I. INTRODUCTION

Until recently, the patent examination process in the United States has largely been out of the purview of the general public, consisting of a relatively private interchange between assigned patent examiners from the United States Patent and Trademark Office ("USPTO") and the inventor seeking patent protection. In recent years, the USPTO has seen a marked increase in the number of patent applications, and as a result, there is growing concern that patent examiners are overworked to the point of approving many patent applications undeserving of patent protection. While the USPTO reports that it granted a total of 196,404 patent applications last year, the agency is...
currently still dealing with a backlog in excess of one million applications. Consequently, both the USPTO and the general public are clamoring for reform of the patent system.

In response to the apparent need for improvement, the USPTO teamed up with New York Law School’s Community Patent Review Project (“CPRP”) to create the Peer to Patent initiative, which is currently facilitating a year-long peer review pilot program. For the first time, the general public will be allowed to review and comment on patent applications. The program, referred to as the “Peer to Patent” pilot, began on June 15, 2007, and allows the public to assist the USPTO in examining patent applications online during a limited public review period by submitting and commenting on relevant prior art.

Currently, patent laws do not allow public submission of commentary related to prior art sent to the USPTO from the public without the approval of the applicant. Ultimately the pilot will help determine the extent to which public participation can uncover relevant prior art, and thus improve the quality of patents issued by the USPTO, specifically in the area of Computer Architecture, Software and Information Security. The peer review process essentially utilizes the public to search for and sift through prior art wherever it may be found, so that ultimately the USPTO can utilize the top results of the

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9. USPTO Press Release, supra note 8. Prior art refers to public information that speaks to the patentability of an invention seeking patent protection. Id.
12. See Pilot Notice, supra note 7 (discussing the improvements Peer to Patent will provide).
public’s prior art search analysis in its own examination process. 13

This Recent Development discusses peer review of patent applications, particularly focusing on the new peer review pilot program and the implications of peer review in general for patent systems such as that of the United States. Part II provides an overview of patent examination in the United States and of the peer review pilot program. Part III then posits the benefits, drawbacks, and future implications of having peer review as a part of a patent system.

II. BACKGROUND

Before analyzing the implications of increased public participation in the patent examination process, it is important to understand the current state of patent examination in the United States. This section will first describe the basics of the U.S. patent system, focusing primarily on the patent application process. It will also briefly describe what it means to an applicant when the USPTO either rejects a patent application or issues a patent. Finally, this section will provide an overview of the Peer to Patent peer review pilot program in light of current patent reform efforts in the United States.

A. Patent Examination in the United States

The patent system in the United States was developed based on a Constitutional grant to Congress of the power to “promote the Progress of Science and useful Arts, by securing for limited times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.” 14 The USPTO was set up to simply administer patent laws and to issue, examine, publish, and record patents. 15 The agency’s examination division consists of different technology centers, each assigned to examine certain areas of technology. 16 Although the USPTO is critical in determining whether a patent is issued, the administrative body does not have the authority to decide matters of patent infringement or enforcement. 17

Although the USPTO employs over 6500 employees, the number of patent applications filed each year continues to rise. 18 In 2006 the USPTO reported that a total of 425,967 utility patent applications were filed—an increase of 35,234 filings from the year before. 19 Moreover, the United States

13. The USPTO will accept the top ten prior art references submitted through the pilot program for use in its examination of the respective patent application. USPTO Press Release, supra note 8.
15. See USPTO General Information, supra note 1.
16. Id.
17. Id. (“Once a patent is issued, the patentee must enforce the patent without aid of the USPTO.”).
19. UTILITY APPLICATIONS FILED, supra note 3, at 15 tbl.01-06.
offsetting hiring and retention efforts.\textsuperscript{20}


Because owning a patent comes with significant, albeit limited, property rights,\textsuperscript{21} it is often in the best interest of inventors to try to secure patents on their inventions. However, it is not easy to obtain a patent, and inventors must convince the USPTO to grant them a patent and the significant economic rights that come with it.\textsuperscript{22} The USPTO is responsible for overseeing and administering the patent system and laws in the United States, and it subjects each patent application to a rigorous examination.\textsuperscript{23}

A typical utility patent undergoes a rigorous examination process.\textsuperscript{24} First, a patent application is filed in electronic or paper form in accordance with certain procedural and fee requirements.\textsuperscript{25} Then, each application is given a unique identifier and assigned to a specific patent examiner who decides whether to ultimately approve or reject the application.\textsuperscript{26} What occurs next is a lengthy and formal back-and-forth communication process, sometimes

\textsuperscript{20} U.S. Gen. Accounting Office, U.S. Patent And Trademark Office: Hiring Efforts Are Not Sufficient To Reduce The Patent Application Backlog (2007) [hereinafter GAO Report] (“Although USPTO is hiring as many new patent examiners as its budget and institutional capacity will support, attrition is offsetting hiring progress, and agency management and patent examiners disagree about the causes for attrition. From 2002 through 2006, one patent examiner left USPTO for nearly every two the agency hired . . . and new patent examiners are primarily responsible for the actions that remove applications from the backlog.”).

\textsuperscript{21} A patent grant comes with the “right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States.” 35 U.S.C. § 154 (2000); USPTO General Information, supra note 1.

