No. 14-410

In The Supreme Court of the United States

GOOGLE INC.,

Petitioner,

v.

ORACLE AMERICA, INC.,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF OF *AMICI CURIAE* HEWLETT-PACKARD COMPANY, RED HAT, INC., AND YAHOO! INC. IN SUPPORT OF PETITIONER

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INTEREST OF *AMICI CURIAE*[1]

Hewlett-Packard Company ("HP"), a leading technology company with headquarters in Palo Alto, California, creates new opportunities for technology to provide a vast array of benefits to people, businesses, governments, and society. With a broad technology portfolio spanning printing, personal systems, software, services, and information technology ("IT") infrastructure, HP delivers solutions for customers' most complex challenges in every region of the world. HP develops, licenses and supports one of the world's largest software portfolios and earns billions of dollars annually in software revenue from products related to cloud computing, IT management, security, and analytics delivered in the form of traditional software licenses or software-as-a-service over the Internet. Innovation is a key element of HP's culture.

Red Hat, Inc. ("Red Hat"), a company with headquarters in Raleigh, North Carolina, is the world's leading provider of open source software and related services to enterprise customers. Using a community-powered approach to software development, Red Hat is recognized for delivering reliable and high-performing cloud, Linux, middleware, storage and

[1] No counsel for any party authored this brief in whole or part, and no person other than *amici curiae* or their counsel made a monetary contribution to the preparation or submission of this brief. Petitioner and Respondent have consented to the filing of this brief. The parties received less than ten days' notice of *amici curiae*'s intention to file an amicus brief, but have nevertheless consented.

virtualization technologies. Its software products are used by Wall Street investment firms, hundreds of Fortune 500 companies, and the United States government. Red Hat has more than 85 offices in 35 countries.

Yahoo! Inc. ("Yahoo!") is a global company with over 12,000 employees operating one of the most trafficked Internet destinations in the world. Yahoo is focused on making the world's daily habits inspiring and entertaining – whether searching the web, emailing friends, sharing photos with family, or simply checking the weather, sports scores, or stock quotes. Yahoo! keeps people connected to what matters most to them, across devices and around the world.

Amici curiae have a stake in the consistent and correct determination of the scope of copyright protection that applies to interfaces of computer programs, including the Java interfaces at stake in this case. Each of the *amici* relies on the availability of open interfaces in developing new products, including products that are compatible with or interoperate with other computer products, platforms and services. Interoperability is the very foundation of the Internet, the Web, and of countless devices and services that depend upon them.

Amici curiae believe that the Federal Circuit's decision disturbs well-established principles upon which they and many other companies have built businesses for over two decades. Entirely apart from the harm that the Federal Circuit's error threatens,

the decision below has already thrown settled expectations about the law into disarray, chilling innovation and investment because of the current uncertainty of the law.

The Federal Circuit's decision is not just harmful but also incorrect. It ignores the careful contours of the statutory copyright monopoly that specifically exclude procedures, processes, systems, and methods of operation from copyright protection in Section 102(b) of the Copyright Act.

Amici believe that computer program code deserves copyright protection. They support and rely on that protection in their respective businesses. But they see the Federal Circuit's decision below as posing a serious threat to both innovation and competition in information and communication technology and service industries. In turn, the decision below threatens other industries that depend upon technology and Internet innovations.

SUMMARY OF ARGUMENT

Computer programs achieve compatibility and interoperability with each other through a multitude of specifically defined interfaces. The use of computer program interfaces of others for compatibility and interoperability purposes is both ubiquitous and essential to the operation of information and communication technologies and infrastructures. This fact has become even more so in today's ever more highly

networked world. The freedom to utilize, implement, re-implement, and extend existing interfaces, without the need to negotiate a copyright license, has been the key to competition and progress in the computer, information technology, communication technology, and networking fields since their beginning. The Federal Circuit's decision below calls into question a key legal premise upon which innovation has blossomed in those fields.

