

**INTERFACES ON TRIAL:  
INTELLECTUAL PROPERTY AND INTEROPERABILITY  
IN THE GLOBAL SOFTWARE INDUSTRY**

*By Jonathan Band and Masanobu Katoh.<sup>1</sup>  
Boulder, Colo.: Westview Press, Inc. 1995.  
Pp. 369. \$72.00 (hard).*

The ideas and issues Jonathan Band and Masanobu Katoh present in their book *Interfaces on Trial* are interesting, compelling, and highly relevant to today's intellectual property law. Through their examination of the debate over whether computer interfaces should be protected as intellectual property, the authors demonstrate that seemingly trivial technical minutiae, such as the protocol by which Sega video game consoles communicate with Sega-compatible cartridges (pp. 37-38), are not trivial at all, but rather determine the rules by which the computer industry operates.

Interfaces are the means by which computer hardware and software connect to, and interact with, each other (p. 6). The extent to which intellectual property law allows developers to create products which work with other companies' interface specifications is a critical issue, the authors contend, because if interface owners were given complete control over other firms' use of their interfaces, they would have monopoly power over all such products (p. xvii). Because consumers demand industry standards (for example, Microsoft Windows or Apple's Macintosh operating system in the personal computer market), no one will buy software unless it can interact with a major interface (p. 18). That means, of course, that full protection for interface specifications would allow the standard setter to charge exorbitant licensing fees, or even to refuse to license its interface specification to any competing product. While the authors point out with relief that current United States case law "indicates . . . there is no doubt concerning the basic proposition that copyright does not protect . . . interface specifications" (p. 165), interface specification protectability will continue to be a major issue far into the future, not only for existing software markets but also for technologies yet to be imagined.

*Interfaces on Trial* provides a useful framework for understanding and analyzing the computer interface protectability debate by introducing

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1. Jonathan Band, a partner in the Washington, D.C. office of Morrison & Foerster, specializes in intellectual property law and administrative litigation. Masanobu Katoh is the General Manager of the Washington, D.C. office of Fujitsu Limited.

the reader to the computer science, history, case law, and statutes relevant to this increasingly important area of copyright law. Band and Katoh provide the reader with more than enough basic information to understand the current interface protection issues, to analyze relevant cases, and to critique the various positions that have been taken along the protectability spectrum.

Chapter 1 lays the foundation for the book with a lucid and concise explanation of the facts and terminology relevant to computer interfaces, thus ensuring that readers understand such essentials as what interfaces are, what interoperability means, and why both are so fundamentally important to the computer industry. The authors also discuss reverse engineering and other less controversial means by which software developers obtain or copy interface specifications, either with or without the interface owner's support.

Band and Katoh then present a focused history of the computer industry in order to show that de facto standards have long been the reality with which independent developers must cope. The chronicles of IBM's dominance from the 1960s into the 1980s, and the more recent emergence of Microsoft and other big players, provide interesting background information. More importantly, though, this history provides a context for assessing the current market and for determining the optimal level of interface interoperability protection, given its likely effect on companies' incentives to create software, as well as on consumers, interface owners, and the computer industry in general.

In Chapter 2, the authors introduce readers to intellectual property law, explaining the policies behind, the requirements for, and the applicability of patent and copyright protection. The reader is also given a quick look at the concepts of exclusive rights, fair use, and infringement. As Band and Katoh point out, the chapter's coverage of the concepts is not thorough; rather, it "provide[s] only a general overview of the key legal principles necessary for understanding the interoperability debate" (p. 49). Still, that overview is sufficient for the book's purposes.

