out, point and click manipulation of windows and tabs, and pop-up menus, among other graphical features. Many of the features which this order will discuss at length were developed at Xerox PARC and shown to the Apple personnel on their visits. Smalltalk also made extensive use of a hand operated device called a mouse which functioned as a cursor pointer. The mouse was not original
1018*1018 to Xerox, having been developed at Stanford Research Institute, but Xerox — standing on the shoulders of those who preceded it as others would stand on Xerox's shoulders — extensively employed the device in its user interfaces.

A few months after the visits to PARC, Tesler went to work for Apple on its Lisa project, one of the new products Apple was developing. Additional Xerox personnel followed. In 1981, Xerox introduced its 8010 Star Information System, a workstation comprised of even higher performance machines than those on which Smalltalk ran. The Xerox Star made extensive use of icons to organize its functions.

The features of Xerox's graphical user interface, such as use of a mouse-driven cursor, overlapping windows, iconic representation and so on had been made possible by development of bitmap graphics. A computer's processing unit generates, and a computer monitor displays, images by composing dots on the monitor screen called pixels which are illuminated, shaded or colored to achieve the desired effect. Bitmap graphics allow particular bits of the computer's memory function to manage each pixel, permitting programmers great flexibility in creating the visual displays actually generated. Programs written for computers having only limited amounts of such memory are forced to base their visual displays on vertically or horizontally defined lines and thus generally are confined to blinking cursors, letters, numbers and similarly limited characters. Such a visual interface is generally termed an alphanumeric or character-based interface and lacks the ability to generate the more complex shapes, forms, artistry and animation associated with a graphical user interface. A user wanting to start a word processing application, for example, in an alphanumeric or character-based interface might type the command "Exec WS" or to create a new file might type "Dup. F. Txt." A graphical user interface allows the user to see, point to and manipulate graphical images, symbols or words to instruct and interact with the computer to perform these same functions.

The ability to employ bitmap graphics and thus the graphical versatility of the Xerox PARC products were at least in part attributable to the configuration of the Xerox systems. The Xerox Smalltalk program demonstrated to the Apple groups in December 1979 ran on Xerox's proprietary computers which were linked on an Ethernet network. Similarly, in the somewhat later Xerox Star, individual monitors and keyboards were connected via an Ethernet network to file servers, printers and data base servers. By sharing resources in this manner, the Star workstations of that era were able to devote a significant amount of memory to screen displays and user commands. Stand alone personal computers, to at least the early 1980s, were incapable of mustering the operating memory resources necessary to generate visual displays of the complexity and animation of the Xerox products. But, in 1979, Motorola introduced its 68000 microprocessor, a chip that took its title from the number of its components or transistors and could accommodate a vastly

greater number of instructions than other chips used up to that time for personal computers. The Motorola 68000 chip could, in a stand alone microcomputer, support the high resolution display and highly interactive graphical interface necessary to emulate the ease of use of the Xerox products, Apple based its new products, the Lisa and Macintosh, around the Motorola 68000 chip.

Before Apple could get either of these products to market, however, IBM entered the personal computer field. Theretofore a producer of large mainframe computers, IBM sought to produce an economical product. Introduced in 1981, IBM's original PC used chips produced by an outside supplier, Intel, whose early microprocessors possessed less memory capability than the Motorola 68000 chips. IBM turned to another outside supplier, Microsoft, to produce system software for the PC. The MS-DOS[7] system software Microsoft devised for the IBM PC was 1019 confined by the limited capabilities *1019 of the hardware for which it was designed and thus its visual displays employed an alphanumeric or character-based user interface.

[7] Microsoft trademark, an acronym for disk operating system.

IBM nonetheless brought enormous financial resources and marketing capabilities to the personal computer field which fairly exploded in the first few years of the 1980s. In 1983, Apple introduced its bulky Lisa which, among other features, had a bitmap video display capable of a dot resolution of 364 lines of 720 dots each, detached keyboard and mouse driven cursor pointer. Apple priced Lisa at about $10,000, compared to the IBM PC then selling in a range beginning at under $2000. Despite her significantly more sophisticated graphics than the IBM PC, Lisa was a flop. The following year Apple introduced the Macintosh. This small machine had a high resolution bitmapped built-in monitor, screen displays based on the Motorola 68000 microprocessor, detached keyboard and mouse. With a now classic advertising campaign introduced during a half-time break of the 1984 Super Bowl and a significantly more competitive price than the Lisa, the Macintosh got off to a good start despite the heavy competition from IBM.

Apple also took a quite different tack to software than had IBM. Apple not only owned the system software usable on the Macintosh but it required third party software developers to employ the Macintosh graphical interface, so that a user could readily go from one application to another keeping the same basic and familiar visual displays and input commands in all applications. By shortening the learning process for users of new applications, this requirement contributed greatly to overall user ease and satisfaction associated with the Macintosh. By contrast, the screen displays and user commands of an MS-DOS based application program designed to run on an IBM PC or an IBM compatible[8] may bear virtually no resemblance to another application program with which the user is already familiar, increasing learning difficulty and user frustration. While Apple's policy of maintaining uniform applications interfaces for the Macintosh has limited the number of Macintosh applications written, this policy has also helped Apple's marketing efforts to meld the images of Macintosh hardware and software into a single and "user friendly" whole.

[8] These are microcomputers that can accept software designed to run on an equivalent or similar IBM product.

In time, more sophisticated microprocessors were developed and increased the memory capacity of microcomputers. Microsoft developed and, in 1985, introduced its Windows 1.0 software. Windows operates on top of DOS and extends its visual or graphical capabilities.[9] The later versions of Windows took advantage of the greater operating memory resources available in more recent non-Apple hardware. These could generate increasingly complex visual displays and

animation and thus, with each new version, the visual displays of Windows seemed more and more to resemble those in the Macintosh. IBM and especially IBM compatible hardware has consistently been less expensive than comparable Macintosh hardware. There developed a huge base of IBM and IBM compatible hardware users interested in protecting their investments in such hardware and DOS based software.[10] Because each version *1020 of Windows seemed increasingly to offer that which Apple had touted as the special advantage of the Macintosh, Windows proved a hugely formidable force in the software market. Apple responded with this lawsuit.

[9] The relationship of operating system software and a computer's graphical capabilities is sometimes a little elusive. Because Apple tightly binds the interface of applications written for the Macintosh to its underlying system software and hardware, to a dedicated Mac user, these seem to blend together. See, e.g., 759 F. Supp. at 1447. Although sometimes referred to as an operating system software, see id, Windows runs on and extends DOS system software by giving it a windowing capability. NewWave, sometimes referred to as an application program, see 759 F. Supp. at 1448, runs on DOS with Windows and enhances them by creating objects which process data and control computer functions. NewWave accepts and runs applications in the object-oriented environment it creates.

[10] The text should not be understood to suggest that the computer world is divided into IBM/MS-DOS and Macintosh spheres only. There are a number of other major graphical user interfaces employing at least some of the standardized features claimed by Apple. Microsoft videotape Exhibits A and B, scenes a faire.

III.

The Ninth Circuit employs a two-part test to determine whether a work infringes the copyright in another work. First, the "ideas" of the works in suit are compared for substantial similarity, using an "extrinsic test" or "objective analysis of expression." *Sid Marty Krofft Television v. McDonald's Corp.,* 562 F.2d 1157, 1164 (9th Cir. 1977); *Shaw v. Lindheim,* 919 F.2d 1353, 1357 (9th Cir. 1990). Analytic dissection, employing a list of criteria of comparison informed by expert testimony, is a part of this exercise, which makes this well-suited for determination as a matter of law. *Krofft,* 562 F.2d at 1164.

If the ideas are substantially similar, then an "intrinsic test" or "subjective analysis of expression" is used. *Shaw,* 919 F.2d at 1357. In suits involving *literary* works, *Shaw* requires that the intrinsic test be performed by the trier of fact, and not by the court upon a motion for summary judgment. Id at 1359. It should be emphasized that *Shaw* confines its holding to suits involving literary works, or arguably the literary aspects of works, see *Brown Bag v. Symantec,* 960 F.2d 1465, 1476 (9th Cir. 1992), and does not extend to visual displays.

Moreover, the "intrinsic test" entails a comparison of the portions of a work that can be the subject of copyright protection. See *Pasillas v. McDonald's Corp.,* 927 F.2d 440, 443 (9th Cir. 1991). Because the "intrinsic test" is thus limited, a finding of similarity of ideas does not complete the "extrinsic test." See Melville B. Nimmer and David Nimmer, 3 *Nimmer on Copyright,* § 13.03[B] at 13.57 (Matthew Bender, 1992). If the similarity of the works in suit stems solely from unprotectible features, then the plaintiff's case is missing an essential element of infringement. *Feist Publications, Inc. v. Rural Telephone Service Co.,* ___ U.S. ___, 111 S.Ct. 1282, 113 L.Ed.2d 358 (1991); *Data East USA, Inc. v. Epyx, Inc.,* 862 F.2d 204, 208 (9th Cir. 1988). Under such circumstances, summary judgment is plainly

appropriate before even reaching the "intrinsic test." See *Frybarger v. IBM,* 812 F.2d 525, 530 (9th Cir. 1987).

The "non-literal components" of a computer program, including its user interface, are protectible if, "on the particular facts of each case, the component in question qualifies as an expression of an idea [not] an idea itself." *Johnson Controls v. Phoenix Control Systems,* 886 F.2d 1173 (9th Cir. 1989). In affirming a preliminary injunction against copyright infringement, the Second Circuit observed that the sequence of images on a computer screen "might contain so little in the way of particularized form of expression as to be only an abstract idea portrayed in a noncopyrightable form [citation omitted]." *Stern Electronics, Inc. v. Kaufman,* 669 F.2d 852, 857 (2d Cir. 1982). To determine whether similarities result from unprotectible ideas, analytic dissection of similarities may be required. "If this demonstrates that all similarities in expression arise from use of common [i.e., non-protectible] ideas, then no substantial similarity exists." *Data East,* 862 F.2d at 208. In performing this analysis, the Ninth Circuit has instructed district courts to focus on the claimed similarities between the works in suit because a focus on dissimilarities would "distract a reasonable observer from a comparison of the total concept and feel of the works."[11] Id. *1021 1021

[11] The court does not believe that the *Data East* panel's reference to "total concept and feel" is an endorsement of Apple's expansive "look and feel" theory. Indeed, both "look and feel" and "total concept and feel" have been soundly criticized. See Nimmer, 3 *Nimmer on Copyright* §§ 13.03[A], [F]; Pamela Samuelson, *Why the Look and Feel of Software User Interfaces Should Not Be Protected by Copyright Law,* 32 Communications of the ACM 563 (May 1989). The caution of *Data East* against comparing dissimilarities could well have been explained, more succinctly and without reference to the controversial "total concept and feel," by observing simply that dissimilarities afford no evidence of copying.

