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Speak Softly and use the Right Stick: The Future of IP Protection for Software

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Software IP — It's Not Just For Tech Cos. Anymore

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Law360, New York (August 3, 2017, 2:37 PM EDT) -- There can be little question that the dynamic for protecting software using intellectual property is changing. For years, commentators treated technology companies as the sole source of software innovation and patent law as the primary means of protecting against unfair competition. Neither proposition was true then, and it is becoming increasingly clear to the IP community that neither proposition is true now.

Certainly, many of the amazing strides in software development have been made by tech companies. Software innovations, however, are being made by companies that may not be identified primarily as “tech companies.” These leaders in the entertainment, financial services, health care and media industries, among others, are making major advances both within their fields and the software industry.

At the same time, it has become more complicated for counsel to advise on the best strategy for protecting those inventions. Where once filing patent applications would have been obvious, judicial, legislative and agency activity has made patents more difficult to secure and enforce. As a result, software creators have turned to more dynamic, broad-based IP protection strategies, including filing copyright registrations, shoring up trade secret protection, and ensuring open source compliance, as well as strategic prosecution and enforcement of patent rights.

This article will discuss some of these trends, and the challenges of developing a deliberate software protection strategy.

Surprise — You’re a Software Company!

When you look under the surface, many companies have engineers developing software that the company would like to prevent from slipping into other market participants’ hands:

- The entertainment industry is producing special effects and motion capture software, as well as making strides in data mining, storage, and transmission; online and real-world gaming; and computer and system security.

- The health care market creates software for use in treatment protocols whether for monitoring, dosage regulation, or reporting; programs for financial and clinical management; and customer-facing apps for diagnoses, checkups or marketing.

- Financial services companies create processes for automated data gathering, verification, analysis and distribution; authentication, security, and risk management; and client engagement. They also develop web crawling and scraping technology.[1]
These businesses are primarily focused on creating entertaining audiovisual works, life-saving pharmaceuticals, or investment strategies. Yet, their software may represent significant opportunities to differentiate themselves from their competitors.

**OK, I’m a Software Company — Now What?**

A software portfolio may include stand-alone computer programs, applications used within broader ecosystems, other technology infrastructure, or innovative approaches to existing software-related tasks. Within these portfolios, intellectual property may protect a variety of components. Depending on the nature of the particular program, this may include the user interface that customers or employees use to interact with a program or app,[2] and the program’s other forms of output.[3] It also may include the program’s object code: “the binary code — a series of zeroes and ones — that computers can read.”[4] Or its source code: “the spelled-out program commands that humans can read.”[5] IP also may protect less-obvious software components, such as modules (the “simpler constituent problems or ‘subtasks’” in a larger program”[6]) or parts of a program controlling data including how it “should be introduced, how the data should be inputted, and how it should be combined with other data.”[7] Even the structure and organization of the program and its modules,[8] or the language in which the program is written,[9] may be protected.

Once the scope of a company’s software portfolio is determined, the question becomes: What intellectual property rights protect the software?

*Patent*

Up until recently, the answer likely would have been patent law. The Patent Act protects the invention of “any new and useful process, machine [or] manufacture … or any new and useful improvement thereof.”[10] Software fits within those categories, but recent Supreme Court cases have resulted in the well-documented and sharp uptick in patents being invalidated on the ground that they are directed to patent-ineligible subject matter:[11]

In addition, the America Invents Act has resulted in a growing number of software-related patents being invalidated through inter partes review proceedings:[12]
This is not to say that patents cannot protect software. Recent Federal Circuit decisions have held that screen displays,[13] filtering technologies[14] and database innovations[15] may be patent-eligible. These increasing challenges to patent protection suggest, however, that companies should consider whether their software portfolios can or should be protected using other IP disciplines as well.

**Copyright**

One popular alternative to patent law is copyright law. There is no question that copyright protects computer programs, which the Copyright Act defines as a "set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result."[16] Thus, unlike patent law, which is struggling to define the contours of eligibility, it is fairly straightforward to show that a program is copyrightable. The question then is how far the scope of copyright protection extends. "It is well established that copyright protection can extend to both literal and non-literal elements of a computer program":[17] the literal elements being source code and object code, and the nonliteral elements being the organization and user interface.[18] Copyright protection, however, does not "extend to any idea … process, system, [or] method of operation."[19] Similarly, copyright protection may be constrained by the doctrines of merger,[20] scènes à faire[21] and fair use.[22] Defendants have relied on such doctrines in recent cases, trying to excuse admitted copying of competitors’ programs.[23] Like patent eligibility, the scope of copyright protection remains a hotly contested legal issue.

**Trade Secret**

In addition to copyrights and patents, programs may be protectable as trade secrets if their "source code is not easily copied or ascertainable by inspection of the program."[24] To ensure such protection, however, companies must be careful about how they seek to protect their software using other intellectual property disciplines. If a patent or copyright application discloses what was a trade secret, protection may be unavailable. As a result, careful consideration of what to include in a patent application (particularly if the patent may never issue or be unenforceable in court) and use of the Copyright Office’s regulations permitting redaction of source code prior to its submission as a deposit copy are critical.[25]

**Open Innovation**

Finally, companies must decide whether to engage in collaborative innovation. With strong intellectual property protection in hand, software can be developed in an open environment with the knowledge that the legal disciplines discussed above will protect the IP owner. Moreover, intellectual property can be used as the basis for contractual agreements that add additional protection. Of particular note, software companies must decide whether to participate in the creation of and whether to employ open source software. As noted by the Federal Circuit, such projects can be a boon in developing market share, free incubation of ideas, and the rapid development of products.[26] They come with risks, however. Whereas enforcement of open source licenses once focused on mere compliance with license terms, an increasing number of cases have been brought against competitors where noncompliance was alleged as the basis for some of the claims.[27] Furthermore, participation in open source projects has been used to support license and other defenses to IP claims.[28]
Conclusion

Against this backdrop, it is clear that whether a tech company or not, businesses on the forefront of innovation must carefully consider and develop an intellectual property protection strategy for their software.

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[3] Design Data Corp. v. Unigate Enter., Inc., 847 F.3d 1169 (9th Cir. 2017) (protection might “extend to the program’s output if the program ‘does the lion’s share of the work’ in creating the output and the user’s role is so ‘marginal’ that the output reflects the program’s contents”).


[5] Id.


[11] Chart reflects district court cases with at least one invalidity finding, filed after January 1, 2000, and sorted by termination date. The data also can be summarized as follows:

McRO, Inc. v. Bandai Namco Games Am. Inc., 837 F.3d 1299 (Fed Cir. 2016) (“[A]utomate a 3-D animator’s tasks” by “determining when to set keyframes and setting those keyframes,” using “rules that are applied to the timed transcript to determine the morphy weight outputs.”); DDR Holdings, LLC v. Hotels.com, L.P., 773 F.3d 1245 (Fed. Cir. 2014) (System for “generating a composite web page that combines certain visual elements of a ‘host’ website with content of a third-party merchant,” such as combining the “logo, background color, and fonts of the host website with product information from the merchant.”).

Bascom Global Internet Serv., Inc. v. AT&T Mobility LLC, 827 F.3d 1341 (Fed. Cir. 2016) (“[S]ystem for filtering Internet content” by “individual-customizable filtering on a remote ISP server” or “a hybrid filtering scheme implemented on the ISP server.”); Amdocs (Isr.) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288 (Fed Cir. 2016) (System for “merging data in a network-based filtering and aggregating platform as well as a related apparatus for enhancing networking accounting data records.”).

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327 (Fed. Cir. 2016) (“[I]nnovative logical model for a computer database” by including “all data entities in a single table, with column definition provided by rows in that same table.”).


Johnson Controls, 886 F.2d at 1175 (“Where an idea and the expression ‘merge,’ or are ‘inseparable,’ the expression is not given copyright protection.”).

Mitel, Inc. v. Iqtel, Inc., 124 F.3d 1366, 1374 (10th Cir. 1997) (“Under the scenes a faire doctrine, expressive elements of a work of authorship are not entitled to protection against infringement if they are standard, stock, or common to a topic, or if they necessarily follow from a common theme or setting. … [This includes] elements of a work that necessarily result from external factors inherent in the subject matter of the work.”).

Wall Data v. L.A. Cnty. Sheriff’s Dep’t., 447 F.3d 769, 777 (9th Cir. 2006).


See Blizzard Entm’t, Inc. v. Lilith Games (Shanghai) Co., No. 3:15 Civ. 4084, 2017 WL 2118342
Syllabus

NOTE: Where it is feasible, a syllabus (headnote) will be released, as is
being done in connection with this case, at the time the opinion is issued.
The syllabus constitutes no part of the opinion of the Court but has been
prepared by the Reporter of Decisions for the convenience of the reader.

SUPREME COURT OF THE UNITED STATES

Syllabus

ALICE CORPORATION PTY. LTD. v. CLS BANK INTERNATIONAL ET AL.

CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR
THE FEDERAL CIRCUIT


Petitioner Alice Corporation is the assignee of several patents that dis-
close a scheme for mitigating “settlement risk,” i.e., the risk that only
one party to an agreed-upon financial exchange will satisfy its obliga-
tion. In particular, the patent claims are designed to facilitate the
exchange of financial obligations between two parties by using a
computer system as a third-party intermediary. The patents in suit
claim (1) a method for exchanging financial obligations, (2) a comput-
er system configured to carry out the method for exchanging obliga-
tions, and (3) a computer-readable medium containing program code
for performing the method of exchanging obligations.

Respondents (together, CLS Bank), who operate a global network
that facilitates currency transactions, filed suit against petitioner,
arguing that the patent claims at issue are invalid, unenforceable, or
not infringed. Petitioner counterclaimed, alleging infringement. Af-
after Bilski v. Kappos, 561 U. S. 593, was decided, the District Court
held that all of the claims were ineligible for patent protection under
35 U. S. C. §101 because they are directed to an abstract idea. The
en banc Federal Circuit affirmed.

Held: Because the claims are drawn to a patent-ineligible abstract idea,
they are not patent eligible under §101. Pp. 5–17.

(a) The Court has long held that §101, which defines the subject
matter eligible for patent protection, contains an implicit exception
for “[l]aws of nature, natural phenomena, and abstract ideas.” Association for Molecular Pathology v. Myriad Genetics, Inc., 569 U. S.
___, ___. In applying the §101 exception, this Court must distinguish
patents that claim the “buildin[g] block[s]” of human ingenuity,
which are ineligible for patent protection, from those that integrate
the building blocks into something more, see *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U. S. ___, ___, thereby “transform[ing]” them into a patent-eligible invention, *id.*, at ___. Pp. 5–6.

(b) Using this framework, the Court must first determine whether the claims at issue are directed to a patent-ineligible concept. 566 U. S., at ___. If so, the Court then asks whether the claim’s elements, considered both individually and “as an ordered combination,” “transform the nature of the claim” into a patent-eligible application. *Id.*, at ___. Pp. 7–17.

(1) The claims at issue are directed to a patent-ineligible concept: the abstract idea of intermediated settlement. Under “the longstanding rule that ‘[a]n idea of itself is not patentable,’” *Gottschalk v. Benson*, 409 U. S. 63, 67, this Court has found ineligible patent claims involving an algorithm for converting binary-coded decimal numerals into pure binary form, *id.*, at 71–72; a mathematical formula for computing “alarm limits” in a catalytic conversion process, *Parker v. Flook*, 437 U. S. 584, 594–595; and, most recently, a method for hedging against the financial risk of price fluctuations, *Bilski*, 561 U. S, at 599. It follows from these cases, and *Bilski* in particular, that the claims at issue are directed to an abstract idea. On their face, they are drawn to the concept of intermediated settlement, i.e., the use of a third party to mitigate settlement risk. Like the risk hedging in *Bilski*, the concept of intermediated settlement is “‘a fundamental economic practice long prevalent in our system of commerce,’” ibid., and the use of a third-party intermediary (or “clearing house”) is a building block of the modern economy. Thus, intermediated settlement, like hedging, is an “abstract idea” beyond §101’s scope. Pp. 7–10.

(2) Turning to the second step of *Mayo*’s framework: The method claims, which merely require generic computer implementation, fail to transform that abstract idea into a patent-eligible invention. Pp. 10–16.

(i) “Simply appending conventional steps, specified at a high level of generality,” to a method already “well known in the art” is not “enough” to supply the “‘inventive concept’” needed to make this transformation. *Mayo, supra*, at ___. The introduction of a computer into the claims does not alter the analysis. Neither stating an abstract idea “while adding the words ‘apply it,’” *Mayo, supra*, at ___, nor limiting the use of an abstract idea “‘to a particular technological environment,’” *Bilski, supra*, at 610–611, is enough for patent eligibility. Stating an abstract idea while adding the words “apply it with a computer” simply combines those two steps, with the same deficient result. Wholly generic computer implementation is not generally the
Syllabus

sort of “additional featur[e]” that provides any “practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea] itself.” Mayo, supra, at ___. Pp. 11–14.

(ii) Here, the representative method claim does no more than simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer. Taking the claim elements separately, the function performed by the computer at each step—creating and maintaining “shadow” accounts, obtaining data, adjusting account balances, and issuing automated instructions—is “[p]urely ‘conventional.’” Mayo, 566 U. S., at ___. Considered “as an ordered combination,” these computer components “ad[d] nothing . . . that is not already present when the steps are considered separately.” Id., at ___. Viewed as a whole, these method claims simply recite the concept of intermediated settlement as performed by a generic computer. They do not, for example, purport to improve the functioning of the computer itself or effect an improvement in any other technology or technical field. An instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer is not “enough” to transform the abstract idea into a patent-eligible invention. Id., at ___. Pp. 14–16.

(3) Because petitioner’s system and media claims add nothing of substance to the underlying abstract idea, they too are patent ineligible under §101. Petitioner conceded below that its media claims rise or fall with its method claims. And the system claims are no different in substance from the method claims. The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic computer components configured to implement the same idea. This Court has long “warn[ed] . . . against” interpreting §101 “in ways that make patent eligibility ‘depend simply on the draftsman’s art.’” Mayo, supra, at ___. Holding that the system claims are patent eligible would have exactly that result. Pp. 16–17.

717 F. 3d 1269, affirmed.

THOMAS, J., delivered the opinion for a unanimous Court. SO-TOMAYOR, J., filed a concurring opinion, in which GINSBURG and BREYER, JJ., joined.
JUSTICE THOMAS delivered the opinion of the Court.

The patents at issue in this case disclose a computer-implemented scheme for mitigating “settlement risk” (i.e., the risk that only one party to a financial transaction will pay what it owes) by using a third-party intermediary. The question presented is whether these claims are patent eligible under 35 U. S. C. §101, or are instead drawn to a patent-ineligible abstract idea. We hold that the claims at issue are drawn to the abstract idea of intermediated settlement, and that merely requiring generic computer implementation fails to transform that abstract idea into a patent-eligible invention. We therefore affirm the judgment of the United States Court of Appeals for the Federal Circuit.

I

A

Petitioner Alice Corporation is the assignee of several patents that disclose schemes to manage certain forms of financial risk.\(^1\) According to the specification largely

\(^1\)The patents at issue are United States Patent Nos. 5,970,479 (the
shared by the patents, the invention “enabl[es] the manage-
ment of risk relating to specified, yet unknown, future
events.” App. 248. The specification further explains that
the “invention relates to methods and apparatus, includ-
ing electrical computers and data processing systems
applied to financial matters and risk management.” Id.,
at 243.

The claims at issue relate to a computerized scheme for
mitigating “settlement risk”—i.e., the risk that only one
party to an agreed-upon financial exchange will satisfy its
obligation. In particular, the claims are designed to facili-
tate the exchange of financial obligations between two
parties by using a computer system as a third-party inter-
mediary. Id., at 383–384. The intermediary creates
“shadow” credit and debit records (i.e., account ledgers)

1479 patent), 6,912,510, 7,149,720, and 7,725,375.
2The parties agree that claim 33 of the ‘479 patent is representative
of the method claims. Claim 33 recites:
“A method of exchanging obligations as between parties, each party
holding a credit record and a debit record with an exchange institution,
the credit records and debit records for exchange of predetermined
obligations, the method comprising the steps of:
“(a) creating a shadow credit record and a shadow debit record for
each stakeholder party to be held independently by a supervisory
institution from the exchange institutions;
“(b) obtaining from each exchange institution a start-of-day balance
for each shadow credit record and shadow debit record;
“(c) for every transaction resulting in an exchange obligation, the
supervisory institution adjusting each respective party’s shadow credit
record or shadow debit record, allowing only these transactions that do
not result in the value of the shadow debit record being less than the
value of the shadow credit record at any time, each said adjustment
taking place in chronological order, and
“(d) at the end-of-day, the supervisory institution instructing on[e] of
the exchange institutions to exchange credits or debits to the credit
record and debit record of the respective parties in accordance with the
adjustments of the said permitted transactions, the credits and debits
being irrevocable, time invariant obligations placed on the exchange
that mirror the balances in the parties’ real-world accounts at “exchange institutions” (e.g., banks). The intermediary updates the shadow records in real time as transactions are entered, allowing “only those transactions for which the parties’ updated shadow records indicate sufficient resources to satisfy their mutual obligations.” 717 F. 3d 1269, 1285 (CA Fed. 2013) (Lourie, J., concurring).

At the end of the day, the intermediary instructs the relevant financial institutions to carry out the “permitted” transactions in accordance with the updated shadow records, ibid., thus mitigating the risk that only one party will perform the agreed-upon exchange.

In sum, the patents in suit claim (1) the foregoing method for exchanging obligations (the method claims), (2) a computer system configured to carry out the method for exchanging obligations (the system claims), and (3) a computer-readable medium containing program code for performing the method of exchanging obligations (the media claims). All of the claims are implemented using a computer; the system and media claims expressly recite a computer, and the parties have stipulated that the method claims require a computer as well.

B

Respondents CLS Bank International and CLS Services Ltd. (together, CLS Bank) operate a global network that facilitates currency transactions. In 2007, CLS Bank filed suit against petitioner, seeking a declaratory judgment that the claims at issue are invalid, unenforceable, or not infringed. Petitioner counterclaimed, alleging infringement. Following this Court’s decision in Bilski v. Kappos, 561 U.S. 593 (2010), the parties filed cross-motions for summary judgment on whether the asserted claims are eligible for patent protection under 35 U. S. C. §101. The District Court held that all of the claims are patent ineligible because they are directed to the abstract idea of
“employing a neutral intermediary to facilitate simultaneous exchange of obligations in order to minimize risk.” 768 F. Supp. 2d 221, 252 (DC 2011).

A divided panel of the United States Court of Appeals for the Federal Circuit reversed, holding that it was not “manifestly evident” that petitioner’s claims are directed to an abstract idea. 685 F. 3d 1341, 1352, 1356 (2012). The Federal Circuit granted rehearing en banc, vacated the panel opinion, and affirmed the judgment of the District Court in a one-paragraph per curiam opinion. 717 F. 3d, at 1273. Seven of the ten participating judges agreed that petitioner’s method and media claims are patent ineligible. See id., at 1274 (Lourie, J., concurring); id., at 1312–1313 (Rader, C. J., concurring in part and dissenting in part). With respect to petitioner’s system claims, the en banc Federal Circuit affirmed the District Court’s judgment by an equally divided vote. Id., at 1273.

Writing for a five-member plurality, Judge Lourie concluded that all of the claims at issue are patent ineligible. In the plurality’s view, under this Court’s decision in Mayo Collaborative Services v. Prometheus Laboratories, Inc., 566 U. S. ___ (2012), a court must first “identif[y] the abstract idea represented in the claim,” and then determine “whether the balance of the claim adds ‘significantly more.’” 717 F. 3d, at 1286. The plurality concluded that petitioner’s claims “draw on the abstract idea of reducing settlement risk by effecting trades through a third-party intermediary,” and that the use of a computer to maintain, adjust, and reconcile shadow accounts added nothing of substance to that abstract idea. Ibid.

Chief Judge Rader concurred in part and dissented in part. In a part of the opinion joined only by Judge Moore, Chief Judge Rader agreed with the plurality that petitioner’s method and media claims are drawn to an abstract idea. Id., at 1312–1313. In a part of the opinion joined by Judges Linn, Moore, and O’Malley, Chief Judge Rader
Opinion of the Court

would have held that the system claims are patent eligible because they involve computer “hardware” that is “specifically programmed to solve a complex problem.” Id., at 1307. Judge Moore wrote a separate opinion dissenting in part, arguing that the system claims are patent eligible. Id., at 1313–1314. Judge Newman filed an opinion concurring in part and dissenting in part, arguing that all of petitioner’s claims are patent eligible. Id., at 1327. Judges Linn and O’Malley filed a separate dissenting opinion reaching that same conclusion. Ibid.

We granted certiorari, 571 U. S. ___ (2013), and now affirm.

II

Section 101 of the Patent Act defines the subject matter eligible for patent protection. It provides:

“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U. S. C. §101.

“We have long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” Association for Molecular Pathology v. Myriad Genetics, Inc., 569 U. S. ___, ___ (2013) (slip op., at 11) (internal quotation marks and brackets omitted). We have interpreted §101 and its predecessors in light of this exception for more than 150 years. Bilski, supra, at 601–602; see also O’Reilly v. Morse, 15 How. 62, 112–120 (1854); Le Roy v. Tatham, 14 How. 156, 174–175 (1853).

We have described the concern that drives this exclusionary principle as one of pre-emption. See, e.g., Bilski, supra, at 611–612 (upholding the patent “would pre-empt use of this approach in all fields, and would effectively
grant a monopoly over an abstract idea”). Laws of nature, natural phenomena, and abstract ideas are “‘the basic tools of scientific and technological work.’” *Myriad*, supra, at ___ (slip op., at 11). “[M]onopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it,” thereby thwarting the primary object of the patent laws. *Mayo*, supra, at ___ (slip op., at 2); see U. S. Const., Art. I, §8, cl. 8 (Congress “shall have Power . . . To promote the Progress of Science and useful Arts”). We have “repeatedly emphasized this . . . concern that patent law not inhibit further discovery by improperly tying up the future use of” these building blocks of human ingenuity. *Mayo*, supra, at ___ (slip op., at 16) (citing *Morse*, supra, at 113).

At the same time, we tread carefully in construing this exclusionary principle lest it swallow all of patent law. *Mayo*, 566 U. S., at ___ (slip op., at 2). At some level, “all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Id.*, at ___ (slip op., at 2). Thus, an invention is not rendered ineligible for patent simply because it involves an abstract concept. See *Diamond v. Diehr*, 450 U. S. 175, 187 (1981). “[A]pplication[s]” of such concepts “‘to a new and useful end,’” we have said, remain eligible for patent protection. *Gottschalk v. Benson*, 409 U. S. 63, 67 (1972).

Accordingly, in applying the §101 exception, we must distinguish between patents that claim the “‘buildin[g] block[s]’” of human ingenuity and those that integrate the building blocks into something more, *Mayo*, 566 U. S., at ___ (slip op., at 20), thereby “transform[ing]” them into a patent-eligible invention, *id.*, at ___ (slip op., at 3). The former “would risk disproportionately tying up the use of the underlying” ideas, *id.*, at ___ (slip op., at 4), and are therefore ineligible for patent protection. The latter pose no comparable risk of pre-emption, and therefore remain eligible for the monopoly granted under our patent laws.
III

In Mayo Collaborative Services v. Prometheus Laboratories, Inc., 566 U. S. ___ (2012), we set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. Id., at ___ (slip op., at 8). If so, we then ask, “[w]hat else is there in the claims before us?” Id., at ___ (slip op., at 9). To answer that question, we consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. Id., at ___ (slip op., at 10, 9). We have described step two of this analysis as a search for an “‘inventive concept’”—i.e., an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” Id., at ___ (slip op., at 3).3

A

We must first determine whether the claims at issue are directed to a patent-ineligible concept. We conclude that they are: These claims are drawn to the abstract idea of intermediated settlement.

The “abstract ideas” category embodies “the longstanding rule that ‘[a]n idea of itself is not patentable.’” Benson, supra, at 67 (quoting Rubber-Tip Pencil Co. v. Howard, 20 Wall. 498, 507 (1874)); see also Le Roy, supra, at ___

3Because the approach we made explicit in Mayo considers all claim elements, both individually and in combination, it is consistent with the general rule that patent claims “must be considered as a whole.” Diamond v. Diehr, 450 U. S. 175, 188 (1981); see Parker v. Flook, 437 U. S. 584, 594 (1978) (“Our approach . . . is . . . not at all inconsistent with the view that a patent claim must be considered as a whole”).
175 (“A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right”). In Benson, for example, this Court rejected as ineligible patent claims involving an algorithm for converting binary-coded decimal numerals into pure binary form, holding that the claimed patent was “in practical effect . . . a patent on the algorithm itself.” 409 U. S., at 71–72. And in Parker v. Flook, 437 U. S. 584, 594–595 (1978), we held that a mathematical formula for computing “alarm limits” in a catalytic conversion process was also a patent-ineligible abstract idea.

We most recently addressed the category of abstract ideas in Bilski v. Kappos, 561 U. S. 593 (2010). The claims at issue in Bilski described a method for hedging against the financial risk of price fluctuations. Claim 1 recited a series of steps for hedging risk, including: (1) initiating a series of financial transactions between providers and consumers of a commodity; (2) identifying market participants that have a counterrisk for the same commodity; and (3) initiating a series of transactions between those market participants and the commodity provider to balance the risk position of the first series of consumer transactions. Id., at 599. Claim 4 “pu[t] the concept articulated in claim 1 into a simple mathematical formula.” Ibid. The remaining claims were drawn to examples of hedging in commodities and energy markets.

“All members of the Court agree[d]” that the patent at issue in Bilski claimed an “abstract idea.” Id., at 609; see also id., at 619 (Stevens, J., concurring in judgment). Specifically, the claims described “the basic concept of hedging, or protecting against risk.” Id., at 611. The Court explained that “[h]edging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class.” Ibid. “The concept of hedging” as recited by the claims in suit was
therefore a patent-ineligible “abstract idea, just like the algorithms at issue in Benson and Flook.” Ibid.

It follows from our prior cases, and Bilski in particular, that the claims at issue here are directed to an abstract idea. Petitioner’s claims involve a method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk. The intermediary creates and updates “shadow” records to reflect the value of each party’s actual accounts held at “exchange institutions,” thereby permitting only those transactions for which the parties have sufficient resources. At the end of each day, the intermediary issues irrevocable instructions to the exchange institutions to carry out the permitted transactions.

On their face, the claims before us are drawn to the concept of intermediated settlement, i.e., the use of a third party to mitigate settlement risk. Like the risk hedging in Bilski, the concept of intermediated settlement is “‘a fundamental economic practice long prevalent in our system of commerce.’” Ibid.; see, e.g., Emery, Speculation on the Stock and Produce Exchanges of the United States, in 7 Studies in History, Economics and Public Law 283, 346–356 (1896) (discussing the use of a “clearing-house” as an intermediary to reduce settlement risk). The use of a third-party intermediary (or “clearing house”) is also a building block of the modern economy. See, e.g., Yadav, The Problematic Case of Clearinghouses in Complex Markets, 101 Geo. L. J. 387, 406–412 (2013); J. Hull, Risk Management and Financial Institutions 103–104 (3d ed. 2012). Thus, intermediated settlement, like hedging, is an “abstract idea” beyond the scope of §101.

Petitioner acknowledges that its claims describe intermediated settlement, see Brief for Petitioner 4, but rejects the conclusion that its claims recite an “abstract idea.” Drawing on the presence of mathematical formulas in some of our abstract-ideas precedents, petitioner contends
that the abstract-ideas category is confined to “preexisting, fundamental truth[s]” that “‘exist[t] in principle apart from any human action.’”  Id., at 23, 26 (quoting Mayo, 566 U. S., at ___ (slip op., at 8)).

*Bilski* belies petitioner’s assertion. The concept of risk hedging we identified as an abstract idea in that case cannot be described as a “preexisting, fundamental truth.” The patent in *Bilski* simply involved a “series of steps instructing how to hedge risk.” 561 U. S., at 599. Although hedging is a longstanding commercial practice, *id.*, at 599, it is a method of organizing human activity, not a “truth” about the natural world “‘that has always existed,’” Brief for Petitioner 22 (quoting Flook, supra, at 593, n. 15). One of the claims in *Bilski* reduced hedging to a mathematical formula, but the Court did not assign any special significance to that fact, much less the sort of talismanic significance petitioner claims. Instead, the Court grounded its conclusion that all of the claims at issue were abstract ideas in the understanding that risk hedging was a “‘fundamental economic practice.’” 561 U. S., at 611.

In any event, we need not labor to delimit the precise contours of the “abstract ideas” category in this case. It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here. Both are squarely within the realm of “abstract ideas” as we have used that term.

**B**

Because the claims at issue are directed to the abstract idea of intermediated settlement, we turn to the second step in *Mayo’s* framework. We conclude that the method claims, which merely require generic computer implementation, fail to transform that abstract idea into a patent-eligible invention.
At Mayo step two, we must examine the elements of the claim to determine whether it contains an “inventive concept” sufficient to “transform” the claimed abstract idea into a patent-eligible application. 566 U. S., at __, __ (slip op., at 3, 11). A claim that recites an abstract idea must include “additional features” to ensure “that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].” Id., at ___ (slip op., at 8–9). Mayo made clear that transformation into a patent-eligible application requires “more than simply stating the [abstract idea] while adding the words ‘apply it.’” Id., at ___ (slip op., at 3).

Mayo itself is instructive. The patents at issue in Mayo claimed a method for measuring metabolites in the bloodstream in order to calibrate the appropriate dosage of thiopurine drugs in the treatment of autoimmune diseases. Id., at ___ (slip op., at 4–6). The respondent in that case contended that the claimed method was a patent-eligible application of natural laws that describe the relationship between the concentration of certain metabolites and the likelihood that the drug dosage will be harmful or ineffective. But methods for determining metabolite levels were already “well known in the art,” and the process at issue amounted to “nothing significantly more than an instruction to doctors to apply the applicable laws when treating their patients.” Id., at ___ (slip op., at 10).

“Simply appending conventional steps, specified at a high level of generality,” was not “enough” to supply an “inventive concept.” Id., at __, __, ___ (slip op., at 14, 8, 3).

The introduction of a computer into the claims does not alter the analysis at Mayo step two. In Benson, for example, we considered a patent that claimed an algorithm implemented on “a general-purpose digital computer.” 409 U. S., at 64. Because the algorithm was an abstract idea, see supra, at 8, the claim had to supply a “new and use-
ful” application of the idea in order to be patent eligible. 409 U. S., at 67. But the computer implementation did not supply the necessary inventive concept; the process could be “carried out in existing computers long in use.” Ibid. We accordingly “held that simply implementing a mathematical principle on a physical machine, namely a computer, [i]s not a patentable application of that principle.” Mayo, supra, at ___ (slip op., at 16) (citing Benson, supra, at 64).

Flook is to the same effect. There, we examined a computerized method for using a mathematical formula to adjust alarm limits for certain operating conditions (e.g., temperature and pressure) that could signal inefficiency or danger in a catalytic conversion process. 437 U. S., at 585–586. Once again, the formula itself was an abstract idea, see supra, at 8, and the computer implementation was purely conventional. 437 U. S., at 594 (noting that the “use of computers for ‘automatic monitoring-alarming’” was “well known”). In holding that the process was patent ineligible, we rejected the argument that “implement[ing] a principle in some specific fashion” will “automatically fal[ll] within the patentable subject matter of §101.” Id., at 593. Thus, “Flook stands for the proposition that the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment.” Bilski, 561 U. S., at 610–611 (internal quotation marks omitted).

In Diehr, 450 U. S. 175, by contrast, we held that a computer-implemented process for curing rubber was patent eligible, but not because it involved a computer. The claim employed a “well-known” mathematical equation, but it used that equation in a process designed to solve a technological problem in “conventional industry practice.” Id., at 177, 178. The invention in Diehr used a “thermocouple” to record constant temperature measure-
ments inside the rubber mold—something “the industry ha[d] not been able to obtain.” Id., at 178, and n. 3. The temperature measurements were then fed into a computer, which repeatedly recalculated the remaining cure time by using the mathematical equation. Id., at 178–179. These additional steps, we recently explained, “transformed the process into an inventive application of the formula.” Mayo, supra, at ___ (slip op., at 12). In other words, the claims in Diehr were patent eligible because they improved an existing technological process, not because they were implemented on a computer.

These cases demonstrate that the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea “while adding the words ‘apply it’” is not enough for patent eligibility. Mayo, supra, at ___ (slip op., at 3). Nor is limiting the use of an abstract idea “to a particular technological environment.” Bilski, supra, at 610–611. Stating an abstract idea while adding the words “apply it with a computer” simply combines those two steps, with the same deficient result. Thus, if a patent’s recitation of a computer amounts to a mere instruction to “implemen[t]” an abstract idea “on . . . a computer,” Mayo, supra, at ___ (slip op., at 16), that addition cannot impart patent eligibility. This conclusion accords with the pre-emption concern that undergirds our §101 jurisprudence. Given the ubiquity of computers, see 717 F. 3d, at 1286 (Lourie, J., concurring), wholly generic computer implementation is not generally the sort of “additional featur[e]” that provides any “practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea] itself.” Mayo, 566 U. S., at ___ (slip op., at 8–9).

The fact that a computer “necessarily exist[s] in the physical, rather than purely conceptual, realm,” Brief for Petitioner 39, is beside the point. There is no dispute that
a computer is a tangible system (in §101 terms, a “machine”), or that many computer-implemented claims are formally addressed to patent-eligible subject matter. But if that were the end of the §101 inquiry, an applicant could claim any principle of the physical or social sciences by reciting a computer system configured to implement the relevant concept. Such a result would make the determination of patent eligibility “depend simply on the draftsman’s art,” *Flook*, supra, at 593, thereby eviscerating the rule that “[l]aws of nature, natural phenomena, and abstract ideas are not patentable,” *Myriad*, 569 U. S., at ___ (slip op., at 11).

The representative method claim in this case recites the following steps: (1) “creating” shadow records for each counterparty to a transaction; (2) “obtaining” start-of-day balances based on the parties’ real-world accounts at exchange institutions; (3) “adjusting” the shadow records as transactions are entered, allowing only those transactions for which the parties have sufficient resources; and (4) issuing irrevocable end-of-day instructions to the exchange institutions to carry out the permitted transactions. See n.2, *supra*. Petitioner principally contends that the claims are patent eligible because these steps “require a substantial and meaningful role for the computer.” Brief for Petitioner 48. As stipulated, the claimed method requires the use of a computer to create electronic records, track multiple transactions, and issue simultaneous instructions; in other words, “[t]he computer is itself the intermediary.” *Ibid.* (emphasis deleted).

In light of the foregoing, see *supra*, at 11–14, the relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer. They do not.
Taking the claim elements separately, the function performed by the computer at each step of the process is “[p]urely conventional.” Mayo, supra, at ___ (slip op., at 10) (internal quotation marks omitted). Using a computer to create and maintain “shadow” accounts amounts to electronic recordkeeping—one of the most basic functions of a computer. See, e.g., Benson, 409 U. S., at 65 (noting that a computer “operates . . . upon both new and previously stored data”). The same is true with respect to the use of a computer to obtain data, adjust account balances, and issue automated instructions; all of these computer functions are “well-understood, routine, conventional activit[ies]” previously known to the industry. Mayo, 566 U. S., at ___ (slip op., at 4). In short, each step does no more than require a generic computer to perform generic computer functions.

Considered “as an ordered combination,” the computer components of petitioner’s method “ad[d] nothing . . . that is not already present when the steps are considered separately.” Id., at ___ (slip op., at 10). Viewed as a whole, petitioner’s method claims simply recite the concept of intermediated settlement as performed by a generic computer. See 717 F. 3d, at 1286 (Lourie, J., concurring) (noting that the representative method claim “lacks any express language to define the computer’s participation”). The method claims do not, for example, purport to improve the functioning of the computer itself. See ibid. (“There is no specific or limiting recitation of . . . improved computer technology . . . ”); Brief for United States as Amicus Curiae 28–30. Nor do they effect an improvement in any other technology or technical field. See, e.g., Diehr, 450 U. S., at 177–178. Instead, the claims at issue amount to “nothing significantly more” than an instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer. Mayo, 566 U. S., at ___ (slip op., at 10). Under our precedents, that is not “enough” to
transform an abstract idea into a patent-eligible invention. *Id.*, at ___ (slip op., at 8).

C

Petitioner’s claims to a computer system and a computer-readable medium fail for substantially the same reasons. Petitioner conceded below that its media claims rise or fall with its method claims. En Banc Response Brief for Defendant-Appellant in No. 11–1301 (CA Fed.) p. 50, n. 3. As to its system claims, petitioner emphasizes that those claims recite “specific hardware” configured to perform “specific computerized functions.” Brief for Petitioner 53. But what petitioner characterizes as specific hardware—a “data processing system” with a “communications controller” and “data storage unit,” for example, see App. 954, 958, 1257—is purely functional and generic. Nearly every computer will include a “communications controller” and “data storage unit” capable of performing the basic calculation, storage, and transmission functions required by the method claims. See 717 F. 3d, at 1290 (Lourie, J., concurring). As a result, none of the hardware recited by the system claims “offers a meaningful limitation beyond generally linking ‘the use of the [method] to a particular technological environment,’ that is, implementation via computers.” *Id.*, at 1291 (quoting *Bilski*, 561 U. S., at 610–611).

Put another way, the system claims are no different from the method claims in substance. The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic computer components configured to implement the same idea. This Court has long “warn[ed] . . . against” interpreting §101 “in ways that make patent eligibility ‘depend simply on the draftsman’s art.’” *Mayo*, *supra*, at ___ (slip op., at 3) (quoting *Flook*, 437 U. S., at 593); see *id.*, at 590 (“The concept of patentable subject matter under §101 is not
Opinion of the Court

‘like a nose of wax which may be turned and twisted in any direction . . .’

Holding that the system claims are patent eligible would have exactly that result.

Because petitioner’s system and media claims add nothing of substance to the underlying abstract idea, we hold that they too are patent ineligible under §101.

*   *   *

For the foregoing reasons, the judgment of the Court of Appeals for the Federal Circuit is affirmed.

It is so ordered.
SOTOMAYOR, J., concurring

SUPREME COURT OF THE UNITED STATES

No. 13–298

ALICE CORPORATION PTY. LTD, PETITIONER v. CLS BANK INTERNATIONAL ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

[June 19, 2014]

JUSTICE SOTOMAYOR, with whom JUSTICE GINSBURG and JUSTICE BREYER join, concurring.

I adhere to the view that any “claim that merely describes a method of doing business does not qualify as a ‘process’ under §101.” Bilski v. Kappos, 561 U. S. 593, 614 (2010) (Stevens, J., concurring in judgment); see also In re Bilski, 545 F. 3d 943, 972 (CA Fed. 2008) (Dyk, J., concurring) (“There is no suggestion in any of th[e] early [Eng- lish] consideration of process patents that processes for organizing human activity were or ever had been patent- able”). As in Bilski, however, I further believe that the method claims at issue are drawn to an abstract idea. Cf. 561 U. S., at 619 (opinion of Stevens, J.). I therefore join the opinion of the Court.
United States Court of Appeals
for the Federal Circuit

ORACLE AMERICA, INC.,
Plaintiff-Appellant,

v.

GOOGLE INC.,
Defendant-Cross-Appellant.

2013-1021, -1022

Appeals from the United States District Court for the Northern District of California in No. 10-CV-3561, Judge William H. Alsup.

Decided: May 9, 2014

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Before O’MALLEY, PLAGER, and TARANTO, Circuit Judges.
O’MALLEY, Circuit Judge.

This copyright dispute involves 37 packages of computer source code. The parties have often referred to these groups of computer programs, individually or collectively, as “application programming interfaces,” or API packages, but it is their content, not their name, that matters. The predecessor of Oracle America, Inc. (“Oracle”) wrote these and other API packages in the Java programming language, and Oracle licenses them on various terms for others to use. Many software developers use the Java language, as well as Oracle’s API packages, to write applications (commonly referred to as “apps”) for desktop and laptop computers, tablets, smartphones, and other devices.

Oracle filed suit against Google Inc. (“Google”) in the United States District Court for the Northern District of California, alleging that Google’s Android mobile operating system infringed Oracle’s patents and copyrights. The jury found no patent infringement, and the patent claims are not at issue in this appeal. As to the copyright claims, the parties agreed that the jury would decide infringement, fair use, and whether any copying was de minimis, while the district judge would decide copyrightability and Google’s equitable defenses. The jury found that Google infringed Oracle’s copyrights in the 37 Java packages and a specific computer routine called “rangeCheck,” but returned a noninfringement verdict as to eight decompiled security files. The jury deadlocked on Google’s fair use defense.

