

From: Ira Richardson [email redacted] On Behalf Of WA IPLaw Admin

Sent: Thursday, April 30, 2015 6:06 PM

To: WorldClassPatentQuality

Subject: "ATT: Michael Cygan-- IBM Comments on Request for Comments on Enhancing Patent Quality"

October 3, 2013

Via electronic mail to [email redacted]

Attention: Seema Rao, Director, Technology Center 2100

IBM Corporation comments in response to “Discussion Regarding Strategies for Improving Claim Clarity: Glossary Use in Defining Claim Terms”

IBM thanks the United States Patent and Trademark Office (USPTO) for the opportunity to comment on potential strategies to improve patent clarity, including the possible use of glossaries in patent applications to assist examiners in claim interpretation. IBM strongly supports the USPTO’s effort.

In response to the Questions:

II A. For Those Who Routinely Use a Glossary (or Definition) Section in a Patent Application

1. Through 6.

IBM has no comments to provide because it does not routinely use glossaries, at present.

1. B. For Those Who Do Not Routinely Use a Glossary (or Definition) Section in a Patent Application: Why do you not use a glossary section?

We do not use one at present because of the potential burden it would pose in terms of time, money, and narrowing effect on claims.

2. Do you foresee any issues or concerns with the use of glossaries during and/or after prosecution? If so, what issues or concerns?

Chief among these issues and concerns is the burden of additional time and money. On balance, IBM believes that the benefit from using glossaries would outweigh the burden if their use would become widespread. IBM proposes the use of the following in order to reduce this burden:

- In the short term, default dictionaries as a source of definitions¹; and
- In the long term, automated analytics tools to generate proposed glossaries².

¹ See Diana Roberts, Manny Schecter, and Alison Mortinger, “A case for adopting controlling dictionaries in the USPTO”, *Intellectual Asset Management*, Issue 39, January/February 2010, pages 51 to 55.

² See Manny Schecter and Alison Mortinger “Using analytics to generate glossaries in patent applications”, *Intellectual Asset Management* Issue 62, November/December 2013, pages 23 to 26.

See item F for more details on these proposals.

C. Possible Glossary Pilot Program Structure.

1. What incentives, if any, could the USPTO provide to encourage you to participate in a glossary pilot program and provide a glossary for claim terms in applications under the pilot?

Incentives in the form of reduced fees would motivate IBM to participate; accelerated examination might also provide incentive for others to participate in such a glossary pilot program.

2. For the technological areas where you practice, which specific areas would benefit from the use of a glossary in the specification? Why?

Any overall program should be uniformly applied across all technologies. However, for the purposes of a pilot program, IBM suggests that several representative technical areas be chosen; at least one from each technical center. This way, any technology-specific issues can be discovered as part of the pilot.

D. Form and Content for a Glossary to be Supplied in a Possible Glossary Pilot Program.

1. What restrictions, if any, should be placed on the format of the glossary section; such as limits on the length of each definition, the number of alternatives provided in a definition, and the number of definitions in the glossary section?

IBM does not believe that there should be mandatory restrictions on the length of each definition, the number of alternatives provided in a definition, or the number of definitions in the glossary section. The focus should be on the significant terms in the claims (i.e. all claim terms that are not common words), and a definition must be provided for each significant term. The examiner should decide the sufficiency of the definitions, taking 37 CFR Section 1.105 (Rule 105) and 35 USC 112 into account, and determine if the information “reasonably necessary to properly examine” the application has been provided, as well as whether the definitions are “definite.”

2. Please comment if the following glossary criteria should be used in determining whether an application is eligible for admission into a potential glossary pilot program.

- a. The glossary must be a separate section in the specification with its own heading entitled “Glossary.” The glossary cannot be an appendix or submitted as an Information Disclosure Statement (IDS).

A separate section, with its own heading, titled “Glossary,” in the specification, would best serve the public. Including the definitions in an appendix or as an IDS submission would be harder to reliably locate within the prosecution history.

b. The glossary definitions must “stand alone” and cannot simply refer to other sections or text within the specification or incorporate by reference a definition (or portion) from another document.

Glossary definitions must stand alone and should not simply refer to other sections or text within the specification or incorporate by reference a definition (or portion) from another document. Definitions must be clear and easy to locate as part of the patent document, and should not depend on text that itself is unclear.

c. A definition in the glossary cannot be disavowed by the disclosure or during prosecution; for example, by stating “the definition presented in the glossary is not limiting”.

Glossary definitions should be finalized as soon as possible so that both the examiner and the applicant can rely on them during prosecution. (However please see the discussion in item F for amending claims and adding new significant claim terms during prosecution.) Disavowal of the definitions after they have been finalized and during later stages of prosecution should not be permitted.

d. Alternative definitions for the same claim term that are inconsistent with each other are not permissible.