Further, in order for the trier of fact to compare the expression in an "intrinsic test," there must be something to compare. If a work contains no protectible expression, then the intrinsic test is mooted. See *Aliotti v. R. Dakin Co.,* 831 F.2d 898, 901 (9th Cir. 1987). Analytic dissection, "not for the purposes of comparing similarities and identifying infringement, but for the purposes of defining the scope of plaintiff's copyright," *Brown Bag,* 960 F.2d at 1475-76, is required under those circumstances.

Analytic dissection for this purpose must be guided by the doctrines that draw the somewhat hazy boundary between idea and expression. A work, of course, can be comprised of many basic ideas, which cannot themselves be protected. See *Frybarger,* 812 F.2d at 529-30; 17 U.S.C. § 102(b). If the idea and the author's particular way of expressing that idea cannot be separated, under the concept of merger only identical copying of the expression is barred. See *Krofft,* 562 F.2d at 167-68. This has been said to occur, "[i]f, in describing how a work is expressed, the description differs little from a simple description of what the work is." Id at 1168 n. 10.

Merger means there is practically only one way to express an idea. But if technical or conceptual constraints limit the available ways to express an idea, even though there is more than one avenue of expression available, copyright law will abhor only a virtually-identical copy of the original. *Telemarketing Resources v. Symantec Corp.,* 12 USPQ2d 1991, 1989 WL 200350 (N.D.Cal. 1989), aff'd in part as *Brown Bag Software v. Symantec Corp.,* 960 F.2d 1465 (9th Cir. 1992). Sometimes this is described as "indispensable expression," a term which is also used as a synonym for the scenes a faire doctrine. Scenes a faire originated in stock characters and features of dramatic works, *See v. Durang,* 711 F.2d 141 (9th Cir. 1983), and

now encompasses stereotyped expression, standard or common features in a wide variety of works, including audiovisual works generated by computers. See *Frybarger,* 812 F.2d at 530.

The functionality of a feature may deprive it of protection under the copyright laws. This exclusion is codified at 17 U.S.C. § 102(b):

> In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.

Blank forms are one example of a feature that is unprotectible because functional. 37 C.F.R. § 202.1(c); see also *Baker v. Selden,* 101 U.S. 99, 11 Otto 99, 25 L.Ed. 841 (1880).

Additionally, turning the tables on a copyright plaintiff, the lack of originality of a feature or a work will deprive it of copyright protection. *Apple Computer, Inc. v. Microsoft Corp.,* 779 F. Supp. 133, 135 (N.D.Cal. 1991); *Midway Mfg. Co. v. Bandai-America, Inc.,* 546 F. Supp. 125, 140 (D.N.J. 1982).

These doctrines inhere in the source of copyright, U.S. Const., Art. I, § 8, cl. 8. Hence, copyright protection may not serve as an invulnerable shield at the behest of any who invokes its powers. Copyright protection must serve a designated purpose; namely, "[t]o promote the Progress of Science and the useful Arts[.]" Id.

Copyright affords an incentive to authors, the guarantee that free-riders will not be able to appropriate the revenues needed to recoup the author's investment in creativity. But while copyright protection increases the expected revenues of authors by restricting competition, it also can have the effect of raising the costs of creation by making a useful building block of creativity the exclusive property of a prior

1022 author.[12] Courts have developed copyright's *1022 limiting doctrines as an implicit response to the problem posed by these revenue and cost effects.

> 12 See generally William M. Landes and Richard A. Posner, *An Economic Analysis of Copyright Law,* 18 J Legal Stud 325 (1989).

Certain features of artistic works are so common, or so obvious, that they require virtually no creative effort to conjure and thus do not depend on the revenue effect of copyright protection. The concepts of ideas, scenes a faire, and lack of originality fall into this category of limiting doctrines. On the other hand, placing some features of artistic works in the exclusive domain of one author would so raise the costs of creation for others as to impede the progress of the arts. This accounts for the doctrines of merger, limited number of ways, and functionality. To apply these doctrines, courts must analytically dissect the works of an author seeking copyright protection to determine the metes and bounds of his property interest in the works. The features of works that are covered by these limiting doctrines are protected only from virtually identical copying, for this is the province of the ultimate free-rider, who makes a zero investment in creativity.

The court has on an earlier occasion in this case expressed its belief that the various doctrines that limit copyright protection are often barely distinguishable from one another. 779 F. Supp. at 134. Nevertheless, in April the court made such a distinction in ruling on the protectibility of individual items.

IV.

Apple contends that to "understand" the distinctive appearance of the Macintosh interface, "one needs to consider not only the individual elements that make up the appearance of the interface but also the way those elements are arranged and interact with one another to create the consistent and distinctive Macintosh interface." Schneiderman

4/24/92 Suppl Decl ¶ 3. The claimed unifying idea of the Lisa and Macintosh works is "an interface suggestive of an office environment with a desktop background, implementing through animated graphical images and fanciful symbols what has been referred to as a 'desktop metaphor.'" Apple Support Mem, Motion for Part SJ re: Subst'l Sim at 8:9-13. Making the point literally, Apple's counsel has gone so far as to exhibit in the courtroom a chart purporting to show an alternative portrayal of this metaphor, a computer screen containing the image of a desk!

Apple's expert put such hyperbole aside and attempted to isolate the general concepts or ideas that make up the "desktop metaphor." Although the expert's descriptions are less than categorical, they principally include: multiple windows that serve as separate workspaces or mini-screens unto themselves; the ability to open and close these windows; icons that represent programs, files and documents; the use of a mouse to manipulate directly these visual displays; menu bars dedicated to an array of choices. Schneiderman 5/24/90 Dep at 243-44; Schneiderman 4/24/92 Suppl Decl; see also Apple Mem Recon, Exh B, listing fourteen "Macintosh Components;" Foley Decl ¶ 11. These concepts arguably were used in the Macintosh because — to some degree — they emulate the familiar environment of the desktop and thus render the computer a somewhat less forbidding apparatus.

But Apple goes further than simply claiming that the Macintosh interface expresses these ideas. To the extent the individual features of the Macintosh interface are licensed or are unprotectible they are together, or in conjunction with the protectible features, claimed as a copyrightable arrangement — a "look and feel" which constitutes protectible expression apart from its individual elements. Apple's theory is necessitated here because the actual arrangement of displays on a computer monitor running any interactive program is largely the product of the user's efforts, negating any claim of the programmer to original authorship.[13]

This arrangement or "look and feel" theory is further necessitated because use of graphic 1023 imagery *1023 of office objects in computer interfaces is indisputably unoriginal to Apple. See, e.g., Dep Exhs 222, 237, 279, 313. But, more importantly, use of such objects or an arrangement of them denotes the "desktop metaphor," not as an idea unifying the expressive elements of the Macintosh interface but simply as a collection of visual displays and user commands designed to render use of the computer, as Apple's expert concedes, more "utilitarian." Schneiderman 2/26/92 Dep at 558-59.

[13] Contrast *Eales v. Environmental Lifestyles, Inc.*, 958 F.2d 876 (9th Cir. 1992) (subjects of copyright protection were architect's plans, "fixed" on paper).

The elements of such an arrangement serve a purely functional purpose in the same way that the visual displays and user commands of the dashboard, steering wheel, gear shift, brakes, clutch and accelerator serve as the user interface of an automobile. See *Synercom Technology, Inc. v. University Computing Co.*, 462 F. Supp. 1003, 1013 (N.D.Tex. 1978). Purely functional items or an arrangement of them for functional purposes are wholly beyond the realm of copyright as are other common examples of user interfaces or arrangements of their individual elements — the dials, knobs and remote control devices of a television or VCR, or the buttons and clocks of an oven or stove. Of course, the elements of these everyday user interfaces are seldom conflated into metaphoric images, but that does not mean that the user interface of a computer is less functional.

Under the law of this Circuit, an article which has " *any* intrinsic utilitarian function" can be denied copyright protection "except to the extent that its artistic features can be identified separately and are capable of existing independently as a work of art." *Fabrica Inc. v. El Dorado Corp.*, 697 F.2d 890, 893 (9th Cir. 1983) (emphasis in original).[14] The very purpose of a computer user interface

"lies in its ability to help people prepare and analyze their work quickly and flexibly." Comment, *Lotus Development Corp. v. Paperback Software International: Broad Copyright Protection for User Interfaces Ignores the Software Industry's Trend Toward Standardization,* 52 U Pitt L Rev 689, 705 n 65 (1991). Copyright protection can attach only to such a product's separate artistic features or can afford only such limited protection as appropriate when its features are the product of a compilation. See *Harper House, Inc. v. Thomas Nelson, Inc.,* 889 F.2d 197, 205 (9th Cir. 1989).

[14] For an example of separable artistic expression associated with another type of user interface, see *In re Yardley,* 493 F.2d 1389 (CCPA 1974) (copyright registration of a Spiro Agnew watch face does not preclude a design patent for the watch face, under 35 U.S.C. § 171).

The similarity of such functional elements of a user interface or their arrangement in products of like kind does not suggest unlawful copying, but standardization across competing products for functional considerations. Standardization of the visual features in a computer's interface helps to achieve its purpose, a point which Apple learned early on when it insisted on interface uniformity for Macintosh applications and which has also been implicitly recognized by this court. *Ashton-Tate Corp. v. Ross,* 728 F. Supp. 597, 602 (N.D.Cal. 1989), aff'd 916 F.2d 516, 522 (9th Cir. 1990).

Some visual displays are or become so closely tied to the functional purpose of the article that they become standard. If "market factors play a significant factor in determining the sequence and organization" of a computer program, then those patterns may well be termed ideas beyond the ownership of any one seller. *Plains Cotton Co-Op v. Goodpasture Computer Serv.,* 807 F.2d 1256, 1262 (5th Cir. 1987). No better evidence of "market factors" (i.e., expectations of users) accounting for the features of computer user interfaces can be found than the almost invariable incorporation of those features in most graphical user interfaces. Microsoft's videotape Exhibits A and B, scénes á faire[15] ("videotape A" and "videotape B"), establish that graphical user 1024 interfaces almost *1024 always incorporate the basic elements of the Macintosh interface; even some character-based interfaces possess some of these features.

[15] Apple raises factual objections with respect to a few of the features described in the videotapes. Letter of C.R. Ottenweller, June 5, 1992. The table of features here presented is not inconsistent with Apple's contentions concerning the various works, and Apple's objections, while noted, are immaterial.

Based on what is observable in Microsoft's videotapes A and B, the five basic features of graphical user interfaces are found in the following combinations:Features SCÉNES Á FAIRE TABLE Computer interface, release yrs. 1. 2. 3. 4. 5. – fn_ fn_

– Denotes character-based interface.