After the jury verdict, the district court denied Oracle’s motion for judgment as a matter of law (“JMOL”) regarding fair use as well as Google’s motion for JMOL with respect to the rangeCheck files. Order on Motions for Judgment as a Matter of Law, Oracle Am., Inc. v. Google Inc., No. 3:10-cv-3561 (N.D. Cal. May 10, 2012), ECF No. 1119. Oracle also moved for JMOL of infringe-
ment with respect to the eight decompiled security files. In granting that motion, the court found that: (1) Google admitted to copying the eight files; and (2) no reasonable jury could find that the copying was de minimis. *Oracle Am., Inc. v. Google Inc.*, No. C 10-3561, 2012 U.S. Dist. LEXIS 66417 (N.D. Cal. May 11, 2012) (“Order Granting JMOL on Decompiled Files”).

Shortly thereafter, the district court issued its decision on copyrightability, finding that the replicated elements of the 37 API packages—including the declaring code and the structure, sequence, and organization—were not subject to copyright protection. *Oracle Am., Inc. v. Google Inc.*, 872 F. Supp. 2d 974 (N.D. Cal. 2012) (“Copyrightability Decision”). Accordingly, the district court entered final judgment in favor of Google on Oracle’s copyright infringement claims, except with respect to the rangeCheck code and the eight decompiled files. Final Judgment, *Oracle Am., Inc. v. Google Inc.*, No. 3:10-cv-3561 (N.D. Cal. June 20, 2012), ECF No. 1211. Oracle appeals from the portion of the final judgment entered against it, and Google cross-appeals from the portion of that same judgment entered in favor of Oracle as to the rangeCheck code and eight decompiled files.

Because we conclude that the declaring code and the structure, sequence, and organization of the API packages are entitled to copyright protection, we reverse the district court’s copyrightability determination with instructions to reinstate the jury’s infringement finding as to the 37 Java packages. Because the jury deadlocked on fair use, we remand for further consideration of Google’s fair use defense in light of this decision. With respect to Google’s cross-appeal, we affirm the district court’s decisions: (1) granting Oracle’s motion for JMOL as to the eight decompiled Java files that Google copied into Android; and (2) denying Google’s motion for JMOL with respect to the rangeCheck function. Accordingly, we affirm-in-part, reverse-in-part, and remand for further proceedings.
BACKGROUND

A. The Technology

Sun Microsystems, Inc. (“Sun”) developed the Java “platform” for computer programming and released it in 1996.¹ The aim was to relieve programmers from the burden of writing different versions of their computer programs for different operating systems or devices. “The Java platform, through the use of a virtual machine, enable[d] software developers to write programs that [we]re able to run on different types of computer hardware without having to rewrite them for each different type.” Copyrightability Decision, 872 F. Supp. 2d at 977. With Java, a software programmer could “write once, run anywhere.”

The Java virtual machine (“JVM”) plays a central role in the overall Java platform. The Java programming language itself—which includes words, symbols, and other units, together with syntax rules for using them to create instructions—is the language in which a Java programmer writes source code, the version of a program that is “in a human-readable language.” Id. For the instructions to be executed, they must be converted (or compiled) into binary machine code (object code) consisting of 0s and 1s understandable by the particular computing device. In the Java system, “source code is first converted into ‘bytecode,’ an intermediate form, before it is then converted into binary machine code by the Java virtual machine” that has been designed for that device. Id. The Java platform includes the “Java development kit (JDK), javac compiler, tools and utilities, runtime programs, class libraries (API packages), and the Java virtual machine.” Id. at 977 n.2.

¹ Oracle acquired Sun in 2010.
Sun wrote a number of ready-to-use Java programs to perform common computer functions and organized those programs into groups it called “packages.” These packages, which are the application programming interfaces at issue in this appeal, allow programmers to use the pre-written code to build certain functions into their own programs, rather than write their own code to perform those functions from scratch. They are shortcuts. Sun called the code for a specific operation (function) a “method.” It defined “classes” so that each class consists of specified methods plus variables and other elements on which the methods operate. To organize the classes for users, then, it grouped classes (along with certain related “interfaces”) into “packages.” See id. at 982 (describing organization: “[e]ach package [i]s broken into classes and those in turn [a]re broken into methods”). The parties have not disputed the district court’s analogy: Oracle’s collection of API packages is like a library, each package is like a bookshelf in the library, each class is like a book on the shelf, and each method is like a how-to chapter in a book. Id. at 977.

The original Java Standard Edition Platform (“Java SE”) included “eight packages of pre-written programs.” Id. at 982. The district court found, and Oracle concedes to some extent, that three of those packages—java.lang, java.io, and java.util—were “core” packages, meaning that programmers using the Java language had to use them “in order to make any worthwhile use of the language.” Id. By 2008, the Java platform had more than 6,000 methods making up more than 600 classes grouped into 166 API packages. There are 37 Java API packages at issue in this appeal, three of which are the core packages identified by the district court.2 These packages contain

2 The 37 API packages involved in this appeal are: java.awt.font, java.beans, java.io, java.lang, ja-
thousands of individual elements, including classes, subclasses, methods, and interfaces.

Every package consists of two types of source code—what the parties call (1) declaring code; and (2) implementing code. Declaring code is the expression that identifies the prewritten function and is sometimes referred to as the “declaration” or “header.” As the district court explained, the “main point is that this header line of code introduces the method body and specifies very precisely the inputs, name and other functionality.” Id. at 979-80. The expressions used by the programmer from the declaring code command the computer to execute the associated implementing code, which gives the computer the step-by-step instructions for carrying out the declared function.

To use the district court’s example, one of the Java API packages at issue is “java.lang.” Within that package is a class called “math,” and within “math” there are several methods, including one that is designed to find the larger of two numbers: “max.” The declaration for the “max” method, as defined for integers, is: “public static int max(int x, int y),” where the word “public” means that the method is generally accessible, “static” means that no

va.lang.annotation, java.lang.ref, java.lang.reflect, java.net, java.nio, java.nio.channels, java.nio.channels.spi, java.nio.charset, java.nio.charset.spi, java.security, java.security.acl, java.security.cert, java.security.interfaces, java.security.spec, java.sql, java.text, java.util, java.util.jar, java.util.logging, java.util.prefs, java.util.regex, java.util.zip, javax.crypto, javax.crypto.interfaces, javax.crypto.spec, javax.net, javax.net.ssl, javax.security.auth, javax.security.auth.callback, javax.security.auth.login, javax.security.auth.x500, javax.security.cert, and java.sql.
specific instance of the class is needed to call the method, the first “int” indicates that the method returns an integer, and “int x” and “int y” are the two numbers (inputs) being compared. Copyrightability Decision, 872 F. Supp. 2d at 980-82. A programmer calls the “max” method by typing the name of the method stated in the declaring code and providing unique inputs for the variables “x” and “y.” The expressions used command the computer to execute the implementing code that carries out the operation of returning the larger number.

Although Oracle owns the copyright on Java SE and the API packages, it offers three different licenses to those who want to make use of them. The first is the General Public License, which is free of charge and provides that the licensee can use the packages—both the declaring and implementing code—but must “contribute back” its innovations to the public. This arrangement is referred to as an “open source” license. The second option is the Specification License, which provides that the licensee can use the declaring code and organization of Oracle’s API packages but must write its own implementing code. The third option is the Commercial License, which is for businesses that “want to use and customize the full Java code in their commercial products and keep their code secret.” Appellant Br. 14. Oracle offers the Commercial License in exchange for royalties. To maintain Java’s “write once, run anywhere” motto, the Specification and Commercial Licenses require that the licensees’ programs pass certain tests to ensure compatibility with the Java platform.

The testimony at trial also revealed that Sun was licensing a derivative version of the Java platform for use on mobile devices: the Java Micro Edition (“Java ME”). Oracle licensed Java ME for use on feature phones and smartphones. Sun/Oracle has never successfully developed its own smartphone platform using Java.
B. Google’s Accused Product: Android

The accused product is Android, a software platform that was designed for mobile devices and competes with Java in that market. Google acquired Android, Inc. in 2005 as part of a plan to develop a smartphone platform. Later that same year, Google and Sun began discussing the possibility of Google “taking a license to use and to adapt the entire Java platform for mobile devices.” Copyrightability Decision, 872 F. Supp. 2d at 978. They also discussed a “possible co-development partnership deal with Sun under which Java technology would become an open-source part of the Android platform, adapted for mobile devices.” Id. The parties negotiated for months but were unable to reach an agreement. The point of contention between the parties was Google’s refusal to make the implementation of its programs compatible with the Java virtual machine or interoperable with other Java programs. Because Sun/Oracle found that position to be anathema to the “write once, run anywhere” philosophy, it did not grant Google a license to use the Java API packages.

When the parties’ negotiations reached an impasse, Google decided to use the Java programming language to design its own virtual machine—the Dalvik virtual machine (“Dalvik VM”)—and “to write its own implementations for the functions in the Java API that were key to mobile devices.” Id. Google developed the Android platform, which grew to include 168 API packages—37 of which correspond to the Java API packages at issue in this appeal.

With respect to the 37 packages at issue, “Google believed Java application programmers would want to find the same 37 sets of functionalities in the new Android system callable by the same names as used in Java.” Id. To achieve this result, Google copied the declaring source code from the 37 Java API packages verbatim, inserting
that code into parts of its Android software. In doing so, Google copied the elaborately organized taxonomy of all the names of methods, classes, interfaces, and packages—the “overall system of organized names—covering 37 packages, with over six hundred classes, with over six thousand methods.” Copyrightability Decision, 872 F. Supp. 2d at 999. The parties and district court referred to this taxonomy of expressions as the “structure, sequence, and organization” or “SSO” of the 37 packages. It is undisputed, however, that Google wrote its own implementing code, except with respect to: (1) the rangeCheck function, which consisted of nine lines of code; and (2) eight decompiled security files.

As to rangeCheck, the court found that the Sun engineer who wrote it later worked for Google and contributed two files he created containing the rangeCheck function—“Timsort.java” and “ComparableTimsort”—to the Android platform. In doing so, the nine-line rangeCheck function was copied directly into Android. As to the eight decompiled files, the district court found that they were copied and used as test files but “never found their way into Android or any handset.” Id. at 983.

Google released the Android platform in 2007, and the first Android phones went on sale the following year. Although it is undisputed that certain Android software contains copies of the 37 API packages’ declaring code at issue, neither the district court nor the parties specify in which programs those copies appear. Oracle indicated at oral argument, however, that all Android phones contain copies of the accused portions of the Android software. Oral Argument at 1:35, available at http://www.cafc.uscourts.gov/oral-argument-recordings/2013-1021/all. Android smartphones “rapidly grew in popularity and now comprise a large share of the United States market.” Copyrightability Decision, 872 F. Supp. 2d at 978. Google provides the Android platform free of charge to smartphone manufacturers and receives revenue when
customers use particular functions on the Android phone. Although Android uses the Java programming language, it is undisputed that Android is not generally Java compatible. As Oracle explains, “Google ultimately designed Android to be *incompatible* with the Java platform, so that apps written for one will not work on the other.” Appellant Br. 29.

C. Trial and Post-Trial Rulings

Beginning on April 16, 2012, the district court and the jury—on parallel tracks—viewed documents and heard testimony from twenty-four witnesses on copyrightability, infringement, fair use, and Google’s other defenses. Because the parties agreed the district court would decide copyrightability, the court instructed the jury to assume that the structure, sequence, and organization of the 37 API packages was copyrightable. And, the court informed the jury that Google conceded that it copied the declaring code used in the 37 packages verbatim. The court also instructed the jury that Google conceded copying the rangeCheck function and the eight decompiled security files, but that Google maintained that its use of those lines of code was de minimis. See Final Charge to the Jury (Phase One), *Oracle Am., Inc. v. Google Inc.*, 3:10-cv-3561 (N.D. Cal. Apr. 30, 2012), ECF No. 1018 at 14 (“With respect to the infringement issues concerning the rangeCheck and other similar files, Google agrees that the accused lines of code and comments came from the copyrighted material but contends that the amounts involved were so negligible as to be de minimis and thus should be excused.”).

On May 7, 2012, the jury returned a verdict finding that Google infringed Oracle’s copyright in the 37 Java API packages and in the nine lines of rangeCheck code, but returned a noninfringement verdict as to eight decompiled security files. The jury hung on Google’s fair use defense.
The parties filed a number of post-trial motions, most of which were ultimately denied. In relevant part, the district court denied Oracle’s motion for JMOL regarding fair use and Google’s motion for JMOL as to the rangeCheck files. Order on Motions for Judgment as a Matter of Law, Oracle Am., Inc. v. Google Inc., No. 3:10-cv-3561 (N.D. Cal. May 10, 2012), ECF No. 1119. The district court granted Oracle’s motion for JMOL of infringement as to the eight decompiled files, however. In its order, the court explained that: (1) Google copied the files in their entirety; (2) the trial testimony revealed that the use of those files was “significant”; and (3) no reasonable jury could find the copying de minimis. Order Granting JMOL on Decompiled Files, 2012 U.S. Dist. LEXIS 66417, at *6.

On May 31, 2012, the district court issued the primary decision at issue in this appeal, finding that the replicated elements of the Java API packages—including the declarations and their structure, sequence, and organization—were not copyrightable. As to the declaring code, the court concluded that “there is only one way to write” it, and thus the “merger doctrine bars anyone from claiming exclusive copyright ownership of that expression.” Copyrightability Decision, 872 F. Supp. 2d at 998. The court further found that the declaring code was not protectable because “names and short phrases cannot be copyrighted.” Id. As such, the court determined that “there can be no copyright violation in using the identical declarations.” Id.

As to the overall structure, sequence, and organization of the Java API packages, the court recognized that “nothing in the rules of the Java language . . . required that Google replicate the same groupings even if Google was free to replicate the same functionality.” Id. at 999. Therefore, the court determined that “Oracle’s best argument . . . is that while no single name is copyrightable, Java’s overall system of organized names—covering 37
packages, with over six hundred classes, with over six thousand methods—is a ‘taxonomy’ and, therefore, copyrightable.” *Id.*

Although it acknowledged that the overall structure of Oracle’s API packages is creative, original, and “resembles a taxonomy,” the district court found that it “is nevertheless a command structure, a system or method of operation—a long hierarchy of over six thousand commands to carry out pre-assigned functions”—that is not entitled to copyright protection under Section 102(b) of the Copyright Act. *Id.* at 999-1000. In reaching this conclusion, the court emphasized that, “[o]f the 166 Java packages, 129 were not violated in any way.” *Id.* at 1001. And, of the 37 Java API packages at issue, “97 percent of the Android lines were new from Google and the remaining three percent were freely replicable under the merger and names doctrines.” *Id.* On these grounds, the court dismissed Oracle’s copyright claims, concluding that “the particular elements replicated by Google were free for all to use under the Copyright Act.” *Id.*

On June 20, 2012, the district court entered final judgment in favor of Google and against Oracle on its claim for copyright infringement, except with respect to the rangeCheck function and the eight decompiled files. As to rangeCheck and the decompiled files, the court entered judgment for Oracle and against Google in the amount of zero dollars, per the parties’ stipulation. Final Judgment, *Oracle Am., Inc. v. Google Inc.*, No. 3:10-cv-3561 (N.D. Cal. June 20, 2012), ECF No. 1211. Oracle timely appealed from the portion of the district court’s final judgment entered against it and Google timely cross-appealed with respect to rangeCheck and the eight decompiled files. Because this action included patent claims, we have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).
DISCUSSION

I. ORACLE’S APPEAL

It is undisputed that the Java programming language is open and free for anyone to use. Except to the limited extent noted below regarding three of the API packages, it is also undisputed that Google could have written its own API packages using the Java language. Google chose not to do that. Instead, 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. The central question before us is whether these elements of the Java platform are entitled to copyright protection. The district court concluded that they are not, and Oracle challenges that determination on appeal. Oracle also argues that the district court should have dismissed Google’s fair use defense as a matter of law.

According to Google, however, the district court correctly determined that: (1) there was only one way to write the Java method declarations and remain “interoperable” with Java; and (2) the organization and structure of the 37 Java API packages is a “command structure” excluded from copyright protection under Section 102(b). Google also argues that, if we reverse the district court’s copyrightability determination, we should direct the district court to retry its fair use defense.

“When 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.” Atari Games Corp. v. Nintendo of Am., Inc., 897 F.2d 1572, 1575 (Fed. Cir. 1990). Copyright issues are not exclusively assigned to the Federal Circuit. See 28 U.S.C. § 1295. The parties agree that Ninth Circuit law applies and that, in the Ninth Circuit, whether particular expression is protected by copyright law is
“subject to de novo review.” *Ets-Hokin v. Skyy Spirits, Inc.*, 225 F.3d 1068, 1073 (9th Cir. 2000).³

³ The Supreme Court has not addressed whether copyrightability is a pure question of law or a mixed question of law and fact, or whether, if it is a mixed question of law and fact, the factual components of that inquiry are for the court, rather than the jury. Relatedly, it has not decided the standard of review that applies on appeal. Ten years ago, before finding it unnecessary to decide whether copyrightability is a pure question of law or a mixed question of law and fact, the Seventh Circuit noted that it had “found only a handful of appellate cases addressing the issue, and they are split.” *Gaiman v. McFarlane*, 360 F.3d 644, 648 (7th Cir. 2004). And, panels of the Ninth Circuit have defined the respective roles of the jury and the court differently where questions of originality were at issue. Compare *North Coast Indus. v. Jason Maxwell, Inc.*, 972 F.2d 1031, 1035 (9th Cir. 1992), with *Ets-Hokin*, 225 F.3d at 1073. More recently, several district courts within the Ninth Circuit have treated copyrightability as a question for only the court, regardless of whether it is a pure question of law. See *Stern v. Does*, No. 09-1986, 2011 U.S. Dist. LEXIS 37735, *7 (C.D. Cal. Feb. 10, 2011); *Jonathan Browning, Inc. v. Venetian Casino Resort LLC*, No. C 07-3983, 2009 U.S. Dist. LEXIS 57525, at *2 (N.D. Cal. June 19, 2009); see also *Pivot Point Int'l, Inc. v. Charlene Prods., Inc.*, 932 F. Supp. 220, 225 (N.D. Ill. 1996) (Easterbrook, J.) (citing to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), and concluding that whether works are copyrightable is a question which the “jury has nothing to do with”). We need not address any of these questions, because the parties here agreed that the district court would decide copyrightability, and both largely agree that
We are mindful that the application of copyright law in the computer context is often a difficult task. See *Lotus Dev. Corp. v. Borland Int’l, Inc.*, 49 F.3d 807, 820 (1st Cir. 1995) (Boudin, J., concurring) (“Applying copyright law to computer programs is like assembling a jigsaw puzzle whose pieces do not quite fit.”). On this record, however, we find that the district court failed to distinguish between the threshold question of what is copyrightable—which presents a low bar—and the scope of conduct that constitutes infringing activity. The court also erred by importing fair use principles, including interoperability concerns, into its copyrightability analysis.

For the reasons that follow, we conclude that the declaring code and the structure, sequence, and organization of the 37 Java API packages are entitled to copyright protection. Because there is an insufficient record as to the relevant fair use factors, we remand for further proceedings on Google’s fair use defense.

A. Copyrightability

The Copyright Act provides protection to “original works of authorship fixed in any tangible medium of expression,” including “literary works.” 17 U.S.C. § 102(a). It is undisputed that computer programs—defined in the Copyright Act as “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result,” 17 U.S.C. § 101—can be subject to copyright protection as “literary works.” *See Atari Games Corp. v. Nintendo of Am., Inc.*, 975 F.2d 832, 838 (Fed. Cir. 1992) (“As literary works, copyright protection extends to computer programs.”). Indeed, the legislative history explains that “literary works” includes “computer programs to the extent that we may undertake a review of that determination de novo.

By statute, a work must be “original” to qualify for copyright protection. 17 U.S.C. § 102(a). This “originality requirement is not particularly stringent,” however. Feist Publ’ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 358 (1991). “Original, as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity.” Id. at 345.

Copyright protection extends only to the expression of an idea—not to the underlying idea itself. Mazer v. Stein, 347 U.S. 201, 217 (1954) (“Unlike a patent, a copyright gives no exclusive right to the art disclosed; protection is given only to the expression of the idea—not the idea itself.”). This distinction—commonly referred to as the “idea/expression dichotomy”—is codified in Section 102(b) of the Copyright Act, which provides:

In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.


The idea/expression dichotomy traces back to the Supreme Court’s decision in Baker v. Selden, 101 U.S. 99, 101 (1879). In Baker, the plaintiff Selden wrote and obtained copyrights on a series of books setting out a new system of bookkeeping. Id. at 100. The books included an
introductory essay explaining the system and blank forms with ruled lines and headings designed for use with that system. *Id.* Baker published account books employing a system with similar forms, and Selden filed suit alleging copyright infringement. According to Selden, the “ruled lines and headings, given to illustrate the system, are a part of the book” and “no one can make or use similar ruled lines and headings, or ruled lines and headings made and arranged on substantially the same system, without violating the copyright.” *Id.* at 101.

The Supreme Court framed the issue on appeal in *Baker* as “whether the exclusive property in a system of book-keeping can be claimed, under the law of copyright, by means of a book in which that system is explained.” *Id.* In reversing the circuit court’s decision, the Court concluded that the “copyright of a book on book-keeping cannot secure the exclusive right to make, sell, and use account-books prepared upon the plan set forth in such book.” *Id.* at 104. Likewise, the “copyright of a work on mathematical science cannot give to the author an exclusive right to the methods of operation which he propounds.” *Id.* at 103. The Court found that, although the copyright protects the way Selden “explained and described a peculiar system of book-keeping,” it does not prevent others from using the system described therein. *Id.* at 104. The Court further indicated that, if it is necessary to use the forms Selden included in his books to make use of the accounting system, that use would not amount to copyright infringement. See *id.* (noting that the public has the right to use the account-books and that, “in using the art, the ruled lines and headings of accounts must necessarily be used as incident to it”).

Courts routinely cite *Baker* as the source of several principles incorporated into Section 102(b) that relate to this appeal, including that: (1) copyright protection extends only to expression, not to ideas, systems, or processes; and (2) “those elements of a computer program that
are necessarily incidental to its function are . . . unpro-

It is well established that copyright protection can extend to both literal and non-literal elements of a computer program. See Altai, 982 F.2d at 702. The literal elements of a computer program are the source code and object code. See Johnson Controls, Inc. v. Phoenix Control Sys., Inc., 886 F.2d 1173, 1175 (9th Cir. 1989). Courts have defined source code as “the spelled-out program commands that humans can read.” Lexmark Int'l, Inc. v. Static Control Components, Inc., 387 F.3d 522, 533 (6th Cir. 2004). Object code refers to “the binary language comprised of zeros and ones through which the computer directly receives its instructions.” Altai, 982 F.2d at 698. Both source and object code “are consistently held protected by a copyright on the program.” Johnson Controls, 886 F.2d at 1175; see also Altai, 982 F.2d at 702 (“It is now well settled that the literal elements of computer programs, i.e., their source and object codes, are the subject of copyright protection.”). Google nowhere disputes that premise. See, e.g., Oral Argument at 57:38.

The non-literal components of a computer program include, among other things, the program’s sequence, structure, and organization, as well as the program’s user interface. Johnson Controls, 886 F.2d at 1175. As discussed below, whether the non-literal elements of a program “are protected depends on whether, on the particular facts of each case, the component in question qualifies as an expression of an idea, or an idea itself.” Id.

In this case, Oracle claims copyright protection with respect to both: (1) literal elements of its API packages—the 7,000 lines of declaring source code; and (2) non-literal elements—the structure, sequence, and organization of each of the 37 Java API packages.
The distinction between literal and non-literal aspects of a computer program is separate from the distinction between literal and non-literal copying. See Altai, 982 F.2d at 701-02. “Literal” copying is verbatim copying of original expression. “Non-literal” copying is “paraphrased or loosely paraphrased rather than word for word.” Lotus Dev. Corp. v. Borland Int’l, 49 F.3d 807, 814 (1st Cir. 1995). Here, Google concedes that it copied the declaring code verbatim. Oracle explains that the lines of declaring code “embody the structure of each [API] package, just as the chapter titles and topic sentences represent the structure of a novel.” Appellant Br. 45. As Oracle explains, when Google copied the declaring code in these packages “it also copied the ‘sequence and organization’ of the packages (i.e., the three-dimensional structure with all the chutes and ladders)” employed by Sun/Oracle in the packages. Appellant Br. 27. Oracle also argues that the nonliteral elements of the API packages—the structure, sequence, and organization that led naturally to the implementing code Google created—are entitled to protection. Oracle does not assert “literal” copying of the entire SSO, but, rather, that Google literally copied the declaring code and then paraphrased the remainder of the SSO by writing its own implementing code. It therefore asserts non-literal copying with respect to the entirety of the SSO.

At this stage, it is undisputed that the declaring code and the structure and organization of the Java API packages are original. The testimony at trial revealed that designing the Java API packages was a creative process and that the Sun/Oracle developers had a vast range of options for the structure and organization. In its copyrightability decision, the district court specifically found that the API packages are both creative and original, and Google concedes on appeal that the originality requirements are met. See Copyrightability Decision, 872 F. Supp. 2d at 976 (“The overall name tree, of course, has
creative elements . . . .”); Id. at 999 (“Yes, it is creative. Yes, it is original.”); Appellee Br. 5 (“Google does not dispute” the district court’s finding that “the Java API clears the low originality threshold.”). The court found, however, that neither the declaring code nor the SSO was entitled to copyright protection under the Copyright Act.

Although the parties agree that Oracle’s API packages meet the originality requirement under Section 102(a), they disagree as to the proper interpretation and application of Section 102(b). For its part, Google suggests that there is a two-step copyrightability analysis, wherein Section 102(a) grants copyright protection to original works, while Section 102(b) takes it away if the work has a functional component. To the contrary, however, Congress emphasized that Section 102(b) “in no way enlarges or contracts the scope of copyright protection” and that its “purpose is to restate . . . that the basic dichotomy between expression and idea remains unchanged.” Feist, 499 U.S. at 356 (quoting H.R. Rep. No. 1476, 94th Cong., 2d Sess. 54, reprinted in 1976 U.S.C.C.A.N. 5659, 5670). “Section 102(b) does not extinguish the protection accorded a particular expression of an idea merely because that expression is embodied in a method of operation.” Mitel, Inc. v. Iqtel, Inc., 124 F.3d 1366, 1372 (10th Cir. 1997).

Section 102(a) and 102(b) are to be considered collectively so that certain expressions are subject to greater scrutiny. Id. In assessing copyrightability, the district court is required to ferret out apparent expressive aspects of a work and then separate protectable expression from “unprotectable ideas, facts, processes, and methods of operation.” See Atari, 975 F.2d at 839.

Of course, as with many things, in defining this task, the devil is in the details. Circuit courts have struggled with, and disagree over, the tests to be employed when attempting to draw the line between what is protectable expression and what is not. Compare Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc., 797 F.2d 1222, 1236 (3d Cir.
1986) (everything not necessary to the purpose or function of a work is expression), with *Lotus*, 49 F.3d at 815 (methods of operation are means by which a user operates something and any words used to effectuate that operation are unprotected expression). When assessing whether the non-literal elements of a computer program constitute protectable expression, the Ninth Circuit has endorsed an “abstraction-filtration-comparison” test formulated by the Second Circuit and expressly adopted by several other circuits. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1525 (9th Cir. 1992) (“In our view, in light of the essentially utilitarian nature of computer programs, the Second Circuit’s approach is an appropriate one.”). This test rejects the notion that anything that performs a function is necessarily uncopyrightable. See *Mitel*, 124 F.3d at 1372 (rejecting the *Lotus* court’s formulation, and concluding that, “although an element of a work may be characterized as a method of operation, that element may nevertheless contain expression that is eligible for copyright protection.”). And it also rejects as flawed the *Whelan* assumption that, once any separable idea can be identified in a computer program everything else must be protectable expression, on grounds that more than one idea may be embodied in any particular program. *Altai*, 982 F.2d at 705-06.

Thus, this test eschews bright line approaches and requires a more nuanced assessment of the particular program at issue in order to determine what expression is protectable and infringed. As the Second Circuit explains, this test has three steps. In the abstraction step, the court “first break[s] down the allegedly infringed program into its constituent structural parts.” *Id.* at 706. In the filtration step, the court “sift[s] out all non-protectable material,” including ideas and “expression that is necessarily incidental to those ideas.” *Id.* In the final step, the
court compares the remaining creative expression with the allegedly infringing program.\textsuperscript{4}

In the second step, the court is first to assess whether the expression is original to the programmer or author. \textit{Atari}, 975 F.2d at 839. The court must then determine whether the particular inclusion of any level of abstraction is dictated by considerations of efficiency, required by factors already external to the program itself, or taken from the public domain—all of which would render the expression unprotectable. \textit{Id}. These conclusions are to be informed by traditional copyright principles of originality, merger, and scenes a faire. \textit{See Mitel}, 124 F.3d at 1372 (“Although this core of expression is eligible for copyright protection, it is subject to the rigors of filtration analysis which excludes from protection expression that is in the public domain, otherwise unoriginal, or subject to the doctrines of merger and scenes a faire.”).

In all circuits, it is clear that the first step is part of the copyrightability analysis and that the third is an infringement question. It is at the second step of this analysis where the circuits are in less accord. Some treat all aspects of this second step as part of the copyrightability analysis, while others divide questions of originality from the other inquiries, treating the former as a question of copyrightability and the latter as part of the infringement inquiry. \textit{Compare Lexmark}, 387 F.3d at 537-38

\textsuperscript{4} Importantly, this full analysis only applies where a copyright owner alleges infringement of the non-literal aspects of its work. Where “admitted literal copying of a discrete, easily-conceptualized portion of a work” is at issue—as with Oracle’s declaring code—a court “need not perform a complete abstraction-filtration-comparison analysis” and may focus the protectability analysis on the filtration stage, with attendant reference to standard copyright principles. \textit{Mitel}, 124 F.3d at 1372-73.
(finding that the district court erred in assessing principles of merger and scenes a faire in the infringement analysis, rather than as a component of copyrightability), with Kregos, 937 F.2d at 705 (noting that the Second Circuit has considered the merger doctrine “in determining whether actionable infringement has occurred, rather than whether a copyright is valid”); see also Lexmark, 387 F.3d at 557 (Feikens, J., dissenting-in-part) (noting the circuit split and concluding that, where a court is assessing merger of an expression with a method of operation, “I would find the merger doctrine can operate only as a defense to infringement in that context, and as such has no bearing on the question of copyrightability.”). We need not assess the wisdom of these respective views because there is no doubt on which side of this circuit split the Ninth Circuit falls.

In the Ninth Circuit, while questions regarding originality are considered questions of copyrightability, concepts of merger and scenes a faire are affirmative defenses to claims of infringement. Ets-Hokin, 225 F.3d at 1082; Satava v. Lowry, 323 F.3d 805, 810 n.3 (9th Cir. 2003) (“The Ninth Circuit treats scenes a faire as a defense to infringement rather than as a barrier to copyrightability.”). The Ninth Circuit has acknowledged that “there is some disagreement among courts as to whether these two doctrines figure into the issue of copyrightability or are more properly defenses to infringement.” Ets-Hokin, 225 F.3d at 1082 (citations omitted). It, nonetheless, has made clear that, in that circuit, these concepts are to be treated as defenses to infringement. Id. (citing Kregos, 937 F.2d at 705 (holding that the merger doctrine relates to infringement, not copyrightability); Reed-Union Corp. v. Turtle Wax, Inc., 77 F.3d 909, 914 (7th Cir. 1996) (explaining why the doctrine of scenes a faire is separate from the validity of a copyright)).

With these principles in mind, we turn to the trial court’s analysis and judgment and to Oracle’s objections
thereto. While the trial court mentioned the abstraction-filtration-comparison test when describing the development of relevant law, it did not purport to actually apply that test. Instead, it moved directly to application of familiar principles of copyright law when assessing the copyrightability of the declaring code and interpreted Section 102(b) to preclude copyrightability for any functional element “essential for interoperability” “regardless of its form.” Copyrightability Decision, 872 F. Supp. 2d at 997.

Oracle asserts that all of the trial court’s conclusions regarding copyrightability are erroneous. Oracle argues that its Java API packages are entitled to protection under the Copyright Act because they are expressive and could have been written and organized in any number of ways to achieve the same functions. Specifically, Oracle argues that the district court erred when it: (1) concluded that each line of declaring code is uncopyrightable because the idea and expression have merged; (2) found the declaring code uncopyrightable because it employs short phrases; (3) found all aspects of the SSO devoid of protection as a “method of operation” under 17 U.S.C. § 102(b); and (4) invoked Google’s “interoperability” concerns in the copyrightability analysis. For the reasons explained below, we agree with Oracle on each point.

1. Declaring Source Code

First, Oracle argues that the district court erred in concluding that each line of declaring source code is completely unprotected under the merger and short phrases doctrines. Google responds that Oracle waived its right to assert copyrightability based on the 7,000 lines of declaring code by failing “to object to instructions and a verdict form that effectively eliminated that theory from the case.” Appellee Br. 67. Even if not waived, moreover, Google argues that, because there is only one way to write
the names and declarations, the merger doctrine bars copyright protection.

We find that Oracle did not waive arguments based on Google’s literal copying of the declaring code. Prior to trial, both parties informed the court that Oracle’s copyright infringement claims included the declarations of the API elements in the Android class library source code. See Oracle’s Statement of Issues Regarding Copyright, Oracle Am., Inc. v. Google Inc., No. 3:10-cv-3561 (N.D. Cal. Apr. 12, 2012), ECF No. 899-1, at 3 (Oracle accuses the “declarations of the API elements in the Android class library source code and object code that implements the 37 API packages” of copyright infringement.); see also Google’s Proposed Statement of Issues Regarding Copyright, Oracle Am., Inc. v. Google Inc., No. 3:10-cv-3561 (N.D. Cal. Apr. 12, 2012), ECF No. 901, at 2 (Oracle accuses the “declarations of the API elements in Android class library source code and object code that implements the 37 API packages.”).

While Google is correct that the jury instructions and verdict form focused on the structure and organization of the packages, we agree with Oracle that there was no need for the jury to address copying of the declaring code because Google conceded that it copied it verbatim. Indeed, the district court specifically instructed the jury that “Google agrees that it uses the same names and declarations” in Android. Final Charge to the Jury at 10.

That the district court addressed the declaring code in its post-jury verdict copyrightability decision further confirms that the verbatim copying of declaring code remained in the case. The court explained that the “identical lines” that Google copied into Android “are those lines that specify the names, parameters and functionality of the methods and classes, lines called ‘declarations’ or ‘headers.”’ Copyrightability Decision, 872 F. Supp. 2d at 979. The court specifically found that the declaring code
was not entitled to copyright protection under the merger and short phrases doctrines. We address each in turn.

a. Merger

The merger doctrine functions as an exception to the idea/expression dichotomy. It provides that, when there are a limited number of ways to express an idea, the idea is said to “merge” with its expression, and the expression becomes unprotected. *Altai*, 982 F.2d at 707-08. As noted, the Ninth Circuit treats this concept as an affirmative defense to infringement. *Ets-Hokin*, 225 F.3d at 1082. Accordingly, it appears that the district court’s merger analysis is irrelevant to the question of whether Oracle’s API packages are copyrightable in the first instance. Regardless of when the analysis occurs, we conclude that merger does not apply on the record before us.

Under the merger doctrine, a court will not protect a copyrighted work from infringement if the idea contained therein can be expressed in only one way. *Satava v. Lowry*, 323 F.3d 805, 812 n.5 (9th Cir. 2003). For computer programs, “this means that when specific [parts of the code], even though previously copyrighted, are the only and essential means of accomplishing a given task, their later use by another will not amount to infringement.” *Altai*, 982 F.2d at 708 (citation omitted). We have recognized, however, applying Ninth Circuit law, that the “unique arrangement of computer program expression . . . does not merge with the process so long as alternate expressions are available.” *Atari*, 975 F.2d at 840.

In *Atari*, for example, Nintendo designed a program—the 10NES—to prevent its video game system from accepting unauthorized game cartridges. 975 F.2d at 836. Nintendo “chose arbitrary programming instructions and arranged them in a unique sequence to create a purely arbitrary data stream” which “serves as the key to unlock the NES.” *Id.* at 840. Because Nintendo produced expert
testimony “showing a multitude of different ways to generate a data stream which unlocks the NES console,” we concluded that Nintendo’s specific choice of code did not merge with the process. *Id.*

Here, the district court found that, “no matter how creative or imaginative a Java method specification may be, the entire world is entitled to use the same method specification (inputs, outputs, parameters) so long as the line-by-line implementations are different.” *Copyrightability Decision*, 872 F. Supp. 2d at 998. In its analysis, the court identified the method declaration as the idea and found that the implementation is the expression. *Id.* (“The method specification is the idea. The method implementation is the expression. No one may monopolize the idea.”) (emphases in original). The court explained that, under the rules of Java, a programmer must use the identical “declaration or method header lines” to “declare a method specifying the same functionality.” *Id.* at 976. Because the district court found that there was only one way to write the declaring code for each of the Java packages, it concluded that “the merger doctrine bars anyone from claiming exclusive copyright ownership” of it. *Id.* at 998. Accordingly, the court held there could be “no copyright violation in using the identical declarations.” *Id.*

Google agrees with the district court that the implementing code is the expression entitled to protection—not the declaring code. Indeed, at oral argument, counsel for Google explained that, “it is not our position that none of Java is copyrightable. Obviously, Google spent two and a half years . . . to write from scratch all of the implementing code.” Oral Argument at 33:16.5 Because it is undisputed that Microsoft and Apple developed mobile operating systems from scratch, using their own array of software packages. When asked whether Google could also copy all of Microsoft or Apple’s declaring

5 It is undisputed that Microsoft and Apple developed mobile operating systems from scratch, using their own array of software packages. When asked whether Google could also copy all of Microsoft or Apple’s declaring
puted that Google wrote its own implementing code, the copyrightability of the precise language of that code is not at issue on appeal. Instead, our focus is on the declaring code and structure of the API packages.

On appeal, Oracle argues that the district court: (1) misapplied the merger doctrine; and (2) failed to focus its analysis on the options available to the original author. We agree with Oracle on both points. First, we agree that merger cannot bar copyright protection for any lines of declaring source code unless Sun/Oracle had only one way, or a limited number of ways, to write them. See Satava, 323 F.3d at 812 n.5 (“Under the merger doctrine, courts will not protect a copyrighted work from infringement if the idea underlying the copyrighted work can be expressed in only one way, lest there be a monopoly on the underlying idea.”). The evidence showed that Oracle had “unlimited options as to the selection and arrangement of the 7000 lines Google copied.” Appellant Br. 50. Using the district court’s “java.lang.Math.max” example, Oracle explains that the developers could have called it any number of things, including “Math.maximum” or “Arith.larger.” This was not a situation where Oracle was selecting among preordained names and phrases to create its packages.6 As the district court recognized, moreover, code—codes that obviously differ from those at issue here—counsel for Google responded: “Yes, but only the structure, sequence, and organization. Only the command structure—what you need to access the functions. You’d have to rewrite all the millions of lines of code in Apple or in Microsoft which is what Google did in Android.” Oral Argument at 36:00.

6 In their brief as amici curiae in support of reversal, Scott McNealy and Brian Sutphin—both former executives at Sun who were involved in the development of the Java platform—provide a detailed example of the
“the Android method and class names could have been different from the names of their counterparts in Java and still have worked.” Copyrightability Decision, 872 F. Supp. 2d at 976. Because “alternative expressions [were] available,” there is no merger. See Atari, 975 F.2d at 840.

We further find that the district court erred in focusing its merger analysis on the options available to Google at the time of copying. It is well-established that copyrightability and the scope of protectable activity are to be evaluated at the time of creation, not at the time of infringement. See Apple Computer, Inc. v. Formula Int'l, Inc., 725 F.2d 521, 524 (9th Cir. 1984) (quoting National Commission on New Technological Uses of Copyrighted Works, Final Report at 21 (1979) (“CONTU Report”) (recognizing that the Copyright Act was designed “to protect all works of authorship from the moment of their fixation in any tangible medium of expression”)). The focus is, therefore, on the options that were available to Sun/Oracle at the time it created the API packages. Of creative choices involved in designing a Java package. Looking at the “java.text” package, they explain that it “contains 25 classes, 2 interfaces, and hundreds of methods to handle text, dates, numbers, and messages in a manner independent of natural human languages . . . .” Br. of McNealy and Sutphin 14-15. Java’s creators had to determine whether to include a java.text package in the first place, how long the package would be, what elements to include, how to organize that package, and how it would relate to other packages. Id. at 16. This description of Sun’s creative process is consistent with the evidence presented at trial. See Appellant Br. 12-13 (citing testimony that it took years to write some of the Java packages and that Sun/Oracle developers had to “wrestle with what functions to include in the package, which to put in other packages, and which to omit entirely”).
course, once Sun/Oracle created “java.lang.Math.max,” programmers who want to use that particular package have to call it by that name. But, as the court acknowledged, nothing prevented Google from writing its own declaring code, along with its own implementing code, to achieve the same result. In such circumstances, the chosen expression simply does not merge with the idea being expressed.  

