



November 29, 2013

The Honorable Margaret A. Focarino, Acting Director
United States Patent and Trademark Office
600 Dulany Street
Alexandria, Virginia 22314
via electronic mail to strategicplan@uspto.gov

Re: Comments of Google Inc. Regarding USPTO Draft Strategic Plan for
2014-2018

Dear Ms. Focarino:

We appreciate the Office's invitation to provide comments on the USPTO's 2014-2018 Strategic Plan. We support the goals, objectives, and initiatives outlined in the Plan, and are pleased by the continued recognition that patent quality, as well as timeliness, are key aspects of a properly functioning patent system. We encourage the Office to emphasize the importance of enhancing patent quality in the Strategic Plan and increase its efforts in this area, especially for software patents, where low-quality patents are having a significant negative effect on the patent system's ability to promote innovation. We also offer specific suggestions that build upon or add to the Strategic Plan's objective of enhancing patent quality.

Emphasizing the Importance of Enhancing Patent Quality

The mission of the USPTO aligns with the purpose of the patent system: to foster innovation, competitiveness, and economic growth. The issuance of high-quality patents supports that purpose by allowing inventors to recoup their investments in R&D while teaching the public how to make and use the invention. A quality patent is one that is clearly novel and non-obvious; that reflects the contributions of the inventor through claims having appropriate scope that are fully supported by the disclosure; and whose claims have clear boundaries that give the public full notice of the subject matter falling within the patent's coverage.

When low-quality patents issue that do not meet these criteria, they deter innovation, competitiveness, and economic growth in multiple ways. They slow follow-on innovation by discouraging firms from conducting research and development in

areas that the patent improperly covers. They raise the costs of innovation by others when they are challenged in litigation or induce unnecessary licensing. Low-quality patents especially contribute to increased licensing and transactions costs in industries facing thickets of thousands of often overlapping patents covering a single product.

It has been widely acknowledged that many issued software patents are of poor quality because they are obvious over prior art that was not identified during prosecution, or because their scope is overbroad and unclear.¹ The problem that poor quality claims present for software innovators is magnified by the large number of patents, often numbering in the tens-of-thousands, that are relevant to most software and high-tech products.² We thank the Office for its engagement with stakeholders through the software industry partnership and encourage continued outreach on these important issues (*see* Goal I, Objective 6).

Poor quality software patents have driven a litigation boom that harms innovation. Lawsuits brought by patent assertions entities (PAEs) have quadrupled since 2005 and now account for a majority of patent litigation.³ Most of these cases—84% by one estimate⁴—involve software and Internet patents, which are litigated eight times more often than other types of patents.⁵ The ambiguity of these patents is one reason for their high litigation rate. As the White House Report on *Patent Assertion and U.S. Innovation* notes, the strategy of many PAEs is to acquire patents whose claim boundaries are unclear and then demand licensing fees based on the cost of litigation.⁶

This litigation boom places a heavy burden on innovative companies. Aggregate direct costs imposed by PAE activity grew rapidly from about \$7 billion in 2005 to \$29

¹ *See, e.g.*, Executive Office of the President, [Patent Assertion and U.S. Innovation](#), 8 (June 4, 2013) (problems of very broad and vague claims “are especially acute for software patents”) [*hereinafter* White House Report]; Federal Trade Commission, [The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition](#), 82-84 (March 2011) (discussing problem of poor notice provide by software claims); Government Accountability Office, [Assessing Factors that Affect Patent Infringement Litigation Could Help Improve Patent Quality](#), 28 (August 2013) (“claims in software-related patents are often overly broad, unclear or both”) [*hereinafter* GAO Report].

² *See, e.g.*, Christina Mulligan & Timothy B. Lee, *Scaling the Patent System*, 68 N.Y.U. ANN. SURV. AM. L. 289, 304-05 (2012) (noting that in order to assess infringement across the software industry, “it would require roughly 2 million patent attorneys, working full-time, to compare every firm’s products with every patent issued in a given year. At a rate of \$100 per hour, that would cost \$400 billion. For comparison, the software industry was valued at \$225.5 billion in 2010.”).

³ *See* [Tracking PAE Activity: A Post-script to the DOJ Review](#), RPX Blog (January 23, 2013).

⁴ *See* GAO Report at 22 (reporting that 84% of litigation brought by PAEs involved software patents).

⁵ *See* John R. Allison et al., [Patent Litigation and the Internet](#), 2012 STAN. TECH. L. REV. 3, (2012); *see also* Colleen Chien & Aashish Karkhanis, [Presentation to the Feb. 12, 2013 Software PTO Roundtable at SLS, Software Patents & Functional Claiming](#) (Feb. 12, 2013).