\textsuperscript{22} In order to qualify for patent protection under current patent laws the inventor must show that the invention is novel under § 102, useful under § 101, and non-obvious under § 103, and in addition must fully disclose and distinctly claim the invention in the application under § 112. 35 U.S.C. §§ 101-103, 112.

\textsuperscript{23} See USPTO General Information, supra note 1 (discussing the specific duties and processes of the USPTO); see generally Noveck, supra note 4, at 134 (“The examiner reviews an application under five major statutory criteria: patentable subject matter, utility, novelty, nonobviousness, and enablement.”).

\textsuperscript{24} Federal patent law currently provides for the issuance of three types of patents: utility, design, and plant patents. 35 U.S.C. §§ 1-188; USPTO General Information, supra note 1. The subject matter covered by a utility patent is defined as “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. According to USPTO reports, 173,771 of the total patents granted by the USPTO in 2006 were utility patents; the remainder being either design patents, plant patents, or reissue patents. USPTO Patent Trends 2006, supra note 18.


\textsuperscript{26} See USPTO General Information, supra note 1 (discussing how patents are assigned for examination in the USPTO).
starting as long as four years after filing an application, that allows the patent examiner to ensure that the application meets patentability requirements and that it is presented in the requisite format. Important parts of a patent application include the specification that explains the invention, the claims delineating the invention, drawings if applicable, and an abstract summary of the invention.

The patent examiner traditionally conducts a global prior art search geared toward determining novelty and non-obviousness, whether the invention or something close to it has already been patented or been made known to the public. It is important that the examiner conduct the prior art search thoroughly to avoid granting undeserving patents, which can later lead to post-grant hassles such as lawsuits or re-examinations. However, the examiner’s search resources are somewhat limited to USPTO databases containing prior art, such as prior U.S. patents, foreign patent abstracts, and other limited information. When a patent examiner is not satisfied with the application, he or she can issue an Office Action communication, to which the applicant has a reasonable but limited opportunity to respond as necessary. Through the Office Action communication the examiner can essentially reject parts of the filed application, request clarification of parts of the application, and accept parts of the application. However, the rejections are not deemed final until later in the process. The process of communication between the


29. MPEP, supra note 25, §§ 601-609; see USPTO General Information, supra note 1 (providing a description of the U.S. patent application).

30. Noveck, supra note 4, at 134-35. In the United States, an invention must be novel, meaning it is not fully anticipated by a prior patent, publication or other public information, before it can be patented. 35 U.S.C. §§102(a)-(b). “Sections 102(a) and (b) operate in tandem to exclude from consideration for patent protection knowledge that is already available to the public.” Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 148 (1989).

31. See Shrock, supra note 6 (discussing a re-examination of Amazon’s 1-click patent).

32. MPEP, supra note 25, § 902.03(e); Noveck, supra note 4, at 135 (“The USPTO databases are not exhaustive . . . [and i]n effect, the examiner is limited to internal sources available at the office.”).

33. USPTO General Info, supra note 1; see 37 C.F.R. § 1.134 (time period for reply); MPEP, supra note 25, § 704.13 (detailing various time periods for reply).

34. See MPEP, supra note 25, §§ 2260; see also Noveck, supra note 4, at 134.

35. USPTO General Information, supra note 1. Chapter 700 of the Manual of Patent Examining Procedure covers Examination. MPEP, supra note 25, § 700. However, an application can be considered abandoned for failure to respond within the requisite time period. 37 C.F.R. §1.135.
examiner and the applicant through Office Actions and responses may be repeated several times during the course of the patent procurement process.

2. What Happens after the Patent Procurement Process?

a. A Patent is Granted

If a patent is granted by the USPTO, it does not mean that the validity of the patent is absolute and incontestable. There is still opportunity to question the validity of the patent through a re-examination process, and perhaps through a post-grant review process, which the USPTO is currently considering. The goal of allowing post-grant review by the public is to promote fairness in the patent system and the quick discovery of flaws in issued patents. However, it may still seem to be a significant waste of effort and time for the applicant, the examiner, and also the public when flaws are only discovered after the issuance of the patent, rather than earlier in the process.

Although a thorough discussion of patent enforcement is outside of the scope of this work, it is important to mention the idea that enforcement of the patent may be a necessary reality at some point after the patent is granted. However, it is the responsibility of the patentee and not the USPTO to enforce a granted patent. Furthermore, it is important to keep in mind that patents granted in the United States by the USPTO technically only provide patent rights in the United States, so an inventor seeking full patent protection may have to look to other countries’ patent systems for additional protection.

b. A Patent is Rejected

In order to appeal a patent rejection, the applicant must file a Notice of Appeal with the Board of Patent Appeals and Interferences (“BPAI”), and may file an Appeal Brief outlining the reasons the examiner’s rejection was in error. The applicant can then meet with the examiner who rejected the application, the examiner’s supervisor, and another examiner or supervisor at an Appeal Conference to determine whether the examiner’s actions were

37. Id. (“Simply put, ‘post-grant review’ will give the public another vehicle for reviewing the quality of issued patents.”).
38. Id. (“We believe [post-grant review] promotes innovation by ensuring that the patent system is fair to all . . . [It] promotes a patent system where flaws in issued patents can be quickly and expertly revealed, without exposing a patent holder to frivolous or even mischievous review and uncertainty.”).
39. USPTO General Information, supra note 1 (“Once a patent is issued, the patentee must enforce the patent without aid of the USPTO.”).
40. See 35 U.S.C. § 154 (2000) (“Every patent shall contain . . . a grant . . . of the right to exclude others from making, using, offering, for sale, or selling the invention throughout the United States . . . .”)
proper. Following the conference, the application proceeds to the BPAI for a decision.