It seems possible that the merger doctrine, when properly analyzed, would exclude the three packages identified by the district court as core packages from the scope of actionable infringing conduct. This would be so if the Java authors, at the time these packages were created, had only a limited number of ways to express the methods and classes therein if they wanted to write in the Java language. In that instance, the idea may well be merged with the expression in these three packages.  

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7 The district court did not find merger with respect to the structure, sequence, and organization of Oracle’s Java API packages. Nor could it, given the court’s recognition that there were myriad ways in which the API packages could have been organized. Indeed, the court found that the SSO is original and that “nothing in the rules of the Java language . . . required that Google replicate the same groupings.” Copyrightability Decision, 872 F. Supp. 2d at 999. As discussed below, however, the court nonetheless found that the SSO is an uncopyrightable “method of operation.”  

8 At oral argument, counsel for Oracle was asked whether we should view the three core packages “differently vis-à-vis the concept of a method of operation than the other packages.” See Oral Argument at 7:43. He responded: “I think not your Honor. I would view them differently with respect to fair use . . . . . It’s not that they are more basic. It’s that there are just several methods,
Google did not present its merger argument in this way below and does not do so here, however. Indeed, Google does not try to differentiate among the packages for purposes of its copyrightability analysis and does not appeal the infringement verdict as to the packages. For these reasons, we reject the trial court’s merger analysis.

b. Short Phrases

The district court also found that Oracle’s declaring code consists of uncopyrightable short phrases. Specifically, the court concluded that, “while the Android method and class names could have been different from the names of their counterparts in Java and still have worked, copyright protection never extends to names or short phrases as a matter of law.” Copyrightability Decision, 872 F. Supp. 2d at 976.

The district court is correct that “[w]ords and short phrases such as names, titles, and slogans” are not subject to copyright protection. 37 C.F.R. § 202.1(a). The court failed to recognize, however, that the relevant question for copyrightability purposes is not whether the work at issue contains short phrases—as literary works often do—but, rather, whether those phrases are creative. See Soc’y of Holy Transfiguration Monastery, Inc. v.
Gregory, 689 F.3d 29, 52 (1st Cir. 2012) (noting that “not all short phrases will automatically be deemed uncopyrightable”); see also 1 Melville B. Nimmer & David Nimmer, Nimmer on Copyright § 2.01[B] (2013) (“[E]ven a short phrase may command copyright protection if it exhibits sufficient creativity.”). And, by dissecting the individual lines of declaring code at issue into short phrases, the district court further failed to recognize that an original combination of elements can be copyrightable. See Softel, Inc. v. Dragon Med. & Scientific Comm’ns, 118 F.3d 955, 964 (2d Cir. 1997) (noting that, in Feist, “the Court made quite clear that a compilation of non-protectible elements can enjoy copyright protection even though its constituent elements do not”).

By analogy, the opening of Charles Dickens’ A Tale of Two Cities is nothing but a string of short phrases. Yet no one could contend that this portion of Dickens’ work is unworthy of copyright protection because it can be broken into those shorter constituent components. The question is not whether a short phrase or series of short phrases can be extracted from the work, but whether the manner in which they are used or strung together exhibits creativity.

Although the district court apparently focused on individual lines of code, Oracle is not seeking copyright protection for a specific short phrase or word. Instead, the portion of declaring code at issue is 7,000 lines, and Google’s own “Java guru” conceded that there can be “creativity and artistry even in a single method declaration.” Joint Appendix (“J.A.”) 20,970. Because Oracle “exercised creativity in the selection and arrangement” of the method declarations when it created the API packages and wrote the relevant declaring code, they contain protectable expression that is entitled to copyright protection. See Atari, 975 F.2d at 840; see also 17 U.S.C. §§ 101, 103 (recognizing copyright protection for “compilations” which are defined as work that is “selected, coordinated,
or arranged in such a way that the resulting work as a whole constitutes an original work of authorship”). Accordingly, we conclude that the district court erred in applying the short phrases doctrine to find the declaring code not copyrightable.

c. Scenes a Faire

The scenes a faire doctrine, which is related to the merger doctrine, operates to bar certain otherwise creative expression from copyright protection. *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435, 1444 (9th Cir. 1994). It provides that “expressive elements of a work of authorship are not entitled to protection against infringement if they are standard, stock, or common to a topic, or if they necessarily follow from a common theme or setting.” *Mitel*, 124 F.3d at 1374. Under this doctrine, “when certain commonplace expressions are indispensable and naturally associated with the treatment of a given idea, those expressions are treated like ideas and therefore [are] not protected by copyright.” *Swirsky v. Carey*, 376 F.3d 841, 850 (9th Cir. 2004). In the computer context, “the scene a faire doctrine denies protection to program elements that are dictated by external factors such as ‘the mechanical specifications of the computer on which a particular program is intended to run’ or ‘widely accepted programming practices within the computer industry.’” *Softel*, 118 F.3d at 963 (citation omitted).

The trial court rejected Google’s reliance on the scenes a faire doctrine. It did so in a footnote, finding that Google had failed to present evidence to support the claim that either the grouping of methods within the classes or the code chosen for them “would be so expected and customary as to be permissible under the scenes a faire doctrine.” *Copyrightability Decision*, 872 F. Supp. 2d at 999 n.9. Specifically, the trial court found that “it is impossible to say on this record that all of the classes and their contents are typical of such classes and, on this
record, this order rejects Google’s global argument based on *scenes a faire.*” *Id.*

On appeal, Google refers to scenes a faire concepts briefly, as do some amici, apparently contending that, because programmers have become accustomed to and comfortable using the groupings in the Java API packages, those groupings are so commonplace as to be indispensible to the expression of an acceptable programming platform. As such, the argument goes, they are so associated with the “idea” of what the packages are accomplishing that they should be treated as ideas rather than expression. *See* Br. of Amici Curiae Rackspace US, Inc., et al. at 19-22.

Google cannot rely on the scenes a faire doctrine as an alternative ground upon which we might affirm the copyrightability judgment of the district court. This is so for several reasons. First, as noted, like merger, in the Ninth Circuit, the scenes a faire doctrine is a component of the infringement analysis. “[S]imilarity of expression, whether literal or non-literal, which necessarily results from the fact that the common idea is only capable of expression in more or less stereotyped form, will preclude a finding of actionable similarity.” 4 *Nimmer on Copyright* § 13.03[B][3]. Thus, the expression is not excluded from copyright protection; it is just that certain copying is forgiven as a necessary incident of *any* expression of the underlying idea. *See* Satava, 323 F.3d at 810 n.3 (“The Ninth Circuit treats scenes a faire as a defense to infringement rather than as a barrier to copyrightability.”).

Second, Google has not objected to the trial court’s conclusion that Google failed to make a sufficient factual record to support its contention that the groupings and code chosen for the 37 Java API packages were driven by external factors or premised on features that were either commonplace or essential to the idea being expressed. Google provides no record citations indicating that such a
showing was made and does not contend that the trial court erred when it expressly found it was not. Indeed, Google does not even make this argument with respect to the core packages.

Finally, Google’s reliance on the doctrine below and the amici reference to it here are premised on a fundamental misunderstanding of the doctrine. Like merger, the focus of the scenes a faire doctrine is on the circumstances presented to the creator, not the copier. See Mitel, 124 F.3d at 1375 (finding error to the extent the trial court discussed “whether external factors such as market forces and efficiency considerations justified Iqtel’s copying of the command codes”). The court’s analytical focus must be upon the external factors that dictated Sun’s selection of classes, methods, and code—not upon what Google encountered at the time it chose to copy those groupings and that code. See id. “[T]he scenes a faire doctrine identifies and excludes from protection against infringement expression whose creation ‘flowed naturally from considerations external to the author’s creativity.’” Id. (quoting Nimmer § 13.03[F][3], at 13-131 (1997)). It is this showing the trial court found Google failed to make, and Google cites to nothing in the record which indicates otherwise.

For these reasons, the trial court was correct to conclude that the scenes a faire doctrine does not affect the copyrightability of either the declaring code in, or the SSO of, the Java API packages at issue.

2. The Structure, Sequence, and Organization of the API Packages

The district court found that the SSO of the Java API packages is creative and original, but nevertheless held that it is a “system or method of operation . . . and, therefore, cannot be copyrighted” under 17 U.S.C. § 102(b). Copyrightability Decision, 872 F. Supp. 2d at 976-77. In reaching this conclusion, the district court seems to have

In *Lotus*, it was undisputed that the defendant copied the menu command hierarchy and interface from Lotus 1-2-3, a computer spreadsheet program “that enables users to perform accounting functions electronically on a computer.” 49 F.3d at 809. The menu command hierarchy referred to a series of commands—such as “Copy,” “Print,” and “Quit”—which were arranged into more than 50 menus and submenus. *Id.* Although the defendant did not copy any Lotus source code, it copied the menu command hierarchy into its rival program. The question before the court was “whether a computer menu command hierarchy is copyrightable subject matter.” *Id.*

Although it accepted the district court’s finding that Lotus developers made some expressive choices in selecting and arranging the command terms, the First Circuit found that the command hierarchy was not copyrightable because, among other things, it was a “method of operation” under Section 102(b). In reaching this conclusion, the court defined a “method of operation” as “the means by which a person operates something, whether it be a car, a food processor, or a computer.” *Id.* at 815.10 Because the Lotus menu command hierarchy provided “the means by which users control and operate Lotus 1-2-3,” it

9 The Supreme Court granted certiorari in *Lotus*, but, shortly after oral argument, the Court announced that it was equally divided and that Justice Stevens took no part in the consideration or decision of the case. The Court therefore left the First Circuit’s decision undisturbed. *See Lotus*, 516 U.S. at 233-34.

10 The *Lotus* majority cited no authority for this definition of “method of operation.”
was deemed unprotectable. *Id.* For example, if users wanted to copy material, they would use the “Copy” command and the command terms would tell the computer what to do. According to the *Lotus* court, the “fact that Lotus developers could have designed the Lotus menu command hierarchy differently is immaterial to the question of whether it is a ‘method of operation.’” *Id.* at 816. (noting that “our initial inquiry is not whether the Lotus menu command hierarchy incorporates any expression”). The court further indicated that, “[i]f specific words are essential to operating something, then they are part of a ‘method of operation’ and, as such, are unprotectable.” *Id.*

On appeal, Oracle argues that the district court’s reliance on *Lotus* is misplaced because it is distinguishable on its facts and is inconsistent with Ninth Circuit law. We agree. First, while the defendant in *Lotus* did not copy any of the underlying code, Google concedes that it copied portions of Oracle’s declaring source code verbatim. Second, the *Lotus* court found that the commands at issue there (copy, print, etc.) were not creative, but it is undisputed here that the declaring code and the structure and organization of the API packages are both creative and original. Finally, while the court in *Lotus* found the commands at issue were “essential to operating” the system, it is undisputed that—other than perhaps as to the three core packages—Google did not need to copy the structure, sequence, and organization of the Java API packages to write programs in the Java language.

More importantly, however, the Ninth Circuit has not adopted the court’s “method of operation” reasoning in *Lotus*, and we conclude that it is inconsistent with binding precedent.11 Specifically, we find that *Lotus* is incon-

11 As Oracle points out, the Ninth Circuit has cited *Lotus* only one time, on a procedural issue. See *Danjaq*
sistent with Ninth Circuit case law recognizing that the structure, sequence, and organization of a computer program is eligible for copyright protection where it qualifies as an expression of an idea, rather than the idea itself. See Johnson Controls, 886 F.2d at 1175-76. And, while the court in Lotus held “that expression that is part of a ‘method of operation’ cannot be copyrighted,” 49 F.3d at 818, this court—applying Ninth Circuit law—reached the exact opposite conclusion, finding that copyright protects “the expression of [a] process or method,” Atari, 975 F.2d at 839.

We find, moreover, that the hard and fast rule set down in Lotus and employed by the district court here—i.e., that elements which perform a function can never be copyrightable—is at odds with the Ninth Circuit’s endorsement of the abstraction-filtration-comparison analysis discussed earlier. As the Tenth Circuit concluded in expressly rejecting the Lotus “method of operation” analysis, in favor of the Second Circuit’s abstraction-filtration-comparison test, “although an element of a work may be characterized as a method of operation, that element may nevertheless contain expression that is eligible for copyright protection.” Mitel, 124 F.3d at 1372. Specifically, the court found that Section 102(b) “does not extinguish the protection accorded a particular expression of an idea merely because that expression is embodied in a method of operation at a higher level of abstraction.” Id.

Other courts agree that components of a program that can be characterized as a “method of operation” may

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LLC v. Sony Corp., 263 F.3d 942, 954 (9th Cir. 2001) (citing Lotus for the proposition that delay “has been held permissible, among other reasons, when it is necessitated by the exhaustion of remedies through the administrative process . . . when it is used to evaluate and prepare a complicated claim”).
nevertheless be copyrightable. For example, the Third Circuit rejected a defendant’s argument that operating system programs are “per se” uncopyrightable because an operating system is a “method of operation” for a computer. *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1250-52 (3d Cir. 1983). The court distinguished between the “method which instructs the computer to perform its operating functions” and “the instructions themselves,” and found that the instructions were copyrightable. *Id.* at 1250-51. In its analysis, the court noted: “[t]hat the words of a program are used ultimately in the implementation of a process should in no way affect their copyrightability.” *Id.* at 1252 (quoting CONTU Report at 21). The court focused “on whether the idea is capable of various modes of expression” and indicated that, “[i]f other programs can be written or created which perform the same function as [i]n Apple’s operating system program, then that program is an expression of the idea and hence copyrightable.” *Id.* at 1253. Notably, no other circuit has adopted the First Circuit’s “method of operation” analysis.

Courts have likewise found that classifying a work as a “system” does not preclude copyright for the particular expression of that system. *See Toro Co. v. R & R Prods. Co.*, 787 F.2d 1208, 1212 (8th Cir. 1986) (rejecting the district court’s decision that “appellant’s parts numbering system is not copyrightable because it is a ‘system’” and indicating that Section 102(b) does not preclude protection for the “particular expression” of that system); *see also Am. Dental Ass’n v. Delta Dental Plans Ass’n*, 126 F.3d 977, 980 (7th Cir. 1997) (“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.”).

Here, the district court recognized that the SSO “resembles a taxonomy,” but found that “it is nevertheless a
command structure, a system or method of operation—a long hierarchy of over six thousand commands to carry out pre-assigned functions.” Copyrightability Decision, 872 F. Supp. 2d at 999-1000.¹² In other words, the court concluded that, although the SSO is expressive, it is not copyrightable because it is also functional. The problem with the district court’s approach is that computer programs are by definition functional—they are all designed to accomplish some task. Indeed, the statutory definition of “computer program” acknowledges that they function “to bring about a certain result.” 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”). If we were to accept the district court’s suggestion that a computer program is uncopyrightable simply because it “carries out pre-assigned functions,” no computer program is protectable. That result contradicts Congress’s express intent to provide copyright protection to computer programs, as well as binding Ninth Circuit case law finding computer programs copyrightable, despite their utilitarian or functional purpose. Though the trial court did add the caveat that it “does not hold that the structure, sequence and organization of all computer programs may be stolen,” Copyrightability Decision, 872 F. Supp. 2d at 1002, it is hard to see how its method of operation analysis could lead to any other conclusion.

While it does not appear that the Ninth Circuit has addressed the precise issue, we conclude that a set of commands to instruct a computer to carry out desired

¹² This analogy by the district court is meaningful because taxonomies, in varying forms, have generally been deemed copyrightable. See, e.g., Practice Mgmt. Info. Corp. v. Am. Med. Ass’n, 121 F.3d 516, 517-20 (9th Cir. 1997); Am. Dental, 126 F.3d at 978-81.
operations may contain expression that is eligible for copyright protection. See Mitel, 124 F.3d at 1372. We agree with Oracle that, under 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. Section 102(b) does not, as Google seems to suggest, automatically deny copyright protection to elements of a computer program that are functional. Instead, as noted, Section 102(b) codifies the idea/expression dichotomy and the legislative history confirms that, among other things, Section 102(b) was “intended to make clear that the expression adopted by the programmer is the copyrightable element in a computer program.” H.R. Rep. No. 1476, 94th Cong., 2d Sess. 54, reprinted in 1976 U.S.C.C.A.N. 5659, 5670. Therefore, even if an element directs a computer to perform operations, the court must nevertheless determine whether it contains any separable expression entitled to protection.

On appeal, Oracle does not—and concedes that it cannot—claim copyright in the idea of organizing functions of a computer program or in the “package-class-method” organizational structure in the abstract. Instead, Oracle claims copyright protection only in its particular way of naming and organizing each of the 37 Java API packages.\(^\text{13}\) Oracle recognizes, for example, that it “cannot copyright the idea of programs that open an internet

\(^{13}\) At oral argument, counsel for Oracle explained that it “would never claim that anyone who uses a package-class-method manner of classifying violates our copyright. We don’t own every conceivable way of organizing, we own only our specific expression—our specific way of naming each of these 362 methods, putting them into 36 classes, and 20 subclasses.” Oral Argument at 16:44.
connection,” but “it can copyright the precise strings of code used to do so, at least so long as ‘other language is available’ to achieve the same function.” Appellant Reply Br. 13-14 (citation omitted). Thus, Oracle concedes that Google and others could employ the Java language—much like anyone could employ the English language to write a paragraph without violating the copyrights of other English language writers. And, that Google may employ the “package-class-method” structure much like authors can employ the same rules of grammar chosen by other authors without fear of infringement. What Oracle contends is that, beyond that point, Google, like any author, is not permitted to employ the precise phrasing or precise structure chosen by Oracle to flesh out the substance of its packages—the details and arrangement of the prose.

As the district court acknowledged, Google could have structured Android differently and could have chosen different ways to express and implement the functionality that it copied.\(^\text{14}\) Specifically, the court found that “the

\[^{14}\text{Amici McNealy and Sutphin explain that “a quick examination of other programming environments shows that creators of other development platforms provide the same functions with wholly different creative choices.” Br. of McNealy and Sutphin 17. For example, in Java, a developer setting the time zone would call the “setTimeZone” method within the “DateFormat” class of the java.text package. Id. Apple’s iOS platform, on the other hand, “devotes an entire class to set the time zone in an application—the ‘NSTimeZone’ class” which is in the “Foundation framework.” Id. at 17-18 (noting that a “framework is Apple’s terminology for a structure conceptually similar to Java’s ‘package’”). Microsoft provides similar functionality with “an entirely different structure, naming scheme, and selection.” Id. at 18 (“In its Windows Phone development platform, Microsoft stores its time}
very same functionality could have been offered in Android without duplicating the exact command structure used in Java.” Copyrightability Decision, 872 F. Supp. 2d at 976. The court further explained that Google could have offered the same functions in Android by “rearranging the various methods under different groupings among the various classes and packages.” Id. The evidence showed, moreover, that Google designed many of its own API packages from scratch, and, thus, could have designed its own corresponding 37 API packages if it wanted to do so.

Given the court’s findings that the SSO is original and creative, and that the declaring code could have been written and organized in any number of ways and still have achieved the same functions, we conclude that Section 102(b) does not bar the packages from copyright protection just because they also perform functions.

3. Google’s Interoperability Arguments are Irrelevant to Copyrightability

Oracle also argues that the district court erred in invoking interoperability in its copyrightability analysis. Specifically, Oracle argues that Google’s interoperability arguments are only relevant, if at all, to fair use—not to the question of whether the API packages are copyrightable. We agree.

In characterizing the SSO of the Java API packages as a “method of operation,” the district court explained that “[d]uplication of the command structure is necessary for interoperability.” Copyrightability Decision, 872 F. Supp. 2d at 977. The court found that, “[i]n order for at

zone programs in the ‘TimeZoneInfo’ class in its ‘Systems’ namespace (Microsoft’s version of a ‘package’ or ‘framework’).”) Again, this is consistent with the evidence presented at trial.
least some of [the pre-Android Java] code to run on Android, Google was required to provide the same java.package.Class.method() command system using the same names with the same ‘taxonomy’ and with the same functional specifications.” Id. at 1000 (emphasis omitted). And, the court concluded that “Google replicated what was necessary to achieve a degree of interoperability—but no more, taking care, as said before, to provide its own implementations.” Id. In reaching this conclusion, the court relied primarily on two Ninth Circuit decisions: Sega Enterprises v. Accolade, Inc., 977 F.2d 1510 (9th Cir. 1992), and Sony Computer Entertainment, Inc. v. Connectix, Corp., 203 F.3d 596 (9th Cir. 2000).

Both Sega and Sony are fair use cases in which copyrightability was addressed only tangentially. In Sega, for example, Sega manufactured a video game console and game cartridges that contained hidden functional program elements necessary to achieve compatibility with the console. Defendant Accolade: (1) reverse-engineered Sega’s video game programs to discover the requirements for compatibility; and (2) created its own games for the Sega console. Sega, 977 F.2d at 1514-15. As part of the reverse-engineering process, Accolade made intermediate copies of object code from Sega’s console. Id. Although the court recognized that the intermediate copying of computer code may infringe Sega’s copyright, it concluded that “disassembly of copyrighted object code is, as a matter of law, a fair use of the copyrighted work if such disassembly provides the only means of access to those elements of the code that are not protected by copyright and the copier has a legitimate reason for seeking such access.” Id. at 1518. The court agreed with Accolade that its copying was necessary to examine the unprotected functional aspects of the program. Id. at 1520. And, because Accolade had a legitimate interest in making its cartridges compatible with Sega’s console, the court found that Accolade’s intermediate copying was fair use.
Likewise, in *Sony*, the Ninth Circuit found that the defendant’s reverse engineering and intermediate copying of Sony’s copyrighted software program “was a fair use for the purpose of gaining access to the unprotected elements of Sony’s software.” *Sony*, 203 F.3d at 602. The court explained that Sony’s software program contained unprotected functional elements and that the defendant could only access those elements through reverse engineering. *Id.* at 603. The defendant used that information to create a software program that let consumers play games designed for Sony’s PlayStation console on their computers. Notably, the defendant’s software program did not contain any of Sony’s copyrighted material. *Id.* at 598.

The district court characterized *Sony* and *Sega* as “close analogies” to this case. *Copyrightability Decision*, 872 F. Supp. 2d at 1000. According to the court, both decisions “held that interface procedures that were necessary to duplicate in order to achieve interoperability were functional aspects not copyrightable under Section 102(b).” *Id.* The district court’s reliance on *Sega* and *Sony* in the copyrightability context is misplaced, however.

As noted, both cases were focused on fair use, not copyrightability. In *Sega*, for example, the only question was whether Accolade’s intermediate copying was fair use. The court never addressed the question of whether Sega’s software code, which had functional elements, also contained separable creative expression entitled to protection. Likewise, although the court in *Sony* determined that Sony’s computer program had functional elements, it never addressed whether it also had expressive elements. *Sega* and *Sony* are also factually distinguishable because the defendants in those cases made intermediate copies to understand the functional aspects of the copyrighted works and then created new products. *See Sony*, 203 F.3d at 606-07; *Sega*, 977 F.2d at 1522-23. This is not a case where Google reverse-engineered Oracle’s Java packages
to gain access to unprotected functional elements contained therein. As the former Register of Copyrights of the United States pointed out in his brief amicus curiae, “[h]ad Google reverse engineered the programming packages to figure out the ideas and functionality of the original, and then created its own structure and its own literal code, Oracle would have no remedy under copyright whatsoever.” Br. for Amicus Curiae Ralph Oman 29. Instead, Google chose to copy both the declaring code and the overall SSO of the 37 Java API packages at issue.

We disagree with Google’s suggestion that Sony and Sega created an “interoperability exception” to copyrightability. See Appellee Br. 39 (citing Sony and Sega for the proposition that “compatibility elements are not copy-rightable under section 102(b)” (emphasis omitted)). Although both cases recognized that the software programs at issue there contained unprotected functional elements, a determination that some elements are unprotected is not the same as saying that the entire work loses copyright protection. To accept Google’s reading would contradict Ninth Circuit case law recognizing that both the literal and non-literal components of a software program are eligible for copyright protection. See Johnson Controls, 886 F.2d at 1175. And it would ignore the fact that the Ninth Circuit endorsed the abstraction-filtration-comparison inquiry in Sega itself.

As previously discussed, a court must examine the software program to determine whether it contains creative expression that can be separated from the underlying function. See Sega, 977 F.2d at 1524-25. In doing so, the court filters out the elements of the program that are “ideas” as well as elements that are “dictated by considerations of efficiency, so as to be necessarily incidental to that idea; required by factors external to the program itself.” Altai, 982 F.2d at 707.
To determine “whether certain aspects of an allegedly infringed software are not protected by copyright law, the focus is on external factors that influenced the choice of the creator of the infringed product.” *Dun & Bradstreet Software Servs., Inc. v. Grace Consulting, Inc.*, 307 F.3d 197, 215 (3d Cir. 2002) (citing *Altai*, 982 F.2d at 714; *Mitel*, 124 F.3d at 1375). The Second Circuit, for example, has noted that programmers are often constrained in their design choices by “extrinsic considerations” including “the mechanical specifications of the computer on which a particular program is intended to run” and “compatibility requirements of other programs with which a program is designed to operate in conjunction.” *Altai*, 982 F.2d at 709-10 (citing 3 Melville B. Nimmer & David Nimmer, Nimmer on Copyright § 13.01 at 13-66-71 (1991)). The Ninth Circuit has likewise recognized that: (1) computer programs “contain many logical, structural, and visual display elements that are dictated by . . . external factors such as compatibility requirements and industry demands”; and (2) “[i]n some circumstances, even the exact set of commands used by the programmer is deemed functional rather than creative for purposes of copyright.” *Sega*, 977 F.2d at 1524 (internal citation omitted).

Because copyrightability is focused on the choices available to the plaintiff at the time the computer program was created, the relevant compatibility inquiry asks whether the plaintiff’s choices were dictated by a need to ensure that its program worked with existing third-party programs. *Dun & Bradstreet*, 307 F.3d at 215; *see also Atari*, 975 F.2d at 840 (“External factors did not dictate the design of the 10NES program.”). Whether a defendant later seeks to make its program interoperable with the plaintiff’s program has no bearing on whether the software the plaintiff created had any design limitations dictated by external factors. *See Dun & Bradstreet*, 307 F.3d at 215 (finding an expert’s testimony on interopera-
bility “wholly misplaced” because he “looked at externalities from the eyes of the plagiarist, not the eyes of the program’s creator”). Stated differently, the focus is on the compatibility needs and programming choices of the party claiming copyright protection—not the choices the defendant made to achieve compatibility with the plaintiff’s program. Consistent with this approach, courts have recognized that, once the plaintiff creates a copyrightable work, a defendant’s desire “to achieve total compatibility . . . is a commercial and competitive objective which does not enter into the . . . issue of whether particular ideas and expressions have merged.” Apple Computer, 714 F.2d at 1253.

Given this precedent, we conclude that the district court erred in focusing its interoperability analysis on Google’s desires for its Android software. See Copyrightability Decision, 872 F. Supp. 2d at 1000 (“Google replicated what was necessary to achieve a degree of interoperability” with Java.). Whether Google’s software is “interoperable” in some sense with any aspect of the Java platform (although as Google concedes, certainly not with the JVM) has no bearing on the threshold question of whether Oracle’s software is copyrightable. It is the interoperability and other needs of Oracle—not those of Google—that apply in the copyrightability context, and there is no evidence that when Oracle created the Java API packages at issue it did so to meet compatibility requirements of other pre-existing programs.

Google maintains on appeal that its use of the “Java class and method names and declarations was ‘the only and essential means’ of achieving a degree of interoperability with existing programs written in the [Java language].” Appellee Br. 49. Indeed, given the record evidence that Google designed Android so that it would not be compatible with the Java platform, or the JVM specifically, we find Google’s interoperability argument confusing. While Google repeatedly cites to the district...
court’s finding that Google had to copy the packages so that an app written in Java could run on Android, it cites to no evidence in the record that any such app exists and points to no Java apps that either pre-dated or post-dated Android that could run on the Android platform. The compatibility Google sought to foster was not with Oracle’s Java platform or with the JVM central to that platform. Instead, Google wanted to capitalize on the fact that software developers were already trained and experienced in using the Java API packages at issue. The district court agreed, finding that, as to the 37 Java API packages, “Google believed Java application programmers would want to find the same 37 sets of functionalities in the new Android system callable by the same names as used in Java.” Copyrightability Decision, 872 F. Supp. 2d at 978. Google’s interest was in accelerating its development process by “leverag[ing] Java for its existing base of developers.” J.A. 2033, 2092. Although this competitive objective might be relevant to the fair use inquiry, we conclude that it is irrelevant to the copyrightability of Oracle’s declaring code and organization of the API packages.

Finally, to the extent Google suggests that it was entitled to copy the Java API packages because they had

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15 During oral argument, Google’s counsel stated that “a program written in the Java language can run on Android if it’s only using packages within the 37. So if I’m a developer and I have written a program, I’ve written it in Java, I can stick an Android header on it and it will run in Android because it is using the identical names of the classes, methods, and packages.” Oral Argument at 31:31. Counsel did not identify any programs that use only the 37 API packages at issue, however, and did not attest that any such program would be useful. Nor did Google cite to any record evidence to support this claim.
become the effective industry standard, we are unpersuaded. Google cites no authority for its suggestion that copyrighted works lose protection when they become popular, and we have found none. In fact, the Ninth Circuit has rejected the argument that a work that later becomes the industry standard is uncopyrightable. See Practice Mgmt. Info. Corp. v. Am. Med. Ass’n, 121 F.3d 516, 520 n.8 (9th Cir. 1997) (noting that the district court found plaintiff’s medical coding system entitled to copyright protection, and that, although the system had become the industry standard, plaintiff’s copyright did not prevent competitors “from developing comparative or better coding systems and lobbying the federal government and private actors to adopt them. It simply prevents wholesale copying of an existing system.”). Google was free to develop its own API packages and to “lobby” programmers to adopt them. Instead, it chose to copy

16 Google argues that, in the same way a formerly distinctive trademark can become generic over time, a program element can lose copyright protection when it becomes an industry standard. But “it is to be expected that phrases and other fragments of expression in a highly successful copyrighted work will become part of the language. That does not mean they lose all protection in the manner of a trade name that has become generic.” Warner Bros., Inc. v. Am. Broadcasting Cos., 720 F.2d 231, 242 (2d Cir. 1983) (“No matter how well known a copyrighted phrase becomes, its author is entitled to guard against its appropriation to promote the sale of commercial products.”). Notably, even when a patented method or system becomes an acknowledged industry standard with acquiescence of the patent owner, any permissible use generally requires payment of a reasonable royalty, which Google refused to do here. See generally In re Innovatio IP Ventures, LLC, No. 11-C-9308, 2013 U.S. Dist. LEXIS 144061 (N.D. Ill. Sept. 27, 2013).
Oracle’s declaring code and the SSO to capitalize on the preexisting community of programmers who were accustomed to using the Java API packages. That desire has nothing to do with copyrightability. For these reasons, we find that Google’s industry standard argument has no bearing on the copyrightability of Oracle’s work.

B. Fair Use

As noted, the jury hung on Google’s fair use defense, and the district court declined to order a new trial given its conclusion that the code and structure Google copied were not entitled to copyright protection. On appeal, Oracle argues that: (1) a remand to decide fair use “is pointless”; and (2) this court should find, as a matter of law, that “Google’s commercial use of Oracle’s work in a market where Oracle already competed was not fair use.” Appellant Br. 68.

Fair use is an affirmative defense to copyright infringement and is codified in Section 107 of the Copyright Act. Golan, 132 S. Ct. at 890 (“[T]he fair use defense, is codified at 17 U.S.C. § 107.”). Section 107 permits use of copyrighted work if it is “for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research.” 17 U.S.C. § 107. The fair use doctrine has been referred to as “the most troublesome in the whole law of copyright.” Monge v. Maya Magazines, Inc., 688 F.3d 1164, 1170 (9th Cir. 2012) (quoting Dellar v. Samuel Goldwyn, Inc., 104 F.2d 661, 662 (2d Cir. 1939) (per curiam)). It both permits and requires “courts to avoid rigid application of the copyright statute when, on occasion, it would stifle the very creativity which that law is designed to foster.” Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 577 (1994) (quoting Stewart v. Abend, 495 U.S. 207, 236 (1990)).

“Section 107 requires a case-by-case determination whether a particular use is fair, and the statute notes four
nonexclusive factors to be considered.” Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 549 (1985). Those factors are: (1) “the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;” (2) “the nature of the copyrighted work;” (3) “the amount and substantiality of the portion used in relation to the copyrighted work as a whole;” and (4) “the effect of the use upon the potential market for or value of the copyrighted work.” 17 U.S.C. § 107. The Supreme Court has explained that all of the statutory factors “are to be explored, and the results weighed together, in light of the purpose[] of copyright,” which is “[t]o promote the Progress of Science and useful Arts.” Campbell, 510 U.S. at 578, 575 (internal citations omitted).

“Fair use is a mixed question of law and fact.” Harper & Row, 471 U.S. at 560. Thus, while subsidiary and controverted findings of fact must be reviewed for clear error under Rule 52 of the Federal Rules of Civil Procedure, the Ninth Circuit reviews the ultimate application of those facts de novo. See Seltzer v. Green Day, Inc., 725 F.3d 1170, 1175 (9th Cir. 2013) (citing SOFA Entm’t, Inc. v. Dodger Prods., Inc., 709 F.3d 1273, 1277 (9th Cir. 2013)). Where there are no material facts at issue and “the parties dispute only the ultimate conclusions to be drawn from those facts, we may draw those conclusions without usurping the function of the jury.” Id. (citing Fisher v. Dees, 794 F.2d 432, 436 (9th Cir. 1986)). Indeed, the Supreme Court has specifically recognized that, “[w]here the district court has found facts sufficient to evaluate each of the statutory factors, an appellate court 'need not remand for further factfinding . . . [but] may conclude as a matter of law that [the challenged use] [does] not qualify as a fair use of the copyrighted work.’” Harper & Row, 471 U.S. at 560 (citation omitted).

Of course, the corollary to this point is true as well—where there are material facts in dispute and those facts
have not yet been resolved by the trier of fact, appellate courts may not make findings of fact in the first instance. See Shawmut Bank, N.A. v. Kress Assocs., 33 F.3d 1477, 1504 (9th Cir. 1994) (“[W]e must avoid finding facts in the first instance.”); see also Golden Bridge Tech., Inc. v. Nokia, Inc., 527 F.3d 1318, 1323 (Fed. Cir. 2008) (“Appellate courts review district court judgments; we do not find facts.”). Here, it is undisputed that neither the jury nor the district court made findings of fact to which we can refer in assessing the question of whether Google’s use of the API packages at issue was a “fair use” within the meaning of Section 107. Oracle urges resolution of the fair use question by arguing that the trial court should have decided the question as a matter of law based on the undisputed facts developed at trial, and that we can do so as well. Google, on the other hand, argues that many critical facts regarding fair use are in dispute. It asserts that the fact that the jury could not reach a resolution on the fair use defense indicates that at least some presumably reasonable jurors found its use to be fair. And, Google asserts that, even if it is true that the district court erred in discussing concepts of “interoperability” when considering copyrightability, those concepts are still relevant to its fair use defense. We turn first to a more detailed examination of fair use.

The first factor in the fair use inquiry involves “the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.” 17 U.S.C. § 107(1). This factor involves two sub-issues: (1) “whether and to what extent the new work is transformative,” Campbell, 510 U.S. at 579 (citation and internal quotation marks omitted); and (2) whether the use serves a commercial purpose.

A use is “transformative” if it “adds something new, with a further purpose or different character, altering the first with new expression, meaning or message.” Id. The critical question is “whether the new work merely super-
sede[s] the objects of the original creation . . . or instead adds something new.” *Id.* (citations and internal quotation marks omitted). This inquiry “may be guided by the examples given in the preamble to § 107, looking to whether the use is for criticism, or comment, or news reporting, and the like.” *Id.* at 578-79. “The Supreme Court has recognized that parodic works, like other works that comment and criticize, are by their nature often sufficiently transformative to fit clearly under the fair use exception.” *Mattel Inc. v. Walking Mountain Prods.*, 353 F.3d 792, 800 (9th Cir. 2003) (citing *Campbell*, 510 U.S. at 579).

Courts have described new works as “transformative” when “the works use copy-righted material for purposes distinct from the purpose of the original material.” *Elvis Presley Enters., Inc. v. Passport Video*, 349 F.3d 622, 629 (9th Cir. 2003) (“Here, Passport’s use of many of the television clips is transformative because they are cited as historical reference points in the life of a remarkable entertainer.”), *overruled on other grounds by Flexible Lifeline Sys., Inc. v. Precision Lift, Inc.*, 654 F.3d 989, 995 (9th Cir. 2011) (per curiam); *see also Bouchat v. Baltimore Ravens Ltd. P’ship*, 619 F.3d 301, 309-10 (4th Cir. 2010) (quoting *A.V. ex rel. Vanderhyge v. iParadigms, LLC*, 562 F.3d 630, 638 (4th Cir. 2009) (“[A] transformative use is one that ‘employ[s] the quoted matter in a different manner or for a different purpose from the original.’”)). “A use is considered transformative only where a defendant changes a plaintiff’s copyrighted work or uses the plaintiff’s copyrighted work in a different context such that the plaintiff’s work is transformed into a new creation.” *Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1165 (9th Cir. 2007) (quoting *Wall Data Inc. v. L.A. County Sheriff’s Dep’t*, 447 F.3d 769, 778 (9th Cir. 2006), and finding that Google’s use of thumbnail images in its search engine was “highly transformative”).
A work is not transformative where the user “makes no alteration to the expressive content or message of the original work.” Seltzer, 725 F.3d at 1177; see also Wall Data, 447 F.3d at 778 (“The Sheriff’s Department created exact copies of RUMBA’s software. It then put those copies to the identical purpose as the original software. Such a use cannot be considered transformative.”); Monge, 688 F.3d at 1176 (finding that a magazine’s publication of photographs of a secret celebrity wedding “sprinkled with written commentary” was “at best minimally transformative” where the magazine “did not transform the photos into a new work . . . or incorporate the photos as part of a broader work”); Elvis Presley Enters., 349 F.3d at 629 (finding that use of copyrighted clips of Elvis’s television appearances was not transformative where “some of the clips [we]re played without much interruption, if any . . . [and] instead serve[ed] the same intrinsic entertainment value that is protected by Plaintiffs’ copyrights.”). Where the use “is for the same intrinsic purpose as [the copyright holder’s] . . . such use seriously weakens a claimed fair use.” Worldwide Church of God v. Phila. Church of God, Inc., 227 F.3d 1110, 1117 (9th Cir. 2000) (quoting Weissmann v. Freeman, 868 F.2d 1313, 1324 (2d Cir. 1989)).

Analysis of the first factor also requires inquiry into the commercial nature of the use. Use of the copyrighted work that is commercial “tends to weigh against a finding of fair use.” Harper & Row, 471 U.S. at 562 (“The crux of the profit/nonprofit distinction is not whether the sole motive of the use is monetary gain but whether the user stands to profit from exploitation of the copyrighted material without paying the customary price.”). “[T]he more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.” Campbell, 510 U.S. at 579.

The second factor—the nature of the copyrighted work—“calls for recognition that some works are closer to
the core of intended copyright protection than others, with the consequence that fair use is more difficult to establish when the former works are copied.” *Id.* at 586. This factor “turns on whether the work is informational or creative.” *Worldwide Church of God*, 227 F.3d at 1118; *see also Harper & Row*, 471 U.S. at 563 (“The law generally recognizes a greater need to disseminate factual works than works of fiction or fantasy.”). Creative expression “falls within the core of the copyright’s protective purposes.” *Campbell*, 510 U.S. at 586. Because computer programs have both functional and expressive components, however, where the functional components are themselves unprotected (because, e.g., they are dictated by considerations of efficiency or other external factors), those elements should be afforded “a lower degree of protection than more traditional literary works.” *Sega*, 977 F.2d at 1526. Thus, where the nature of the work is such that purely functional elements exist in the work and it is necessary to copy the expressive elements in order to perform those functions, consideration of this second factor arguably supports a finding that the use is fair.