⁶ *See* White House Report at 4; *see also* GAO Report at 28 (“Unclear and overly broad patents do not provide notice about their boundaries and the uncertainty of a patent’s scope then usually needs to be resolved in court....”).

billion in 2011.⁷ The tax on innovation from the assertion of ambiguous patents is not limited to large companies, however. Most unique defendants to PAE suits are small. Companies with less than \$100M in annual revenue represent at least 66% of unique defendants, and the majority of them make much less than that. At least 55% of unique defendants in PAE suits make under \$10M per year.⁸ Defendants in PAE litigation are more diverse too, with the majority, such as retailers, grocery stores, and hotels, coming from mainstreet sectors outside the hi-tech industry⁹ as more and more suits involve business method patents asserted against the basic tools of e-commerce.¹⁰

In view of the critical need to improve software patent quality, we suggest that the Strategic Plan place increased emphasis on the objective to “Enhance Patent Quality” by identifying quality as a separate goal, making it the first objective of the current goal, adding additional quality-related objectives, or some other means. As currently presented, the Strategic Plan presents quality as only the fourth of seven objectives related to Goal I. More clearly indicating that enhancing patent quality is a high priority for the Office will rebuild the public’s confidence in the Office’s examination and issuance of patent applications.

Below, we provide more specific suggestions to further the Office’s objective of enhancing patent quality, although this list is far from comprehensive. For instance, some of the most important quality initiatives involve hiring and retaining a top-notch workforce and providing them with ongoing technical and legal training. We applaud the Office for its inclusion of these initiatives in the Strategic Plan and encourage additional efforts in these areas.

Enhance Patent Quality Through Vigorous Enforcement of Section 112

The requirements of Section 112 (definiteness, written description, and enablement) serve the important purpose of ensuring that patent claims are of appropriate scope and have clear claim boundaries that provide public notice. Therefore, we appreciate the Office’s recognition that topics like functional claiming and claim clarity are important issues for additional attention and examiner training (see Goal I, Objective 4), and welcome the Office’s solicitation of feedback from stakeholders.

To enhance the quality of software patents, we urge the Office to more actively

⁷ See James Bessen & Michael Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. (forthcoming 2014); Boston Univ. School of Law, Law and Economics Working Paper No. 12-34.

⁸ See Colleen V. Chien, *Startups and Patent Trolls* (2012).

⁹ See PatentFreedom, “Exposure by Industry,” <https://www.patentfreedom.com/about-npes/industry/>.

¹⁰ See PatentFreedom, *The Growing Use of Business Method Patents in NPE Litigation*, PatentFreedom Blog (Sept. 4, 2013).

enforce the definiteness requirement of Section 112(b) to reduce claim ambiguity in accordance with *Ex parte Miyazaki*.¹¹ The definiteness requirement is the primary mechanism of the patent system for ensuring that claims have clear boundaries that provide the public with fair notice of what is protected and what is not. Vigorous enforcement of the definiteness requirement during examination is an essential antidote to the strong incentives that applicants face to pursue ambiguous claims that can be stretched in litigation to tax the innovation of others. More examiner training on this topic, especially as it applies to software patents, is needed.

We applaud the Office's recent efforts to address the problems of overbreadth caused by functional claiming and to train examiners on the proper application of Section 112(f) to address those problems. However, improved training on the proper analysis of Section 112(f) in the context of software patents is needed so that examiners fully appreciate the unique role that an algorithm plays as the supporting and limiting "structure" when software is claimed functionally. When a claim recites a function performed by software running on a general purpose computer, the relevant structure is an algorithm of the software. Therefore the claim must either include a supporting algorithm to limit its scope, and if it does not, Section 112(f) applies, and the examiner must look to the specification for the algorithm that limits the claim. If the algorithm is missing from the specification, the claim is invalid as indefinite.¹²

Vigorous enforcement of Section 112(f) during examination can enhance patent quality by curbing overbreadth and improving clarity. By requiring that functional software language be supported by a detailed algorithm in the specification so that all pathways for programming the high-level function are not preempted, the Office will issue claims having appropriate scope and promoting future innovation.

We also encourage the Office to make the interpretation of issued patent claims more predictable. Doing so will further the important purpose of providing notice to the public of claim scope. To accomplish this, the Office should encourage patent examiners to include statements in the record on how key claim terms are being interpreted. By providing claim interpretations in the file history, the Office will inform both the patent applicant during examination, and the public upon issuance, of the boundaries of the claim that resulted in allowance.

