IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Request for Comments and Notice of Roundtable on USPTO Use of Crowdsourcing to Identify Relevant Prior Art	Docket No. PTO-P-2014-0013 79 Fed. Reg. 67159

COMMENTS OF PUBLIC KNOWLEDGE, THE APPLICATION DEVELOPERS ALLIANCE, AND ENGINE ADVOCACY

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**COMMENTS OF PUBLIC KNOWLEDGE,
THE APPLICATION DEVELOPERS ALLIANCE,
AND ENGINE ADVOCACY**

Public Knowledge, the Application Developers Alliance, and Engine Advocacy respectfully submit the following comments in response to the above-identified Request for Comments dated November 12, 2014. Public Knowledge is a nonprofit public interest organization whose primary mission is to promote technological innovation, protect the rights of all users of technology, and ensure that emerging issues of technology law, including patent law, serve the public interest. The Application Developers Alliance is an industry association comprising more than 35,000 individual developers and more than 150 companies. The Alliance is dedicated to meeting the needs of app developers as creators, innovators, and entrepreneurs, by promoting a robust ecosystem for continued innovation and economic growth. Engine is a non-profit organization that supports the growth of technology entrepreneurship through economic research, policy analysis, and advocacy on local and national issues. Engine has built a coalition of more than 500 high-growth businesses and associations, pioneers, innovators, investors, and technologists from all over the country, committed to engaging on the policy issues that affect the way they run their businesses.

Briefly, as commenters have stated in previous comments,[1] crowdsourcing is an important tool for the USPTO in achieving its primary, central mission of issuing high quality patents. As Deputy Under Secretary Michelle Lee has said, "Issuing high-quality patents can play a significant role in curtailing abusive patent litigation over the long run."[2] Poor quality patents drive abusive patent litigation, taxing innovation and harming consumers, vulnerable startups, and small businesses. Thus, crowdsourcing is intimately tied to curbing abusive patent litigation, a problem whose magnitude even the USPTO recognizes.

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[1] *E.g.*, Comments of Pub. Knowledge, Elec. Frontier Found. & Engine Advocacy, *Prior Art Resources for Use in the Examination of Software-Related Patent Applications*, 79 Fed. Reg. 644 (USPTO Mar. 13, 2014), *available at* http://www.uspto.gov/patents/law/comments/pa_a_eff_20140313.pdf.

[2] Michelle K. Lee, *Speaking Truth to Patents: The Case for a Better Patent System*, Remarks at Stanford Law School (June 26, 2014), *transcript available at* http://www.uspto.gov/news/speeches/2014/lee_stanford.jsp.

Finding the best prior art is a prerequisite to patent quality, and crowdsourcing promises such high quality art. These comments suggest how crowdsourcing can be implemented effectively to maintain traditional expectations of patent prosecution while delivering a valuable resource to examiners. Specifically, commenters recommend:

- Examiners should engage in discussions with members of the public to implement crowdsourcing of prior art searches, utilizing the services where technologists currently deposit their best prior art, such as discussion forums and source code repositories. (*See* sections I.A and I.C.)
- As part of this engagement, examiners must serve as liaisons between the legal claim language and the technical expertise of participants, by translating elements of claims into general queries about the state of the prior art. (*See* sections I.B, I.C, II, and III.)
- Crowdsourcing activities should be comprehensively documented and indexed, as such documentation will facilitate both future claim construction and prior art searches in related applications. (*See* section IV.)
- The USPTO should condition an application's acceptance into prioritized examination programs, such as Track One and accelerated examination, on entering the application into a crowdsourcing program. (*See* section V.)

These and related recommendations are discussed in detail below, with sections corresponding to the five issues identified by the Request for Comments.

I. Crowdsourcing, Properly Implemented, Can Identify Relevant Prior Art While Maintaining the *Ex Parte* Nature of Examination

Issue 1: In what ways can the USPTO utilize crowdsourcing to identify relevant prior art that would be available for use in the examination of published applications while maintaining the *ex parte* nature of patent examination?

Brief response: The USPTO should seek out prior art from the discussion forums, source code repositories, and other places that software developers today typically deposit their knowledge. Examiners should serve as liaisons between detailed claim language and the knowledge of the crowd, by distilling elements of claims into

generalized queries about the state of the prior art—queries that members of the public are currently well equipped to answer. That distillation process will, as an added benefit, maintain the *ex parte* nature of patent examination, an aspect of prosecution that in any event is greatly diminished in importance in view of contemporary legal changes.

