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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

ORACLE AMERICA, INC.

Plaintiff,

v.

GOOGLE INC.

Defendant.

Case No. CV 10-03561 WHA

ORACLE'S MAY 14, 2012 COPYRIGHT LIABILITY REPLY BRIEF

Dept.: Courtroom 8, 19th Floor
Judge: Honorable William H. Alsup

Question 1: Copyrightability of Programming Languages

Copyright can protect an original combination of vocabulary and grammar in a computer programming language. Google's brief misstates both U.S. and European law.

Remarkably, Google claims "the 'structure' or 'organization' of words in relation to other words is not protectable." ECF No. 1116 at 2. If Google were correct, the detailed structure of novels and other writings could be freely copied. Google cites no authority and this is not the law. *See, e.g., Urantia Foundation v. Maaherra*, 114 F.3d 955, 959 (9th Cir. 1997) (selection, arrangement and structure of answers to questions from purportedly divine aliens copyrightable). Google also now claims the interdepencies in the Java APIs are "nothing special" citing only to the highly simplified *analogy* Dr. Reinhold used. But at trial its witnesses attested to the creativity and skill API design requires. *See* RT at 736:25-752:14 (Bloch); 2209:7-8 (Astrachan).

Google next contends, again without authority, that it could only be liable for copying the SSO "as a whole." ECF No. 1116 at 3. This position is inconsistent with the jury instruction Google proposed at the charging conference, which the Court essentially adopted. RT at 2401:19-2403:20. It is also wrong under the law. "[A] copyright defendant need not copy a plaintiff's work in its entirety to infringe that work." *L.A. Printex Indus., Inc. v. Aeropostale, Inc.*, 2012 U.S. App. LEXIS 7079 at * 22 (9th Cir. Apr. 9, 2012) (citations omitted).

In addition, Google claims "nothing in the record suggests that Google copied the sequence in which the APIs are implemented within the source code." ECF No. 1116 at 2. Actually, Google's own expert so testified. *See* RT at 2214: 3-9 ("Q. And the Structure, Sequence and Organization of the API elements is virtually identical across those 37 packages, correct? / A. That's right."). Against this straightforward admission, Google offers an example of one class where the order of methods in Android source code differs from Java. ECF No. 1116 at 2-3. This proves nothing. The order in which the methods appear within each class is not what matters from a technical or structural standpoint. What matters is that the methods appear within the same classes and packages as in the 37 Java APIs and have the same relationships to other elements. The sequence of parameters in a method's parameter list also matters and Google copied thousands of those. RT at 2212:7-13 (Astrachan). Moreover, the record shows Google

did copy the order of methods in the source code. *See, e.g.*, ECF No. 1115 at 2 (citing source code). This is another example of Google copying more than it required for "compatibility."[1]

Google mistakenly claims the CJEU held in *SAS* that "The programming language is not a 'form of expression of that program' for purposes of copyright law." ECF No. 1116 at 4. The CJEU held only that programming languages are not a form of expression of a computer program for purposes of protecting computer programs under the Software Directive. Case C-406/10, *SAS Inst., Inc. v. World Programming Ltd.*, Judgment (May 2, 2012) ¶ 39. It ruled that programming languages (and data formats) could be copyrightable under the Copyright Directive if they constitute the "author's own intellectual creation." *SAS* ¶ 45. *SAS* also states that copying the "choice, sequence and combination" of keywords, syntax and commands from a user manual could constitute infringement under the Copyright Directive. *Id.* ¶¶ 66-67, 71.

Google also misquotes *SAS* as saying protecting programming languages would "amount to making it possible to monopolise ideas, to the detriment of technological progress and industrial development." ECF No. 1116 at 4-5 (quoting *SAS* ¶ 40). The sentence actually refers to protecting "the functionality of a computer program" only. *See SAS* ¶ 40.

Lastly, *SAS* did not concern "in essence, the question in the present case." ECF No 1116 at 4. Less copyrightable expression was at issue. In *SAS* the defendant did not copy "any of the structural design of the source code." *SAS* ¶ 25. A jury has found against Google on that point. In addition, *SAS* did not concern APIs. *See* Case C-406/10, *SAS Inst., Inc. v. World Programming Ltd.*, (Nov. 29, 2011) ¶ 79 (file formats were "blank forms" with read/write locations).