Amici curiae are deeply concerned that the Federal Circuit's decision hands some copyright holders a power that the Copyright Act did not provide, and that Congress did not envision: the ability of the copyright holder to monopolize systems, processes, and methods of operation of others merely because those systems, processes, and methods interact with or otherwise utilize an interface embodied in the copyright holder's product. The result of the Federal Circuit's unwarranted expansion of copyright law, contrary to express limitations of the Copyright Act, will be that technology and communications infrastructures, systems, and services will become more fragmented, less standardized, and less interoperable, all to the detriment of technical progress and efficiency, and of the Progress of Science and useful Arts. *See* U.S. Const. Art. I, Sec. 8, Cl. 8.

The Federal Circuit's decision disrupts a settled expectation in the information and communications technology communities that interfaces are uncopyrightable methods of operation. This disruption has introduced new uncertainty that threatens innovation

and investment. Over the last twenty-five years, despite some authority to the contrary, a strong legal consensus had emerged that the statutory monopoly of copyright does not extend to interfaces. This consensus, which drew from cases going back to this Court's landmark copyright decision in *Baker v. Selden*, 101 (11 Otto) U.S. 99 (1880), unleashed a tidal wave of innovation in personal and mobile computing, cloud computing, e-commerce, Internet services, and now the emerging and revolutionary "Internet of Things."

The Federal Circuit's decision turns this commonly accepted understanding of the law on its head, causing widespread disruption across technology and communications industries – including individual developers, small companies, and companies of substantial size such as *amici*. It also threatens to put the United States out of step with legal rules applying to interfaces in Europe and elsewhere in the world, causing further disruption to software innovators who increasingly must sell their products globally.

By treating compatibility and interoperability as relevant only to fair use, and not to copyrightability, the Federal Circuit's ruling would require a developer to perform a fair use analysis before developing a compatible or interoperable product. This would be impractical, if not impossible. Fair use is a notoriously fact-specific doctrine, requiring case-by-case analysis, and it is no substitute for the bright-line rule that Section 102(b) establishes.

The decision below urgently deserves the Court's review and correction. These *amici* urge the Court to grant the petition and reverse the decision of the Court of Appeals for the Federal Circuit.

ARGUMENT

I. THE FEDERAL CIRCUIT'S DECISION HAS UPSET SETTLED EXPECTATIONS ABOUT THE SCOPE OF COPYRIGHT LAW AND ABOUT FREEDOM TO BUILD COMPATIBLE AND INTEROPERABLE SYSTEMS.

A. Compatibility and Interoperability Are Essential Features of Many Computer Programs.

Computer programs are a quintessential example of a utilitarian work. They are not created to be read for pleasure like a novel, to convey and analyze events like a historical work, or to inspire or persuade like an editorial. Instead, they are created to perform functions like word processing, financial transactions, searching and distribution of information across networks such as the Internet, and countless other useful tasks.

To perform their practical functions, computer programs frequently must either be "compatible" with or "interoperate" with other computer programs. One computer program is "compatible" with a second computer program if the first program conforms to a

set of commands, formats or rules utilized by the second program. The case of *Lotus Dev. Corp. v. Borland Int'l*, 49 F.3d 807 (1st Cir. 1995), *aff'd by an equally divided court*, 516 U.S. 233 (1996), involved two compatible computer programs. Lotus developed one of the first widely successful spreadsheet programs known as "Lotus 1-2-3." Lotus 1-2-3 allowed users to store useful sequences of spreadsheet commands known as "macros" for accomplishing repeated tasks. Over time, a base of millions of users of Lotus 1-2-3 developed, many of whom had written macros that were critical to their business or personal use of Lotus 1-2-3.

The defendant Borland sought to develop a competing spreadsheet product that would have superior functionality. Borland believed, however, that it was unlikely to convince existing users to switch to its competing product unless Borland's product was "compatible" with Lotus 1-2-3 in the sense that it would be able to read and execute existing macros. In addition, because existing users had invested substantial time and effort in learning the Lotus commands, in order to compete, Borland's program also needed to allow users to write new macros using the Lotus commands with which they were already familiar. These two compatibility features of Borland's program – the capability to write macros using Lotus 1-2-3 commands and to read and execute existing Lotus macros – formed the basis of Lotus's claim of copyright infringement against Borland.