The third factor asks the court to examine “the amount and substantiality of the portion used in relation to the copyrighted work as a whole.” 17 U.S.C. § 107(3). Analysis of this factor is viewed in the context of the copyrighted work, not the infringing work. Indeed, the statutory language makes clear that “a taking may not be excused merely because it is insubstantial with respect to the infringing work.” *Harper & Row*, 471 U.S. at 565. “As Judge Learned Hand cogently remarked, ‘no plagiarist can excuse the wrong by showing how much of his work he did not pirate.’” *Id.* (quoting *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49, 56 (2d Cir. 1936)). In contrast, “the fact that a substantial portion of the infringing work was copied verbatim is evidence of the qualitative value of the copied material, both to the originator and to the plagiarist who seeks to profit from mar-
keting someone else’s copyrighted expression.” *Id.* The Ninth Circuit has recognized that, while “wholesale copying does not preclude fair use per se, copying an entire work militates against a finding of fair use.” *Worldwide Church of God*, 227 F.3d at 1118 (internal citation and quotation omitted). “If the secondary user only copies as much as is necessary for his or her intended use, then this factor will not weigh against him or her.” *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 820-21 (9th Cir. 2003). Under this factor, “attention turns to the persuasiveness of a parodist’s justification for the particular copying done, and the enquiry will harken back to the first of the statutory factors . . . [because] the extent of permissible copying varies with the purpose and character of the use.” *Campbell*, 510 U.S. at 586-87.

The fourth and final factor focuses on “the effect of the use upon the potential market for or value of the copyrighted work.” *Harper & Row*, 471 U.S. at 566. This factor reflects the idea that fair use “is limited to copying by others which does not materially impair the marketability of the work which is copied.” *Id.* at 566-67. The Supreme Court has said that this factor is “undoubtedly the single most important element of fair use.” *Id.* at 566. It requires that courts “consider not only the extent of market harm caused by the particular actions of the alleged infringer, but also whether unrestricted and widespread conduct of the sort engaged in by the defendant . . . would result in a substantially adverse impact on the potential market for the original.” *Campbell*, 510 U.S. at 590 (citation and quotation marks omitted). “Market harm is a matter of degree, and the importance of this factor will vary, not only with the amount of harm, but also with the relative strength of the showing on the other factors.” *Id.* at 590 n.21.

Oracle asserts that all of these factors support its position that Google’s use was not “fair use”—Google knowingly and illicitly copied a creative work to further its own
commercial purposes, did so verbatim, and did so to the
detriment of Oracle’s market position. These undisputable
facts, according to Oracle, should end the fair use
inquiry. Oracle’s position is not without force. On many
of these points, Google does not debate Oracle’s character-
ization of its conduct, nor could it on the record evidence.

Google contends, however, that, although it admitted-
ly copied portions of the API packages and did so for what
were purely commercial purposes, a reasonable juror still
could find that: (1) Google’s use was transformative;
(2) the Java API packages are entitled only to weak
protection; (3) Google’s use was necessary to work within
a language that had become an industry standard; and
(4) the market impact on Oracle was not substantial.

On balance, we find that due respect for the limit of
our appellate function requires that we remand the fair
use question for a new trial. First, although it is undisputed
that Google’s use of the API packages is commer-
cial, the parties disagree on whether its use is
“transformative.” Google argues that it is, because it
wrote its own implementing code, created its own virtual
machine, and incorporated the packages into a
smartphone platform. For its part, Oracle maintains that
Google’s use is not transformative because: (1) “[t]he same
code in Android . . . enables programmers to invoke the
same pre-programmed functions in exactly the same
way;” and (2) Google’s use of the declaring code and
packages does not serve a different function from Java.
Appellant Reply Br. 47. While Google overstates what
activities can be deemed transformative under a correct
application of the law, we cannot say that there are no
material facts in dispute on the question of whether
Google’s use is “transformative,” even under a correct
reading of the law. As such, we are unable to resolve this
issue on appeal.
Next, while we have concluded that it was error for the trial court to focus unduly on the functional aspects of the packages, and on Google’s competitive desire to achieve commercial “interoperability” when deciding whether Oracle’s API packages are entitled to copyright protection, we expressly noted that these factors may be relevant to a fair use analysis. While the trial court erred in concluding that these factors were sufficient to overcome Oracle’s threshold claim of copyrightability, reasonable jurors might find that they are relevant to Google’s fair use defense under the second and third factors of the inquiry. See Sega, 977 F.2d at 1524-25 (discussing the Second Circuit’s approach to “break[ing] down a computer program into its component subroutines and sub-subroutines and then identif[y]ing the idea or core functional element of each” in the context of the second fair use factor: the nature of the copyrighted work). We find this particularly true with respect to those core packages which it seems may be necessary for anyone to copy if they are to write programs in the Java language. And, it may be that others of the packages were similarly essential components of any Java language-based program. So far, that type of filtration analysis has not occurred.

Finally, as to market impact, the district court found that “Sun and Oracle never successfully developed its own smartphone platform using Java technology.” Copyrightability Decision, 872 F. Supp. 2d at 978. But Oracle argues that, when Google copied the API packages, Oracle was licensing in the mobile and smartphone markets, and that Android’s release substantially harmed those commercial opportunities as well as the potential market for a Java smartphone device. Because there are material facts in dispute on this factor as well, remand is necessary.

Ultimately, we conclude that this is not a case in which the record contains sufficient factual findings upon which we could base a de novo assessment of Google’s
affirmative defense of fair use. Accordingly, we remand this question to the district court for further proceedings. On remand, the district court should revisit and revise its jury instructions on fair use consistent with this opinion so as to provide the jury with a clear and appropriate picture of the fair use defense.\textsuperscript{17}

II. Google’s Cross-Appeal

Google cross-appeals from the portion of the district court’s final judgment entered in favor of Oracle on its claim for copyright infringement as to the nine lines of

\textsuperscript{17} Google argues that, if we allow it to retry its fair use defense on remand, it is entitled to a retrial on infringement as well. We disagree. The question of whether Google’s copying constituted infringement of a copyrighted work is “distinct and separable” from the question of whether Google can establish a fair use defense to its copying. \textit{See Gasoline Prods. Co. v. Champlin Refining Co.}, 283 U.S. 494, 500 (1931) (“Where the practice permits a partial new trial, it may not properly be resorted to unless it clearly appears that the issue to be retried is so distinct and separable from the others that a trial of it alone may be had without injustice.”). Indeed, we have emphasized more than once in this opinion the extent to which the questions are separable, and the confusion and error caused when they are blurred. The issues are not “interwoven” and it would not create “confusion and uncertainty” to reinstate the infringement verdict and submit fair use to a different jury. \textit{Id.} We note, moreover, that, because Google only mentions this point in passing, with no development of an argument in support of it, under our case law, it has not been properly raised. \textit{See SmithKline Beecham Corp. v. Apotex Corp.}, 439 F.3d 1312, 1320 (Fed. Cir. 2006) (when a party provides no developed argument on a point, we treat that argument as waived) (collecting cases).
rangeCheck code and the eight decompiled files. Final Judgment, *Oracle Am., Inc. v. Google Inc.*, No. 3:10-cv-3561 (N.D. Cal. June 20, 2012), ECF No. 1211. Specifically, Google appeals from the district court’s decisions: (1) granting Oracle’s motion for JMOL of infringement as to the eight decompiled Java files that Google copied into Android; and (2) denying Google’s motion for JMOL with respect to rangeCheck.

When reviewing a district court’s grant or denial of a motion for JMOL, we apply the procedural law of the relevant regional circuit, here the Ninth Circuit. *Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1357 (Fed. Cir. 2010). The Ninth Circuit reviews a district court’s JMOL decision de novo, applying the same standard as the district court. *Mangum v. Action Collection Serv., Inc.*, 575 F.3d 935, 938 (9th Cir. 2009). To grant judgment as a matter of law, the court must find that “the evidence presented at trial permits only one reasonable conclusion” and that “no reasonable juror could find in the non-moving party’s favor.” *Id.* at 938-39 (citation and internal quotation marks omitted).

Oracle explains that the eight decompiled files at issue “contain security functions governing access to network files” while rangeCheck “facilitates an important sorting function, frequently called upon during the operation of Java and Android.” Oracle Response to Cross-Appeal 60-61. At trial, Google conceded that it copied the eight decompiled Java code files and the nine lines of code referred to as rangeCheck into Android. Its only defense was that the copying was de minimis. Accordingly, the district court instructed the jury that, “[w]ith respect to the infringement issues concerning the rangeCheck and other similar files, Google agrees that the accused lines of code and comments came from the copyrighted materials but contends that the amounts involved were so negligible as to be de minimis and thus should be excluded.” Final Charge to the Jury (Phase One), *Oracle Am., Inc. v.*
Although the jury found that Google infringed Oracle’s copyright in the nine lines of code comprising rangeCheck, it returned a noninfringement verdict as to eight decompiled security files. But because the trial testimony was that Google’s use of the decompiled files was significant—and there was no testimony to the contrary—the district court concluded that “[n]o reasonable jury could find that this copying was de minimis.” Order Granting JMOL on Decompiled Files, 2012 U.S. Dist. LEXIS 66417, at *6. As such, the court granted Oracle’s motion for JMOL of infringement as to the decompiled security files.

On appeal, Google maintains that its copying of rangeCheck and the decompiled security files was de minimis and thus did not infringe any of Oracle’s copyrights. According to Google, the district court should have denied Oracle’s motion for JMOL “because substantial evidence supported the jury’s verdict that Google’s use of eight decompiled test files was de minimis.” Cross-Appellant Br. 76. Google further argues that the court should have granted its motion for JMOL as to rangeCheck because the “trial evidence revealed that the nine lines of rangeCheck code were both quantitatively and qualitatively insignificant in relation to the [Java] platform.” Id. at 78.

In response, Oracle argues that the Ninth Circuit does not recognize a de minimis defense to copyright infringement and that, even if it does, we should affirm the judgments of infringement on grounds that Google’s copying was significant. Because we agree with Oracle on its second point, we need not address the first, except to note that there is some conflicting Ninth Circuit precedent on the question of whether there is a free-standing de minimis defense to copyright infringement or whether the
substantiality of the alleged copying is best addressed as part of a fair use defense. Compare Norse v. Henry Holt & Co., 991 F.2d 563, 566 (9th Cir. 1993) (indicating that “even a small taking may sometimes be actionable” and the “question of whether a copying is substantial enough to be actionable may be best resolved through the fair use doctrine”), with Newton v. Diamond, 388 F.3d 1189, 1192-93 (9th Cir. 2003) (“For an unauthorized use of a copyrighted work to be actionable, the use must be significant enough to constitute infringement. This means that even where the fact of copying is conceded, no legal consequences will follow from that fact unless the copying is substantial.”) (internal citation omitted)).

Even assuming that the Ninth Circuit recognizes a stand-alone de minimis defense to copyright infringement, however, we conclude that: (1) the jury reasonably found that Google’s copying of the rangeCheck files was more than de minimis; and (2) the district court correctly concluded that the defense failed as a matter of law with respect to the decompiled security files.

First, the unrebutted testimony at trial revealed that rangeCheck and the decompiled security files were significant to both Oracle and Google. Oracle’s expert, Dr. John Mitchell, testified that Android devices call the

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18 At least one recent district court decision has recognized uncertainty in Ninth Circuit law on this point. See Brocade Commc’ns Sys. v. A10 Networks, Inc., No. 10-cv-3428, 2013 U.S. Dist. LEXIS 8113, at *33 (N.D. Cal. Jan. 10, 2013) (“The Ninth Circuit has been unclear about whether the de minimis use doctrine serves as an affirmative defense under the Copyright Act’s fair use exceptions or whether the doctrine merely highlights plaintiffs’ obligation to show that ‘the use must be significant enough to constitute infringement.’”) (citing Newton, 388 F.2d at 1193; Norse, 991 F.2d at 566).
rangeCheck function 2,600 times just in powering on the device. Although Google argues that the eight decompiled files were insignificant because they were used only to test the Android platform, Dr. Mitchell testified that “using the copied files even as test files would have been significant use” and the district court specifically found that “[t]here was no testimony to the contrary.” Order Granting JMOL on Decomplied Files, 2012 U.S. Dist. LEXIS 66417, at *6. Given this testimony, a reasonable jury could not have found Google’s copying de minimis.

Google emphasizes that the nine lines of rangeCheck code “represented an infinitesimal percentage of the 2.8 million lines of code in the 166 Java packages—let alone the millions of lines of code in the entire [Java] platform.” Google Cross-Appeal Br. 78-79. To the extent Google is arguing that a certain minimum number of lines of code must be copied before a court can find infringement, that argument is without merit. See Baxter v. MCA, Inc., 812 F.2d 421, 425 (9th Cir. 1987) (“[N]o bright line rule exists as to what quantum of similarity is permitted.”). And, given the trial testimony that both rangeCheck and the decompiled security files are qualitatively significant and Google copied them in their entirety, Google cannot show that the district court erred in denying its motion for JMOL.

We have considered Google’s remaining arguments and find them unpersuasive. Accordingly, we affirm both of the JMOL decisions at issue in Google’s cross-appeal.

III. GOOGLE’S POLICY-BASED ARGUMENTS

Many of Google’s arguments, and those of some amici, appear premised on the belief that copyright is not the correct legal ground upon which to protect intellectual property rights to software programs; they opine that patent protection for such programs, with its insistence on non-obviousness, and shorter terms of protection, might be more applicable, and sufficient. Indeed, the district
court’s method of operation analysis seemed to say as much. Copyrightability Decision, 872 F. Supp. 2d at 984 (stating that this case raises the question of “whether the copyright holder is more appropriately asserting an exclusive right to a functional system, process, or method of operation that belongs in the realm of patents, not copyrights”). Google argues that “[a]fter Sega, developers could no longer hope to protect [software] interfaces by copyright . . . Sega signaled that the only reliable means for protecting the functional requirements for achieving interoperability was by patenting them.” Appellee Br. 40 (quoting Pamela Samuelson, Are Patents on Interfaces Impeding Interoperability? 93 Minn. L. Rev. 1943, 1959 (2009)). And, Google relies heavily on articles written by Professor Pamela Samuelson, who has argued that “it would be best for a commission of computer program experts to draft a new form of intellectual property law for machine-readable programs.” Pamela Samuelson, CONTU Revisited: The Case Against Copyright Protection for Computer Programs in Machine-Readable Form, 1984 Duke L.J. 663, 764 (1984). Professor Samuelson has more recently argued that “Altai and Sega contributed to the eventual shift away from claims of copyright in program interfaces and toward reliance on patent protection. Patent protection also became more plausible and attractive as the courts became more receptive to software patents.” Samuelson, 93 Minn. L. Rev. at 1959.

Although Google, and the authority on which it relies, seem to suggest that software is or should be entitled to protection only under patent law—not copyright law—several commentators have recently argued the exact opposite. See Technology Quarterly, Stalking Trolls, ECONOMIST, Mar. 8, 2014, http://www.economist.com/news/technology-quarterly/21598321-intellectual-property-after-being-blamed-stymying-innovation-america-vague (“[M]any innovators have argued that the electronics and software industries would flourish if
companies trying to bring new technology (software innovations included) to market did not have to worry about being sued for infringing thousands of absurd patents at every turn. A perfectly adequate means of protecting and rewarding software developers for their ingenuity has existed for over 300 years. It is called copyright.”); Timothy B. Lee, Will the Supreme Court save us from software patents?, WASH. POST, Feb. 26, 2014, 1:13 PM, http://www.washingtonpost.com/blogs/the-switch/wp/2014/02/26/will-the-supreme-court-save-us-from-software-patents/ (“If you write a book or a song, you can get copyright protection for it. If you invent a new pill or a better mousetrap, you can get a patent on it. But for the last two decades, software has had the distinction of being potentially eligible for both copyright and patent protection. Critics say that’s a mistake. They argue that the complex and expensive patent system is a terrible fit for the fast-moving software industry. And they argue that patent protection is unnecessary because software innovators already have copyright protection available.”).

Importantly for our purposes, the Supreme Court has made clear that “[n]either the Copyright Statute nor any other says that because a thing is patentable it may not be copyrighted.” Mazer v. Stein, 347 U.S. 201, 217 (1954). Indeed, the thrust of the CONTU Report is that copyright is “the most suitable mode of legal protection for computer software.” Peter S. Menell, An Analysis of the Scope of Copyright Protection for Application Programs, 41 Stan. L. Rev. 1045, 1072 (1989); see also CONTU Report at 1 (recommending that copyright law be amended “to make it explicit that computer programs, to the extent that they embody an author’s original creation, are proper subject matter of copyright”). Until either the Supreme Court or Congress tells us otherwise, we are bound to respect the Ninth Circuit’s decision to afford software programs protection under the copyright laws. We thus decline any
invitation to declare that protection of software programs should be the domain of patent law, and only patent law.

CONCLUSION

For the foregoing reasons, we conclude that the declaring code and the structure, sequence, and organization of the 37 Java API packages at issue are entitled to copyright protection. We therefore reverse the district court’s copyrightability determination with instructions to reinstate the jury’s infringement verdict. Because the jury hung on fair use, we remand Google’s fair use defense for further proceedings consistent with this decision.

With respect to Google’s cross-appeal, we affirm the district court’s decisions: (1) granting Oracle’s motion for JMOL as to the eight decompiled Java files that Google copied into Android; and (2) denying Google’s motion for JMOL with respect to the rangeCheck function. Accordingly, we affirm-in-part, reverse-in-part, and remand for further proceedings.

AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED
IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
WESTERN DIVISION

NO. 5:10-CV-25-FL

SAS INSTITUTE INC.,

Plaintiff,

v.

WORLD PROGRAMMING LIMITED,

Defendant.

ORDER (SEALED)\(^1\)

This matter comes before the court on plaintiff’s motion for partial summary judgment (DE 211) and defendant’s motion for summary judgment (DE 220). These motions have been fully briefed and issues raised are ripe for ruling. For the reasons that follow, each motion is granted in part and denied in part.

STATEMENT OF THE CASE

Plaintiff is a North Carolina corporation that produces software products. Defendant is a competing software company, incorporated under the laws of England and Wales. On September 14, 2009, plaintiff filed a lawsuit in the United Kingdom (“U.K.”) against defendant arising out of defendant’s creation of a competing software product, asserting claims for copyright infringement and breach of a licensing agreement. That suit was filed in the Chancery Division of the High Court

\(^1\) Where discovery was conducted pursuant to a consent protective order and stipulation of confidentiality, certain filings on which the parties rely in furtherance of their motions were sealed. Within fourteen (14) days, the parties jointly shall return to the court by U.S. Mail, addressed to the case manager, a copy of this order marked to reflect any perceived necessary redactions. Upon the court’s inspection and approval, a redacted copy of this sealed order will be made a part of the public record.
of Justice ("U.K. court").

On January 19, 2010, plaintiff initiated the instant suit. The complaint before this court, premised on many of the same facts as the U.K. litigation, includes claims for copyright infringement and breach of the same licensing agreement. In addition, plaintiff added claims for tortious interference with contract, tortious interference with prospective business advantage, and violation of the North Carolina Unfair and Deceptive Trade Practices Act ("UDPTA"), N.C. Gen. Stat. § 75-1.1. On March 17, 2010, defendant filed a motion to dismiss the action for lack of personal jurisdiction pursuant to Rule 12(b)(2), for failure to state a claim upon which relief can be granted pursuant to Rule 12(b)(6), and for forum non conveniens, or, in the alternative a motion to transfer venue. By order entered March 18, 2011, the court granted the motion to dismiss for forum non conveniens, and did not reach other arguments raised for dismissal. Plaintiff appealed and, in a decision issued February 16, 2012, the Fourth Circuit Court of Appeals reversed and remanded.

On March 23, 2012, defendant resubmitted its motion to dismiss seeking all the same relief as in its prior motion to dismiss, excepting dismissal for forum non conveniens, and also requesting abstention or a stay pending completion of the U.K. litigation. On June 6, 2012, defendant filed a notice that it was withdrawing all grounds for its motion except for failure to state a claim or change of venue. At hearing held on the motion June 7, 2012, defendant withdrew its request for a change of venue. On October 18, 2012, Magistrate Judge James E. Gates entered memorandum and recommendation ("M&R") recommending that defendant’s motion to dismiss be denied. The court entered order adopting the M&R on November 19, 2012.

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2 This court previously has stated that this litigation in the U.K. was initiated on October 19, 2009. Documents from this litigation, however, state that it was commenced September 14, 2009.
On May 7, 2013, plaintiff filed a motion to amend its complaint, seeking to add a claim that
defendant obtained licenses to use certain of plaintiff’s software products by fraud. The court
granted the motion by order entered August 8, 2013. Plaintiff filed its amended complaint on August
14, 2013.

Meanwhile, the U.K. litigation proceeded somewhat more expeditiously. After a full trial, the U.K. court issued an interim judgment (“U.K. interim judgment”) on July 23, 2010. The court
made numerous findings of fact, as well as provisional holdings, but concluded that resolution of the
case depended upon important issues of interpretation of European Union law, more specifically,
Directives”). Thus, by order entered July 28, 2010, the U.K. court referred certain questions
regarding the interpretation of these articles to the Court of Justice of the European Union (“CJEU”).
The CJEU ruled upon these questions May 2, 2012. As relevant here, as quoted by the U.K. court
in its final judgment (“U.K. judgment”) the CJEU held that under various articles of the European
Directives:

[N]either the functionality of a computer program, nor the programming language
and the format of the data files used in a computer program in order to exploit certain
of its functions . . . are . . . protected by copyright in computer programs . . . . . .

[A] licensee is entitled to determine the ideas and principles which underlie any
element of the computer program if he does so while performing any acts of loading.

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1 In its interim judgment, the U.K. court noted that Directive 91/250/EEC had been replaced by “a codified . . . version,
“the original version was in force at the time of most of the alleged infringing activity by [defendant]” and that “there
is no relevant difference of substance between the two versions.” U.K. interim judgment ¶ 155.
displaying, running, transmitting or storing that program which he is entitled to do.

... [T]he reproduction, in a computer program or a user manual for that program, of certain elements described in the user manual for another computer program protected by copyright is capable of constituting an infringement of the copyright in the latter manual . . . .

U.K. judgment ¶¶ 10.46, 12.54, 14.70 (quoting the CJEU ruling).

Based upon the CJEU’s rulings, on January 25, 2013, the U.K. court entered its final judgment adopting its interim judgment and finding for defendants on all claims but for infringement of the SAS manuals pursuant to the dictates of the European Directives. Plaintiff appealed portions of the U.K. judgment, all of which were affirmed by the Court of Appeal. On July 9, 2014, the Supreme Court of the United Kingdom denied plaintiff’s request to appeal.

On April 14, 2014, plaintiff filed its motion for partial summary judgment on its claims for breach of contract and tortious interference with contract. That same day, defendant filed its motion for summary judgment on all claims.

**STATEMENT OF UNDISPUTED FACTS**

A. Plaintiff and the SAS System

Plaintiff is the world’s largest privately-held software company. Patricia Brown April 14, 2014, Decl. ("Brown I Decl.") ¶2. Plaintiff creates an integrated suite of business software products which are known as the “SAS System.” Id. The SAS System allows users to perform a variety of data access, management, analysis, and presentation tasks. Id. The core component of the SAS System is known as “Base SAS” or “BASE/SAS,” but the SAS System includes other separate components that users may separately license and install and which provide additional capabilities. Id.
Computer programs are made up of lines of text written in a computer language, called the "source code" of that program. Source code cannot be read directly by computers, which can only read what is known as "machine code." Thus, in order for a program to run on a computer, that program must be translated through a different program serving as a compiler or interpreter of computer language. Very basically, a compiler is a program that translates source code into machine code readable by a computer. An interpreter is a program that translates the source code of a program and directs the execution of that code. See Def.'s Ex. 1, Nell Dale & John Lewis, Computer Science Illuminated 295-97 (5th ed. 2013).

The SAS System can be run on various kinds of computers ranging from personal computers to mainframe computers. Id. ¶ 3. SAS System users can access, manage, and analyze data by writing programs in a programming language developed by plaintiff known as the "SAS Language." Id. These programs can be run through the SAS System and thereby perform certain tasks known as "SAS Procedures." Id. Thus, among other things, the SAS System is a combination of compilers and interpreters for SAS Language programs. See Def.'s Ex. 59, Richard Langston January 9, 2014, Dep. ("Langston I Dep.") 12:17-22.5

The idea of the SAS Language was conceived in 1964 by Anthony J. Barr ("Barr"). Barr Aff. ¶¶ 6-7. He began to develop this language in 1966 while working at North Carolina State University.

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4 In responding to defendant's motion for summary judgment, plaintiff has introduced certain evidence to the effect that its software is not a compiler/interpreter of the SAS Language. For reasons discussed in section D.2. of the court's discussion, infra, the court finds that this evidence is insufficient to create a genuine factual issue.

5 Citations to defendant's exhibits 1-53 refer to the exhibits to the declaration of Dennis O. Cohen ("Cohen") submitted in connection with defendant's memorandum in support of summary judgment. Citations to defendant's exhibits 54-58 refer to exhibits to the declaration of Cohen submitted in connection with defendant's response in opposition to plaintiff's motion for partial summary judgment. Citations to defendant's exhibits 59-61 refer to the exhibits to the declaration of Cohen submitted in connection with defendant's reply in support of its motion for summary judgment.
The SAS Language is a high-level computer language used by thousands of institutions around the world. Thousands of users write programs in the SAS Language. Anyone can write a program in the SAS Language, and it is undisputed that no license is needed to do so. See also Def.'s Ex. 41, Michael Creech Dep. 179:12-17.

Concurrent with his creation of the SAS Language, Barr created a compiler/interpreter for the language. Barr Aff. ¶ 9, 12. This compiler/interpreter is a program separate from any SAS Language program. ¶ 9-10, 12. The source code for the compiler/interpreter was written in the computer language of IBM/360 assembler. ¶ 10. James Goodnight (“Goodnight”), and John Sall (“Sall”), who were colleagues of Barr at N.C. State, joined in developing the SAS compiler/interpreter in 1968 and 1969, respectively. ¶ 14. This group first distributed an early version of their program to various universities in 1968. ¶ 15.

In 1972, Barr, Goodnight, and Sall finished a commercial version of their SAS compiler/interpreter they called “SAS72.” Barr Aff. ¶ 19. The group decided to rewrite a new version of the SAS compiler/interpreter, which was completed in 1976, and called “SAS76.” ¶ 23. Jane Helwig (“Helwig”), who joined the group in 1973 or 1974, who wrote a new SAS manual. ¶ 24. Because the program was becoming popular, the expanded group decided to leave N.C. State and found a for-profit company to market the compiler/interpreter. ¶ 25. This company, the SAS Institute – plaintiff in this action – was incorporated in 1976. ¶ 26. Barr left the company in 1979, and Goodnight took control. ¶ 29-31.

Plaintiff continued updating and expanding the capabilities of its software to allow SAS Language programers to write more complex programs in the SAS Language. Langston I Dep. at
Plaintiff has packaged many of these capabilities in different individual components which make up the “SAS System.” Plaintiff has also rewritten the source code for the SAS System—which is now written mainly in the programming language known as “C”, with very small portions written in programming languages called “Assembler” and “Java.” Def.’s Ex. 2, Langston I Dep. 9:17–10:2.

Plaintiff does not sell the SAS System to users, but sells licenses to use the SAS System or components thereof for set periods of time. Brown I Decl. ¶ 6; Barr Aff. ¶ 22. Plaintiff registers versions of its software with the United States Copyright Office, and maintains its source code as a trade secret. Brown I Decl. ¶ 6. Plaintiff also sells or provides its users with numerous manuals that it registers with the United States Copyright Office. Id. ¶ 7.

Plaintiff also has created a version of its software called SAS Learning Edition to help individuals learn how to program in the SAS Language. Brown I Decl. ¶ 8. SAS Learning Edition is registered with the United States Copyright Office. Id. It contains a full version of the SAS System for use on a personal computer. Id. SAS Learning Edition, however, is programmed so that it can only work with data sets of 1,500 records or less – much smaller than a typical user’s data sets. Id.

Plaintiff created a license agreement that prevented SAS Learning Edition from being installed on any personal computer unless an individual agreed to a set of restrictions. Id. ¶ 9. An individual installing SAS Learning Edition encounters “screens” which provide the terms of the SAS Learning Edition license agreement. See Pl.’s Ex. 58, SAS Learning Edition license agreements.

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6 Defendant has provided the full text of this deposition in hard copy to the court, but does not appear to have filed this portion of that deposition electronically.
That individual must click on a “Yes” button, indicating his or her agreement to the term to proceed. 

*Id.* at 3. The individual is prompted to click on the “No” button if they do not agree to the terms of the SAS Learning Edition license agreement and would like to return the software for a refund. *Id.*

**B. Defendant and the Development of WPS**

Defendant was formed in 2002 by Sam Manning ("Manning"), Peter Quarendon, Tom Quarendon and Martin Jupp ("Jupp"). Def.’s Ex. 4, Peter Quarendon Statement ¶ 16. Peter Quarendon had previously worked at International Business Machines ("IBM") where he had become familiar with the SAS System. Oliver Robinson ("Robinson") joined defendant in September 2002, and became a director and its operational manager. Def.’s Ex. 12, Robinson Statement ¶¶ 1, 12.

In 2003, defendant began to focus its efforts on creating a SAS Language interpreter/compiler to compete with the SAS System. *Id.* ¶ 22. Defendant called its software the “World Programming System” or "WPS." Defendant created the early versions of WPS using the programming language of Java. Def.’s Ex. 4, Peter Quarendon Statement ¶ 32. However, in early 2005, defendant made the decision to entirely rewrite WPS using a programming language called “C++” so as to speed up WPS’s processing times and so that WPS could be run on mainframe computers. Def.’s Ex. 13 Tom Quarendon Statement ¶ 65. It took defendant approximately one year to rewrite WPS in C++. *Id.*

Defendant wanted WPS to enable SAS Language programmers to be able to run “programs written in the language of SAS . . . without any products from SAS Institute.” Pl.’s Ex. 15, Presentation to BMW, at 26660.7 Defendant marketed WPS as providing both data and reports that

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7 Citations to plaintiff’s exhibits refer to exhibits 3.a. to 3.000. to the declaration of Pressly Millen submitted in connection with plaintiff’s memorandum in support of partial summary judgment.
“compare exactly” to the SAS System. Pl.’s Ex 26, CA World 08 Presentation, at 18250. In a document entitled “World Programming System – IBM Technical Evaluation” and further entitled “3rd Party Dependencies” (“3rd Party Dependencies”), defendant described the WPS development in a bullet list, quoted below:

- Read SAS documentation for the relevant area of functionality
- Build prototype functionality
- Debug basic functionality
- Compare operation with SAS Learning Edition functionality where possible
- Produce regression tests
- Release to beta testing
- Collect feedback from beta program
- Modify functionality as required
- Release GA functionality

Pl.’s Ex. 190, 3rd Party Dependencies, at 63722.

Thus, defendant’s first stage of development was to review SAS manuals obtained from plaintiff’s website. Pressly Millen April 14, 2014, Decl (“Millen I Decl.”). Ex. 2.f., Tom Quarendon Dep. 118:5-23. These manuals described the intended behavior of SAS Language elements. Def.’s Ex. 14, Kevin Weekes Statement ¶ 21. The manuals, however, “often did not provide all of the detail necessary [for defendant] to fully understand how a given [SAS] language element was intended to behave.” Millen I Decl. Ex. 2.f., Tom Quarendon Dep. 203:12-16. Thus, defendant also used SAS Learning Edition to develop WPS.

1. Defendant’s Use of SAS Learning Edition

presented with the SAS Learning Edition license agreement and required to agree to its terms as part
of the installation thereof.

Among other things, the SAS Learning Edition license agreement provided that:

By clicking on the “Accept” button, the individual licensing the Software
(“Customer”) agrees to these terms, and SAS Institute, Inc. (“SAS”) will authorize
Customer to use the SAS Learning Edition Software (“Software”) in accordance with
the terms and conditions of this Agreement.

... In exchange for Customer’s payment of all applicable fees and compliance with all
of the terms and conditions of this Agreement, SAS hereby grants Customer a
nonassignable, nontransferable and nonexclusive license to use the Software on one
(1) workstation at a time, for Customer’s non-production purposes only.8

... Source code from which the Software object code is derived (“Source Code”) is a
SAS trade secret. Customer may not reverse assemble, reverse engineer, or
decompile the Software or otherwise attempt to recreate the Source Code, except to
the extent applicable laws specifically prohibit such restriction.

... This Agreement shall be governed by and construed in accordance with the laws of
the State of North Carolina and of the United States of America. The parties
expressly exclude the application of the United Nations Convention on Contracts for
the International Sale of Goods to this Agreement.

Def.’s Ex. 43, Langston I Dep. Def.’s Exs. 3-6 at Ex. 3 §§ 1.1, 1.3, 2, 9.

Many times, the installer of SAS Learning Edition was not the user. Millen I Decl. Ex.2.b.,
to that of WPS.” Pl.’s Ex. 190, 3rd Party Dependencies, at 63693. In other words, “[o]nce the initial
prototyping of the relevant function has been completed then the behaviour is compared with SAS
in terms of generating output. Snippets of SAS Language code are fed through SAS Learning

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8 In certain versions of SAS Learning Edition this sentence of the SAS Learning Edition license agreement stated that
“SAS hereby grants Customer a nonassignable, nontransferable and nonexclusive license to use the Software on one (1)
workstation at a time, for Customer’s self-training non-production purposes only.” Pl.’s Ex. 58, SAS Learning Edition
license agreements at 3. Thus, certain versions of the SAS Learning Edition license agreement included the words “self-
training” and others did not.
Edition and WPS repeatedly until the results compare adequately.” Id. at 63724. Thus, defendant wrote that “[w]here there are inconsistencies, and those inconsistencies are determined not to be bugs in SAS, then the behaviour is matched in WPS whenever possible.” Id. at 63693. In this manner, WPS was designed to emulate even the idiosyncrasies of the SAS System. Millen I Decl. Ex. 4.c., Steve Bagshaw Witness Statement ¶ 120.

2. Defendant’s Attempts to License the SAS System

Defendant also attempted to obtain a license to the full SAS System. In August of 2003 Manning emailed plaintiff stating that defendant would like to license a single copy of the base version of the SAS System – BASE/SAS – for a personal computer. Pl.’s Ex. 48, August 19, 2003, email from Robinson to Manning. An employee of plaintiff responded that defendant needed to provide more details of “what it is you are wanting to use SAS software for and also more details of the nature of your business.” Id. Manning responded, stating that defendant had a client that used SAS that wanted a program “for the allocation of cars to repair outlets.” Pl.’s Ex. 50, August 20, 2003 email from Manning. Manning also stated that defendant developed business intelligence software that was “nowhere as broad and cleaver [sic] as SAS.” Id. Plaintiff provided defendant with a quote that Manning viewed as “a nice way to say no.” Id.

In April 2008, defendant again sought to obtain a license for the SAS System through an SAS U.K. reseller, Amadeus Software, as testified to by Sonia Sparkes (“Sparkes”), the Senior Contracts Officer for SAS Software Limited, which is plaintiff’s U.K. subsidiary. See Def.’s Ex. 21, Sparkes Statement, ¶ 1; Def.’s Ex. 22, Sparkes Statement Ex. SS-1 at 1. Plaintiff sent defendant an email on April 22, 2008, including a Master License Agreement (“MLA”). Id. at 4. Robinson signed the MLA and returned it to plaintiff. Millen I Decl. Ex. 2.b., Robinson Dep. 253:24-25. Robinson
testified that he could not recall whether he or another individual working for defendant reviewed the MLA, but that “someone at World Programming should have” because it was defendant’s practice to “review any legal agreement we enter into.” Id. at 260:7-17.

In response to a telephone inquiry by Sparkes, Robinson stated that defendant wanted to license plaintiff’s software so as to “check SAS syntax.” Def.’s Ex. 22, Sparkes Statement Ex. SS-1 at 10. On May 23, 2008, Sparkes emailed Robinson, and confirmed that plaintiff would not enter into a license agreement with defendant for use of the SAS System and would not countersign the MLA. Id. at 14. Because Robinson had indicated defendant wanted to license the SAS System to “check SAS Syntax,” Sparkes further referred him “to the many resources on the market which document SAS Syntax and which are readily available through sellers such as Amazon.com.” Id.

3. Defendant’s Relationship with CA Technologies

In 2003, defendant was contacted by a company called CA Technologies (“CA”) (at the time named as CA, Inc.). Def.’s Ex. 6, Charles Waselewski (“Waselewski”) Dep. 51:2-18. CA sold software product called MICS that ran on the SAS System. Id. at 54:15-16. MICS is a large, complicated program that is run on a mainframe computer. Id. at 68:9-69:22.

CA was interested in WPS as a less expensive alternative to the SAS System so as to be able to provide MICS at a lower cost to its customers. Id. at 55:3-11. CA, along with their consultant, Steve Bagshaw (“Bagshaw”), who would also become a consultant for defendant, worked with defendant over the next several years to create a version of WPS that could run MICS. Id. at 68:9-69:9; Millen I Decl. Ex. 2.c., Robinson Dep. 47:7-17. CA and defendant called this effort “Project X.” Pl.’s Ex. 8, September 8, 2004, email from Bagshaw to Bill Sherman.

At the outset of this project, WPS could not be run on a mainframe computer. Def.’s Ex. 6,
Waselewski Dep. 51:14-15; see also Def.’s Ex. 13 T. Quarendon Statement ¶ 65. The development of a version of WPS that could run MICS on a mainframe began as a lengthy, iterative process in which CA would attempt to run MICS with WPS, and then report bugs and issues encountered to defendant, and defendant would send fixes, and the process would repeat. Id. at 68:9-69:22.

In early 2008, CA gave defendant access to the SAS System on CA’s mainframe in an attempt to speed up the process. See Pl.’s Ex. 17, January 4, 2008 email from Robinson to Bagshaw. Later, in May of 2008, plaintiff again requested, and CA granted, access to CA’s SAS System (perhaps because their previous access had lapsed). Pl.’s Ex. 18, May 15, 2008 email from Manning to Timothy Hoffman; Def.’s Ex. 6, Waselewski Dep. 143:16-144:18.

Defendant wanted to run MICS on CA’s copy of the SAS System and compare the operations and output of MICS with the SAS System to that of MICS with WPS to identify the differences in output, and revise WPS accordingly. Def.’s Ex. 18, Bagshaw Statement, ¶ 61; Waselewski Dep. 209:10-17. CA’s MLA with plaintiff, however, provided that CA would not “provide or otherwise make available any licensed IPP [SAS Institute Program Products] in any form to any person other than [CA’s] personnel.” Def.’s Ex. 50, Waselewski Dep. Def.’s Ex. 25, ¶ 7.

Plaintiff’s general counsel contacted CA’s general counsel via email on August 25, 2010, stating that CA violated its license agreement with plaintiff by giving defendant access to its SAS System. See Def.’s Ex. 19, Waselewski Dep. Def.’s Ex. 22. Plaintiff and CA subsequently executed an agreement whereby, inter alia, CA agreed to terminate its relationship with defendant. See Def.’s Ex. 20 Waselewski Dep. Def.’s Ex. 23.

In addition to work on Project X, defendant also did work for other customers on CA’s mainframe. In one instance, one of defendant’s customers, named SDDK, reported an issue
regarding certain missing information in WPS. Pl.’s Ex. 44, January 23, 2009, Bug Report, 199. While working on this issue, Bagshaw stated “I will check this out on Monday on the CA System to verify SAS and WPS behaviour is the same.” Id. at 204. Shortly thereafter Bagshaw used the CA system to test the output of both SAS and WPS and he reported back these results. Id.; Millen I Decl. Ex. 3.f., Tom Quarendon Dep. 94:3-12.

4. Defendant’s Product Is Used In the United States

Defendant has a reseller located here in the United States, Minequest, and defendant’s software has been licensed to entities in the United States, such as General Motors. See Pl.’s Ex. 187, November 18, 2009, Bug Report.

COURT’S DISCUSSION

A. Standard of Review

Summary judgment is appropriate where “the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). This standard is met when “a reasonable jury could reach only one conclusion based on the evidence,” or when “the verdict in favor of the non-moving party would necessarily be based on speculation.” Myrick v. Prime Ins. Syndicate, Inc., 395 F.3d 485, 489 (4th Cir. 2005). On the other hand, when “the evidence as a whole is susceptible of more than one reasonable inference, a jury issue is created,” and summary judgment should be denied. Id. at 489-90.