Appeals of decisions of the BPAI generally may proceed through one of two routes: to the United States District Court for the District of Columbia, or directly to the United States Court of Appeals for the Federal Circuit. As an alternative, the applicant may ultimately choose to re-file the application upon rejection by the USPTO.

3. Heading toward Significant Changes in the Near Future

In an effort to reform the U.S. patent system, the USPTO and Congress have been taking a hard look at the existing process. The House recently passed a patent reform bill that has the potential to fundamentally alter the patent system. With the patent reform bill passing the House by a two-to-one margin, Congress appears to be seriously contemplating major changes to the existing U.S. patent system. While the exact changes that will ultimately be made to the patent system are still uncertain, it is evident from Congressional dialogue that fundamental changes to the U.S. patent system, such as switching from a first-to-invent patent system to a first-to-file patent basis, may be in store.

In line with the apparent efforts by Congress to significantly reform the patent system, the USPTO has started experimenting with the patent examination process by signing on to the Peer to Patent pilot program and also by recently offering a separate accelerated examination process, among other efforts. The desire to improve patent examination in the United States and

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43. Id.
45. See USPTO General Information, supra note 1 (indicating that a request for continued examination or a continuation application may be filed where different claims or further evidence should be considered by the examiner).
48. Patent Hearing 2007, supra note 46, at 273-74. In the current first-to-invent system, the USPTO may have to institute interference proceedings to determine priority of invention for approximately one percent of filed applications. USPTO General Information, supra note 1.
49. On August 25, 2006, the USPTO adopted a new Accelerated Examination Process, wherein applicants are required to provide the USPTO with a search and support document and also participate in an interview with the examiner in exchange for an accelerated review period. Patent Hearing 2007, supra note 46, at 265-66. “[O]ur experience with this initiative has already demonstrated that both applicants and
attempts at new pilot programs are not new to the USPTO. According to USPTO Director Jon Dudas, the USPTO has been striving for reform for some time, and the primary challenge facing the United States patent examination process, according to examiners, is that of application quality. Dudas has stated that feedback from USPTO examiners emphasizes “how much of a shared responsibility patent quality is,” and not surprisingly, USPTO participation in the Peer to Patent Initiative is in line with this collaborative view of patent system reform.

B. The Peer to Patent Pilot

The Peer to Patent pilot program was launched on June 15, 2007 as a test to see whether peer review and public participation in the patent examination process, particularly in the prior art search portion, would result in any improvements to the USPTO process. The idea is based on proposals by a group of individuals from both academic and business circles for an online public collaboration process for finding potential prior art. The pilot will end June 16, 2008 or after 250 applicants have participated in the program. In the end, the success of the pilot program will be examined by comparing the top prior art submitted through the pilot program with the prior art found by the examiner using traditional search methods. Essentially the patent examination process for applications submitted through the pilot program should remain the same as it is for traditional applications, with the exception of the waiver of certain rules regarding third-party submissions and public protests, and the requirement of express written consent to third-party comments.
The Peer to Patent process includes the following steps:

1. Review and discuss applications.
2. Search for prior art (known to the public).
3. Upload relevant prior art.
4. Evaluate and comment on submitted prior art.
5. The top 10 prior art references (with comments) are handed off to the USPTO examiner.

Virtually anyone can submit a patent application for review through the Peer to Patent pilot, provided that the patent application meets the basic requirements of participation in the pilot.59 Eligibility requirements for patent applicants include: (1) having the patent applications classified in USPTO Technology Center 2100 (Computer Architecture, Software and Information Security); and (2) filing an “Applicant’s Consent to Third-Party Comments in Published Applications and Consent to Pilot Participation” form (available from the USPTO Web site).60

Any member of the public is currently free to apply and sign up as a reviewer via a simple online registration at the Peer to Patent Web site, and participants can determine their own level of participation.61 Moreover, online collaboration through the Web site is essentially self-moderated with the guidance of “facilitators,” that is, peer reviewers who post updates on the application’s homepage, post topics to the discussion board, identify inappropriate content, and ensure that the community is focused on finding prior art and prior art experts.62 Just as with most online membership registrations, anyone can simply register with the community Web site and have access to the tools for reviewing, discussing, and submitting prior art for the pending applications participating in the pilot program.63

Not all community comments and discussions will be forwarded to the
USPTO for use in its examination.\textsuperscript{64} The USPTO will accept up to ten submissions of prior art from Peer to Patent for each patent application that undergoes peer review through the pilot program, provided the submissions are received within a specific time frame.\textsuperscript{65} In addition, the USPTO will only accept comments accompanying each prior art submission if they concern the relevance of the submission as prior art.\textsuperscript{66}

Just as with the traditional patent examination process, publication is still a required price to pay for the potential benefit of receiving patent protection through the peer review pilot.\textsuperscript{67} However, the rules of the pilot program may require applicants to consent to publication sooner than they would otherwise have to under the traditional examination system.\textsuperscript{68} Ultimately, the earlier publication requirements may not make a difference to the applicant who obtains a faster determination of patentability.

