

## Apple Computer, Inc. v. Microsoft Corp.

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Jack E. Brown, Brown Bain, Phoenix, AZ, for plaintiff-appellee-cross-appellant.

David T. McDonald, McDonald Quackenbush, Seattle, WA, for defendant-appellant-cross-appellee Microsoft Corp.

Jonathan A. Marshall, Pennie Edmonds, New York City, for defendant-appellant-cross-appellee Hewlett-Packard Co.

Appeals from the United States District Court for the Northern District of California.

Before: FERNANDEZ, RYMER, and T.G. NELSON, Circuit Judges.

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Lisa and Macintosh are Apple computers. Each has a graphical user interface ("GUI") which Apple Computer, Inc. registered for copyright as an audiovisual work. Both GUIs were developed as a user-friendly way for ordinary mortals to communicate with the Apple computer; the Lisa Desktop and the Macintosh Finder<sup>1</sup> are based on a desktop metaphor with windows, icons and pull-down menus which can be manipulated on the screen with a hand-held device called a mouse. When Microsoft Corporation released Windows 1.0, having a similar GUI, Apple complained. As a result, the two agreed to a license giving Microsoft the right to use and sublicense

derivative works generated by Windows 1.0 in present and future products. Microsoft released Windows 2.03 and later, Windows 3.0; its licensee, Hewlett-Packard Company (HP), introduced NewWave 1.0 and later, NewWave 3.0, which run in conjunction with Windows to make IBM-compatible computers easier to use. Apple believed that these versions exceed the license, make Windows more "Mac-like," and infringe its copyright. This action followed.

<sup>1</sup> The Macintosh Finder is registered as a derivative work of the Lisa Desktop. Although the district court dismissed the Finder as a work in suit, the Macintosh interface has been referred to interchangeably with the Lisa during the course of this litigation.

In a series of published rulings,<sup>2</sup> the district court construed the agreement to license visual displays in the Windows 1.0 interface, not the interface itself; determined that all visual displays in Windows 2.03 and 3.0 were in Windows 1.0 except for the use of overlapping windows<sup>3</sup> and some changes in the appearance and manipulation of icons; dissected the Macintosh, Windows and NewWave interfaces based on a list of similarities submitted by Apple to decide which are protectable; and applied the limiting doctrines of originality, functionality, standardization, *scenes a faire* and merger to find no copying of protectable elements in Windows 2.03 or 3.0, and to limit the scope of copyright protection to a handful of individual elements in NewWave.<sup>4</sup> The court then held that those elements in NewWave would be

compared with their equivalent Apple elements for substantial similarity, and that the NewWave and Windows 2.03 and 3.0 works as a whole would be compared with Apple's works for virtual identity. When Apple declined to oppose motions for summary judgment of noninfringement for lack of virtual identity, however, judgments in favor of Microsoft and HP were entered.

<sup>2</sup> *Apple Computer, Inc. v. Microsoft Corp.*, 709 F. Supp. 925 (N.D.Cal. 1989) (*Apple I*); *Apple Computer, Inc. v. Microsoft Corp.*, 717 F. Supp. 1428 (N.D.Cal. 1989) (*Apple II*); *Apple Computer, Inc. v. Microsoft Corp.*, 759 F. Supp. 1444 (N.D.Cal. 1991) (*Apple III*); *Apple Computer, Inc. v. Microsoft Corp.*, 779 F. Supp. 133 (N.D.Cal. 1991) (*Apple IV*); *Apple Computer, Inc. v. Microsoft Corp.*, 799 F. Supp. 1006 (N.D.Cal. 1992) (*Apple V*); *Apple Computer, Inc. v. Microsoft Corp.*, 821 F. Supp. 616 (N.D.Cal. 1993) (*Apple VI*). The first two published opinions were rendered by Hon. William S. Schwarzer; after his appointment as Director of the Federal Judicial Center, this matter was reassigned to the calendar of Hon. Vaughn R. Walker.

Our treatment of facts throughout is truncated because the district court's is so extensive.

<sup>3</sup> Windows 1.0 had a tiled windowing system in which the windows were connected together in a fixed pattern such that all open windows were simultaneously visible. An overlapping system allows windows to be stacked on top of one another and moved around the screen individually.

<sup>4</sup> These items relate to the "zooming rectangle" animation associated with the opening or closing of an icon into a window, the "dimming" of a folder icon that has been opened into a window, and the use of a trash can icon to depict the discard function. Each appears in both versions 1.0 and 3.0 of NewWave, but none is in any version of Windows.

Apple asks us to reverse because of two fundamental errors in the district court's reasoning.<sup>5</sup> First, Apple argues that the court should not have allowed the license for Windows 1.0 to serve as a partial defense. Second, Apple contends that the court went astray by dissecting Apple's works so as to eliminate unprotectable and licensed elements from comparison with Windows 2.03, 3.0 and NewWave as a whole, incorrectly leading it to adopt a standard of virtual identity instead of substantial similarity. We disagree.

<sup>5</sup> Although it does not concede that limiting doctrines were correctly applied to each alleged similarity, Apple does not ask us to review the many discrete decisions reflected in the district court's published opinions. We have done so only to the extent of being satisfied that none makes a difference to the outcome, because we agree that the appeal turns on whether the district court's *approach* was correct.