Summary judgment is not a vehicle for the court to weigh the evidence and determine the truth of the matter, but rather contemplates whether a genuine issue exists for trial. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 249 (1986). Similarly, credibility determinations are jury functions, not those of a judge. Id. at 255. In making this determination, the court must view the
inferences drawn from the underlying facts in the light most favorable to the nonmoving party. United States v. Diebold, Inc., 369 U.S. 654, 655 (1962). Nevertheless, such inferences “must still be within the range of reasonable probability” and the court should issue summary judgment “when the necessary inference is so tenuous that it rests merely upon speculation and conjecture.” Lovelace v. Sherwin-Williams Co., 681 F.2d 230, 241 (4th Cir. 1982) (quoting Ford Motor Co. v. McDavid, 259 F.2d 261 (4th Cir. 1958)). Only disputes between the parties over facts that might affect the outcome of the case properly preclude the entry of summary judgment. Anderson, 477 U.S. at 247–48. Accordingly, the court must examine the materiality and the genuineness of the alleged fact issues in ruling on a motion. Id. at 248–49.

It is well-established that the party seeking summary judgment bears the initial burden of demonstrating the absence of any genuine issue of material fact. Celotex Corp. v. Catrett, 477 U.S. 317, 323 (1986). Once the moving party has met its burden, the nonmoving party then must affirmatively demonstrate with specific evidence that there exists a genuine issue of material fact requiring trial. Matsushita Elec. Indus. Co. Ltd. v. Zenith Radio Corp., 475 U.S. 574, 586–87 (1986).

B. Principles of Comity

Plaintiff has pursued litigation against defendant in the U.K. where a final decision has been entered and affirmed on appeal. An issue that looms large over the instant motions is the impact of that final decision on this case.

In particular, defendant argues that the U.K. judgment has preclusive effect on several issues, based on principles of comity in combination with the doctrine of collateral estoppel. Plaintiff also contends that the U.K. judgment has a preclusive effect – albeit on a more limited set of issues –
based on comity and collateral estoppel. Therefore, at the outset, the court notes various applicable principles regarding the effect of a foreign judgment.

"Neither the full faith and credit statute, nor the Full Faith and Credit Clause of the Constitution, applies to judgments issued from foreign countries." Jaffe v. Accredited Sur. & Cas. Co., 294 F.3d 584, 591 (4th Cir. 2002). Thus, "[t]he effect to be given foreign judgments has therefore historically been determined by more flexible principles of comity." Guinness PLC v. Ward, 955 F.2d 875, 883 (4th Cir. 1992). Comity

is neither a matter of absolute obligation, on the one hand, nor of mere courtesy and good will, upon the other. But it is the recognition which one nation allows within its territory to the legislative, executive or judicial acts of another nation, having due regard both to international duty and convenience, and to the rights of its own citizens, or of other persons who are under the protection of its laws.

Hilton v. Guyot, 159 U.S. 113, 163-64 (1895). In determining whether to extend comity, the fundamental question is whether the foreign "proceedings were sufficiently analogous to our fundamental concepts of justice." In re Enercons Virginia, Inc., 812 F.2d 1469, 1473 (4th Cir. 1987). However, it is clear that "a state can refuse . . . to recognize a foreign judgment on the ground that it conflicts with the public policy of that state." Jaffe, 294 F.3d at 591 (4th Cir. 2002).

"Additionally, "comity is an affirmative defense" and therefore the party seeking to have a U.S. court extend comity bears the burden of proving that comity is appropriate." In re Travelstead, 227 B.R. 638, 656 (D. Md. 1998) (citing Allstate Life Ins. Co. v. Linter Grp. Ltd., 994 F.2d 996, 999 (2d Cir. 1993)).

Although the parties do not cite, nor has the court found, any Fourth Circuit decision squarely addressing the standard for determining the preclusive effect of a foreign judgment on an issue in a separate action in the United States, other courts have had opportunity to do so. Several federal
courts have permitted use of foreign judgments to preclude litigation on an issue if the requirements of both comity and collateral estoppel are satisfied. See Diorinou v. Mezitis, 237 F.3d 133, 140 (2d Cir. 2001); Phillips USA, Inc. v. Allflex USA, Inc., 77 F.3d 354, 361 (10th Cir. 1996); Pony Express Records, Inc. v. Springsteen, 163 F. Supp. 2d 465, 473 (D.N.J. 2001).

Of course, in order to apply the doctrine of collateral estoppel, the court must determine that the issue in the pending litigation is identical to the issue in the previous litigation. One way in which two issues may be distinct is if they present mixed questions of fact and law, and the legal standard under which the original court decided the issue [was] a different legal standard than the standard applicable in the present litigation.

Pony Express Records, 163 F. Supp. 2d at 473 (citing Wright, Miller & Cooper, Federal Practice and Procedure: Jurisdiction § 4417). With these principles in mind, the court turns to the parties’ motions.

C. Motions for Summary Judgment

1. Breach of Contract

Both parties contend that they are entitled to summary judgment on plaintiff’s claim for breach of contract based on defendant’s alleged breached of the SAS Learning Edition license agreement. Plaintiff contends that the undisputed evidence shows that defendant violated this agreement in four ways: 1) by making corporate use of SAS Learning Edition; 2) by permitting users other than the individual customer who actually installed SAS Learning Edition to use it; 3) by using SAS Learning Edition for production purposes – specifically, creation of a competing software product; and 4) by reverse engineering SAS Learning Edition in order to create WPS.

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9 Federal courts have also held that recognized foreign judgments may have res judicata effect. See, e.g., Phillips USA, 77 F.3d at 359-61. Defendant has only contended that the U.K. judgment should have issue preclusive effect, and has not raised the defense of res judicata. Because “res judicata [is] an affirmative defense ordinarily lost if not timely raised,” and defendant has had ample time to raise this defense, the court considers only the issue preclusive effect of the U.K. judgment. Arizona v. California, 530 U.S. 392, 410 (2000).
A claim for breach of contract requires a plaintiff to show "the existence of a contract between plaintiff and defendant, the specific provisions breached, [t]he facts constituting the breach, and ... damages resulting to plaintiff from such breach." Cantrell v. Woodhill Enterprises, Inc., 273 N.C. 490, 497, 160 S.E.2d 476, 481 (1968); see also Morgan's Ferry Prods., LLC v. Rudd, 18 F. App'x 111, 112 (4th Cir. 2001) ("Under North Carolina law, a breach of contract claim must allege that a valid contract existed between the parties, state that defendant breached the terms thereof, explain the facts constituting the breach, and specify the damages resulting from such breach.").

The U.K. court was presented with a substantially similar claim by plaintiff, who there asserted that defendant's actions violated the SAS Learning Edition license agreement by allowing more than one employee to use copies of the software and by using said software for purposes extending beyond the scope of the license. See U.K. judgment ¶ 56. Both parties contend that the U.K. court's judgment necessitates a finding in their favor on this claim.

The U.K. court held that the SAS Learning Edition license "only extended to use by the Customer, that is to say, the individual employee who clicked on the 'yes' button when installing the Learning Edition." U.K. judgment ¶ 58. It also found that more than one employee used "the same copy of the Learning Edition" and that such additional use "was outside the scope of the license." Id. Finally, it determined that defendant used SAS Learning Edition "to ascertain details of the operation of the SAS System . . . to compare the performance of WPS with that of the Learning Edition in order to improve the relative performance of WPS . . . to test WPS" and other such uses that were "outside the scope of the licence" and that such purposes fell outside the scope of the SAS Learning Edition license agreement's directive that the software be used for non-production purposes. U.K. interim judgment ¶ 289.
Nevertheless, the U.K. court looked to the European Directives and found that Article 5(3) of Directive 91/250/EEC protected defendant’s use of SAS Learning Edition. U.K. judgment ¶ 79. Article 5(3) provides that “[t]he person having a right to use a copy of a computer program shall be entitled, without the authorisation of the right-holder, to observe, study or test the functioning of the program in order to determine the ideas and principles which underlie any element of the program if he does so while performing any of the acts of loading, displaying, running, transmitting or storing the program which he is entitled to do.” Directive 91/250/EEC, art. 5(3).

The U.K. court then turned to Article 9(1) of Directive 91/250/EEC, which provides, in relevant part, that “[a]ny contractual provisions contrary to Article 6 or to the exceptions provided for in Article 5 (2) and (3) shall be null and void.” The U.K. court held that Article 9(1) “renders null and void any contractual restrictions contrary to Article 5(3).” Id. ¶ 61. It further held that to the extent that defendant’s “use was contrary to the licence terms they are null and void by virtue of Article 9(1), with the result that none of [defendant’s] acts complained of was a breach of contract.” Id. ¶ 79.

Defendant contends that all of the findings and conclusions of the U.K. court, including the finding that “none of [defendant’s] acts complained of was a breach of contract” are preclusive, and thus plaintiff’s motion must fail, and it must be granted summary judgment. Plaintiff contends that only the U.K. court’s findings of fact and conclusions as to matters of construction of the contractual terms are binding. Neither party disputes that the findings of fact as to the actions by defendant by the U.K. court are entitled to a preclusive effect.¹⁰ Additionally, the parties agree that this court

¹⁰ Although defendant vigorously disputes many of the U.K. court’s characterizations of those actions as beyond the scope of the SAS Learning Edition license agreement as written.
should defer to the U.K. court’s conclusions of law with respect to its construction of the terms of the SAS Learning Edition license agreement.

The court finds that the U.K. court’s findings of fact do not conflict with the facts as set forth above by this court. Accordingly, the court need not consider further whether these findings of fact are preclusive. The court further concludes that under the principles of comity and standards of collateral estoppel the U.K. court’s construction of the SAS Learning Agreement license terms are preclusive.

As an initial matter, there is no suggestion the proceedings were not “sufficiently analogous to our fundamental concepts of justice.” In re Enercons Virginia, Inc., 812 F.2d 1469, 1473 (4th Cir. 1987). Numerous courts have found that English courts are procedurally proper fora. See, e.g., M/S Bremen v. Zapata Off-Shore Co., 407 U.S. 1, 12 (1972) (“Plainly, the courts of England meet the standards of neutrality and long experience in admiralty litigation.”); Haynsworth v. The Corp., 121 F.3d 956, 967 (5th Cir. 1997) (“American courts repeatedly have recognized [English courts] to be fair and impartial.”); Roby v. Corp. of Lloyd’s, 996 F.2d 1353, 1363 (2d Cir. 1993); Riley v. Kingsley Underwriting Agencies, Ltd., 969 F.2d 953, 958 (10th Cir. 1992). Indeed, the Seventh Circuit, speaking of the English courts stated that “[a]ny suggestion that this system of courts does not provide impartial tribunals or procedures compatible with the requirements of due process of law borders on the risible.” Soc’y of Lloyd’s v. Ashenden, 233 F.3d 473, 476 (7th Cir. 2000) (internal quotations omitted). There is no suggestion that the U.K. court’s construction of the license terms is somehow contrary to the public policy of North Carolina.

Moreover, the U.K. court’s construction of the terms of the license agreement satisfies the requirements of collateral estoppel. The Fourth Circuit has instructed that
[a] party seeking to rely on the doctrine of collateral estoppel is obliged to establish five elements: (1) that the issue sought to be precluded is identical to one previously litigated (element one); (2) that the issue was actually determined in the prior proceeding (element two); (3) that the issue's determination was a critical and necessary part of the decision in the prior proceeding (element three); (4) that the prior judgment is final and valid (element four); and (5) that the party against whom collateral estoppel is asserted had a full and fair opportunity to litigate the issue in the previous forum (element five).

Collins v. Pond Creek Mining Co., 468 F.3d 213, 217 (4th Cir. 2006). In the U.K. litigation, the U.K. court construed the terms of the very same license agreement, and the parties agreed that the terms of the agreement would not have a different meaning under English law than under North Carolina law. See Def.'s Ex. 58, Claimant's Resp. To Def.'s Request for Further Information No. 9 ("[Plaintiff] does not intend to contend that the Agreement, when construed in accordance with the laws of the State of North Carolina has a different meaning (at least insofar as relevant to this case) than the meaning which the Agreement would have if construed in accordance with the laws of England and Wales."); U.K. interim judgment ¶ 274 ("All the versions of the licence terms are governed by the law of the State of North Carolina. There is no evidence of North Carolina law, and it is common ground that I should assume that it is no different from English law so far as is relevant to this case.").

The U.K. court also actually decided issues of contractual construction, determining that "on

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11 The court is aware that "[i]n determining the preclusive effect of a state-court judgment, the federal courts must, as a matter of full faith and credit, apply the forum state's law of collateral estoppel." In re McNallen, 62 F.3d 619, 624 (4th Cir. 1995). To the extent this principle would extend to applying foreign law of collateral estoppel to foreign judgments, no evidence regarding principles of collateral estoppel under English law has been presented. To the extent that the proper standard for collateral estoppel in this case is the standard applied by North Carolina, the court concludes that such requirements are met. In North Carolina, the requirements for collateral estoppel are "(1) the issues must be the same as those involved in the prior action, (2) the issues must have been raised and actually litigated in the prior action, (3) the issues must have been material and relevant to the disposition of the prior action, and (4) the determination of the issues in the prior action must have been necessary and essential to the resulting judgment." State v. Summers, 351 N.C. 620, 623 (2000) (citations omitted).
a true construction of the licence terms, the licence only extended to use by the Customer, that is to say, the individual employee who clicked on the “yes” button when installing the Learning Edition.” U.K. judgment ¶ 58. The U.K. court further held that the restriction of use of SAS Learning Edition to “non-production purposes” meant that “the Customer must not use the Learning Edition to produce anything, but only to learn about the SAS Language, how to write SAS scripts and how to use the SAS System.” U.K. interim judgment ¶ 286. Thus, the U.K. court held that defendant’s actions “fell outside the scope of the licence.” U.K. judgment ¶ 73. These determinations regarding the contractual terms were critical to the U.K. judgment, which is indisputably a final judgment that was made after a full opportunity to litigate.

In light of the foregoing, these above determinations made by the U.K. court should be afforded preclusive effect on issues in this litigation. Under the doctrines of comity and collateral estoppel, defendant is precluded from arguing otherwise. Thus, it is undisputed that there was a contract between plaintiff and defendant, and it is preclusively established that by its actions in using SAS Learning Edition to produce WPS, and by allowing other employees than the installer of SAS Learning Edition to use that software specific terms of the agreement were breached. Finally, it is undisputed that defendant successfully created a competing product to the detriment of plaintiff as a result of its breach.

As noted above, however, the U.K. court’s also held that defendant’s “use of the Learning Edition was within Article 5(3) [of Directive 91/250/EEC], and to the extent that such use was contrary to the licence terms they are null and void by virtue of Article 9(1), with the result that none of [defendant’s] acts complained of was a breach of contract.” U.K. judgment ¶ 79. Defendant contends that this conclusion is also entitled to preclusive effect. Plaintiff, by contrast, asserts that
this holding is not preclusive as the case at bar presents a different issue than the one previously litigated in the U.K. where English law is substantially different from North Carolina law on this issue.12

“For collateral estoppel to apply, the issues in each action must be identical, and issues are not identical when the legal standards governing their resolution are significantly different.” Computer Associates Int’l, Inc. v. Altai, Inc., 126 F.3d 365, 371 (2d Cir. 1997) (analyzing whether its holding regarding copyright infringement precluded plaintiff from pursuing a claim regarding its French copyright in French courts); see also Alphin v. F.A.A., No. 89-2405, 1990 WL 52830 * 2 (4th Cir. April 13, 1990) (finding no collateral estoppel where, “[a]lthough the issues arose out of the same facts, the legal standards in each case are quite different”); cf. Leo Feist, Inc. v. Debmarr Pub. Co., 232 F. Supp. 623, 624 (E.D. Pa. 1964) (granting issue preclusive effect to an English judgment where “the English court applied legal principles which, if different at all, are only very slightly different from those which would be applied in an American court”).

In this case, the U.K. court arrived at its ultimate conclusion based upon the dictates of the European Directives. Defendants have filed the opinion of Simon Thorley stating that “Articles 5(3) and 9 . . . are mandatory provisions of EU and English Law.” Def.’s Ex. 57, Simon Thorley Op. ¶ 13. He goes on to state that these “mandatory provisions . . . cannot be affected or avoided by the fact that the proper law of the contract is other than English Law.” Id. ¶ 18. There is no suggestion,

12 Defendant argues that plaintiff should be judicially estopped from arguing that this holding is not preclusive where plaintiff stated in the U.K. litigation that it did not contend that the SAS Learning Edition license agreement had a different meaning when construed in accordance with the laws of North Carolina than it does when construed in accordance with English law. This argument is without merit. Plaintiff does not now argue that the SAS Learning Edition license agreement has a different meaning when construed under North Carolina law as it does when construed under English law. Plaintiff only argues that the European Directives do not apply to the terms as construed to nullify certain of those terms.
however, that courts in North Carolina are bound by these mandatory provisions of European Union and English law.

Thus, this court is presented with a choice of law question. If English law governs interpretation of this contract, the issues presented are the same as those decided by the U.K. court. If, however, North Carolina law governs, the issues presented are not the same where a North Carolina court would be under no obligation to apply the European Directives to nullify those parts of the SAS Learning Edition license agreement the U.K. court found would have been breached by defendant’s actions.

North Carolina choice of law governs in this case. See In re Merritt Dredging Co., Inc., 839 F.2d 203, 205 (4th Cir. 1988) (in a diversity action a federal court applies the choice of law rules of the state in which it sits). It is generally the case in North Carolina that “where parties to a contract have agreed that a given jurisdiction’s substantive law shall govern the interpretation of the contract, such a contractual provision will be given effect.” Tanglewood Land Co. v. Byrd, 299 N.C. 260, 262 (1980). However, North Carolina courts may refuse to give effect to a choice of law clause where

(a) the chosen state has no substantial relationship to the parties or the transaction and there is no other reasonable basis for the parties’ choice, 
or
(b) application of the law of the chosen state would be contrary to a fundamental policy of a state which has a materially greater interest than the chosen state in the determination of the particular issue and which . . . would be the state of the applicable law in the absence of an effective choice of law by the parties.

Broadway & Seymour, Inc. v. Wyatt, No. 91-2345, 1991 WL 179084, at *3 (4th Cir. Oct. 28, 1991) (quoting Rest (2d) of Conflict of Laws § 187(2) (1971)); see also Behr v. Behr, 46 N.C. App. 694, 696 (1980) (“The parties’ choice of law is generally binding on the interpreting court as long as they had a reasonable basis for their choice and the law of the chosen State does not violate a fundamental
policy of the state of otherwise applicable law.”).

In this case, North Carolina has a substantial relationship to the parties and the transaction where plaintiff is a North Carolina company. Thus, the first exception to application of the choice of law clause is inapplicable. Turning to the second, the North Carolina Supreme Court has instructed that in order to

render foreign law unenforceable as contrary to public policy, it must violate some prevalent conception of good morals or fundamental principle of natural justice or involve injustice to the people of the forum state. This public policy exception has generally been applied in cases such as those involving prohibited marriages, wagers, lotteries, racing, gaming, and the sale of liquor.

Boudreau v. Baughman, 322 N.C. 331, 342 (1988). Thus, even assuming arguendo that the U.K. has a materially greater interest than North Carolina in determination of this issue, application of North Carolina law would not violate a fundamental policy of the U.K. Based on the foregoing, the court determines that the applicable law in this matter is North Carolina law, pursuant to the SAS Learning Edition license agreement.

Where North Carolina law significantly differs from English law on the question of the validity of the contractual provisions purportedly breached, the court finds that this determination by the U.K. court is not entitled to preclusive effect. See Zeevi Holdings Ltd. v. Republic of Bulgaria, 494 F. App’x 110, 114-15 (2d. Cir 2012) (holding that collateral estoppel did not apply where an Israeli court’s construction of a contract was informed by a principle of Israeli law that was not applicable in the American litigation). Indeed, defendant itself contends that comity “is intended to address . . . circumstances . . . where the facts are the same (as Plaintiff concedes) and the applicable law is similar in all respects relevant to the legal inquiry.” Def.’s Reply Supp. Mot. for Summary Judgment at 3 (emphasis added).
In sum, the court is not bound by the U.K. court’s conclusion that European Union law rendered contractual provisions void. As discussed above, however, this court is bound by the determination of the U.K. court that defendant’s use of SAS Learning Edition fell outside the scope of its license. See U.K. judgment ¶¶ 58, 73. Accordingly, the undisputed facts and preclusive conclusions of the U.K. court establish a contract between the parties that was breached by defendant, causing damage to the plaintiff. See Cantrell, 273 N.C. at 497. Therefore, summary judgment will be granted for plaintiff, and denied for defendant on plaintiff’s claim for breach of contract. 13

2. Copyright Infringement

a. Comity and Copyright Infringement

As with plaintiff’s claim for breach of contract, defendant contends that, consistent with the principles of comity and collateral estoppel, this court should enter judgment as a matter of law in its favor on plaintiff’s claim for copyright infringement of the SAS System, and dismiss plaintiff’s claim for copyright infringement of the SAS manuals. “As a general matter, the Copyright Act is considered to have no extraterritorial reach.” Tire Eng’g & Distribution, LLC v. Shandong Linglong Rubber Co., 682 F.3d 292, 306 (4th Cir. 2012). Thus, plaintiff is here complaining of acts of

13 It does not appear that plaintiff specifically raised the SAS Learning Edition license agreement’s prohibition on reverse engineering in the U.K. litigation. Although the court has already determined that it is preclusively established that defendant violated the SAS Learning Edition license agreement in other ways, defendant’s conduct also constituted reverse engineering in violation of that license agreement. See Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 475 (1974) (reverse engineering is “starting with a known product and working backward to divine the process which aided in its development or manufacture.”); Decision Insights, Inc. v. Sentia Group, Inc., 311 F. App’x 586, 590 n.15 (4th Cir. 2009) (“The term ‘reverse engineer’ means ‘to analyze a product to try to figure out its components, construction, inner workings, often with the intent of creating something similar.’” (quoting WEBSTER’S NEW MILLENNIUM DICTIONARY OF ENGLISH (Preview ed.2008), available at http://www.dictionary.com)).
infringement that occurred in the United States.\textsuperscript{14}

As discussed previously, because “issues are not identical when the legal standards governing their resolution are significantly different.” \textit{Altai}, 126 F.3d at 371, collateral estoppel cannot apply unless English copyright law in this area is not significantly different from American law. Defendant, however, has failed to demonstrate that English law is sufficiently similar. As with plaintiff’s claim for breach of contract, the U.K. court reached many of its conclusions based upon the dictates of the European Directives, see U.K. judgment ¶¶ 15-48, and defendant has failed to demonstrate that this law is not significantly different from American law.

\textbf{b. Copyright Infringement of the SAS System}

Defendant contends that it is entitled to judgment as a matter of law that it did not infringe plaintiff’s copyrights in its software products, the SAS System and SAS Learning Edition. To succeed on a copyright infringement claim, a plaintiff generally must show two things: 1) plaintiff owned a valid copyright in the product at issue, and 2) defendant copied constituent parts of the product that are copyrightable. \textit{Darden v. Peters}, 488 F.3d 277, 285 (4th Cir. 2007). Neither party disputes that plaintiff holds valid copyrights in its software products. Rather, the parties disagree as to whether there is a genuine issue of material fact that defendant copied constituent parts thereof that are copyrightable. Defendant further asserts that even if it reproduced copyrightable elements of plaintiff’s software, its actions were permissible under the doctrines of fair use and misuse of copyright.

“Copyright protection subsists . . . in original works of authorship fixed in any tangible

\textsuperscript{14} Defendant asserts that plaintiff has failed to introduce any evidence of infringement occurring in the United States. This assertion is untrue. Plaintiff has introduced evidence in which defendant’s United States reseller states that General Motors had taken out a trial license of WPS. See Pl.’s Ex. 187, November 18, 2009 Bug Report.
medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.” 17 U.S.C. § 102(a). However, “[i]n no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work.” 17 U.S.C. § 102(b). “If there is only one way to express the idea, ‘idea’ and ‘expression’ merge and there is no copyrightable material.” M. Kramer Mfg. Co. v. Andrews, 783 F.2d 421, 436 (4th Cir. 1986). Accordingly, computer programs properly may be the subject of copyright protection only when other programs can be made which perform the same function. Id.

In this case, plaintiff asserts that defendant has infringed its copyrights in plaintiff’s software by using certain software language functions and by copying the resulting output formats that are produced when a user runs those language functions through the SAS System.

The software language functions that plaintiff contends defendant infringed are made up of various functions, routines, statements, formats, engines, macros, procedures, and options. See Def.’s Ex. 5, Langston February 11, 2014, Dep. (“Langston II Dep.”) 7:5-43:21; see also Patricia Brown May 19, 2014, Decl. Ex. C. Plaintiff, through its Rule 30(b)(6) designee Langston, testified that these types of software language functions allegedly infringed are elements of the SAS Language used by programmers who program in the SAS Language.15 Def.’s Ex. 5, Langston II Dep. 8:9-9:2, 10:12-16, 11:25-12:4, 14:3-7, 15:23-16:1, 16:25-17:2, 18:13-25, 22:7-13, 24:2-7, 25:13-26:5, 27:17-

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15 Defendant appears to move, in its memorandum in support of its motion for summary judgment, to exclude consideration of exhibit C to Brown’s May 19, 2014, declaration on the grounds that this document was untimely disclosed. Where all of the functions listed on this document are also functions, routines, statements, formats, engines, macros, procedures, and options, and therefore are elements of the SAS Language, the court finds that consideration of this document does not effect the outcome of this motion, and therefore denies without prejudice any motion to exclude by defendant. Should defendant have cause to resubmit its motion at a later stage in these proceedings, it may do so.

It is undisputed however, that “thousands of users . . . write programs in the language of SAS.” Def.’s Ex. 2, Langston I Dep. 26:8-9. Indeed, plaintiff has testified that anyone can write a program in the SAS Language, and that no license is needed to do so. Id. at 32:8-18; see also Def.’s Ex. 41, Creech Dep. 179:12-17. Thus, where anyone may use these terms, defendant’s use thereof does not constitute infringement. See Oracle Am., Inc. v. Google Inc., 750 F.3d 1339, 1353, 1368 (Fed. Cir. 2014) (“It is undisputed that the Java programming language is open and free for anyone to use. . . . Thus, Oracle concedes that Google and others could employ the Java language—much like anyone could employ the English language to write a paragraph without violating the copyrights of other English language writers.”).16

Plaintiff also asserts that where the resultant output of running these elements of the SAS Language in both parties’ software is similar, defendant has infringed also on the output formats of the SAS System. Insofar as these outputs are similar, however, this only serves to establish that when defendant’s software compiles and interprets SAS Language programs input by users, it does so properly.

In essence, by asking the court to find that defendant’s software infringes its copyright through its processing of elements the SAS Language, plaintiff seeks to copyright the idea of a program which interprets and compiles the SAS Language – a language anyone may use without a

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16 Defendant contends that programming languages as such are not copyrightable. In this case, where the court finds that the SAS Language, like Java, is open to use, it need not reach the issue of whether the creator of a programming language could ever restrict its use by copyright.
license. However, copyright law provides no protection to ideas. See 17 U.S.C. § 102(b) ("In no case does copyright protection for an original work of authorship extend to any idea . . . .''); Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 344-45 (1991) ("The most fundamental axiom of copyright law is that no author may copyright his ideas . . . ." (internal quotations and alteration omitted)).

It is undisputed that the parties’ programs implement the idea of an SAS Language in different ways as their programs are not written in the same programming languages. See Def.’s Ex. 2, Langston I Dep. 9:17-10:2 (SAS System is written in the language of C, and certain small portions in the languages of Assembler and Java); Def.’s Ex. 4, Peter Quarendon Statement ¶ 32 (WPS originally written in Java); Def.’s Ex. 13, Thomas Quarendon Statement ¶ 65 (WPS code was rewritten in the language of C++ beginning in early 2005). Thus, the court finds that, on this record, there is no genuine issue of material fact that defendant has not infringed plaintiff’s software copyrights. In light of this determination, the court need not reach defendant’s arguments regarding fair use and misuse of copyright.

Plaintiff endeavors to resist this conclusion by arguing that this case is on all fours with the Oracle decision, wherein the court held that copying short portions of source code by the defendant in that case constituted copyright infringement, and by arguing that its software is not a compiler/interpreter for SAS Language programs. In its recent decision in Oracle, the federal circuit held that Google Inc. ("Google") infringed the copyrights of Oracle America, Inc. ("Oracle") in 37

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17 In support of its assertion that defendant has infringed its copyright, plaintiff has filed the affidavit of Dr. James Gentle purporting to compare certain outputs of the SAS System to WPS. For various reasons, defendant asserts that this affidavit is inadmissible and, in its reply moves to strike the affidavit. Where the court finds that consideration of this affidavit is not necessary to its conclusion, it denies this motion as moot. Should plaintiff wish to rely upon this affidavit at a later stage in these proceedings, defendant may resubmit its motion to strike or exclude the same at that time.
packages of computer source code called “API packages.” *Oracle Am.*, 750 F.3d at 1347-48. In essence, each of these API packages contained a number of prewritten programs, written in the language of Java, that were arranged in a distinct taxonomy. *Id.* at 1348-49. Each package contained two types of source code: “declaring code” and “implementing code.” *Id.* at 1349. A programmer wishing to incorporate the function of one or more of these programs into a program that (s)he was creating could do so by using a short bit of “declaring code,” which would command the computer to execute one of these specific prewritten programs. *Id.* The code that the identified program used to carry out its function was termed “implementing code.” These program packages were copyrighted by Oracle, which licensed these packages under various terms. *Id.* at 1350.

Google wanted to use these API packages in its Android software platform for mobile devices; however, negotiations to license the packages from Oracle reached an impasse. *Id.* at 1350. Because Google believed that “Java application programmers would want to find the same 37 sets of functionalities in the new Android system callable by the same names as used in Java,” it “copied the declaring source code from the 37 Java API Packages verbatim, inserting that code into parts of its Android software. In doing so, Google copied the elaborately organized taxonomy . . . the overall system of organized names – covering 37 packages” and the organization of the numerous programs within these packages. *Id.* at 1350-51. Google did, however, write its own implementing code for nearly all of these programs. *Id.* at 1351. Although the court noted that the Java programming language was free for anyone to use, see *id.* at 1353, 1368, it found that by copying the declaring code for these programs, and the structure, sequence, and organization of these programs, Google infringed Oracle’s copyright. *Id.* at 1359.

Plaintiff contends that certain SAS Language elements that can be run through both its
software and defendant’s software are analogous to the declaring code at issue in *Oracle*. This analogy does not hold. The declaring code at issue in *Oracle* was not an element of the open-to-use Java language itself. Rather, it was a short string of Java code that called a prewritten Java program. Or, as the *Oracle* court analogized, a piece of declaring code was similar to an opening phrase in Charles Dickens’ *A Tale of Two Cities*, whereas the Java language itself is like the English language. *Id.* at 1363, 1368. To borrow that analogy, in this case, the elements of the SAS Language are more analogous to words of the English language. There is no evidence that defendant has copied specific strings of SAS Language, or specific strings of source code from plaintiff’s software, only that its software can function with these SAS Language elements.

Plaintiff, in response to defendants’ motion, introduces the affidavit of one of its employees, Alan Richard Eaton ("Eaton"), a software developer. Eaton asserts that it is incorrect to refer to the SAS System as an interpreter/compiler. *See Eaton Aff. ¶ 10-11.* Plaintiff, relying on this affidavit, would characterize certain procedures (referred to as "PROCS") and their accompanying PROC statements invoking these procedures as “inputs” into the SAS System which then produces certain outputs, rather than as elements of the SAS Language that are interpreted or compiled by the SAS System. *See id. ¶¶ 12-13.* Thus, plaintiff asserts that by using these same “inputs,” defendant infringes plaintiff’s software copyrights.

The Fourth Circuit has instructed that a party “cannot thwart the purposes of Rule 56 by creating issues of fact through affidavits that contradict its own depositions.” *Military Servs. Realty, Inc. v. Realty Consultants of Virginia, Ltd.*, 823 F.2d 829, 832 (4th Cir. 1987). The Eaton affidavit, insofar as it asserts that plaintiff’s software is not an interpreter/compiler of the SAS Language, contradicts plaintiff’s prior Rule 30(b)(6) testimony, through Langston, that the SAS System is “a
combination of compilers and what is referred to as interpreters,” Def.’s Ex. 59, Langston I Dep. 12:8-10. Thus, plaintiff cannot create an genuine factual issue on this matter by contradicting its own prior deposition testimony through the Eaton affidavit.\footnote{The court notes that plaintiff testified that the SAS System was more than a compiler and an interpreter. \textit{See} Def.’s Ex. 59, Langston I Dep. 12:17-22 ("Q: Is the SAS system anything other than a compiler and an interpreter? A: Yes. Q: What else does it do? A: It establishes an environment for users such as Display Manager, Enterprise Guide."). No evidence has been introduced, indicating that defendant’s software infringes plaintiff’s software in its additional functions.}

In sum, the court finds that defendant is entitled to judgment as a matter of law as to plaintiff’s software copyright claim where defendant’s use of the terms of the SAS Language does not infringe any of plaintiff’s software copyrights.

c. Copyright Infringement of the SAS Manuals

Defendant next moves for summary judgment on plaintiff’s claim for infringement of plaintiff’s manuals. Defendant notes that in accordance with the judgment against it on this claim in the U.K. litigation, it has removed all copies of its manuals not only from its U.K. customers as ordered by the U.K. court, but from all customers worldwide. Manning Aff. ¶ 3. Defendant also notes that the U.K. court ordered that an inquiry as to damages resulting from the infringement it found be conducted. \textit{See} Def.’s Ex. 52, U.K. Court Feb. 13, 2013, Order ¶ 3. Defendant asserts that because it has now withdrawn all of the infringing manuals and damages will be assessed as a result of the U.K. litigation, any relief granted by this court on this claim would constitute a double recovery.

As plaintiff points out however, there is no indication that the damages to be awarded to it as a result of the U.K. litigation will encompass any infringement in the United States of the
Accordingly, defendant’s motion for summary judgment as to this claim is denied.

3. Tortious Interference with Contract

Both parties move for summary judgment on plaintiff’s claim that defendant tortiously interfered with license agreements between plaintiff and its customers.

The elements of tortious interference with contract are: (1) a valid contract between the plaintiff and a third person which confers upon the plaintiff a contractual right against a third person; (2) defendant knows of the contract; (3) the defendant intentionally induces the third person not to perform the contract; (4) and in doing so acts without justification; (5) resulting in actual damage to the plaintiff.


A defendant has knowledge of a plaintiff’s contract with a third party for purposes of this tort if defendant “knows the facts which give rise to plaintiff’s contractual right against” the third party. *Childress v. Abeles,* 240 N.C. 667, 674 (1954).

To determine whether a defendant’s interference is justified, courts consider “the circumstances surrounding the interference, the [defendant’s] motive or conduct, the interests sought to be advanced, the social interest in protecting the freedom of action of the [defendant] and the contractual interests of the other party.” *Peoples Sec. Life Ins. Co. v. Hooks,* 322 N.C. 216, 220-21, (1988). “If the defendant’s only motive is a malicious wish to injure the plaintiff, his actions are not justified.” Id. at 221. On the other hand, “[g]enerally speaking, interference with contract is justified if it is motivated by a legitimate business purpose, as when the plaintiff and the defendant, an outsider, are competitors.” *Embree Const. Grp., Inc. v. Rafcor, Inc.,* 330 N.C. 487, 498 (1992); see

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also *Peoples Sec. Life. Ins.* 322 N.C. at 221 ("[C]ompetition in business constitutes justifiable interference in another’s business relations and is not actionable so long as it is carried on in furtherance of one’s own interests and by means that are lawful.").

The basis for plaintiff’s tortious interference claim is defendant’s access to the SAS System on CA’s mainframe. Defendant contends that 1) plaintiff has failed to proffer sufficient evidence that defendant knew of the contract between plaintiff and CA; 2) plaintiff has failed to proffer sufficient evidence that defendant induced CA not to perform CA’s contractual obligations; and 3) defendant was justified in any interference that may have occurred. Because the court agrees that defendant’s actions were justified, it does not reach defendant’s other arguments.

The undisputed evidence shows that CA had a SAS Language program – MICS – which was dependent on the SAS System to run. Def.’s Ex. 6, Waselewski Dep. 55:3-11. Defendant began working with CA with the goal of developing WPS into a program upon which MICS also could be run. Millen I Decl. Ex. 2.d. Waselewski Dep. 221:8-17. It further shows that at some point during this effort, defendant’s personnel were given access to the SAS System on CA’s mainframe. Id. at 233:1-13.

This access by defendant was a violation of CA’s license agreement with plaintiff. See Def.’s Ex. 50, CA SAS System MLA, ¶ 7. Nevertheless, even assuming, arguendo, that defendant knew of the relevant contractual provision forbidding CA to grant it access, and assuming further that defendant induced CA to grant it access, the court finds that there is no genuine issue of material fact that it was justified in doing so. Based on the undisputed facts in the record, defendant was motivated by a “legitimate business purpose,” namely, the development of a product to compete with the SAS System. *Embree Const. Grp.*, 330 N.C. at 498; see also *Peoples Sec. Life. Ins.*, 322 N.C.
Plaintiff argues that defendant’s interference is not justified, arguing that not all acts of competition or of seeking a business advantage are justified, citing to Static Control Components, Inc. v. Darkprint Imaging, Inc., 200 F. Supp. 2d 541 (M.D.N.C. 2002). In that case, defendant hired away one of plaintiff’s employees, Hulse, thus causing Hulse to breach a non-competition agreement with plaintiff. Id. at 543. Plaintiff sued, claiming, inter alia, tortious interference with contract, and defendant moved for summary judgment. Id. The court denied defendant’s motion for summary judgment as to tortious interference, based in part upon evidence that defendant hired Hulse in order to misappropriate plaintiff’s trade secrets that Hulse knew. Id. at 547.

The court in Static Control decided that interference with a contract is not justified where the aim of that interference is itself improper. Id.; see also Childress v. Abeles, 240 N.C. 667, 675 (1954) (a defendant is not justified in inducing a breach of contract if “he has no sufficient lawful reason for his conduct” (emphasis added)). Thus, if in the case at bar, defendant induced CA to breach its contract with plaintiff so as to infringe defendant’s copyright, its actions would not be justified. Where, however, the court has found that plaintiff has failed to proffer sufficient evidence of any infringement in its software by defendant, it follows that any interference by defendant was justified by its legitimate aim of creating of a non-infringing competing product. Thus, defendant is entitled to judgment as a matter of law on this count. Plaintiff’s motion for summary judgment must be denied and defendant’s motion for summary judgment must be granted.

4. Tortious Interference with Prospective Economic Advantage

Defendant next argues that plaintiff has not proffered evidence sufficient to maintain a claim for tortious interference with prospective economic advantage. The elements of this claim that
plaintiff must show include: 1) a valid contract would have existed between plaintiff and a third party but for defendant’s conduct; 2) defendant maliciously induced the third party to not enter into the contract; and 3) defendant thereby proximately caused plaintiff to suffer actual damages. Cobra Capital, LLC v. RF Nitro Commc’ns, Inc., 266 F. Supp. 2d 432, 439 (M.D.N.C. 2003) (citing Spartan Equip. Co. v. Air Placement Equip. Co., 263 N.C. 549, 559, 140 S.E.2d 3 (1965)). A plaintiff must further show that the defendant acted “for a reason not reasonably related to the protection of a legitimate business interest.” Id.

Defendant does not argue that valid contracts did not exist between plaintiff and various third parties, nor does it contend that its conduct did not cause plaintiff damages. Rather defendant argues that its conduct was not malicious and was for a legitimate business purpose. Where the court has determined that defendant acted for legitimate business purposes, the court grants defendant’s motion for summary judgment as to this claim.

5. Fraudulent Inducement

Defendant also maintains that it is entitled to judgment as a matter of law on plaintiff’s claim that defendant fraudulently obtained access to SAS Learning Edition. The well-established elements of fraud in North Carolina are “‘(1) false representation or concealment of a material fact, (2) reasonably calculated to deceive, (3) made with intent to deceive, (4) which does in fact deceive, (5) resulting in damage to the injured party.’” Forbis v. Neal, 361 N.C. 519, 526 (2007) (quoting Ragsdale v. Kennedy, 286 N.C. 130, 138 (1974)). Although a promissory misrepresentation generally cannot support a claim for fraud, “[a] promissory misrepresentation may constitute actionable fraud when it is made with intent to deceive the promisee, and the promisor, at the time of making it, has no intent to comply.” Johnson v. Phoenix Mut. Life Ins. Co., 300 N.C. 247, 255

In this case, defendant has admitted that it acquired copies of SAS Learning Edition in 2003, 2005, 2007, and 2009. Answer to Am. Compl. ¶ 25. Defendant further admitted that “each time a version of the SAS Learning Edition was installed, the employee that conducted the installation accepted any necessary terms that were presented for acceptance at the time of the installation.” Id. Those terms restricted the use of SAS Learning Edition to the individual customer actually installing the software to learning purposes, and forbade reverse engineering the product or using it for production purposes. See Def.’s Exs. 43, Langston I Dep. Def.’s Exs. 3-6 at Ex. 3 §§ 1.1, 1.3, 2.