A. Effective Crowdsourcing Must Use Tools and Venues Familiar to Makers of Prior Art, such as Startups and Open Source Developers

For crowdsourcing to be effective, the USPTO must seek out the sources of prior art that are the closest to those generating the best prior art. In particular, with regard to software technologies, the USPTO must cast its net widely and actively engage with those technology-creating communities who deposit their disclosures not in patent applications but on the Internet.

In the past, and still in some technology areas today, patents themselves were one of the most important sources for generating prior art.[3] But that assumes a world in which inventors routinely disclose their ideas in patent applications. This is not the world today. Technology startups, widely acknowledged to be among the most innovative companies, rarely obtain patent protection. "[M]ost venture-backed software firms did not acquire any patents," found one study, which computed that barely 9% of firms acquired even one patent before obtaining financing, and only 24% did so eight years after receiving first financing.[4] Similarly, open source developers are "among the most valuable sources of prior art in the software field," as our comments previously explained; such developers almost certainly do not file for patents.[5] In these fields,

[3] *See* Comments of Am. Intellectual Property Law Ass'n 1–2, *Use of Crowdsourcing and Third-Party Preissuance Submissions to Identify Relevant Prior Art*, 79 Fed. Reg. 15319 (USPTO Apr. 25, 2014) (calling the patent system a "crowdsourced prior art submission program"), *available at* http://www.uspto.gov/patents/law/comments/cr_a_aipla_20140425.pdf.

[4] Ronald W. Mann & Thomas W. Sager, *Patents, Venture Capital, and Software Start-Ups*, 36 Res. Pol'y 193, 197 (2007); *accord* Stuart J.H. Graham et al., *High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey*, 24 Berkeley Tech. L.J. 1255, 1276 (among startups listed by Dun & Bradstreet, "over six in ten companies (61%) hold no patents at all").

[5] Comments of Pub. Knowledge 5, *Use of Crowdsourcing and Third-Party Preissuance Submissions to Identify Relevant Prior Art*, 79 Fed Reg. 15319 (USPTO Apr. 23, 2014).

"patent documents may seriously lag invention," and MPEP § 904.02 directs examiners to look elsewhere.

Thus, the USPTO must delve into the sources where those technology communities' work is to be found, if it is to ensure that examiners have the best and most exhaustive prior art before them. Two particular sources are worth mention. First, as discussed in previous comments, source code repositories are excellent prior art resources. Second, user discussion forums are the bread and butter of the Internet, and have been proven to be widely useful resources to discovering information. These two sources work best together: the discussion forum can provide an examiner with a place to search; the code repository serves as the citable evidence of prior art.

The use of online, crowdsourced discussion forums to identify relevant prior art has already proven successful in at least three significant examples. The Peer to Patent project, "the first governmental 'social networking' Web site designed to solicit public participation in the patent examination process," attracted over 74,000 visitors, 2,600 of whom became peer reviewers, and contributed relevant prior art in more than 25% of considered applications.[6] Similarly, the site Ask Patents solicits the crowd to identify prior art for pending applications, and it has successfully crowdsourced useful prior art in at least two instances. In one, software expert Joel Spolsky submitted relevant prior art in an application, and the examiner used that exact art to reject the application.[7] Also, the Electronic Frontier Foundation used Ask Patents to find prior art on a patent on podcasting; one of the references identified by an Ask Patents user was subsequently submitted in EFF's petition for *inter partes review* on that patent and cited as grounds for granting the review.[8] Thus, crowdsourcing targeted toward the right audience and the right forums can be a powerful tool in the USPTO's prior art searching efforts.

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[6] Naomi Allen et al., N.Y. Law School, *Peer to Patent Second Anniversary Report* (2009), *available at* http:// www. peertopatent. org/ wp- content/ uploads/ sites/ 2/ 2013/ 11/ CPI_ P2P_ YearTwo_ lo. pdf. *See generally* Comments of EFF et al., *Improving Regulation and Regulatory Review*, 76 Fed. Reg. 15891 (USPTO Apr. 21, 2011), *available at* https://www.eff.org/files/eff_schultz_webbink_docket_no._pto-p-2011-0017.pdf.