In a related vein, a computer program must very frequently "interoperate" with another computer program, by exchanging information with the other program or by invoking one or more functions or operations available in the other program. For example, an application program such as a word processor interoperates with the operating system, such as Microsoft Windows or Linux, on which it runs. The word processor invokes functions such as opening a file, storing a file, or printing a document, that the operating system is capable of performing. The word processing program must invoke those functions using precisely defined commands and syntax that the operating system interface requires. The revolutions in personal and mobile computing, as well as the rise of the Internet, have greatly magnified the need for interoperability among different computer programs.

B. The Use of Others' Interfaces, Including for Compatibility and Interoperability, Without the Need to Negotiate a Copyright License, Is Ubiquitous and Essential.

The mechanism by which computer programs achieve compatibility and interoperability with each other is through various specifically defined interfaces. The term "interface" is used broadly to encompass a wide range of technical mechanisms by which commands, data or other information are input into, or exchanged between, computer programs. For

example, the commands of a program such as Lotus 1-2-3 are a type of interface, which the user uses to operate the program. Similarly, an "application programming interface" or API (such as the Java API at issue in this case) specifies the formats and rules (such as function names, parameters and inputs) by which one computer program (such as an application program running on a desktop computer) can invoke functions or operations in another computer program (such as a program running on a server in the cloud). A data file format is yet another type of interface that specifies the types and ordering of data that a computer program requires.

The use of computer program interfaces, including for compatibility and interoperability, without the need to negotiate a copyright license, is both ubiquitous and essential to the operation of information technology and infrastructure. It has become more so in today's ever more highly networked world. Geometrically accelerating interconnectivity has led to the burgeoning "Internet of Things," a label for the global interconnection of literally billions of uniquely identifiable devices of virtually limitless types, such as home appliances, heart monitoring implants, embedded biochips in animals, security devices and clothing sensors. According to one estimate, more than 30 billion devices will wirelessly connect to, and form part of, the Internet of Things by 2020. The Internet of Things will depend on the ability to make unrestricted use of interfaces across numerous

communication protocols. *See* "Internet of Things," http://en.wikipedia.org/wiki/Internet_of_Things.

The freedom to utilize, implement, re-implement, and extend existing interfaces has been the key to competition and progress in the computer, information technology, and networking fields since their beginning. It has enabled the development and advancement of the personal computer, operating systems, open source software, programming languages, the Internet, and cloud computing. Compatible interfaces enable users to switch platforms (e.g., from one operating system to another) or services (e.g., from one cloud computing service provider to another) and avoid being locked in to their existing technology or service providers. Compatible interfaces also enable a service, such as e-commerce site Amazon.com, to be more widely available to users of different devices, such as smartphones or computers running different operating systems. The ability to reverse engineer and re-implement an interface can enable a programmer to create compatible software that the interface's original creator might never have envisioned or had the resources to create. Similarly, the ability to interoperate freely with other programs or platforms through defined interfaces can enable the addition of new functionality, as the creation of many innovative applications that integrate new functionality into the Facebook service evidences.

C. A Legal Consensus Has Emerged Over the Last Twenty-Five Years That Interfaces Are Not Copyrightable.

Innovation takes place in the context of governing legal rules. Businesses make investments in, and calculate the risk of, innovation in significant part based on those legal rules. Over the last twenty-five years, despite some authority to the contrary, a legal consensus had emerged in the computer and information technology industries that interfaces do not enjoy copyright protection and therefore may be freely used without the need to negotiate a copyright license.

The foundation for this view is Section 102(b) of the Copyright Act, which states that "[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).

In the United States, the consensus on non-copyrightability of interfaces began with the Second Circuit's rejection in *Computer Assocs. Int'l v. Altai, Inc.*, 982 F.2d 693 (2d Cir. 1992), of the Third Circuit's decision in *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222 (3d Cir. 1986). *Whelan* had afforded a very broad scope of copyright protection to essentially any aspect of a computer program other than its overall function defined at the highest level.

