Trade Dress Protection for Computer User Interface "Look and Feel"

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An employee on the way back to his office glances at the illuminated screen of a nearby computer. He sees the small trash can in the lower right corner; graphics of labeled folders, documents, and applications in the center; and a strip of words across the top of the screen. He immediately assumes that the computer is an Apple Macintosh. A spreadsheet programmer determines that an application program requires her to use a backslash to access multi-layered command menus and to strike the first letter of layered menu items in sequence in order to execute any series of commands. She knows the software must be Lotus 1-2-3.

Apple and Lotus realize that computer users rely on these elements to identify computer programs.¹ Accordingly, both companies have invested time and money to build consumer recognition of their programs and have sought legal protection for their user interfaces.²

A personal computer's user interface is "the means by which the software and user interact."³ Audio-visual displays are the most obvious means of communicating with the user, but the user interface also includes other elements of the computer system such as the keyboard and printer.⁴ The "look and feel" of

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¹ See Rhonda L. Rudnick, *Window Dressing: Trademark Protection for Computer Screen Displays and Software*, 80 Trademark Rptr 382, 382-83 (1990).

² See, for example, *Apple Computer, Inc. v Microsoft Corp.*, 799 F Supp 1006 (N D Cal 1992); *Lotus Development Corp. v Borland Int'l, Inc.*, 799 F Supp 203 (D Mass 1992) ("*Lotus II*"); *Lotus Development Corp. v Paperback Software Int'l*, 740 F Supp 37 (D Mass 1990) ("*Lotus I*"). Apple's and Lotus's efforts to obtain copyright protection for their user interfaces are discussed in the text accompanying notes 30-35.

³ Gregory J. Wrenn, *Federal Intellectual Property Protection for Computer Software Audiovisual Look and Feel: The Lanham, Copyright, and Patent Acts*, 4 High Tech L J 279, 282 (1989).

⁴ See *id.* at 282-83. Normally, one issues commands to the program or enters information through a keyboard or a "mouse" pointing device. An executed command usually

a user interface is "the sequence of the screens and the choices presented, the layout of the screens, and the method of feedback to the user . . ."⁵ It consists of more than just the individual elements of the user interface; in the words of one commentator, "[j]ust listing the elements . . . doesn't do it justice . . . it's the way they all work together—the *gestalt*."⁶

The "look and feel" of software is extremely important to the developer and may even be of greater commercial value than the programming code that implements it.⁷ Any product that is the first to incorporate an intuitive user interface possesses a tremendous competitive advantage.⁸ Thus, the development of the user interface "has become a critical and increasingly expensive aspect of new software development."⁹

Frequently, consumers identify computer products by the product's screen display design, that is, the way a product appears to and interacts with the user once the product is up and running.¹⁰ Operating-system software (generally manufactured or licensed by the hardware vendor) and application programs interact to determine screen appearance.¹¹ Both system and application software developers may use screen appearance as a selling point, and both have an interest in the uniform and consistent use of their graphics features.¹²

produces visual feedback to the user on the computer's display, or perhaps a document from the printer. *Id.*

⁵ *Id.* at 283, citing *Broderbund Software, Inc. v Unison World, Inc.*, 648 F Supp 1127, 1137 (N D Cal 1986).

⁶ Wrenn, 4 High Tech L J at 283 n 18 (cited in note 3), quoting J. Koltnow, *Who Can Use the Macintosh Interface?*, Outside Apple (Oct 1986).

⁷ See Wrenn, 4 High Tech L J at 284, citing Richard A. Beutel, *Trade Dress Protection for the "Look and Feel" of Software: A New Source of Proprietary Rights Protection for the Software Industry?*, *The Computer Lawyer* 1, 2 (Oct 1988).

⁸ See Beutel, *Trade Dress Protection* at 2. Beutel was the first to suggest that software manufacturers could litigate "look and feel" cases and that trade dress law could protect the "look and feel" of software.

⁹ *Id.*

¹⁰ See Rudnick, 80 Trademark Rptr at 382 (cited in note 1).

¹¹ See *id.* at 383. One example of an operating system is MS-DOS, the IBM and IBM-compatible system. WordPerfect is an example of an application program designed to run on an IBM or IBM-compatible computer. With increased capabilities for sophisticated graphics, operating-system software often plays a larger role than application software in determining screen appearance and the overall "look and feel" of the user interface.

¹² See Daniel R. Siegal and Douglas K. Derwin, *Copyright Infringement of the "Look and Feel" of an Operating System By its Own Application Programs*, *The Computer Lawyer* 1, 2 (Jan 1987). Manufacturers such as Apple Computer have supplied application programmers with libraries of standard user interface tools and have encouraged the use of these tools in accordance with the vendor's published rules or guidelines. *Id.* This interaction of hardware and software may present particular problems for a hardware

Developers of interfaces claim that without legal protection, the competitive advantage enjoyed by the product that first incorporates an intuitive user interface is usually short-lived.¹³ Competitors will copy successful features, such as pull-down menus, icon-driven commands, or mouse functionality, once those features have been widely accepted by consumers.¹⁴ Thus, computer and software manufacturers have sought copyright protection against misappropriation of the "look and feel" of their user interfaces. Frequently, their efforts have taken the form of lawsuits alleging that competitors have misappropriated copyrighted material.

To date, however, these plaintiffs have had mixed success, arguably because they have relied on copyright law rather than trademark law.¹⁵ Copyright law protects individual static elements, but not composite dynamic wholes. Conversely, trade dress law, a subset of trademark law, protects composite wholes because trade dress is the "look and feel" of a product or its packaging. Where copyright law has failed to protect user interfaces, trademark law might succeed.

This Comment argues that computer and software manufacturers should look to trade dress law to protect the "look and feel" of their user interfaces. Section I describes the problems with copyright protection for user interfaces. Section II reviews the Lanham Act's protection for trade dress and concludes that current trade dress law can adequately protect at least some user interfaces.

I. COPYRIGHT PROTECTION FOR USER INTERFACES

Manufacturers face significant legal difficulties in obtaining copyright protection for their user interfaces. These difficulties, such as establishing authorship and originality, stem primarily from the disjunction between the purpose of copyright law and the unique nature of computer manufacturers' need for protection.

vendor trying to establish the elements required for a trade dress claim.

¹³ See Beutel, *Trade Dress Protection* at 2 (cited in note 7).

¹⁴ See *id.*

¹⁵ One plaintiff has attempted to invoke trademark law to obtain protection for its user interface, but the unusual sophistication of its consumers prevented it from establishing one of the elements necessary for a trademark case. See *Engineering Dynamics, Inc. v Structural Software, Inc.*, 785 F Supp 576, 583-84 (E D La 1991). See also text accompanying note 103.

