



March 16, 2015

The Honorable Michelle K. Lee  
Under Secretary of Commerce for Intellectual Property and  
Director of the United States Patent and Trademark Office  
United States Patent and Trademark Office  
Mail Stop Patent Board  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Attention:** Raul Tamayo and Michael Cygan  
*Via email:* 2014\_interim\_guidance@uspto.gov

**Re: Comments on 2014 Interim Guidance on Patent Subject  
Matter Eligibility**

Dear Under Secretary Lee:

In response to the December 16, 2014 Federal Register notice, BSA | The Software Alliance appreciates the opportunity to submit the following comments regarding the Patent and Trademark Office's 2014 Interim Guidance on Patent Subject Matter Eligibility.

BSA<sup>1</sup> is the leading global advocate for the software industry, having operations in more than 60 countries around the world. It is an association of nearly 100 world-class companies that invest billions of dollars in research and

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<sup>1</sup> BSA's members include: Adobe, Altium, Apple, ANSYS, Autodesk, Bentley Systems, CA Technologies, CNC/Mastercam, Dell, IBM, Intuit, Microsoft, Minitab, Oracle, salesforce.com, Siemens PLM Software, Symantec, Tekla, The MathWorks, and Trend Micro.

development every year. This investment fuels an ecosystem of innovation and manufacturing that benefits individuals and organizations at all levels of the economy. A consistent and predictable intellectual property framework provides the foundation for this investment. It is not surprising that the U.S. patent system's robust protection of software-related innovations has been, and continues to be, a key factor in encouraging investment by BSA members.

Our companies collectively hold over eighty thousand U.S. patents and are engaged in massive, ongoing research and development efforts. A vast majority of the patents owned by BSA member companies are directly related to computer-implemented innovation. We are therefore greatly concerned by the potential that lower courts and the PTO may misapply, or otherwise misinterpret, the Supreme Court's *Alice Corporation Pty. Ltd. v. CLS Bank International (Alice)* decision, and in so doing create doubt about the patent eligibility of software. At the same time, our members do appreciate that Section 101 can be an effective tool in weeding out truly abstract patents and patent applications. Therefore, these Guidelines are vitally important to BSA and its member companies.

Based on the prompt and proactive efforts of the PTO it is clear that the PTO also understands the urgent need for patent-eligibility guidance that results in consistent and predictable outcomes. BSA appreciates that the PTO is actively listening to stakeholder comments and feedback (such as from the recent symposium held at the PTO on subject-matter eligibility). Each revision continues to move the Guidelines forward, and BSA is committed to working with the PTO to further improve the Guidelines.

The Office has done a commendable job including the most relevant Supreme Court and Federal Circuit cases in the most recent Guidance, and the recently released set of examples is a positive step forward. We believe that most patent applications, including applications related to software, will clearly not fall within the judicially-created exceptions to patent eligibility. To that end, it is clear that the streamlined eligibility analysis outlined in the Guidance will be a useful tool for examiners, practitioners, and inventors.

Notwithstanding the foregoing, BSA believes that there remain areas in which the Interim Guidance could be improved. As an initial matter, the Guidance and examiner training should require examiners to provide clear and precise reasons for rejecting an application under Sec. 101. Furthermore, BSA is concerned that the Interim Guidance lacks sufficient guidance as to how examiners should: (1) identify an “abstract idea” or (2) identify what constitutes “significantly more” than the abstract idea.

The following suggestions are an effort to assist the PTO in developing patent-eligibility guidance that helps serve our shared interest in a predictable and consistent patent system.

### **Examiners Must Provide a Clear Rationale for Sec. 101 Rejections**

The Guidelines and examiner training should require examiners to provide a full explanation of the reasoning behind any Section 101 rejection. In other words, the Guidelines should specify that examiners have the burden to provide a *prima facie* case of unpatentability and that this burden cannot be met through mere conclusory statements. An adequate explanation should include a cogent

articulation of the abstract idea to which the claims are allegedly directed. It should also include the underlying reasoning in support of a conclusion that individual elements (or the ordered combination of elements) of a claim fail to provide an inventive concept.

Indeed, consistent with other types of rejections, examiners should be instructed to use specific evidence when entering a rejection under Section 101 in order to avoid the confusion that stems from conclusory, unsubstantiated subject-matter eligibility rejections. For example, to support a valid Section 103 rejection the MPEP 2142 states: “The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 538, 418, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that ‘rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.’”