The district court's approach was on target. In so holding, we readily acknowledge how much more complex and difficult its task was than ours. The district court had to grapple with graphical user interfaces in the first instance — and for the first time, with a claim of copying a computer program's artistic look as an audio-visual work instead of program codes registered as a literary work. In this case there is also the unusual, added complexity of a license that arguably covers some or most of the allegedly infringing works. The district court therefore had to cut new paths as it went along; we have the luxury of looking at the case at the end of the trip. From this vantage point, it is clear that treatment of Apple's GUIs, whose visual displays are licensed to a great degree and which are a tool for the user to access various functions of a computer in an aesthetically and economically pleasing way, follows naturally from a long line of copyright decisions which recognizes that works cannot be substantially similar where analytic dissection demonstrates

that similarities in expression are either authorized, or arise from the use of common ideas or their logical extensions.

We therefore hold:

(1) Because there was an agreement by which Apple licensed the right to make certain derivative works, the district court properly started with the license to determine what Microsoft was permitted to copy. Infringement cannot be founded on a licensed similarity. We read Microsoft's license as the district court did, to cover visual displays — not the Windows 1.0 interface itself. That being so, the court correctly decided first to identify which visual displays in Windows 2.03, 3.0 and NewWave are licensed and which are not.

(2) The district court then properly proceeded to distinguish ideas from expression, and to "dissect" unlicensed elements in order to determine whether the remaining similarities lack originality, flow naturally from basic ideas, or are one of the few ways in which a particular idea can be expressed given the constraints of the computer environment. Dissection is not inappropriate even though GUIs are thought of as the "look and feel" of a computer, because copyright protection extends only to protectable elements of expression.

(3) Having found that the similarities in Windows 2.03 and 3.0 consist only of unprotectable or licensed elements, and that the similarities between protectable elements in Apple's works and NewWave are de minimis,<sup>6</sup> the district court did not err by concluding that, to the extent there is creative expression left in how the works are put together, as a whole they can receive only limited protection. When the range of protectable and unauthorized expression is narrow, the appropriate standard for illicit copying is virtual identity. For these reasons, the GUIs in Windows 2.03, 3.0 and NewWave cannot be compared for substantial similarity with the Macintosh interface as a whole. Instead, as the district court held, the works must

1440 be compared for virtual identity.<sup>7</sup> \*1440 Apple also challenges dismissal of the Macintosh Finder as a work in suit. Although we agree that the Finder, which is registered as a derivative work of the Lisa Desktop, should not have been dismissed as a work in suit because the underlying copyright on the Lisa has not expired, Apple's non-opposition to judgment as to the Lisa applies to the Finder as well. The Macintosh Finder is not incrementally different from the Lisa Desktop in any respect material to Apple's claims of infringement. There is accordingly no basis in the record for reversal on account of the erroneous dismissal of the Finder.

<sup>6</sup> The court's order that the four individual similarities in NewWave were to be compared at trial with their "equivalents" in Apple's works for substantial similarity, *Apple VI*, 821 F. Supp. at 631, is not an issue on appeal. Apple does not assert infringement as to any of these elements individually, and we therefore assume that it did not oppose entry of judgment on this basis. In any event, as the district court held, *id.* at 623-25, these similarities do not comprise a core of protectable and unlicensed similarities substantial enough to warrant a finding of illicit copying under a standard of substantial similarity. *See, e.g., Data East USA, Inc. v. Epyx, Inc.*, 862 F.2d 204, 209 (9th Cir. 1988) (one remaining similar feature was "inconsequential"); *See v. Durang*, 711 F.2d 141, 143 (9th Cir. 1983) (per curiam) (five remaining similarities insufficient to convince trier of fact that works were substantially similar).

<sup>7</sup> Since Apple contests only the legal standard of virtual identity, we do not consider whether summary judgment was appropriately entered on the merits under that standard.

Finally, Microsoft and HP cross-appeal denial of their requests for attorney's fees. Since the district court's decision, the Supreme Court has conferred

greater discretion to award fees to prevailing defendants than our law previously acknowledged. *Fogerty v. Fantasy, Inc.*, \_\_\_ U.S. \_\_\_, 114 S.Ct. 1023, 127 L.Ed.2d 455 (1994). Therefore, we remand so that the district court may reconsider this issue in light of *Fogerty*.

## I

Analysis of Apple's infringement claims must start with an agreement signed in 1985 by Apple and Microsoft, which resolved a dispute about visual displays generated by Microsoft software products. The 1985 Agreement licensed the right to use the visual displays generated by Apple's Lisa and Macintosh graphic user interface programs which appeared as derivative works in Windows 1.0.<sup>8</sup> As a result, to the extent that later versions of Windows and NewWave use the visual displays in Windows 1.0 (which came from Apple), that use is authorized.

<sup>8</sup> In the Agreement, Microsoft acknowledged "that the visual displays in [Windows 1.0] are derivative works of the visual displays generated by Apple's Lisa and Macintosh graphic user interface programs." Apple granted Microsoft a nonexclusive, royalty-free, nontransferable license "to use these derivative works in present and future software programs and to license them" to third parties for use in new software programs. Microsoft, in turn, granted Apple a similar license "to use any new visual displays created by Microsoft" during the next five years as part of its Windows retail software products; Apple waived any copyright, patent, trade secret or other claim against Windows 1.0; Microsoft agreed to delay the release of any versions of its Excel spreadsheet program that would run on computers other than the Macintosh; and Microsoft agreed to release an enhanced version of Microsoft Word (a word processing program) for the Macintosh.