Copyright law aims to balance the interest in public access to information against the interest in creating sufficient incentives to innovate;¹⁶ it neither seeks to protect product features, such as the user interface, that identify a product's source, nor addresses the effects of misappropriation on consumers. But user-interface manufacturers do not need copyright protection to provide an incentive to innovate. The market for computer products already provides sufficient incentive to create because an early entrant captures a large market share. Instead, user-interface manufacturers seek intellectual property protection to preserve the capacity of their user interfaces to identify their source to potential consumers. Even though manufacturers characterize their efforts as protecting incentives for development, their lawsuits appear more likely motivated by a desire to preserve their product's ability to identify its manufacturer. Because of this disjunction between the goals of copyright law and the needs of the manufacturers, courts have been reluctant to extend full copyright protection to user interfaces.

The Copyright Act protects computer programs as works of authorship.¹⁷ Under the Act, works of authorship are protected as soon as they are fixed in a "tangible medium of expression."¹⁸ Copyright law protects the software code, the overall system logic, and the screen designs themselves. The screen display presumably falls within the protection granted to the underlying computer program because the screen display is not a separate work of authorship.¹⁹ Although copyright law affords some protection for computer software programs, the *scope* of the protection

¹⁶ See William M. Landes and Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J Legal Stud 325, 326 (1989).

¹⁷ 17 USC §§ 102, 117 (1988).

¹⁸ 17 USC § 102. Technically, registration with the United States Copyright Office is optional; however, registration facilitates the enforcement of copyrights. 17 USC §§ 410-12 (1988). Registration is a formality that requires the author to deposit the work (unless the work is exempt), pay a fee, and submit an application for copyright registration. 17 USC § 409 (1988). Registration entitles the copyright holder to a presumption of validity, statutory damages, and attorney's fees. 17 USC §§ 408-12 (1988). In addition, although unregistered works are protected under copyright law and infringement that occurs before a work is registered is actionable under copyright law, an author usually must register a work before she can file an infringement suit. 17 USC § 411.

¹⁹ No separate registration is required. In fact, the Copyright Office rejected separate audio-visual registration of screen displays in a 1988 decision. It held that the registration of software programs was broad enough to protect the displays generated by the software. This holding is consistent with the Office's basic policy of one registration per work, even for works combining several authors' work in a single unit. See Copyright Office, *Registration Decision; Registration and Deposit of Computer Screen Displays*, 53 Fed Reg 21817, 21818-19 (1988).

is unclear. The Copyright Office has stated that the "the courts determine the precise scope of protection."²⁰ A software manufacturer will obtain copyright protection only if it demonstrates both that the display screen is an original work and that it is the author of that work.

These requirements present several difficulties in the computer-program context. First, many programs build on existing processes and structures, and these programs may be unable to satisfy the originality requirement for copyright protection. For example, one court may have denied copyright protection for the Macintosh user interface at least in part because Apple had relied heavily on development work by Xerox.²¹ Second, a software manufacturer may be unable to prove that it is the "author" of a given screen display. Typically, the operating system and the application program interact to generate a screen display. Thus, neither the manufacturer of the operating system nor the manufacturer of the application program can claim authorship.²² Third, because a screen image is repainted several times per second, it may be too transitory to pass the basic copyright standard of fixation in a tangible medium of expression.²³

Still, a few copyright cases have protected the "look and feel" of some products. In *Sid & Marty Krofft Television Production, Inc. v McDonald's Corp.*, the Ninth Circuit held that the defendant's McDonald-land television characters infringed the "total concept and feel" of Krofft's H.R. Pufnstuf characters.²⁴ Both sets of characters were life-sized, large-headed, puppet-like, brightly-colored, upright creatures with funny voices and silly names. The McDonald-land characters were not exactly the same as the Pufnstuf characters: they sported different head shapes, different colors, different funny voices, and different silly names. Even though the individual elements of the characters were not identical, the court found that the defendant had infringed the plaintiff's "look and feel" because of the overall similarity of the concepts.²⁵

²⁰ Id at 21819.

²¹ See *Apple Computer*, 799 F Supp at 1017-18.

²² See Rudnick, 80 Trademark Rptr at 394 (cited in note 1). See also *Whelan Associates, Inc. v Jaslow Dental Laboratory, Inc.*, 797 F2d 1222, 1229-31 (3d Cir 1986).

²³ See *Stern Electronics, Inc. v Kaufman*, 669 F2d 852, 855-57 (2d Cir 1982). Although the *Kaufman* court acknowledged a threshold question of transiency, it held that the entire effect of sight and sound created by a computer program was stable enough to be protected as an audiovisual display. Id at 857.

²⁴ 562 F2d 1157, 1167 (9th Cir 1977).

²⁵ Id at 1166-67.

Although courts have extended copyright protection to the "look and feel" of some products, they have not consistently protected computer user interfaces. Most courts have refused to look beyond the individual elements of an interface to its "look and feel."²⁶ Instead, they have frequently denied copyright protection because individual elements of an interface were either utilitarian (and thus necessary to the expression of the underlying idea) or unoriginal.²⁷ When an element is necessary to express an idea, it is utilitarian and unprotectable because copyright law protects expression but not ideas.²⁸ At least in user-interface cases, courts have generally not looked beyond individual elements to consider whether the whole expression, which may include many elements, is necessary to express an idea.²⁹

Three recent cases illustrate the difficulty of applying copyright law to the "look and feel" of computer user interfaces. In *Apple Computer, Inc. v Microsoft Corp.*, Apple alleged that Hewlett-Packard's NewWave program and versions of Microsoft's Windows program infringed its copyright in the Macintosh user interface.³⁰ Apple argued that its copyright protected the "look and feel" of its user interface—the particular combination of graphic icons and overlapping windows. Apple asked the court to protect the Macintosh audio-visual display as a whole because of its "elegant interface."³¹ The court analyzed the elements of the Macintosh interface separately, however, and concluded that virtually all of those elements were individually unprotectable.³²

In *Lotus Development Corp. v Paperback Software Int'l* ("Lotus I"), however, Judge Keeton protected a computer program's

²⁶ See, for example, *Apple Computer*, 799 F Supp at 1023-24 (denying protection because the elements of the user interface, considered individually, were unoriginal or functional). But see *Lotus I*, 740 F Supp at 67 (holding that the combination of the individual elements was protectable); *Lotus II*, 799 F Supp at 217-19 (same); *Broderbund Software*, 648 F Supp at 1137 (same).

²⁷ See, for example, *Apple Computer*, 799 F Supp at 1023-24.

²⁸ See Melville B. Nimmer and David Nimmer, 1 *Nimmer on Copyright* § 2.18[B] at 2-199 (Matthew Bender, 1993).

²⁹ The problem of when to focus on individual elements, as opposed to whole systems, has caused much confusion in the courts in cases involving the copyright of the computer program itself. See generally Comment, *Learned Hand Never Played Nintendo: A Better Way to Think about the Non-Literal, Non-Visual Software Copyright Cases*, 61 U Chi L Rev 613 (1994). Forcing the look and feel of a user interface into the copyright matrix complicates matters even more, and highlights the attractiveness of an alternate approach under trademark law.

³⁰ 799 F Supp at 1015.