III. WHAT DOES PEER REVIEW MEAN FOR THE PATENT SYSTEM?

The Peer to Patent pilot, along with increased peer review and public participation in general, should provide at least some advantages for the USPTO, the primary benefit being the addition of more outside resources and support to assist the already overburdened USPTO staff struggling with a large backlog of patent applications.\textsuperscript{69} While many believe that the new peer patent review system mostly benefits larger companies more than it benefits smaller ones, there still does not seem to be consensus as to whether the new system will actually be more effective than existing practices.\textsuperscript{70} In the end, the results of the peer review pilot program will provide insight into whether peer review can effectively address existing shortcomings of the current patent system without adding additional problems.

A. Relevant Problems with the Current Patent System

This section will set forth some of the existing shortcomings of the current patent system in the United States relevant to an analysis of the peer

\textsuperscript{64} Pilot Notice, supra note 7, pt. III.B.
\textsuperscript{65} See id. pt. III.B(1)-(2) (noting the requirements that must be met before prior art submissions and related comments may be used by the USPTO, including the requirements that submissions are received within 18 weeks of publication of the application and that comments are directed to the relevance of the submission as prior art).
\textsuperscript{66} Id.
\textsuperscript{67} Id. pt. V.
\textsuperscript{68} Id. Traditionally, patent applications are published eighteen months following the earliest effective filing date or priority date claimed by the application. USPTO General Information, supra note 1.
\textsuperscript{69} See Shrock, supra note 6 (discussing USPTO backlog problem); cf. Erika Morphy, New Web Site May Smooth Patent Process, TECHNEWSWORLD, Mar. 6, 2007, http://www.technewsworld.com/story/software/56129.html (noting that there is a dispute as to whether the benefits of the peer patent review system will outweigh the drawbacks, and also acknowledging that while there is already a mechanism in place for submitting references to the USPTO for consideration for patents published in the United States, the peer review pilot may expand that mechanism).
\textsuperscript{70} See Morphy, supra note 69 (discussing concern with manipulation and a skewing of the field toward large companies).
review pilot, beginning with a discussion of the particular difficulties of examining patent applications in the area of computer software. This section will also examine briefly the problematic practice of collecting patents for the sole purpose of litigation and financial gain, and the common practice of collecting patents for cross-licensing between businesses.

1. Patent Quality and the Open Source Problem

Currently, patent applications in the area of Computer Architecture, Software and Information Security tend to take the longest time to issue, taking an average of forty-four months. Due to the relatively dispersed nature of software development—particularly of open-source software development—and the fact that there is no single database for open-source and free software prior art, proper examination of patent applications in this category of technology and innovation tends to be more difficult compared to other areas of science and technology wherein concepts and inventions are routinely published and disclosed in print and peer-reviewed journals, or formally documented or described in license agreements. In the open-source and free software community, small independent developers often come up with new products and improvements based on shared source code as part of a larger, somewhat unorganized, disperse community of developers. Later, software companies and developers with more resources to pursue patent protection could potentially obtain a patent on the same software based on an examination conducted without adequate consideration of all relevant prior art, or even without sufficient technical expertise on the part of the examiner. In that sense, granting undeserving software patents would hurt those in the development community by preventing those who already invented the technology from continuing to utilize it as they choose to without requiring some sort of licensing arrangement with the unworthy patent holder.

The Open Source Initiative group identifies software licenses as open-source licenses if they meet the ten requirements of what they have defined as the “Open Source Definition.” This includes allowing free distribution and

71. Invitation to Inventors, supra note 27.
72. Gross, supra note 4 (“No open-source and free software prior art database exists, and it’s now nearly impossible to write major new software packages without getting into a patent dispute.” (citing Pamela Jones of Groklaw)).
73. See generally Eric S. Raymond, Open Minds, Open Source (June 21, 2005), http://catb.org/~esr/writings/analog.html (describing the process of open-source development as an “inversion of traditional prescriptions for managing software development—a shift from small, vertically organized, rigidly focused groups of developers working on secret code to large, self-selected, diffuse, horizontal, and somewhat chaotic peer communities working on a common base of open source code”).
74. See generally Noveck, supra note 4, at 138 (“Examiners must rely on internal databases and are not permitted to consult outside sources. While the public may submit limited prior art, they may not submit any commentary or analysis after publication and before the grant of the patent application. The resulting information deficit inevitably results in patents issued without the benefit of the appropriate prior art or the perspective that could be brought to bear by expert inquiry.”).
75. Open Source Initiative, The Open Source Definition, http://opensource.org/docs/osd (last visited Nov. 22, 2007) [hereinafter Open Source Definition]. The open source definition requires that the distribution terms of open source software allow for free distribution, free availability of the source code, modification or
derivative modifications along with making the source code freely attainable.\textsuperscript{76} Because open-source software provides public access to software source code, its products inherently come with less restrictive intellectual property limitations.\textsuperscript{77} Due to the more open, collaborative nature of this type of software development and the fact that documentation may be sparse or non-existent,\textsuperscript{78} improvements and innovations may be more difficult to track or attribute to a particular individual. Also, open source products may be the result of the incremental or simultaneous collaboration of a group of individuals who are dispersed both geographically and socio-economically,\textsuperscript{79} some of whom may not be represented by sophisticated corporate employers with an eye toward patent protection.


