FENWICK & WEST LLP

Real Life Trial Issues in Software

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FENWICK & WEST LLP

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I. Introduction

Although it seems hard to believe, the first recognized software copyright infringement case of any note took place almost sixteen years ago. It was the *Synercom* case, out of the northern district of Texas in 1978, on the copyrightability of input formats used for a structural engineering software program. Since then, there has developed a variety of cases addressing copyright infringement in the context of object code infringement, source code infringement, audiovisual display infringement, as well as the non-literal copying of source code or audio-visual displays, also known as the sequence, structure, and organization cases, which I discuss here.

In the 1986 case of *Broderbund Software, Inc. v. Unison World, Inc.*, I represented the plaintiff in one of the first trials that addressed the copyrightability of software audio-visual displays—more popularly known as the user interface—and the extent to which such a user interface could be infringed. At that time, only a few articles in the journals had addressed the legal standards applicable in a software copyright infringement case, whether it involved object or source code infringement or the more glamorous "look and feel" of the user interface.

Over the last eight years, the literature has developed this issue extensively. The legal journals have addressed several issues that have arisen in the context of software copyright infringement litigation, and fully ninety percent of these articles address the appropriate standard to be applied by judge or jury in evaluating the similarity of the plaintiff's and the defendant's works. These articles range from the scientifically analytic to the philosophic (or at least having profoundly philosophical titles) and even to the almost religiously evangelical.

The most recent chapter concerns the dispute over whether or not western civilization should apply the *Altai* "abstraction-filtration-comparison" standard for non-literal similarity or the *Whelan* "big picture" or "top down" comparison of two works. Although these approaches adopt different perspectives, they express a common concern that the law, in this case the copyright law, should include a workable and certain standard, one that allows lawyers to advise their clients about the extent to which one program, or its user interface or code, infringes the work of another. This is one of the great uncertainties in software copyright law today.

Trial lawyers face even more uncertainty, not in advising their clients about prospective products, but in determining the precedential impact of some of the more famous look and feel, or sequence, structure, and organization opinions. A lawyer will naturally attempt to convince the court to employ the standard for copyrightability or infringement that best suits the client's needs in a particular case and can be most credibly derived from precedent; however, the precedential value of software infringement cases is highly uncertain.

In the software copyright infringement area, precedent is often and largely unhelpful for one simple reason: the vast majority of reported opinions do not append any trial exhibits showing the actual programs or user interfaces that were the subject of the infringement claim. No matter how powerful the judge's command of the language, mere language does not convey the images—sequence, structure, and organization—that the judge is analyzing. Despite whatever powerful legal standards are articulated in these cases, after reading one of them (even the lengthy opinions in *Apple Computer, Inc. v. Microsoft Corp*. or *Lotus Development Corp. v. Borland International, Inc.*, the lawyer or judge who is attempting to glean the significance of the case can often discern essentially nothing about the programs that were at issue. As a consequence, a great deal of the precedential impact is lost on the lawyer, who remains uncertain as to its impact on the case at hand.

This reporting deficiency creates another area of uncertainty for the trial lawyer. Generally, since trial lawyers devise tools for convincing fact finders by reading reported cases, the details of a district court of appellate court decision often contain important descriptions of the techniques or exhibits that the lawyers in the reported cases used to convince the court or the jury that one program was or was not substantially similar to another. Again, since the federal reporters do not include visuals of these exhibits or tools, the trial lawyer does not come away with an understanding of what sort of evidence really struck home in a precedential decision. Perhaps, in the near future, federal court opinion will be reported on compact disks, and it will be possible for an opinion to include copies of the exhibits the court found compelling and which reflected the substantial the substantial similarity, or lack thereof, of the products. My remarks address these uncertainties in the reported cases, for this, in my view, presents one of the most important "real life issues" facing trial lawyers in software infringement cases today.

I will discuss the programs the underlie some of the more important decisions in this field and some of the tools of persuasion that lawyers have used to convince triers of fact in software copyright infringement cases. I will focus on the those cases that involve claims of visual similarity of the user interface, components of the user interface, or the similarity of the sequence, structure, and organization of elements of the user interface or the underlying code.