³¹ *Id* at 1016.

³² *Id* at 1026-46.

"look and feel," ostensibly under copyright law.³³ Lotus claimed that its copyright protected its well-known Lotus 1-2-3 spreadsheet program and that the command structure of Paperback's VP-Planner spreadsheet program infringed that copyright. Judge Keeton held for Lotus, explaining that "[i]f particular characteristics not distinctive individually have been brought together in a way that makes the 'whole' a distinctive expression of an idea . . . then the 'whole' may be copyrightable."³⁴ Judge Keeton applied the same logic in *Lotus Development Corp. v Borland Int'l, Inc.* ("Lotus II"), holding that Borland had violated Lotus's copyright by copying "the menu commands and menu command hierarchy as well as the keystroke sequences and macro language . . . of the 1-2-3 interface"³⁵

Apple and Lotus couched their claims in the language of copyright law, and all three cases were decided on copyright grounds. Yet Judge Keeton's opinions in *Lotus I* and *Lotus II* used the language of trademark law, relied on a trademark rationale, and extended the scope of copyright protection beyond that typically afforded to "look and feel." The Lotus opinions might have more accurately reflected the law had Lotus sought trade dress protection under the Lanham Act. In addition, Apple might have been more successful if it had sought trademark protection.

II. TRADE DRESS PROTECTION FOR THE USER INTERFACE

Both the academic literature and litigants' briefs have focused on copyright as a way to protect a developer's intellectual property rights in a software product's "look and feel." Trademark law, however, would be a better source of protection. Trademark law recognizes consumers' interests in identifying a product's source, and trade dress law, a subset of trademark law, protects a product's overall appearance to the purchasing public. While trade dress infringement claims have become more common in all product areas over the past few years,³⁶ only a few attorneys have aggressively sought trade dress protection for the "look and feel" of user interfaces. Most plaintiffs in these cases simply do not pursue trademark protection at all.

³³ 740 F Supp 37, 42 (D Mass 1990).

³⁴ Id at 67.

³⁵ 799 F Supp 203, 209 (D Mass 1992).

³⁶ See Nancy Dwyer Chapman, *Trade Dress Protection*, in *Advanced Seminar on Trademark Law* 7, 35 (PLI, 1993).

A. Trademark Policy

Like copyright law, trademark law seeks to balance incentives to create and access to ideas: it weighs the need to protect manufacturers' incentives to invest in product identity, reputation, and customer good will against potential competitors' interests in obtaining free access to the consumer market.³⁷ Unlike copyright law, however, trademark law is driven by a third concern: preventing confusion in the consumer market as to the source of a given product.³⁸

The Lanham Act codifies the federal law of trademarks in the United States. Section 43(a) has been construed to bring "look and feel" within the scope of the Lanham Act. That section prohibits the false designation of a product's origin or the false description of a product's contents. It provides that anyone who uses any identifying features or false or misleading designation of origin in commerce that "is likely to cause confusion . . . as to the origin, sponsorship, or approval of his or her goods, services, or commercial activities by another person . . . shall be liable in a civil action by any person who believes that he or she is likely to be damaged by such act."³⁹

Courts have used § 43(a) to protect the "look and feel" of a product as that product's "trade dress." Trade dress has been defined as the "packaging, size, shape, color, design, or name which has been affixed to goods or services."⁴⁰ It is the overall image of the product displayed to the public. Trade dress misappropriation—copying a competing product's trade dress to capitalize on that product's reputation—constitutes a false designation of origin for purposes of the Lanham Act.⁴¹

Trade dress law protects both the manufacturer's and the market's interest in making it easy for potential consumers to identify a product through its trade dress.⁴² Accordingly, a manufacturer's program will be able to obtain trade dress protection for an interface's "look and feel" if it can establish: (1)

³⁷ See Rudnick, 80 Trademark Rptr at 396-97 (cited in note 1).

³⁸ See *Int'l Order of Job's Daughters v Lindeburg & Co.*, 633 F2d 912, 917 (9th Cir 1980) (noting that trademark law facilitates the identification of a product's manufacturer or sponsor).

³⁹ 15 USC § 1125(a) (1988).

⁴⁰ Beutel, *Trade Dress Protection* at 3 (cited in note 7).

⁴¹ See, for example, *Chevron Chemical Co. v Voluntary Purchasing Groups, Inc.*, 659 F2d 695, 703 (5th Cir 1981).

⁴² See J. Thomas McCarthy, 1 *McCarthy on Trademarks and Unfair Competition* § 2.01(2) at 2-3 (Callaghan, 3d ed 1992).

"that the design is inherently distinctive or has acquired secondary meaning," thus identifying the source of the good; (2) "that the design sought to be protected, viewed as a whole, is 'nonfunctional'"; and (3) "that similarities between plaintiff's and defendant's designs create a likelihood of confusion as to the source or origin of their products."⁴³

For computer products, the user interface can function as trade dress. A user interface may combine words, symbols, and devices in patterns that help consumers identify its source. Without legal protection, competitors will copy a distinctive interface in order to capitalize on that product's good reputation. Consumers would then be unable to rely on the user interface to identify the source of a product, either when attempting to repurchase that product or when viewing that product outside the point of sale.

B. Elements of a Trade Dress Infringement Case

As the following discussion will make clear, a manufacturer should have little trouble establishing that a given user interface is distinctive and nonfunctional, so long as the manufacturer brings suit before the interface becomes an industry standard. Rather, trade dress claims should turn on the "likelihood of confusion" inquiry. The likelihood of point-of-sale consumer confusion seems low because computers and software are typically sold in clearly marked packages. It is thus unlikely (though conceivable) that a purchaser intending to buy Lotus 1-2-3 would end up buying, say, VP-Planner instead. But system and software manufacturers could still establish the requisite likelihood of confusion because trade dress law protects against consumer confusion *beyond* the point of sale; it is quite likely that an office worker using VP-Planner would assume, incorrectly, that he was working with Lotus 1-2-3.

