Writ of Certiorari Denied in Oracle v. Google: Software Declaring Code, Including Structure, Sequence, and Organization Remains Protectable as Copyright

by Trisha Farmer and Simone Raess[1]

On June 29, 2015, the U.S. Supreme Court denied Google, Inc.'s petition for writ of certiorari, leaving intact the Federal Circuit's holding that Oracle's Java API software, and particularly the API declaring source code, is protectable under the copyright law.[2] In *Oracle America, Inc. v. Google Inc.*, the Federal Circuit applied the law of the Ninth Circuit to address several issues.[3] Most notably, the court held that literal copying of even a small amount of source code may constitute infringement of the code's non-literal elements. In so holding, the court applied a pared-down version of the abstraction-filtration-comparison test and held that functional elements of software may constitute copyrightable expression. The long-term effects of the Federal Circuit's opinion remain to be seen. However, litigants may expect courts in the Ninth Circuit, and others, to uphold copyright protection for functional software, including the structure, sequence, and organization of the software, in instances where there was more than one way to write and organize the code to achieve the same function. This rule may be applied even where only small amounts of source code are literally copied.

I. Background

In 2010, Oracle sued Google for copyright and patent infringement of preset software packages provided through "APIs" (application programming interfaces) included in Google's Android platform.[4] Oracle was largely unsuccessful in the district court as a result of the trial judge's unfavorable ruling on copyrightability.[5] The Federal Circuit, however, revived Oracle's API copyright claims on appeal.

APIs are sets of software code that allow programmers to easily use repeated functions rather than rewriting them each time.[6] They are programming "shortcuts," or software building blocks, that programmers can use to more efficiently incorporate functions in other software.[7] Oracle's APIs are specific to its Java programming language and are widely known and used by software programmers.[8] Oracle's APIs include two types of source code: declaring code, which names and defines the functionality of each shortcut, and implementing code, which provides detailed instructions for carrying out the defined function.[9]

At trial, Oracle accused Google of infringing both literal and non-literal elements of the APIs. Google admitted to copying, verbatim, the declaring source code of thirty-seven of Oracle's APIs, providing grounds for a claim of literal infringement of the literal elements of the APIs.[10] Additionally, the declaring source code defined

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1   Ms. Farmer and Ms. Raess are attorneys at Snell & Wilmer L.L.P. Ms. Farmer practices in the areas of intellectual property litigation and commercial litigation. Ms. Raess practices in the area of intellectual property law.
2   *Google Inc. v. Oracle Am., Inc.*, No. 14-410, 2015 WL 2473490, at *1 (U.S. June 29, 2015).
3   750 F.3d 1339 (Fed. Cir. 2014).
4   *See id.* at 1347.
5   *Id.* The jury found that Google infringed thirty-seven of Oracle's APIs, as well as a program called "rangeCheck."
    Id. The trial judge, however, held that the copied portions of Oracle's APIs were not subject to copyright protection.
    Id. at 1348.
6   *Id.* at 1349.
7   *Id.*
8   *Id.* at 1347.
9   *Id.* at 1349.
10 *Id.* at 1350-51.

the structure, sequence, and organization ("SSO") of the APIs, providing grounds for a claim of non-literal infringement of the APIs' non-literal elements: the entirety of the SSO.[11]

By agreement of the parties, the jury was charged with deciding the issues of infringement, fair use, and *de minimis* copying; the district court judge would decide the issue of copyrightability and, therefore, instructed the jury to assume that the SSO was copyrightable.[12] The jury returned a verdict for Oracle on the issue of infringement of the APIs, but hung on whether Google's copying constituted fair use.[13] After considering various post-trial motions, the trial judge ultimately entered judgment for Google, ruling that Oracle's API declaring code was not copyrightable because it was a functional "command structure."[14]

II. The Federal Circuit's Opinion

On appeal, applying Ninth Circuit law, the Federal Circuit reversed much of the trial court's opinion and held that the Java API language was copyrightable. The district court had held that Java APIs were merely functional works not deserving of copyright protection; the Federal Circuit disagreed.

A. Application of Ninth Circuit Law

Oracle brought its appeal in the Federal Circuit because the lawsuit originally alleged infringement of various patents, as well as copyrights. Ultimately, only copyright issues were presented on appeal. Unlike questions of patent law, "[w]hen the questions on appeal involve law and precedent on subjects not exclusively assigned to the Federal Circuit, the court applies the law which would be applied by the regional circuit."[15] Accordingly, because copyright issues are not exclusively assigned to the Federal Circuit, Ninth Circuit law governed.[16]

B. Analysis of Direct Copyright Infringement Under Ninth Circuit Law

The Federal Circuit's opinion included at least three holdings that could have significant implications for the law of software copyrights in the Ninth Circuit. First, the court held that even a small amount of verbatim copying may support a finding of infringement.[17] Second, the court clarified that neither the literal nor non-literal elements of software necessarily fall outside the scope of copyright because they are functional.[18] Third, the court held that in applying the abstraction-filtration-comparison ("AFC") test to determine protectable expression—which applies only to analysis involving non-literal elements—the Ninth Circuit reserves the doctrines of merger and *scenes a faire* as affirmative defenses applicable only to infringement analysis.[19] The Federal Circuit left open the question of whether Google's conduct constituted fair use of Oracle's APIs and remanded for further proceedings on that issue.[20]