II. Evidence of Customer or Third-Party Confusion

It is clear that in the software copyright infringement cases since *Synercom* experts are playing a greater role in the substantial similarity debate. Early courts spent most of their time freestyling through the plaintiff's and the defendant's works with occasional references to expert opinion about the range of expression that was available to the defendant, the originality of the plaintiff's work, or the extent to which the defendant's work contained elements similar to the plaintiff's work. Experts were perceived as a necessary evil with the

courts seeming uncertain about their own ability to judge the similarity of two works. During this period, most or all courts considering any copyright infringement claims—whether or not in the context of a "software" case—utilized the extrinsic-intrinsic" or "objective-subjective" substantial similarity test, whereby the extrinsic or objective similarity of the programs was the subject of expert testimony and the intrinsic or subjective similarity of the programs was left to the fact-finder.

All that is largely gone. Now, even in cases paying lip-service to the extrinsic-intrinsic test or trying to modify it slightly, trial by expert is *de rigueur*. Given the interest in analytic dissection, cases are really being tried based on who has the best experts. Some courts seem to defer almost wholesale to the experts. A good example of this is the recent district court decision in *Gates Rubber Co. v. Bando American, Inc*. The court devoted almost six columns in the reporter to evaluating expert testimony and only a quarter of a column to conducting an independent review of the similarity of the software products. According to Karl Dakin, one of the plaintiff's lawyers, the bulk of the hearing on the permanent injunction also involved expert testimony.

This suggests that, in certain cases, particularly in those cases involving user interface similarity or similarity in the sequence, organization, and structure of the menus, prompts, or user interface elements, trial counsel should spend time showing the court that non-experts - lay people - are confused by the programs' similarities. Now, of course, "likelihood of confusion" is the litmus test for trademark infringement under the Lanham Act or under state trademark statutes, and likelihood of confusion should have nothing to do with substantial similarity in copyright infringement. However, as a practical matter, this objection overlooks significant evidentiary tools that have been accepted by a variety of courts. In particular, both the Seventh Circuit in *Atari* and the Third Circuit in *Whelan* have formally accepted third-party confusion about the source of two products as a basis for establishing the substantial similarity of the products, at least under the lay "intrinsic-subjective" test.

In the 1986 case of *Broderbund Software, Inc. v. Unison World, Inc.*, a Ninth Circuit district court was willing to accept evidence of third-party confusion to establish substantial similarity. In *Broderbund*, both companies had created desktop publishing programs, and Broderbund's consumer Service and Technical Assistance Department received several letters before trail from people who had acquired Unison's Printmaster product and confused it with Broderbund's Print Shop product. In one letter, a consumer extolled the virtues of the original product, Broderbund's Print Shop, but in the next paragraph confused the two products. In another letter, an insurance agency in Ohio made a similar mistake by claiming that Unison's Printmaster product was one of Broderbund's products.

Of course, it can be argued that consumer confusion over the similarity of visual displays of two programs is not an indication that a more sophisticated audience would also be confused. This raises the question as to what audience the substantial similarity test is directed. Although this might be an interesting intellectual question in other cases, in the *Broderbund* context the question was largely resolved by a letter received more than a year before trial in which a Minnesota software distributor - most likely an entity that could be fairly characterized as a sophisticated and discerning purchaser of software products - clearly confused Broderbund's Print Shop product with Unison's Printmaster product. The conclusion to be drawn from the successful use of this substantial similarity evidence is that in a case involving claims of user interface similarity, the plaintiff's attorney should contact the client's customer service, technical assistance, or marketing and sales departments to determine the extent to which there has been actual confusion between the plaintiff's and the defendant's products.

These sorts of exhibits raise interesting evidentiary questions. Obviously, if admitted for the truth of the information contained in the letters, the information is rank hearsay and should be excluded. Of course, the argument is that the letters are not being admitted to show the truth of the statements (in *Broderbund*, that the Printmaster product actually has the problems associated with it) but rather to show that consumers are confusing the plaintiff's product with the defendant's product. If this does not work, it might be possible to admit the evidence under Rule 803(24), the omnibus "reliable" exception to the hearsay rule under the Federal Rules of Evidence.

A plaintiff seeking to admit this type of testimony should expect the defendant to raise a serious objection to the authenticity of the documents being submitted. In those cases, the plaintiff can arrange for the authors of the letters to appear at trial to testify about the contents of the letters (in which case the letters themselves are unnecessary after the percipient testimony of the witnesses). Without live witnesses to authenticate the documents, the court would be justified in its concern that the documents might have been manufactured for the purpose of establishing similarity of the plaintiff's and the defendant's products.