1. Overlapping windows. 2. Iconic representaion. 3. Object opening/closing. 4. Menus. 5. Iconic manipulation. Xerox Smalltalk, 1979 X X X X Perq/ICL, 1980-85 X Xerox Star, 1981 X X X X X Symbolics Release 4.0 and 4.5, 1981-82 X X Apollo Domain 3.0, 1981 X Lilith System, 1982 X X DRI Concurrent CP/M, 1983 X Tektronix Smalltalk, 1984 X X X X IBM Top View, 1984 X X Apollo Domain 8.0, 1984 X X X Metaphor, 1984-89 X X X X X Quarterdeck DESQview, 1985-90 X X Xerox Viewpoint, 1985 X X X X X Symbolics Genera, 1986 X X Commodore-Amiga Workbench 1.3, 1987 X X X Digital Equipment DECwindows, 1988-89 X X X IBM/MS OS/2 1.1, 1988 X X X X Apollo Domain 10.3.5, 1988-91 X X X Sun Microsystems/OSF Looking Glass, 1988-90 X X X X Open Software Foundation Motif, 1989-91 X X X X NeXT 2.1, 1989-91 X X X X X IBM/MS OS/2 1.2, 1989 X X X X X X

Consortium Tab Window Manager, 1990 X X X GeoWorks Ensemble, 1990 X X X X X Atari GEM, 1990 X X X X X X.Desktop, 1990 X X X X Sun Microsystems Sun View, 1990 X X X X Sun Microsystems Open Windows, 1990 (a/k/a "Open Look") X X X X Commodore-Amiga Workbench, 2.0, 1991 X X X X To be sure, a few judges have said in relation to computer software that "the purpose or function of a utilitarian work would be the work's idea, and everything that is not necessary to the purpose or function would be part of the expression of the idea." See, e.g., *Whelan Associates v. Jaslow Dental Laboratory,* 797 F.2d 1222, 1236 (3d Cir. 1986); *Broderbund Software, Inc. v. Unison World,* 648 F. Supp. 1127 (N.D.Cal. 1986); *Digital Communications v. Softklone Distributing,* 659 F. Supp. 449, 462 (N.D.Ga. 1987). But this surely is too facile a distinction as it obscures rather than illuminates the first part of the analysis commanded by the Ninth Circuit, comparing the similarities of ideas.

The *Whelan* court dealt with claims that the defendant unlawfully copied plaintiff's dental laboratory record keeping program to create a competing program and determined that "the idea is the efficient organization of a dental laboratory." 797 F.2d at 1240. Apple relies heavily on *Whelan*'s dichotomy to support its "desktop metaphor" line of attack and strenuously contends *1025 that it is consistent with Ninth Circuit authority. See Apple Reply Mem, Motion for Part SJ re: Subst'l Sim at 8-9.

As noted above, however, the Ninth Circuit has recognized that a single program may contain a number of nonprotectible ideas. See *Frybarger,* 812 F.2d 525. A single program need not limit its expression to one idea, a point that would seem particularly true in the case of software which controls a wide variety of computer functions. Furthermore, the parties' own understanding as shown by the negotiations leading to the 1985 Agreement demonstrates that Apple and Microsoft accepted specified visual displays as the protectible expression, not the entirety of the interface. 717 F. Supp. at 1431. Still further, the extensive criticism by courts and commentators of *Whelan* and kindred decisions has recognized that " *Whelan*'s general formulation that a program's overall purpose equates with the program's idea is descriptively inadequate," the product of "the opinion's somewhat outdated appreciation of computer science," and its heavy emphasis on "metaphysical distinctions" instead of "practical considerations." *Computer Assoc. Int'l, Inc. v. Altai, Inc.,* 1992 WL 139364, 92 Daily Journal DAR 10110, 10117 (2d Cir, June 26, 1992). Most importantly, the *Whelan* rule distends copyright protection, placing off-limits alternative and improved means of expression and thereby upsetting the uneasy balance which copyright attempts to maintain by preventing free riders from ripping off creative expression while not stifling others from improving or extending that expression. Id at 10120-21.

Copyright's purpose is to overcome the public goods externality resulting from the non-excludability of copier/free riders who do not pay the costs of creation. Peter S. Menell, *An Analysis of the Scope of Copyright Protection for Applications Programs,* 41 Stan.L.Rev. 1045, 1059 (1989). But overly inclusive copyright protection can produce its own negative effects by inhibiting the adoption of compatible standards (and reducing so-called "network externalities"). Such standards in a graphical user interface would enlarge the market for computers by making it easier to learn how to use them. Id. at 1067-70. Striking the balance between these considerations, especially in a new and rapidly changing medium such as computer screen displays, represents a most ambitious enterprise. Cf *Lotus Dev. Corp. v. Paperback Software Int'l,* 740 F. Supp. 37 (D.Mass. 1990).

While the Macintosh interface may be the fruit of considerable effort by its designers, its success is the result of a host of factors, including the decision to use the Motorola 68000 microprocessor, the tactical decision to require

uniform application interfaces, and the Macintosh's notable advertising. And even were Apple able to isolate that part of its interface's success owing to its design efforts, lengthy and concerted effort alone "does not always result in inherently protectible expression." *Computer Assoc. Int'l,* 1992 WL 139364 at *19, 92 Daily Journal DAR at 10121.

By virtue of having been the first commercially successful programmer to put these generalized features together, Apple had several years of market dominance in graphical user interfaces until Microsoft introduced Windows 3.0, the first DOS-based windowing program to begin to rival the graphical capability of the Macintosh. The Macintosh still to this day offers graphical features that translate into competitive advantages. See Walter S. Mossberg, *PC Shoppers May Find It's Wise to Develop a Taste for Apples,* Wall St Journal, Aug. 6, 1992, at B1. To accept Apple's "desktop metaphor"/"look and feel" arguments would allow it to sweep within its proprietary embrace not only Windows and NewWave but, at its option, also other desktop graphical user interfaces which employ the standardized features of such interfaces, and to do this without subjecting Apple's claims of copyright to the scrutiny which courts have historically employed. Apple's copyrights would hold for programs in existence now or in the future — for decades. One need not profess to know for sure where should lie the line between expression and idea, between protection and competition to sense with confidence *1026 that this would afford too much protection and yield too little competition.

The importance of such competition, and thus improvements or extensions of past expressions, should not be minimized. The Ninth Circuit has long shown concern about the uneasy balance which copyright seeks to strike:

> What is basically at stake is the extent of the copyright owner's monopoly — from how large an area of activity did Congress intend to allow the copyright owner to exclude others?

Herbert Rosenthal Jewelry Corp. v. Kalpakian, 446 F.2d 738, 742 (9th Cir. 1971).

The court declines Apple's invitation to use the advent of the microcomputer and its interface to abandon traditional standards which govern copyrights and invent some new law based on highly indefinite constructs such as "look and feel."[16] As a result, if "desktop metaphor" is to have any meaning in the context of a traditional copyright analysis, it should serve merely as a label for that group of "ideas" embodied in the Macintosh interface devoted to utilitarian uses of that computer, or as a shorthand way of describing the purpose or object of the panoply of ideas of multiple windows, iconic representation and manipulation, menus and object opening and closing functions to assist computer users in operation of their machines. "Desktop metaphor" does not describe the single unifying idea of the Macintosh interface, but is simply another name for the type of interface used on the Macintosh and is by no means exclusive to it.

16 Without dispute, a copier may not make "immaterial variations" and thereby escape copyright liability, *Nichols v. Universal Pictures Corp.,* 45 F.2d 119, 120 (2d Cir. 1930) (L. Hand, J), and, to this limited extent, there is some legitimacy to a "look and feel" test, a point this court previously recognized. 779 F. Supp. at 135. But this test should be applied only after protectible expression has been identified, not before, as Apple would have this court do.

V.

The Apple lists of claimed similarities and the submissions of its own expert make evident the following groupings of standardized features or "ideas": (1) use of windows to display multiple

images on a computer screen and facilitate interaction with the information contained in the windows; (2) use of icons to represent familiar objects from the office environment and facilitate organization of information stored in the computer's memory; (3) manipulation of icons to convey instructions and to control operation of the computer; (4) use of menus to store information or functions of the computers in a place that is convenient to reach, but saves screen space for other images; and (5) opening and closing of objects as a means of retrieving, transferring or storing information. For the reasons which follow in detail, these are common to all the works in suit, and must be deemed "ideas" and thus placed beyond the lone province of Apple or any other programmer. Having decided that a graphical user interface may be composed of many ideas, the court turns to deciding what elements of the Macintosh interface constitute protectible expression.

Microsoft moved for partial summary judgment that copyright protection does not extend to any of the 10 individual items on the first list that have not previously been deemed to be covered by the 1985 Agreement (A1, A8, B1, B2, D1-3, G4-6).[17] The court granted the motion as to each of the items on three different grounds: merger (all but D1 and G6); scenes a faire (all); due to limited number of ways to express idea (A1, D1, G6). The court also ruled that 25 of the 54 items in the lists of similarities alleged against HP's NewWave products were not original to Apple, that 36 of the items were excluded from copyright protection 1027 under § 102(b), and that limited *1027 protection was afforded 17 items under scenes a faire and 20 items because of merger of idea and expression. Only item H2, the use of a trash can to represent the discard folder, was determined not to be covered under any of the separate motions.

17 These ten features were adjudicated under "Microsoft's Motion for Partial Summary Judgment Regarding Windows 2.03." Microsoft's companion motion "regarding Windows 3.0" reincorporates the same arguments and, although not made explicit in April, would work to apply this ruling to cover the features when they reappear in Windows 3.0. These ten features are also alleged to be in the HP works, and proof of a Microsoft-HP license would extend this ruling to those works as well. See the text accompanying note 2.

Apple in its motion for reconsideration has finally addressed the individual items on the lists. The court recognizes that the artistic expression that is associated with each item is the actual ground for the protection claimed, this being a suit over visual displays. The law of the Ninth Circuit makes plain, however, that when any of the various doctrines that limit the scope of protectibility are in operation, the affected expression may provide a basis for a claim of infringement only if the alleged copy is virtually identical to the plaintiff's version. See *Frybarger,* 812 F.2d at 530; *Krofft,* 562 F.2d at 1168; *Rachel v. Banana Republic, Inc.,* 831 F.2d 1503, 1507 (9th Cir. 1987).

A. *Overlapping Windows.*

The first and probably most notable idea associated with the Macintosh interface is the use of overlapping windows to display multiple images on a computer screen in order to facilitate organization of information and the user's interaction with it. Overlapping windows are central to Apple's claimed similarities and, as shown in the Scenes a Faire Table, supra, invariably present in graphical user interfaces.

A1 The design and layout in Macintosh includes overlapping rectangular windows in front of a muted background pattern.[18]

18 The court uses Apple's own description of these items, as these appear in the list filed April 7, 1989, as corrected by "Errata" dated July 5, 1991. To conserve space, the final, boilerplate sentence from each description, typically in the form,

"Windows 2.03 and NewWave also present the same design, appearance, and style," has been omitted.

The court previously ruled that this item was not protectible[19] (1) because the expression described is merged with the idea, (2) under the doctrine of scenes a faire, and (3) because of the limited number of ways to express the idea due to technical or design constraints.