Along these lines, many of the case descriptions in the Interim Guidance—for example, describing ineligible claims with a single sentence or phrase—are too brief, and risk being used as a template that may be liberally cited by examiners to generate subject matter eligibility rejections without providing a complete, claim-specific analysis. A proliferation of brief and conclusory subject-matter eligibility rejections will not increase patent quality but will merely result in increased inconsistency and unpredictability in patent examination. Conclusory rejections will

make it more difficult for applicants to respond, lead to rejections of meritorious claims, and increased prosecution costs.

Furthermore, specific guidance from the PTO about what constitutes an abstract idea is needed. Both more in-depth guidance defining categories of abstract ideas discussed in the Interim Guidance and additional examples would be helpful in this respect. In particular, BSA believes that it is imperative for the PTO to provide guidance to examiners on the distinction between *Research Corp. Technologies, Inc. v. Microsoft Corp.* and *Digitech Image Technologies LLC v. Electronics For Imaging Inc.*; and between *Ultramercial Inc. v. Hulu LLC* and *DDR Holdings LLC v. Hotels.com*. Examples that explore these distinctions would help to ensure consistent and predictable outcomes of patent eligibility analyses between different examiners in the examining corps and applicants.

Additionally, BSA believes that the Guidelines should provide clearer guidance on how to analyze and apply the existing case law. Implementing these cases in a careful and measured manner is critically important to avoid stifling innovations in the field of computing technologies. For instance, to prevent an overly-expansive application of Section 101, the Guidelines should emphasize that the scope of patent-eligible subject matter is very broad, and that the judicially created exceptions should be narrowly interpreted.

### **Improved Guidance for Identifying Abstract Ideas**

There is significant ambiguity in the Interim Guidance on how to identify an abstract idea in Step One of the *Mayo/Alice* framework. In practice, it is very difficult

for examiners to apply the eligibility analysis described in the Interim Guidance without more detailed instructions in the guidance and practical training examples.

Claims do not exist in a vacuum, and must be properly understood in the light and scope of the specification before attempting to identify the abstract idea. To that end, the Guidance should clearly indicate that, in identifying abstract ideas, claim meaning must first be determined, consistent with the PTO's "broadest reasonable interpretation" standard. The Guidance should remind examiners that this does not mean adopting the broadest *possible* interpretation of the claim language, but rather the broadest *reasonable* one, which requires that the claims be read in context and from the perspective of one skilled in the art.

The Guidance should also clarify that finding a claim to be directed toward "methods of organizing human activities" alone is not equivalent to finding that the claim is directed toward an abstract idea. The Interim Guidance identifies "certain methods of organizing human activities" as being a category of ineligible abstract ideas. However, while the Supreme Court mentions "methods of organizing human activity" in both the majority *Alice* and *Bilski* decisions, the Court did not cite this as the basis for concluding the claims at issue were ineligible or endorse the use of the "organizing human activity" as a separate basis for identifying an abstract idea. Rather, the *Alice* court referred to organizing human activities in rejecting the petitioner's argument that the abstract idea exclusion was limited to pre-existing "truth[s] about the natural world" and did not encompass the type of economic activities recited by the patents.<sup>2</sup>

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<sup>2</sup> 134 S. Ct. 2347, 2356.

That the Court concluded that *some* methods of organizing human activities *may* be an abstract idea does not mean that *all* such methods are inherently suspect or that they presumptively fall within the exclusion. While we think that the PTO Guidance recognizes this distinction (e.g., by stating that only certain methods of organizing human activities encompass abstract ideas, in particular, those that are directed to fundamental economic practices), we are concerned that some examiners may not appreciate this subtle distinction or the limiting effect the word “certain” is intended to have, and may struggle with extending the scope of abstract ideas to any software invention which has an end effect of improving organization of human activities. In the absence of explicit guidance that provides a basis for distinguishing the “certain” methods that are abstract ideas from those that are not, examiners are unlikely to reach uniform conclusions about the meaning of “certain,” creating a significant risk of inappropriate rejections (and allowances). The Guidance should therefore remove the term “methods of organizing human activity” and replace it with language that provides additional context regarding “abstract idea” and that gives more attention to the concept of “fundamental” in the Supreme Court’s guidance. While clarity from the courts on what is meant by “certain methods of organizing human activities” is certainly warranted, one theme that permeates current precedent is that whatever the “certain methods” are, the concept that they must be “fundamental” is imperative.