The court has determined that there is no genuine issue of material fact that defendant’s use of SAS Learning Edition breached the terms of the license agreements governing the use SAS Learning Edition where the U.K. court’s preclusive construction of that license agreement’s terms establishes that defendant used SAS Learning Edition in various ways that were forbidden by the license agreement. See U.K. judgment ¶ 58; U.K. interim judgment ¶ 289.

Plaintiff has also proffered evidence of defendant’s repeated misuse of SAS Learning Edition after repeatedly signing license agreements to the contrary, including the fact that defendant compared the operation of SAS Learning Edition to that of WPS, going so far as to call SAS Learning Edition a “dependency,” upon which the creation of WPS relied. See Pl.’s Ex. 190, WPS 3rd Party Dependencies, at 63693, 63722; see also Pl.’s Ex. 35 at 51 (defendant used SAS Learning Edition to determine the source of macros in the SAS System); Pl’s Ex. 40 (defendant experimented with SAS Learning Edition so as to understand issues with WPS). As set forth by this court in its order allowing plaintiff to amend to add this claim, this evidence
provide[s] support for the element that defendant acted with intent to deceive plaintiff by purportedly showing that, despite its representations to plaintiff that it would adhere to the terms of the license for the Learning Edition software, it used the software for its own commercial purposes in a sophisticated, organized manner; the element that defendant did in fact deceive plaintiff by purportedly showing that defendant actually used the Learning Edition software in a manner prohibited by the license for it; and the element of damages by purportedly showing that defendant was able to develop software that competes with plaintiff’s software as a result of its alleged misrepresentations that it would adhere to the license for the Learning Edition software.


Defendant, however, asserts that plaintiff has not proffered sufficient evidence for this claim, contending that the record shows that plaintiff knew defendant was a programming company intending to create a competing product but referred defendant to SAS Learning Edition anyway. Defendant points to a May 2008 exchange between Sparkes, the Senior Contracts Officer for plaintiff’s U.K. subsidiary, and Robinson, defendant’s operational manager. Sparkes, after discovering that defendant was a competitor of plaintiff, informed Robinson during a May 13, 2008, telephone conversation that plaintiff would not license the SAS System to defendant. See Def.’s Ex. 21, Sparkes Statement ¶ 13-14. On May 23, 2008, Sparkes emailed Robinson, and confirmed that plaintiff would not enter into a license agreement with defendant for use of the SAS System. Because Robinson had indicated defendant wanted to license the SAS System to “check SAS Syntax,” Sparkes further referred him “to the many resources on the market which document SAS Syntax and which are readily available through sellers such as Amazon.com.” Def.’s Ex. 22 Sparkes Statement Ex. SS-1 at 14.

This exchange does not support defendant’s motion. The fact that Sparkes referred defendant
to resources on Amazon.com despite knowing defendant was plaintiff's competitor, in no way demonstrates that defendant, after obtaining SAS Learning Edition, did not state that it would abide by the terms of the license agreement while fully intending not to do so, nor does it show that plaintiff did not rely on that statement. Based on the foregoing, defendant's motion for summary judgment as to plaintiff's claim for fraudulent inducement is denied.

6. Unfair and Deceptive Trade Practices

Finally, defendant moves for summary judgment on plaintiff's claim for violations of the UDTPA.

To establish a violation of the UDTPA, plaintiff must establish "(1) an unfair or deceptive act or practice, (2) in or affecting commerce, and (3) which proximately caused injury to plaintiffs." Walker v. Fleetwood Homes of N. Carolina, Inc., 362 N.C. 63, 71-72 (2007). "A practice is unfair when it offends established public policy as well as when the practice is immoral, unethical, oppressive, unscrupulous, or substantially injurious to consumers. A practice is deceptive if it has the capacity or tendency to deceive." Id., at 72 (quoting Marshall v. Miller, 302 N.C. 539, 548 (1981)). It is settled law in North Carolina that "a plaintiff who proves fraud thereby establishes that unfair or deceptive acts have occurred. Bhatti v. Buckland, 328 N.C. 240, 243 (1991). In this case the court has found there are genuine issues of material fact with respect to plaintiff's claim for fraudulent inducement; thus, the court denies defendant's motion for summary judgment as to plaintiff's claim under the UDPTA.\(^{29}\)

\(^{29}\) Plaintiff raises as a separate ground for denial of defendant's motion for judgment on this claim its assertion that defendant falsely categorized itself as in the "financial services" industry when registering on plaintiff's website in order to obtain access to certain SAS manuals. However, plaintiff introduced no evidence that it relied on this statement to its detriment. North Carolina law is clear that "a claim under section 75-1.1 stemming from an alleged misrepresentation does indeed require a plaintiff to demonstrate reliance on the misrepresentation in order to show the necessary proximate cause." Bumpers v. Cmty. Bank of N. Virginia, 747 S.E.2d 220, 226 (N.C. 2013).
CONCLUSION

For the reasons given the court GRANTS IN PART and DENIES IN PART plaintiff's motion for partial summary judgment (DE 211). Plaintiff's motion is GRANTED as to its claim for breach of contract and DENIED as to its claim for tortious interference with contract. The court also GRANTS IN PART and DENIES IN PART defendant's motion for summary judgment (DE 220). Defendant's motion is GRANTED as to plaintiff's claims for copyright infringement of the SAS System, tortious interference with contract, and tortious interference with prospective economic advantage, and DENIED as to plaintiff's claims for copyright infringement of the SAS manuals, breach of contract, fraudulent inducement, and for unfair and deceptive trade practices.

The parties are DIRECTED to confer within twenty-one (21) days and make joint report to the court as to estimated trial length, alternative suggested trial date settings, suggested alternative dispute resolution techniques to be employed prior to trial in attempt to resolve remaining issues as between the parties, and any other matter bearing on the parties' pretrial and trial preparations. The parties are reminded that within fourteen (14) days, they jointly shall return to the court by U.S. Mail, addressed to the case manager, a copy of this order now sealed, marked to reflect redactions perceived necessary.

SO ORDERED, this the 29th day of September, 2014.

[Signature]

LOUISE W. FLANAGAN
United States District Court Judge
DEFEND TRADE SECRETS ACT OF 2016
Public Law 114–153
114th Congress

An Act

May 11, 2016
[S. 1890]

To amend chapter 90 of title 18, United States Code, to provide Federal jurisdiction for the theft of trade secrets, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Defend Trade Secrets Act of 2016".

SEC. 2. FEDERAL JURISDICTION FOR THEFT OF TRADE SECRETS.

(a) IN GENERAL.—Section 1836 of title 18, United States Code, is amended by striking subsection (b) and inserting the following:

"(b) PRIVATE CIVIL ACTIONS.—

"(1) IN GENERAL.—An owner of a trade secret that is misappropriated may bring a civil action under this subsection if the trade secret is related to a product or service used in, or intended for use in, interstate or foreign commerce.

"(2) CIVIL SEIZURE.—

"(A) IN GENERAL.—

"(i) APPLICATION.—Based on an affidavit or verified complaint satisfying the requirements of this paragraph, the court may, upon ex parte application but only in extraordinary circumstances, issue an order providing for the seizure of property necessary to prevent the propagation or dissemination of the trade secret that is the subject of the action.

"(ii) REQUIREMENTS FOR ISSUING ORDER.—The court may not grant an application under clause (i) unless the court finds that it clearly appears from specific facts that—

"(I) an order issued pursuant to Rule 65 of the Federal Rules of Civil Procedure or another form of equitable relief would be inadequate to achieve the purpose of this paragraph because the party to which the order would be issued would evade, avoid, or otherwise not comply with such an order;

"(II) an immediate and irreparable injury will occur if such seizure is not ordered;

"(III) the harm to the applicant of denying the application outweighs the harm to the legitimate interests of the person against whom seizure would be ordered of granting the application and
...substantially outweighs the harm to any third parties who may be harmed by such seizure;

“(IV) the applicant is likely to succeed in showing that—

“(aa) the information is a trade secret; and

“(bb) the person against whom seizure would be ordered—

“(AA) misappropriated the trade secret of the applicant by improper means; or

“(BB) conspired to use improper means to misappropriate the trade secret of the applicant;

“(V) the person against whom seizure would be ordered has actual possession of—

“(aa) the trade secret; and

“(bb) any property to be seized;

“(VI) the application describes with reasonable particularity the matter to be seized and, to the extent reasonable under the circumstances, identifies the location where the matter is to be seized;

“(VII) the person against whom seizure would be ordered, or persons acting in concert with such person, would destroy, move, hide, or otherwise make such matter inaccessible to the court, if the applicant were to proceed on notice to such person; and

“(VIII) the applicant has not publicized the requested seizure.

“(B) ELEMENTS OF ORDER.—If an order is issued under subparagraph (A), it shall—

“(i) set forth findings of fact and conclusions of law required for the order;

“(ii) provide for the narrowest seizure of property necessary to achieve the purpose of this paragraph and direct that the seizure be conducted in a manner that minimizes any interruption of the business operations of third parties and, to the extent possible, does not interrupt the legitimate business operations of the person accused of misappropriating the trade secret;

“(iii)(I) be accompanied by an order protecting the seized property from disclosure by prohibiting access by the applicant or the person against whom the order is directed, and prohibiting any copies, in whole or in part, of the seized property, to prevent undue damage to the party against whom the order has issued or others, until such parties have an opportunity to be heard in court; and

“(II) provide that if access is granted by the court to the applicant or the person against whom the order is directed, the access shall be consistent with subparagraph (D);

“(iv) provide guidance to the law enforcement officials executing the seizure that clearly delineates the scope of the authority of the officials, including—
“(I) the hours during which the seizure may be executed; and
“(II) whether force may be used to access locked areas;
“(v) set a date for a hearing described in subparagraph (F) at the earliest possible time, and not later than 7 days after the order has issued, unless the party against whom the order is directed and others harmed by the order consent to another date for the hearing, except that a party against whom the order has issued or any person harmed by the order may move the court at any time to dissolve or modify the order after giving notice to the applicant who obtained the order; and
“(vi) require the person obtaining the order to provide the security determined adequate by the court for the payment of the damages that any person may be entitled to recover as a result of a wrongful or excessive seizure or wrongful or excessive attempted seizure under this paragraph.

“(C) PROTECTION FROM PUBLICITY.—The court shall take appropriate action to protect the person against whom an order under this paragraph is directed from publicity, by or at the behest of the person obtaining the order, about such order and any seizure under such order.

“(D) MATERIALS IN CUSTODY OF COURT.—
“(i) IN GENERAL.—Any materials seized under this paragraph shall be taken into the custody of the court. The court shall secure the seized material from physical and electronic access during the seizure and while in the custody of the court.
“(ii) STORAGE MEDIUM.—If the seized material includes a storage medium, or if the seized material is stored on a storage medium, the court shall prohibit the medium from being connected to a network or the Internet without the consent of both parties, until the hearing required under subparagraph (B)(v) and described in subparagraph (F).
“(iii) PROTECTION OF CONFIDENTIALITY.—The court shall take appropriate measures to protect the confidentiality of seized materials that are unrelated to the trade secret information ordered seized pursuant to this paragraph unless the person against whom the order is entered consents to disclosure of the material.
“(iv) APPOINTMENT OF SPECIAL MASTER.—The court may appoint a special master to locate and isolate all misappropriated trade secret information and to facilitate the return of unrelated property and data to the person from whom the property was seized. The special master appointed by the court shall agree to be bound by a non-disclosure agreement approved by the court.

“(E) SERVICE OF ORDER.—The court shall order that service of a copy of the order under this paragraph, and the submissions of the applicant to obtain the order, shall be made by a Federal law enforcement officer who, upon
making service, shall carry out the seizure under the order. The court may allow State or local law enforcement officials to participate, but may not permit the applicant or any agent of the applicant to participate in the seizure. At the request of law enforcement officials, the court may allow a technical expert who is unaffiliated with the applicant and who is bound by a court-approved non-disclosure agreement to participate in the seizure if the court determines that the participation of the expert will aid the efficient execution of and minimize the burden of the seizure.

"(F) SEIZURE HEARING.—

"(i) DATE.—A court that issues a seizure order shall hold a hearing on the date set by the court under subparagraph (B)(v).

"(ii) BURDEN OF PROOF.—At a hearing held under this subparagraph, the party who obtained the order under subparagraph (A) shall have the burden to prove the facts supporting the findings of fact and conclusions of law necessary to support the order. If the party fails to meet that burden, the seizure order shall be dissolved or modified appropriately.

"(iii) DISSOLUTION OR MODIFICATION OF ORDER.—A party against whom the order has been issued or any person harmed by the order may move the court at any time to dissolve or modify the order after giving notice to the party who obtained the order.

"(iv) DISCOVERY TIME LIMITS.—The court may make such orders modifying the time limits for discovery under the Federal Rules of Civil Procedure as may be necessary to prevent the frustration of the purposes of a hearing under this subparagraph.

"(G) ACTION FOR DAMAGE CAUSED BY WRONGFUL SEIZURE.—A person who suffers damage by reason of a wrongful or excessive seizure under this paragraph has a cause of action against the applicant for the order under which such seizure was made, and shall be entitled to the same relief as is provided under section 34(d)(11) of the Trademark Act of 1946 (15 U.S.C. 1116(d)(11)). The security posted with the court under subparagraph (B)(vi) shall not limit the recovery of third parties for damages.

"(H) MOTION FOR ENCRYPTION.—A party or a person who claims to have an interest in the subject matter seized may make a motion at any time, which may be heard ex parte, to encrypt any material seized or to be seized under this paragraph that is stored on a storage medium. The motion shall include, when possible, the desired encryption method.

"(3) REMEDIES.—In a civil action brought under this subsection with respect to the misappropriation of a trade secret, a court may—

"(A) grant an injunction—

"(i) to prevent any actual or threatened misappropriation described in paragraph (1) on such terms as the court deems reasonable, provided the order does not—
“(I) prevent a person from entering into an employment relationship, and that conditions placed on such employment shall be based on evidence of threatened misappropriation and not merely on the information the person knows; or
“(II) otherwise conflict with an applicable State law prohibiting restraints on the practice of a lawful profession, trade, or business;
“(iii) if determined appropriate by the court, requiring affirmative actions to be taken to protect the trade secret; and
“(iii) in exceptional circumstances that render an injunction inequitable, that conditions future use of the trade secret upon payment of a reasonable royalty for no longer than the period of time for which such use could have been prohibited;
“(B) award—
“(i) damages for actual loss caused by the misappropriation of the trade secret; and
“(II) damages for any unjust enrichment caused by the misappropriation of the trade secret that is not addressed in computing damages for actual loss; or
“(ii) in lieu of damages measured by any other methods, the damages caused by the misappropriation measured by imposition of liability for a reasonable royalty for the misappropriator’s unauthorized disclosure or use of the trade secret;
“(C) if the trade secret is willfully and maliciously misappropriated, award exemplary damages in an amount not more than 2 times the amount of the damages awarded under subparagraph (B); and
“(D) if a claim of the misappropriation is made in bad faith, which may be established by circumstantial evidence, a motion to terminate an injunction is made or opposed in bad faith, or the trade secret was willfully and maliciously misappropriated, award reasonable attorney’s fees to the prevailing party.

“(c) JURISDICTION.—The district courts of the United States shall have original jurisdiction of civil actions brought under this section.
“(d) PERIOD OF LIMITATIONS.—A civil action under subsection (b) may not be commenced later than 3 years after the date on which the misappropriation with respect to which the action would relate is discovered or by the exercise of reasonable diligence should have been discovered. For purposes of this subsection, a continuing misappropriation constitutes a single claim of misappropriation.”.

(b) DEFINITIONS.—Section 1839 of title 18, United States Code, is amended—
(1) in paragraph (3)—
(A) in subparagraph (B), by striking “the public” and inserting “another person who can obtain economic value from the disclosure or use of the information”; and
(B) by striking “and” at the end;
(2) in paragraph (4), by striking the period at the end and inserting a semicolon; and
(3) by adding at the end the following:
“(5) the term ‘misappropriation’ means—

“(A) acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or

“(B) disclosure or use of a trade secret of another without express or implied consent by a person who—

“(i) used improper means to acquire knowledge of the trade secret;

“(ii) at the time of disclosure or use, knew or had reason to know that the knowledge of the trade secret was—

“(I) derived from or through a person who had used improper means to acquire the trade secret;

“(II) acquired under circumstances giving rise to a duty to maintain the secrecy of the trade secret or limit the use of the trade secret; or

“(III) derived from or through a person who owed a duty to the person seeking relief to maintain the secrecy of the trade secret or limit the use of the trade secret; or

“(iii) before a material change of the position of the person, knew or had reason to know that—

“(I) the trade secret was a trade secret; and

“(II) knowledge of the trade secret had been acquired by accident or mistake;

“(6) the term ‘improper means’—

“(A) includes theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means; and

“(B) does not include reverse engineering, independent derivation, or any other lawful means of acquisition; and

“(7) the term ‘Trademark Act of 1946’ means the Act entitled ‘An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes, approved July 5, 1946 (15 U.S.C. 1051 et seq.) (commonly referred to as the ‘Trademark Act of 1946’ or the ‘Lanham Act’).’.

(c) EXCEPTIONS TO PROHIBITION.—Section 1833 of title 18, United States Code, is amended, in the matter preceding paragraph (1), by inserting “or create a private right of action for” after “prohibit”.

(d) CONFORMING AMENDMENTS.—

(1) The section heading for section 1836 of title 18, United States Code, is amended to read as follows:

“§ 1836. Civil proceedings”.

(2) The table of sections for chapter 90 of title 18, United States Code, is amended by striking the item relating to section 1836 and inserting the following:

“1836. Civil proceedings.”.

(e) EFFECTIVE DATE.—The amendments made by this section shall apply with respect to any misappropriation of a trade secret (as defined in section 1839 of title 18, United States Code, as
amended by this section) for which any act occurs on or after the date of the enactment of this Act.

(f) RULE OF CONSTRUCTION.—Nothing in the amendments made by this section shall be construed to modify the rule of construction under section 1838 of title 18, United States Code, or to preempt any other provision of law.

(g) APPLICABILITY TO OTHER LAWS.—This section and the amendments made by this section shall not be construed to be a law pertaining to intellectual property for purposes of any other Act of Congress.

SEC. 3. TRADE SECRET THEFT ENFORCEMENT.

(a) IN GENERAL.—Chapter 90 of title 18, United States Code, is amended—

(1) in section 1832(b), by striking “$5,000,000” and inserting “the greater of $5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided”; and

(2) in section 1835—
  (A) by striking “In any prosecution” and inserting the following:
  “(a) IN GENERAL.—In any prosecution”; and
  (B) by adding at the end the following:
  “(b) RIGHTS OF TRADE SECRET OWNERS.—The court may not authorize or direct the disclosure of any information the owner asserts to be a trade secret unless the court allows the owner the opportunity to file a submission under seal that describes the interest of the owner in keeping the information confidential. No submission under seal made under this subsection may be used in a prosecution under this chapter for any purpose other than those set forth in this section, or otherwise required by law. The provision of information relating to a trade secret to the United States or the court in connection with a prosecution under this chapter shall not constitute a waiver of trade secret protection, and the disclosure of information relating to a trade secret in connection with a prosecution under this chapter shall not constitute a waiver of trade secret protection unless the trade secret owner expressly consents to such waiver.”.

(b) RICO PREDICATE OFFENSES.—Section 1961(1) of title 18, United States Code, is amended by inserting “sections 1831 and 1832 (relating to economic espionage and theft of trade secrets),” before “section 1951”.

SEC. 4. REPORT ON THEFT OF TRADE SECRETS OCCURRING ABROAD.

(a) DEFINITIONS.—In this section:

(1) DIRECTOR.—The term “Director” means the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office.

(2) FOREIGN INSTRUMENTALITY, ETC.—The terms “foreign instrumentality”, “foreign agent”, and “trade secret” have the meanings given those terms in section 1839 of title 18, United States Code.

(3) STATE.—The term “State” includes the District of Columbia and any commonwealth, territory, or possession of the United States.
(4) UNITED STATES COMPANY.—The term “United States company” means an organization organized under the laws of the United States or a State or political subdivision thereof.

(b) REPORTS.—Not later than 1 year after the date of enactment of this Act, and biannually thereafter, the Attorney General, in consultation with the Intellectual Property Enforcement Coordinator, the Director, and the heads of other appropriate agencies, shall submit to the Committees on the Judiciary of the House of Representatives and the Senate, and make publicly available on the Web site of the Department of Justice and disseminate to the public through such other means as the Attorney General may identify, a report on the following:

(1) The scope and breadth of the theft of the trade secrets of United States companies occurring outside of the United States.

(2) The extent to which theft of trade secrets occurring outside of the United States is sponsored by foreign governments, foreign instrumentalities, or foreign agents.

(3) The threat posed by theft of trade secrets occurring outside of the United States.

(4) The ability and limitations of trade secret owners to prevent the misappropriation of trade secrets outside of the United States, to enforce any judgment against foreign entities for theft of trade secrets, and to prevent imports based on theft of trade secrets overseas.

(5) A breakdown of the trade secret protections afforded United States companies by each country that is a trading partner of the United States and enforcement efforts available and undertaken in each such country, including a list identifying specific countries where trade secret theft, laws, or enforcement is a significant problem for United States companies.

(6) Instances of the Federal Government working with foreign countries to investigate, arrest, and prosecute entities and individuals involved in the theft of trade secrets outside of the United States.

(7) Specific progress made under trade agreements and treaties, including any new remedies enacted by foreign countries, to protect against theft of trade secrets of United States companies outside of the United States.

(8) Recommendations of legislative and executive branch actions that may be undertaken to—

(A) reduce the threat of and economic impact caused by the theft of the trade secrets of United States companies occurring outside of the United States;

(B) educate United States companies regarding the threats to their trade secrets when taken outside of the United States;

(C) provide assistance to United States companies to reduce the risk of loss of their trade secrets when taken outside of the United States; and

(D) provide a mechanism for United States companies to confidentially or anonymously report the theft of trade secrets occurring outside of the United States.

SEC. 5. SENSE OF CONGRESS.

It is the sense of Congress that—
(1) trade secret theft occurs in the United States and around the world;
(2) trade secret theft, wherever it occurs, harms the companies that own the trade secrets and the employees of the companies;
(3) chapter 90 of title 18, United States Code (commonly known as the “Economic Espionage Act of 1996”), applies broadly to protect trade secrets from theft; and
(4) it is important when seizing information to balance the need to prevent or remedy misappropriation with the need to avoid interrupting the—
(A) business of third parties; and
(B) legitimate interests of the party accused of wrongdoing.

SEC. 6. BEST PRACTICES.

(a) IN GENERAL.—Not later than 2 years after the date of enactment of this Act, the Federal Judicial Center, using existing resources, shall develop recommended best practices for—
(1) the seizure of information and media storing the information; and
(2) the securing of the information and media once seized.

(b) UPDATES.—The Federal Judicial Center shall update the recommended best practices developed under subsection (a) from time to time.

(c) CONGRESSIONAL SUBMISSIONS.—The Federal Judicial Center shall provide a copy of the recommendations developed under subsection (a), and any updates made under subsection (b), to the—
(1) Committee on the Judiciary of the Senate; and
(2) Committee on the Judiciary of the House of Representatives.

SEC. 7. IMMUNITY FROM LIABILITY FOR CONFIDENTIAL DISCLOSURE OF A TRADE SECRET TO THE GOVERNMENT OR IN A COURT FILING.

(a) AMENDMENT.—Section 1833 of title 18, United States Code, is amended—
(1) by striking “This chapter” and inserting “(a) IN GENERAL.—This chapter”; and
(2) in subsection (a)(2), as designated by paragraph (1), by striking “the reporting of a suspected violation of law to any governmental entity of the United States, a State, or a political subdivision of a State, if such entity has lawful authority with respect to that violation” and inserting “the disclosure of a trade secret in accordance with subsection (b)”; and
(3) by adding at the end the following:
“(b) IMMUNITY FROM LIABILITY FOR CONFIDENTIAL DISCLOSURE OF A TRADE SECRET TO THE GOVERNMENT OR IN A COURT FILING.—
“(1) IMMUNITY.—An individual shall not be held criminally or civilly liable under any Federal or State trade secret law for the disclosure of a trade secret that—
“(A) is made—
“(i) in confidence to a Federal, State, or local government official, either directly or indirectly, or to an attorney; and
“(ii) solely for the purpose of reporting or investigating a suspected violation of law; or
“(B) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

“(2) USE OF TRADE SECRET INFORMATION IN ANTI-RETAILA-
TION LAWSUIT.—An individual who files a lawsuit for retaliation by an employer for reporting a suspected violation of law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual—

“(A) files any document containing the trade secret under seal; and

“(B) does not disclose the trade secret, except pursuant to court order.

“(3) NOTICE.—

“(A) IN GENERAL.—An employer shall provide notice of the immunity set forth in this subsection in any contract or agreement with an employee that governs the use of a trade secret or other confidential information.

“(B) POLICY DOCUMENT.—An employer shall be consid-
ered to be in compliance with the notice requirement in subparagraph (A) if the employer provides a cross-reference to a policy document provided to the employee that sets forth the employer’s reporting policy for a suspected violation of law.

“(C) NON-COMPLIANCE.—If an employer does not comply with the notice requirement in subparagraph (A), the employer may not be awarded exemplary damages or attorney fees under subparagraph (C) or (D) of section 1836(b)(3) in an action against an employee to whom notice was not provided.

“(D) APPLICABILITY.—This paragraph shall apply to contracts and agreements that are entered into or updated after the date of enactment of this subsection.

“(4) EMPLOYEE DEFINED.—For purposes of this subsection, the term ‘employee’ includes any individual performing work as a contractor or consultant for an employer.

“(5) RULE OF CONSTRUCTION.—Except as expressly provided for under this subsection, nothing in this subsection shall be construed to authorize, or limit liability for, an act that is otherwise prohibited by law, such as the unlawful access of material by unauthorized means.”.

(b) TECHNICAL AND CONFORMING AMENDMENT.—Section 1838 of title 18, United States Code, is amended by striking “This
chapter” and inserting “Except as provided in section 1833(b), this chapter”.

Approved May 11, 2016.
United States Court of Appeals for the Federal Circuit

2008-1001

ROBERT JACOBSEN,

Plaintiff-Appellant,

v.

MATTHEW KATZER and
KAMIND ASSOCIATES, INC. (doing business as KAM Industries),

Defendants-Appellees.

Victoria K. Hall, Law Office of Victoria K. Hall, of Bethesda, Maryland, argued for plaintiff-appellant.

R. Scott Jerger, Field Jerger LLP, of Portland, Oregon, argued for defendants-appellees.

Anthony T. Falzone, Stanford Law School, Center for Internet and Society, of Stanford, California, for amici curiae Creative Commons Corporation, et al. With him on the brief was Christopher K. Ridder.

Appealed from: United States District Court for the Northern District of California

Judge Jeffrey S. White
We consider here the ability of a copyright holder to dedicate certain work to free public use and yet enforce an “open source” copyright license to control the future distribution and modification of that work. Appellant Robert Jacobsen (“Jacobsen”) appeals from an order denying a motion for preliminary injunction. Jacobsen v. Katzer, No. 06-CV-01905 JSW, 2007 WL 2358628 (N.D. Cal. Aug. 17, 2007). Jacobsen holds a copyright to computer programming code. He makes that code available for public download from a...
website without a financial fee pursuant to the Artistic License, an “open source” or public license. Appellees Matthew Katzer and Kamind Associates, Inc. (collectively “Katzer/Kamind”) develop commercial software products for the model train industry and hobbyists. Jacobsen accused Katzer/Kamind of copying certain materials from Jacobsen’s website and incorporating them into one of Katzer/Kamind’s software packages without following the terms of the Artistic License. Jacobsen brought an action for copyright infringement and moved for a preliminary injunction.

The District Court held that the open source Artistic License created an “intentionally broad” nonexclusive license which was unlimited in scope and thus did not create liability for copyright infringement. The District Court reasoned:

The plaintiff claimed that by modifying the software the defendant had exceeded the scope of the license and therefore infringed the copyright. Here, however, the JMRI Project license provides that a user may copy the files verbatim or may otherwise modify the material in any way, including as part of a larger, possibly commercial software distribution. The license explicitly gives the users of the material, any member of the public, the right to use and distribute the [material] in a more-or-less customary fashion, plus the right to make reasonable accommodations.” The scope of the nonexclusive license is, therefore, intentionally broad. The condition that the user insert a prominent notice of attribution does not limit the scope of the license. Rather, Defendants’ alleged violation of the conditions of the license may have constituted a breach of the nonexclusive license, but does not create liability for copyright infringement where it would not otherwise exist.

Jacobsen, 2007 WL 2358628 at *7 (internal citations omitted).

On this basis, the District Court denied the motion for a preliminary injunction. We vacate and remand.

I.

Jacobsen manages an open source software group called Java Model Railroad Interface (“JMRI”). Through the collective work of many participants, JMRI created a
computer programming application called DecoderPro, which allows model railroad enthusiasts to use their computers to program the decoder chips that control model trains. DecoderPro files are available for download and use by the public free of charge from an open source incubator website called SourceForge; Jacobsen maintains the JMRI site on SourceForge. The downloadable files contain copyright notices and refer the user to a "COPYING" file, which clearly sets forth the terms of the Artistic License.

Katzer/Kamind offers a competing software product, Decoder Commander, which is also used to program decoder chips. During development of Decoder Commander, one of Katzer/Kamind’s predecessors or employees is alleged to have downloaded the decoder definition files from DecoderPro and used portions of these files as part of the Decoder Commander software. The Decoder Commander software files that used DecoderPro definition files did not comply with the terms of the Artistic License. Specifically, the Decoder Commander software did not include (1) the authors’ names, (2) JMRI copyright notices, (3) references to the COPYING file, (4) an identification of SourceForge or JMRI as the original source of the definition files, and (5) a description of how the files or computer code had been changed from the original source code. The Decoder Commander software also changed various computer file names of DecoderPro files without providing a reference to the original JMRI files or information on where to get the Standard Version.¹

¹ Katzer/Kamind represents that all potentially infringing activities using any of the disputed material have been voluntarily ceased. The district court held that it could not find as a matter of law that Katzer/Kamind’s voluntary termination of allegedly wrongful activity renders the motion for preliminary injunction moot because it could not find as a matter of law that it is absolutely clear that the alleged behavior could not recur. Jacobsen, 2007 WL 2358628 at *5. We agree that this matter is not moot. See also Adarand Constructors, Inc. v. Slater, 528 U.S. 216, 222 (2000) ("Voluntary cessation of challenged conduct moots a case . . . only if it is absolutely clear that the allegedly wrongful behavior could not reasonably be expected to recur.” (emphasis in original)).
Jacobsen moved for a preliminary injunction, arguing that the violation of the terms of the Artistic License constituted copyright infringement and that, under Ninth Circuit law, irreparable harm could be presumed in a copyright infringement case. The District Court reviewed the Artistic License and determined that “Defendants’ alleged violation of the conditions of the license may have constituted a breach of the nonexclusive license, but does not create liability for copyright infringement where it would not otherwise exist.” Id. at *7. The District Court found that Jacobsen had a cause of action only for breach of contract, rather than an action for copyright infringement based on a breach of the conditions of the Artistic License. Because a breach of contract creates no presumption of irreparable harm, the District Court denied the motion for a preliminary injunction.

Jacobsen appeals the finding that he does not have a cause of action for copyright infringement. Although an appeal concerning copyright law and not patent law is rare in our Circuit, here we indeed possess appellate jurisdiction. In the district court, Jacobsen’s operative complaint against Katzer/Kamind included not only his claim for copyright infringement, but also claims seeking a declaratory judgment that a patent issued to Katzer is not infringed by Jacobsen and is invalid. Therefore the complaint arose in part under the patent laws. See 28 U.S.C. § 2201(a); Golan v. Pingel Enter., 310 F.3d 1360, 1367 (Fed. Cir. 2002) (explaining that “[i]n the context of a complaint seeking a declaration of noninfringement, the action threatened by the declaratory defendant . . . would be an action for patent infringement,” and “[s]uch an action clearly arises under the patent laws”). Thus the district court’s jurisdiction was based, at least in part, on 28 U.S.C. § 1338(a) as it relates to the patent laws, and we have appellate jurisdiction under 28 U.S.C. § 1292(c)(1). See 28 U.S.C. § 1338(a) (“The district courts shall have original jurisdiction of any civil
action arising under any Act of Congress relating to patents, plant variety protection, copyrights and trademarks."); id. at § 1295(a)(1) (The Federal Circuit shall have exclusive jurisdiction "of an appeal from a final decision of a district court of the United States" if (1) "the jurisdiction of that court was based, in whole or in part, on section 1338 of this title" and (2) the case is not "a case involving a claim arising under any Act of Congress relating to copyrights, exclusive rights in mask works, or trademarks and no other claims under section 1338(a."); id. at § 1292(c)(1) (Federal Circuit shall have jurisdiction over appeals from interlocutory orders of the district courts refusing injunctions "in any case over which the court would have jurisdiction of an appeal under section 1295").

II.

This Court looks to the interpretive law of the regional circuit for issues not exclusively assigned to the Federal Circuit. Hutchins v. Zoll Med. Corp., 492 F.3d 1377, 1383 (Fed. Cir. 2007). Under Ninth Circuit law, an order granting or denying a preliminary injunction will be reversed only if the district court relied on an erroneous legal premise or abused its discretion. Wright v. Rushen, 642 F.2d 1129, 1132 (9th Cir. 1981). A district court's order denying a preliminary injunction is reversible for factual error only when the district court rests its conclusions on clearly erroneous findings of fact. Sports Form, Inc. v. United Press Int'l, Inc., 686 F.2d 750, 753 (9th Cir. 1982).

In determining whether to issue a preliminary injunction, the Ninth Circuit requires demonstration of (1) a combination of probability of success on the merits and the possibility of irreparable harm; or (2) serious questions going to the merits where the balance of hardships tips sharply in the moving party's favor. Perfect 10, Inc. v. Amazon.com, Inc., 487 F.3d 701, 713-14 (9th Cir. 2007); Dep't of Parks & Recreation v.
Bazaar Del Mundo, Inc., 448 F.3d 1118, 1123 (9th Cir. 2006). In cases involving copyright claims, where a copyright holder has shown likelihood of success on the merits of a copyright infringement claim, the Ninth Circuit has held that irreparable harm is presumed. LGS Architects, Inc. v. Concordia Homes of Nev., 434 F.3d 1150, 1155-56 (9th Cir. 2006). But see MGM Studios, Inc. v. Grokster, Ltd., 518 F. Supp. 2d 1197, 1212 (C.D. Cal. 2007) (noting that “the longstanding rule that irreparable harm can be a presumed after a showing of likelihood of success for purposes of a copyright preliminary injunction motion may itself have to be reevaluated in light of eBay [Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006)]”). Thus, for a preliminary injunction to issue, Jacobsen must either show (1) a likelihood of success on the merits of his copyright infringement claim from which irreparable harm is presumed; or (2) a fair chance of success on the merits and a clear disparity in the relative hardships that tips sharply in his favor.

A.

Public licenses, often referred to as “open source” licenses, are used by artists, authors, educators, software developers, and scientists who wish to create collaborative projects and to dedicate certain works to the public. Several types of public licenses have been designed to provide creators of copyrighted materials a means to protect and control their copyrights. Creative Commons, one of the amici curiae, provides free copyright licenses to allow parties to dedicate their works to the public or to license certain uses of their works while keeping some rights reserved.

Open source licensing has become a widely used method of creative collaboration that serves to advance the arts and sciences in a manner and at a pace that few could have imagined just a few decades ago. For example, the Massachusetts Institute of
Technology ("MIT") uses a Creative Commons public license for an OpenCourseWare project that licenses all 1800 MIT courses. Other public licenses support the GNU/Linux operating system, the Perl programming language, the Apache web server programs, the Firefox web browser, and a collaborative web-based encyclopedia called Wikipedia. Creative Commons notes that, by some estimates, there are close to 100,000,000 works licensed under various Creative Commons licenses. The Wikimedia Foundation, another of the amici curiae, estimates that the Wikipedia website has more than 75,000 active contributors working on some 9,000,000 articles in more than 250 languages.

Open Source software projects invite computer programmers from around the world to view software code and make changes and improvements to it. Through such collaboration, software programs can often be written and debugged faster and at lower cost than if the copyright holder were required to do all of the work independently. In exchange and in consideration for this collaborative work, the copyright holder permits users to copy, modify and distribute the software code subject to conditions that serve to protect downstream users and to keep the code accessible.² By requiring that users copy and restate the license and attribution information, a copyright holder can ensure that recipients of the redistributed computer code know the identity of the owner as well as the scope of the license granted by the original owner. The Artistic License in this case also requires that changes to the computer code be tracked so that downstream users know what part of the computer code is the original code created by the copyright holder and what part has been newly added or altered by another collaborator.

² For example, the GNU General Public License, which is used for the Linux operating system, prohibits downstream users from charging for a license to the software. See Wallace v. IBM Corp., 467 F.3d 1104, 1105-06 (7th Cir. 2006).
Traditionally, copyright owners sold their copyrighted material in exchange for money. The lack of money changing hands in open source licensing should not be presumed to mean that there is no economic consideration, however. There are substantial benefits, including economic benefits, to the creation and distribution of copyrighted works under public licenses that range far beyond traditional license royalties. For example, program creators may generate market share for their programs by providing certain components free of charge. Similarly, a programmer or company may increase its national or international reputation by incubating open source projects. Improvement to a product can come rapidly and free of charge from an expert not even known to the copyright holder. The Eleventh Circuit has recognized the economic motives inherent in public licenses, even where profit is not immediate. See Planetary Motion, Inc. v. Techsplosion, Inc., 261 F.3d 1188, 1200 (11th Cir. 2001) (Program creator “derived value from the distribution [under a public license] because he was able to improve his Software based on suggestions sent by end-users. . . . It is logical that as the Software improved, more end-users used his Software, thereby increasing [the programmer's] recognition in his profession and the likelihood that the Software would be improved even further.”).

B.  

The parties do not dispute that Jacobsen is the holder of a copyright for certain materials distributed through his website. Katzer/Kamind also admits that portions of the DecoderPro software were copied, modified, and distributed as part of the Decoder Commander software. Accordingly, Jacobsen has made out a prima facie case of copyright infringement. Katzer/Kamind argues that they cannot be liable for copyright infringement because

3 Jacobsen’s copyright registration creates the presumption of a valid copyright.
infringement because they had a license to use the material. Thus, the Court must evaluate whether the use by Katzer/Kamind was outside the scope of the license. See LGS Architects, 434 F.3d at 1156. The copyrighted materials in this case are downloadable by any user and are labeled to include a copyright notification and a COPYING file that includes the text of the Artistic License. The Artistic License grants users the right to copy, modify, and distribute the software:

provided that [the user] insert a prominent notice in each changed file stating how and when [the user] changed that file, and provided that [the user] do at least ONE of the following:
   a) place [the user's] modifications in the Public Domain or otherwise make them Freely Available, such as by posting said modifications to Usenet or an equivalent medium, or placing the modifications on a major archive site such as ftp.uu.net, or by allowing the Copyright Holder to include [the user's] modifications in the Standard Version of the Package.
   b) use the modified Package only within [the user's] corporation or organization.
   c) rename any non-standard executables so the names do not conflict with the standard executables, which must also be provided, and provide a separate manual page for each nonstandard executable that clearly documents how it differs from the Standard Version, or
   d) make other distribution arrangements with the Copyright Holder.

The heart of the argument on appeal concerns whether the terms of the Artistic License are conditions of, or merely covenants to, the copyright license. Generally, a "copyright owner who grants a nonexclusive license to use his copyrighted material waives his right to sue the licensee for copyright infringement" and can sue only for breach of contract. Sun Microsystems, Inc., v. Microsoft Corp., 188 F.3d 1115, 1121 (9th Cir. 1999); Graham v. James, 144 F.3d 229, 236 (2d Cir. 1998). If, however, a license is limited in scope and the licensee acts outside the scope, the licensor can bring an action for

See, e.g., Triad Sys. Corp. V. Se. Exp. Co., 64 F.3d 1330, 1335 (9th Cir. 1995).