19 Although the court used the words "not protectible" to describe its rulings in April, this was not meant to exclude *virtually identical copying* from being actionable. Accordingly, in determining whether there is a triable issue of material fact to be decided by "intrinsic" analysis, the court will consider each feature deemed "unprotectible" under a virtual identity standard, to the extent there is any separable *artistic* expression associated with that feature.

Microsoft contends that the main element of Al, the use of overlapping windows, is a functional idea that is necessary for the "desktop metaphor" to be implemented. As evidence of the merger of idea and expression, Microsoft points to use of overlapping rectangular windows by Xerox's Smalltalk in 1979, by Lilith in 1981, and by the Perq systems as early as 1980.

Microsoft's scenes a faire argument is supported by an exhibit showing overlapping rectangular windows to have been utilized in twenty-six other commercial systems over the past decade. Microsoft videotape A. This, Microsoft asserts, is ample evidence that the feature is standard treatment in the industry, common to this particular genre of work.

Microsoft also asserts that the algorithms used to create the shape of windows generate rectangles as a quicker, easier shape than the alternatives, one that does not use too much computing power. Foley Decl ¶¶ 18, 33. Additionally, the design of a program based on a desktop metaphor requires a "muted" background to avoid distracting the user from his work.

Apple, on the other hand, argues that because Windows 1.0, as well as Xerox Star and Cedar use tiling instead of overlapping windows, this feature is not indispensable to a graphical user interface. Further, Apple offers deposition testimony that there are many ways to maximize the use of screen space without overlapping windows, such as showing only one large window at a time (i.e., "switching," infra). Apple also claims that the details of the windows are substantially similar, although those details, such as scroll bar and grow and close boxes, have been determined to be licensed. *1028

Two parts of Apple's claim are easily decided. First, the rectangular shape of the windows is not a copyrightable feature in a computer graphical user interface or, indeed, any other medium of expression. 37 C.F.R. § 202.1(a). Second, the use of a muted background may arguably be a feature of the Macintosh interface not present in Windows 1.0, but there can be no serious contention of its protectibility. A muted background is a default image which appears on any portion of the screen not occupied by a window or menu bar and hardly can be said to represent the sort of creative achievement or expression which the law should exert itself to protect.[20]

20 Because this case involves visual display copyrights, the achievement at issue is the artistic decision to use a muted background, not the programming facility which makes it possible to generate that image.

The overlapping feature of the windows in the Macintosh interface is also unprotectible (and conceivably licensed by the 1985 Agreement). This determination requires somewhat more explanation. The advent of overlapping windows in computer interfaces was largely the product of the operating memory capacity of computers

outpacing the capacity of monitor screens to display all the information the computer was able to generate. The computer memory's ability to handle greater amounts of information and even at times simultaneously to run more than one application program gave rise to the need to accommodate resultingly complex visual images on the limited two-dimensional surface available on a computer screen. Only two methods or processes of displaying two or more images presented themselves to programmers: (1) *switch* from one image to another, one at a time, each image occupying the entire screen, or (2) *split* the screen, giving some screen space to each image. All methods of displaying more than one image on the monitor screen use one, the other, or some combination of these means of expression.[21] Switching is illustrated in Figures 1 and 2 which depict use of a screen to switch from image 1, a blank screen, to image 2, a screen of slanted lines. The entirety of the screen can be switched from one image to the other in the sequence or frequency desired. Figure 3 illustrates the alternative means of expression, splitting the
1029 screen between the two images noted. *1029

[21] Scrolling is a form of switching the screen from one image to the next by adding one new line and subtracting one other at the top or bottom or at the sides of the scrolled image.

The tiled window approach of Windows 1.0 obviously bears close resemblance to a split of the screen of the type illustrated in Figure 3; in most, but as will be seen not all, visual displays of that work, the screen is split between or among the window images generated without switching from one window to another. The Macintosh interface, on the other hand, more plainly represents a combination of both approaches, with the muted background as the default image for any portion of the screen not occupied by one or the other of the windows (or the menu bar which constantly appears, but changes with the application running). The screen is split among the window images displayed and the muted background default image. See Figure 4 in which the blank image is the overlapping (or active) window.

1030 *1030

Because with Macintosh overlapping windows, the exposed portions of each window are shown simultaneously, the screen may be said to be *split* among or between the windows displayed; but the active window or topmost one covers the unexposed portions of the remaining or inactive window and thus the screen to that degree shows only one image at a time or employs a *switch* between or among those portions of the windows. For example, Figure 6 shows the split/switch configuration associated with the screen appearance depicted in Figure 4; the screen is split between images 1 and 2 in the portions of the screen so noted in Figure 6, but on portion 1A the slanted line image is switched off and the blank image switched on. Similarly, when Figure 5 represents the screen split/switch configuration, the images marked 1 and 2 are split between the portions of Figure 5 so denoted but in portion 2A, blank image 1 is switched off and slanted line image 2 is switched on.

The user, of course, retains the ability to switch quickly among the exposed windows by clicking on the window desired to be made active or brought to the top. But the means of expression of multiple images are limited to splitting the screen or switching the images.

Although the court earlier determined that the overlapping windows of the Macintosh interface was unlicensed by the 1985 Agreement, focusing on the ability to overlap *completely* and obscure windows, 709 F. Supp. at 930, the tiling function in Windows 1.0 contains the ability to overlap. In Windows 1.0, tiling sometimes resulted in the information in certain windows, such as the clock, being squeezed or stretched to accommodate its surroundings, as other windows encroached or receded. Compare Figures 7 and 10 in which the slanted line image 2 is stretched out to occupy

space formerly occupied by blank image 1 which is squeezed down to less screen space. But certain other windows, such as the calculator, calendar, or notepad, merely have more of their contents revealed or obscured by changes in size. Thus, as in Figure 8, a portion of the other image "overlaps." Note the portion of image 2 occupying area 1A in Figure 8 is overlapped and thus, as in the Macintosh interface, *switched* off while image 1 is switched on in this area.

Further, in Windows 1.0, the user can switch the screen spaces occupied by the images by clicking the mouse on a title bar to generate a mini-icon, and moving the mini-icon into the window whose space will be swapped. The effect is that the window moving to the larger space shows more of its contents, and the window moved to the smaller space shows less — just as if one was on top of the other, and they were flipped. Compare Figures 9 and 10.

To be sure, the overlapping windows of the Macintosh are considerably more versatile and aesthetically pleasing than the tiled windows of Windows 1.0 because the tiled windows extend in a cumbersome fashion completely along one axis or the other, making either width or heighth uniform. Moreover, in a tiled window system, the windows must shrink as more and more of them are added to the screen whereas the ability freely to re-size windows in the Macintosh interface without affecting the size of others allows the user to size them in relation to the data they contain or
1031 for any other reason. *1031

Because a programmer must choose between switching images or splitting the screen, the means of expression are limited, and merger applies at least to the basic arrangements claimed in similarity A1. Moreover, of course, one of these means — splitting the screen — was plainly licensed by the 1985 Agreement and arguably the "overlapping" feature of Windows 1.0 provides at least a basis for Microsoft to contend that this feature is also licensed. Notwithstanding Microsoft's possible contention, the court believes that overlapping windows are not covered by the 1985 license as Microsoft's advertising laid some stress on the fact that Windows 1.0 had "No Overlapping," so "you never 'lose' a window." 709 F. Supp. at 930. Microsoft's comparative advertising should set some limit on what it can claim was licensed.

In any event, the Macintosh interface at most combines a possibly unlicensed switching technique, the only other means of expression, to that plainly licensed, splitting. Accordingly, the scenes a faire doctrine ought also to apply. Finally, use of overlapping windows in the Xerox, Lilith and Perq systems in the early 1980s shows beyond question that this concept is not original to Apple. See Microsoft videotape A. The court's April ruling on A1 stands.

> A8 The window design and layout in Macintosh includes windows which may appear partly on and partly off the screen.

The court previously ruled that this feature was unprotectible under the merger and scenes a faire doctrines. Microsoft demonstrated that the feature was used in both Xerox's Smalltalk and in the Perq system prior to its use by Apple, evidence that it is a standard treatment in the industry. Microsoft also argues that the idea of overlapping windows, and
1032 even *1032 the broader, unitary idea of the "desktop metaphor" that Apple urges upon the court, requires this feature, because free movement of the items on the work desk cannot be achieved in the absence of this feature.

Apple argues that this feature is not indispensable to a graphical user interface employing a "desktop metaphor," for at least four systems shown in Microsoft's videotape A apparently lack this feature — Start, Sun View, View Point, and Metaphor.

The ability to move windows partly on and partly off the screen is, like tiled windows, a product of splitting the screen between that portion of the

window left on the screen and all the other images displayed simultaneously, and switching off that portion of the image dragged off the screen. See Figure 11. This also represents an expression of very limited means — sometimes showing one portion of the window while at other times showing another part and, of course, switching off that portion of the window dragged off the screen. Again, while the appearance of a window may represent protectible expression, the ability to move it part on or off the screen is indispensable to the convenient manipulation of information contained in these sub-screens and thus is unprotectible. This portion of the April ruling stands.

> B1 The design and layout in Macintosh includes the top-most overlapping window displayed as the active window.

This feature was previously found unprotectible by the court due to merger of idea and expression and as a standard industry feature, under scenes a faire. It appears that 17 of the 27 systems shown in Microsoft's videotape A have this feature. Indeed, it is hard to imagine the usefulness of an obscured window being the active window, under the so-called desktop metaphor or any other functional design, although apparently some systems have this option. The active top window idea was first used at Xerox PARC prior to its incorporation in the Lisa system by Apple. These reasons suggest that making the topmost window active is a standard industry feature.

Although Apple contends that the top window need not be the active window, citing the systems in the scénes á faire videotape in which other windows can be active, feature B1 clearly appears to be indispensable to the useful employment of the overlapping windows idea. Making the topmost window the sole active window serves the utilitarian function of helping to avoid the accidental input or output of information or manipulation of icons in a window for which this was not intended. This feature also overcomes the constraint imposed by the relatively fixed amount of screen space generally available in most monitors; operating memory has increased greatly in relation to the screen space able to accommodate it, making necessary sophisticated means to manage the information in memory. Furthermore, making the topmost window the active one is no more expression than reading the page to which a book is opened or working on the paper which is on the top of a stack. Instead, this is the description of a process that is inseparable from the idea of overlapping windows, and is thus but an unprotectible idea. Finally, the only expression that can be said to be involved, the graphics that indicate that a particular window is the active window, is feature A4, and covered by
1033 the 1985 license. 717 F. Supp. at 1433-34. *1033

> B2 Macintosh design animation brings a window to the top of a stack of overlapping windows when the mouse is clicked on it.

Feature B2, like feature B1, does not seem to implicate any expression at all. This feature was previously found unprotectible under merger and scenes a faire, a ruling that is itself a bit of an understatement. Clicking the mouse to bring a window to the top of a stack establishes a hierarchical or priority relationship between or among the windows visible on the screen, a concept of great generality or abstraction. By hiding or obscuring the other windows, this process emulates a third dimension in the otherwise two- dimensional computer screen and "defines a partial ordering among graphical objects." Tomihisa Kamada, *Visualizing Abstract Objects and Relations* at 44 (World Scientific, 1989). Apple understandably does not expressly refute this in its papers, and the prior ruling stands.