Question 2: Google Copied More Than Names and Headers of Declarations

Google admits it "used the same method declarations." ECF No. 1116 at 5. This means it copied the names, parameters, parameter sequence, return types, and "throws" clauses (exception lists) in the Java APIs. *See id.* at 5. Google did not have to copy most of these elements to design its own method with similar functionality. To use the example of the password authentication

[1] Methods are not just ordered "*alphabetically*" in the documentation. ECF No. 1116 at 3. In both Java and Android, the shorter method summaries are in alphabetical order. But in Java the more extensive "method detail" section follows the order in the source code. Android is inconsistent. In any event, the complex API organization is not just alphabetical.

from Oracle's opening brief (ECF No. 1118 at 13), Google could have rearranged the order of the eight parameters, changed their names, given the method a different name or chosen to throw an exception, all without changing the underlying idea of obtaining a password given certain inputs.

By copying the method names and declarations, Google copied Oracle's design and structure. The methods are a creative and essential part of the structure that represent years of design effort. Unrebutted evidence showed Sun and Oracle had many possible method choices in designing these 37 API packages. RT at 597:9-13, 627:21-629:5; 630:11-631:18 (Reinhold); *id.* at 1238:11-1240:8; 1240:23-1244:16 (Mitchell). Many creative decisions are involved in something as simple as choosing the methods for drawing a rectangle. ECF No. 1118 at 5-6. By copying the SSO of thousands of these methods, Google infringed. No engineering team independently could have come up with all these same solutions. RT at 1249:18-25 (Mitchell).

Google's argument that "the declarations are, in essence, the titles of the things they declare" is incorrect. ECF No. 1116 at 5. The method declarations in the Java APIs are not titles or names. They express essential parts of the SSO and are copyrightable as such. In *Applied Innovations Inc. v. Regents of Univ. of Minn.*, for example, the court rejected the argument that short, declarative sentences in the plaintiff's psychology test, such as "I am a good mixer," were uncopyrightable because of their significance in the context of the test. 876 F.2d 626, 634-35 (8th Cir. 1989) ("The test statements are short, simple, declarative sentences, but they are not merely fragmentary words and phrases within the meaning of 37 C.F.R. § 202.1(a). They are not names or titles or slogans."). In *Health Grades, Inc. v. Robert Wood Johnson Univ. Hosp., Inc.*, the court found the plaintiff stated a copyright infringement claim based on copying of its ratings and awards such as "five stars" and "clinical excellence" because they represented sufficiently original compilations of fact. 634 F. Supp. 2d 1226, 1238 (D. Colo. 2009). The court noted that there is a "paucity of cases holding that an otherwise original expression is uncopyrightable solely because it is a short phrase" and concluded that the copyright regulation on this topic, 37 C.F.R. 202.1(a) "does not strip copyright protection from such original expression." *Id.* (citation omitted). *Accord Compaq Computer Corporation v. Ergonome, Inc.*, 137 F. Supp. 2d 768, 774 - 775 (S.D. Tex. 2001). *See also CCC Info. Servs., Inc. v. Maclean Hunter Mkt. Reports, Inc.*,

44 F.3d 61, 67 (2d Cir. 1994) (upholding copyrightability of used car pricing guide).

Similarly, in *West Publ'g Co. v. Mead Data Central, Inc.*, 799 F.2d 1219, 1227 (8th Cir. 1986), the court found that West was likely to prevail on its claim that LEXIS copied its pagination. The court emphasized that in copying the pagination, the defendant was copying West's arrangement of decisions: "The key to this case, then, is not whether numbers are copyrightable, but whether the copyright on the books as a whole is infringed by the unauthorized appropriation of these particular numbers." *Id.* In *Matthew Bender & Co. v. West Publ'g Co.*, the Second Circuit reached the opposite conclusion on the same facts, but for reasons that are clearly distinguishable here: the pagination was automatically generated and did not reflect "even a modicum of creativity" and West's arrangement was not copied 158 F.3d 693, 699-700 (2d Cir. 1998). Here creativity and Google's copying of the SSO were both undisputed.

Question 3: Fully Qualified Names Can Have More Than Three Parts

In stating that the fully qualified name "has three parts," (ECF No. 1116 at 6), Google overlooks subpackages and nested Member classes and interfaces. *See* ECF No 1118 at 7.

Question 4: Google Could Have Come Up With Its Own Names and SSO

Google admits that "It would have been possible in many instances for Google to have created APIs with different names and/or SSO that would have provided similar functionality." ECF No. 1116 at 6. Its legal and factual arguments for why it did not do so are meritless.

The elements of the 37 API packages that are required to implement the Java language are minimal. *See* Questions 6-8 *infra*. Google's primary argument is that industry custom and developer demand required it to copy these 37 API packages. But Google cannot use the demand for Oracle's copyrighted product as an "external factor" constraining Google's development. None of the cases it cites support its position; all but one have been addressed previously. The only new case it cites for this point, *Swirsky v. Carey*, shows just how far Google has strayed: the *scenes a faire* issue in that case was whether the plaintiffs' chorus was commonplace because it bore resemblance to a third party melody, the folk song, "For He's a Jolly Good Fellow." 376 F.3d 841, 850 (9th Cir. 2004). Necessity was not at issue.