In what proved to be a very influential decision, the Second Circuit in *Computer Assocs.* concluded that this Court's decision in *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340 (1991), implicitly undercut *Whelan* and ruled that under Section 102(b) of the copyright statute, copyright did not extend to program elements necessary for compatibility. 982 F.2d at 711. The First Circuit reached a similar outcome in *Lotus Dev. Corp. v. Borland Int'l*, 49 F.3d 807 (1st Cir. 1995), *aff'd by an equally divided court*, 516 U.S. 233 (1996), where the court ruled that the menu commands and command structure of Lotus 1-2-3, which Borland copied into its competitive spreadsheet program to achieve compatibility, constituted an uncopyrightable method of operation under Section 102(b). 49 F.3d at 815-18.

The consensus that emerged from the *Computer Assocs.* and *Lotus* decisions derived from and drew support in significant part from this Court's landmark copyright decision in *Baker v. Selden*, 101 (11 Otto) U.S. 99 (1880), which both the *Computer Assocs.* and *Lotus* decisions cited extensively. In *Baker*, Selden sought to protect a system of double entry bookkeeping by virtue of the copyright he held in a book describing the system. The book included certain forms or blanks, consisting of ruled lines and headings, illustrating the system and showing how it was to be used and carried out in practice. Selden asserted that, because the ruled lines and headings were part of the book, copyright protected them and no one could copy or use similar ruled lines and

headings without violating his copyright. *Id*. at 100-01.

This Court rejected Selden's argument, ruling that the copyright on a work "cannot give to the author an exclusive right to the methods of operation which he propounds, or to the diagrams which he employs to explain them, so as to prevent an engineer from using them whenever occasion requires." *Id*. at 103. An exclusive right to a method of operation or system could be secured, if at all, only through a patent. *Id*. at 102. The Court therefore concluded that where "the art" (the system or method of operation) taught by a copyrighted work "cannot be used without employing the methods and diagrams used to illustrate" the art in the work, "or such as are similar to them, such methods and diagrams are to be considered as necessary incidents to the art, and *given therewith to the public* . . . for the purpose of practical application." *Id*. (emphasis added). In other words, the system or method of operation described or embodied in a copyrighted work is not copyrightable, and the "necessary incidents" required to practice the system or method of operation are also not copyrightable (they are "given . . . to the public").

Under *Baker*, it does not matter to copyrightability whether the "necessary incidents" could be written in another way or the original author exercised choice in creating them. As "necessary incidents" to a system or method of operation, they are not copyrightable. The Federal Circuit failed to take account of this fundamental rule of *Baker* when

it determined that "copyrightability is focused on the choices available to the author at the time the computer program was created." *Oracle Am., Inc. v. Google Inc.*, 750 F.3d 1339, 1370 (Fed. Cir. 2014).

D. The Federal Circuit's Disruption of the Legal Consensus Concerning the Free Use of Interfaces Is Causing Great Uncertainty in the Developer Community and Harming Innovation.

Based on the preceding legal authorities and others, the developer community and broader technology industry have over the last two decades come to a general consensus that interfaces are available for everyone to use. They have acted accordingly, unleashing a tidal wave of innovation in personal and mobile computing, cloud computing, e-commerce, Internet services, and now the emerging Internet of Things. The Federal Circuit's decision turns this commonly accepted understanding of the law on its head, causing great uncertainty and fear in the developer community – including among individual developers, small companies, and companies of substantial size such as *amici curiae*. It also threatens to put the United States out of step with legal rules governing interfaces in Europe and elsewhere in the world, causing further disruption to software innovators who increasingly must sell their products globally.

The uncertainty the Federal Circuit's ruling has inflicted on the developer community is substantial. This uncertainty is likely to cause some innovative projects to slow down or suspend work, particularly those requiring copying or utilization of interfaces for compatibility or interoperability. The deleterious effect on innovation and competition is clearly foreseeable and needs this Court's attention.

II. THE FEDERAL CIRCUIT'S DECISION MISAPPLIES THE COPYRIGHT ACT.

A. Computer Program Interfaces Are "Necessary Incidents" for Other Software to Make Functional Use of the Programs' Capabilities.