> D1 Macintosh design animation drags a gray outline of the window along with the cursor when the mouse is pressed on a window's title bar.

Feature D1 was held unprotectible under scenes a faire and due to the limited number of ways to express its idea. Microsoft offers the declaration of Professor James D. Foley to support its contention that hardware constraints dictate this feature. Moving merely the outline of a window, instead of the entire window and its contents, requires far less computing power, and is a common solution of systems running on less-powerful computers. Foley Decl ¶ 24. Nineteen systems employing this feature are displayed in Microsoft's videotape A.

The developers of the Lisa and of Windows 2.03 and 3.0 attempted to move the entire window or a filled-in rectangle, and found this impractical due to technical constraints. Tesler 2/27/90 Dep at 135:25-136:2; Daniels Dep at 87:10-23; Konzen Dep at 120:21-23; Barrett Dep at 97:20-98:16. Apple nonetheless contends that there are other ways of expressing this idea, and that many were considered by their designers. As one example, Smalltalk-76 moves a single corner of the window. Systems that move the entire window or a shaded rectangle are also cited, although it is clear that some, if not all, of these systems have more computing power at their disposal.

The movement of just a corner of a window is not compatible with the idea of manipulating multiple windows for users' convenience in organizing information. Users must know what area the "piece of paper" or workspace they are moving will cover. The outline of the window is the obvious graphic for this idea, and its use in over a dozen systems reinforces this conclusion. The ruling on this item stands.

> D2 Macintosh design animation moves a window to the new position as soon as the mouse is released after dragging the window's outline.

Like B2, this describes only the process by which the visual displays are moved. Using the mouse in this way is standard in the industry, and is inseparable from the idea of direct manipulation by mouse of multiple windows. The prior ruling under scenes a faire and merger stands.

> D3 Macintosh design redisplays all newly exposed areas on the screen after a window is moved.

The court previously ruled this feature unprotectible under merger and scenes a faire. This feature appears in 25 of the systems in Microsoft's scenes a faire videotape Exhibit A. At least two of the systems, the Lilith and the Perq, preceded Apple in use of this feature. Microsoft argues that this is a functional feature that is vital to the idea of multiple, overlapping windows, as well as an idea in and of itself.

Apple asserts that the "graphic holes" that are left in areas of windows previously obscured, such as in Smalltalk-76, show that it is not necessary that these blank spaces be immediately refreshed. The absence of information, however, cannot be a useful feature in a system designed to convey information to its users, and such "graphic holes" 1034 would represent technological *1034 shortcomings and hardly serve aesthetic considerations. The prior ruling on this feature stands.

B. *Iconic Representation.*

The Apple works in suit use icons that represent familiar objects from the office environment to facilitate the organization of information stored in the computer's memory. At the outset, iconic representation is not original to the Macintosh interface. In the context of computer graphics, the term appears to have originated with David Canfield Smith who, working at Xerox PARC in the mid-1970s, adopted the term as representing something more than a symbol, an embodiment of its properties. Dep Exh 360. In the Macintosh interface, icons represent files, directories, and applications.

> G5 The design and layout of icons in Macintosh includes display of icons on the screen background behind any open windows.

The court previously found this feature to be unprotectible under merger and scenes a faire. Twenty of the systems in Microsoft's videotape A contain this feature, demonstrating this is common to programs that incorporate the ideas of direct manipulation of icons and windows. Item G5 represents an idea unto itself. Convenience in the highly constrained space available on a computer screen dictates that users be allowed to place windows over icons when operating within a window or moving one around on their computer screens. The ruling stands.

> G6 The design and layout of icons in Macintosh includes the icon's title (when displayed) centered beneath the icon.
>
> G14 The design and layout in Macintosh presents the name of an object by displaying the name centered below the object's icon.

Feature G6 was previously found unprotectible under scenes a faire and due to the limited number of ways it could be expressed. Eleven of the systems in Microsoft's videotape A center the icon title below the icon. Practically speaking, an icon title can be placed either inside the icon or if outside then above, below or along a side of the image. If above or below, the title can be centered, justified right, or justified left. With only nine different places for a title, one author cannot appropriate for himself the exclusive right to one of these positions without the most pernicious consequences on the opportunities for creative expression. This ruling stands. Apple concedes that G14 is duplicative of item G6, Apple Recon App A at 28 n 12, so the same ruling applies.

> G12 The design and layout in Macintosh presents icon images shaped like a page with a turned-down corner to indicate objects of type other than "directory."
>
> I1 The design and layout in Macintosh presents the term "folder" to denote a disk directory.

Apple does not appear to offer any argument rebutting the determinations that item I1 is excluded by § 102(b) and that item G12 lacks originality and would be afforded at best limited protection because of merger. Reviewing the evidence in the record, the court is satisfied that these determinations were properly made in April, and that there is no triable issue of material fact on these points.

> G10 The design and layout in Macintosh associates a different icon image with each type of object and indicates the type of each object by presenting the object as the icon image corresponding to its type.

Item G10 was previously found to lack originality, to be an unprotectible idea, and to flow naturally from the underlying idea, under scenes a faire. Apple argues that the appearance of this iconic system is what is unique and separable from the ideas represented. The court finds this argument unpersuasive, as the specific images of the icons are the subject of separate items on the lists of similarities. No artistic expression is described or indicated by this item, and it remains an unoriginal, unprotectible idea.

> G11 The design and layout in Macintosh presents an icon image shaped like a *1035 file folder to indicate objects of type "directory."

1035

Item G11 was previously found to lack originality. In its response to Apple's motion for reconsideration, HP urges the court to change its prior ruling denying HP's motions as to this item under § 102(b) and the various limiting doctrines, claiming that the use of an image of a file folder to

represent a directory is but an unprotectible idea. The court disagrees. The idea behind this item is the use of a familiar object from the office environment that typically contains other objects, as the icon to represent a directory.

Merger, limited number of ways, and indispensable expression or scenes a faire do not limit the protection for the expression of this idea as a file folder. A file cabinet, a desk drawer, a bookshelf, a binder, an office safe, even a cardboard box could have served the same function. The court does not change this prior determination.

As to originality, given the idea as defined above, the expression is the use of an icon resembling a file folder. This had been used prior to the release of the Lisa in the Xerox Star, and was also employed in the IBM Pictureworld research report. Dep Exh 279. Lisa designer Larry Tesler, then a Xerox employee, had access to the Star during its development in the 1970s, although he apparently exempted himself from certain Lisa design team discussions because of this knowledge. Compare Tesler 2/27/90 Dep at 19:7-20; Tesler 1/20/92 Dep at 20:18-19, with Tesler 1/20/92 Dep at 31:20-24, 35:7-18.

Several of the Lisa designers were at the June, 1981 public unveiling of the Star at the 1981 National Computer Conference. Daniels Dep at 69:11-70:7. One Lisa designer claimed that this was the source of the idea to use "real-world objects" as icons. Id at 71:18-72:18. Although there is evidence, in a draft of an article by Apple employees on the history of the Lisa, that by late summer 1980 Apple had designed a Lisa interface in which a precursor to the file folder icon might be discerned, see Dep Exh 324, Figure 4, an earlier draft of this document reveals that designer Bill Atkinson's copy of the IBM Pictureworld research report influenced the decision to use icons in the Lisa interface. Exh 23 to HP Originality Motion at AM 011007 (Dep Exh 313). All told, there is ample and uncontrovertible evidence in the record showing access to the prior works on the part of Apple employees.

The Star, Pictureworld, the Lisa and the Macintosh all used an icon shaped like a file folder as their expression of the idea of a container from the office to represent a directory. Comparing the artwork associated with the various renditions, all show common file folders with the tab on the top left. While they differ in slight details, these depictions could not but be found substantially similar in all material respects. Accordingly, the decision on lack of originality stands.

> G13 The design and layout in Macintosh presents different images within the outline of a generic page icon to indicate objects of different non-directory type.

Item G13 was previously found to be an unprotectible idea, lacking in originality, and due limited protection under the merger doctrine. Read literally, it is no different from the Star's use of distinguishing text within icons. The court reaffirms its prior ruling on this item. Since item G13 does identify certain expression — the images inside the page icon — that can be compared, however, the actual depiction of the images inside the page icon can be protectible.

> H2 The design and layout in Macintosh displays the special discard folder as an icon resembling a trash can (as does the Lisa).

HP also urges the court to reconsider its ruling on item H2, the trash can icon. HP's argument boils down to the assertion that the literal depictions in NewWave and the Apple works are so dissimilar that Apple could only mean by this item the general idea of a trash can icon. The difference between the IBM Pictureworld drawing and the Apple trash cans is sufficient to find originality, 1036 and HP's arguments *1036 pertain to the intrinsic stage of analysis, and will be addressed in that context. The prior ruling on H2 stands.

> H3 The design and layout of Macintosh presents the name "Trash" beneath the special discard folder. The name "Waste Basket" is presented in Lisa. NewWave displays the name "Waste Basket" beneath the special discard folder.

The court previously found H3, the name "Waste Basket," to be an unprotectible short phrase under 37 C.F.R. § 202.1(a), and to be subject to limited protection because inseparable or flowing naturally from its idea. Apple has not addressed the "short phrase" ground for decision, which in any event is upheld. A short phrase or name might have some relevance in determining the copyright in a literary work, but is merely an unprotectible aspect of a visual work. The court reverses the decision on the limited scope motion. The idea involved is the use of a common object to represent the place to discard objects, and is not limited to the use of an object from the office environment — witness Apple's use of an outdoor trash can rather than a waste paper basket. The name "Waste Basket" is not essential to this idea, for the icon could just as well have been a paper shredder, a toilet, a recycling bin, or perhaps, for the less environmentally fastidious, an open window. Thus, H3 is not subject to the merger or indispensable expression doctrines, but is unprotectible under 37 C.F.R. § 202.1(a).

> I4 The design and layout in Macintosh presents the disk files and subdirectories ("objects") contained in a folder as icons arranged two-dimensionally within the folder's window.

Item I4 was previously ruled unprotectible as an idea, and under scenes a faire doctrine as flowing naturally from the idea of using direct manipulation techniques, icons, and windows to organize information conveniently on a computer screen. There being no expression implicated at all by I4, the ruling stands.

C. *Object Opening/Closing.*

The computer programs at bar utilize the opening and closing of objects as a means of retrieving, transferring or storing information.

> G25 The Macintosh design animation responds to a double-click on an icon in the same way it would respond to selecting that icon followed by choosing the "Open" menu item.
>
> G30 Macintosh design animation opens a folder icon into a corresponding window when it is selected and the 'Open' menu item is chosen.
>
> G31 Macintosh design animation opens an application window displaying an object when a non-folder icon is selected and the 'Open' menu item is chosen.
>
> H4 The design and layout in Macintosh permits the user to open the special discard folder into a window as if it were an ordinary folder.
>
> I2 The design and layout in Macintosh associates with each folder an optionally-open window which when open displays that folder's contents.