1. Distinctiveness.

The first requirement for trademark protection of any product feature or set of features is "distinctiveness"—the feature must be able to indicate the source of the product. When a set of

⁴³ Ken Liebman, Gary Frischling, and André Brunel, *The Shape of Things to Come: Trademark Protection for Computers*, *The Computer Lawyer* 1, 2 (Dec 1992). See also *First Brands Corp. v Fred Meyer, Inc.*, 809 F2d 1378, 1381 (9th Cir 1987); *CIBA-Geigy Corp. v Bolar Pharmaceutical Co.*, 747 F2d 844, 854 (3d Cir 1984).

features identifies the source of a product, it functions as a trademark.⁴⁴ A set of features satisfies this requirement either because it is inherently distinctive or because it has "secondary meaning." Inherently distinctive trademarks are unusual or unique and, therefore, create a distinct visual impression.⁴⁵ A showing of inherent distinctiveness ends the distinctiveness inquiry. Frequently, a trademark is not unusual enough to qualify as inherently distinctive. The manufacturer must then prove that the feature has acquired secondary meaning, or, in other words, that the consuming public has come to view the mark as an indication of source.

a) *Inherent distinctiveness.* A recent Supreme Court decision, *Two Pesos, Inc. v Taco Cabana, Inc.*, established that trade dress can be inherently distinctive and that secondary meaning need not be shown for inherently distinctive trade dress.⁴⁶ Taco Cabana, a chain of Mexican restaurants, argued that its decor, taken as a whole, functioned as trade dress. Taco Cabana's decor involved Mexican artifacts, bright awnings and umbrellas, and murals. Taco Cabana charged that Two Pesos, a competing restaurant chain, had copied its trade dress by adopting a very similar motif. Each restaurant boasted interior and exterior patio areas, as well as a stepped exterior painted in a festive and vivid color scheme using top border paint and neon stripes.⁴⁷

The Supreme Court observed that inherently distinctive trademarks need not have secondary meaning to be protected and found no reason to apply a different requirement to trade dress cases.⁴⁸ Moreover, the Court noted that adding a secondary meaning requirement in trade dress cases could have significant anticompetitive effects and create particular burdens for start-up businesses.⁴⁹

It is not clear whether the Court meant its *Two Pesos* holding to apply to both inherently distinctive packaging and inherently distinctive product design.⁵⁰ Courts should reject any dis-

⁴⁴ See *AmBrit, Inc. v Kraft, Inc.*, 805 F2d 974, 979 (11th Cir 1986).

⁴⁵ See, for example, *id* at 979-80 (describing an ice cream bar wrapper as creating a distinct visual impression).

⁴⁶ 112 S Ct 2753 (1992).

⁴⁷ See *Taco Cabana Int'l, Inc. v Two Pesos, Inc.*, 932 F2d 1113, 1117 (5th Cir 1991).

⁴⁸ 112 S Ct at 2758.

⁴⁹ *Id* at 2761.

⁵⁰ See *Excerpts from the U.S. Trademarks Association's Amicus Brief in Two Pesos v.*

inction between the two and apply the rationale of *Two Pesos* to both packaging and product design. Neither inherently distinctive packaging nor inherently distinctive product design should face an independent secondary meaning requirement. To date, courts have not drawn a line between the two, probably because it is often difficult to distinguish the product from the packaging.

Admittedly, packaging is more often inherently distinctive than product design simply because vendors display most products in their packaging. This creates a greater incentive to develop distinctive packaging; consumers identify these products solely by their unique packaging. For example, a chewing gum wrapper bearing a logo, a recognizable color scheme, and a particular configuration could easily be inherently distinctive. Conversely, because most unwrapped chewing gum looks similar, a particular brand seldom has a unique "look and feel." Such a uniform product design cannot be inherently distinctive.

Some products, however, like restaurants and computer user interfaces, are generally viewed unwrapped. In fact, potential consumers cannot view a computer application's user interface until the software is removed from its packaging, set up, and the computer is turned on. Consumers cannot view the Lotus 1-2-3 spreadsheet, command list, and menu structure until the product is unwrapped. Manufacturers of these kinds of products therefore have an incentive to design products with a unique "look and feel." It is not even clear whether restaurant decor is packaging or product design. The "look and feel" of a restaurant is arguably part of the product itself, rather than just packaging. Similarly, the "look and feel" of computer user interfaces can be viewed as either packaging, the real product being the program and its function, or, more likely, product design. Because both product design and packaging sometimes identify the source of the product, courts should continue to reject the distinction between the two.

Some user interfaces create an inherently distinctive visual impression. For example, Berkeley Systems's After Dark screen saver program features a stylized underwater scene: colorful fish, gurgling noises, and winged toasters. That visual display is unique and unusual enough to qualify as inherently distinctive. In general, then, program developers that create unique visual

displays should be able to meet trademark law's distinctiveness requirement without showing secondary meaning.

b) *Secondary meaning.* Even if a product's design is *not* inherently distinctive, its manufacturer can satisfy the distinctiveness requirement by proving secondary meaning. A product's trademark or trade dress has secondary meaning when, due to exposure to the mark, the relevant consuming public comes to view the mark as an indication of the source of the product.⁵¹ Evidence of significant advertising,⁵² high sales,⁵³ and surveys showing that consumers do in fact associate the product feature with a particular source,⁵⁴ help prove secondary meaning. In addition, the Lanham Act provides that proof of substantially exclusive and continuous use of a mark in commerce for five years can be *prima facie* evidence that the mark has attained secondary meaning.⁵⁵

Most developers of successful user interfaces can establish secondary meaning. Marketing practices in the computer industry indicate that the interfaces are used for product and source identification. Advertisements for application programs often prominently feature photographs of computer screens running the program. For instance, advertisements for Microsoft Windows applications show display screens with pull-down menus and graphic representations of the user's function options.⁵⁶ Indeed, one commentator notes that "the most prominent identifying feature of the operating system is the appearance of the user interface features upon the display screen, including its windows, menus, graphic designs, print sizes and styles."⁵⁷ Manufacturers of computer products can use evidence of advertising expenditures and widespread sales to establish that their user interfaces have acquired secondary meaning. Indeed, advertisements make consumers' association of user interface with its source an integral marketing goal.⁵⁸ For instance, survey data would probably

⁵¹ See McCarthy, 1 *Trademarks and Unfair Competition* § 15.02(1) at 15-18 (cited in note 42).

⁵² See, for example, *First Brands Corp.*, 809 F2d at 1383.

⁵³ See, for example, *Clamp Manufacturing Co. v Enco Manufacturing Co.*, 870 F2d 512, 517 (9th Cir 1989).

⁵⁴ See, for example, *Ford Motor Co. v Summit Motor Products, Inc.*, 930 F2d 277, 292 (3d Cir 1991).

⁵⁵ 15 USC § 1052(f) (1988).

⁵⁶ For an example of such an ad, see *Time* 18-19 (Mar 28, 1994).

⁵⁷ Rudnick, 80 *Trademark Rptr* at 399 (cited in note 1).

⁵⁸ See Richard Brunelli and Mary Huhn, *Computer Comeback*, *MediaWeek* 16 (May

reveal that, when shown a graphic of a desktop with icons, a mouse, and a trash can in the lower right corner, consumers associate that "look and feel" with the Apple Macintosh. Similarly, surveyed spreadsheet users would probably identify a spreadsheet program that requires striking the backslash key to access the layered command menus, which then appear at the top of the screen, as Lotus 1-2-3. Because computer user interfaces often serve as an indication of source, most manufacturers should be able to establish secondary meaning.

c) *The problem of market standardization.* The trend toward standardization of user interfaces presents a potential obstacle to manufacturers' attempts to establish distinctiveness. Most user interfaces are unique when introduced. But microcomputer markets are moving toward "standard user interfaces" among programs in an attempt to reduce the time it takes to learn a new application.⁵⁹ This "family look" promotes sales *within* product lines (among all programs designed to run on one type of computer) and *across* product lines (between programs designed for different computer systems) by increasing consumer confidence in and familiarity with standard techniques. Standardization may make it difficult, if not impossible, for a plaintiff to establish distinctiveness because "in markets with standard user interfaces, programs are *expected* to look and feel the same."⁶⁰

Whether standardization will prevent a manufacturer from establishing the distinctiveness of a user interface depends on context. First, if a competitor copies a user interface that is not inherently distinctive before it has acquired secondary meaning, the original manufacturer obviously cannot obtain trademark protection because it cannot show that the user interface was distinctive. Second, standardization may defeat distinctiveness even after the user interface has acquired secondary meaning. If a user interface becomes the standard across product lines, it

11, 1992). In 1991, computer manufacturers spent \$253.6 million in advertising in the major consumer media and over \$1 billion in computer magazines. Id.

