**From:** Dana Rao
**Sent:** Monday, April 15, 2013 1:48 PM
**To:** SoftwareRoundtable2013
**Cc:** Horacio Gutierrez (LCA); David Jones (LCA)
**Subject:** Microsoft and Adobe's Joint Written Comments In Reponse to the Request for Comments on the Enhancement of Quality of Software-Related Patents and the Preparation of Patent Applications

Attn: Seema Rao, Director, Technology Center 2100
Mail Stop: Comments—Patents

Please find attached the joint written comments of Microsoft Corporation and Adobe Systems, Inc. with regard to the issues raised by the U.S. Patent and Trademark Office in its *Requests for Comments and Notice of Roundtable Events for Partnership for Enhancement of Quality of Software-Related Patents* as well as on select questions posed in the subsequent *Request for Comments on Preparation of Patent Applications*.

We appreciate the opportunity to work together with the USPTO on these important issues.

Sincerely,

Dana Rao & Horacio Gutierrez


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April 15, 2013

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Attn: Seema Rao
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*Via Electronic Mail* (SoftwareRoundtable2013@uspto.gov)

**Re: Requested Comments Regarding Enhancement of Quality of Software-Related Patents**

Microsoft and Adobe appreciate the opportunity to provide comments on the issues raised by the U.S. Patent and Trademark Office ("USPTO") in its *Request for Comments and Notice of Roundtable Events for Partnership for Enhancement of Quality of Software-Related Patents*[1] as well as on select questions posed in the subsequent *Request for Comments on Preparation of Patent Applications.*[2] We are pleased to provide in this letter: introductory comments regarding functional claiming and the quality of software-related patents, responses to the specific questions posed by the Office, and comments concerning potential solutions to the challenges existing in this area.

**A. Introductory Comments**

Microsoft and Adobe strongly believe that patent protection for software-related inventions is critically important to U.S. innovation and that the availability of such protection provides enormous benefits in the form of higher investment in R&D increased innovation. Combined, we spend more than $10 billion annually in software-focused research and development and rely heavily on patent protection to enable us to earn a return on these investments. As a result, both our companies have significant patent portfolios, are frequent users of the patent system, and benefit greatly from the availability of patent protection for software-related inventions.

As frequent targets of patent infringement claims, however, we are also keenly aware of the challenges presented by patents and the potential for their abuse in litigation. Microsoft and Adobe are currently defendants in approximately 75 infringement suits, the vast majority of which were brought by

[1] 78 Fed. Reg. 292 (January 3, 2013).
[2] 78 Fed. Reg. 2960 (January 15, 2013).

patent assertion entities ("PAEs") that have built a business model on the aggressive assertion of questionable patents against scores of defendants in the hopes of extracting "nuisance" settlements. Although the likelihood of these plaintiffs prevailing on the merits is very low – only 8% according to one study[3] – even a small risk of a high damages award or injunction will often provide enough leverage to extract a small settlement from targets of this spurious litigation.

Poor quality patents are a significant contributor to this growing problem. Frequently, the patent claims asserted in these cases are of questionable validity and are susceptible to very broad interpretations, with claims that are sufficiently ambiguous that they can be "stretched" to cover activities that do not legitimately fall within the scope of the patent. In sum, a significant amount of this unnecessary litigation – and of the uncertainty in patent litigation more generally – is driven by lack of clarity with respect to claim scope and meaning in the asserted patents.

Based on our litigation experience, Microsoft and Adobe agree with the view expressed by the Office in its Notice that "[o]ne of the most significant issues with software inventions is identifying the scope of coverage of the patent claims, which define the boundaries of the patent property right." We also agree that more rigorous application of Section 112 is the most appropriate means for addressing the excessive ambiguity of some software-related patents claims.

With respect to the issues of "functional claiming" raised in the Notice, we agree that the practice of simply claiming a desired outcome or effect without disclosing a specific way of producing it is a significant problem that warrants the Office's attention. However, while it's clear we face challenges with respect to functional claiming in software-related patents, we do not believe that these challenges are unique to software. The use of functional limitations may be more prevalent in technologies relating to software, but problems with functional claiming seem to extend well beyond software, computer, and internet technologies to areas such as biotechnology. Accordingly, we do not perceive any fundamental divergence in claims to computer-implemented inventions that would justify singling software out for special treatment.