Apple does not assert protectibility "with respect to the act of double clicking on an icon or use of the word 'Open' as a menu command," Recon App A at 17-18 n 7, and thus the prior ruling on features G25, G30, and G31 will not be reconsidered. Apple also does not appear to contest the prior ruling that H4 and I2 were unprotectible ideas, unoriginal, and not protectible under scénes á faire. Reviewing the record, the court is satisfied that these rulings were correctly made in April.

> H5 The design and layout in Macintosh permits the user to move an object out of the special discard folder's window and thereby revoke his decision to delete the object.

Item H5 appears to describe an unprotectible idea or process, the ability to reverse a decision to discard something. This flows naturally from the idea of a discard file, and originated in the Pictureworld report. Apple claims that the visual displays associated with this item are protectible, but these displays do not differ from those 1037 associated with the movement *1037 of any object out of a window, which is indispensable to the ideas of direct manipulation of icons and windows. Accordingly, this ruling stands.

> G28 Macintosh design animation displays a rapid sequence of expanding rectangles beginning at the icon's position and ending at the window's position when an icon is opened into a window.
>
> G29 Macintosh design animation displays a rapid sequence of expanding [sic] rectangles beginning at the window's position and ending at the icon's position when a window is closed into an icon.

Items G28 and G29 describe the sequence of expanding or contracting rectangles ("zooming rectangles") which signify that an icon has been opened into a window or a window closed into an icon. HP's motion that these features be given limited protection because of the limited number of ways to express the underlying idea was previously granted. The idea of providing to the user of a computer information connecting the open window to the icon from whence it came, upon reflection, does not seem to require the use of graphics such as "zooming rectangles." Even considering that rectangles may be easier for a computer to generate, see discussion of item A1, supra, it should not be hard to match an icon to an open window by instead showing, say, parallel lines growing in length until they reach the proximate size of the new window, and shrinking back into the icon when the window is closed, in a "slinky" effect.

The fact that only Lisa, Macintosh, GEM, and NewWave use a "zooming rectangles" feature convinces the court that any limit to the number of ways to match window and icon is not because of technical or design constraints so much as a lack of motivation on the part of software designers to provide a feature that performs this function. In the least, this is a triable issue of material fact. HP's motion for partial summary judgment on limited scope of protection is DENIED as to features G28 and G29.

> G33 Macintosh design animation indicates that a folder icon has been opened into a window by displaying the icon as dimmed.

The dimming of an icon upon opening into a window, G33, was previously determined to be unoriginal and unprotectible under the merger doctrine. Apple argues that the Star did not gray, but rather "whited out" selected icons by removing the border and other black lines of the icon, in contrast with the graying effect it employs. The idea of making a selected icon less distinct can only be done by darkening the white lines or lightening the dark lines, short of wholesale changes in appearance.[22] But HP in arguing that this is standard treatment in the industry can only point to the non-iconic Smalltalk and the Star, which bleached out details rather than shading them.[23] There is insufficient evidence showing that this "dimming" is standard treatment, and it is sufficiently original to be protectible. HP's motions as to G33 are DENIED.

> 22 Apple's expert suggests an alternative is having the icon change size, shape, or color. Schneiderman 3/30/90 Decl ¶ 17.
>
> 23 This was also the technique employed in the Lisa.

D. *Menus.*

Menus are employed in graphical user interfaces to store information or functions of the computers in a place that is convenient to reach, but saves screen space for other images.[24]

G27 The design and layout in Macintosh includes a menu item for moving icons onto a grid called "Clean Up". The same menu item in Lisa is called "Straighten Up Icons". NewWave presents the same menu item as "Straighten Up".

I6 The design and layout in Macintosh presents a menu item on the "File" *1038 menu which allows the user to create a new folder within an existing folder.

I7 The design and layout in Macintosh automatically supplies a default name for a newly created folder.

I8 The design and layout in Macintosh presents a menu item on the "File" menu which allows the user to print a listing of a folder's contents on the printer.

I9 The design and layout in Macintosh presents a menu item on the "Edit" menu which allows the user to select every object in a folder at once.

I10 The design and layout in Macintosh includes a menu item for selecting all objects called "Select All". The same menu item in Lisa is called "Select All Icons" in the Lisa.[sic] NewWave calls the same menu item "Select All Items".

[24] Menus appear in Xerox Smalltalk at the window tab to move the window by means of a menu command. See Microsoft videotape A.

Apple's reconsideration papers do not mention item I8, previously found unoriginal and functional. No evidence is put forward to challenge the court's prior determinations that G27, I6, I7, I9, I10, and J9 are unprotectible under § 102(b), that I7 is unoriginal, and that I7, I9, and I10 are subject to limited protection under the merger doctrine. Reviewing the record and finding no triable issue of material fact, the court affirms the granting of HP's motions as to those items, and further notes that there are no artistic features of visual displays implicated by any of these items.

I11 The design and layout in Macintosh presents a menu called "View" with a number of menu items which let the user choose whether a folder's window displays its contents as an arrangement of icons or as a tabular list ordered by the name, type, or modification date of its individual objects.

Item I11 is licensed except to the extent it uses icons. 759 F. Supp. at 1452. The use of icons is an unprotectible idea, and offering iconic representation as an alternative to a directory list merges with the idea of using icons and windows to organize information conveniently on a computer screen. The appearance of no particular icon is implicated by this item, and the prior ruling under § 102(b) and the merger doctrine stands.

J8 The design and layout in Macintosh presents a menu item which produces a dialog displaying certain attributes of the object represented by the currently selected icon.

J9 The design and layout in Macintosh presents a menu item for producing the attributes dialog which is called 'Get Info'. The same menu item is called 'Attributes of X' in Lisa (where X is the name of the object. NewWave presents the same menu item as 'Attributes'.

J10 The design and layout in the Macintosh attributes dialog presents the object's icon, name, type, creation date, modification date, size, and user-specified comment.

The court previously found J8 to be an unprotectible idea under § 102(b), lacking of originality, and subject to limited protection under the merger doctrine. Item J9 was ruled an unprotectible title under 37 C.F.R. § 202.1(a), and

limited by merger doctrine. The court found J10 lacking originality, due limited protection under scenes a faire, and an unprotectible blank form, under 37 C.F.R. § 202.1(c). Taking these three items together, only J10 implicates a protectible visual display. The idea of a "dialog box" — licensed in its generic sense, 717 F. Supp. at 1434 — that shows the attributes of an object is merely an idea, and is inseparable from the idea of using icons along with the licensed features to facilitate the flow of information from computer screen to user. This idea was originally used in the Star, although in a different form of expression, the "property sheet". Exh. 237 Figure 3. The prior ruling on J8 stands. The court has already noted that item J9, the name "Attributes," has been reaffirmed as an unprotectible word. See also discussion of H3, supra. Like the variety of names one can adopt for a discard file, the word "attributes" hardly corners the market of useful descriptions for this concept. Macintosh uses "Get
1039 Info," and "vital statistics" as just one of a *1039 number of other possibilities. Thus, the court finds J9 not subject to merger, although unprotectible under 37 C.F.R. § 202.1(a). The court is also unable to locate any use of the word "Attributes" in the Lisa system, despite the claim in the list of similarities. The motion is also granted as to originality.

Item J10 describes the categories of information contained in the attributes dialog. HP appears to offer little evidence that this arrangement is unoriginal, although the arrangement does naturally flow from the use of icons to represent documents, which traditionally have been represented by listings that includes name, creation date, and size. This item appears to the court to bear a strong resemblance to the work at issue in *Baker v. Selden,* in which the Supreme Court found blank accounting forms not protectible under copyright laws. 101 U.S. at 107. This dialog box is not protectible except to the extent it contains identifiable artwork or a unique arrangement, in the latter case receiving protection only against virtually identical copying. See *Harper House,* 889 F.2d 197. HP's motions under § 102(b) and limited scope are GRANTED, and the motion on originality DENIED, as to this item.

E. *Icon Manipulation.*

In the works at suit, icons are manipulated by the computer user to control operation of the computer, facilitating the organization of the information stored in the machine.

> G4 Macintosh design animation moves an icon to any part of the screen by dragging it along with the cursor when the user presses the mouse on the icon. Windows 2.03 and NewWave (within the NewWave Office windows) also present the same animation design, appearance and style.

This feature was previously found unprotectible under merger and scénes á faire. Like items B2 and D2, the ability to move icons to any position on a screen is a functional process, indispensable to the idea of manipulating icons by mouse. Only the separable artistic expression involved in moving icons can be protectible — the visual changes to the icon as it moves, the image, if any, that remains in the original position. The prior ruling stands.

> G16 The design and layout in Macintosh initiates editing of an icon's name when the mouse is clicked on the name.
>
> G17 The design and layout in Macintosh terminates only editing of icon name and renaming the object associated with the icon if the user responds to any operation other than name-editing.
>
> G18 The design and layout in Macintosh permits the user to select any combination of one or more icons within a folder window.

> G20 Macintosh design animation permits the user to move an icon to a new position by pressing the mouse on the icon, moving the mouse, and releasing the mouse when the new position is reached.
>
> G23 Macintosh design animation moves an icon from one window to another by moving the corresponding object from one disk directory to another.
>
> G32 Macintosh design animation presents the window in the same size and position it had the last time it was open when a folder icon is opened into a window.

Apple does not seek reconsideration of the determination that G20 was unoriginal, unprotectible under § 102(b), and due limited protection under scénes á faire. Apple Recon App A at 22 n 10. It offers no evidence or argument concerning items G16, G17, G18, G23, and G32. Reviewing the record, the court finds no triable issue of material fact concerning the April determination that these items are unprotectible, and those rulings stand. Additionally, the court cannot find any separable expression associated with these items, for consideration in any intrinsic analysis.

> G2 The design and layout in Macintosh stores permanently on disk the position of icons so that at the beginning of a session all icons have the same positions *1040 they had at the end of the previous session.

1040

Item G2, previously found unoriginal, an unprotectible procedure, and limited in protection by the merger doctrine, is only explicitly challenged by Apple on the first ground. This item describes but a process, and is no more expression than the fact that when a reader returns to a book that he placed down open to a certain page, it will still be open to that page. The prior ruling stands as to this item.

> G24 Macintosh design animation presents an icon in a folder when the icon is moved on top of the folder icon.

Apple in its reconsideration papers now describes item G24 as "Folder icon changes appearance (inverse video) when another icon is moved on top of it." Recon App A at 21. This, however, does not happen in NewWave. The court finds the new language irrelevant, and affirms its prior ruling under the original language of G24. This is a procedure that naturally flows from the idea of direct on-screen manipulation of icons and windows to facilitate the organization of information on a computer screen.