Similarly, the Guidance should clarify what is meant by “an idea of itself,” which is cited as one of several examples of concepts that constitute abstract ideas. The distinction between “idea itself” and “abstract idea” is not intuitively obvious. If these phrases are intended to have the same meaning, the reference to an “idea

itself” is redundant and should be removed. And if not, the Guidance should explicitly explain the distinction to avoid unnecessary confusion over the scope of both terms.

The Guidance should instruct examiners to evaluate the patent-eligibility of the claim as a whole. We are concerned that examiners may read the PTO’s Guidance to suggest that the mere presence of an abstract idea in a claim means that the claim is “directed to” the abstract idea and is thus ineligible. The Guidance says: “A claim is directed to a judicial exception when a law of nature, a natural phenomenon, or an abstract idea is recited (i.e., set forth or described) in the claim.” We believe that the Guidance should emphasize that examiners must carefully analyze what a claim is directed to, and not merely look for certain words or formulas disembodied from the context of the claim. Precedent is clear that although a claim may include abstract ideas—“at some level all inventions embody, use, reflect, rest upon, or apply ... [an] abstract idea”—this does not necessarily mean the claim is directed to the abstract idea. Therefore, the mere reference to an abstract idea is not the test.

The Guidance should direct examiners to clearly articulate what they believe the invention is and the basis for why they believe the invention is directed to an abstract idea. For instance, consider the hypothetical recently released by the PTO describing a claim for isolating and removing malicious code from electronic messages. The PTO indicated that the hypothetical claim was not directed to an abstract idea. However, the claim “sets forth” and “describe[s]” (1) “comparing new and stored information” (scanning for an identified beginning malicious code marker) and (2) “using categories to organize, store and transmit information” (storing files in

quarantine and non-quarantine sectors)—both concepts that the PTO has identified as being abstract ideas. This seeming contradiction has the potential to confuse both examiners and applicants. However, this apparent tension can be explained by considering the level at which the abstract idea of comparing new and stored information is embodied in the example claims. In the claims for removing malicious code, the abstract idea of comparing information is only implicated to a minor degree. When the claims are read as a whole, it is clear they are directed to much more than the abstract idea. We think that the Guidance can be expanded upon to highlight the distinction between the mere presence of an abstract idea in a claim, which is not a *per se* bar to eligibility, and those claims that are directed to an abstract idea. Examiners need to be cautioned to consider the claim as a whole when determining if the invention is directed to an abstract idea and not focus on isolated individual claim elements which will only lead to confusion and a misapplication of Supreme Court guidance.

We also urge the PTO to clarify these and other points of ambiguity in identifying abstract ideas that have relatively narrow definitions per Supreme Court precedents. Currently, these definitions are not sufficiently clear and have the potential to be interpreted differently by different examiners, thereby creating inconsistent and unpredictable patent-eligibility analyses even for examiners who have carefully reviewed and attempted to follow the Interim Guidance and the Preliminary Instructions. The PTO should amend the Guidance and provide additional training examples to prevent an overbroad reading of these definitions that is inconsistent with their definitions in Supreme Court precedent.

**Improved Guidance for Determining whether a Claim includes “Significantly More” than the Abstract Idea**

Step Two in the *Alice/Mayo* framework requires examiners to determine whether a claim that is directed to an abstract idea contains any element or combination of elements that amount to “significantly more” than the abstract idea itself.

As the Court has indicated in *Alice* and prior decisions, there are no special rules for determining the eligibility of computer-implemented inventions. The eligibility of software claims is determined using the same standard and analysis that applies to all other categories of patents – no more generous and no more restrictive. The Court has repeatedly rejected arguments that software should be categorically or presumptively ineligible based on the mere recitation of a computer in the claims. Accordingly, the Guidance should emphasize that software-embodied inventions are neither a suspect nor a favored class of invention.