Apple's appeal turns on whether the Agreement, properly construed, gives Microsoft the right to transfer individual elements or design features used in Windows 1.0 Apple particularly objects to any interpretation that would permit later Windows products to look more like the Macintosh than Windows 1.0 looked.

The plain language of the Agreement disposes of Apple's argument. It licenses Microsoft to use "these derivative works." "These derivative works" can only refer to Microsoft's acknowledgment that the "visual displays" generated by Windows 1.0 "are derivative works of the visual displays generated by Apple's Lisa and Macintosh graphic user interface programs." As the district court explained:

Had it been the parties' intent to limit the license to the Windows 1.0 interface, they would have known how to say so. Instead, the "derivative works" covered by the license are identified as the "visual displays" in the Windows 1.0 interface, not the interface itself. And there is nothing in the 1985 Agreement that indicates that it was intended as a product license restricting Microsoft and its licensees to the use of the Windows 1.0 interface as a whole.

*Apple II*, 717 F. Supp. at 1430-31.

Apple contends that the term "visual displays" is ambiguous and can reasonably be construed (against Microsoft, as drafter) to distinguish audiovisual copyrights protecting visual works from literary copyrights protecting programs, and to cover use of so much of Apple's visual copyrights as were used in Windows 1.0 but no more. This argument fails because Apple tried to limit Microsoft's license to Windows 1.0 as a whole — but did not succeed. Apple's first draft included language providing that "at no time shall this grant extend to any appearance, look, feel, visual feature or operation other than that incorporated in Microsoft Windows." Microsoft,

however, rejected this limitation. Thus, the parties had already staked out their positions by the time Microsoft produced the final draft. Accordingly, there is no basis for construing the Agreement to grant the narrow license Apple bargained for but gave up.

Apple relies on statements by various Microsoft employees in support of its ambiguity argument. These are unavailing because the Agreement has an integration clause which precludes contradicting its terms by collateral understandings. *Hayter Trucking, Inc. v. Shell Western E P, Inc.*, 18 Cal.App.4th 1, 14, 22 Cal.Rptr.2d 229 (1993). In any event, testimony by the two employees who opined that the phrase "visual displays" is ambiguous lacks force because both are engineers who took no part in negotiating the 1985 Agreement. Likewise, an internal Microsoft memorandum by Bill Gates, which states that Microsoft must "be careful not to take additional things from apple screens when we make enhancements — everything we do today is fine," raises no triable issue as it is consistent with Gates's understanding that the license was for individual displays, not the interface as a whole, and with testimony by Apple's chief negotiator that Apple's license from Microsoft gave Apple the right to incorporate into the Macintosh interface any "new visual feature" developed by Microsoft for Windows.

Apple's further contention that the district court's interpretation of the Agreement must be wrong because it would be unreasonable to suppose that Apple knowingly gave away its most valuable technological asset ignores the fact that Apple itself received valuable consideration under the Agreement: the right to use and license any new displays created by Microsoft within five years, together with Microsoft's promises to delay release of an IBM-compatible version of Excel and to release an improved version of Microsoft Word for the Macintosh. Under these

circumstances, the district court properly concluded that the Agreement is not reasonably susceptible to Apple's interpretation.<sup>9</sup>

<sup>9</sup> For the same reasons, the district court did not abuse its discretion in denying Apple's motion for leave to amend to add claims for breach of contract, rescission and unfair competition. *See Allen v. City of Beverly Hills*, 911 F.2d 367, 373 (9th Cir. 1990). The proposed amendment would have been futile because the claims that Apple sought to add are based on its allegation that during the negotiation of the 1985 Agreement, Microsoft promised it would not make future versions of Windows any more similar in appearance to the Macintosh.

## II

Apple also appeals denial of its own motion for partial summary judgment that the works, viewed overall as they are viewed by users, are unlicensed derivative works substantially similar to Apple's works. Our resolution of its argument for reversal of judgments in favor of Microsoft and HP essentially disposes of this issue.

Apple raises one additional point, however, which we address here because Apple treats it as connected to its motion. The argument is that even if the 1985 Agreement does confer a partial license to use visual displays, Microsoft and HP exceeded its scope and therefore infringed Apple's copyrights. *See, e.g., S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081, 1087 (9th Cir. 1989) ("A licensee infringes the owner's copyright if its use exceeds the scope of its license."). The cases on which Apple relies, however, merely establish that the breach of a prohibition in the license agreement can lead to a finding of infringement. *See, e.g., id.* at 1088-89 (license granted only right to use copyrighted computer program; licensee exceeded scope of license by preparing modified version of program without licensor's permission); *Frank Music Corp. v. Metro-Goldwyn-Mayer, Inc.*, 772 F.2d 505, 511-12 (9th Cir. 1985) (license explicitly



excluded performance of songs in manner performed by licensee). Where, as here, the accused works include both licensed and unlicensed features, infringement will depend on whether the unlicensed features are entitled to protection. *Cf. Data East USA, Inc. v. Epyx, Inc.*, 862 F.2d 204, 208 (9th Cir. 1988) (substantial similarity of unprotected expression does not support finding of infringement). Finally, contrary to Apple's suggestion, by concluding that the 1985 Agreement provides a partial defense, the district court did not preclude Apple from prevailing on its infringement claims; the court merely required Apple to prove that Microsoft and HP copied

1442 unlicensed, *protected* expression. *See S.O.S.*, \*1442 886 F.2d at 1089 n. 11 (remanding for district court to determine whether licensee's unauthorized uses infringed licensor's copyright). We see no error in the court's ruling.