The defendant can also object to these documents on the grounds that, although they show confusion by the consumer, they do not show precisely what caused the confusion. In *Broderbund*, for example, the defendant could have argued that the consumer might have been confused by the packages of the two products or by the names of the products rather than by their visual displays or their sequence and structure. Unfortunately, the defendant did not raise these objections at the time, but a plaintiff should be prepared to rebut them if they arise.

III. Direct and Demonstrative Evidence of Substantial Similarity or Lack of Substantial Similarity

This section presents some of the evidence and techniques the parties have used in several important software copyright infringement cases. All the cases were tried to a judge. Regrettably, the discussion does not include some of the more famous look and feel cases, such as Altai out of the Second Circuit, *Synercom* or *CMAX* out of the Fifth Circuit, *SAS* out of the Sixth Circuit, or *Gates Rubber* out of the Tenth Circuit. Although these are some of the most recent cases involving the copyrightability of the sequence, structure, and organization of source code, trial exhibits for these cases are not available, either because the lawyers could not locate them or could not provide them.

A. Single Visual Display

Digital Communications Associates, Inc. v. Softklone Distributing Corp. involved the claim that the defendant copied a single screen, the main menu screen, of the plaintiff's program. Digital had developed an asynchronous data communication program called "Crosstalk," which enabled a user to communicate with other computers, and claimed that the main menu was the element of the program that made it popular and gave the program such wide support. The main menu, referred to as the "status screen," contained an arrangement and grouping of various parameters or command terms under various descriptive headings. Defendant, ForeTec Development, purchased a copy of the Crosstalk XVI program and developed a clone of it. ForeTec sought legal advice on which aspects of the Crosstalk program could legitimately be copied and was told that under no circumstances could copies be made of the source code or the object code, but that a single display screen was not copyrightable. On the basis of that advice, ForeTec created a visual duplicate of Digital's main status screen. (See Appendix, Exhibit 1; the plaintiff's product is generally presented at the top and the defendant's at the bottom).

Digital, however, had obtained separate copyright registration of its source code and of the programs'' visual displays. This was critical to the outcome of the case, because the district court held that the registration of the source code did not create copyright protection for the visual displays. The court did find, of course, that the copyright registration of the visual displays protected the status screen. While this case was not very complex, the district court generated a seventeen page opinion regarding the single screen in finding infringement of Digital's copyright.

B. Multiple Visual Displays Having Similar Sequencing, Structure, and Order

In other cases, there are visual similarities of more than a single screen. Some of the video game cases involve claims of similarity for multiple screens and action sequences within the game.

1. *Data East v. Epyx*

In the case of *Data East USA, Inc. V. Epyx, Inc.*, the plaintiff, Data East, began selling a program called "Karate Champ" in July 1984 for arcade use and in October 1985 introduced it as a home computer game. A British company called System III Software developed a competing program called "World Karate Championship" and licensed it to Epyx, a California software developer and publisher. Both games consisted of an audio-visual depiction of a karate match or matches conducted by two combatants. Successive phases of combat are conducted against varying background scenes, and the matches are supervised by a referee who announces the winner of each phase by means of a cartoon-style speech balloon. In bonus rounds, the combatants break bricks, dodge objects, and do similar kung-fu-type moves.

Finding massive copyright infringement, the district court permanently enjoined Epyx from distributing or displaying its World Karate Championship game. The court also ordered recall of the World Karate Championship game.

One of the most significant facets of this case is the types of displays that were used to convince the court that the defendant had infringed the plaintiff's copyright. Although the main menus of he two programs were not similar, the plaintiff set about establishing that other screens were similar. The plaintiff's primary visual tool was known as Book II, which contained sixty-six photographs reflecting twenty-two comparisons of different screen shots of the plaintiff's and the defendant's games. One exhibit in the book was intended to show that the backward-forward somersault of the plaintiff's characters was equivalent to the backward-forward flip of the defendant's characters. (See Appendix, Exhibit 2). Another exhibit pointed out the similarity between the upper lunge move in the plaintiff's game and the defendant's high punch move.