Alternative definitions for the same claim term that are inconsistent with each other should not be permitted. Such a practice would introduce indefiniteness and reduce clarity.

e. The glossary, at least at a minimum, must define functional claim terms, the structure associated with any claimed function, abbreviations/acronyms, evolving technology nomenclature, relative terms, terms of art, and unique words that lack an ordinary and customary meaning.

Rather than focusing on such minimum criteria such as defining functional claim terms, the structure associated with any claimed function, abbreviations/acronyms, evolving technology nomenclature, relative terms, terms of art, and unique words that lack an ordinary and customary meaning, the foundational requirement for a complete glossary should be to define all non-common claim terms.

.f. A definition cannot consist only of a list of synonyms or examples.

Definitions should be clear and concise. There may be instances where the use of a synonym or an example will be sufficient, just as many words in a standard dictionary have a clearly understood single word definition.

3. What other criteria would you recommend for a glossary definition?

See footnote 2.

E. Potential Features of a Possible Glossary Pilot Program.

1. For Patent Applications Not Yet Filed,

IBM agrees that an applicant should be able to participate in the program “on demand” by including in the specification a glossary of the proper format (according to the pilot guidelines) and requesting that an application be admitted to the pilot program.

2. For Pending, Unexamined Patent Applications,

IBM agrees that an applicant should be able to participate either by request, or by invitation of the USPTO, and also by submitting a glossary by preliminary amendment following the pilot guidelines. In addition to specific reference to precise locations in the specification which provide support for the definitions (as opposed to generic references), IBM believes that an applicant should be able to cite a relevant technical dictionary published at or before the application filing date.³ This may be necessary to provide a complete glossary, which should have a definition for every non-common claim term.

F Miscellaneous

Ways to reduce the burden on applicants

In the short term, incentives should be provided in order to encourage applicants to provide glossaries. If a claim term is not listed in the glossary, then the definition will be obtained by defaulting to a designated dictionary, and if not present in that source, to the common meaning.⁴ In the long term, an analytical tool should be developed that would automatically generate a proposed glossary of claim terms from a hierarchy of multiple sources yet still allow the applicant to be his or her own lexicographer.⁵

Adding significant claims to terms during prosecution

During prosecution, if a new significant term is added to a claim, and that term is not included in the glossary (which should have been finalized early on), then the glossary must be amended. In such an instance, if the definition cannot be found in the specification, then in order to avoid introducing new matter, IBM believes that the definition should be limited to the common meaning. This meaning can be obtained from an appropriate dictionary published as of the filing date, and may be as simple as

³ See Roberts, Schechter, and Mortinger, “A case for adopting controlling dictionaries”

⁴ Ibid.

⁵ See Schechter and Mortinger, “Using analytics to generate glossaries”

selecting the definition from those included in the United States Patent Classification (USPC) glossaries (see either the consolidated USPC glossary at http://www.uspto.gov/web/patents/classification/glossary/glossary_alpha.htm or the individual class definition/glossaries, for example Class 438 (Semiconductor Device Manufacturing: Process) <http://www.uspto.gov/web/patents/classification/uspc438/defs438.htm#C438S058000>)

Conclusion

In conclusion, IBM supports the use of glossaries defining all non-common claim terms in patent applications in order to improve patent quality. Use of glossaries would reduce ambiguity and make definitions clear on the record, as part of the issued patent. This in turn would reduce litigation, enhance the availability for a thoughtful design around, and generally increase the overall efficiency of the patent system in promoting innovation. Although there will be a slight additional burden on applicants and examiners, which can be reduced by the use of automated analytics,⁶ the burden will be outweighed by the benefit from using glossaries as proposed.

Respectfully submitted,

Manny W. Schechter
Chief Patent Counsel
Intellectual Property Law
IBM Corporation
[email redacted]
Voice: (914) 765-4260

Alison D. Mortinger
Counsel, Strategy and Policy
Intellectual Property Law
IBM Corporation
[email redacted]
Voice: (914) 765-4416

⁶ Ibid.

March 16, 2015

Via Electronic Mail
2014_interim_guidance@uspto.gov

Attention: Raul Tamayo, Senior Legal Advisor; and
Michael Cygan, Senior Legal Advisor,
Office of Patent Legal Administration

Re: IBM Corporation Comments on "2014 Interim Guidance on Patent Subject Matter Eligibility," 79 Fed. Reg. 74618 (December 16, 2014)

IBM thanks the United States Patent and Trademark Office (Office) for the opportunity to comment on the 2014 Interim Guidance on Patent Subject Matter Eligibility (Interim Guidance) and the Abstract Idea Examples (Examples). Patent-eligibility under 35 USC §101 and in particular the judicially-created "abstract idea" exception are issues of paramount importance to IBM as an innovator and patentee in the field of information technology. The Office's interpretation and application of the Supreme Court's decisions on subject matter eligibility in examining patent applications and reviewing issued patents is critical for promoting innovation and maintaining a balanced patent system.