### III

Apple makes a number of related arguments challenging the district court's copyright analysis. It contends that the district court deprived its works of meaningful protection by dissecting them into individual elements and viewing each element in isolation. Because the Macintosh GUI is a dynamic audiovisual work, Apple argues that the "total concept and feel" of its works — that is, the selection and arrangement of related images and their animation — must be compared with that of the Windows and NewWave GUIs for substantial similarity. Apple further asserts that in this case, the court had no occasion to dissect its works into discrete elements because Microsoft and HP virtually mimicked the composition, organization, arrangement and dynamics of the Macintosh interface, as shown by striking similarities in the animation of overlapping windows and the design, layout and animation of icons. Apple also argues that even if dissection were appropriate, the district court should not have eliminated from jury consideration those elements that are either licensed or unprotected by copyright. Though stated somewhat differently, all

of these contentions boil down to the same thing: Apple wants an *overall comparison* of its works to the accused works for *substantial similarity* rather than virtual identity.<sup>10</sup>

<sup>10</sup> Apple also argues that the court erred by ruling that its audiovisual works are functional rather than aesthetic; that creative works are not copyrightable when they serve a functional purpose; and that Apple's works are "useful articles" or "compilations" under 17 U.S.C. § 101. We do not address these arguments specifically, because we do not read the district court's opinions as so holding. Rather, in the process of considering the scope of Apple's copyright the court took into account the functional aspects of graphical user interfaces and the analogous range of protection available for compilations. As we shall explain, this was not improper.

The fact that Apple *licensed* the right to copy almost all of its visual displays fundamentally affects the outcome of its infringement claims. Authorized copying accounts for more than 90% of the allegedly infringing features in Windows 2.03 and 3.0, and two-thirds of the features in NewWave. More than that, the 1985 Agreement and negotiations leading up to Microsoft's license left Apple no right to complain that selection and arrangement of *licensed* elements make the interface as a whole look more "Mac-like" than Windows 1.0.

Thus, we do not start at ground zero in resolving Apple's claims of infringement. Rather, considering the license and the limited number of ways that the basic ideas of the Apple GUI can be expressed differently, we conclude that only "thin" protection, against virtually identical copying, is appropriate. Apple's appeal, which depends on comparing its interface as a whole for substantial similarity, must therefore fail.

To prevail, Apple must show ownership of a valid copyright in the Macintosh GUI and that Microsoft and HP copied unlicensed, protected elements of its copyrighted audiovisual works. *Brown Bag Software v. Symantec Corp.*, 960 F.2d 1465, 1472 (9th Cir.), *cert. denied*, \_\_\_ U.S. \_\_\_, 113 S.Ct. 198, 121 L.Ed.2d 141 (1992). Copying may be shown by circumstantial evidence of access and substantial similarity of both the general ideas and expression between the copyrighted work and the allegedly infringing work. *Id.*

We have traditionally determined whether copying sufficient to constitute infringement has taken place under a two-part test having "extrinsic" and "intrinsic" components. As originally adopted in *Sid Marty Krofft Television Productions, Inc. v. McDonald's Corp.*, 562 F.2d 1157, 1164 (9th Cir. 1977), the extrinsic prong was a test for similarity of ideas based on external criteria; analytic dissection and expert testimony could be used, if helpful. The intrinsic prong was a test for similarity of expression from the standpoint of the ordinary reasonable observer, with no expert assistance. *Id.* As it has evolved, however, the extrinsic test now objectively considers whether there are substantial similarities in *both* ideas and expression, whereas the intrinsic test continues to measure expression subjectively. *Brown Bag*, 960 F.2d at 1475; *Shaw v. Lindheim*, \*1443 919 F.2d 1353, 1357 (9th Cir. 1990). Because only those elements of a work that are protectable and used without the author's permission can be compared when it comes to the ultimate question of illicit copying, we use analytic dissection to determine the scope of copyright protection before works are considered "as a whole." *See, e.g., Brown Bag*, 960 F.2d at 1475-76 (explaining that purpose of analytic dissection is to define scope of copyright protection); *Pasillas v. McDonald's Corp.*, 927 F.2d 440, 443 (9th Cir. 1991) (copyright holder cannot rely on standard elements to show substantial similarity of expression); *Harper House, Inc. v. Thomas Nelson, Inc.*, 889 F.2d 197,

207-08 (9th Cir. 1989) (trier of fact cannot base infringement decision on unprotectable aspects of plaintiff's work).

Although this litigation has raised difficult and interesting issues about the scope of copyright protection for a graphical user interface, resolving this appeal is a matter of applying well-settled principles. In this, as in other cases, the steps we find helpful to follow are these:

(1) The plaintiff must identify the *source(s)* of the alleged similarity between his work and the defendant's work.

(2) Using analytic dissection, and, if necessary, expert testimony, the court must determine whether any of the allegedly similar features are protected by copyright. Where, as in this case, a license agreement is involved, the court must also determine which features the defendant was authorized to copy. Once the scope of the license is determined, unprotectable ideas must be separated from potentially protectable expression; to that expression, the court must then apply the relevant limiting doctrines in the context of the particular medium involved, through the eyes of the ordinary consumer of that product.

(3) Having dissected the alleged similarities and considered the range of possible expression, the court must define the scope of the plaintiff's copyright — that is, decide whether the work is entitled to "broad" or "thin" protection. Depending on the degree of protection, the court must set the appropriate standard for a subjective comparison of the works to determine whether, as a whole, they are sufficiently similar to support a finding of illicit copying.