Other exhibits in the case were striking for their similarity of a small feature but dissimilarity in the screens as a whole. For example, the speech balloons of the plaintiff's and the defendant's referees awarding a point were the only similar element in one exhibit. (See Appendix, Exhibit 3). In another example, the bonus round screens were similar in that the plaintiff's and the defendant's combatants could obtain bonus points by doing something called "breaking objects," but when the screens were viewed as a whole, the similarities paled in comparison to the differences. This was also true for the screens showing the plaintiff's and the defendant's combatants "dodging objects." The plaintiff argued that the defendant had not only copied the particular moves, but also had copied background scenes; the plaintiff presented exhibits showing that both games were set against backdrops of a city scene, Mount Fuji, a beach, and a desert. (See Appendix, Exhibit 4).

What is truly remarkable about the plaintiff's exhibits is that the photographs were the only visual displays submitted by the plaintiff in the case. The plaintiff did not produce in court either the arcade game itself or a home video reproduction of the arcade game. On appeal,

the defendant argued before the Ninth Circuit that the photographs alone were not sufficient evidence of the plaintiff's "work" as that term is defined under copyright law. The court rejected the argument but had to distinguish *Seiler V. Lucasfilm, Ltd.*, in which the Ninth Circuit had earlier seemed to hold that proof of substantial similarity requires juxtaposition of the entire works of the two parties. Defendant Epyx lost this evidentiary battle but won the war. The Ninth Circuit reversed the district court, finding that any similarity between the plaintiff's Karate Champ game and the defendant's World Karate Championship game resulted from copying of unprotectable expression. In fact, the court noted that "a discerning 17.5 year old boy could not regard the works as substantially similar."

There are two important lessons for trial lawyers from the *Data East* case. First, be sure to submit into evidence a full copy of the program in its inherent medium: video, floppy disk, or CD. Second, be sure to admit into evidence all copies of the program for which you are claiming or defending against infringement. In *Data East*, the plaintiff could prove that the defendant had access to the arcade game but could not prove access to its video game; and, the plaintiff failed to admit into evidence a copy of the video game. The plaintiff was able to prove that the defendant's video game was similar to the plaintiff's video game by establishing that the defendant had obtained access to the plaintiff's arcade game and that the plaintiff's arcade game was similar to the plaintiff's video game. It is not clear how the plaintiff established this without having its video game put into evidence. In any event, it is important that a plaintiff admit into evidence all versions of the program allegedly infringed, and a defendant must be prepared to take advantage of a plaintiff's failure to make this evidentiary admission.

2. *Manufacturers Technologies v. CAMS*

Demonstrative evidence is fun and easy in cases involving games or other fanciful pictures. Although business applications do not lend themselves to such entertaining visuals, it is still possible to win a business application look and feel case with conventional visual displays. Consider the Second Circuit case *Manufacturers Technologies, Inc. v. CAMS, Inc.* The plaintiff, MTI, developed a computer program called "COSTIMATOR," which enabled the user to estimate the cost of machining a manufactured part. The defendants were experienced in the metalworking and metal manufacturing area and observed COSTIMATOR during a sales presentation in which it was being offered to them for their cost estimating jobs. Two years after first seeing the program, the defendants developed "RAPIDCOST," a cost estimating system for the metalworking field. The plaintiff's product sold for about $20,000 while the defendant's product sold for $1,000 to $2,500.

MTI brought suit, claiming infringement of its visual displays. Notably, there were no more than seventeen visual displays in either program, and there was no dispute that the two source codes were entirely different. At the end of a four day trial, the court concluded that the defendant's user interface generally infringed the plaintiff's user interface, although

these determinations were made on a screen-by-screen basis. The plaintiff established infringement by comparing screens from both programs, but unlike the visual displays in Data East , the plaintiff's and the defendant's screens were entered into evidence in separate exhibits rather than as a side-by-side comparison in a single exhibit. (See Appendix, Exhibits 5 and 6).

The court determined that an identification screen in the plaintiff's program was copyrightable, because the individual components were not sufficiently limited by functional considerations such as the size of the screen or the parameters that were identified. The court found, however, that a screen that simply listed the twenty machine shop departments through which a part could be processed was not copyrightable. That screen enabled the user to input the standard cost for each of its different shops for automatic application to the cost estimate. The court found this expression was not protected because it was not a necessary incident to the very idea of listing the departments to which shop rates would be assigned.

3. *Broderbund v. Unison*

The facts in *Broderbund* are relatively straightforward. The plaintiff, Broderbund, created a product called "Print Shop," which enables the user to create greeting cards, signs, letterheads, banners, and other printed materials on a home computer. The defendant, Unison, tried but failed to get a license to port the product for the IBM computer. Within a year of failing to get the license, Unison developed a product called "Printmaster," which operated on the IBM (a market that Unison knew Broderbund was targeting).