> G1 The design and layout in Macintosh initially displays a work area on which icons can be placed and which is always displayed behind its windows.

The court in April granted all three of HP's motions as to item G1. Apple now argues that G1 includes the idea that icons could be placed anywhere on the desktop, which is more properly item G4, determined to be unprotectible under merger and scenes a faire, supra. HP is correct in asserting that the gray background is an unprotectible blank form, *Bibbero Systems, Inc. v. Colwell Systems, Inc.,* 893 F.2d 1104, 1107 (9th Cir. 1990), and that the placement of icons on a background was first utilized in Smalltalk, where tabs represented collapsed windows. Apple's efforts to distinguish the appearance of icons on the desktops of Macintosh and the Star are unavailing. Compare Screen Shot 6 to Apple Recon App A with Exh 3 to Apple Resp to HP Orig Motion. Finally, this ability to place icons on a blank background is inseparable from the idea of direct manipulation of icons and windows by a computer user to facilitate the organization of information on the computer screen. The prior ruling on this item stands.

> G15 The design and layout in Macintosh presnets [sic] the user to change the name of an object by editing its icon's name directly where it appears on screen.

As originally worded, G15 was found to be an unoriginal, unprotectible idea that would get limited protection under scènes à faire. Apple now broadens the item to encompass features that would not have been obviously included, such as changing the appearance of the cursor to an "I-beam" and presenting the title to be edited in inverse video. Apple Recon App A at 32:10-15. To the court, this still sounds like a typewriter manufacturer attempting to copyright the ability of its machine to place letters on paper directly on a roller. This procedure, even considering the broadening language, does nothing more than allow a user to place his own words in a particular space on a computer screen. That inverse video is used to show the workspace, and the cursor becomes an I-beam, are common methods of relaying information to the user. The prior ruling on this item stands.

> G19 Macintosh design animation indicates that an icon is currently selected by changing both the icon and its name into reverse video.

Item G19, indicating icon selection through use of inverse video, was determined in April to be unoriginal and scènes à faire to GUIs. The Smalltalk system highlighted its window tabs in this manner. Dep Exh 227. After the Lisa designers chose to similarly highlight their folder tabs, Dep Exh 292 at AM003704, the Star was introduced, using inverse video with full-blown icons. Dep Exh 361, Figure 4. This method is unoriginal to Apple and can be considered a standard treatment of the medium. The prior ruling is affirmed.

> G21 Macintosh design animation permits the user to move several icons at once by
1041 selecting all of the icons, then *1041
> dragging any one of the icons as if it alone were selected.

Item G21 was found in April to be an unprotectible idea, and expression inseparable from its underlying idea. Apple argues that the appearance of the icons when all are selected is the similarity being described. To the extent there are visual displays that correspond to this idea, however, these are the selected icons portrayed in inverse video, which is the unprotectible item G19, and the appearance of icons when they are being moved, also found in item G4. Any artistic expression that is implicated in this item will be considered as part of G4. The prior ruling on G21 is upheld.

> G26 The design and layout in Macintosh presents a menu item which moves all the icons in a window so that they fall on an invisible grid.

Item G26 describes the Macintosh's "Clean Up" feature. The court in April ruled this feature unoriginal, an unprotectible procedure, and the subject of limited protection due to merger of idea and expression. Apple argues this was original to the Lisa, not occurring in the older iconic system of Xerox, the Star. The Star, however, would allow icons only to be placed on points in an invisible grid and thus had no need for a "clean up" feature. The use of a grid to keep icons neatly arranged originated in the Star. The "Clean Up" feature is but an idea or procedure, and is inseparable from the idea of using icons that are directly manipulated on a computer screen to facilitate the organization of information. Item G26 merely allows a user to make order out of chaos, and is associated with no unique, separable artistic expression. Cf *Fabrica,* 697 F.2d 890 (useful article limitation to protection of pictorial, graphic and sculptural works). The prior ruling is affirmed.

> H1 The design and layout in Macintosh presents a special discard folder into which the user moves objects he wishes to delete.

The only visual displays associated with item H1 are embraced by item H2. The idea of a discard file is unoriginal, previously appearing in the IBM Picture-world research report to which Lisa designers had access, see discussion of item G11, supra, and is an unprotectible idea which naturally flows from the idea of using iconic representation to aid computer users in the organization of information. The prior determinations of unprotectibility as to item H1 are not changed.

> H6 The design and layout in Macintosh does not permit the user to move certain objects called "tools" into the special discard folder. Macintosh stops and ask the user for confirmation before completing such moves.

Item H6 merely describes an idea. To the extent visual displays are involved, these are covered by the general license of dialog boxes, 717 F. Supp. at 1434. Even this idea was unoriginal to Apple, see Atkinson Dep at 116:18-23, and is inseparable from the idea of employing icons to help computer users organize information on a computer screen. The prior rulings of unprotectibility under § 102(b) and due to lack of originality and merger of idea and expression are affirmed.

> J11 The design and layout in the Macintosh attributes dialog permits the user to change the associated object's comment by editing it directly where it appears on screen.

Item J11 was previously determined to be an unprotectible procedure, lacking in originality, and due limited protection because it naturally flowed from the underlying ideas. This ruling is affirmed. See discussion of items G15, J10, supra.

F. *Summary.*

The court GRANTS Microsoft's motion that the following items from the list of similarities are not protectible under copyright: (1) under the scénes á faire doctrine, items A1, A8, B1, B2, D1, D2, D3, G4, G5, G6; (2) due to merger of idea and expression: A1, A8, B1, B2, D2, D3, G4, G5; (3) due to the limited number of ways to express the idea: A1, D1, G6. Of these items, only A1, D1, G4 and G5 could possibly be associated with unlicensed artistic expression to be compared
1042 under the "virtually *1042 identical" standard in the course of intrinsic analysis. This would be the appearance of the gray outline of a moving window, the change in appearance of icons when moving, and any special, non-functional artistic touches involved with the appearance of windows and icons that are overlapped, other than the art used to identify the active window, licensed item A4.

The court GRANTS HP's motion for summary judgment under § 102(b) as to the following items: G1-2, G10, G13, G15- 18, G20-21, G23-27, G30-32, H1, H3-6, I1-2, I4, I6-11, J8-11. The motion is DENIED as to items G11 and H2. The court GRANTS HP's motion for partial summary judgment based on lack of originality as to the following items: G1-2, G10, G12-13, G15- 16, G19-20, G25-26, G30-31, H1, H4-6, I2, I7-8, J8-9, J11. The originality motion is DENIED as to items G11, G24, G33, H2, J10.

HP's motion for partial summary judgment on limited scope of protection is GRANTED under the merger doctrine as to the following items: G2, G12-13, G17-18, G25-26, G30-32, H3, H6, I7, I9-11, J8. The motion is GRANTED under scénes á faire for these items: G1, G10, G15-16, G19-21, G24, H1, H4-5, I2, I4, J10-11. This motion is DENIED as to items G11, G28-29, G33, H2-3, J9.

Item G14 is withdrawn as being duplicative of item G6. The determination of HP's motions has resulted in all items alleged against HP to be found unprotectible or only protectible from virtually identical copying, with the exception of

items G28, G29, G33, and H2. The only items that might have artistic expression that can be identified and protected against virtually identical copying are G13, G24, and J10.[25]

[25] In addition to items A1, D1, G4 and G5.

VI.

After granting Apple's motion for reconsideration, the court on May 12, 1992 heard argument from counsel for Microsoft and Apple on Microsoft's "Motion for Partial Summary Judgment Dismissing Apple's Claim Against Windows 3.0." Counsel, with the aid of the machines left with the court, identified and compared the Windows 3.0 visual displays described in the Second Supplemental List as "Additional Similarities" with their counterparts in the Apple works.

Counsel for Microsoft and Apple had in the weeks prior to the May 12 hearing submitted letters to the court regarding whether the court's determinations of the limited scope of protectibility of certain items from the initial list of similarities, reconsidered in section V, should carry over to items from the Second Supplemental List that appear to correspond to those items.[26] Clearly, the answer is yes.

[26] Letter of D. T. McDonald, April 23, 1992; Letter of J. E. Brown, May 7, 1992; Letter of D. T. McDonald, May 8, 1992; Letter of J.E. Brown, May 11, 1992.

The purpose of the dissection undertaken in section V is to isolate the protectible expression in the Apple works, using Apple's list of alleged similarities between its and defendants' works. If Apple has little or no property right to items alleged to be found generally in Windows 2.03 or NewWave, then the recurrence of these items within Windows 3.0's Program Manager and File Manager cannot somehow enhance Apple's property rights. Further, Microsoft in its support memorandum *did* put forward lack of originality and lack of protectibility arguments on these items, which mirror the analysis used by the court in section V. Finally, as Microsoft notes, Apple's own FRCP 30(b)(6) witness acknowledged the redundancy in the items from the original list and Second Supplemental List.[27]

[27] Capps Dep at 372-73, 392-94, 397, 407, 409-12.

In the course of considering the "additional similarities" from the Second Supplemental List, the court, following the convention adopted in section V, reproduces the descriptions supplied by Apple.[28] *1043 Where a limiting doctrine applies, only those items associated with separable artistic expression, that a reasonable jury could find to be virtually identical copies of the expression in the Apple works, can survive this summary judgment motion. See *Frybarger,* 812 F.2d at 530.

[28] Adding the system of sub-designation used in Microsoft's papers, such as "X2(i)."

A. *Program Manager.*

> X1 Windows 3.0 has replaced the text-based filing systems of Windows 1.0 and Windows 2.03 with a graphical filing system (called Program Manager) that makes extensive use of icons, similar in nature to the graphical filing system of the Macintosh audiovisual works.
>
> X1(i) In Program Manager, application programs, documents, and groups of application programs or documents are represented by icons, as they are in the graphical filing system of the Macintosh audiovisual works.

Items X1 and X1(i) only refer to the idea of using icons in a filing system, which is not protectible. See discussion of item G10, supra.

> X1(ii) The arrangement of the icons in both systems is similar, with the icons generally arranged in rows and columns in one of the first displays that the user sees and which the user uses to select and initiate work activity.

This is unprotectible as an idea, and under scènes à faire. See discussion of 14, supra.

> X1(iii) All visible icons have titles centered underneath the icon.

This is duplicative of item G6, which is unprotectible under scénes á faire and due to the limited number of ways it can be expressed.

> X2 In both the Windows 3.0 Program Manager and the Macintosh audiovisual works, the use and movement of icons are visually depicted in a similar manner, specifically [items X2(i)- (viii)]:
>
> X2(i) When an icon is moved around within a window and from one window to another, the movement is depicted through animation;

This is the same as item G4, and is covered by the court's merger and scénes á faire determinations, supra. To the extent that there are changes in the appearance of the icons while being moved, these are compared for virtual identity. The court finds that the animation involved is not virtually the same. In Program Manager, a black-and-white version of the icon is moved, its title disappears, and no image is left in the former location. In the Lisa, the details of the icon, more or less, are moved in dotted form, leaving behind an outline of the icon bleached white, and the title in inverse video. In the Macintosh, a dotted outline of a square attached to the rectangular outline of the icon's title is moved (resembling an "inverted T"), leaving behind the image of the icon and its title, in inverse video. Given the operation of merger and scénes á faire, these differences are significant enough to prevent this item from being grounds for infringement.