## A

Like the plaintiff in *Brown Bag*, in this case, Apple identified the sources of alleged similarity by submitting a list of particular features in its works which are similar to features found in Windows 2.03, 3.0 and NewWave. Apple's suggestion that its arm was twisted to provide this

list of similarities and that it was somehow inappropriate for the district court to ask for a list and to rely on it, instead of considering the works as a whole, is misplaced. The court had the benefit of numerous videotapes and demonstrations of the GUIs "as a whole." The district court was nevertheless obliged to identify similarities, determine their source, and decide which elements are protectable. It was thus well within the court's case management discretion to ask for a list from Apple.

## B

It is not easy to distinguish expression from ideas, particularly in a new medium. However, it must be done, as the district court did in this case. *Baker v. Selden*, 101 U.S. 99, 25 L.Ed. 841 (1879).<sup>11</sup> As we recognized long ago in the case of competing jeweled bee pins, similarities derived from the use of common ideas cannot be protected; otherwise, the first to come up with an idea will corner the market. *Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 742 (9th Cir. 1971). Apple cannot get patent-like protection for the idea of a graphical user interface, or the idea of a desktop metaphor which concededly came from Xerox. It can, and did, put those ideas together creatively with animation, overlapping windows, and well-designed icons; but it licensed the visual displays which resulted.

<sup>11</sup> 17 U.S.C. § 102(b) codifies this principle, denying copyright protection "to any idea, procedure, process, system, method of operation, concept, principle, or discovery."

The district court found that there are five other basic ideas embodied in the desktop metaphor: use of windows to display multiple images on the computer screen and \*1444 to facilitate user interaction with the information contained in the windows; iconic representation of familiar objects from the office environment; manipulation of icons to convey instructions and to control operation of the computer; use of menus to store

information or computer functions in a place that is convenient to reach, but saves screen space for other images; and opening and closing of objects as a means of retrieving, transferring and storing information. *Apple V*, 799 F. Supp. at 1026. No copyright protection inheres in these ideas. Therefore, substantial similarity of expression in unlicensed elements cannot be based on the fact that the Lisa, the Finder, Windows 2.03, 3.0 and NewWave all have windows, icons representing familiar objects from the office environment that describe functions being performed and that can be moved around the screen to tell the computer what to do, menus which give easy access to information or functions without using space on the screen, or objects that open and close.

Well-recognized precepts guide the process of analytic dissection. First, when an idea and its expression are indistinguishable, or "merged," the expression will only be protected against nearly identical copying. *Krofft*, 562 F.2d at 1167-68; *Kalpakian*, 446 F.2d at 742. For example, in this case, the idea of an icon in a desktop metaphor representing a document stored in a computer program can only be expressed in so many ways. An iconic image shaped like a page is an obvious choice.

The doctrine of *scenes a faire* is closely related. As we explained in *Frybarger v. International Business Machines Corp.*, 812 F.2d 525 (9th Cir. 1987), when similar features in a videogame are "as a practical matter indispensable, or at least standard, in the treatment of a given [idea]," they are treated like ideas and are therefore not protected by copyright. *Id.* at 530 (quoting *Atari, Inc. v. North Am. Philips Consumer Elecs. Corp.*, 672 F.2d 607, 616 (7th Cir.), cert. denied, 459 U.S. 880, 103 S.Ct. 176, 74 L.Ed.2d 145 (1982)). Furthermore, as *Frybarger* holds, "the mere indispensable expression of these ideas, based on the technical requirements of the videogame medium, may be protected only against virtually identical copying." *Id.*; see also *Data East*, 862 F.2d at 209 (visual displays of karate match



conducted by two combatants, one of whom wears red shorts and the other white as in the sport, and who use the same moves, are supervised by a referee and are scored alike as in the sport, are inherent in the sport of karate itself and as such are unprotectable). In this case, for example, use of overlapping windows inheres in the idea of windows. A programmer has only two options for displaying more than one window at a time: either a tiled system, or an overlapping system. As demonstrated by Microsoft's *scenes a faire* video, overlapping windows have been the clear preference in graphic interfaces. Accordingly, protectable substantial similarity cannot be based on the mere use of overlapping windows, although, of course, Apple's *particular expression* may be protected.

Apple suggests that *scenes a faire* should not limit the scope of its audiovisual copyright, or at least that the interactive character of GUIs and their functional purpose should not outweigh their artistry. While user participation may not negate copyrightability of an audiovisual work, *see, e.g., Midway Mfg. Co. v. Artic Int'l, Inc.*, 704 F.2d 1009, 1011-12 (7th Cir.), *cert. denied*, 464 U.S. 823, 104 S.Ct. 90, 78 L.Ed.2d 98 (1983); *Stern Elecs., Inc. v. Kaufman*, 669 F.2d 852, 856 (2d Cir. 1982), the district court did not deny protection to any aspect of Apple's works on this basis. In any event, unlike purely artistic works such as novels and plays, graphical user interfaces generated by computer programs are partly artistic and partly functional. They are a tool to facilitate communication between the user and the computer; GUIs do graphically what a character-based interface, which requires a user to type in alphanumeric commands, does manually. Thus, the delete function is engaged by moving an icon on top of a trash can instead of hitting a "delete" key. In Apple's GUI, the ability to move icons to any part of the screen exemplifies an essentially functional process, indispensable to the idea of manipulating icons by a mouse.