As functional works, many copyrighted computer programs embody a system or method of operation in the form of functional capabilities of the programs, and the programs' interfaces are among the "necessary incidents" required to make use of such functional capabilities. Indeed, those interfaces themselves are properly deemed unprotectable methods of operation. For example, in *Lotus*, the First Circuit cited and analogized to *Baker* in support of its conclusion that the Lotus menu command hierarchy (its interface) was an uncopyrightable method of operation: "Lotus wrote its menu command hierarchy so that people could learn it and use it. Accordingly, it falls squarely within the prohibition on copyright protection established in *Baker v. Selden* and codified by Congress in §102(b)." 49 F.3d at 817.

In this case, the district court similarly concluded that the Java APIs (also referred to as "header" files) that Google put into its Android operating system were uncopyrightable. The court found that many Java programs written before Android arrived "called on all or some of the specific 37 packages [of Java headers] at issue and necessarily used the command structure of names at issue. . . . *In order for at least some of this 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.*" *Oracle Am., Inc. v. Google Inc.*, 872 F. Supp. 2d 974, 1000 (N.D. Cal. 2012) (emphasis in original). In other words, in the language of *Baker*, the Java interface, in the form of its command system structure and names, as embodied in the copied Java headers, were "necessary incidents" to invoke the functionality of the various Java commands, and therefore were free to be copied by Google as outside the bounds of copyright.

A similar rule concerning the limited scope of copyright protection for functional elements of computer programs has emerged in Europe. For example, the European Union's highest court recently ruled that "neither the functionality of a computer program nor the programming language and the format of data files used in a computer program in order to exploit certain of its functions constitute a form of expression of that program and, as such, are not protected by copyright." *SAS Institute Inc. v. World*

Programming Ltd., Case C-406/10 ¶ 71, 2012 E.C.L.I. 259, [2012] 3 C.M.L.R. 4.

B. The Federal Circuit's Decision Improperly Allows Creators of Interfaces to Use Copyright to Monopolize All Uses of Products or Technology That Utilize Their Interfaces.

Amici curiae are deeply concerned that the Federal Circuit's decision hands Oracle and other creators of interfaces – which often become *de facto* standards, as the Java APIs have – the ability to monopolize all uses of products or technology that utilize their interfaces. Entrenched industry leaders would then hold a veto power over any developer who wants to create a compatible or interoperable program utilizing one of their interfaces, even when the developer has created entirely original computer code that utilizes the interface. The copyright monopoly does not authorize that degree of control. Nor should it, in light of the extremely long duration of copyright and the lack of rigorous standards or meaningful examination in the process of establishing copyright rights. The result of the Federal Circuit's dramatic shift in the scope of copyright protection for interfaces will be that technology will become more fragmented, less standardized, and less interoperable, all to the detriment of technical progress and efficiency.

C. The Federal Circuit's Shift of the Analysis to Employ the Fair Use Doctrine Is Not an Acceptable Substitute for a Rule Against a Copyright Monopoly over Interfaces.

By treating compatibility and interoperability as relevant only to fair use, and not to copyrightability, the Federal Circuit's ruling would require a developer to perform a fair-use analysis before developing a compatible or interoperable product. This is unworkable. Fair use is a notoriously fact-specific doctrine, requiring case-by-case analysis. The litigation risk of an error in a party's fair-use analysis is great. That risk alone, when it involves major investments in fundamental industry practices, may operate as a persistent brake upon innovation and investments. Instead, clear application of the well-recognized statutory limitation in Section 102(b) is essential. Otherwise, the uncertainty caused by the decision below will surely impede innovation in technology areas requiring copying or utilization of interfaces for compatibility or interoperability.

There is much more to say about the error of the Federal Circuit, but that can await briefing on the merits. For the present, however, *amici* emphasize the urgency of this Court's granting the petition for certiorari.

CONCLUSION

The decision below cries out for review. For over two decades the consistent legal rules governing the copyrightability of interfaces have been a foundation of innovation and competition in this country and throughout the world. The decision below has thrown industry expectations and the legal rules into disarray, and that itself has disrupted innovation and investment. The copyright issues that the petition raises deserve immediate attention, and these *amici* urge the Court to grant Google's petition.

Respectfully submitted,

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