The Interim Guidance builds on the Preliminary Examination Instructions following the *Alice* decision, as well as last year's *Myriad/Mayo* guidance and the public comments in response thereto. We appreciate the Office's efforts to capture the reasoning of the Supreme Court cases and subsequent interpretations by lower courts, and to expand on them in the Examples. However, we believe more guidance and clarification is needed. A number of aspects of the guidance appear to be in conflict or incomplete. We recognize that the *Alice* Court declined to address the scope of the abstract idea exception beyond analyzing the claims at issue, and that as a consequence, lower courts have struggled to achieve consistency. Nevertheless, we believe the Office, in conjunction with the patent community, can improve the Interim Guidance to provide needed clarity and predictability for examiners and applicants, by addressing inconsistencies and by better delineating and explaining certain aspects of the Office's application of the *Alice* test.

We respectfully offer our views on areas of the Interim Guidance that would benefit from clarification, with particular focus on the identification and treatment of abstract ideas. These comments expand upon IBM's comments in response to the Preliminary Examination Instructions submitted in July of last year, re-submitted herewith (IBM's 2014 Comments). We believe the most significant way to improve examination is through a more disciplined evaluation

of eligibility, by enforcing the requirement that examiners alleging ineligibility must support all aspects of that allegation with evidence and reasoned analysis. Thorough examination, and compact prosecution, will help ensure each and every claimed invention is appropriately examined and will provide applicants with the information needed to effectively respond. We also believe more detail than what is provided in the Interim Guidance is needed to explain the required showings under both steps 2A and 2B as applied to the abstract idea exception, especially in light of inconsistencies in the case law. We urge the Office to continue to work with the patent community as it develops and applies guidance to examiners on eligibility, to ensure that the guidance is workable and reflects the developing law.

Rejections must be supported by reasoning and evidence

Effective patent examination requires an understanding of the invention and how it satisfies – or does not satisfy – the statutory requirements of patentability; and clear communication between the applicant and examiner. Since the *Alice* decision, we have found that the vast majority of eligibility rejections satisfy neither of these goals, because they do not provide any reasoning or evidentiary support.

The Interim Guidance recognizes the importance of a well-reasoned rejection:

In the rejection, identify the exception by referring to where it is recited (*i.e.*, set forth or described) in the claim and explain why it is considered an exception. Then, if the claim includes additional elements, identify the elements in the rejection and explain why they do not add significantly more to the exception. Also see MPEP 2103(VI) and 2106(III) for instructions on making the rejection.

Interim Guidance, p. 74624-5. MPEP 2103(VI) requires examiners to “clearly communicate findings, conclusions, and their bases,” and confirms the requirement to make a *prima facie* case. MPEP 2016(III) specifically requires examiners to review evidence when evaluating a claim for ineligible subject matter: “USPTO personnel should review the totality of the evidence (e.g., the specification, claims, relevant prior art) before reaching a conclusion with regard to whether the claimed invention sets forth patent eligible subject matter;” and further requires the same *prima facie* showing for eligibility rejections as for any other type of rejection: “The examiner bears the initial burden ... of presenting a *prima facie* case of unpatentability. In *re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).” MPEP 2142 confirms the meaning of “*prima facie* case” in the context of obviousness: “[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness.”

Careful review of the Supreme Court cases, on eligibility and claim construction, shows that eligibility determinations are not to be based on speculation. For example, both in *Bilski* and *Alice*, the Court supported its contention that risk hedging and intermediated escrow were “fundamental economic practices” through citations to references well-known in the pertinent field that disclosed these practices. *Bilski v. Kappos*, 561 U.S. 593, 611-12 (2010); *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2356-57 (2014). In *Teva*, in overruling long-standing precedent of the Federal Circuit, the Supreme Court held that claim construction may involve factual determinations. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841-42 (2015). These cases set forth some examples of the type of evidence examiners should provide in conjunction with claim construction and identification of an abstract idea. In addition, and as further contemplated by the Interim Guidance, if the claim is directed to an abstract idea, then further evidence must be provided by the examiner to prove an allegation that additional elements recited in the claim do not satisfy the step 2B inquiry as “something more.”

The Interim Guidance reflects the need for reasoned eligibility analysis by examiners, supported by evidence. However, we have observed that in the vast majority of instances where our patent applications are subject to rejections under the Court’s abstract idea exception after the *Alice* decision, there is no reasoning or evidence provided in support of the rejection. We receive form paragraphs that differ little from one application to another. It is of course impossible to effectively respond to such rejections. Unsupported and unexplained rejections invite protracted examination and appeal, neither of which is in the interests of the Office or applicants.