In presenting the visuals to establish infringement, our objective was to make things as simple as possible. The courtroom was wire for sound and visuals, and there were monitors in front of the judge and in front of the witness and counsel tables. A central operating unit allowed the witnesses, the judge, and the lawyers to operate the program at will.

We demonstrated visual similarity between the plaintiff's Print Shop and the defendant's Printmaster through eight and one-half by eleven, mounted blowups of comparative screen shots, with the Print Shop screen at the top and the Printmaster screen below it. First, we led the court through the steps in crating a greeting card using the programs, showing the similarity of the main menu screens and screens where the user chooses the border, the graphic, and the size and layout of the image. (See Appendix, Exhibits 7, 8, and 9, for example.) Unison features more options than Broderbund for some screens, such as for the border an graphics, but screens where the user chooses the size of the graphic were almost identical.

Both the Broderbund and unison programs allow the user to crate custom layouts, and again we established clear evidence of copying. In the Print Shop program it is possible to

lay the graphic out in one of five locations. Unison's Printmaster not only copied the relative location of the graphics but also copied the precise location of the "return" prompt. This particular screen was very important in the case and figured prominently in the court's opinion because of the use of the "return." Broderbund's Print Shop program was designed for Apple computers, and we established that the Apple computer in 1984 had a "return" key on the keyboard. We then showed that the IBM computer, for which Unison's Printmaster was targeted, has an "enter" key. We used this sort of evidence to demonstrate similarity and copying by Unison.

We also anticipated that the defendant would argue that compatibility restrictions, machine restrictions, monitor restrictions, and utility considerations all dictate that the defendant's screen look like the plaintiff's screen. In short, we anticipated the defenses of utility, the merger doctrine, or *scènes-à-faire*. To preempt these arguments, we had an expert develop and present an entirely different user interface for a program that performed all the same operations as Print Shop. (See Appendix, Exhibit 10 and 11.) The user had the same selections, but the user interface screens were entirely different. The user interface developed by our expert used the IBM functions keys, which Unison's Printmaster did not do.

In fact the main argument presented by Unison in this case was that the similarity of Print Shop and Printmaster was no greater than the similarity of programs in other business applications. Unison tried to prove this by presenting a visual showing the main menus of ten different spreadsheet programs, but the court simply did not find this argument compelling.

In the *Broderbund* case we also claimed substantial similarity of the sequence, structure, and organization of the underlying code and the visual displays, but we used a more graphical way of depicting the similarity in structure. We presented to the court two transparencies, one of Print Shop's greeting card program in blue print, the other of the Printmaster program in red. Each transparency also contained the names of the particular screens associated with each stage in the sequence of producing a greeting card. (See Appendix, Exhibit 12 and 13.) We then overlaid the Printmaster and Print Shop sequencing so that the aspects of the program that were similar appeared in purple. We repeated this for all six of the programs' routines, including the stationary or letterhead routine.

One of the significant lessons of *Broderbund* is that in look and feel cases, the plaintiff must anticipate that the defendant is going to argue that the range of expression that is available is so limited as to preclude copyrightability of the plaintiff's visual displays. To make sure that this defense never got off the ground, our experts presented seventeen different programs, all of which competed with Broderbund's Print Shop product and all of which had completely different user interfaces. Several of the competing programs were entitled "My Very Own Calendar" and "The Professional Sign Maker." (See Appendix, Exhibit 14.) One program, called "Stickybear Printers," has a highly graphical user interface that is distinct

from either Broderbund's or Unison's products and received quite a bit of attention from the court.

4. *Brown Bag Software v. Symantec*

The approaches we took as the plaintiff in Broderbund are equally adaptable to the defendant to prove lack of substantially similarity. In *Brown Bad Software v. Symantec Corp.*, the defendants adopted our trial strategy in successfully defending against an infringement claim. There, Brown Bag obtained from John Friend the exclusive rights to an outlining program called "PC-Outline." Friend retained certain nonexclusive rights and promptly began to develop a competing product called "Grand View," which he sold to Symantec, who then used some of the Grand View code to update another outline program called "More." Brown Bag sued Symantec, claiming that the user interface of Grand View and More infringed the user interface of PC-Outline.