Corporations such as IBM and Hewlett Packard consistently rank among the top organizations globally in terms of the number of patents issued.\textsuperscript{80} Executives and representatives from both companies have been quoted as lauding the idea that peer patent review can make patents stronger, stating that their companies do not want undeserved patents.\textsuperscript{81} However, it is a common corporate practice to cross-license patents, where two parties holding different patents mutually agree to grant each other licenses, generally without the exchange of fees.\textsuperscript{82} The parties to such cross-licensing agreements likely share the same purpose of avoiding costly and potentially damaging validity challenges during infringement litigation of each of their cross-licensed creations of derivative works, maintaining the integrity of the author’s source code, non-discrimination against persons or groups, non-discrimination against particular fields of endeavor, distribution of a license covering re-distribution, grant of non-product-specific licenses, non-restriction of other accompanying software, and finally the terms must be technology neutral. Id.

\textsuperscript{76} Id.
\textsuperscript{77} Id.
\textsuperscript{78} See Sam Williams, The Software Patent Mess, TECH. REV., Mar. 22, 2006, http://www.technologyreview.com/Biztech/16611/?a=f (referring to the “shared standards, haphazard documentation, and the recent convergence of once-independent technology platforms” and to the more collaborative and interdependent nature of innovation in the areas of software technology and web services in particular). The basic definition of open-source does not include a documentation requirement, but rather focuses on the availability of the source code. Open Source Definition, supra note 75.
\textsuperscript{79} See e.g. Raymond, supra note 73 (discussing the benefits of individual open source developers working together on open source projects instead of with a group of coworkers as part of a large technology development company).
\textsuperscript{80} In 2006, IBM received the most patents granted by the USPTO, followed, in order, by Samsung, Canon, Matsushita Electric Industrial, and Hewlett Packard. PATENT TECH. MONITORING TEAM, U.S. PATENT & TRADEMARK OFFICE, PATenting by ORGANIZATIONS 2006, at B1-1 (2006) [hereinafter TOP ORGANIZATIONS], available at http://www.uspto.gov/go/taf/topo_06.pdf.
\textsuperscript{82} U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY 28 (1995), available at http://www.usdoj.gov/atr/public/guidelines/0558.pdf (“Cross-licensing and pooling arrangements are agreements of two or more owners of different items of intellectual property to license one another or third parties. These arrangements may provide procompetitive benefits by integrating complementary technologies, reducing transaction costs, clearing blocking positions, and avoiding costly infringement litigation.”).
technologies. In this manner, companies can instead develop and use technology without worrying as much about litigation of patent infringement suits.\textsuperscript{83} However, the practice seems to favor holders of large quantities of patents in their intellectual property portfolio, and, particularly in the case of large companies commonly engaged in cross-licensing practices, it may ultimately make little difference that certain technology in their cross-licensed portfolio may potentially be undeserving of a patent.

It is also increasingly common for businesses to buy up patents for the sole purpose of seeking out and pursuing patent infringement suits against, and extracting licensing fees from, other companies.\textsuperscript{84} Businesses such as these, often known pejoratively as “patent trolls” or “patent pirates,” take advantage of patents granted for other people’s inventions without developing technologies of their own or contributing to innovation.\textsuperscript{85} “[T]he field is fertile for companies seeking to patent undeserving inventions and to profit from the threat of litigation rather than from productive research and development.”\textsuperscript{86} In the end, there is ample opportunity to exploit weaknesses in an overburdened patent system, particularly in areas such as computer software, where it is difficult to find adequate information to identify undeserving patents.\textsuperscript{87}

\textbf{B. What Might Peer Review Mean for the Patent Review System in the Future?}

Given the aforementioned problems related to the patent system in the United States, measuring the success of the peer review pilot depends largely on the extent to which the benefits address existing problems and outweigh the drawbacks. This section discusses some of the benefits of peer review of patents to the USPTO, to applicants, to community reviewers, and to the public. Finally, this section will also discuss some of the potential drawbacks to allowing peer review of patents.