⁵⁹ Bonner, *User Interface Wars: The Next Wave*, PC Computing 74 (Nov 1988) (predicting that standardized graphics-based operating environments would rule the computer marketplace by the early 1990s); Christin H. Nadan and James W. Morando, *Standardization and Interoperability Become Key Factors in Copyright Law*, 10 Computer Lawyer 12 (Apr 1993).

⁶⁰ Wrenn, 4 High Tech L J at 284 (cited in note 3).

loses its secondary meaning because it no longer identifies a particular source.

For example, if Apple's Macintosh computer and the IBM-compatible Microsoft Windows application program both employed the same standard user interface,⁶¹ consumers would no longer know which computer they were using merely by looking at the user interface. That particular user interface would lack the necessary distinctiveness or secondary meaning to support a trade dress claim.⁶² To protect a user interface with secondary meaning from becoming standardized across product lines, a manufacturer or developer must sue quickly, before secondary meaning has been eroded.

But standardization within a product line, such as Apple's Macintosh, does not undermine secondary meaning (at least with respect to operating system software). In fact, with increased capabilities for sophisticated graphics, the operating system often plays a larger role in determining the overall "look and feel" of the user interface than does the application software.⁶³ Manufacturers of application programs prefer standardization within product lines because it allows a particular application to be compatible with more systems.⁶⁴ A computer manufacturer such as Apple will not be prevented from proving distinctiveness simply because most software developers for the Macintosh have adopted Apple's standard user interface. While the Macintosh user interface may tell consumers little or nothing about the source of a particular application, the "look and feel" of the desktop itself tells them that they are viewing an Apple Computer.

Similarly, a manufacturer of an application program may be able to establish secondary meaning for its "look and feel" as long as a standard has not developed in the relevant application market. If the "look and feel" of a particular program becomes the standard for a type of application, however, the manufacturer of that program will not be able to establish secondary meaning

⁶¹ Which, by the way, they do not—at least for the time being. Apple and IBM are collaborating on a next-generation machine that will bridge the DOS/Apple gap. See Charles T.C. Compton, *Cooperation, Collaboration, and Coalition: A Perspective on the Types and Purposes of Technology Joint Ventures*, Antitrust L J 61 (Mar 1993). The trade dress implications of this collaboration lie beyond the scope of this Comment.

⁶² See Liebman, *Trademark Protection for Computers* at 7 (cited in note 43).

⁶³ See Rudnick, 80 Trademark Rptr at 386 (cited in note 1).

⁶⁴ *Id.*

because consumers will not associate the "look and feel" of the program with that manufacturer.

For example, if Lotus had not sued quickly to protect its Lotus 1-2-3 interface, its acceptance as an industry standard might have precluded trade dress protection. Arguably, consumers now believe that the Lotus interface represents all spreadsheet programs for IBM and IBM-compatible personal computers. Lotus's interface may have lost its secondary meaning because other developers, such as Paperback Software and Borland International, have used the Lotus interface for their products. Nonetheless, frequent references in the market to the "Lotus" interface suggest that consumers still identify Lotus Development Corporation as the source of the interface.⁶⁵ The courts should continue to protect the Lotus interface because Lotus sued while the interface still had secondary meaning. Had Lotus delayed action too long, its secondary meaning might have eroded.⁶⁶

In holding for Lotus, the *Lotus I* court held:

If particular characteristics not distinctive individually have been brought together in a way that makes the "whole" a distinctive expression of an idea . . . then the "whole" may be copyrightable.⁶⁷

The idea that a "whole" can be distinctive is a trademark idea; traditionally, it is trade dress law that protects wholes, while copyright law protects only individual elements. In addition, Judge Keeton's use of the word "distinctive," a key word in trademark law, indicates that he was making a trademark inquiry. In essence, the *Lotus I* court held that Lotus's user interface was distinctive.

Most computer user interfaces should be able to satisfy the distinctiveness requirement. Occasionally, standardization will present an obstacle, particularly if a manufacturer fails to move quickly to protect its interface. If a manufacturer does move quickly, however, the court should find that its user interface is

⁶⁵ See, for example, Erica Schroeder, *Calling all Applications: Technology Brings Voice Recognition Toward Mainstream*, PC Week 41 (Nov 15, 1993).

⁶⁶ See Wrenn, 4 High Tech L J at 287 (cited in note 3). If a manufacturer waits too long to assert intellectual property claims, a trademark can lose its secondary meaning and become an unprotectable generic mark. See, for example, *Bayer Co. v United Drug Co.*, 272 F 505, 510-11 (S D NY 1921) (holding that "aspirin" had become a generic term). See generally Louis Altman, ed, 3 *The Law of Unfair Competition, Trademarks and Monopolies* § 18.24 at 217 (Callaghan, 4th ed 1990).

⁶⁷ 740 F Supp at 67.

distinctive even when the industry has adopted the manufacturer's interface as a standard.

2. Nonfunctionality.

Even if a manufacturer is able to establish the distinctiveness of its user interface, whether by showing inherent distinctiveness or secondary meaning, it is not assured of securing trademark protection. To prevail in a trademark case, the manufacturer must also demonstrate that the trade dress it seeks to protect is "nonfunctional" and that other manufacturers' use of the trade dress would create a likelihood of confusion in the consumer market. A design is functional—and therefore unprotectable—only if the benefits inherent in the particular design cannot be duplicated effectively through the use of other designs. Therefore, courts often look to the availability of alternative designs that afford similar advantages when deciding whether or not a design is functional.⁶⁸ "In general, a functional design [or trade dress] is one that is costly to do without."⁶⁹ By excluding functional designs from trademark protection, the courts have attempted to identify those instances in which the anticompetitive consequences of granting exclusive rights outweigh the public and private interest in protecting distinctive designs.

When deciding whether a product package or feature is functional, courts usually consider some combination of the following factors: "[w]hether the features in question are 'essential to the use or purpose of the article'; [w]hether the features 'affect [] the cost or quality of the article'; [w]hether the features achieve economies in manufacture or use; [w]hether there are available alternatives to the features[,] and [w]hether giving one party exclusive rights to the features will hinder competition."⁷⁰ Thus, courts deny protection to trade dress on grounds of functionality only when protection would significantly hinder competition.