To the extent that GUIs are artistic, there is no dispute that creativity in user interfaces is 1445 constrained by the power and speed of the \*1445 computer. *See Manufacturers Technologies, Inc. v. Cams, Inc.*, 706 F. Supp. 984, 994-95 (D.Conn. 1989) (denying protection to formatting style of plaintiff's screen displays because of constraints on viable options available to programmers). For example, hardware constraints limit the number of ways to depict visually the movement of a window on the screen; because many computers do not have enough power to show the entire contents of the window as it is being moved, the illusion of movement must be shown by using the outline of a window or some similar feature. Design alternatives are further limited by the GUI's purpose of making interaction between the user and the computer more "user- friendly." These, and similar environmental and ergonomic factors which limit the range of possible expression in GUIs, properly inform the scope of copyright protection.

Originality is another doctrine which limits the scope of protection. As the Supreme Court recently made clear, protection extends only to those components of a work that are original to the author, although original selection and arrangement of otherwise uncopyrightable components may be protectable. *Feist Publications, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 348-51, 111 S.Ct. 1282, 1289-91, 113 L.Ed.2d 358 (1991). Apple's argument that components should not be tested for originality because its interface as a whole meets the test, *see Roth Greeting Cards v. United Card Co.*, 429 F.2d 1106, 1109 (9th Cir. 1970) ("[T]he originality necessary to support a copyright merely calls for independent creation, not novelty."), is therefore misplaced. Beyond that, Apple admits that it borrowed heavily from the iconic treatments in the Xerox Star and an IBM Pictureworld research report but disputes several of the district court's individual determinations. For instance, Apple claims that its file folder and page icon designs are

original. Even if they are, these particular icons add so little to the mix of protectable material that the outcome could not reasonably be affected.

In sum, the district court's analytic dissection was appropriately conducted under the extrinsic portion of our test for whether sufficient copying to constitute infringement has taken place. We are not persuaded to the contrary by Apple's arguments that the district court shouldn't have dissected at all, or dissected too much; that it "filtered out" unprotectable and licensed elements instead of viewing the Macintosh interface as a whole; and that it should have recognized protectability of arrangements and the "total concept and feel" of the works under a substantial similarity standard.

First, graphical user interface audiovisual works are subject to the same process of analytical dissection as are other works. We have dissected videogames, which are audiovisual works and therefore closely analogous, *see, e.g., Data East*, 862 F.2d at 208-09 (performing analytic dissection of similarities to determine whether similarities resulted from unprotectable expression); *Frybarger*, 812 F.2d at 529-30 (district court correctly concluded that similar features in videogames were unprotectable ideas and that no reasonable jury could find expressive elements substantially similar), and we have dissected nonliteral elements of computer programs, which are somewhat analogous, *see, e.g., Brown Bag*, 960 F.2d at 1475-77 (rejecting argument similar to Apple's about propriety of analytic dissection of computer program components such as screens, menus and keystrokes); *Johnson Controls, Inc. v. Phoenix Control Sys., Inc.*, 886 F.2d 1173, 1176 (9th Cir. 1989) (noting special master's detailed analysis of similarities). Other courts perform the same analysis, although articulated differently. *See, e.g., Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 706-11 (2d Cir. 1992) (adopting "abstraction-filtration-comparison" test for analyzing nonliteral structure of computer program, relying in part on our own approach);

*Gates Rubber Co. v. Bando Chem. Indus.*, 9 F.3d 823, 834, 841 (10th Cir. 1993) (adopting *Altai* test, but suggesting that comparison of works as a whole may be appropriate as preliminary step before filtering out unprotected elements); *Engineering Dynamics, Inc. v. Structural Software, Inc.*, 26 F.3d 1335, 1342-43 (5th Cir. 1994) (adopting *Gates Rubber/Altai* test to analyze scope of copyright protection for user interface, input formats and output reports); *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 788 F. Supp. 78, 90, 93 (D.Mass. 1992) (describing similar three-part \*1446 test); *cf. Whelan Assocs. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222, 1236 (3d Cir. 1986) (defining idea of utilitarian work as its purpose or function, and everything not necessary to that purpose as expression), *cert. denied*, 479 U.S. 1031, 107 S.Ct. 877, 93 L.Ed.2d 831 (1987).

Nor did the district court's dissection run afoul of the enjoinder in such cases as *Johnson Controls*, 886 F.2d at 1176, *Krofft*, 562 F.2d at 1167, and *Roth*, 429 F.2d at 1110, to consider the "total concept and feel" of a work. Here, the court did not inappropriately dissect *dissimilarities*, and so did nothing to distract from subjectively comparing the works as a whole. *See Aliotti v. R. Dakin Co.*, 831 F.2d 898, 901 (9th Cir. 1987) (indicating that as the concern of *Krofft*).