[7] *See* Joel Spolsky, *Victory Lap for Ask Patents*, Joel on Software (July 22, 2013), http://www. joelonsoftware.com/items/2013/07/22.html.

[8] *See* Comment to *Disseminating Media Content Representing Episodes*, Ask Patents (Dec. 26, 2013), http://patents.stackexchange.com/a/3897; Institution of *Inter Partes* Review 14, *Elec. Frontier*

Besides using discussion forums, examiners should also search new repositories of technical disclosures, and to utilize third party search tools. As explained above, a great deal of computer-related prior art cannot be located in the databases of issued patents and publications. Furthermore, the USPTO should encourage academia to digitize and make searchable prior art they may have.

B. Examiners Must Act as Liaisons Between the Technicalities of Patent Claim Language and the Vast Knowledge Base of the Crowd

Issue 1 specifically contemplates examiners posting a question to a crowdsourcing website. In doing so, examiners should be encouraged to serve as a liaison between the patent application and the crowd, and spur a dialogue by posing relevant questions in plain language for the type of prior art being sought.

Examiners are trained in reading claims, while members of the public are not, so having an examiner explain in general terms what prior art is useful will avoid problems that critics of previous crowdsourcing efforts have raised about the public's ability to identify relevant art.[9]

This is no unfamiliar role to examiners, for they serve this role of liaison today in ordinary examination. When conducting a prior art search on EAST or WEST, an examiner does not simply type the claim language into the search box. The examiner reads the claims, identifies key concepts, contemplates synonyms, identifies "variant embodiments," "equivalents," and "analogous arts,"[10] and otherwise recasts the claims into language amenable to the search tool. By the same token, when soliciting the input of the crowd, examiners should not simply retype the claim language, but rather should identify relevant general concepts from the claims and seek prior art on those general concepts.

Found. v. Personal Audio, LLC, No. IPR2014-00070 (USPTO Apr. 18, 2014), *available at* https://www.eff.org/document/ptab-decision-instituting-ipr.

[9] *See, e.g.*, Gene Quinn, *Peer to Patent Sequel: USPTO to Begin New Pilot Program*, IPWatchdog (Oct. 20, 2010) ("[H]istory suggests that [Peer to Patent] does not lead to the discovery of usable prior art in the vast majority of cases . . . ."), http://www.ipwatchdog.com/2010/10/20/peer-to-patent-sequel-uspto-to-being-new-pilot-program/id=12898/.

[10] MPEP § 904.01(a)–(c).

C. The Substantial Benefits of Public Input to Patent Quality Greatly Outweigh Concerns About the Now-Diminished Tradition of *Ex Parte* Prosecution

Issue 1 further asks how crowdsourcing can comport with the *ex parte* nature of patent examination. By recasting their search interests in plain language as suggested above, examiners preserve the *ex parte* nature of prosecution. Recasting a search into plain language would likely amount to "search queries to the general state of the art" permissible under MPEP § 904.02(c).

In any event, however, maintaining the *ex parte* nature of prosecution is a lesser concern relative to the USPTO's emphasis on patent quality. Crowdsourcing will strongly advance that quality emphasis, and changes in the law have diminished the traditional expectations of *ex parte* prosecution.

Public participation in many activities tends to lead to improved results. "[W]hen our imperfect judgments are aggregated in the right way, our collective intelligence is often excellent," writes one commentator on the benefits of crowdsourcing.[11] In the context of patent prior art searching, as explained above, crowdsourcing has proven to be an effective tool, through the Peer to Patent and Ask Patent programs.

In contrast, the customarily *ex parte* nature of patent prosecution has weakened over time. Prior to 1999, patent applications were held strictly in confidence, and the public was not even apprised of their existence unless they issued as patents.[12] But in 1999 patent applications became subject to 18-month publication, giving the public a view into the process, and new opportunities for the public to participate in patent prosecution arose.[13] Third parties could cite references and file protests with consent of the applicant.[14] Most strikingly, just three years ago in the America Invents Act, Congress specifically authorized third party submissions by statute.[15] *Ex parte*

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[11] James Surowiecki, *The Wisdom of Crowds* xiv (2005).

[12] *See* Patent Act of 1952, ch. 950, §122, 66 Stat. 792, 801.

[13] *See* Domestic Publication of Foreign Filed Patent Applications Act of 1999, Pub. L. No. 106-113, sec. 4502, §122, 113 Stat. 1501, 1501A-561 to -562.

