

From:

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To: patent_quality_comments

Subject: Docket No. PTO-P-2009-0054

I attach a response to the indicated Request for Comments.

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March 8, 2010

The Honorable David Kappos
Under Secretary of Commerce for Intellectual Property &
Director, United States Patent and Trademark Office
Alexandria, VA 22314

Re: Request for Comments on Enhancement in the Quality of Patents (Docket No. PTO-P-2009-0054)

I write in response to your December 9, 2009 Federal Register Notice. I have been involved for several years in a research project (the "Patent Quality Initiative" or "PQI") motivated to identify empirically justifiable procedural improvements for the PTO's process. In general, the project's design rests on a dataset of all patents for which the Federal Circuit has issued a final validity determination since 2002, together with detailed information about the prosecution of those patents. By comparing the features of the prosecution history to the ultimate validity of the resulting patent, the project identifies characteristics of the prosecution history process that relate positively (and negatively) to validity. The project is far advanced; a draft of the manuscript is under submission for publication and is available upon request. Preliminary data analysis suggests several possible applications that are relevant to this request for comments. I organize my suggestions below by reference to the categories identified in the notice for which the PQI offers useful information (Categories 1, 2, 3, 6 & 7).

Category 1: Quality Measures Used

The fundamental flaw with the existing academic and trade literature about patents is its failure to operationalize a useful definition of patent quality. Thus, the literature tends to refer to quality loosely as indicating some combination of economic value, inventive creativity, and legal validity. For work that focuses on the PTO process, legal validity is by far the superior metric. On the one hand, the PTO's mission is largely defined as the issuance of valid patents and refusal to issue invalid patents. On the other hand, the PTO is not well situated to sort applications based on the economic value of the claimed inventions, nor is it easy to identify objective indicators of inventive creativity once inventions have passed the threshold required for validity. At bottom, the excellence of the PTO's work is defined by its ability to distinguish between valid and invalid patents.

Although the data collected for the PQI includes far more information about the prosecution process than any prior project, it is still a relatively small dataset – with information about only the 350 patents for which Federal Circuit rulings since 2002 are available. Thus, the ultimate goal of the project is to support more extensive data collection by the PTO on an ongoing process. Still, the data collected so far suggests a number of potential responses related to your notice.

Identification of the Key Items

The premise of the project is that the ultimate quality of the patent depends on the joint quality of the effort by the applicant and the examiner. The preliminary analyses strongly support this, as they

indicate strong positive relations to validity for such things as the number and quality of IDS responses (reflecting the search effort of the applicant), and strong negative responses for certain types of office actions (indicating that the office actions lead to weak patents through the process of examiner weardown). The data also indicate strong inverse correlations with validity for much of the process that occurs after the examiner's work is done: patents issued after Board decisions, for example, have a likelihood of validity 60% lower than patents that were issued without a Board decision. Similar negative effects (albeit of a lower magnitude) are evident for patents issued after continuations and Rule 312 amendments. Collectively, these suggest value in data collection regarding all interactions between the applicant and examiner – all submissions from the applicant, and all actions of the examiner and the PTO more generally.

Category 2: Stages of Monitoring

If the prosecution process is to be redesigned to foster joint effort by the applicant and the examiner, monitoring and feedback at every stage of the process is necessary. Moreover, it seems clear even from the limited data collected so far by the PQI that a great deal of valuable information about validity is evident from the face of the application. Thus, models using only datapoints evident at the time of first submission correctly predict the ultimate validity of more than 2/3 of the patents in the dataset. Hence, the data suggest, the PTO would be well advised to sort applications and treat them differentially based on their characteristics at the time of submission. To use the simplest and most obvious example, it would be appropriate to impose adverse treatment on applications in which text-based software tools indicate a poor match between the specification and the claims. It also would be appropriate to consider adverse treatment for applications not accompanied by an IDS, or (even better) to adopt proposals for qualified search authorities.

Category 3: Pendency

The data collected by the PQI suggest little or no empirical relation between the time an application is pending and the likely quality of the resulting patent. Accordingly, although there are good reasons to shorten pendency time (such as ensuring that patent protection matches the period when the invention is most likely to be valuable), I doubt that quality improvements are an important justification for such reforms.

Category 6: Tools

The most useful tools that the PQI suggests are software tools that operate to allow the PTO to identify applications of high and low quality in an automated way. The PQI suggests two distinct ways in which this easily could be done. The first group of tools would be software tools that assess specific characteristics of the patent application that relate directly to validity. The obvious example here (mentioned above) would be a tool that compared the semantic content of the specification to the semantic content of the claims to test for the likelihood that the specification enables the claims. The analysis of the data in the PQI dataset suggests that even simple tools readily identify important variations in the alignment between the specification and the claims, and that these variations relate substantially to validity of the resulting patents. Given the rapidly developing technology in this area, it should be an easy matter to design a sophisticated and reliable tool for this purpose.

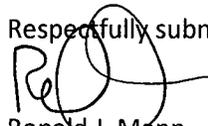
A more ambitious tool would aggregate several objective characteristics of the application that correlate with validity and score each application with an aggregate index that would be sufficiently reliable to justify adverse action on the application. The PQI has not reached the point where it can directly identify the characteristics such a tool should identify. It does seem likely, however, that such a tool could be developed with the use of data available to the PTO. As discussed above, the existing data analysis of the PQI dataset includes an application-based model that accurately predicts validity for

more than two-thirds of the patents on which the Federal Circuit has provided definitive rulings. Expansion of the dataset with information available to the PTO, together with continued analysis of the existing data, seems to be a most promising avenue for investigation.

Category 7: Incentives

A process focused on joint effort by the applicant and examiner can work only if the applicant and examiner both have appropriate incentives. The existing system motivates the applicant to do very little, and in particular motivates the applicant to do a limited search and provided little information to the PTO. Thus, it reflects an “entitlement” perspective in which applicants are entitled to a patent unless the examiner can demonstrate some particularized basis for rejection. Similarly, the existing system gives examiners a limited incentive to reject poor applications or to improve marginal applications. The PTO could resolve some of this problem by amendments of the count system, which currently are under consideration. Given the deep-seated nature of the “entitlement” perspective in the existing process, however, it seems likely that statutory reform is necessary to solve this problem. Applicant incentives such as higher fees or rapid rejection of low-quality applications are likely to be difficult to reconcile with the existing statutory framework.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. Mann', with a stylized flourish extending to the right.

Ronald J. Mann

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