\textbf{1. Online Community Building and Benefits to the USPTO}

The Peer to Patent Web site, www.peertopatent.org, is set up to facilitate the peer review process entirely online.\textsuperscript{88} The Peer to Patent Web site takes advantage of the benefits of online community building by assembling a self-moderating voluntary review community, helping to assess the patentability of

\begin{itemize}
  \item \textsuperscript{83} Id. “Settlements involving the cross-licensing of intellectual property rights can be an efficient means to avoid litigation and, in general, courts favor such settlements.” Id. “[S]uch an arrangement can have procompetitive benefits, for example, by exploiting economies of scale and integrating complementary capabilities of the pool members, (including the clearing of blocking positions) . . . .” Id. at 29.
  \item \textsuperscript{84} Noveck, supra note 4, at 131; Williams, supra note 78.
  \item \textsuperscript{85} See Williams, supra note 78 (describing the areas of software technology and web services as “two realms where shared standards, haphazard documentation, and the recent convergence of once-independent technology platforms have created a target-rich environment for savvy patent plaintiffs”).
  \item \textsuperscript{86} Noveck, supra note 4, at 131.
  \item \textsuperscript{87} Id. at 132.
  \item \textsuperscript{88} Id.
\end{itemize}
inventions prior to the grant of a patent.\textsuperscript{89} The Web site allows participants to get involved in the Peer to Patent pilot process from anywhere in the world (with access to the Internet); it also promotes learning through video tutorials about how the process and Web site work, what prior art is, and other topics.\textsuperscript{90}

As with other online community and discussion Web sites, the Peer to Patent Web site makes a point of providing a community where reviewers can not only add their own comments on submitted prior art, but also view and respond to comments submitted by others in the Peer to Patent community.\textsuperscript{91} While the USPTO already accepts prior art submitted by the public, the peer review pilot allows public comment on prior art for the first time.\textsuperscript{92}

Particularly in the areas of software and computer technology, the public community of peers tends to be technically savvy and comfortable with online collaboration and community participation, such as the open-source software development community.\textsuperscript{93} This characteristic of the software and computer technology community makes it conducive to participation in this type of peer review system. In other patentable categories, the community of experts may not be as comfortable with online collaboration and discussion, and prior art may adequately exist in other searchable databases. However, as people in the United States continue becoming more tech-savvy, social networking and online community participation may become more commonplace in most, if not all, technical fields. Ultimately, much like in academia and scientific publication, peer review—whether online or in more traditional forms—can be an important part of validating new findings and ideas.

2. Benefits to Applicants

What benefit, if any, would participating applicants get from this type of peer review system? In terms of the Peer to Patent pilot project, participating applicants will have their applications reviewed in one year, about a quarter of the time applicants usually have to wait.\textsuperscript{94} Beth Noveck of New York Law School, who initially proposed the Peer to Patent project, cites strengthening patents as another benefit of the project (and of peer review).\textsuperscript{95} Representatives of large companies such as IBM, Microsoft, and HP have also expressed support for the idea that the peer review project could strengthen

\begin{itemize}
\item \textsuperscript{89} Peer-to-Patent Brochure, supra note 61, at 1.
\item \textsuperscript{90} Peer to Patent, Tutorials, http://www.peertopatent.org/main/education (last visited Nov. 22, 2007).
\item \textsuperscript{91} See generally Peer-to-Patent Brochure, supra note 61 (providing an overview of the capabilities of online and community Patent Review Project).
\item \textsuperscript{92} Patent Hearing 2007, supra note 61, at 268.
\item \textsuperscript{93} Noveck, supra note 4, at 144 (“E]xperiments with online collaboration have shown that often ‘ordinary’ people possess extraordinary knowledge that they are willing to share when it is easy to do so.”).
\item \textsuperscript{94} Gross, supra note 4; see also Peer to Patent, Inventors—Get Your Applications Reviewed First!, http://cairms.typepad.com/peertopatent/2007/09/inventors-get.html (Sept. 8, 2007).
\item \textsuperscript{95} Alexis Fabbri, Online Patent Review to Let Public Rate Inventions’ Novelty, Validity, WASHINGTON INTERNET DAILY, Mar. 27, 2007, available at 2007 WLNR 5995035 (quoting Beth Noveck, Director of the New York Law School Institute for Information Law & Policy). Public criticism through peer patent review “should significantly increase the price of a license for successful inventions because these inventions will, effectively, be endorsed by a community of experts.” Community Patent Review—FAQ, supra note 10.
\end{itemize}
patents and even save a company time and money traditionally spent prosecuting and defending patents. Through enhanced pre-grant prior art review, applicants can find out early on the true strength of their application rather than after a patent has gone through the entire patent examination process.

Despite executives’ denials that they do not want patents they do not deserve, in the current business and technology environment, amassing large quantities of patents seems to be the current trend. However, if the USPTO eventually incorporates peer review into the standard examination process, this might make potential applicants take a closer look at prior art as well as at their own ideas, resulting in fewer patent applications filed, thus reducing the practice of patent collecting by big businesses. As a result, the remaining patents that are actually issued could increase in value, whether due to scarcity or inherent strength. Moreover, the fact that a patent passed through community review and was issued in light of presumably more relevant prior art could increase the likelihood of a finding of validity in future litigation concerning that patent.

An additional potential benefit for applicants participating in the Peer to Patent pilot program has less to do with the technology and more to do with promoting the applicant’s business in general. Used as a marketing tool, participation in the peer review pilot may provide companies both large and small with new opportunities to get their name out, to tout their products and services, and to garner goodwill. Put simply, by participating in the pilot program and submitting a patent through the system, a company or inventor can advertise that they are assisting the USPTO in improving the patent system. Their willingness to put a patent through the peer review system could essentially serve as a statement that they believe their patent is strong, and that they welcome community scrutiny. Also, the community involvement in the prior art search and discussion of a company’s patent submitted through the pilot has the potential to generate subtle marketing goodwill, much like the goodwill generated through product placement on well-received television shows, movies, and now even in online videos on YouTube. At the very
least, participation could create heightened community interest in tracking the progress of a patent that community members have personally peer-reviewed.