Google's factual arguments are equally flawed. It argues that without *any* APIs, the Java language is unusable. But when Sun released Java in 1996 there were only 7 packages, including just 4 of the 37 at issue here. Yet Java immediately became enormously popular and could be used to accomplish many useful things. RT at 631:19-25; 686:6-7 (Reinhold); TX 980.

Even if developers demand more, Google could have designed its own APIs. Dr. Astrachan's rote testimony on why developers would demand all 37 packages was shaky at best. For example, he claimed developers would expect the database packages java.sql and javax.sql based on little more than that he would not know how to write the code himself. *See* RT at 2199:7-13 (Astrachan). Although the Court requested it, Google neglected to ask Dr. Astrachan whether Google could have designed these APIs itself. *See id.* at 2197:25-2198:23. When Oracle asked, Dr. Astrachan admitted it. RT at 2213:5-19 (Astrachan).

The Court should disregard Google's belated attempt to introduce additional evidence about Spring. Mr. Ellison was Oracle's first witness. Dr. Astrachan was permitted to respond to issues that arose at trial and could have responded to this one. *See* RT at 2195:10-25. But if the Court does look to the Spring website, it shows Mr. Ellison's testimony was correct as to Java Enterprise Edition. Spring is an enterprise application development framework, and Springsource created a new environment, including dozens of new APIs with similar functionality to the Java EE APIs. It had to train a whole new group of developers on those APIs. RT at 304:16-22 (Ellison). Oracle also proved that third parties created alternatives to a number of the Java SE APIs, including the 37 at issue. *See* Oracle May 10 Brief, ECF No. 1118 at 8.

Question 5: A Combination of Input-Output Schemes May Be Protectable

Neither party contends the input-output scheme for an individual method alone is copyrightable. The original combination of all such elements in the Java APIs, however, is copyrightable. *Engineering Dynamics,* cited by Google, supports Oracle. It recognized the selection of input/output formats for a computer program may be copyrightable if sufficiently original. *Eng'g Dynamics, Inc. v. Structural Software, Inc.*, 46 F.3d 408, 410 (5th Cir. 1995). Moreover, like the other cases Google cites, it views the merger doctrine from the *plaintiff's* perspective: "Consequently, as our opinion explains, the district court will inquire on remand

whether *EDI* exercised any judgment in formulating the input cards or merely reflected the industry standards and laws of engineering." *Id.* (emphasis added). The Court placed a specific burden on Google prove merger and *scenes a faire*. ECF No 433 at 9. Google never met it with respect to the combination of input-output schemes or any other elements of the APIs.

Questions 6-8: Relationship Between APIs and the Java Programming Language

Google urges that all 37 packages are "core" to the Java programming language. ECF No. 1116 at 11-12. No witness testified to this definition, and Google concedes that the documentation for J2SE 5.0, the version relevant here, does not use the term "core" to refer to any subset of API packages. ECF No. 1116 at 11 n.7.

The term "core" should not be used as a basis for the Court's decision. Rather than speculate based on marketing descriptions on a book cover or loose terminology, the Court should look to the *Java Language Specification* (*3rd ed.*) ("JLS"), which both parties' witnesses agreed defines exactly what the language requires. TX 984; RT at 641:4-642:25 (Reinhold); RT at 776:3-778:9, 780:24-781:1 (Bloch). The parties also agree that the language directly references only 60 or 61 classes. TX 1062; RT at 676:1-681:2 (Reinhold); RT at 777:21-24 (Bloch).

The JLS shows that for most classes the language merely requires the existence of a class with a particular name. TX 1062; RT at 676:14-678:13 (Reinhold) ("There is no mention of what methods might be in them, what fields they might have. They could have anything, as far as the language specification is concerned."); *id.* at 681:22-682:2. Google could therefore have designed entirely different classes as long as they had these names. For other classes, the JLS requires the presence of only one or a handful of methods or fields. Again, Google could have designed entirely different classes as long as they had these methods and fields. Exhibit A is a complete list of the page numbers in TX 984 where the Court can find these methods and fields.

Google vastly overstates the number of references that these 61 classes make to elements in other packages, or that are made by the 3 packages java.lang, java.io and java.util. *See* ECF No. 1118 at 11. But this is irrelevant in any event. The JLS does not require any of them. The JLS does not require that any identified class, method, or field to have any relationship whatsoever with any API element in any other package. .