As we made clear in *Aliotti*, the party claiming infringement may place "no reliance upon any similarity in expression resulting from" unprotectable elements. *Id.* (emphasis added) (similarities between competing stuffed dinosaur toys on account of posture and body design, and being cuddly, stem from the physiognomy of dinosaurs or from the nature of stuffed animals and are thus unprotectable). Otherwise, there would be no point to the extrinsic test, or to distinguishing ideas from expression. In this case, it would also effectively rescind the 1985 Agreement. This does not mean that at the end of the day, when the works are considered under the intrinsic test, they should not be compared as a whole. *See McCulloch v. Albert E. Price, Inc.*, 823

[F.2d 316, 321](#) (9th Cir. 1987) (contrasting artistic work at issue, where decorative plates were substantially similar in more than the one unprotectable element (text), with factual works which have many unprotectable elements and very little protectable expression). Nor does it mean that infringement cannot be based on original selection and arrangement of unprotected elements. However, the unprotectable elements have to be identified, or filtered, before the works can be considered as a whole. *See Harper House*, [889 F.2d at 207-08](#) (reversing because "total impact and effect" test of jury instruction did not distinguish between protectable and unprotectable material, thereby improperly making it possible for jury to find copying based on unprotected material instead of selection and arrangement); *see also Pasillas*, [927 F.2d at 443](#) (copyright holder could not rely on unprotectable elements to show substantial similarity of expression); *Frybarger*, [812 F.2d at 529](#) (to extent that similarities between works were confined to ideas and general concepts, they were noninfringing).

## C

The district court's conclusion that the works as a whole are entitled only to limited protection and should be compared for virtual identity follows from its analytic dissection. By virtue of the licensing agreement, Microsoft and HP were entitled to use the vast majority of features that Apple claims were copied. Of those that remain, the district court found no unauthorized, protectable similarities of expression in Windows 2.03 and 3.0, and only a handful in NewWave. Thus, any claim of infringement that Apple may have against Microsoft must rest on the copying of Apple's unique selection and arrangement of all of these features. Under *Harper House* and *Frybarger*, there can be no infringement unless the works are virtually identical.

Apple, however, contends that its audiovisual work with animation and icon design cannot be analogized to factual works such as game strategy

books, *see Landsberg v. Scrabble Crossword Game Players, Inc.*, [736 F.2d 485, 488](#) (9th Cir.) ("[S]imilarity of expression may have to amount to verbatim reproduction or very close paraphrasing before a factual work will be deemed infringed."), *cert. denied*, [469 U.S. 1037, 105 S.Ct. 513, 83 L.Ed.2d 403](#) (1984), accounting systems, *see Selden*, [101 U.S. at 104, 25 L.Ed. 841](#) (copyright in book describing new accounting system not infringed when defendant copied ledger sheets used in system), or organizers, *see Harper House*, [889 F.2d at 205](#) (as compilations consisting largely of uncopyrightable elements, plaintiff's organizers entitled only to protection against "bodily appropriation of expression"), which are afforded only "thin" protection because the range of possible expression is narrow. *See Feist*, [499 U.S. at 349, 111 S.Ct. at 1289-90](#). Rather, it submits that the broader protection accorded artistic works

<sup>1447</sup>is more <sup>\*1447</sup> appropriate. *See, e.g., McCulloch*, [823 F.2d at 321](#) (artistic work like a decorative plate receives broader protection because of endless variations of expression available to artist).

Which end of the continuum a particular work falls on is a call that must be made case by case. We are satisfied that this case is closer to *Frybarger* than to *McCulloch*. *See also Atari Games Corp. v. Oman*, [979 F.2d 242, 245](#) (D.C. Cir. 1992) (analogizing audiovisual work like a videogame to compilation of facts). Accordingly, since Apple did not contest summary judgment under the virtual identity standard on the merits, judgment was properly entered.

Apple also argues that the district court improperly confined the rule in *Shaw*, [919 F.2d at 1361](#), that if a work passes the extrinsic test it should go to the jury, to literary works. *See Kouf v. Walt Disney Pictures Television*, [16 F.3d 1042, 1045-46](#) (9th Cir. 1994) (applying *Shaw's* rule to motion picture screenplay and holding that plaintiff failed to satisfy extrinsic test); *Brown Bag*, [960 F.2d at 1476](#) (declining to limit *Shaw* as a matter of law to literary works because at least

some computer programs are similar to literary works). *But see Pasillas*, 927 F.2d at 442-43 (limiting *Shaw* to literary works and affirming summary judgment on competing "Man in the Moon" masks for lack of substantial similarity of protectable expression). We don't have to resolve whether audiovisual works such as GUIs are more similar to Man in the Moon masks than to scripts, however. Apple could have gone to the jury under a virtual identity standard, but elected not to.

We therefore hold that the district court properly identified the sources of similarity in Windows and NewWave, determined which were licensed, distinguished ideas from expression, and decided the scope of Apple's copyright by dissecting the unauthorized expression and filtering out unprotectable elements. Having correctly found that almost all the similarities spring either from the license or from basic ideas and their obvious expression, it correctly concluded that illicit copying could occur only if the works as a whole are virtually identical.

#### IV

Apple contends that the district court erred in dismissing the Macintosh Finder as a work in suit. Based on 17 U.S.C. § 103(b), which provides that "[t]he copyright in a . . . derivative work extends only to the material contributed by the author of such work, as distinguished from the preexisting material employed in the work," the court concluded that Apple could not proceed on the Finder because the Finder is a derivative work of the original Lisa Desktop and all of the unlicensed similarities are covered by the underlying Lisa copyrights.

We agree with Apple that the district court's reading of § 103(b) is too restrictive. Although it relied on *Silverman v. CBS Inc.*, 870 F.2d 40 (2d Cir.), *cert. denied*, 492 U.S. 907, 109 S.Ct. 3219, 106 L.Ed.2d 569 (1989), we believe that case is distinguishable. In *Silverman*, the underlying works had fallen into the public domain; the court held that the defendant could be liable for

infringement only if he copied some original expression that was added by the derivative works. *Id.* at 49-50; *see also Shaw v. Lindheim*, 809 F. Supp. 1393, 1402 (C.D.Cal. 1992) (where underlying work was unregistered, owner of derivative work could not recover for copying of expression contained in original).