> X2(ii) When an icon is "selected," the selection is depicted by a change in the icon's appearance;

Item G7, "design animation indicates a selected icon when it is clicked on with the mouse," was previously determined to be licensed. See Order filed April 15, 1992; 717 F. Supp. 1428. Of course, the mere notion of using animation to indicate the selection of an icon could not be protected in any event, as this merges with the idea of using icons, and is standard treatment in computer interfaces.

The expression associated with this item differs greatly in the works at suit. In Macintosh Finder and in Lisa, icon selection is indicated by inverse video, which is unprotectible. See discussion of G19, supra. In Windows 1.0, a box around the icon indicated selection. In Windows 2.03, this was accomplished by showing the title of the icon. Windows 3.0 highlights the title to indicate selection. This is neither virtually identical, nor even substantially similar to the Apple expression, and it is beyond reason that a jury could find otherwise.

> X2(iii) When an application icon is "opened," the display changes to show
1044 *1044 a window running the application program, creating the appearance that the icon is transformed into the window;
>
> X2(iv) When a group icon is "opened," the display changes to show a window displaying other icons, creating the appearance that the icon is transformed into the window;
>
> X2(v) When a document icon is "opened," the display changes to show a window displaying the contents of the document, creating the appearance that the icon is transformed into the window;

These three items merely restate licensed item G9, 717 F. Supp. 1428; and unprotectible items G25, G30, and G31. There is no separable artistic

expression associated with these items, as the icons in Windows 3.0's Program Manager do not change their appearance when a window is opened. Thus, these items cannot be the basis for copyright infringement.

> X2(vi) When a window is "closed," the display changes to show the icon, creating the illusion that the window collapsed into the icon;

This is duplicative of G3, an item which is licensed. 717 F. Supp. 1428. Further, there is no change in the appearance of the icons in Program Manager when a window is closed. There being no "illusion" of collapsing, this item simply implicates no expression in Windows 3.0.

> X2(vii) When the position of the icons is "saved," they are displayed in the same position when the computer is turned off and turned on again; * * *

This is the same as G2, found unoriginal, an unprotectible procedure, and covered by the merger doctrine, supra.

> X2(viii) When icons are "cleaned up" (i.e. arranged in rows and columns), they are depicted as moving towards specific points on an invisible grid.

This item, when alleged under the guise of G26, has been found unoriginal, an unprotectible procedure, and the result of merger of idea and expression.

> X3 The combination of the above features creates a visual impression that is similar in both the Windows 3.0 Program Manager and the Macintosh audiovisual works.

This is merely the reiteration of Apple's "look and feel" argument, rejected by the court in section IV.

B. *File Manager.*

> Y1 Windows 3.0 has a second graphical filing system (called File Manager) that also replaced the text-based filing system of Windows 1.0 and Windows 2.03. The appearance of File Manager is similar to the graphical filing system of the Macintosh audiovisual works.

The use of a graphical filing system is an unprotectible idea, and merges with the idea of employing iconic representation.

> Y1(i) In File Manager, an application program, document, or directory (which contains application programs or documents) are [sic] represented by a name and a small, down-sized icon appearing to the left of the name.

The use of down-sized icons is standard treatment in the industry. Microsoft's videotape B shows that at least eight systems, beginning with the 1981 Xerox Star, used down-sized icons in this manner. There is no expression separable from that which necessarily follows from use of down-sized icons, so this feature cannot be the basis of an infringement claim.

> Y1(ii) A document icon appears as a page with the upper right-hand corner turned down.

This is but the down-sized version of G12, found unoriginal and subject to merger, supra. Microsoft's videotape B shows that this is common to interfaces, as well. This item is unprotectible.

> Y1(iii) A directory icon is shown as a folder icon turned on its side with the tab at the left end.

The lack of originality determination for the full-sized version of the file folder, G11, covers the down-sized icon. Additionally, videotape B shows that use of a down-sized file folder icon is standard in the industry, with at least four systems

— Star, Viewpoint, Metaphor, and GeoWorks
1045 Ensemble *1045 — using icons of file folders with the tab on the top left. This item is not protectible.

> Y1(iv) An application icon appears in various forms connoting the type of application program involved.

Apple has not indicated any downsized application program icons that it believes Microsoft copied from Lisa. Windows 3.0's File Manager uses generic rectangular icons with a narrow strip across the top to represent its application programs, whereas the Lisa used miniature versions of its full-sized application program icons. There is no triable issue of similarity on this item, for the down-sized icons used in the two programs are altogether different. This item cannot be the basis for a finding of similarity between the works.

> Y1(v) This design and arrangement is similar to the graphical filing system of the Macintosh audiovisual works.

This is merely the "look and feel" argument, rejected by the court in section IV, as it pertains particularly to the filing system features.

> Y2 In both the Windows 3.0 File Manager and the Macintosh audiovisual works, the use and movement of icons are visually depicted in a similar manner, specifically[Y2(i)-(vii)]:

> Y2(i) When a down-sized icon is moved around within a window or from one window to another, the movement is depicted through animation showing an outline of the icon following the cursor;

This is really the same as item G4, except that the movement of the down-sized versions of icons are specifically at issue. Accordingly, the merger and scénes á faire determinations of the court on item G4 also hold for Y2(i).

Comparing the changes in the appearance of the down-sized icons, one finds that the expression is not at all similar. When down-sized icons are moved in the Lisa, a *full- sized* outline of the icon moves with the cursor, leaving behind a shaded outline of the down-sized icon. When the down-sized icons are moved in the File Manager, a copy of the down- sized icon with all of its details is moved. There is no change in the appearance of the down-sized icon appearing to the left of the name until the cursor moves the copy into another window, at which point the original downsized icon sometimes disappears, depending on the type of file over which the copy is placed.

Thus, the only artistic feature of Lisa's item Y2(i) that can separated from the general idea of showing a moving down-sized icon — choosing to move a full-sized outline while leaving a shaded outline behind — is not present in File Manager. This feature is not similar in the two works, using either a substantial similarity or a virtual identity standard, and a jury could not find otherwise.

> Y2(ii) When an icon is "selected," the selection is depicted by a change in the icon's appearance;

In the Lisa, selection of a downsized icon changes that icon by inverse video and highlights its name with a black rectangle, also changing the name by inverse video. Even were this form of expression employed in File Manager, it could not be the basis for infringement, under the court's lack of originality and scénes á faire determinations concerning item G19. In File Manager, however, there is no change in the appearance of the down-sized icon itself when it is selected. Inside the Directory Tree, a rectangle highlights the icon and the icon's name, the latter being changed by inverse video, the former remaining the same, with just a different background. In a sub-directory, selection is indicated by highlighting all the way across the window, changing all words by inverse video but not affecting the appearance of

the icon.[29] The only similarity is in the use of inverse video, which is not protectible. This item cannot be the basis for infringement. *1046

> Y2(iii) When an application icon is "opened," the display changes to show a window running the application program, creating the appearance that the icon is transformed into the window;
>
> Y2(iv) When a document icon is "opened," the display changes to show a window displaying the contents of the document, creating the appearance that the icon is transformed into the window;
>
> Y2(v) When a directory (folder) icon is "opened," the display changes to show a window displaying the contents of the folder, creating the appearance that the icon is transformed into the window;

[29] The version of Macintosh Finder at suit does not use down-sized icons, and indicates selection when in a non-iconic "View" mode by inverse video of the entire line of information.

The discussion of items X2(iii)-(v), supra, applies to items Y2(iii)-(v). In File Manager, there is no change in the appearance of the opened icon, and thus no "appearance that the icon is transformed into the window." These items fall to state grounds for an infringement determination.

> Y2(vi) When a directory (folder) icon is "opened," the contents may be displayed in a variety of ways, such as "by name," "by type," "by size," and "by date." Information is displayed in columns (viewing from left to right) with the icon displayed, the name, the size of the folder, the date of last modification and the time of last modification; * * *

This is duplicative of licensed item I11, 759 F. Supp. at 1452, except in the use of down-sized icons. Down-sized icons are an unoriginal, standard feature, see discussion of item Y1(i), supra, and their use with item I11 is subject to the merger doctrine, inseparable from the idea of employing icons to facilitate the organization of information stored in the computer's memory. There is no separable artistic expression involved other than the design of the icons, which is covered by other items. Item Y2(vi) cannot support an infringement claim.

> Y2(vii) When all the icons in a window are "selected," the selection is depicted by a change in the appearance of all of the icons.

This item merely combines the unprotectible idea of I9 with item Y2(ii), and accordingly cannot be the grounds for infringement.

> Y3 The combination of the above features creates a visual impression that is similar in both Windows 3.0 File Manager and the Macintosh audiovisual works.

This restatement of Y1(v) is similarly irrelevant for the purpose of proving infringement.

C. *Fonts, Colors, and Miscellaneous.*

> Z1 Both Windows 1.0 and Windows 2.03 showed window and menu titles and text within dialog boxes in monospace fonts. Windows 3.0 adopts proportionally spaced fonts, which is what is used in the Macintosh audiovisual works. This change affects the appearance of window title bars (and thus windows), menus and dialog boxes.

There are only two non-random ways to space fonts: they can be monospaced, or proportionally-spaced. Apple cannot appropriate one of these rare ideas for its exclusive use, nor could such an idea be protectible. Further, the use of proportionally-spaced fonts is common to user interfaces, see videotape B. Microsoft does not even use the same

font as Apple, see Foley Suppl Decl ¶ 29. The type of font-spacing used in a user interface cannot be the grounds for copyright infringement.

> Z2 Windows 3.0 makes greater use of muted tones (such as black, white, and gray) than Windows 2.03, more similar in appearance to the black, white, and gray tones of the Macintosh. The color change affects fill patterns and the animation used to indicate the selection of menu commands, icons, and other features.

This is an incredible alleged similarity. The Apple works at suit were designed for black-and-white monitors, and can only use the so-called "muted tones" black, white, and gray. The use of colors in Microsoft's Windows 3.0 simply cannot be a similarity to the lack of color in the Apple works.

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D. *Summary.*

Not one of the identifiable alleged "additional similarities" comes close to being an identical copy of the corresponding features in the Apple works. Since each and every one of them is subject to at least one limiting doctrine, not one of these items can by itself be the basis of an infringement determination. See *Data East,* 862 F.2d at 209. Microsoft's motion as to these items is GRANTED.

VII.

The parties are directed to be available for a telephone conference to be scheduled by the court for the week of August 10, 1992, to discuss an efficient means of resolving any remaining undecided issues raised by pending motions. This includes, but is not limited to, similarities between the remaining expression in the works at bar, as summarized in part V, sub-part F.

SO ORDERED.

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