Similarly, the Guidance should recognize that, although the token recitation of a computer is generally insufficient to satisfy the “significantly more” test, that does not mean that limitations relating to computer-implementation can be discounted or ignored under Step Two. Indeed, the *Alice* decision clearly indicates that improvements to the functioning of the computer itself can provide the “something more” that transforms an unpatentable abstract idea into a practical application of the idea that is eligible for patent protection. Although the Interim Guidance recognizes this, we think it is imperative that the Guidance emphasize that the technological effect of the claims (*i.e.*, whether they improve the functioning of a computer or advance technology in any other recognized field) is integral to the Step Two test and that innovative computing inventions are patent-eligible, and provide examples

of claims directed to improvements in the functioning of the computer itself. We urge the PTO to provide examples of this concept to help guide examiners and ensure that the Office is providing predictable patent-eligibility determinations.

Moreover, the Guidance should emphasize that steps recited in a software algorithm or computer-implemented method are subject to the same analysis and given the same weight under Step Two as any other claim limitation. Although the Supreme Court has indicated that “mathematical algorithms” fall within the abstract idea exclusion, it has explicitly rejected arguments seeking to extend this treatment to software algorithms as a whole. In *Diamond v. Diehr*, the Court made clear that only *mathematical* algorithms (which is defined as “procedure[s] for solving a given type of mathematical problem”) were considered to be abstract ideas and that “previous decisions regarding the patentability of ‘algorithms’ are necessarily limited to the more narrow definition employed by the Court.” 450 U.S. 175, 186 & n.9 (1981).

It is important for examiners to recognize this distinction, particularly in cases where calculating the result of a mathematical formula comprises only part of the overall algorithm. As an example, many machine-learning techniques depend on mathematical equations, such as computing Gaussian mixture models in speech-recognition software. But those algorithms, although they utilize mathematical equations, involve steps that are significantly more than the underlying mathematical equations. For instance, whether to implement a novel algorithm or innovative feature through hardware or software/firmware is a design choice that should be irrelevant to patent eligibility. In considering such cases, the abstract idea under Step One comprises only the mathematical formula or corresponding algorithm steps

and the remainder must be assessed as limitations that may satisfy the “significantly more” test under Step Two.

In sum, it is important to inform examiners that only mathematical algorithms and formulas are presumptively within the scope of “abstract ideas” and that additional improvements in both software and hardware (or the lack thereof) should be considered fully when determining whether a patent claim has “something more” that imparts patent eligibility. The Supreme Court has made clear that methods for improving the functionality of a computer are patentable such that an examiner should not dismiss any claim that results in any improvement in the operation of a computer. Similarly, because claims that improve other technologies or technical fields may also be patentable, it is important to stress that all improvements over existing technology need to be considered as part of the analysis. The examiner should be required to make a prima facie case that the subject claims result in no such improvements.

### **Distinguish Sec. 101 Analysis from Analysis Under Secs. 102,103, & 112**

The Guidance should more carefully distinguish between the Section 101 eligibility analysis and the analysis required to assess the novelty and non-obviousness requirements set forth in Sections 102, 103 and 112. And, if an examiner finds himself or herself performing a Section 102, 103, or 112 analysis while attempting to apply 101, he or she should interpret this to mean that a rejection under Section 101 is likely inappropriate.

We believe that there is a risk that the reference to “well-understood, routine and conventional activities previously known to the industry” may create confusion by

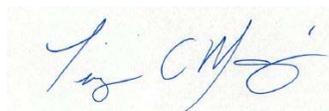
encouraging examiners to conduct informal novelty/non-obviousness analysis based on examiners' personal knowledge or assumptions. The problems with such informal analysis are well recognized by the PTO and accounted for in procedural requirements found in the MPEP for examiners wishing to take Official Notice of the state of the art. Accordingly, we think the Guidance should clearly and unambiguously instruct examiners that Step 2 of the *Mayo/Alice* framework does not call for a novelty or non-obviousness analysis under Sections 102 and 103.

### **Conclusion**

BSA appreciates the opportunity to comment on the Interim Guidance. As stated above, these Guidelines are very important to BSA members because predictable and consistent patent protection for software inventions is a significant incentive for our companies to invest in developing the new technologies. We also appreciate the PTO's commitment to patent quality and believe that the proper, thoughtful application of Section 101 will continue to be a useful tool to identify and eliminate those truly abstract claims that do not warrant protection. We look forward to continuing to work with the Office to further improve and update these Guidelines.

Any questions or further communications should be directed to Tim Molino, Director, Policy, BSA ([timothym@bsa.org](mailto:timothym@bsa.org)).

Sincerely,

A handwritten signature in blue ink, appearing to read "Tim Molino", is placed over a light-colored rectangular background.

Timothy Molino  
Director, Policy