⁶⁸ See, for example, *In re Morton-Norwich Products, Inc.*, 671 F.2d 1332, 1341 (CCPA 1982).

⁶⁹ See Restatement (Third) of Unfair Competition § 17, cmt b (Tentative Draft No 2, 1990) ("Restatement").

⁷⁰ Lieberman, *Trademark Protection for Computers* at 2 (cited in note 43) (citations omitted).

a) *Functionality of a "whole."* Courts consider the design of a product or its packaging *as a whole* when determining whether or not trade dress is functional. In the leading case of *Hartford House, Ltd. v Hallmark Cards, Inc.*, the Tenth Circuit noted that "the appropriate inquiry is not whether each individual feature of the trade dress is functional but whether the whole collection of features, taken together, is functional."⁷¹ Hartford claimed that a line of Hallmark greeting cards infringed the trade dress of its Blue Mountain Arts cards.⁷² Both product lines consisted of two-fold greeting cards with similar elements: poetry on the first and third pages, deckle edge on the first page (jagged, sometimes charred), and soft color backgrounds done with air brush or light watercolor strokes. The court upheld the lower court's finding that Hartford's Blue Mountain Arts greeting cards had an inherently distinctive and highly uniform overall appearance.⁷³ The court protected Hartford's overall design, even though the individual elements of the design were functional. The court noted that competitors like Hallmark could combine these functional elements in several different ways to create essentially the same product at the same cost.⁷⁴

The *Hartford House* rationale extends far beyond the greeting card context. Thus, a court can extend trademark protection to any combination or arrangement of features, so long as that combination or arrangement is not itself functional. Moreover, "[p]rotection of the overall design [] will not preclude others from using the individual functional [components]."⁷⁵

In the computer context, even though some features of a user interface may be functional, its overall "look and feel" is probably not functional. For example, a particular pull-down menu may be functional. Admittedly, products have displayed menus in many different ways. Some display no menu at all, while others employ function keys or combinations of standard keys on the keyboard in lieu of menus to execute commands. Nonetheless, pull-down menus "may be said to affect the quality of the product in terms of ease of use, efficacy or salability."⁷⁶ Therefore, if pull-down menus provide unique benefits that cannot be duplicated by alternative designs, they are functional.

⁷¹ 846 F2d 1268, 1272 (10th Cir 1988). See also Restatement § 17, cmt b (same).

⁷² 846 F2d at 1272.

⁷³ Id at 1273-74.

⁷⁴ Id.

⁷⁵ Restatement § 17 cmt b.

⁷⁶ Wrenn, 4 High Tech L J at 289 (cited in note 3).

Even if the pull-down menu or another individual element is functional, however, the combination, location, and arrangement of the trash can, menus, icons, and other elements of the Macintosh user interface is not, taken as a whole, functional. Although the "look and feel" of a user interface certainly plays a "functional" role in that it is essential to the use or purpose of the computer, a particular design is not functional for the purposes of trade dress law so long as alternative designs afford similar advantages at comparable costs. Even if an individual element is arguably aesthetically functional, that is, it contributes to the aesthetic appeal of the product so much that it becomes part of the definition of the product,⁷⁷ no one combination of elements confers a unique and significant benefit, unmatched by other designs. User interfaces are so complex that different combinations are almost always possible. Competitors can borrow functional elements from an established user interface and combine them to create a different overall "look and feel." Where such alternative combinations are available, the overall "look and feel" of most user interfaces should be deemed nonfunctional.

b) Functional standards. As discussed above, the development of an industry standard may prevent a manufacturer from proving distinctiveness. Similarly, standardization may prevent a manufacturer from proving nonfunctionality. When one manufacturer copies another's successful user interface, the manufacturer who first introduced the interface must sue to protect it before it becomes an admitted "industry standard." If a user interface becomes the standard across product lines, consumers probably will insist that products adhere to that standard. Then, the user interface will not only lack the requisite distinctiveness, but it will also become functional. For example, one court held that a computer keyboard layout and arrangement of keys had become functional.⁷⁸ That court relied on *U.S. Golf Association v St. Andrews Systems*, in which the Third Circuit held:

⁷⁷ See Restatement § 17, cmt c. Courts have largely rejected the rule that aesthetic appeal, without more, establishes functionality. See, for example, *Brunswick Corp. v Spinit Reel Co.*, 832 F2d 513 (10th Cir 1987); *Stormy Cline, Ltd. v Progroup, Inc.*, 809 F2d 971 (2d Cir 1987); *American Greetings Corp. v Dan-Dee Imports, Inc.*, 807 F2d 1136 (3d Cir 1986); *LeSportsac, Inc. v K Mart Corp.*, 754 F2d 71 (2d Cir 1985). But see *Wallace Int'l Silversmiths, Inc. v Godinger Silver Art Co.*, 916 F2d 76 (2d Cir 1990).

⁷⁸ See *Digital Equipment Corp. v C. Itoh and Co.*, 229 USPQ 598, 606 (D NJ 1985).

The fact that any number of standards may be feasible and useful does not mean that the preferred standard is not "functional." . . . To allow a monopoly over such a standard would defeat the policy of fostering competition that underlies the functionality doctrine.⁷⁹

For example, the Lanham Act would not have protected the Lotus 1-2-3 interface if "it 'function[ed]' as a standard that other software creators had to copy in order to spare buyers the costs of retraining or adapting to an unfamiliar user interface."⁸⁰ Lotus sued quickly, however, before a functional standard had developed in the industry. Thus, the *Lotus I* court implicitly rejected this standardization argument. Instead, the court held that Lotus's user interface was nonutilitarian.⁸¹ Because utilitarianism is the copyright analog to trademark's functionality requirement,⁸² *Lotus I* suggests that the "look and feel" of Lotus's user interface is also nonfunctional.

3. Likelihood of confusion.

Finally, to establish trade dress infringement under section 43(a) of the Lanham Act, a manufacturer must demonstrate a likelihood of confusion between its product's identifying features and those of the allegedly infringing product.⁸³ A likelihood of confusion exists when "an appreciable number of ordinarily prudent purchasers [and potential purchasers] are likely to be misled, or indeed simply confused, as to the source of the goods in question."⁸⁴ Evidence suggesting that a defendant intentionally copied a plaintiff's trade dress raises a presumption of likelihood of confusion.⁸⁵ Intentional copying is difficult to prove, however, and in the absence of such evidence, courts will consider a wide range of factors bearing on the likelihood of consumer confusion.⁸⁶

⁷⁹ 749 F2d 1028, 1034 (3d Cir 1984).

⁸⁰ Lieberman, *Trademark Protection for Computers* at 7 (cited in note 43).

⁸¹ *Lotus I*, 740 F Supp at 78-79.

⁸² See Note, *From Fast Cars to Fast Food: Overbroad Protection of Product Trade Dress Under Section 43(a) of the Lanham Act*, 45 Stan L Rev 2037, 2065 (1993).