As an initial matter, the Federal Circuit began its analysis by noting that "it is undisputed that Google copied 7,000 lines of declaring code and generally replicated the overall structure, sequence, and organization of Oracle's 37 Java API packages."[21] Although these 7,000 lines constituted only three percent of the Android platform, the court found them to be copyrightable and, relying on the jury's verdict, an infringing use

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11 *Id.* at 1356. Oracle argued that the nonliteral elements of the API packages (the SSO) "that led naturally to the implementing code Google created" were entitled to protection, not because Google literally copied the entire SSO, but because Google literally copied the declaring code and then paraphrased the remaining SSO by writing its own implementing code. *Id.; see also id.* at 1351 (referring to the declaring code as a taxonomy or "overall system of organized names").

12 *Id.* at 1347.

13 *Id.* at 1351-52.

14 *Id.* at 1352.

15 *Atari Games Corp. v. Nintendo of Am.., Inc.*, 897 F.2d 1572, 1575 (Fed. Cir. 1990).

16 *See* 28 U.S.C. § 1295; *see also Oracle*, 750 F.3d at 1353.

17 *Oracle*, 750 F.3d at 1351-53, 1363.

18 *Id.* at 1357, 1366-67.

19 *Id.* at 1357-58 & n.4.

20 *Id.* at 1377, 1381.

21 *Id.* at 1353.

that was not *de minimis*.[22] Notably, the court's analysis (and application of the AFC test) was limited to the question of copyrightability, and under that analysis, even the relatively small amount of literal copying at issue was sufficient to potentially impose infringement liability on Google.[23]

Courts have long applied the AFC test to copyright claims for non-literal infringement of the non-literal elements of software, namely, the software's SSO.[24] The first step of the AFC test, abstraction, calls for the court to "break down" the computer program into its "constituent parts."[25] In this process, the court "dissect[s] the allegedly copied program's structure and isolate[s] each level of abstraction within it," such as the object code, the source code, and the SSO.[26] The second step, filtration, dictates that the court filter out all of the material not protected by the Copyright Act, including any ideas and expression "necessarily incidental to those ideas,"[27] and any material "dictated by considerations of efficiency, required by factors external to the program itself, or taken from the public domain."[28] Finally, the third step, comparison, requires the court to compare the parts not filtered—that is, the parts constituting protected, original expression—with the purportedly infringing software.[29]

According to the *Oracle* court, the mere fact that a program element performs a function won't disqualify it from copyright protection under the filtration step of the test.[30] After all, every program and every program element is designed to perform some function.[31] Applying this rationale, the Federal Circuit rejected Google's argument that Section 102(b) of the Copyright Act denies copyright protection of original works having a functional component.[32] Instead, the Federal Circuit held (even though the Ninth Circuit had never directly addressed the issue) that "[u]nder Ninth Circuit law, an original work—even one that serves a function—is entitled to copyright protection as long as the author had multiple ways to express the underlying idea."[33] Because Oracle had many options for naming and organizing the API declaring code and SSO, it constituted copyrightable expression, rather than mere ideas.[34] In so holding, the court found that *Lotus Development Corp. v. Borland International, Inc.*,[35] was distinguishable on its facts and contrary to the Ninth Circuit's endorsement of the AFC test.[36]

The Federal Circuit also interpreted Ninth Circuit precedent to hold that the concepts of merger and *scenes a faire* apply only as affirmative defenses in infringement analysis and, therefore, were not properly considered in determining the copyrightability of the APIs.[37] The court acknowledged, however, that the merger and *scenes a faire* doctrines inform the second step (filtration) of the AFC test.[38] Specifically, these doctrines define what external factors and public domain elements are to be filtered from the scope of copyright