3. Benefits for Community Reviewers and the Public

What benefit, if any, would community participants get from reviewing and commenting on prior art in this type of peer review system? Aside from obtaining personal satisfaction through helping to improve the quality of patents and potentially influencing the examiner’s decision, the reputation and status benefits that could arise out of participation in community review of patent applications may benefit reviewers.101 Noteworthy participation by a reviewer has the potential to improve that reviewer’s job prospects and even their level of recognition in the community or at their current workplace.102 Furthermore, if a reviewer rating system is in place in the online community, more measurable reputation benefits could accrue for trustworthy reviewers.103 In the end, this pilot program will indicate whether the benefits to reviewers are sufficient incentive to actively participate in a meaningful manner.

Perhaps most of the benefits of a peer review patent system will ultimately go to the public. Some see peer review of patents as benefiting the open-source software community by providing more recognition to their innovations, because traditionally open-source projects have not been part of an existing prior art database, and thus, have not shown up very often in USPTO prior art searches.104 With peer review of patents in place, the public could see community participation result in the allowance of fewer invalid patents on inventions that belong in the computer software public domain.

Arguably, encouraging a global community of review promotes the disclosure of inventions everywhere, not just in the United States. Perhaps along those lines, a peer review and collaborative examination system could ultimately lead to the creation of a consolidated prior art database including prior art from difficult categories such as computer software. This in turn could lead to clearer lines for potential inventors to use to delineate new innovations. A consolidated prior art database would increase accessibility of the patent system for small entities, allowing them to focus resources on invention, rather than prior art searches.

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101. See Noveck, supra note 4, at 150, 152-53 (discussing patent examination as administrative practice).
102. See id. at 150 (suggesting that professional rewards can come from submitting prior art that is either used by the patent examiner or simply considered relevant by the community or even by the inventor).
103. See id. (noting that a successful community review process could award “reputation points,” just as eBay assigns points signifying the trustworthiness of its buyers and sellers, as a means to encourage meaningful participation by experts).
104. See Gross, supra note 4 (quoting Pamela Jones of Groklaw as saying, “Bad patents hurt open-source and free software projects partly because those projects often aren’t part of prior art searches at the USPTO.”).
4. Drawbacks

From the standpoint of a patent applicant, participation in a peer patent review program such as the peer review pilot may not be entirely beneficial. Despite the faster turnaround time for reviewing the patent, the online and thus more global nature of this particular peer review process might appear to be prohibitively daunting for small entities with only one invention to stand on. While large corporations who already possess many patents may not balk at a tougher prior art review process, the threat of having obscure prior art discovered that obliterates the inventor’s only patent claim may be enough to deter small inventors with fewer resources.

Although the Peer to Patent initiative seems to have taken small inventors into consideration when setting up the pilot program, it is easy to imagine a scenario where very few of those application spots are actually filled. Ultimately, gathering feedback from the pilot program regarding the participation level of small entities in the program and the profile characteristics of the most prolific patent applicants would be very useful for the USPTO, as long as it is duly noted by the committee reviewing the success of the pilot that there may be inherent biases or other factors favoring larger entities and affecting participation.

Some further see abuse of peer review as a possibility, and in a patent structure where “gaming” the system is already known to occur, the fear is that this will do more harm than good. However, the Peer to Patent initiative attempts to allay such fears by noting that “[w]ithin any social reputation system, norms evolve to safeguard the quality of participation and we can expect something similar here. We will use other technical solutions, such as IP-address tracking to limit gaming. Participants will also be required to adhere to a Code of Conduct.” The Initiative also points out that well-established peer-review systems such as those implemented by the National Science Foundation, the National Research Council, and the National Institutes of Health utilize “well-established regulations and disclosure requirements to weed out conflicts among peer-review participants.” Ultimately, a self-moderated and transparent online community of experts can certainly prevail over attempted gaming or abuse of the system, but not without some effort.

C. How to Ensure that Peer Review of Patents Will Provide a Net Benefit

Overall, the utilization of peer review during the prior art search in the

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105. The Peer to Patent initiative reserves fifteen percent of application spaces for small entities. *Pilot Notice, supra note 7, pt. III.*
106. *See Community Patent Review—FAQ, supra note 10* (referring to the practice of “patent flooding,” where applicants submit a flood of irrelevant prior art to the examiner to overwhelm them, and to applicants who submit no relevant prior art whatsoever relating to their inventions); *see also Noveck, supra note 4, at 149* (referring to the potential for competitors or vandals to game the peer patent review prior art rating system, or for applicants to suppress valid prior art that could defeat their application).
108. *Id.*
examination of patent applications should ultimately benefit the USPTO and the public, that is, assuming two things: first, the online peer review process can exist in a largely self-moderated fashion; and second, the community can effectively weed out irrelevant prior art submissions and comments, while exposing bad faith behavior and encouraging small entities. Provided that the administrative burdens of pre-grant peer review of patents is kept low and that the peer review process brings forward more relevant prior art, the process should help more than it hurts. Keeping an eye on potential drawbacks to the online peer review process and attempting to ameliorate foreseeable weaknesses should ensure that the advantages of the process outweigh any disadvantages.