[14] *See* 35 U.S.C. § 122(c); 37 C.F.R. § 1.291; MPEP § 1901.

[15] *See* Leahy-Smith America Invents Act, Pub. L. No. 112-29, sec. 8, 125 Stat. 284, 315–16 (2011) (codified at 35 U.S.C. § 122(e)).

prosecution is gradually but surely being replaced with public participation in the examination process.

Accordingly, concern for preserving the traditional *ex parte* nature of prosecution is dwarfed by the great benefits of crowdsourced participation to quality.

II. Examiners May Engage in Follow-up Communications

Issue 2: If the USPTO were to post a question relating to the technology of a published application on a crowdsourcing Web site, what follow-up communications, if any, could someone from the USPTO have with parties on the Web site?

Response: As explained in the previous section, examiners ought to be able to engage in follow-up communications that recast claim language into general queries about the prior art. Besides being permissible under MPEP § 904.02(c), this process of recasting—familiar, as explained above, to any examiner who has recast claims into EAST search terms—will make the crowdsourcing process significantly more effective than its predecessors, by assisting those members of the public who are familiar with the technological art but not the intricacies of claim drafting.

III. Crowdsourcing Would Not Encourage Protest or Preissuance Opposition

Issue 3: What appropriate precautions, if any, could the USPTO employ to ensure that the use of crowdsourcing tools does not encourage a protest or other form of preissuance opposition to the grant of a patent?

Response: First, the above-suggested process of recasting claims into plain-language queries would avoid encouragement of protest or preissuance opposition. An examiner posing a question in such a manner need not identify the patent application being examined, and responding parties cannot protest or oppose an application when they do not know the identity of that application.

Second, it is worth bearing in mind that the 35 U.S.C. § 122(c) prohibition on unconsented protest or preissuance opposition must be narrowly construed in view of the simultaneously existing provision of § 122(e) for third-party preissuance submissions. In its final rules on those preissuance submissions, the USPTO

determined that even claim charts "mapping various portions of a submitted document to different claim elements" do not qualify as a protest or preissuance opposition.[16] Thus, even if an examiner were to solicit prior art directed to a specific and publicly identified application, that examiner would not be encouraging a protest or preissuance opposition, for the examiner would not be soliciting anything more than a claim chart.

IV. Documentation of Crowdsourcing Activities Will Be a Valuable Resource in the File Wrapper

Issue 4: If the USPTO cites in an application prior art obtained via crowdsourcing tools, to what extent, if any, should the USPTO document the crowdsourcing activities used to identify the prior art?

Response: The USPTO should comprehensively document its crowdsourcing activities in the file wrapper of the relevant patent application. Besides potentially identifying other relevant art that the examiner may not have considered, the discussions among members of the public could shed light on the proper construction of the claims. Many of the participants in a crowdsourcing effort will have ordinary skill in the art, and so their understanding of the claimed invention, while obviously not dispositive, could be highly probative. Careful documentation of and reference to the crowdsourcing process would better inform the public of the import of the patent application, and furthermore act as a check to ensure that the applicant and examiner are on the same page about how to interpret the application.

Furthermore, the USPTO should catalog, into larger prior art databases, any prior art identified through crowdsourcing. Prior art identified through the crowdsourcing process will likely be relevant to patent applications other than the one being immediately considered, and other examiners should share the benefit of that identified art. This integration into larger databases should apply to all pre-issuance submissions as well, though it is commenters' understanding that this is not currently occurring.

[16] *Changes to Implement the Preissuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act*, 77 Fed. Reg. 42150, 42156 (USPTO July 17, 2012).

V. The USPTO Should Condition Prioritized Examination on Crowdsourcing the Application

Issue 5: For each published patent application, if the USPTO gave the patent applicant the option to opt-in or opt-out of the USPTO's use of crowdsourcing, would applicants choose to participate in the crowdsourcing program? What considerations would inform the applicant's decision?

Brief Response: Applicants will require a strong incentive to participate in any crowdsourcing program. A particularly strong incentive would be to condition approval for any of the various prioritized examination processes, such as Track One examination and accelerated examination, upon consent to place the application within a crowdsourcing program. Such a requirement would go a substantial way to improving the quality of patent applications self-identified to be of high value.

