

Current Computer Copyright Law
by Al Harrison, Harrison & Egbert, Houston

Presented to Dallas Bar Association, Intellectual Property Law Section
February 21, 1995

Introduction

The Fifth Circuit decided two copyright cases in 1994 which addressed the issue of the scope of copyright protection afforded works involving computer programs. The legal principles articulated in *Kepner-Tregoe, Inc. vs. Leadership Software, Inc.*, 12 F.3d 527 (5th Cir.), cert. denied, _ U.S. _, 115 S.Ct. 82, 63 U.S.L.W. 3258 (Oct. 4, 1994), and in *Engineering Dynamics, Inc. vs. Structural Software, Inc.*, 26 F.3d 1335 (5th Cir. 1994) (reh'g en banc filed) have perturbed the already uneven application of copyright law to software cases. After these decisions, what is the proper scope of copyright protection for software? What is the proper test for assessing this scope of protectability?

As copyright law practitioners know, the application of copyright law to particular facts is typically askew because of tensions between the meaning of such terms of art as "copying" and "expression" and the connotations associated with the use of these terms in the normal vernacular. Accordingly, courts regularly misuse and misapply these terms, pursuant to deciding a copyright issue. Of course, on the software landscape, courts sometimes accord broad patent-like protection to purported works of authorship which probably, at best, merit "thin" protection as contemplated by the U.S. Supreme Court in *Feist Publications, Inc. v. Rural Telephone Service Co., Inc.*, 499 U.S. 340, 111 S. Ct. 1282 (1991).

Nonetheless, any court always starts with a recitation of basic principles of copyright law. When the law is applied to a particular fact situation, however, the constitutional focus presumably manifest in copyright doctrine is often lost and unpredictable decisions result. To a large extent, this focus was clouded in the *Kepner-Tregoe* ("K-T") case and to a small extent, but potentially have great impact upon the

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computer industry, this focus was clouded in the *Engineering Dynamics* ("EDI") case.

Copyright Principles Articulated by the Fifth Circuit

Consider the basic principles of copyright law recently articulated by the Fifth Circuit in the K-T and EDI cases:

1. Copyright protects expression of ideas that displays the stamp of an author's originality, not ideas themselves.
2. Data formats, manifest either as "linear" input formats or as output layouts, are not per se uncopyrightable, i.e., *Synercom Technology, Inc. v. Engineering Dynamics, Inc.*, 462 F.Supp. 1003 (N.D. Tex. 1978) is not the law of the Circuit.
3. Non-literal elements of computer programs and other copyrightable works may be protectable by copyright, e.g., structure, sequence and organization.
4. The tripartite abstractions-filtration-comparison test for assessing the scope of copyright protection announced in *Computer Associates, Inc. vs. Altai, Inc.* and refined in *The Gates Rubber Co. v. Bando Chemical Indus., Ltd.*, has been embraced and adopted.
5. To apply the Altai-Gates Rubber test, an "abstraction spectrum" should be established to evaluate copyrightability of individual elements.
6. User interface copyrightability analysis applicable to input data format card should focus upon whether: (a) input data card is a mere blank form that fails to convey information to the user; (b) interface is sufficiently user-directed and interactive; and (c) analogous to compilation, interface provides original expression through selection, sequence and organization of information provided to and collected from the user.
7. The Lotus-based "inverse" *scenes a faire* analysis, according copyrightability status because there are numerous ways in which to structure an element, is embraced.
8. As indicia of derivative works, a tell-tale signs doctrine has been articulated, to wit: if attempts to revise infringing elements are deemed to be "a transparent, syntactical rearrangement of

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portions of [] copyrighted material” then remaining “telltale signs” of origin thereof flags such revision as still being a “child of infringement.”

Consider how these copyright principles impacted the Fifth Circuit's holdings in the K-T and EDI decisions.

The Compatibility Warp

This application of copyright law, unfortunately, introduces certain anomalies to vendors in the computer industry who regard legal confrontations as being far down on the food chain and the like. If industry-wide standards or otherwise defacto standards for data interfaces are not per se uncopyrightable, then the business strategies of such distinguished companies as BMC Software, Advanced Micro Devices, Compaq Computer and Dell Computer, who depend upon 100% compatibility, are subject to infringement litigation.