⁸³ See *First Brands Corp.*, 809 F2d at 1383-84 (collecting cases).

⁸⁴ *Mushroom Makers, Inc. v R.G. Barry Corp.*, 580 F2d 44, 47 (2d Cir 1978). See also *Perini Corp. v Perini Construction, Inc.*, 915 F2d 121, 127 (4th Cir 1990); Comment, *Clearly Erroneous Review of Mixed Questions of Law and Fact: The Likelihood of Confusion Determination in Trademark Law*, 59 U Chi L Rev 1291, 1293 (1992).

⁸⁵ See, for example, *Warner Bros., Inc. v American Broadcasting Co.*, 720 F2d 231, 246-47 (2d Cir 1983).

⁸⁶ These factors include the strength of the feature as a trademark, the proximity of

In the context of suits seeking protection for user interfaces, this third element of the trademark case will tend to be the most difficult for a manufacturer to establish. However, because trademark law is concerned not only with point-of-sale consumer confusion, but also with consumer confusion at any point in time, the likelihood-of-confusion barrier should not prove insurmountable.

a) *Confusion at the point of sale.* One must not be too quick to dismiss the possibility of a manufacturer's proving point-of-sale consumer confusion. A likelihood of confusion may exist even if a customer can tell the original product and the infringing product apart. The actions that a competitor must take to avoid confusion depend on the circumstances; clear labeling of the source may not be sufficient.⁸⁷ "[A] label cannot altogether preclude the possibility of likelihood of confusion because consumers may still be drawn to the infringing product in the first place"; they may mistakenly develop an initial interest in the product "because its trade dress so closely resembles that of the other, already familiar product."⁸⁸ For example, there may be some confusion about the source of a computer system at the point of sale, especially if a consumer does not notice labeling or does not know which source is generally associated with the particular features he needs. In *Mobil Oil Corp. v Pegasus Petroleum Corp.*, the court upheld a finding of likelihood of confusion based on "the probability that potential purchasers would be misled into an initial interest in Pegasus Petroleum. Such initial confusion works a sufficient trademark injury."⁸⁹

A disclaimer may not be sufficient to avoid likelihood of confusion either. In *Reader's Digest Association, Inc. v Conservative Digest, Inc.*, Reader's Digest brought a trade dress misappropriation claim against Conservative Digest when the latter adopted a

the goods, evidence of actual confusion, the marketing channels used, the type of goods, the degree of care likely to be exercised by the purchaser, the defendant's intent in selecting the mark, and the likelihood of expansion of the product lines. See *First Brands*, 809 F2d at 1384 n 6, citing *AMF, Inc. v Sleekcraft Boats*, 599 F2d 341, 348-49 (9th Cir 1979); *Polaroid Corp. v Polarad Electronics Corp.*, 287 F2d 492, 495 (2d Cir 1961).

⁸⁷ See *Fuddrucker, Inc. v Doc's B.R. Others, Inc.*, 826 F2d 837, 846 n 13 (9th Cir 1987) ("Use of differing names or distinctive logos in connection with similar marks can reduce the likelihood of confusion but doesn't always do so.").

⁸⁸ *Schwinn Bicycle Co. v Ross Bicycles, Inc.*, 678 F Supp 1336, 1347 (N D Ill 1988), vacated on other grounds, 870 F2d 1176, 1187 (7th Cir 1989).

⁸⁹ 818 F2d 254, 260 (2d Cir 1987) (holding an oil company's use of the name "Pegasus" infringed on Mobil's use of a flying horse symbol with the word "Pegasus").

“new look” for its cover, remarkably similar in “size, shape, and graphic design” to the cover of *Reader’s Digest*.⁹⁰ To remedy the situation, Conservative Digest promised to mail its magazines with a disclaimer on the wrapper stating that it was not affiliated with any other magazine. The D.C. Circuit rejected the defendant’s argument that its disclaimer would negate any likelihood of confusion. The court indicated that, although this disclaimer might prevent one magazine from being mistaken for the other, it would not prevent confusion as to source or sponsorship because many readers would not see the disclaimer on the outer wrapper.⁹¹

Similarly, a disclaimer on a computer, an application program, or the packaging for either one might not be enough to prevent confusion as to source or sponsorship. A consumer viewing VP-Planner disks bearing a disclaimer—“these disks do not contain the Lotus 1-2-3 program”—may still believe that VP-Planner is somehow associated with Lotus, sponsored by Lotus, or that the programs are manufactured by the same company. More importantly, potential consumers seldom view the disks themselves, but more often view the program while running on a computer. Even a comprehensive disclaimer on a disk would not prevent confusion as potential consumers view the program on-screen. Thus, the similarity between the VP-Planner and Lotus user interfaces would reinforce a consumer’s original misconception.

b) Beyond the point of sale. Trademark and trade dress law protect against a likelihood of customer confusion not only at the point of sale, but also whenever customers view the mark.⁹² Indeed, several cases have held that confusion need not occur at the point of sale to be actionable, and have also held that trademark law prevents competitors from misleading potential customers as well as actual purchasers.⁹³

Similarity of products . . . does become actionable when the similarity leads to confusion as to source and the public

⁹⁰ 821 F2d 800, 802 (DC Cir 1987).

⁹¹ 821 F2d at 805.

⁹² See McCarthy, 2 *Trademarks and Unfair Competition* § 23.01(4)(a) at 23-13 (cited in note 42).

⁹³ See, for example, *Esercizio v Roberts*, 944 F2d 1235, 1245 (6th Cir 1991), cert denied, 112 S Ct 3028 (1992); *Rolex Watch U.S.A., Inc. v Canner*, 645 F Supp 484, 492 (S D Fla 1986).

cares who the source of the product is "[A plaintiff] must show that the consuming public is primarily concerned in the producer, rather than in the product itself" ⁹⁴

Courts have found a likelihood of confusion outside the point of sale where a competitor is attempting to derive benefit from another manufacturer's reputation. They protect manufacturers' investments in their reputations because manufacturers invest vast resources in developing their reputations and consumers then associate computers with their manufacturers. These courts therefore protect the value and exclusivity of a seller's reputation.

These concerns arise when consumers care about whether they are purchasing a brand name or a look-alike. In *Esercizio v Roberts*, Roberts manufactured fiberglass kits that replicated the exterior features of Ferrari's Daytona Spyder and Testarossa automobiles.⁹⁵ Although Roberts's replicas were virtually identical in external appearance to the Ferrari automobiles, a customer who purchased one of Roberts's kits knew he was not buying a Ferrari. Nonetheless, the Sixth Circuit held that because Ferrari consumers "care that they are purchasing a Ferrari as opposed to a car that looks like a Ferrari, . . . Ferrari presented an actionable claim as to confusion of source."⁹⁶

Courts have not limited the "confusion outside the point of sale" rationale to "prestige goods" such as Ferraris. They invoke this rationale whenever customers care about the identity of the producer as much as the product itself. Courts should extend the logic of *Esercizio* to personal computers and application programs because people associate these products with their manufacturers. The Lanham Act protects against confusion resulting from any goods in commerce; the Act "was intended to do more than protect customers at the point of sale."⁹⁷ In *Rolex Watch U.S.A., Inc. v Canner*, the court recognized that the broad protection afforded to customers outside the point of sale was necessary to protect against the cheapening of the original product and to protect the manufacturer's reputation.⁹⁸ Congress's intent that the Lanham Act's protection extend beyond the point of sale is

⁹⁴ *Esercizio*, 944 F2d at 1243, quoting *West Point Mfg. Co. v Detroit Stamping Co.*, 222 F2d 581, 589 (6th Cir 1955).