Having provided this basic background information, Band and Katoh then delve into many of the major court decisions that address the applicability of copyright law to interface specifications. The cases they discuss, such as *Lotus v. Borland*,<sup>2</sup> are crucial to a complete understanding of the debate. Unfortunately, the authors often go into far more

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2. *Lotus Dev. Corp. v. Borland Int'l, Inc.*, 799 F. Supp. 203 (D. Mass. 1992), *rev'd*, 49 F.3d 807 (1st Cir. 1995) (finding that the Lotus 1-2-3 menu command hierarchy is a non-copyrightable method of operation because specific words are required for the program's operation), *aff'd by an equally divided Court*, 116 S. Ct. 804 (1996). The book was written before the First Circuit holding was announced.

detail than is necessary for the casual reader, but not enough detail for the true scholar, who might be better off reading each opinion in its entirety rather than the excerpts mixed with commentary. This excessive detail is particularly evident in their discussion of *Computer Associates International v. Altai*,<sup>3</sup> which goes so far as to examine amicus briefs that contained arguments essentially the same as those presented elsewhere in the book. Ultimately, the details presented in the descriptions of the cases are insufficient to make anyone an expert on this topic, yet simultaneously make it more difficult for the reader to focus on the major arguments and holdings in the cases, as well as on the differences between them.

The authors conclude, after discussing these major cases, that "courts throughout the United States agree that the Copyright Act does not protect interface specification." (p. 167) They note, however, that protection is only half of the debate. "The other half concerns the permissibility of detecting those interface specifications" (p. 167), which can often be done through software reverse engineering. Band and Katoh do a nice job of explaining that "reverse engineering is a research process" (p. 168) common in several industries, yet one that raises copyright issues when applied to software programs. After examining the concept of fair use and analyzing appellate court decisions relevant to reverse engineering,<sup>4</sup> the authors argue that policy considerations and current law show that reverse engineering does not infringe copyrights, but rather "is a process necessary under certain circumstances to permit competition and to prevent copyright from granting patent-like protection for program elements unprotected by copyright." (p. 219)

After completing this analysis of U.S. law, the book "travels the globe" (p. xxii) to examine how the European Union, Japan, and, to a lesser extent, other countries have addressed these interface and interoperability issues. According to the authors, there are no fundamental differences between the way the United States, the European Union, and Japan treat interface specifications. However, Band and Katoh spend a significant portion of these chapters analyzing the U.S. government's influence over modifications to these nations' copyright laws.

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3. 775 F. Supp. 544 (E.D.N.Y. 1991) (creating abstraction/filtration/comparison test to determine whether non-literal elements of a computer program are substantially similar, and finding that non-literal elements of Computer Associates' interface to operating system was not copyrightable), *aff'd in part, rev'd in part*, 982 F.2d 693 (2d Cir. 1992).

4. See, e.g., *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992) (holding that disassembly of program to analyze unprotected elements is a fair use of copyrighted software if done for legitimate reason and if there is no other means of obtaining the necessary information); *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d 255 (5th Cir. 1988) (holding that copying software into computer memory does not infringe copyright because loading into memory is a requirement for program's use).

According to the authors, the United States treated Japan improperly during Japan's consideration of these issues by making several "significant misrepresentations" (p. 315) to the Japanese government, and "demonstrat[ing] a cynical disregard for copyright principle and competitive conditions in the software industry in its effort to improve its balance of trade with Japan" (p. 316). Again, however, the authors include too many details in this section of the book. They improve the quality and breadth of their survey by analyzing the major arguments considered by these powers, but few people may be interested in reading several pages about the lobbyists and committee hearings involved.

Perhaps the authors' focus on lobbying efforts and politics reflects their own stake in the interoperability debate. As they note in their introduction, they "are hardly objective observers" (p. xxii). The authors admit that they "have devoted significant time and energy" (p. xxii) to promoting a copyright regime that does not protect interface specifications (p. xix). Although they do attempt to present these controversial issues in a balanced manner, their position is evident throughout the book. Critical readers should be aware of the influence the authors are trying to exert over the reader's understanding of the issues at hand.

*Interfaces on Trial* provides its readers with useful tools for understanding the interface interoperability debate. It does this by surveying the underlying facts, the relevant industry history, the major arguments from various factions, and the current state of the law. While excessive detail sometimes bogs down the pace and obscures the focus of the survey, Band and Katoh's work is a useful and pleasant, though not impartial, route toward becoming acquainted with this significant area of computer intellectual property law.

*Zack Higgins*