In the EDI case, the compatibility issue hovered around the twenty-five percent level, as an upper limit. The suite of computer programs constituting EDI's SACS comprised approximately twenty-three program modules including in excess of two hundred input and output data formats. EDI elected not to register the SACS suite of computer programs in the Copyright Office. Portions of the SACS user manual were registered, however, corresponding to documentation for three of its program modules. Within these registrations, fifty-one data formats were described. For compatibility and ease-of-use purposes, EDI “borrowed” several of SACS data formats from Synercom's STRAN, a predecessor structural design modeling tool. The suite of computer programs constituting SSI's StruCAD*3D software consisted of approximately one hundred twenty-five data formats. Similarly, for compatibility and ease-of-use purposes, SSI “borrowed” several of StruCAD*3D's data formats from EDI and Synercom.

The EDI trial court found that data formats in issue were uncopyrightable *per se* under the seemingly well-settled *Synercom* holding, found that SSI's user manual infringed upon EDI's user manual, awarding \$250,000 for this infringement, and enjoined SSI from marketing StruCAD*3D using the infringing manual. The court also ordered SSI to create a new non-infringing user manual, with EDI's

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cooperation. Since EDI withheld such cooperation (but eventually tendered a long list of “objectionable material”) over a period of several months after SSI tendered a new user manual, the trial court appointed a special master (Dallas own favorite son, Peter Vogel) to ascertain whether the newly written StruCAD*3D user manual infringed upon any protectable aspects of the SACS copyrighted user manual portions. The special master concluded that this new StruCAD*3D user manual didn’t infringe upon EDI’s copyrights; his recommendations and findings were adopted by the trial court (except awarding SSI’s attorney fees and costs).

Distinguishing *Synercom* from *EDI* Case

The Fifth Circuit observed three significant differences between the *Synercom* case and the *EDI* case: (1) while SACS was 100% compatible with Synercom’s STRAN, StruCAD*3D was not 100% compatible with SACS; (2) StruCAD*3D requires dozens of input data formats different from data formats used by SACS; and (3) while only nine individual input data formats were alleged to have been copied in Synercom, EDI alleged that the sequence and organization of its input data formats and reports, en masse, were infringed. *EDI* at 1339. But note, that in *Synercom*, EDI argued that:

As embodied in a data deck, the format used [] is practically (sic) pure idea, devoid of expression. It is embodied in a series of holes in a group of cards stacked in a certain order, each card bearing a single line of numbers and cryptic words.

See Defendant's Post Trial Brief on Copyright at 3 (emphasis supplied).

EDI further argued that "[t]he [input] forms, when filled out by the users, 'embody' the formats but hardly 'express' them in an intelligible manner." *Id.* [Query: Was not EDI, in *Synercom*, arguing for uncopyrightability *per se* for a compilation?]

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Copyright of Non-Literal Elements

In the face of SSI's argument that input data formats should not even be analyzed as nonliteral elements which may pass the tripartite test adopted by the Court, because the underlying computer program is not protected by copyright, the Court articulated that "[i]t makes no difference to the formats' copyrightability whether we analyze them as springing from a computer program or from a user manual." *EDI* at 1342, n.9. [Query: 80-character data field layout as a creative work?]

The Court joined the consensus among the circuits recognizing that non-literal elements of computer programs and other copyrightable works may be protectable by copyright. *K-T* at 536, n 19, citing *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 702-703 (2d Cir. 1992); *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222, 1236-1238 (3d Cir. 1986), cert. denied, 479 U.S. 1031, 107 S. Ct. 877 (1987); *Lotus Dev. Corp. v. Paperback Software, Int'l*, 740 F.Supp. 37 (D.Mass. 1990). In a footnote, the Fifth Circuit suggests that it sees the Synercom holding as conflicting with the consensus that "non-literal aspects of copyrighted works — like structure, sequence and organization— may be protectable under copyright law: a proposition that has been approved by Supreme Court precedent. *Id.*, n. 20, citing *Feist Publications, Inc. v. Rural Telephone Service Company, Inc.*, 499 U.S. 340, 111 S. Ct. 1282 (1991) (organization of facts may be protectable under copyright law) (emphasis original). In *EDI*, the Court announces that "SSI benefits from no synergy with Synercom." *EDI* at 1342, n. 9.

The scope of copyright protectability issue was remanded to the trial court for a "close factual analysis" of "quasi-textual" input and output formats based Nichols-Altai-Gates Rubber test. See, e.g., *The Gates Rubber Co. v. Bando Chemical Indus., Ltd.*, 9 F.3d 823, 838 (10th Cir. 1993) Significantly, the Court observed that in some situations, a user interface "may merge almost wholly with the expression, processes, or ideas embodied in the [computer] program" and saw no basis for distinguishing input data formats from the contemporary user interface analysis.