The case was resolved on summary judgment, so the court did not see the sort of extensive visuals that had been prepared for the *Broderbund* case. Symantec, however, did show the opening screens for Grand View and PC-Outline with Symantec's at the top and Brown Bag's at the bottom, similar to the presentation in *Broderbund*. (See Appendix, Exhibit 15.) Here, though, the comparison strongly suggested that there were material differences between the visual displays of the two programs.

In *Brown Bag* the plaintiff also claimed that he defendant had copied the key stokes that activate each menu option. When the user is in a particular menu, one of the listed options can be activated by pressing a key for a single letter that is indicated next to the name of the menu entry. One of Symantec's exhibits showed that, in fact, most of the key stroke selections are entirely dissimilar between the two programs. (See Appendix, Exhibit 16.)

Such cases as *Brown Bag* and *Broderbund* can be described as concerned primarily with the "look" in look and feel analysis. Other cases can better be described as "feel" cases—in which the visual displays of particular programs may be less similar than the feel and operation of the programs, as reflected in the sequence, structure, and order of instructions and user prompts.

5. *Whelan v. Jaslow*

Whelan Associates, Inc. v. Jaslow Dental Laboratory, Inc., out of the Third Circuit, is the first great "feel" case, where the similarity between the plaintiff's and the defendant's programs is predominantly in sequence, structure, and organization. Elaine Whelan developed the "Dentalab" software program, which assisted in the administration of a dental laboratory. Jaslow, the defendant, had actually acquired the first Dentalab system but subsequently began developing and marketing a program called "Dentcom," which it advertised as "a new version of the Dentalab computer program." There was no question that Dentalab and

Dentcom had different source codes and that some of the visual displays were dissimilar. The plaintiff's claim was that the sequence, structure, and organization of Dentcom were nearly identical to that of Dentalab, and, on that basis, the defendant's program was infringing.

The visual evidence presented by the plaintiff was limited to copies of various menus of the two programs, which the district court had found probative of the copying of the sequence, structure, and organization of the underlying code. In addition, experts from both sides presented substantial testimony on the similarity or dissimilarity between five particularly important subroutines within each program: order entry, invoicing; accounts receivable; end-of-day procedure; and, end-of-month procedure. The plaintiff was trying to establish that, with respect to each of these five critical subroutines, the defendant's sequence, structure, and organization of the program were similar or identical to the plaintiff's. (See Appendix, Exhibit 17 showing the order entry subroutines.) The district court found this evidence, long with similarities of visual displays, established that the sequence, structure, and organization of the plaintiff's program had been infringed.

6. *Autoskill v. NESS and Lotus v. Paperback*

A high-technology presentation is not necessary in order to prevail in an infringements action. The best proof of this is the recent Tenth Circuit case *Autoskill, Inc. v .National Educational Support Systems, Inc*. At issue was a software program designed to test and train students with reading deficiencies. The program tests students then assigns a training program to address the student's type of deficiency. A student advances to the next program only after receiving a ninety-five percent success rate on the initial training program.

Autoskill obtained a preliminary injunction against NESS. Lawyers for Autoskill displayed the two programs, of course, but what caught the attention of the district court and the Tenth Circuit was an exhibit that compared the progressive levels of abstraction of the two programs. (See Appendix, Exhibit 18.) Autoskill showed that at both the highest and lowest levels of abstraction the programs were substantially similar. The Tenth Circuit found dispositive a categorical description of similarities between the sequence of operation of the two programs. (See Appendix, Exhibit 19 and 20.) Autoskill won this high-technology suit with a low-technology, but effective, presentation.

Lotus Development Corp. v. Paperback Software International is another good example of relatively unsophisticated, but successful, technological presentation. Lotus claimed that Paperback Software's "VP Planner" copied the "Lotus 1-2-3" spreadsheet program. At trial, the courtroom was wire for full computer capability, and lawyers for both sides displayed the operations of the various programs. Otherwise, the parties used conventional low-technology props. Essentially, the parties displayed the various menus of the programs that were in issue and provided listings of the "elements" that were claimed to be infringing or non-infringing.

Ultimately, this relatively low-technology demonstration was successful (at least for the plaintiff). The court held that the defendant's program was a visual clone and an infringement of the plaintiff's program.

C. More Sophisticated Demonstrative Evidence

The cases I have discussed so far have used relatively unsophisticated technological presentations for evidence of substantial similarity, or lack thereof. Beginning with such cases as *Lotus Development Corp. v. Borland International, Inc*. and *Apple Computer, Inc. v. Microsoft Corp.*, presentations claiming or denying substantial similarity have become more technologically sophisticated and more expensive.