Thus, if the terms of the Artistic License allegedly violated are both covenants and conditions, they may serve to limit the scope of the license and are governed by copyright law. If they are merely covenants, by contrast, they are governed by contract law. See Graham, 144 F.3d at 236-37 (whether breach of license is actionable as copyright infringement or breach of contract turns on whether provision breached is condition of the license, or mere covenant); Sun Microsystems, 188 F.3d at 1121 (following Graham; independent covenant does not limit scope of copyright license). The District Court did not expressly state whether the limitations in the Artistic License are independent covenants or, rather, conditions to the scope; its analysis, however, clearly treated the license limitations as contractual covenants rather than conditions of the copyright license. 4

Jacobsen argues that the terms of the Artistic License define the scope of the license and that any use outside of these restrictions is copyright infringement. Katzer/Kamind argues that these terms do not limit the scope of the license and are merely covenants providing contractual terms for the use of the materials, and that his violation of them is neither compensable in damages nor subject to injunctive relief. Katzer/Kamind's argument is premised upon the assumption that Jacobsen's copyright gave him no economic rights because he made his computer code available to the public at no charge. From this assumption, Katzer/Kamind argues that copyright law does not recognize a

4 The District Court held that “Defendants’ alleged violation of the conditions of the license may have constituted a breach of the nonexclusive license . . . [and] the Court finds that Plaintiff’s claim properly sounds in contract.” Jacobsen, 2007 WL 2358628 at *7. Thus, despite the use of the word “conditions,” the District Court treated the terms of the Artistic License as contractual covenants which did not limit the scope of the license.
cause of action for non-economic rights, relying on Gilliam v. ABC, 538 F.2d 14, 20-21 (2d Cir. 1976) (“American copyright law, as presently written, does not recognize moral rights or provide a cause of action for their violation, since the law seeks to vindicate the economic, rather than the personal rights of authors.”). The District Court based its opinion on the breadth of the Artistic License terms, to which we now turn.

III.

The Artistic License states on its face that the document creates conditions: “The intent of this document is to state the conditions under which a Package may be copied.” (Emphasis added.) The Artistic License also uses the traditional language of conditions by noting that the rights to copy, modify, and distribute are granted “provided that” the conditions are met. Under California contract law, “provided that” typically denotes a condition. See, e.g., Diepenbrock v. Luiz, 159 Cal. 716 (1911) (interpreting a real property lease reciting that when the property was sold, “this lease shall cease and be at an end, provided that the party of the first part shall then pay [certain compensation] to the party of the second part”); considering the appellant's “interesting and ingenious" argument for interpreting this language as creating a mere covenant rather than a condition; and holding that this argument “cannot change the fact that, attributing the usual and ordinary signification to the language of the parties, a condition is found in the provision in question”) (emphasized added).

The conditions set forth in the Artistic License are vital to enable the copyright holder to retain the ability to benefit from the work of downstream users. By requiring that users who modify or distribute the copyrighted material retain the reference to the original source files, downstream users are directed to Jacobsen’s website. Thus, downstream users
know about the collaborative effort to improve and expand the SourceForge project once they learn of the “upstream” project from a “downstream” distribution, and they may join in that effort.

The District Court interpreted the Artistic License to permit a user to “modify the material in any way” and did not find that any of the “provided that” limitations in the Artistic License served to limit this grant. The District Court’s interpretation of the conditions of the Artistic License does not credit the explicit restrictions in the license that govern a downloader’s right to modify and distribute the copyrighted work. The copyright holder here expressly stated the terms upon which the right to modify and distribute the material depended and invited direct contact if a downloader wished to negotiate other terms. These restrictions were both clear and necessary to accomplish the objectives of the open source licensing collaboration, including economic benefit. Moreover, the District Court did not address the other restrictions of the license, such as the requirement that all modification from the original be clearly shown with a new name and a separate page for any such modification that shows how it differs from the original.

Copyright holders who engage in open source licensing have the right to control the modification and distribution of copyrighted material. As the Second Circuit explained in Gilliam v. ABC, 538 F.2d 14, 21 (2d Cir. 1976), the “unauthorized editing of the underlying work, if proven, would constitute an infringement of the copyright in that work similar to any other use of a work that exceeded the license granted by the proprietor of the copyright.” Copyright licenses are designed to support the right to exclude; money damages alone do not support or enforce that right. The choice to exact consideration in the form of compliance with the open source requirements of disclosure and explanation of changes,
rather than as a dollar-denominated fee, is entitled to no less legal recognition. Indeed, because a calculation of damages is inherently speculative, these types of license restrictions might well be rendered meaningless absent the ability to enforce through injunctive relief.

In this case, a user who downloads the JMRI copyrighted materials is authorized to make modifications and to distribute the materials “provided that” the user follows the restrictive terms of the Artistic License. A copyright holder can grant the right to make certain modifications, yet retain his right to prevent other modifications. Indeed, such a goal is exactly the purpose of adding conditions to a license grant.5 The Artistic License, like many other common copyright licenses, requires that any copies that are distributed contain the copyright notices and the COPYING file. See, e.g., 3-10 Nimmer on Copyright § 10.15 (“An express (or possibly an implied) condition that a licensee must affix a proper copyright notice to all copies of the work that he causes to be published will render a publication devoid of such notice without authority from the licensor and therefore, an infringing act.

It is outside the scope of the Artistic License to modify and distribute the copyrighted materials without copyright notices and a tracking of modifications from the original computer files. If a downloader does not assent to these conditions stated in the COPYING

5 Open source licensing restrictions are easily distinguished from mere “author attribution” cases. Copyright law does not automatically protect the rights of authors to credit for copyrighted materials. See Gilliam, 538 F.2d at 20-21 (“American copyright law, as presently written, does not recognize moral rights or provide a cause of action for their violation, since the law seeks to vindicate the economic, rather than the personal rights of authors.”); Graham, 144 F.3d at 236. Whether such rights are protected by a specific license grant depends on the language of the license. See County of Ventura v. Blackburn, 362 F.2d 515, 520 (9th Cir. 1966) (copyright infringement found where the county removed copyright notices from maps licensed to it where the license granted the county “the right to
file, he is instructed to “make other arrangements with the Copyright Holder.” Katzer/Kamind did not make any such “other arrangements.” The clear language of the Artistic License creates conditions to protect the economic rights at issue in the granting of a public license. These conditions govern the rights to modify and distribute the computer programs and files included in the downloadable software package. The attribution and modification transparency requirements directly serve to drive traffic to the open source incubation page and to inform downstream users of the project, which is a significant economic goal of the copyright holder that the law will enforce. Through this controlled spread of information, the copyright holder gains creative collaborators to the open source project; by requiring that changes made by downstream users be visible to the copyright holder and others, the copyright holder learns about the uses for his software and gains others’ knowledge that can be used to advance future software releases.

IV.
For the aforementioned reasons, we vacate and remand. While Katzer/Kamind appears to have conceded that they did not comply with the aforesaid conditions of the Artistic License, the District Court did not make factual findings on the likelihood of success on the merits in proving that Katzer/Kamind violated the conditions of the Artistic License. Having determined that the terms of the Artistic License are enforceable copyright conditions, we remand to enable the District Court to determine whether Jacobsen has demonstrated (1) a likelihood of success on the merits and either a presumption of irreparable harm or a demonstration of irreparable harm; or (2) a fair chance of success on the merits and a clear disparity in the relative hardships and tipping in his favor.\(^6\)

The judgment of the District Court is vacated and the case is remanded for further proceedings consistent with this opinion.

**VACATED and REMANDED**

\(^6\) At oral argument, the parties admitted that there might be no way to calculate any monetary damages under a contract theory.
ORDER RE: DEFENDANT’S MOTION TO DISMISS
Re: Dkt. No. 18

Plaintiff Artifex Software Inc. (“Artifex”) brings breach of contract and copyright infringement claims against Defendant Hancom, Inc. Defendant’s motion to dismiss pursuant to Federal Rule of Civil Procedure 12(b)(6) is now pending before the Court.\(^1\) (Dkt. No. 18.) After carefully considering the arguments and briefing submitted, the Court concludes that oral argument is unnecessary, see Civ. L.R. 7-1(b), and DENIES the motion to dismiss.

BACKGROUND

A. Complaint Allegations

Plaintiff develops and licenses software products that interpret files written in a page description language such as Adobe Systems Incorporated’s Portable Document Format (“PDF”) files. (Complaint ¶¶ 13-14.) PDF files generally permit a document created on one platform to be

\(^1\) Both parties have consented to the jurisdiction of a magistrate judge pursuant to 28 U.S.C. § 636(c). (Dkt. Nos. 11 & 19.)
displayed and/or printed on another platform exactly as it was on the first platform. (Id. ¶ 14.) Plaintiff owns Ghostscript which is the most widely used PDF interpreter not developed by Adobe Systems. (Id. ¶ 1, 16.) Ghostscript interprets files written in PDF for display on a computer screen or for printing. (Id. ¶ 15.) Plaintiff has expended substantial amounts on research and development of Ghostscript to improve and update the product. (Id. ¶ 16.)

Plaintiff’s business is based on the revenues it derives from being the “exclusive commercial licensing agent of the Ghostscript interpreter technologies.” (Id. ¶ 17.) Plaintiff offers commercial licenses to Ghostscript as well as for the public a conditional open source license called the GNU General Public License (“GNU GPL”). (Id. at ¶ 1, 17.) For those seeking to commercially distribute Ghostscript or any product that incorporates it, Plaintiff will grant a license to use, modify, copy, and/or distribute Ghostscript for a fee. (Id. ¶ 17.) There is no charge for licenses granted under the GNU GPL although such users must “comply with certain open-source licensing requirements.” The GNU GPL was created to promote the open-source development of software products. (Id. ¶ 18.)

On July 29, 2008, Plaintiff obtained a copyright from the Registrar of Copyrights Certificate of Registration No. TX 6-854-034 for Ghostscript version 8.54 and all previous versions. (Id. ¶ 29; Dkt. No. 1-2 (Ex. 2.) On December 6, 2016, Plaintiff filed an application to register Ghostscript version 8.71. (Complaint ¶ 29; Dkt. No. 1-3 (Ex. 3)) Plaintiff placed copyright notices on Ghostscript versions 8.54 and 8.71. (Complaint ¶ 30.)

Defendant is a South Korean software company that owns and develops Hangul, a word processing software used primarily in South Korea and the United States as an alternative to Microsoft Word, as well as Hancom Office, a suite of software programs which include Hangul, a spreadsheet software, and a presentation software. (Id. ¶ 2, 19.) Defendant incorporated Ghostscript into its Hangul software “beginning as early as 2013.” (Id. ¶ 2, 20.) Because Defendant did not have a commercial license for Ghostscript, its use and distribution of Ghostscript constituted consent to the terms of the GNU GPL. (Id. ¶ 21.) Section 9 of the GNU GPL states:

You are not required to accept this License in order to receive or run
a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

(Complaint ¶ 21; Dkt. No. 1-1 (Ex. 1) at 10.) In addition, Defendant’s website stated that it had licensed Ghostscript under the GNU GPL. (Id. ¶ 2.) Nonetheless, Defendant failed to comply with key provisions of the GNU GPL. (Id. ¶¶ 2, 22.) In particular, because Defendant integrated Ghostscript into its software without revealing to the end-user that Ghostscript was part of the Hancom software, the GNU GPL required Defendant to distribute its software with the accompanying source code. (Id. ¶¶ 22-24.) Defendant did not do so and thus violated the GNU GPL, terminating Defendant’s license to use Ghostscript. (Id. ¶¶ 25-28.) Defendant’s failure to obtain a commercial license deprived Plaintiff of a licensing fee, or, alternatively, its failure to comply with the GNU GPL deprived Plaintiff of the opportunity “to further promote the advancement of interpreter technologies.” (Id. ¶¶ 1, 3, 17.)

Defendant “purportedly removed Ghostscript from the Hancom software in August 2016 after receiving a demand letter from Artifex.” (Id. ¶ 20.)

B. Procedural Background

Plaintiff Artifex alleges two claims for relief: (1) breach of contract, and (2) copyright infringement. Plaintiff seeks permanent injunctive relief enjoining Defendant from further use of any products using Ghostscript, enjoining Defendant from directly or indirectly infringing Artifex’s copyright in Ghostscript, and requiring Defendant to distribute to each licensee of Hangul and Hancom Office the complete source code for the products in accordance with the GNU GPL. (Complaint at pp. 11-12.) Plaintiff also seeks compensatory, consequential, statutory, and exemplary damages, as well as attorney’s fees and costs. (Id.)

Defendant responded to the complaint by filing the underlying 12(b)(6) motion to dismiss.

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2 Record citations are to material in the Electronic Case File (“ECF”); pinpoint citations are to the ECF-generated page numbers at the top of the documents.
DISCUSSION

Defendant makes three arguments. First, that Plaintiff has failed to state a claim for breach of contract and that any such claim is preempted by copyright law. Second, that Plaintiff’s copyright claim must be dismissed in part because Plaintiff has failed to allege that Defendant committed a predicate act in the United States. Finally, Defendant moves to strike portions of the relief sought in the complaint. The Court addresses each argument in turn.

A. Plaintiff’s Breach of Contract Claim

1) Plaintiff has Adequately Pled a Breach of Contract Claim

The elements of breach of contract under California law are: (1) the existence of a contract; (2) plaintiff’s performance under the contract; (3) defendant’s breach of the contract; and (4) that plaintiff was damaged as a result of the breach. See Buschman v. Anesthesia Bus. Consultants, LLC, 42 F. Supp. 3d 1244, 1250 (N.D. Cal. May 13, 2014) (citing CDF Firefighters v. Maldonado, 158 Cal. App. 4th 1226, 1239 (2008)). Breach of contract claims are subject to the notice pleading standard of Rule 8(a), which requires only “a short and plain statement of the claim showing that the pleader is entitled to relief.” Fed. R. Civ. P. 8(a).

Defendant contends that Plaintiff’s reliance on the unsigned GNU GPL fails to plausibly demonstrate mutual assent, that is, the existence of a contract. Not so. The GNU GPL, which is attached to the complaint, provides that the Ghostscript user agrees to its terms if the user does not obtain a commercial license. Plaintiff alleges that Defendant used Ghostscript, did not obtain a commercial license, and represented publicly that its use of Ghostscript was licensed under the GNU GPL. These allegations sufficiently plead the existence of a contract. See, e.g., MedioStream, Inc. v. Microsoft Corp., 749 F. Supp. 2d 507, 519 (E.D. Tex. 2010) (concluding that the software owner had adequately pled a claim for breach of a shrink-wrap license).

Plaintiff’s allegations of harm are also adequately pled. Plaintiff plausibly alleges that Defendant’s use of Ghostscript without obtaining a commercial license or complying with GNU GPL deprived Plaintiff of the licensing fee, or alternatively, the ability to advance and develop Ghostscript through open-source sharing. Indeed, as the Federal Circuit has recognized, there is harm which flows from a party’s failure to comply with open source licensing: “[t]he lack of
money changing hands in open source licensing should not be presumed to mean that there is no economic consideration” because “[t]here are substantial benefits, including economic benefits, to the creation and distribution of copyrighted works under public licenses that range far beyond traditional license royalties.” Jacobsen v. Katzer, 535 F.3d 1373, 1379 (Fed. Cir. 2008).

Although on remand from the Federal Circuit the district court concluded that plaintiff’s open source license breach of contract claim inadequately pled damages, the plaintiff there only alleged “[b]y reason of the breach, Plaintiff has been harmed.” Jacobsen v. Katzer (Jacobsen II), 609 F. Supp. 2d 925, 933 (N.D. Cal. 2009). Here, in contrast, Plaintiff’s allegations regarding the dual licensing structure are sufficient to plead damages for Plaintiff’s breach of contract claim.

Defendant’s argument is more appropriately addressed on summary judgment.

2) The Breach of Contract Claim is not Preempted

Next, Defendant insists that even if the complaint states a claim for breach of contract, the claim still must be dismissed as preempted by federal copyright law.

Federal copyright preemption of overlapping state law claims under the Copyright Act, 17 U.S.C. § 301, is “explicit and broad” and “prohibits state-law protection for any right equivalent to those in the Copyright Act.” G.S. Rasmussen & Assoc. v. Kalitta Flying Serv., 958 F.2d 896, 904 (9th Cir.1992). Section 301 establishes a two-part test for preemption: (1) the claims must come within the subject matter of the copyright, and (2) the rights granted under state law must be equivalent to any of the exclusive rights within the general scope of copyright as set forth in the Act. See Kodadek v. MTV Networks, Inc., 152 F.3d 1209, 1212 (9th Cir. 1998). To avoid preemption under the second prong, the state law claim “must protect rights which are qualitatively different from the copyright rights.” Design Art v. Nat’l Football League Properties, Inc., No. 00CV593 JM (JAH), 2000 WL 33151646, at *2 (S.D. Cal. Aug. 18, 2000) (citing Del Madera Props. v. Rhodes & Gardner, Inc., 820 F.2d 973, 977 (9th Cir.1987), overruled on other grounds by Fogerty v. Fantasy, Inc., 510 U.S. 517 (1994)). Thus, courts ask whether the state law claim has an “extra element” that changes the nature of the claim. Del Madera, 820 F.2d at 977.

Here, both parties agree that the first prong is met—Plaintiff’s breach of contract claim is based on Defendant’s use of Plaintiff’s copyrighted software: Ghostscript. They disagree,
however, regarding whether the second prong is met; namely, whether the copyright claim
imposes no open source obligations, and [defendant] has [counter]sued based on [plaintiff’s]
breach of an additional obligation: an affirmative promise to make its derivative work open source
because it incorporated an open source program into its software. [The] claim therefore requires an
‘extra element’ in addition to reproduction or distribution: a failure to disclose the source code of
the derivative software.” *Id.* Defendant counters that *Versata* was decided under a different GPL
and insists that the court should instead follow the court’s rationale in *Jacobsen II*. There, the
court concluded that the breach of contract claim was preempted “because it allege[d] violations of
the exact same exclusive federal rights protected by Section 106 of the Copyright Act, the
exclusive right to reproduce, distribute and make derivative copies.” *Jacobsen II*, 609 F. Supp. 2d
at 933. Defendant, however, does not explain why the GPU GPL’s open source requirement is not
the required extra element and the argument was apparently not made in *Jacobsen II*. Defendant
has thus not met its burden of proving preemption. *See Stengel v. Medtronic*, 704 F.3d 1224,
1227–28 (9th Cir. 2013) (en banc) (“Parties seeking to invalidate a state law based on preemption
bear the considerable burden of overcoming the starting presumption that Congress does not
intend to supplant state law.”) (internal citation and quotation marks omitted); *Hendricks v.
StarKist Co.*, 30 F. Supp. 3d 917, 925, n.5 (N.D. Cal. 2014) (noting that preemption is an
affirmative defense for which defendant bears the burden of proof).

In any event, the Ninth Circuit Court has held that the Copyright Act “does not preempt
causes of action premised upon possible extraterritorial infringement.” *Allarcom Pay Television,
Ltd. v. Gen. Instrument Corp.*, 69 F.3d 381, 387 (9th Cir. 1995). As discussed below, both parties
agree that this action is premised upon possible extraterritorial infringement to which the
Copyright Act would not apply. Because any such extraterritorial infringement would not be
subject to the Copyright Act, claims based on this infringement would not be preempted and thus
could be maintained under state law instead. *Id.*

***
Accordingly, Defendant’s motion to dismiss Plaintiff’s breach of contract claim is denied. Plaintiff has adequately pled the claim and Defendant has not proved at this stage that the claim is preempted by the Copyright Act.

B. Plaintiff’s Copyright Claim

There is no dispute that Plaintiff has adequately alleged that Defendant committed acts of infringement in the United States: “Hancom has offered and distributed its infringing products incorporating Ghostscript in California through the Internet.” (Complaint ¶ 7.) Defendant, however, moves to dismiss Plaintiff’s copyright claim to the extent that it is predicated on any extraterritorial acts of alleged infringement. As the Ninth Circuit has recognized, “wholly extraterritorial acts of infringement cannot support a claim under the Copyright Act.” Subafilms, Ltd. v. MGM-Pathe Commc’ns Co., 24 F.3d 1088, 1095 (9th Cir. 1994) (en banc).

Plaintiff maintains that the motion to dismiss is premature and that a motion to dismiss claims of foreign infringement must be denied where domestic infringing acts are sufficiently pled as they are here. Plaintiff suggests that discovery will help identify the specific locations of Defendant’s infringing activities, including where Defendant “physically reproduced or prepared derivative works of Ghostscript.” (Dkt. No. 27 at 15:1.) Further, because Plaintiff is located in the United States and Ghostscript is offered for licensing and download from the United States, “it is possible that Hancom’s infringing acts will all be deemed to have resulted from predicate acts occurring in the United States.” (Id. at 15:3-5.)

Defendant insists that the only exception to the extraterritorial limits on copyright law is where a “predicate infringing act is committed entirely within the United States that enables further infringement outside the United States.” (Dkt. No. 29 at 11:9-11.) Defendant relies on Los Angeles News Serv. v. Reuters Television Int’l, Ltd., 149 F.3d 987 (9th Cir. 1998), which holds that the Copyright Act may apply where an act of infringement is completed entirely within the United States and such an infringing act enabled further exploitation abroad. Id. at 990-92. Courts, however, are split on “whether all parts of the infringing act must take place in the United States, or if it is sufficient that some part of the infringing acts take place in the United States.” Shropshire v. Canning, 809 F. Supp. 2d 1139, 1145 (N.D. Cal. 2011). Defendant insists that the
only reasonable inference that can be drawn from the Complaint is that the infringement took
place in South Korea where Hancom is located. Not so.

The Complaint alleges that Plaintiff, a California company, offered Ghostscript for license
either commercially or through the GNU GPL on the Internet, that Defendant licensed Ghostscript
via the GNU GPL, that it integrated Ghostscript into its Hangul software without complying with
the open-source licensing requirements, and that it offered and distributed the allegedly infringing
product on the Internet. (Complaint ¶¶ 2, 6-7, 10, 17-18.) Defendant insists that because it is a
South Korean company the Court must draw the inference that all the predicate acts—the copying,
integrating and incorporating of Plaintiff’s software—occurred in South Korea. While that is
certainly a reasonable inference, the Court is required to draw all reasonable inferences in
Plaintiff’s favor—not the other way around. There are no facts alleged in the complaint that
would prohibit the inference that at least some infringement occurred in the United States.

The cases upon which Defendant relies are distinguishable. In Rundquist v. Vapiano SE,
798 F. Supp. 2d 102 (D.D.C. 2011), the court addressed whether the Copyright Act reached the
defendant’s use of plaintiff’s copyrighted photographs in restaurants outside the United States.
The plaintiff argued that the defendant’s infringement in the United States was a sufficient
predicate act to reach the photographs published outside the United States because the defendant
used the American restaurants to entice the opening of foreign restaurant franchisees. The court
concluded that this argument “stretches the predicate act exception too far.” Id. at 124. Here, in
contrast, the allegations are simply too sparse for the Court to conclude that the Copyright Act
does not reach Defendant’s software distributed abroad. See, e.g., Damental Too, Ltd. v. Gemmy
(dismissing extraterritorial copyright claim because plaintiff had not alleged any domestic
copyright infringement—“mere authorization and approval of copyright infringements taking
place outside the United States is not a copyright violation”); Update Art, Inc. v. Modiin Pub.,
Ltd., 843 F.2d 67, 73 (2d Cir. 1988) (noting that copyright protection applied “[i]f the illegal
reproduction of the poster occurred in the United States and then was exported to Israel” but not if
the reproduction occurred solely in Israel).
In short, while the Copyright Act may not reach all of Defendant’s challenged acts, the
Court cannot resolve this issue on this record. The Court therefore denies the motion to dismiss
without prejudice to raising this issue in a subsequent pleading should the evidence suggest that
the requisite link between the extraterritorial infringement and activities in the United States does
(N.D. Cal. Feb. 4, 2016) (allowing discovery into whether plaintiff had “a viable claim for
damages flowing from extraterritorial exploitation of an infringing act that occurred entirely inside
the United States.”) (internal quotation marks omitted); Fyk v. Roth, No. CIV.A. 94-3826, 1995
WL 290444, at *2 (E.D. Pa. May 9, 1995) (“denying motion to dismiss claims based on
extraterritorial infringements because “[f]urther detailed information as to acts occurring within
and without the United States is necessary in order to render a decision on this claim, which will
only be gained through discovery.”).

C. Defendant’s Request to Dismiss Certain Requests for Relief

Finally, Defendant moves to dismiss portions of Plaintiff’s prayer for relief including
Plaintiff’s request for specific performance, restitution, and consequential damages on the breach
of contract claim, and statutory and exemplary damages, as well as attorney’s fees on the
copyright claim.3 Plaintiff concedes that as pled it is not entitled to exemplary damages on either
claim, but otherwise contends that Defendant’s request to dismiss and parse portions of its prayer
for relief is otherwise improper at this stage. The Court agrees.

Generally, “factually based arguments [to dismiss relief sought] are appropriate … at a later
stage of litigation, not on the pleadings.” Whittlestone, 618 F.3d at 975 n.2. Accordingly, the
Court will not dismiss the request for specific performance—directing Defendant to distribute its
source code—even though the ultimate imposition of such relief is extremely dubious. The result

3 Defendant’s motion is brought under Rule 12(b)(6) which governs dismissal for failure to state a
claim upon which relief may be granted, but Defendant characterizes this portion of its motion as
seeking to strike certain claims for relief. While “[t]he court may strike from a pleading an
insufficient defense or any redundant, immaterial, impertinent, or scandalous matter” under Rule
12(f), dismissal under Rule 12(b)(6) is the proper vehicle, where, as here, a defendant challenges
the legal sufficiency of certain requests for relief. See Whittlestone, Inc. v. Handi-Craft Co., 618
F.3d 970, 974 (9th Cir. 2010). The Court will thus construe Defendant’s request as one for
dismissal.
is the same for the restitution demand. “To find otherwise would confuse pleading under Federal
Rule of Procedure 8(a) with proof.” Spann v. J.C. Penney Corp., No. SA CV 12-0215 FMO, 2015

there the court dismissed the claim for specific performance because the “terms of the agreement
[plaintiff sought specific performance of] are not sufficiently certain to make the precise act which
is to be done clearly ascertainable.” Id. at *8. Here, neither party alleges lack of ascertainability.

In contrast, in Oracle Corp. v. DrugLogic, Inc., No. C 11-00910 JCS, 2011 WL 5576267, at *14
(N.D. Cal. Nov. 16, 2011), the court denied a request to strike a claim for specific performance
because the defendant had not cited any case establishing that it was appropriate to strike a request
for specific performance at the pleadings stage where the party included general allegations as to
breach of contract, and there was a threat of continued harm. While Defendant correctly
emphasizes that there is no allegation of continued harm here, “at the pleading stage, the court
simply is not in a position to determine whether an adequate remedy at law exists” particularly
where, as here, Defendant contests Plaintiff’s entitlement to damages. JPMorgan Chase Bank,
*5 (C.D. Cal. May 30, 2013); see also Ceruzzi Holdings, LLC v. Inland Real Estate Acquisitions,
have to eventually demonstrate the inadequacies of damages, however, does not mean that they
must demonstrate this at the pleading stage. Although specific performance is an appropriate
remedy only if damages are impracticable or inadequate, [p]laintiffs may plead alternative theories
requesting damages and specific performance until discovery may better elucidate which remedy,
if any is appropriate.”) (internal citation and quotation marks omitted).

Nor is the Court persuaded by Defendant’s fact-based argument that specific performance
is barred by Section 8 of the GNU GPL. Because this argument requires interpretation of contract
language—the effect of which the parties dispute—it cannot be resolved at this stage. See
Gardner v. RSM & A Foreclosure Servs., LLC, No. 12CV2666, 2013 WL 1129392, at *3 (E.D.
Defendant’s motion to dismiss portions of Plaintiff’s prayer for relief is therefore denied without prejudice to renewing its arguments on summary judgment.

CONCLUSION

For the reasons explained above, Defendant’s motion to dismiss is DENIED. (Dkt. No. 18.) Plaintiff’s request for exemplary damages is deemed withdrawn.

Defendant shall file its answer by May 18, 2017.

The parties shall appear for an Initial Case Management Conference on June 15, 2017 at 1:30 p.m. in Courtroom F, 450 Golden Gate Ave., San Francisco, California. A Joint Case Management Conference Statement is due June 8, 2017.

IT IS SO ORDERED.

Dated: April 25, 2017

JACQUELINE SCOTT CORLEY
United States Magistrate Judge
same issue, such inconsistency is not a proper basis for this Court to reconsider its Decision. The State Court’s interpretation of federal law is clearly not binding on this Court and plaintiffs cite no other controlling law or factual matters that they believe the Court overlooked. See Lichtenberg, 2002 WL 109483, at *1. Accordingly, it is hereby

ORDERED that Plaintiffs’ request for leave to file a motion for reconsideration is DENIED.

SO ORDERED.

LINKCO, INC., Plaintiff,

v.

FUJITSU LTD., Defendant.

No. 00 Civ. 7242(SAS).

United States District Court,
S.D. New York.


Computer software developer sued competitor for tortious interference with contract, misappropriation of trade secrets, and unfair competition. On defendant’s motion for judgment as matter of law, the District Court, Scheindlin, J., held that: (1) competitor did not tortiously interfere with contracts; (2) competitor did not misappropriate trade secret or idea; (3) developer stated claim for misappropriation of information; and (4) there was evidence of resulting damages.

Motion granted in part and denied in part.

1. Torts \(\Rightarrow\) 12

Under New York law, competitor could not be found to have tortiously interfered with software developer’s contracts with employee or consultant absent evidence competitor knew of contracts or that it induced their breach.

2. Torts \(\Rightarrow\) 10(5)

Under New York law, system architecture for proposed software program was not “trade secret,” and thus could not be misappropriated, once publicly disclosed.

See publication Words and Phrases for other judicial constructions and definitions.

3. Torts \(\Rightarrow\) 10(5)

Under New York law, competitor could not be held liable to software developer for unfair competition, based on alleged misappropriation of ideas, absent evidence that any legal relationship existed between parties.

4. Torts \(\Rightarrow\) 10(5)

Under New York law, developer of system architecture for software program stated unfair competition claim against competitor based upon misappropriation of information; there was evidence that developer had invested labor, skill, and expenditures in development of its system, and that competitor had misappropriated information in bad faith and used it for its own benefit.

5. Damages \(\Rightarrow\) 114

Under New York law, factors to consider when calculating damages for misappropriation of information, in absence of profits, are: (1) time spent developing information, (2) money invested, (3) labor invested, and (4) reasonable portion of expected profitability of final product that incorporates misappropriated information, measured at time of hypothetical negotiation for sale or licensing of property created by plaintiff’s labor, skill and expenditures.
Irving B. Levinson, Joseph G. Finnerty, Jr., Michael R. Hepworth, Piper Rudnick LLP, New York, NY, for Plaintiff.


OPINION AND ORDER

SCHEINDLIN, District Judge.

Fujitsu has moved for a judgment as a matter of law ("JMOL") at the close of LinkCo’s case, arguing that LinkCo failed to present sufficient evidence for a jury to find in its favor on any of the remaining three causes of action: (1) tortious interference with contract, (2) misappropriation of trade secret, and (3) unfair competition. The parties have fully briefed the issue and this Court has heard oral argument.

Fujitsu submits that a JMOL is required because LinkCo has failed to offer sufficient proof on at least one element of each claim. See Def. Outline at 1. Fujitsu further argues that LinkCo has presented insufficient proof of damages, which is a necessary element of each of its claims. See Id. at 2. LinkCo contends that there are numerous grounds upon which a reasonable jury could find Fujitsu liable on each of its claims. See Pl. Mem. at 1. For the reasons set forth below, the tortious interference with contract and misappropriation of trade secret claims are dismissed. The unfair competition claim, however, must be decided by the jury.

I. STANDARD FOR JUDGMENT AS A MATTER OF LAW


The court itself may not weigh the credibility of witnesses or consider the weight of the evidence. See Reeves v. Sanderson Plumbing Prods., Inc., 530 U.S. 133, 150, 120 S.Ct. 2097, 147 L.Ed.2d 105 (2000).

II. FACTUAL BACKGROUND

In 1995, LinkCo began developing an architecture for computer software to be

Computer system architecture is a critical element of a software program. See Testimony of Bruce Webster, LinkCo's expert witness ("Webster Testimony"), Tr. at 1181. Program designers rely on system architecture to determine the objectives and purposes of the end product. See id. at 1180.

According to Webster, LinkCo's system architecture was comprised of 26 elements. See id. at 1193. The system was divided into three parts: "investor relations, corporate financial disclosure, and public relations . . . within the context of database management." Id. at 1194. The goal of the end product was to create a database of information in the public and commercial domain and assist companies with their regulatory filings. LinkCo then intended to market this program to the business community. See id. Ultimately, LinkCo never commercialized any product related to its designs and the company ceased operations in December 1997. See Linkco, 2002 WL 237838 at *2.

LinkCo took substantial steps to keep its development efforts secret. It required all employees and consultants to sign confidentiality and nondisclosure agreements. See Testimony of David Israel–Rosen ("Israel–Rosen Testimony"), Tr. at 724. It also required prospective customers and corporate partners to sign confidentiality agreements before giving them access to its confidential information. See Testimony of Oded Maimon ("Maimon Testimony"), Tr. at 370, 492.


In June 1997, Professor Ajit Kambil, a Management Information Systems expert at the Stern Business School of New York University ("NYU"), entered into a Mutual Confidential Nondisclosure Agreement ("Nondisclosure Agreement") with LinkCo, in which he agreed not to disclose "confidential information" to any third party. See 11/20/02 Letter from Irving B. Levinson, plaintiff's attorney, Plaintiff's Exhibit ("Pl.Ex.") 9 at L00744–45.

In September 1997, LinkCo met with Fujitsu to discuss a possible collaboration, but those negotiations were unsuccessful. See Linkco, 2002 WL 237838, at *1. Although LinkCo and Fujitsu met without a confidentiality agreement, LinkCo only provided Fujitsu with a general overview of its business strategy and objectives. See Pl. Exs. 1, 67.

Several months later, Fujitsu met secretly with Kanda and Kambil in New York. See Linkco, 2002 WL 237838, at *1. LinkCo alleges that Fujitsu obtained trade secrets and confidential information about LinkCo's technology, at these meetings, in violation of Kanda and Kambil's contracts. See id. at *2. In 1998, Fujitsu hired Kanda to conduct research and provide consulting services. Id. Kambil also eventually became a consultant for Fujitsu. See 10/1/02 Testimony of Takeshi Ito ("Ito Testimony"), Tr. at 229–31.

III. DISCUSSION

A. Tortious Interference with Contract Claim

Fujitsu submits that judgment as a matter of law is appropriate on LinkCo's claim of tortious interference with the following two contracts: (1) the Employment Agree-
ment between LinkCo and Kanda, and (2) the Nondisclosure Agreement between LinkCo and Kambil.

Under New York law, the elements of a tortious interference with contract claim are: “[1] that a valid contract exists, [2] that a ‘third party’ had knowledge of that contract, [3] that the third party intentionally and improperly procured the breach of the contract, and [4] that the breach resulted in damage to the plaintiff.” Albert v. Loksen, 239 F.3d 256, 274 (2d Cir. 2001) (citing Finley v. Giacobbe, 79 F.3d 1285, 1294 (2d Cir. 1996)).


1. Kanda Contract

a. Is There a Valid Contract?

[1] Fujitsu argues that LinkCo has failed to provide a sufficient evidentiary basis upon which a reasonable jury could: (1) conclude that Kanda was a party to a “valid” contract with LinkCo, and (2) determine the nature of any such contractual obligations. See Def. Outline at 4.

When a party alleges that a written agreement exists and was breached, it is incumbent upon that party to provide the contract or sufficient evidence from which the essential terms of that written agreement can be ascertained. See Sims v. Blanchris, 648 F.Supp. 480, 484–85 (S.D.N.Y. 1986) (holding that plaintiff did not meet the burden of proof on breach of contract claim when contract was not produced, testimony regarding it was inconclusive, essential terms were in doubt, and no satisfactory evidence of an alleged breach had been adduced).

Although the Complaint alleges that Kanda entered into an Employment Agreement with LinkCo, in which he agreed not to disclose any of LinkCo’s intellectual property to a third party, LinkCo produced no such written contract at trial. See Compl. ¶¶ 21–22; 10/9/02 Israel–Rosen Testimony, Tr. at 730–31 (acknowledging LinkCo’s inability to locate Kanda’s Employment Agreement). LinkCo did, however, offer into evidence: (1) testimony to the effect that Kanda signed one or more written contracts at a meeting that took place in 1996, see Maimon Testimony, Tr. at 339; Israel–Rosen Testimony, Tr. at 725–26; and (2) a written contract between LinkCo and Oded Maimon, which LinkCo asserts to be the same form of contract as the one signed by Kanda, see Pl.Ex. 10 at L09696–700.
The testimony at trial could not support a finding by a reasonable jury that Kanda signed a contract identical to the one signed by Maimon. See Israel–Rosen Testimony, Tr. at 724–26 (expressing confusion as to whether Kanda signed an employment agreement with a nondisclosure provision or three separate documents, the second of which was a nondisclosure agreement); Maimon Testimony, Tr. at 342 (discussing individualized provision in Maimon’s contract regarding the purchase of a motorcycle). But see Maimon Testimony, Tr. at 341 (stating belief that language regarding obligation to protect confidential information was identical in all employment agreements).

The fact that employment contracts typically contain nondisclosure and noncompete provisions, as noted by LinkCo, see Pl. Mem. at 1–2, is insufficient to prove that a party is bound by such provisions. See McKay v. Communispond, Inc., 581 F.Supp. 801, 806 (S.D.N.Y.1983) (finding form employment contract containing anti-competitive clause insufficient to establish that plaintiff was bound by the contract and its covenant not to compete where defendant did not produce a signed contract).

Without proof of the written contract, or the terms contained therein, there is minimal evidence from which a jury could conclude that Kanda was party to a valid contract. Nevertheless, because a reasonable jury could infer from Maimon’s testimony that Kanda signed a nondisclosure agreement, although the form of the contract containing such provision is unknown, the jury should be permitted to assess the credibility of the witnesses and weigh the evidence on this element. However, because LinkCo has failed to offer sufficient evidence on two of the remaining elements of tortious interference with contract, the claim must nonetheless be dismissed.

b. Knowledge and Inducement

First, the trial record is devoid of any evidence of Fujitsu’s direct knowledge of the employment contract between LinkCo and Kanda with which it is alleged to have interfered. See Ito Testimony, Tr. at 188–89 (acknowledging that Fujitsu did not ask, prior to hiring Kanda, whether Kanda had an employment agreement with LinkCo). LinkCo relies on testimony that Takeshi Ito, a Fujitsu executive, thought nondisclosure agreements were “a matter of course” and “common practice” in employment. See Pl. Mem. at 4–5 (citing Ito Testimony, Tr. at 681–82). LinkCo argues that there is an implied contractual obligation in all employment contracts not to disclose trade secrets, and that Fujitsu is therefore presumed to have knowledge of the two contracts. See Pl. Mem. at 4. Assuming, arguendo, that Fujitsu had knowledge of this implicit obligation, which is highly unlikely, it did not have actual knowledge of the contracts at issue, as required by law. See Sovereign Bus. Forms, 2000 WL 1772599, at *9 (rejecting plaintiff’s argument that defendant should have known of existence of non-competition agreement as tenuous and speculative); AA Tube Testing Co. v. Sohne, 20 A.D.2d 639, 246 N.Y.S.2d 247, 248 (2d Dep't 1964) (finding allegation that defendants “should have known” of existence of contract insufficient allegation of “actual” knowledge).

In support of the proposition that Fujitsu had implied knowledge of Kanda’s contract, LinkCo relies on North Atlantic Instruments, Inc. v. Haber, 188 F.3d 38 (2d Cir.1999). See Pl. Mem. at 2. Such reli-
ance is misplaced. In *North Atlantic*, the question was whether an employee’s use of a trade secret breached an implied duty in his employment contract not to reveal confidential information acquired in the course of employment. 188 F.3d at 47. The court did not address whether a third party is presumed to have knowledge of that employee’s implied obligation. Moreover, the court recognized that an employer and employee may contractually limit this implied duty. *Id.* at 47–48. However, there is no proof that any Fujitsu employee reviewed the terms of Kanda’s alleged contract to determine whether it limited the nondisclosure obligation.