In sum, while we support the Office's effort to address this issue, we do not believe that Section 112(f) should be the sole, or even the primary, focus and would encourage the Office to consider strengthening examination practices and legal standards relating to the written description, enablement, and definiteness requirements in addressing functional claiming. We believe this strategy would be more likely to increase claim clarity and provide a more appropriate mechanism to address legitimate concerns regarding the unpredictability and cost of patent litigation. Additionally, to the extent the Office moves forward with practice changes relating to its application of Section 112(f), we believe that any new rules adopted should be technology neutral and not limited to software in their application.

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[3] *See, e.g.,* John R. Allison, Mark A. Lemley, and Joshua Walker, *Patent Quality and Settlement Among Repeat Patent Litigants*, 99 GEO. L.J. 677, 694 (2011) (finding that -- excluding default judgments – PAE plaintiffs win only 8% of cases that reach a judgment on the merits).

**B. Responses to the Specific Questions Included in the Request**

1. *[A]re the requirements of 35 U.S.C. 112(b) for providing corresponding structure to perform the claimed function typically being complied with by applicants and are such requirements being applied properly during examination?*

In our experience, applicants often, but not always, comply with the requirement of 35 U.S.C. 112(b) to provide corresponding structure to perform the claimed function. Similarly, this requirement is often, but not always, applied properly during examination. Unfortunately, however, pure functional claims occasionally are issued, and such claims are problematic when asserted.

(a) *Do supporting disclosures adequately define any structure corresponding to the claimed function?*

Considering granted patents as a whole, disclosures often, but not always, adequately define any structure corresponding to the claimed function.

(b) *If some structure is provided, what should constitute sufficient 'structural' support?*

In our view, where some structure is provided, a reasonably detailed algorithm should constitute sufficient "structural" support. Moreover, there should be no requirement of unique hardware.

(c) *What level of detail of algorithm should be required to meet the sufficient structure requirement?*

With respect to algorithms, the level of detail that should be required to meet the sufficient structure requirement is a case-by-case determination that depends on the context. However, the algorithm should include enough detail both to demonstrate that the claimed invention is practically applied and to define the metes and bounds of the invention with enough clarity that third parties can avoid infringement. In addition, the details required to be disclosed should be limited to the inventive aspects of the invention and not the routine details, as is the case in all other fields.

In considering changes to USPTO policy or to the guidance and training provided to examiners on this issue, we would urge the Office to avoid taking an overly prescriptive approach as to the form of an applicant's disclosure. In general, we believe that applications relating to software-implemented inventions should be subject to the same requirements and standards used in other areas of technology and that application of special rules or requirements based on subject matter or field of technology is generally unwarranted and potentially problematic.

For this reason, we do not believe it would be appropriate or beneficial to impose more stringent disclosure requirements for software-related inventions as some have suggested. For example, disclosure of source code embodying the algorithm should not be required. That level of detail is not necessary or even useful to the vast majority of people reading patents, including the examiners, judges, and juries. Algorithms should suffice to show how an invention in software works, and requiring code is not practical given the endless variety and ever-changing nature of programming languages. It would be exceedingly impractical to require the examiners to have the facility to understand this wide array of languages in order to verify that the code "works."

2. *In software-related claims that do not invoke 35 U.S.C. 112(f) but do recite functional language, what would constitute sufficient definiteness under 35 U.S.C. 112(b) in order for the claim boundaries to be clear?*

In cases where software-related claims recite functional language but are not properly treated as means-plus-function claims under 35 U.S.C. 112(f), improved clarity can be achieved by ensuring that limitations have single, rather than multiple, possible interpretations. At the very minimum, the Office should carefully assess the claims to ensure that they don't cover every means of accomplishing the desired end. However, in our view, the Office also should require single interpretations that are clearly supported on the record. As a practical matter, this would mean that the interpretation should be written down and agreed upon with the applicant instead of the examiner merely applying unwritten mental impressions concerning the interpretations of claim limitations.

(a) *Is it necessary for the claim element to also recite structure sufficiently specific for performing the function?*

No, it is not strictly necessary for the claim element to also recite structure. As discussed above, in some cases, it is appropriate to claim what an invention does.

(b) *If not, what structural disclosure is necessary in the specification to clearly link that structure to the recited function and to ensure that the bounds of the invention are sufficiently demarcated?*

As discussed in our comments above regarding Question 1(b)-(c), the amount of structural disclosure that is necessary will vary from case to case. However, a reasonably detailed algorithm that describes the inventive aspects of the invention, demonstrates the practical application of the invention, and defines the metes and bounds of the invention should suffice.