1. *Lotus v. Borland and Apple v. Microsoft*

In *Lotus Development Corp. v. Borland International, Inc*. both sides came armed with lawyers and high-technology demonstrative evidence. Borland, attempting to establish that Lotus was seeking to protect what were actually unprotectable ideas, processes, and operations, submitted two video tapes as part of the argument in the summary judgment proceeding, but it is not clear that the tapes would have qualified as demonstrative evidence because of their argumentative content.

Similar high-technology devices were used in *Apple computer, Inc. v. Microsoft Corp.*, in which Apple claimed that the Microsoft Windows 2.03 and Hewlett-Packard New Wave products infringed various keystrokes, menus, and graphical icons to which Apple claimed the copyright. (See Appendix, Exhibits 21 and 22.) This case also was resolved by summary judgment, and also against he plaintiff. It is important to recognize that neither Borland nor Apple prevailed, even with high-technology devices and graphical displays. It is apparent that the mere use of sophisticated exhibits and presentations is not necessarily going to persuade the trier of fact.

2. *Capcom v. Data East*

The state of the art in substantial similarity demonstrative evidence in a software infringement suit is represented by *Capcom USA, Inc. v. Data East USA, Inc.*, a case currently being litigated in the Northern District of California before Judge Orrick, the same judge who presided over *Broderbund*. Data East was the losing party in the earlier *Data East v. Epyx case.* In that case, Data East claimed infringement of its karate game, but the Ninth Circuit found that the similarity of the programs resulted from the fact that all karate programs would necessarily involve combatants using similar moves and having similar backgrounds—the merger and *scènes-à-faire* doctrines.

In light of that decision, Data East assumed that, given the unprotectable nature of many elements in fight games and the narrow range of expression, it would be reasonable, and thus non-infringing, to use visual displays in a game that could appear to be similar to

pre-existing, competing products when viewed by a casual observer. Capcom, publisher of "Street Fighter," a popular game in the early 1990s, disagreed. Capcom sued for infringement of its Street Fighter game by Data East's "Fighter's History." At the preliminary injunction hearing, Data East made videos of both games in full operation, then digitized and downloaded them to laser disk. Data East then assigned specific bar code numbers to individual images from each program and to the sequencing of moves in both programs. Data East assembled a library of these bar codes. Lawyers for Data East were able to call up on a monitor not only discreet images of each of the programs but also comparative sequencing of moves in the programs. A lawyer could assign a barcode number to a visual comparison of characters or other figures and key this to particular questions to be asked of a witness. (See Appendix, Exhibit 23 and 24.) This allowed the lawyers to examine and cross-examine the witnesses on the similarity of particular characters or moves in the programs without having to rely on pre-programmed videos. Basically, the entire demonstrative evidence presentation was almost completely interactive.

Cost is legitimate concern in these state-of-the-art or wave-of-the-future presentations. The production costs along for both Capcom and Data East presentations ranged between $150,000 and $400,000, not including attorney time or other legal fees. Obviously, costs like these can only be incurred in cases where the products at issue are generating the profits to subsidize them.

IV. Conclusion

I have a few concluding observations about the sophistication of the technology that is being used for evidentiary submissions in software copyright infringement cases today.

First there is no correlation between expense of particular demonstrative evidence and the result in the case. In one case, a party spent between a quarter and a half-million dollars on the production cost alone of the demonstrative evidence yet failed to establish its position on substantial similarity.

Second, the state of technology is remarkable. Lawyers today can—using multi-media and laser disk technology—make visual presentations of similarity that were inconceivable only five years ago.

Third, despite the number of cases in the field, there is no generally accepted way of presenting substantial similarity evidence to the court or jury. The most popular and least expensive form of demonstrative evidence is comparative screen dumps, or captures, followed by displays of the actual programs, then by video comparisons of the programs in operation. Parties are still experimenting with demonstrative techniques in these cases.

Last, where a party intends to rely on a particular precedential case, I strongly recommend obtaining a copy of the exhibits and evidence used in the case itself. Request the court in the present case to take judicial notice of the record of the prior case under Federal Rule of Evidence 201, and give the court an idea of the similarity of the programs in the prior case. This might assist in making uncertain precedent a little more certain to the court and to you.

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