Expand the Collection of Quality Metrics

¹¹ See No. 2007-3300, 2008 WL 5105055 at *5 (B.P.A.I. Nov. 19, 2008).

¹² See *Aristocrat Techs. Austral. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1332-33 (Fed. Cir. 2008); *Iborameith IP, LLC v. Mercedes-Benz USA, LLC*, ___ F.3d ___ (Fed. Cir. 2013); see also [Comments of Google Inc.](#) in response to the USPTO's Request for Comments and Notice of Roundtable Events for Partnership for Enhancement of Quality of Software-Related Patents (Apr. 15, 2013).

As part of its Quality Metric program, the Office of Patent Quality Assurance currently collects data on the application of Section 112 during examination, including whether a rejection under Section 112 should have been made but was not.¹³ We strongly support the Plan's initiatives directed to evaluating and refining the measurement of this quality data and maximizing its usage (*see* Goal I, Objective 4, Initiatives A and B). However, we encourage the Office to expand on these initiatives for the purpose of measuring and sharing more data on patent examination, and to do so for all applications under examination rather than just the small subset that undergoes quality review.

For instance, collecting and sharing data on the frequency of different rejections and the number of actions over which they are sustained will provide increased transparency into examination. That way, the Office and the public can observe if Section 112 is being consistently and properly enforced, and compare its application in the software area with its application in other technology areas. Along the same lines, data on whether claims in an application have been interpreted under Section 112(f) would allow the Office and the public to better understand how this provision is being applied and with what result. Generally, the public will be able to identify trends in examination within technology areas and make comparisons with other areas. The Office could also use this data for training purposes (*e.g.*, if the data shows that application of certain rejections is occurring less or more than is expected).

Lead the World in Prior Art

One area of great importance to patent quality that is missing from the Office's Strategic Plan is prior art. To address this gap, we encourage the Office to include an objective directed to leadership on issues concerning prior art, including increasing the availability of hard-to-access prior art. Through partnerships with industry, the Office can drive efforts to locate and share prior art documents with patent examiners and the public. The availability of software prior art would significantly benefit from such leadership. A significant amount of software-related prior art does not exist in common databases of issued patents and published academic literature. For instance, it may be embedded in computer code or detailed in non-digitized manuals. Cataloging and making this prior art searchable by examiners and the public would help curtail the issuance of invalid patent claims. It could also ease the burdens on examiners with limited time and resources.

As part of its prior art leadership, the Office should also include an objective

¹³ See U.S. Patent and Trademark Office, Adoption of Metrics for the Enhancement of Patent Quality, available at http://www.uspto.gov/patents/init_events/qual_comp_metric.pdf.

emphasizing the importance of a thorough identification of prior art in the patent record, and a clear explanation of the prior art's application to the patent claims. This objective should encourage vigorous enforcement of Section 103, ensuring that patents merit the presumption of validity under the clear and convincing standard that they enjoy once issued.

Lead the World in Transparent Prosecution

We strongly support the Office's initiatives concerning structured text tagging and upgraded search systems (*see* Goal I, Objective 5, Initiatives C and D), and making information technology improvements a focus (*see* Management Goal, Objective 1). We encourage the Office to be a world leader on transparency of prosecution and ease of information retrieval. This includes making searches for information easier and more robust, and giving stakeholders an easy way to monitor matters, for instance through notifications for status changes and Office proceedings. The Office provides stakeholders with opportunities to bring art to the attention of a patent examiner through preissuance submissions, but stakeholders currently have to leave the Office's website to track Office proceedings.

We also encourage the inclusion of initiatives directed to creating the file history of the future. The Office should make the file history for a patent application just as transparent as the expanded quality metrics we are suggesting. One way to increase transparency is by allowing for claim amendments to be easily tracked through prosecution and subsequently viewed by the public in an easy-to-digest fashion. By leading on prosecution transparency and information retrieval, the Office will also allow for increased use of AIA proceedings such as preissuance submissions.

In conclusion, we encourage the Office to make enhancing patent quality, especially in the area of software and business method patents, a top priority. By invigorating enforcement of the requirements of Section 112, expanding the collection of quality metrics, and providing leadership in prior art and prosecution transparency, the Office can further its vision of leading the Nation and the world in intellectual property protection and policy through the issuance of high quality patents. Other initiatives, such as hiring, retaining and training a top-notch workforce and improving the Office's IT infrastructure will also greatly contribute to patent quality, and we encourage additional efforts in these areas.

Respectfully Submitted,

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