Second, there is no evidence in the record from which a reasonable jury could conclude that Fujitsu induced Kanda to breach his contract with LinkCo. LinkCo points to two pieces of evidence in the record as proof of inducement: (1) the transmission of documents by Kanda to Fujitsu in the Fall of 1997, and (2) the payments Kanda received from Fujitsu in 1998. *See* Pl. Mem. at 5–6. The fact that Kanda transmitted one or more documents to Fujitsu is irrelevant, unless LinkCo can show that Fujitsu caused the transmission to happen, which it has not done. Likewise, the fact that Fujitsu made payments to Kanda on consulting agreements in June 1998, many months after the transmission of the November 20, 1997 memorandum, see Pl.Ex. 2, the alleged breaching act, is meaningless in the absence of evidence that the payments were in exchange for the information contained in that document. *See* Pl. Mem. at 6 (citing Maimon Testimony, Tr. at 399–403, 463). If the jury were to conclude from either of these two pieces of evidence, without further proof, that Fujitsu induced Kanda to breach his contract, such a conclusion would be mere speculation, which is impermissible. *See D’Amico v. City of New York*, 132 F.3d 145, 149 (2d Cir.1998) (citations omitted) (“The non-moving party [to a JMOL motion] may not rely on mere conclusory allegations nor speculation, but instead must offer some hard evidence showing that its version of the events is not wholly fanciful.”).

Without evidence of Fujitsu’s actual knowledge of Kanda’s employment agreement or proof of inducement, this Court is compelled to grant judgment as a matter of law on LinkCo’s tortious interference with contract claim. 4

2. Kambil Contract

LinkCo has produced the Nondisclosure Agreement it had with Kambil. *See* Pl.Ex. 9 at L00744–45. However, there is no evidence of Fujitsu’s direct knowledge of Kambil’s contract or of Fujitsu’s inducement of Kambil to breach that contract. In addition, there is no evidence as to what “confidential” information Kambil allegedly disclosed to Fujitsu, without which a breach cannot be established. *See* Def. Outline at 5. Fujitsu’s motion for a JMOL with respect to tortious interference with Kambil’s contract is also granted.

B. Misappropriation of Trade Secret Claim

To succeed on a claim for trade secret misappropriation under New York law, a plaintiff must establish “(1) that it possessed a trade secret, and (2) that the defendants used that trade secret in

4. In a pretrial telephone conference, this Court ruled that the only way LinkCo could recover damages for its claim regarding Fujitsu’s use of the TanshinStation name is if the elements of the tortious interference claim were established, and the use of “TanshinSta-
breach of an agreement, confidential relationship or duty, or as a result of discovery by improper means.” *North Atlantic*, 188 F.3d at 43-44.

1. **What Is a Trade Secret?**

New York courts have adopted the general definition of a trade secret set forth in the Restatement of Torts § 757, comment b (1939), which states as follows: “A trade secret may consist of any formula, pattern, device or compilation of information which is *used in one’s business*, and which gives [the owner] the opportunity to obtain an advantage over competitors who do not know or use it.” See *Softel, Inc. v. Dragon Med. & Scientific Communications, Inc.*, 118 F.3d 955, 968 (2d Cir.1997) (quoting Restatement of Torts § 757 cmt. b (1939) (emphasis added)).

There are two types of trade secrets: customer lists and special knowledge or information that relates to manufacturing or business operations. See 2 N.Y. PJI3d 407 (2001). New York courts have recognized that computer software, or programs, can be a trade secret. See *Business Intelligence Servs., Inc. v. Hudson*, 580 F.Supp. 1068, 1072 (S.D.N.Y.1984) (citing Matter of Belth v. Insurance Dep’t of New York, 95 Misc.2d 18, 406 N.Y.S.2d 649 (1977) (finding description of computer program and details of mathematical models, procedures, and statistical assumptions developed by an insurance company constitute trade secrets)). LinkCo’s claim does not concern customer lists, a manufacturing process or formula, or a software program. Rather, the alleged trade secret is the architecture or design of a business system for managing the disclosure of the financial information of Japanese companies for the benefit of both the companies and their investors. Thus, the first question is whether this information constitutes a trade secret under New York law.

2. **Is “Software Architecture” a Trade Secret?**

[2] “In determining whether information constitutes a trade secret, New York courts have considered the following factors: (1) the extent to which the information is known outside of the business; (2) the extent to which it is known by employees and others involved in the business; (3) the extent of measures taken by the business to guard the secrecy of the information; (4) the value of the information to the business and its competitors; (5) the amount of effort or money expended by the business in developing the information; and (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.” *North Atlantic*, 188 F.3d at 44 (internal quotation marks and citations omitted).

a. **Secrecy**

“[T]he most important consideration [is] whether the information was secret.” See *Lehman v. Dow Jones, & Co., Inc.*, 783 F.2d 285, 298 (2d Cir.1986). Although “secrecy is a question of fact,” see id., courts have held that there can be no trade secret protection, as a matter of law, if the secrecy is necessarily lost when the design or product is placed on the market. See *Hudson Hotels Corp. v. Choice Hotels Int’l*, 995 F.2d 1173, 1177 (2d Cir.1993) (finding that hotel room design concept was not a trade secret because it would be publicly disclosed once the hotel room was built, marketed and occupied), abrogated

5. The parties agree that a trade secret can consist of separate elements, each of which is in the public domain, when there is something novel and unique about the combination of the elements creating a unified process, design or operation. See Pl. Mem. at 9; Def. Reply Mem. at 3.

6. Four of these six factors concern secrecy: factors 1, 2, 3, and 6.
on other grounds by Nadel v. Play-By-Play Toys & Novelties, Inc., 208 F.3d 368 (2d Cir.2000); Speciner v. Reynolds Metals Co., 279 F.2d 337, 337–38 (2d Cir.1960) (finding that a window design was not a trade secret where the features “were readily apparent from a casual inspection of the plaintiff’s window which was available on the open market”); Blank v. Pollack, 916 F.Supp. 165, 175 (N.D.N.Y.1996) (finding a window crank not to be a trade secret because it is “a device, that upon marketing and sale is open to public inspection of all of its features”); Eagle Contronics, Inc. v. Pico, Inc., 89 A.D.2d 803, 433 N.Y.S.2d 470, 472 (4th Dep’t 1982) (finding no trade secret when “any secrecy in the design of the trap was lost when it was placed upon the market”). Thus, the primary consideration in determining secrecy is whether the information is easily ascertainable by the public.

Computer programs have been found to constitute a trade secret where the source code is not easily copied or ascertainable by inspection of the program. See, e.g., Q–Co Indus., Inc. v. Hoffman, 625 F.Supp. 608, 617 (S.D.N.Y.1984) (finding source code of plaintiff’s computer program was not accessible to the public and therefore the program was likely to be a trade secret); Trandes Corp. v. Guy F. Atkinson Co., 996 F.2d 655, 664 (4th Cir.1993) (“The source code can and does qualify as a trade secret . . . [because it] is not readily ascertainable by proper means . . .”). The architecture of a software program may also be a trade secret where only a limited amount of technical detail about the program is disclosed to the public. See Integrated Cash Mgmt. Servs., Inc. v. Digital Transactions, Inc., 920 F.2d 171, 174 (2d Cir.1990) (finding that plaintiff’s unique combination of computer programs was a protectable trade secret because “[t]he architecture of the ICM system was not ‘readily ascertainable’”) (citation omitted).

In this case, however, the alleged trade secret is not a computer program or combination of programs with one or more source codes. It is merely a system architecture. See Webster Testimony, Tr. at 1181 (distinguishing between the design and architecture of a software system and the ultimate product that gets derived from that design). In fact, plaintiff’s counsel and witnesses have compared LinkCo’s system to the architecture of a building. See Tr. at 48; Webster Testimony, Tr. at 1180. While this analogy helps to explain how LinkCo’s combination of elements may be novel, it also demonstrates how the architecture will be easily ascertainable by the public once the product is marketed. Similar to the architecture of a building, once the combination of LinkCo’s elements is seen by the public, the system’s architecture will become obvious and easily duplicated. In Hudson Hotels, the court found that once the hotel room is “built, marketed, and occupied, the features of the room would necessarily be disclosed publicly.” Hudson Hotels, 995 F.2d at 1177. The same is true with LinkCo’s software architecture. Once the 26-element software architecture system is reduced to a product, its architecture can never remain secret. Because the software architecture cannot remain secret once it is marketed, it cannot rise to the level of a trade secret, as a matter of law.7

b. Alternative Ground for Rejecting Trade Secret

It is well-established that marketing concepts and new product ideas are not

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7. Because the system architecture cannot be a trade secret, there is no need to discuss the proof as to whether defendant used the alleged trade secret in breach of an agreement, confidential relationship or duty, or as a result of discovery by improper means. See supra Part III.B.
considered trade secrets. See Hudson Hotels, 995 F.2d at 1177 (addressing, in dicta, the notion that a new product idea cannot, as a matter of law, constitute a trade secret); Boyle v. Stephens, Inc., No. 97 Civ. 1351, 1997 WL 529006, at *4–5 (Aug. 26, 1997) (holding that plaintiff's concept of structuring a mutual fund according to different risk allocations was either a new marketing concept or a new product and, as such, could not be considered a trade secret); Boyle v. Stephens, Inc., No. 98–9444, 2001 WL 1313784 (2d Cir. Oct. 24, 2001). Webster's description of LinkCo's 26 "corporate disclosure elements," suggests that these elements may be nothing more than an amalgamation of business concepts, strategies, and ideas to be used in the eventual construction of a marketable computer software program. See Pl.Ex. 360.

Similarly, information consisting simply of business possibilities or goals is not a trade secret. See PSC Inc. v. Reiss, 111 F.Supp.2d 252, 258 (W.D.N.Y.2000) ("It is also difficult to see how the meager information that [defendant] had obtained constituted trade secrets. Some of the items that [plaintiff] stated were confidential were merely goals that [plaintiff] hoped to achieve over time in developing its new product."); Forest Labs., Inc. v. Lowey, 218 U.S.P.Q. 646, 657 (Sup.Ct. Westchester Co.1982) ("[U]ndeveloped ideas and plans concerning future improvements in the [plaintiff's] process are not protectible as trade secrets."); aff'd, 106 A.D.2d 368, 482 N.Y.S.2d 500 (2d Dep't 1984). Many of LinkCo's 26 elements are merely possibilities and goals (e.g., security, version control, database management and multiple formats for reports).

While I find it highly unlikely, it is possible that a reasonable jury could find that LinkCo's software architecture system is something more than a marketing concept, new product idea, possibility, goal or some combination thereof. Because I conclude that LinkCo's 26–element corporate disclosure system cannot be a trade secret as it is does not satisfy the element of being "used secretely and continuously in commerce", Hudson Hotels, 995 F.2d at 1177, I need not decide whether it also fails as a trade secret for these alternative reasons.

C. Unfair Competition Claim

The central principle underlying a claim for unfair competition under New York law is that one may not misappropriate the results of the labor, skill, and expenditures of another. See Saratoga Vichy Spring Co., Inc. v. Lehman, 625 F.2d 1037, 1044 (2d Cir. 1980). An unfair competition claim must also involve some degree of bad faith. Id.

The New York pattern jury instructions identify several types of unfair competition: trade secrets, trademark, trade name infringement, palming off, misappropriation, and false labeling or advertising. See 2 N.Y. PJI3d 405 (2001). However, the Second Circuit has made clear that unfair competition is not limited to the categories of infringement that have been described in New York's pattern jury instructions or recognized by courts, but instead encompasses a broad range of conduct. See National Basketball Ass'n v. Motorola, Inc., 105 F.3d 841, 851 (2d Cir. 1997) (describing New York unfair competition law as standing for the "broader principle that property rights of commercial value are to be and will be protected from any form of commercial immorality") (internal quotation marks and citation omitted); Roy Export Co. Establishment of Vaduz, Liechtenstein v. Columbia Broad. Sys., Inc., 672 F.2d 1095, 1105 (2d Cir. 1982) ("New York courts have noted the 'incalculable variety' of illegal practices falling within the unfair competition rubric . . . calling it a 'broad and flexible' doctrine . . . ."); Electrolux Corp. v. Val–Worth, Inc., 6 N.Y.2d 556,
Unfair competition is a form of unlawful business injury. The incalculable variety of illegal commercial practices denominated as unfair competition is proportionate to the unlimited ingenuity that overreaching entrepreneurs and trade pirates put to use. This “adaptable and capacious tort” proscribes all forms of commercial immorality, the confines of which are marked only by the “conscience, justice and equity of common-law judges.” Demetriades v. Kaufmann, 698 F.Supp. 521, 525 (S.D.N.Y.1988) (internal quotation marks and citations omitted). This “adaptible and capacious tort” proscribes all forms of commercial immorality, the confines of which are marked only by the “conscience, justice and equity of common-law judges.” Demetriades v. Kaufmann, 698 F.Supp. 521, 525 (S.D.N.Y.1988) (internal quotation marks and citations omitted).

1. Misappropriation of Trade Secrets and Ideas

Fujitsu argues that there are only two possible predicates to LinkCo’s unfair competition claim: trade secret misappropriation and idea misappropriation. See Def. Outline at 7–8. The parties agree that if the predicate is trade secret misappropriation, then LinkCo’s unfair competition claim is duplicative of its trade secret claim. See Def. Outline at 7; Oral Arg. Tr. at 1961; see also Abernathy–Thomas Eng’g Co. v. Pall Corp., 103 F.Supp.2d 582, 599–600 (E.D.N.Y.2000) (treating misappropriation of trade secrets and unfair competition as stating a single cause of action when an unfair competition claim is based on wrongful disclosure of proprietary information); Atmospherics, Ltd. v. Hensen, 269 A.D.2d 343, 702 N.Y.S.2d 385, 386 (2d Dep’t 2000) (affirming judgment as a matter of law at close of plaintiff’s case for misappropriation of trade secrets and unfair competition when no rational jury could conclude that plaintiff’s information constituted trade secrets). Because I am granting judgment as a matter of law on LinkCo’s trade secret claim, no further discussion of this predicate is required.

Under New York law, a claim for idea misappropriation requires: (1) a legal relationship between the parties in the form of a fiduciary relationship, an express or implied-in-fact-contract, or quasi-contract, and (2) a novel and concrete idea. See Adsani v. Miller, PMA, No. 94 Civ. 9131, 1996 WL 194326, at *16 (S.D.N.Y. Apr.22, 1996). Fujitsu submits that there is no sufficient evidentiary basis that would permit a reasonable jury to find that a legal relationship exists between the parties. See Def. Outline at 8. LinkCo concedes that there is no such relationship. See Oral Arg. Tr. at 1962. Accordingly, LinkCo has no idea misappropriation claim.

2. Misappropriation of Information

Instead, LinkCo argues that there can be a misappropriation of labor, skill, and expenditures that does not fall within either trade secret or idea misappropriation. See Pl. Mem. at 23. In support of this claim, LinkCo points to the fact that New York courts have recognized an additional tort—unfair competition based on “investment” misappropriation—despite the fact that there are separate torts for trade secret misappropriation and idea misappropriation, which suggests that unfair competition is a broader cause of action. See id. at 22.

Indeed, the doctrine of unfair competition has been applied in various situations, like this, where a plaintiff alleges misappropriation of information that does not rise to the level of misappropriation of trade secrets or ideas. See, e.g., Robotic Vision Sys., Inc. v. General Scanning, Inc., No. 96–CV–3884, 1997 WL 1068696, at *6 (E.D.N.Y.1997) (finding that allegations of misappropriation of information regarding a bidding strategy used to acquire a company support a claim for unfair competition under New York law); Innovative Networks, Inc. v. Satellite Airlines Ticketing Ctrs., 871 F.Supp. 709, 729–30 (S.D.N.Y.1995) (holding that unauthorized
physical taking and exploitation of internal company documents for use in competitor’s business constitutes unfair competition, although information taken would not qualify as a trade secret); Demetriades, 698 F.Supp. at 526 (applying law of unfair competition where interior features of an unsold residence were found not to be trade secrets); Continental Dynamics Corp. v. Kanter, 64 A.D.2d 975, 408 N.Y.S.2d 801, 802 (2d Dep’t 1978) (holding that misappropriation of customer lists, although not considered trade secrets, nevertheless states cause of action under unfair competition).

A claim for unfair competition based on misappropriation generally involves the taking of a property right. Roy Export, 672 F.2d at 1105. New York courts have found that persons have a protectable property interest in their “labor, skill, expenditure, name and reputation.” See Metropolitan Opera Ass’n. v. Wagner–Nichols Recorder Corp., 199 Misc. 786, 101 N.Y.S.2d 483, 492 (Sup.Ct.N.Y.Co.1950). Undoubtedly, there is substantial evidence in the record for a jury to find that LinkCo invested labor, skill, and expenditures in the development of its system. See Link-co, 2002 WL 237838, at *3 (finding LinkCo had more than twenty professionals working for over two years on its system, at a cost of over two million dollars); 10/14/02 Testimony of Bruce Webster (“Webster Testimony”), Tr. at 1191–92, 1418 (acknowledging the magnitude of documents produced by LinkCo in conjunction with the development of its system as compared to the lack of any Fujitsu architecture development documents prior to September 1997). In addition, there is sufficient proof for a reasonable jury to find that Fujitsu misappropriated the information in bad faith and used it for its own benefit. See Ito Testimony, Tr. at 160, 183–84, 229–30 (acknowledging Kanda had information regarding Japan’s disclosure system that Fujitsu could use); Maimon Testimony, Tr. at 399–403, 463 (testifying that documents Fujitsu received from Kanda contained information on LinkCo’s business ideas that should not have been disclosed); Ito Testimony, Tr. at 155, 171, 212, 222–23 (describing Fujitsu’s secret meetings with Kanda and Kambil in New York). Because the weight of such evidence may only be decided by a jury, judgment as a matter of law on LinkCo’s unfair competition claim is inappropriate, provided LinkCo has proffered sufficient evidence of damages as a result of Fujitsu’s misappropriation of information. Cf. Commercial Union Assurance Co. v. Milken, 17 F.3d 608, 612 (2d Cir.1994) (affirming summary judgment dismissal of RICO claim where plaintiff failed to present any demonstrable damages).

D. Damages

Because the claims for tortious interference with contract and misappropriation of trade secret are dismissed, the sole remaining question is whether there is a legally sufficient evidentiary basis for a jury to calculate an award of damages on LinkCo’s unfair competition claim. See Def. Outline at 2. Fujitsu argues that there is insufficient proof in the record from which a jury can “fill in the blanks” in the methodology for calculating damages offered by LinkCo’s expert, Aron Levko. Id. LinkCo contends that the evidence is not only greater than Fujitsu suggests, but also sufficient for a jury to either “fill[] in Levko’s blanks” or use alternate methods to determine damages. Pl. Mem. at 19.

The assumption underlying the parties’ damages arguments is that this is a trade secret misappropriation case, for which this Court has ruled that the most appropriate measure of damages is a reasonable royalty. See 9/4/02 Tr. at 3–4. However, it is now necessary to determine the appropriate measure of damages on an unfair
competition claim, an issue upon which this Court has not yet ruled. Once a method for calculating damages has been established, the final question is whether LinkCo has offered sufficient proof from which a reasonable jury can determine the amount of damages.

Damages in unfair competition cases are typically determined by plaintiff’s lost profits resulting from defendant’s improper conduct. See American Safety Table Co. v. Schreiber, 415 F.2d 373, 380 (2d Cir. 1969). The losses must be directly attributable to the unfair acts of defendant. See American Electronics, Inc. v. Neptune Meter Co., 30 A.D.2d 117, 290 N.Y.S.2d 333, 335 (1st Dep’t 1968) (“The basic rule of damage in a case of unfair competition is the amount plaintiff would have made except for defendant’s wrong.”). In addition, the evidence of such losses must not be speculative. See American Safety, 415 F.2d at 381 (finding recovery for lost profits not justified where proof of profits would be speculative).

In trade secret misappropriation cases, however, the courts have diverged from a straight lost profits analysis in cases where plaintiff’s losses and defendant’s actual gain cannot be easily computed. See Vermont Microsystems, Inc. v. Autodesk, Inc., 88 F.3d 142, 151 (2d Cir.1996) (finding “reasonable royalty” method appropriate where there is insufficient evidence of lost profits or unjust enrichment). A reasonable royalty award attempts to measure, as of the time of the misappropriation, a hypothetically agreed value of the property defendant wrongfully obtained. Id. (citing Georgia-Pacific Corp. v. United States Plywood–Champion Papers, Inc., 446 F.2d 285, 296–97 (2d Cir.1971)).

I have already held that a reasonable royalty would have been the best method for calculating damages for Fujitsu’s alleged misappropriation of a trade secret because lost profits would be difficult to establish given that: (1) LinkCo ceased operations not long after the alleged misappropriation, and (2) Fujitsu made no significant profits from such misappropriation. See 9/4/02 Tr. at 4. A similar method should be used with respect to the lost profits element of damages in an unfair competition claim because the same difficulties exist with respect to calculating potential profits.

Moreover, it is well established that if there is a claim, there must be a remedy. Cf. Commercial Union Assurance, 17 F.3d at 612 (affirming dismissal of action because plaintiffs could not prove the “most fundamental of legal elements necessary to support a viable cause of action—any demonstrable damages”). As noted earlier, New York courts have recognized that unfair competition is broadly construed to include misappropriation of a competitor’s property, even if such property does not qualify as a trade secret. While none of the cases cited in Part III.C.2, supra, discussed damages, the absence of profits cannot nullify the claim any more than it would in the context of misappropriation of a trade secret. As discussed, the courts have fashioned a method for calculating damages for misappropriation of trade secrets in the absence of profits. The same method can be applied in the context of misappropriation of information. See Flexitized, Inc. v. National Flexitized Corp., 214 F.Supp. 664, 675 (S.D.N.Y.1963) (“The law of unfair competition, however, must be applied flexibly, and whether relief should be granted in a given instance must be determined by an appraisal of the particular circumstances of the case.”), rev’d on other grounds, 335 F.2d 774 (2d Cir.1964).

The following factors should be considered when assessing damages on an unfair competition claim based on the misappropriation of information: (1) the time spent
developing the information, (2) the money invested, (3) the labor invested, and (4) a reasonable portion of the expected profitability of the final product that incorporates the misappropriated information, measured at the time of a hypothetical negotiation for the sale or licensing of the property created by plaintiff’s labor, skill and expenditures. In determining the “reasonable portion of the expected profitability,” the jury must evaluate how much of the final product was based on plaintiff’s information. Because plaintiff’s work does not rise to the level of a trade secret, plaintiff is not entitled to the full reasonable royalty that would be paid for the use of a trade secret. Trade secret law places a premium on the value of secrecy, and creates exclusive rights in the holder of the secret. Misappropriation of information cannot be used as an end-run around the secrecy requirement.

The absence of evidence of any of these factors is not dispositive. For example, the inability to find profits does not preclude a damage award. A jury may choose to award damages solely for the amount of money or time plaintiff invested in developing the information.

LinkCo has presented many documents and hours of testimony concerning its damages. Although much of the evidence is circumstantial, the Court may not weigh the credibility of witnesses or consider the weight of the evidence. See Reeves, 530 U.S. at 150, 120 S.Ct. 2097. Instead, the Court must review all of the evidence in the light most favorable to plaintiff. See Galdieri–Ambrosini, 136 F.3d at 289. Based on a careful and extensive review of the evidence, and the measure of damages articulated above, I conclude that LinkCo has produced sufficient evidence for a rational jury to compute damages, if Fujitsu is found liable. Should the jury award damages to LinkCo, Fujitsu will have an opportunity to challenge that award if it believes that any portion of it is speculative or against the weight of the credible evidence.

IV. CONCLUSION

For the reasons set forth above, LinkCo’s claims for tortious interference with contract and misappropriation of trade secret are dismissed. Fujitsu’s motion to dismiss LinkCo’s claim of unfair competition is denied.

Diane WORD, Plaintiff,

v.

Alan CROCE, Chairman–Commissioner, New York State Commission of Correction, Glenn S. Goord, Commissioner, New York State Department of Correctional Services, Defendants.

No. 01 CIV. 9614 LTS DFE.

United States District Court, S.D. New York.

Nov. 8, 2002.

Inmate sued commissioner of state commission of correction and commissioner of department of correctional services, alleging violation of her constitutional rights arising when she was left in segregated housing after refusing to submit to tuberculosis test, and was denied desired vegetarian diet. The District Court, 169 F.Supp.2d at 219, granted summary judgment to officials. Thereafter, inmate sued, claiming that segregation and denial of diet violated her First Amendment freedom of religion rights. Defendants moved
Contentious Construction

By Joshua L. Simmons and Megan L. McKeown

Language can serve various purposes. For some, it is merely the way humans communicate with each other. For others, it is a set of rules on how to arrange words to permit communication. And for a select few, the creation of new languages is an expressive activity through which ideas about language, both human and computer, are conveyed.

While U.S. copyright protection “subsists . . . in original works of authorship fixed in any tangible medium of expression,” 1 academics have debated whether constructed languages in general—languages that are invented or intentionally devised 2 —and computer languages in particular fit naturally into the copyright system. 3 On the one hand, commentators recognize that “[t]he involvement of a creator with her constructed language does not end when the first book or article describing the language is published.” 4 Instead, the creator is interested in how the language is distributed and developed by subsequent users. 5 In other words, she (like any author) intuitively possesses a sense of ownership over the work that she has created. 6

On the other hand, not all effort in creating a new work is entitled to copyright protection. 7 Some commentators have argued that languages, even if they are original and creative, should not receive copyright protection because language is akin to an unprotectable idea that is free for anyone to use. 8 This debate has raged particularly large in considering the copyrightability of computer languages, which some in the academic community believe should be per se uncopyrightable or as minimally protected as possible. 9

Despite this academic debate, until recently, the U.S. courts had not had the opportunity to consider the issue. That changed when two cases began making their way through the U.S. court system.

SAS Institute Inc. v. World Programming Ltd. concerns the SAS System, “an integrated suite of business software products” that allow users to “access, manage, and analyze data by writing programs in a programming language” called “SAS Language,” and World Programming’s competing system that, among other components, copied the SAS Language. 10
In contrast to the software issues raised in SAS, Paramount Pictures Corp. v. Axanar Productions, Inc. concerned the creation of a short film titled Star Trek: Prelude to Axanar and a feature film titled Axanar, which are “set in the Star Trek universe twenty-one years before The Original Series.” Paramount alleged that Axanar copied several elements from Paramount’s Star Trek works, including the Klingon language.

This article addresses the debate through a fresh lens in light of recent judicial opinions. Without staking out a position, it summarizes the differing views on critical questions of copyright law related to constructed languages: First, whether constructed languages qualify as “original works of authorship” under the Copyright Act. Second, whether such works would be sufficiently fixed to warrant copyright protection. Third, whether constructed languages are ideas or expression. And finally, how constructed languages might be infringed and whether unauthorized use of a constructed language would constitute fair use.

**Is a Constructed Language an “Original Work of Authorship”?**

The first question warranting consideration is whether constructed languages constitute “works of authorship.” Many commentators have asked whether computer languages satisfy the definition of “computer program” in the Copyright Act: “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.” The interest is understandable as computer programs clearly are copyrightable. However, it does not appear that commentators have considered whether a constructed language would qualify as a non-computer program literary work. While the Copyright Act does not define the term “work of authorship,” it does provide as one of its nonexhaustive examples “literary works.” Literary works are “expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects . . . in which they are embodied.” No commentator has analyzed whether a computer language, or any constructed language for that matter, would satisfy this definition (even if it might not satisfy the narrower definition of a computer program).

By contrast, commentators appear to agree that constructed languages could be sufficiently original to be copyrightable, even if some specific computer languages may not satisfy the originality requirement. There are two possible reasons for the dearth of literature on this subject. First, after Feist Publications, only independent creation and a “minimal degree of creativity” are required for a work to be original. Given the acknowledged creativity of most well-known examples of such languages, commentators may believe that constructed language would satisfy that threshold. Second, the determination of originality is fact-specific, meaning that each language will stand on its own merit and not be subject to a per se originality rule.
What Is the Fixed Work?

Another issue requiring attention is whether a language is fixed. There certainly are dictionaries of words and grammar books for the Klingon art language. 24 Do those books constitute a fixation or multiple fixations of Klingon? Do computer language specifications constitute a fixation of a computer language? Or is a language fixed through its use in novels or, in the case of computer languages, in computer programs?

Some commentators have argued that such fixation is impossible. To them, one of the only ways that a language could be fully fixed is for the author to create “a list of all possible sentences in that language” because it would be “doctrinally suspect” to provide copyright protection for expressions that are not yet fixed. 25 This view, however, has been critiqued by other commentators. 26

Instead, commentators have suggested that fixation occurs when a language is used in a work written in that language. 27 For example, computer languages would be fixed when “they are embodied in computer programs. The program, stored on a . . . tangible medium, defines the computer language which it translates or requires for interaction with it.” 28

A different approach would be to draw an analogy to the protection of characters that appear across multiple fixed works. In the Ninth Circuit, such characters and their attributes are protectable if they satisfy a three-part test: (1) the character must generally have “physical as well as conceptual qualities,” (2) the character must be “sufficiently delineated” to be recognizable as the same character whenever it appears, and (3) the character must be “especially distinctive” and “contain some unique elements of expression.” 29 One might argue that a constructed language that satisfies this test also would be protectable, regardless of whether the language is fixed in a single work.

Is a Constructed Language an Idea or an Expression?

A subject of considerable discussion is whether a constructed language is merely an “idea,” “system,” or “method of operation”—to which § 102(b) of the Copyright Act confirms copyright protection does not extend 30—or whether it is the expression of such ideas, which are protected by copyright law. 31 Propo-
nents of the protection of constructed languages argue that creating a new language involves an expressive, creative process. Developing such languages requires crafting the vocabulary, grammar, and syntax. 32 If, in doing so, there are multiple ways to express the underlying idea of the language, courts may find that it is protectable. 33 Indeed, Professor Steve Posner admits that it is possible to view a computer language “as an instruction set that enables the user to create and manipulate screens, files, file structures and executable programs. With such a view, nearly every language becomes an expression of the idea, because nearly all languages have those capabilities.” 34

By contrast, some academics argue that a language is a system—i.e., “a systematic means of communicating ideas or feelings by the use of conventionalized signs, sounds, gestures or marks having understood meanings.” 35 They argue that computer language is just a “system of vocabulary and grammar rules.” 36 Similarly, those advocating against protection of art languages have described their “vocabulary and grammar rules” as providing “instructions for a speaker to articulate thoughts and ideas,” which they argue are unprotectable. 37
To the extent that these advocates suggest that a constructed language is an unprotectable system because it performs a function, they must wrestle with recent court cases. In *American Dental Ass’n v. Delta Dental Plans Ass’n*, for instance, the Seventh Circuit held that a dictionary “cannot be called a ‘system’ just because new novels are written using words, all of which appear in the dictionary.” 38 To the contrary, it found that a work may be “put to many uses” and still be protectable expression. 39 Likewise, the Federal Circuit in *Oracle America, Inc. v. Google Inc.* rejected the idea that an otherwise expressive work becomes unprotectable if “it is also functional.” 40 As the court explained in the context of computer code, to hold otherwise would mean that “no computer program is protectable,” a result that “contradicts Congress’s express intent to provide copyright protection to computer programs, as well as binding Ninth Circuit case law finding computer programs copyrightable, despite their utilitarian or functional purpose.” 41

Similarly, while ideas and rules may not be protectable, 42 courts have cautioned that the idea of a work or the rules of a game should be described “in fairly abstract terms.” 43 Doing so ensures that room is left for the “particular expression of that idea” to be “copyrightable.” 44 Indeed, “Section 102(b) does not extinguish the protection accorded a particular expression of an idea merely because that expression is embodied in a method of operation at a higher level of abstraction.” 45 Thus, to the extent that a constructed language includes ideas, systems, or methods of operation, a court may find the expression of those concepts protectable. The U.S. courts, however, have avoided this issue by concluding that the plaintiffs in cases tacitly raising this subject had permitted others to use their computer languages, 46 leaving litigants with little guidance as to the application of the idea/expression dichotomy to constructed languages.

**How Do You Infringe a Constructed Language?**

If constructed languages are copyrightable, the inevitable question is what constitutes an unauthorized act of reproduction or distribution, or the creation of derivative works. The standard test for determining infringement in copyright cases is whether there is “substantial similarity between defendants’ work and the protectible elements of plaintiffs’.” 47 Yet, while it has been argued that the use of a language can be one of the elements showing substantial similarity between two works, 48 no court has decided whether the unauthorized use of a language, by itself, would constitute copyright infringement. 49

Similarly, no court has analyzed the four fair use factors to determine whether the unauthorized use of a constructed language would be permitted by 17 U.S.C. § 107. Commentator Michael Adelman, however, has concluded that “most derivative uses of constructed languages would seem to fall squarely within the fair use limitation on copyright.” 50 As to the first fair use factor—“the purpose and character of the use”—he addresses the use of art languages for “analysis, literary criticism, and poetry by students,” 51 but does not address use of constructed languages for substitutive, commercial purposes as may be more common of computer languages. As to the second factor—“the nature of the copyrighted work”—he acknowledges that, while constructed languages that are derivative of other languages or intended for “widespread, factual communications” would be less protectable, “*a priori* languages, with their imaginative morphologies and syntaxes,” or art languages intended to “complement . . . a narrative
work” may receive more protection. Adelman, however, does not address whether a “substantial investment of time and labor . . . in anticipation of a financial return” would cause the second fair use factor to tip toward the copyright holder.

As to the third fair use factor—“the amount and substantiality of the portion used”—he recognizes that “scholarly articles or poems” may use less of a work than “derivative works written in Loglan or Klingon,” which “would be made up almost entirely of copyrighted material.” Finally, as to the fourth factor—“the effect of the use on the potential market for or value of the copyrighted work”—Adelman argues that “dictionaries, grammar books, scholarly analysis, and artistic compositions in a constructed language would only draw more people to the original source material.” This analysis, however, ignores the copyright holder’s interest in creating his or her own companion materials. Ultimately, a decision as to fair use of any given constructed language will be decided on its particular facts.

Conclusion
In summary, as constructed languages grow in popularity, their inevitable march toward U.S. courthouses is unavoidable. For now, we are left to wonder whether such languages fit within copyright’s mold.

Endnotes

2. Nathan Sanders, Constructed Languages in the Classroom, 92 LANGUAGE 192 (2016). Constructed languages are distinguishable from natural languages, which arise “spontaneously and effortlessly from the collective human capacity for language.” Id.


5. Id.

6. As one commentator has observed, “there is a strong temptation for the creator (or primary curator) of a constructed language to assert a copyright on it in order to prolong her control of the language’s dissemination and development.” Id. at 544.

8. See, e.g., Lowry, supra note 3, at 1311; Posner, supra note 3, at 104.

9. See Adelman, supra note 4, at 544 (suggesting that copyright protection surrounding constructed languages should be minimal); Posner, supra note 3, at 99 (noting that “if a language is, indeed, held copyrightable, this author believes the result would be disastrous”); Rachel Scall, Note, Emoji as Language and Their Place Outside American Copyright Law, 5 N.Y.U. J. INTELL. PROP. & ENT. L. 381 (2016) (likening emojis to constructed languages and arguing against copyright protection).


12. Id. at *5. Paramount argued that Axanar’s use of the Klingon language was indicative of the similarity between the works—an argument that caught the attention of the Language Creation Society. The Language Creation Society applied to file an amicus brief (writing partially in Klingon) in support of Axanar’s motion to dismiss, but the court denied the application because the court did “not reach the issue of whether languages, and specifically the Klingon language, [were] copyrightable.” Minute Order, Paramount, No. 2:15-cv-09938 (C.D. Cal. May 9, 2016), ECF No. 42. The court also did not address the question of whether Klingon was separately copyrightable as an art language in deciding the parties’ summary judgment motions. Paramount, 2017 WL 83506, at *5 n.1. The case settled in January 2017, shortly before the scheduled jury trial.

13. See, e.g., Scall, supra note 9, at 396 (noting that it is “not very natural to think of something that is as short as emoji code as a computer program”); Posner, supra note 3, at 121 (“Since language has ‘structure, sequence and organization,’ . . . one might ask whether the language can be copyrighted as part of that larger program.”).

14. 17 U.S.C. § 101. Australian legislative history may provide some insight into whether a computer language would satisfy the U.S. definition of a computer program. In 1984, Australia’s Copyright Act defined a computer program as “an expression, in any language, code or notation, of a set of instructions (whether with or without related information) intended, either directly or after either or both of the following: (a) conversion to another language, code or notation; (b) reproduction in a different material form, to cause a device having digital information processing capabilities to perform a particular function.” Copyright Amendment Act 1984 (Cth) s 3 (Austl.); see also Mark J. Davison et al., Australian Intellectual Property Law 198 (3d ed. 2016). In 1999, the High Court of Australia held that the individual words of a computer language did not meet this statutory definition, because although they were undoubtedly in “code or notation” (the DataFlex language), each word was ultimately only a
single word and none could be said to be a set of instructions. *Data Access Corp. v Powerflex Servs. Pty Ltd* [1999] HCA 49 (Austl.). In light of *Data Access*, Australia replaced its definition of computer program with a definition that more closely mirrors the U.S. definition. David B. Webber & Davies Collison Cave, *Final Report on Copyright for Software in Australia* (1995), http://www.jurisdiction.com/web-boo02.htm. One might argue that the new Australian definition, and by extension the U.S. definition, are broad enough to include computer languages.


17. *Id.* § 101 (definitions).

18. *Cf.* Case C-406/10, SAS Inst., Inc. v. World Programming Ltd., [2012] 3 CMLR 4, ¶ 39 (concluding that computer languages are not protected by European law because they are not protected as computer programs).

19. *See Scall, supra* note 9, at 391 (“The more generic, and less creative, an emoji is, the more likely it will merge with the idea it represents and therefore be uncopyrightable.”).


27. *Id.*

29. DC Comics v. Towle, 802 F.3d 1012, 1021 (9th Cir. 2015).


32. See Adelman, supra note 4, at 544 (describing the endeavor of creating a constructed language as a “labor of love”); Sanders, supra note 2, at 203 (describing a constructed language as a “work of art”).

33. Johnson Controls, 886 F.2d at 1175.

34. Posner, supra note 3, at 112.

35. Lowry, supra note 3, at 1311.

36. Id. at 1312; see also Posner, supra note 3, at 105 (arguing that “when courts understand precisely what a computer language is, and then apply idea/expression analysis, they must conclude that a computer language is almost always an uncopyrightable idea”).


38. 126 F.3d 977, 980 (7th Cir. 1997).

39. Id. at 980–81.

40. 750 F.3d 1339, 1367 (Fed. Cir. 2014).

41. Id.

42. Posner, supra note 3, at 104.


45. Mitel, Inc. v. Iqtel, Inc., 124 F.3d 1366, 1372 (10th Cir. 1997); see also Am. Dental Ass’n v. Delta Dental Plans Ass’n, 126 F.3d 977, 980 (7th Cir. 1997); Computer Assocs. Int’l, Inc. v. Altai, Inc., 982 F.2d 693, 706 (2d Cir. 1992); Johnson Controls, Inc. v. Phoenix Control Sys., Inc., 886 F.2d 1173, 1175–76 (9th Cir. 1989); Toro, 787 F.2d at 1212; Apple Computer, Inc. v. Franklin Computer Corp., 714
But see Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807 (1st Cir. 1995) (rejecting the majority rule and holding that methods of operation are unprotectable regardless of whether they can be expressed differently).

46. SAS Inst. Inc. v. World Programming Ltd., 64 F. Supp. 3d 755, 776 (E.D.N.C. 2014) (concluding that because “plaintiff has testified that anyone can write a program in the SAS Language, and that no license is needed to do so,” “anyone may use [the language] without a license”).

47. Peter F. Gaito Architecture, LLC v. Simone Dev. Corp., 602 F.3d 57, 59 (2d Cir. 2010).

48. In Axanar, the plaintiffs argued that “[l]anguage is part of dialogue,” which may be considered in a substantial similarity analysis. Plaintiff’s Opposition to Defendants’ Motion to Dismiss or Strike in Part Plaintiff’s First Amended Complaint at 10, Paramount Pictures Corp. v. Axanar Prods., Inc., No. 2:15-cv-09938 (C.D. Cal. Apr. 11, 2016).

49. Cf. SAS Inst., 64 F. Supp. 3d at 776 (concluding that the “parties’ programs implement the idea of an SAS Language in different ways as their programs are not written in the same programming languages”).

50. Adelman, supra note 4, at 558.

51. Id. at 556.

52. Id. at 557.

53. Wall Data Inc. v. L.A. Cty. Sheriff’s Dep’t, 447 F.3d 769, 780 (9th Cir. 2006).

54. Adelman, supra note 4, at 557.

55. Id. at 558.