Finally, Google misconstrues TX 1063, which is simply a list of the 39 classes and interfaces that the compiler mentions, not what the JLS requires. RT at 679:22-681:21. No witness claimed at trial that TX 1063 should be used as the list of classes the language requires.

Question 9: Interdependencies in the Implementation

The parties' experts agreed that the SSO of Google's implementation of these 37 API packages is virtually identical to Oracle's. ECF No. 1118 at 12. When Google says the implementations are different, it is using the word "implementation" to refer to the method bodies alone, ignoring that structural identity. The parties agree that there was no testimony at the trial on the extent to which interdependencies in the method bodies of Java and Android are similar.

Question 10: Interdependencies in Names and Declarations

Google's brief contains an incomplete list of the interdependencies that exist at the name and declaration level. The Court should look to Oracle's brief. *See* ECF No. 1118 at 12-13.

Question 11: Google Misconstrues the Holding In the *ADA* Case

After repeatedly touting Judge Easterbrook's copyright expertise (*see, e.g.*, ECF No. 778 at 3), Google now asks the Court to disregard his opinion in *ADA* because it is "nonsensical" and "poorly reasoned." ECF No. 1116 at 13, 15. Google claims the case "has only been cited three times by *any* court." ECF No. 1116 at 13 (emphasis in original). This is false. Shepardizing *ADA* shows more than 25 decisions around the country have cited it.

Google also argues *ADA* does not actually hold a taxonomy can be copyrighted and claims the Seventh Circuit has cited the decision "only once, and only for propositions unrelated to the 'taxonomy' holding." ECF No. 1116 at 13. Google is wrong again. In *Edgenet, Inc. v. Home Depot U.S.A., Inc.*, 658 F.3d 662, 666 (7th Cir. 2011), Judge Easterbrook described his opinion in *ADA* as "holding that taxonomies are copyrightable." The *ATC* case Google cites questioned only whether a numbering system alone could be copyrightable, and agreed with *ADA* that "Classification schemes can in principle be creative enough to satisfy the originality requirement of copyright protection." *ATC Distrib. Grp., Inc. v. Whatever It Takes Trans. & Parts, Inc.*, 402 F.3d 700, 706 (6th Cir. 2005) (citing *ADA*). *See also Kendall Holdings, Ltd. v. Eden Cryogenics LLC*, 2012 U.S. Dist. LEXIS 5245, at *18-19 (S.D. Ohio Jan. 17, 2012) (quoting

same *ADA* language with approval).

Google next argues "nothing in the decision supports the conclusion" that the ADA's numbering system was copyrightable. ECF No. 1116 at 13-14. This is wrong too. *ADA* states "even the short description *and* the number are original works of authorship." 126 F.3d at 979 (emphasis added). It explains why the numbering is copyrightable and then *again* states that "all three elements of the Code – numbers, short descriptions, and long descriptions, are copyrightable subject matter." *Id.* Other cases recognize *ADA* held the numbering system alone was copyrightable. *See, e.g.*, *Southco, Inc. v. Kanebridge Corp.*, 258 F.3d 148, 155 (3d Cir. 2001).

Google argues that the taxonomy in *ADA* "is an unprotectable system." ECF No. 1116 at 14. But the copyrightability of taxonomies is well accepted. Google still has never explained what it means by "system." As *ADA* states, "A dictionary cannot be called a 'system' just because new novels are written using words, all of which appear in the dictionary. Nor is word-processing software a 'system' just because it has a command structure for producing paragraphs." *ADA*, 126 F.3d at 980. Google tries to distinguish the APIs claiming that, unlike the numbering system in ADA, the APIs come with "instructions for use" like "a recipe for a new dish" and are the means by which developers express themselves. ECF No. 1116 at 14 (quoting *ADA* 126 F.3d at 980). It is not clear what difference this would make or what the reasoning was for the Seventh Circuit's reference to "instructions for use." Like the Code taxonomy at issue in *ADA*, APIs describe the various elements in the libraries and the relationships among them. While the APIs can be used as a blueprint to implement the class libraries, Google's witnesses repeatedly stated at trial that the APIs are not the equivalent of a recipe for developers to write Java programs. *See, e.g.*, RT at 769:4-12 (Bloch). And even if they were a "system," the detailed expression of that system, which Google copied, is still protectable.