3. *Should claims that recite a computer for performing certain functions or configured to perform certain functions be treated as invoking 35 U.S.C. 112(f) although the elements are not set forth in conventional means-plus-function format?*

In cases of "pure" functional claiming (*i.e.*, where only the result is claimed) or where the only structure consists of so-called nonce words, it is appropriate to treat such claims as invoking 35 U.S.C. 112(f). However, in practice, we believe that broader application would present significant practical challenges with respect to determining the level of detail necessary for the disclosed algorithm to be considered sufficiently structural. In the absence of some limiting principle and clear rules that are susceptible to predictable, consistent application, the Office should be wary of extending further such a practice.

**C. Comments Concerning Potential Solutions**

Although there are many challenges associated with functional claiming, Microsoft and Adobe believe that they are not insurmountable. To the contrary, based on our assessment and understanding of the underlying causes of quality issues and litigation difficulties with software-related patents, we would suggest that some or all of the following could be effective strategies for improving the quality of software-related patents.

1. *Additional training and support for examiners.*

We recommend providing additional training, resources, and guidance to examiners on technology and the proper application of Section 112's requirements to claims directed to computer-implemented inventions. To achieve the goal of increasing the quality of software-related patents, it is crucial that examiners are well versed in the technologies before them and in Section 112 issues and that they are provided with the necessary resources and guidance to understand the inventions and properly address such issues.

2. *Tightening Section 112 standards.*

In in our view, Subsections 112(a) and (b) provide the appropriate tools for addressing issues relating to scope and clarity, and rigorously applying the current standards with respect to enablement and written description could significantly decrease many of the problems that are driving the discussion around functional claiming. When broad, functional language is employed in a claim, the claim will cover virtually all embodiments of an invention. But in such cases these claims could be rejected on the basis that the patent's disclosure is insufficient to allow others to make and use all possible embodiments encompassed by the claim without "undue experimentation." Similarly, in our experience, such patents are often defective with respect to the adequacy of their written description of the invention. Where functional claims are not cabined by structural limitations, they should be more consistently rejected for failure to enable the full scope of the claim. And in cases where the scope of the claims exceeds that of the description, they should be rejected for insufficient written description or failure to enable the full scope of the claim.

In addition to more rigorous application of the standards for enablement and written description, we believe that it would be beneficial for the Office to adopt a standard template for office actions. A standardized template would increase the efficiency of prosecution by enabling clearer, more precise communication between examiners and applicants. It could also be used to increase attention to particular issues in examination. For example, a simple claim chart could be included in the template with a column for listing claim elements or terms that the examiner found to be unclear. In our view, focusing examiners on ambiguous claim terms by highlighting the issue in the template and making it easy for examiners to inform applicants of ambiguities that could render a claim indefinite is likely to increase the level of attention that both examiners and applicants pay to this issue.

3. *Common nomenclature and defining claim terms.*

From our perspective, it would be useful to encourage applicants to develop and use a more standard nomenclature for describing software-related inventions. Along these lines, we applaud the Office for its proposal relating to using common textual and graphical notation systems to disclose algorithms. We suggest that the Office build upon this proposal by working with major patent filers in the information technology and communications industry to develop standard terminology for describing computer-implemented or software-related limitations and encourage use of such standard terms in patent claims. Moreover, when applicants choose to use potentially ambiguous or non-standard terms in their claims instead of such standard nomenclature, they should not only have the option of, but the obligation to, act as their own lexicographers by defining such terms in the specification. We commend the Office's attention to this potential solution in its recent *Request for Comments on Preparation of Patent Applications*.

4. *Focus on identifying and eliminating indefiniteness.*

Finally, apart from efforts focused on Section 112(f), there is room for the Office to improve and strengthen its application of the definiteness requirement of Section 112(b). Accordingly, we propose a more rigorous examination of claims under Section 112(b). Specifically, the Office should instruct examiners to consider not only the broadest reasonable interpretation of claims but also to assess whether claims are susceptible to multiple interpretations. It is within the Office's authority to focus more attention on whether there are multiple interpretations of proposed claims and to issue a rejection in cases where there is such ambiguity.

**D. Conclusion**

Once again, Microsoft and Adobe greatly appreciate the opportunity to share our views on these important topics. We sincerely hope that our comments will be useful and look forward to engaging in further discussion with the Office on these issues.

Respectfully Submitted on behalf of Microsoft Corporation and Adobe Systems Incorporated,

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