The Altai-Gates Rubber Analysis

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The tripartite analysis adopted by the Court for assessing scope of copyright protection and for assessing infringement analysis may be summarized thus:

Step 1: Abstractions

Depict copyrighted work as series of top-down levels or plateaus of decreasing generality (*Nichols* Abstraction Analysis). See, *Nichols v. Universal Pictures Corp.*, 45 F.2d 119 (2d Cir. 1930), cert. denied, 282 U.S. 902 (1931).

Step 2: Filtration

Eliminate unprotectable elements of abstracted work, based upon uncopyrightable ideas, public domain, merger of ideas with expression, scenes a faire, external factors, market forces, etc.

Step 3: Comparison

Compare the unfiltered, remaining elements with the allegedly infringing computer program to determine whether substantial elements have been appropriated. Note that nonprotectable elements may be freely copied.

EDI at 1343-1348, citing *Gates Rubber* at 834 and *Altai* at 706-711 and 3 Nimmer & Nimmer On Copyright § 13.03 [F].

Using this analysis, it must be ultimately decided whether a subset of StruCAD*3D card formats that are individually similar to protectable, i.e., filtered, individual SACS card formats, if any exist, is “substantially similar to EDI’s copyrighted work or a part thereof as to constitute infringement.” *Id.* at 1347 (emphasis supplied). This infringement test, unfortunately, permits an assessment of substantial similarity for a compilation of data formats with less than the data formats *en masse*. But the Court articulates that “[t]he ultimate focus, in accordance with EDI’s contention, should be on the input formats and output reports taken as a whole.” *Id.* (emphasis supplied).

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Application of The *Altai-Gates Rubber* Analysis

“Protectible originality can manifest itself in many ways, so the analytic approach may need to be varied to accommodate each case’s facts.” *Id.* at 1343. The recited adaptation of the *Gates Rubber/Altai/Nimmer* method must be applied by the trial court “to consider [the scope of copyright protection, if any, of] EDI’s user interface, input formats and output reports.” [Query: Assuming *arguendo* that SACS has a user interface as commonly intertwined with contemporary software, wouldn’t such user interface include the input formats and output report layouts? Why does the Court refer to each of these separately?] The Court states that SACS user interface consists of 230 input-output formats and also states that it’s unnecessary to address the copyrightability of each input or output format is copyrightable, since only the compilation thereof is claimed by EDI. *Id.*

While viewing the function of input formats to “mediate between the user and the program” and viewing the function of output layouts to “structure the results of calculations,” the Court also recognized the *Baker v. Selden* problem. 101 U.S. 99 (1880) (blank forms uncopyrightable because of merger or idea and expression). Furthermore, the Court observed that the “scientific, technical character” of the SACS program distinguishes it from the “open-ended, user-directed spreadsheet user interface” found copyrightable in the *Lotus* cases. *EDI* at 1344. Note that the Court correctly cautions that a “highly functional” user interface or “highly standardized” technical data formats “may lie very near the line of uncopyrightability.” (Emphasis supplied) *Id.* at 1348. But the Court, adopting the *Lotus Court*’s inverse *scenes a faire* analysis, accords at least ephemeral copyrightability status to SACS input-output formats because “there are numerous ways in which either input or output formats could have been structured in order to achieve the program’s purpose.” *Id.* at 1344.

Noting the *Baker v. Selden* necessary incidents doctrine and the more sophisticated command and sequence structure manifest in word processing or spreadsheet software than manifest in SACS’ data formats, the Court nonetheless found that the “expressive purpose” of SACS input formats outweighed their utilitarian function. As a whole, the input formats convey substantial information regarding data collection and organization for SACS’ proper operation. *Id.* at 1346. Functional interfaces that “teach or guide the

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user's independent decisions are more expressive than functional interfaces that lack these qualities." Id. [Query: Doesn't a functional interface always teach or guide?] The Court describes cumulation of SACS' data cards in curious language, to wit: "nor do they [SACS' data cards] portray a 'compilation' so much as a progressive demonstration of a particular engineering program." Id. [Query: What is a "progressive demonstration" of a computer program?]

The opinion further echoes the rationale used in *Lotus v. Borland*, to wit: "The selection, arrangement, and manner of presentation in a compilation may provide the user with a method or systematic manner of assessing the (uncopyrightable) facts. Thus, copyright law protects only that part of a compilation that the reader actually uses for selection of facts that the reader wants to know." Id., citing *Lotus v. Borland*, 831 F.Supp. 223, 231 (D.Mass. 1993). The Court articulates that for EDI to enjoy thin protection, its copyrighted data formats must pass through "copyrightability filters." Id. at 1348, n. 15.