⁹⁵ 944 F2d 1235.

⁹⁶ *Id.* at 1244.

⁹⁷ *Id.*

⁹⁸ 645 F Supp at 492-93.

apparent from the Act's history. When enacted in 1946, the Act permitted an infringement action only when the alleged infringer used the mark in a manner "likely to cause confusion or mistake or to deceive purchasers as to the source or origin of such goods."⁹⁹ In amending the Act in 1962, Congress broadened the statute to reach marks "likely to cause confusion, or to cause mistake, or to deceive."¹⁰⁰

Just as in *Esercizio*, purchasers may not be confused at the point of sale, where computer products are clearly labeled. Nonetheless, potential consumers, such as office workers and students, could become confused as to source or sponsorship of a computer product viewed outside the point of sale.¹⁰¹

In fact, a user interface may present a better case for trademark protection than *Esercizio*. Potential customers interested in buying a real Ferrari would not have been misled by Roberts's replicas. The competing cars sold for markedly different prices and were not available at the same retail outlets. Roberts could not have used his replicas to pull business away from Ferrari. The people who purchased Roberts's kits did so because they wanted to purchase Ferrari look-alikes, not because they thought they were purchasing the real thing.

In contrast, potential consumers of computer products may see a computer's user interface on co-workers' desks or in store windows and assume that they are viewing the Apple Macintosh or Lotus 1-2-3 interface. By the time they eventually discover that they were really viewing Microsoft Windows or VP-Planner, they may already have invested time and energy in researching and shopping for the wrong product. Microsoft Windows or VP-Planner retailers could then convince these potential consumers that the look-alike products are indistinguishable from the Macintosh or Lotus 1-2-3; they will have used Apple's or Lotus's reputation and customer recognition to lure customers into investigating and ultimately purchasing look-alike products. Trade dress law attempts to prevent precisely this kind of misappropriation of another product's good reputation.

⁹⁹ 60 Stat 437 (1946).

¹⁰⁰ Pub L No 87-772, 76 Stat 773 (1962), codified at 15 USC § 1114 (1988). See also *Esercizio*, 944 F2d at 1244.

¹⁰¹ See McCarthy, 2 *Trademarks and Unfair Competition* § 23.01(4)(a) at 23-13 (cited in note 42).

c) *Sophistication of consumers.* Because likelihood of confusion is a fact-based, market-specific inquiry, courts may find that a likelihood of confusion exists with respect to one set of consumers but not with respect to another, more sophisticated group. Indeed, many computer systems and applications are no longer marketed exclusively to highly sophisticated customers.¹⁰² Therefore, customer sophistication should not pose an obstacle to proving likelihood of confusion for these mass-marketed products, such as the Macintosh computer and Microsoft Windows program.

If its potential consumers are, on average, knowledgeable and sophisticated, a manufacturer of a computer user interface who asserts a trade dress violation still must show that the consumers are likely to be confused by the defendant's user interface. On the other hand, the defendant can credibly claim that consumers are too knowledgeable to have been confused by similar-looking software where that software only serves a specialized, technical market. Indeed, the one court to have considered and denied trade dress protection for the "look and feel" of a user interface concluded that the sophisticated target market, offshore engineers, would probably not be confused by the similar user interfaces.¹⁰³

Similarly, courts should consider the sophistication of the consumer of business programs, such as Lotus and VP-Planner. If they are purchased solely by expert technical services personnel, courts may be reluctant to find a likelihood of confusion. Conversely, if owners and officers of small or medium-sized businesses are procuring computer products based on reputation, recommendations, and little technical knowledge, courts should be more likely to find a likelihood of confusion. Not all systems or programs have consumers so sophisticated as to preclude a likelihood of confusion.

C. Scope of Protection

Once a plaintiff has won a trade dress misappropriation case by establishing distinctiveness, nonfunctionality, and a likelihood of confusion, the losing defendant must modify its product. There is no quantitative threshold that dictates how many changes a

¹⁰² See Beutel, *Trade Dress Protection* at 4 (cited in note 7).

¹⁰³ See *Engineering Dynamics, Inc. v Structural Software, Inc.*, 785 F Supp 576, 583-84 (E D La 1991).

defendant must make; it must change the "look and feel" enough to avoid a likelihood of confusion. For example, if Hallmark wanted to continue selling cards similar to those that had infringed Hartford's trade dress, it would need to modify its cards so that consumers would not confuse them with Hartford's. The court had held that the overall "look and feel" of Hartford's greeting cards was distinctive and nonfunctional, implying that the functional elements could be combined in several different ways to create the same product for approximately the same cost. Hallmark could continue to use functional elements, such as deckle edges and watercolors, as long as the overall "look and feel" of its cards was different enough from that of Hartford's cards to avoid a likelihood of confusion.

A defendant found to infringe on the "look and feel" of a plaintiff's user interface would have to modify its user interface to avoid a likelihood of confusion. For example, if Apple had obtained trade dress protection against Microsoft, Microsoft could have continued to use functional features, such as the trash can and pull-down menus, so long as consumers did not confuse the overall "look and feel" of its user interface with the Macintosh interface.

CONCLUSION

Courts have proven reluctant to award copyright protection to user interface "look and feel." This is understandable and indeed entirely proper—copyright protection is broader than trademark protection because it is much easier to establish copyright's requisite substantial similarity than trademark's likelihood of confusion. Copyright protection would stifle the development of new interface features because it would make it more expensive to build on existing work. Moreover, copyright protection may be unnecessary—because early entrants capture the lion's share of the market, the market provides sufficient incentives to innovate.

But the "look and feel" of computer user interfaces should still be protected, in order to prevent consumer confusion. Trade dress law provides exactly that type of narrow protection. Trade dress law protects the "look and feel" of a product *as a whole*, and although a product's individual features may be functional, its overall "look and feel" usually will not be. Because of the difficulty in establishing all the elements of a trade dress misappropriation case, trade dress claims will not always be successful. Despite this limitation, trade dress law represents a more promising

source of intellectual property protection for computer user interfaces than does copyright law. Some manufacturers will be able to prove distinctiveness, nonfunctionality, and likelihood of confusion, and thus will prevail on a trade dress theory. In fact, Apple Computer may very well have been able to establish the elements and obtain protection for its Macintosh user interface on a trade dress theory.