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22 *Id.* at 1351-53.
23 *See id.* at 1353 ("The central question before us is whether these elements of the Java platform are entitled to copyright protection.").
24 *See id.* at 1357; *Computer Assocs. Int'l, Inc. v. Altai, Inc.*, 982 F.2d 693, 706 (2d Cir. 1992).
25 *Oracle*, 750 F.3d at 1357 (quoting *Altai*, 982 F.2d at 706).
26 *Altai*, 984 F.2d at 707.
27 *Oracle*, 750 F.3d at 1357 (quoting *Altai*, 984 F.2d at 706).
28 *Oracle*, 750 F.3d at 1357-58 (citing *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 839 (Fed. Cir. 1992)).
29 *Altai*, 982 F.2d at 706.
30 *Oracle*, 750 F.3d at 1366-67, 1357-58.
31 *See* 17 U.S.C. § 101 (defining a "computer program" as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result").
32 *See* 17 U.S.C. § 102(b); *Oracle*, 750 F.3d at 1356-57.
33 *Oracle*, 750 F.3d at 1367; *see also Atari*, 975 F.2d at 839 (finding that copyright protects "the expression of [a] process or method").
34 *See Oracle*, 750 F.3d at 1367. The Federal Circuit was careful to point out that analysis of copyrightability must look to the expressive options available to the author at the time the work was created. *Id.* at 1359, 1361 (citing *Altai*, 982 F.2d at 706; *Apple Computer, Inc. v. Formula Int'l, Inc.*, 725 F.2d 521, 524 (9th Cir. 1984)).
35 49 F.3d 807 (1st Cir. 1995).
36 [36] *Oracle*, 750 F.3d at 1365-66. In *Lotus*, the First Circuit held that a menu command hierarchy—that is, a graphic user interface's drop-down menu—lacked creativity and provided an essential means by which users operated the software. 49 F.3d at 815.
37 *Oracle*, 750 F.3d at 1358-59.
38 *Id.* at 1357-58. The Federal Circuit acknowledged that courts are somewhat split as to whether filtration constitutes a part of the copyrightability analysis or the infringement analysis. *Id.* While not directly addressing the issue, the court concluded that merger and *scenes a faire* necessarily are included in the infringement analysis on the basis of three Ninth Circuit cases. *Id.* Notably, however, the court did not cite to precedent applying the AFC test. *Id.*

protection.[39] Nonetheless, relying on Ninth Circuit precedent, the Federal Circuit found merger and *scenes a faire* considerations did not preclude copyright protection for the APIs.[40]

For the foregoing reasons and others, the Federal Circuit found the API declaring code, as well as the SSO, to be copyrightable.[41] The court noted, however, that the threshold for copyright protection is a lower bar than the threshold for infringement,[42] suggesting that Google could argue fair use as a defense on remand.[43] Under the fair use doctrine, the Copyright Act permits otherwise infringing activity if it is for certain limited purposes: generally, "[t]o promote the Progress of Science and the useful Arts."[44] Google argued that its copying of the APIs was necessary to achieve interoperability of the Android platform with other Java software.[45] It remains to be seen whether this alleged goal of interoperability is found to justify fair use of the APIs.

III. Supreme Court Denial of Certiorari and Its Implications

In October 2014, Google filed its petition for certiorari arguing that the Federal Circuit ruling would hamper the software industry through higher development costs and by making cross-platform compatible products impossible.[46] Google also argued that the lower court ruling was contrary to Supreme Court precedent and that resolution of a decades-old circuit split was necessary.[47] The Supreme Court declined to take the case.[48]

Thus, the Federal Circuit's opinion is left intact. Under *Oracle*, infringement liability may be imposed even when only small amounts of code are copied verbatim, and even if the copied code governs the SSO or naming scheme of a larger program. Where the AFC test is employed, the judge or jury may be limited in its analysis because of the demarcation between copyrightability analysis and infringement analysis. Additionally under *Oracle*, functionality of software may not preclude copyrightability, and copyrightability analysis after *Oracle* may turn on the central question of whether, at the time of creation, the author had multiple ways to express an idea.
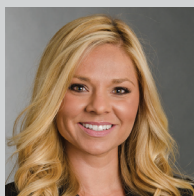
Trisha Farmer
602.382.6735
tfarmer@swlaw.com

Trisha Farmer's practice is concentrated in intellectual property litigation, commercial litigation, legal ethics and professional responsibility. She has experience with patent infringement matters in various fields including software development, semiconductor manufacturing equipment, sod harvesting machinery and laser hologram technology. Trisha also has experience with trademark and trade dress infringement, misappropriation of trade secrets and unfair competition. She has represented clients in general commercial litigation matters, including matters involving breach of contract, breach of implied warranty, tortious interference with business and other business torts. Trisha also has experience with trademark and trade dress infringement, copyright infringement, misappropriation of trade secrets and unfair competition.

Simone Raess
602.382.6275
sraess@swlaw.com

Simone Raess focuses her practice in intellectual property law and technology. She has experience drafting and prosecuting patents and trademarks, as well as counseling on related matters. Simone's patent practice covers a wide range of technical areas, with experience in biosciences, as well as chemical, mechanical, mining and aerospace patents, among others. Simone also assists clients in enforcing their intellectual property rights, through licensing negotiations and litigation.

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39 *Id.* at 1358.
40 *Id.*
41 *Id.* at 1368.
42 *Id.* at 1354.
43 *Id.* at 1377.
44 U.S. Const. art. I, § 8.
45 *Oracle*, 750 F.3d at 1368. This argument was presented to show that the APIs were not copyrightable. The court rejected this argument and found it "only relevant, if at all, to fair use." *Id.* The court also expressed skepticism as to Google's altruistic motivations, noting that it "wanted to capitalize on the fact that software developers were already trained and experienced in using the Java API[s]." *Id.* at 1371.
46 Petition for Writ of Certiorari, *Google Inc. v. Oracle Am., Inc.*, No. 14-410, 2014 WL 5319724 (U.S. 2014).
47 *Id.* at 13-20.
48 *Google*, No. 14-410, 2015 WL 2473490, at *1.