In this case, however, Apple is the author and copyright owner of the Lisa Desktop *and* the Macintosh Finder, both of which are still protected. Apple argues that under these circumstances, § 103(b) does not prevent it from claiming infringement of the Finder, even for copied material that was incorporated from the Lisa. *See, e.g., E.F. Johnson Co. v. Uniden Corp. of Am.*, 623 F. Supp. 1485, 1488, 1492 (D.Minn. 1985); *Rand McNally Co. v. Fleet Management Sys., Inc.*, 591 F. Supp. 726, 733 n. 6 (N.D.Ill. 1983).

Because Apple owns the copyrights in both works, it is similarly situated to an exclusive licensee. If the copyright owner of a derivative work is the *exclusive* licensee of certain rights in the underlying work, he is treated as the copyright owner of the underlying work for the purpose of exercising those rights. 1 Melville B. Nimmer David Nimmer, *Nimmer on Copyright* § 3.05, at 3-144832.2 \*1448 (1993). He can therefore sue for copying of material that appears in both the derivative work and the underlying work. *Id.*; *see Gamma Audio Video, Inc., v. Ean-Chea*, 11 F.3d 1106, 1111-12 (1st Cir. 1993) (allowing exclusive licensee to base infringement suit on derivative works; because derivative works were unregistered, licensee could recover statutory damages only if defendant's unauthorized rental of derivative works also infringed licensee's rights in underlying works). Like an exclusive licensee, Apple owns the rights in the underlying work on which the Finder is based. It therefore may base its claims on both the Finder and the Lisa.



Nevertheless, we need not reverse. Apple contends that it was deprived of the opportunity fairly to present its case because the Finder is what everyone is familiar with and almost none of the available evidence relates to the Lisa. It concedes, however, that throughout the summary judgment proceedings the district court allowed it to present its case using the Finder. Thus, dismissal of the Finder could only have an effect if the case were to go to trial. By virtue of Apple's non-opposition to judgment on the works as a whole, we take it that the Lisa is not virtually identical to Windows 2.03, 3.0 or NewWave. As the district court found no material difference between the Lisa and the Finder, there can be no virtual identity as between the accused works and the Finder, either.

## V

Both Microsoft and HP challenge the denial of their requests for attorney's fees under 17 U.S.C. § 505.<sup>12</sup> At the time of the district court's decision, controlling Ninth Circuit authority held that attorney's fees were not available to a prevailing defendant under § 505 unless the plaintiff's action was frivolous or in bad faith. *Cooling Sys. Flexibles, Inc. v. Stuart Radiator, Inc.*, 777 F.2d 485, 493 (9th Cir. 1985). Since that time, however, the Supreme Court has overruled *Cooling Systems*, holding that "[p]revailing plaintiffs and prevailing defendants are to be treated alike, but attorney's fees are to be awarded to prevailing parties only as a matter of the court's discretion." *Fogerty v. Fantasy, Inc.*, \_\_\_ U.S. \_\_\_, \_\_\_, 114 S.Ct. 1023, 1033, 127 L.Ed.2d 455 (1994). Because the district court now has greater discretion to award attorney's fees to prevailing defendants, we remand Microsoft's and HP's requests for reconsideration in light of the standard announced in *Fogerty*. See *Jackson v. Axton*, 25 F.3d 884, 890 (9th Cir. 1994) (remanding attorney's fees issue to district court in light of *Fogerty*).

<sup>12</sup> Microsoft also argues that it is entitled to attorney's fees because Apple breached the 1985 Agreement by suing it for copyright infringement. See *Effects Assocs. v. Cohen*,

908 F.2d 555, 559 (9th Cir. 1990) (in granting nonexclusive license, copyright holder gives up right to sue licensee for infringement), *cert. denied*, 498 U.S. 1103, 111 S.Ct. 1003, 112 L.Ed.2d 1086 (1991). The district court properly denied Microsoft's motion based on its earlier ruling dismissing Microsoft's counterclaim for breach of contract. As the district court noted, the plain language of the release indicates that Apple agreed not to sue Microsoft only with respect to any rights Apple might assert in Windows 1.0. Nothing in the Agreement suggests that Apple waived its right to sue Microsoft based on a claim to proprietary material in any other Microsoft programs. Because Apple did not breach the Agreement, Microsoft cannot be awarded attorney's fees on this basis.

Apple argues that despite this change in the law, remand is unnecessary because the district court also made findings that require the denial of attorney's fees under the criteria set forth in *Lieb v. Topstone Industries*, 788 F.2d 151, 156 (3d Cir. 1986).<sup>13</sup> The record does not support this contention. The district court clearly indicated that it might be inclined to award attorney's fees if a finding of bad faith or frivolousness were no longer required, and it invited HP and Microsoft to renew their motions should the law in this circuit change. Remand is therefore appropriate.

<sup>13</sup> In *Fogerty*, the Supreme Court cited the *Lieb* factors with approval. \_\_\_ U.S. at \_\_\_, 114 S.Ct. at 1033 n. 19. This court has already relied on the *Lieb* criteria in setting guidelines for the award of attorney's fees to prevailing plaintiffs. *McCulloch*, 823 F.2d at 323.

AFFIRMED IN PART; REVERSED AND REMANDED IN PART.