The ADA code was copyrightable even though the ADA encourages the code's use by insurers, dentists and others. *ADA*, 126 F.3d at 981. Like the ADA, Oracle does not contend developers cannot invoke the Java APIs in their applications. Its complaint is Google creating an unlicensed, incompatible copy of the Java APIs. This was the same reason the ADA sued, because the defendant "used most of the code but made modifications." *See id.* The court found

it could not "make and distribute a derivative work based on the Code." *Id.* Instead of furthering compatibility, Google chose to "embrace, extend and extinguish," copying enough of the Java APIs to capture Java developers and move them over to its own incompatible platform.

Question 12: Google Misconstrues *CDN v. Kapes*

The parties agree *Kapes* treated the plaintiff's price estimates as a compilation. ECF No. 1116 at 15. But Google is wrong in stating the court determined "that the coin prices in its guide were not of its own creation." *See id.* (citing *CDN Inc. v. Kapes*, 197 F.3d 1256, 1260 (9th Cir. 1999)). The Ninth Circuit agreed with the district court "that the prices in CDN's guides are not facts, they are 'wholly the product of [CDN's] creativity.'" *CDN*, 197 F.3d at 1260.

The API packages are also entitled to protection under the *Kapes* definition of compilation. Oracle's quarrel with the statutory definition is that it states a compilation is based on "the collection and assembling of preexisting materials or of data." 17 U.S.C. § 101. *See* ECF No. 853 at 1. The APIs are also original works of authorship. Oracle is not claiming registration as a collective work, but has consistently claimed protection for the combination of elements contained in the 37 API packages. *See, e.g.*, ECF No. 339 at 15-16 (SJ Opp.), ECF No. 853 at 1 (Apr. 3, 2012 brief), ECF No. 997 at 4-5 (comments on jury instructions). This principle is recognized in cases such as *Satava v. Lowry*, 323 F.3d 805, 810-11 (9th Cir. 2003) (considering combination of unprotectable elements in sculpture that was original work of authorship) and *Merch. Transactions*, 2009 U.S. Dist. LEXIS 25663 at *46. The 37 API packages are protectable under the principles expressed in those cases, regardless of how they were registered or labeled.

Question 13: Google's Definition of Compatibility Is Incorrect

Google states, without citing any authority, that what matters in this case is whether Android "is compatible with the APIs in the 37 packages in the computer science sense," by which its means that code "written using the APIs in [the 37] packages will work on both platforms." ECF No. 1116 at 16. This is not the proper definition. *See, e.g., Creative Labs Inc. v. Cyrix Corp.*, 42 USPQ2d 1872, 1875 (N.D. Cal. 1997) (emphasizing "importance of precise definitions in the computer industry" in rejecting partial compatibility definition similar to Google's, and holding that compatible product "must support the same functions").

Google claims its narrower definition "is not a position adopted just for this litigation." ECF No. 1116 at 17. That is false. Google acknowledged when it released the Android SDK in November 2007 that Android is not compatible with Java. *See* TX 383 at 8 (Android Press Q&A) ("048. Does Android support existing Java apps? / A. No. / 049. Is Android Java compatible? / A. No."). In contrast, Oracle's definition of compatible has been used in the specification license since Java's release. *See* TX 980 at 6 (1996 API book); TX 610.1 (specification license).

The accepted definition of compatibility—and the relevant definition for this case—is that programs written for Java will run on Android and vice versa. Android is incompatible. *See* ECF No. 1118 at 18-19. But even under Google's narrow definition, Android is not compatible. Android does not have all of the classes and methods defined in these 37 packages in J2SE 5.0. ECF No. 1124. The classes Google did include are nearly identical. For example, the package java.security.auth.login in Android consists in its entirety of one exception, LoginException, which has two constructors, LoginException() and LoginException(String message). This exception, with the same two constructors, is present in the java.security.auth.login package in Java as well. TX 610.2, TX 767. But any code that uses a class or method defined in one of the 37 packages in J2SE 5.0 but not in Android will not work on Android.

Questions 14-15: Inheritance Among Packages and Classes

The parties essentially agree on the rules of inheritance for packages and classes.

Question 16: SSO and the Java Language

The Court asked the parties to identify what Google copied other than names and input-output designations. Google's list is incomplete, so Oracle refers the Court to its list. *See* ECF No. 1118 at 19-20. Google's list does include exceptions (*see* ECF No. 1116 at 18), which Oracle mentioned elsewhere in its brief. That should be added to Oracle's response as well.

The Court also asked the parties, "to what extent was Android's SSO dictated by the rules of the basic programming language." ECF No. 1088. Google ducked the question. *See* ECF No. 1116 at 18. That is because the language does not dictate the SSO of either Android or Java. Google's expert conceded this. *See* RT at 2223:3-20 ("Classes have to be classes and packages have to be packages, but what the functionality is, is what the API designers decide.").

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