Infringement of Help Screens

The Court found it evident that SSI's help screens were not substantially similar to EDI's copyrighted manuals. Pending remand, however, since help screens deal primarily with input data formats and modeling therewith, substantial similarity should be revisited if the trial court finds that the compilation of input formats merit copyright protection. Id. at 1349.

The Documentation Warp

Description of the basic operation of a software product or documentation of mechanics for interfacing therewith, to the extent that such description or documentation is incidental to the use of the software, should not be protectable by copyright. A vendor should be permitted to provide users with vanilla instructions, manifest in a conventional manual or in help-screens. If a data interface cannot be reasonably be described and documented without infringing upon another's copyright, then users will not be provided adequate instructions how to properly interface with the associated software.

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In *Synercom*, *EDI* and *K-T*, the respective courts found infringement in essentially user-oriented documentation.

Definitional Aspects of Ideas, Concepts, Systems, Methods

In *K-T*, the Fifth Circuit posited a spectrum for levels of abstraction that may be depicted thus:

basic idea of management training
f
structure, sequence and organization
f
specific words, phrases and sentences

K-T at 533-534. At what point in this spectrum does verbiage rise to the level of being “expression” as contemplated by the copyright statutes? The purported theory for leadership management consisted of a series of phrases and sentences in the form of a set of eight questions (“problem attributes”) and five definitions (“processes”). *Id.* at 531. To properly implement this theory, each of its models, either presented in a management seminar (*K-T*) or in a text (*LSI*) or in a computer program (*LSI*), contained virtually identical verbiage. *Id.* at 537. The implementations in textbook and software were found to infringe upon *K-T*’s copyrighted training materials.

The Court failed to appreciate an analogy to conceptual elements described in Einstein’s Theory of Relativity ($E = MC^2$), with the underlying concept “expressed” mathematically. *Id.* at 536. In the *K-T* case, the underlying relationships were “expressed” verbally. The Court, provided its own analogy using Shakespeare’s *Romeo and Juliet* (“O Romeo, Romeo! Wherefore art thou, Romeo?”), rejecting *LSI*’s argument that all incarnations modeling the new approach to leadership management necessarily needed to recite the core element problem attributes and processes. *Id.* at 535. [Query: Is formulation tantamount to expression?]

Interestingly, the Court, following its rationale to its “logical” conclusion, held that the associated abbreviations AI for autocratic process, CI for consulting process and GII for group process, were

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“arbitrary designations” unlike constants dictated by laws of nature like **B** or Plank’s constant (Quantum Mechanics). *Id.* at 537. Such treatment for abbreviations and the like is contrary to well-settled copyright law. See, e.g., *Higgins v. Keuffel*, 140 U.S. 428, 11 S.Ct. 731, 732 (1891) (mere designations not copyrightable); 37 C.F.R. § 201 (words and short phrases not subject to copyright); Copyright Office Circular 34 (fragmentary words not copyrightable).

Conclusions

The copyrightability and consequent substantial similarity analysis originally articulated by Judge Learned Hand has continued to develop among the circuits to entertain a diversity of software-related fact situations. Since Congress has elected to shoe-horn computer software into the formerly quiescent copyright regime, courts have grappled with applying adaptations of this analysis for assessing scope of copyright-protectability and deciding copyright infringement issues. Such attempts particularly during the 1980's and 1990's have delivered uneven decisions and concomitant uncertainty to the computer industry and desktop computer marketplace.

Since *sui generis* protection for computer programs and the like is still not available, and since courts regularly accord virtual patent protection to plaintiffs based upon copyright claims, it is incumbent upon the court system to augment its judicial wisdom with knowledge and experience available from experts. Clearly with rapidly developing technologies inherent in the computer industry and the like, courts — district and appellate courts alike — should draw upon the expertise of those skilled in the relevant art to judiciously apply the law to the facts to reach even, predictable and equitable decisions. How else may the true impact of important decisions be appreciated and communicated? How else may traumatic shocks to the marketplace be avoided?

Ergo, by using such experts, the courts may routinely decide copyright cases by applying the *Nichols-Altai-Gates Rubber* analysis to achieve constitutionally mandated balance between protecting an author's creativity and promoting the development of the useful arts. Hopefully, *en banc* hearing will be granted in the EDI case, allowing compatibility and related issues to receive constitutionally proper

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treatment under copyright law. Perhaps the First Circuit, deciding the *Lotus v. Borland* copyright litigation, will help. (For comprehensive treatment of analytic approach to assessing scope of copyright protection issues, see author's article entitled "Computerization Of The *Nichols*' Analysis For Assessing Scope Of Copyright Protection And For Assessing Copyright Infringement" appearing in impending State Bar publication: 4 COMPUTER SECTION REPORTER, No. 3 (March 1995).