While participants in this peer review pilot program are required to consent to including third-party comments regarding the relevance of prior art in their application examination, it may be unclear where the responsibility for screening public comments ultimately lies. Because a patent’s prosecution history may be scrutinized in the event of litigation and disputes, it is important to ensure careful screening of public comments prior to submitting any related prior art to the USPTO for use in its examination process.

Although the public, through the Peer to Patent initiative Web site, can submit prior art and related comments through the pilot program to the USPTO, there is still the issue of accountability to the applicant in the event of a conflict over the relevance or quality of submitted pre-screened comments. The USPTO clearly states that it is independent of New York Law School’s CPRP, and that each is not “bound by the acts or conduct of the other,” despite the fact that the USPTO has collaborated with the CPRP on the pilot program. The USPTO thus recognizes that it has the ultimate responsibility to screen out unpatentable applications, despite the addition of community involvement. The substantive decision of patentability is still left up to the examiner. The examiner must have the expertise and ability to make a judgment on the relevance of any submitted prior art and related comments, and subsequently, to communicate that understanding to the applicant, without unduly relying on public comments. Therefore, if the USPTO is to allow peer review of patents, it should be sure to include measures clearly delineating the examiner’s duty to effectively utilize and place proper weight on public comments and submitted prior art during the examination process.

Because of the possibility of gaming in patent procurement and the

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109. See, e.g., Vornado Air Circulation Sys., Inc. v. Duracraft Corp., 58 F.3d 1498, 1510 (10th Cir. 1995) (examining Vornado’s assertions about the functional benefits of its spiral grill fan in a utility patent application to determine whether elements of the product configuration were significant inventive components of the invention covered by a utility patent in a trade dress infringement case).

110. See generally Noveck, supra note 4, at 153 (noting that “[t]he software transmits contributed prior art directly to the USPTO to ensure that there will be a meaningful connection between reviewers’ contributions and the final decision”).

111. Pilot Notice, supra note 7, pt. II.

112. Community Patent Review—FAQ, supra note 10 (“[T]he primary responsibility for sifting out unpatentable material lies in the patent office.” (quoting the Supreme Court without citation)).

113. See Noveck, supra note 4, at 149 (noting that the danger of gaming exists with any rating system).
potential for peer review of patents to favor one type of applicant over another, an effective self-monitoring online peer review process is critical for identifying bad faith activity and maintaining procedural credibility and efficacy. Participation in the peer review process by the applicant’s competitors, or even the applicant, must be limited to good faith contributions and discourse. Applicants cannot be allowed to obfuscate the relevance of prior art submitted for their application and also should not in bad faith attempt to influence the peer review of a competitor’s application. As such, an effective peer review system must use technological means of policing, community self-moderation, and clear terms prohibiting such activities to make it difficult for people to game the system.

In the end, peer review assistance alone cannot keep the USPTO from drowning in a growing backlog of patent applications. Patent examiner attrition has been cited as a major problem for the USPTO, and patent examiners surveyed cited outdated production goals as the main reason for wanting to leave. In light of the fact that the self-funded USPTO tends to have significant budget surpluses, with a net financial position of almost 500 million dollars in 2006, it would hardly be an unreasonable burden for the USPTO to adjust hiring goals and hiring budget to bring in enough new examiners with sufficient expertise to make a more sizeable dent in the backlog of applications. Perhaps the USPTO and Congress should focus efforts on updating production goals and finding ways to retain and reward qualified examiners before pushing for large-scale patent reforms that could stress an already-struggling patent system even closer to its limits.

IV. CONCLUSION

While measures promoting change such as the Peer to Patent pilot and Congressional patent reform bills indicate a willingness by the USPTO and Congress to actively reform the current patent examination system, ultimately they must be careful to ensure that reform does not disproportionately dissuade the inventive activities and disclosure of innovation of small entities while strengthening the patent collections of large entities. Furthermore, before measures ranging from small pilot programs to large-scale patent reform can

114. See supra Part III.A.2 (discussing peer review of patents as potentially favoring larger entities).
115. See Noveck, supra note 4, at 149 (describing possible policing mechanisms in such a system).
116. GAO REPORT, supra note 20, at 5 ("67 percent of patent examiners identified the agency’s production goals as one of the primary reasons examiners may choose to leave USPTO.").
benefit the United States patent system, it is important not to forget to examine the current patent examination process within the USPTO and resolve the root causes for problems like examiner attrition and other agency weaknesses.

Although patent reform may be a shared responsibility in the eyes of the USPTO, community participation can only go so far toward improving examination efficiency and the strength of issued patents. One can only guess at how successful the Peer to Patent pilot will be in the eyes of the USPTO, but inventors and the public can find comfort in the fact that efforts are underway to actively improve the quality of patent examination in the United States. In the end, more collaboration and utilization of online community-building technology has the potential to provide a net benefit to the beleaguered United States patent system.