Detailed Response: The USPTO currently offers several ways to prioritize examination of an application, including accelerated examination and Track One.[17] Acceptance into these procedures should be conditioned upon the applicant opting into a crowdsourcing program, for several compelling reasons.

First: as one commenter pointed out in the previous comment proceeding, these prioritized examination programs create a loophole for the statutorily mandated third party submission process under 35 U.S.C. § 122(e).[18] Prioritized examination, by virtue of arriving at final action often before the application is even published,[19] allows an applicant to avoid the public scrutiny of third party submissions, thus compromising the search function. Imposing such a crowdsourcing requirement could avert that problem.

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[17] *See Changes to Practice for Petitions in Patent Applications to Make Special and for Accelerated Examination*, 71 Fed. Reg. 36323 (USPTO June 26, 2006) (accelerated examination); 37 C.F.R § 1.102(e) (prioritized ("Track One") examination).

[18] *See* Comments of Pomcor, *Use of Crowdsourcing and Third Party Preissuance Submissions to Identify Relevant Prior Art*, 79 Fed. Reg. 15319 (USPTO Mar. 19, 2014), *available at* http://www.uspto.gov/patents/law/comments/cr_e_pomcor_20140421.pdf.

[19] *Cf.* Comments of Pub. Knowledge 4–6, *Optimum First Action and Total Patent Pendency*, 79 Fed. Reg. 38854 (USPTO Sept. 8, 2014), *available at* http://www.uspto.gov/patents/law/comments/ofa_a_public_2014sep08.pdf (explaining how an expedited examination schedule could render preissuance submissions ineffective).

Second: some commenters worried about how to identify the applications where crowdsourcing would be most useful, in view of the overwhelmingly large number of applications filed.[20] But when an applicant is willing to pay an additional fee or prepare an Accelerated Examination Support Document, that applicant signals that the application is particularly valuable. Thus, by applying crowdsourcing to this small subset of applications, the USPTO automatically uses the program where it is most effective.

Third: it may be thought that the value of a carefully examined, "gold plated" patent will be sufficient incentive for parties to use a crowdsourcing program.[21] Unfortunately, this effect is likely to be of limited use. There is substantial evidence that a high quality patent is not necessarily the most valuable or the most desirable. Indeed, in view of the presumption of validity, many abusers of the patent system gravitate toward low-quality patents;[22] such patents would benefit most from crowdsourcing but are the least likely to be entered into such a program. In contrast, applicants who opt into crowdsourcing are likely conscientious enough to have drafted a high quality application and perhaps even have conducted a search; such applications would benefit least from crowdsourcing. An optional, self-selected crowdsourcing program would likely take in only those applications where crowdsourcing is least beneficial.

Thus, the USPTO must tie a strong incentive, such as prioritized examination, to any crowdsourcing program in order to ensure that it is used where it will be useful.

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[20] *E.g.*, Comments of Patexia 3, *Use of Crowdsourcing and Third Party Preissuance Submissions to Identify Relevant Prior Art*, 79 Fed. Reg. 15319 (USPTO Mar. 19, 2014), *available at* http://www.uspto.gov/patents/law/comments/cr_e_patexia_20140509.pdf ("Given this level of volume [of applications filed each year], the question must be, 'Is crowdsourcing the right fit for all of them?'").

[21] *Cf.* Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 Stan. L. Rev. 45, 61–63 (2007), *available at* http://www.stanfordlawreview.org/sites/default/files/articles/Lichtman Lemley.pdf.

[22] *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014) (expressing concern that "patent applicants face powerful incentives to inject ambiguity into their claims") (citing Fed. Trade Comm'n, *The Evolving IP Marketplace* 85 (2011)); Gov't Accountability Office, No. GAO-13-465, *Assessing Factors that Affect Patent Infringement Litigation Could Help Improve Patent Quality* 28 (2013) (attributing low-quality patents as one cause for spike in patent litigation); Kal Raustiala & Chris Sprigman, *How "Patent Trolling" Taxes Innovation*, Freakonomics (July 11, 2011) (in view of the presumption of validity, "brandishing invalid patents can be a good business strategy"), *available at* http://freakonomics.com/2011/07/11/how-patent-trolling-taxes-innovation/.

VI. Conclusion

Public Knowledge, the Application Developers Alliance, and Engine Advocacy thank the USPTO for providing the opportunity to comment on this important issue. If any questions remain or if additional information would be useful, the undersigned attorney is happy to discuss these matters further.

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