The Office must adjust and expand the Interim Guidance to ensure each rejection is properly supported and explained. The passage cited above appears at the end of the section covering “Flow Chart Step 2B.” The passage should be moved to a more prominent position in the guidance, preferably the introductory section before discussing step 2A, making clear that the evidentiary and explanatory requirements for eligibility rejections are the same as those for establishing a *prima facie* case for other types of rejections. The Interim Guidance should also offer examples of the evidence and explanation required to make a finding under each step of the guidance. Increased focus on these requirements should improve the quality of Office Actions and allow more efficient and effective examination.

Compact prosecution and order of evaluation

As we explained in IBM’s 2014 Comments, we do not agree that the eligibility analysis must be performed before the other statutory requirements for patentability are evaluated. Imposing an “order of examination” conflicts with the objectives of compact prosecution. The Office itself has accordingly extolled the benefits of flexibility in the order of application of the statutory requirements for

patentability.¹ Examiners must have the discretion to evaluate patentability requirements in the order that makes the most sense on a case-by case basis. See IBM's 2014 Comments, section 3.

Step 2A: Is the claim directed to an abstract idea?

The Interim Guidelines clearly states that a claim is “directed to” an exception if the exception is explicitly recited in the claim. However, the fact that a claim may nominally recite ineligible subject matter does not mean the claim as a whole is ineligible, nor that analysis under step 2B “significantly more” is required. In the streamlined eligibility analysis, the Interim Guidance explains: “a claim that may or may not recite a judicial exception but, when viewed as a whole, clearly does not seek to tie up any judicial exception such that others cannot practice it” does ... “not need to proceed through the full analysis herein as ... [its] eligibility will be self-evident.” Interim Guidance, p. 74621. This principle – that the *Mayo/Alice* two-part test is triggered only when ineligible subject matter is the focus of the claim, pre-empting or “tying up” its practical uses – provides a useful framework for analyzing eligibility, and we suggest the Interim Guidelines make this point more prominently, e.g. in the introductory section.

Another important principle reflected in the streamlined eligibility analysis and echoed throughout the Interim Guidance is the requirement to evaluate the claim “as a whole.” Determining that a claim is directed to ineligible subject matter thus requires examination of all elements of a claim, and examiners should be instructed not to “parse” the claim into individual elements that, standing alone, may have little relationship to the claimed invention. Even if the examiner can make a reasoned, supported determination that a claim as a whole is directed to an abstract idea, the examiner must not cleave off pieces of a claim when analyzing step 2B, as stated in the Interim Guidance: “A claim directed to a judicial exception must be analyzed to determine whether the elements of the claim, considered both individually and as an ordered combination, are sufficient to ensure that the claim as a whole amounts to significantly more than the exception itself—this has been termed a search for an ‘inventive concept.’” Interim Guidance, p. 74624.

If the examiner fully supports a determination under step 2A as described above, only moving to step 2B if the abstract idea is the focus of the claimed invention, the step 2B analysis should have the proper focus.

¹ David J Kappos, “Some Thoughts on Patentability,” Director’s Forum: A Blog From USPTO Leadership, July 27, 2012 (http://www.uspto.gov/blog/director/entry/some_thoughts_on_patentability) (last visited March 8, 2015) (“Applications that are presented in the best possible condition for examination with clear and definite claims that are believed to distinguish over the prior art and are supported by a robust disclosure will most likely not encounter rejections based on eligibility. Avoiding issues under § 101 can have a very positive effect on pendency and help examiners focus on finding the closest prior art, leading to strong patent protection.”).

We are also concerned with the Office's identification of examples of abstract ideas. The attempt to fit older cases under the umbrella of recent Supreme Court decisions is confusing. In addition, many of the more recent lower court cases are inconsistent with one another. While we understand the Office is bound to follow the courts, we believe the Office has the ability and the obligation to reconcile these decisions to the extent possible. We also believe the Office must be careful in describing the abstract ideas in these cases, because over-generalizing will encourage examiners to reject many more claims than the reasoning of a specific case might support. For example, both the descriptions of *Smartgene* ("comparing new and stored information and using rules to identify options") and *Cyberfone* ("using categories to organize, store and transmit information") could be seen as describing at least parts of Example 1 "Isolating and Removing Malicious Code from Electronic Messages," which the Office properly described as not directed to an abstract idea. The Office should provide additional explanation of what the abstract idea in these cases really means, and how the presence of information processing elements in a claim (such as Example 1) is not the basis for a finding that a claim is directed to an abstract idea.²

The enumerated categories of abstract ideas also warrant further explanation. For example, "certain methods of organizing human activity" should be described in more detail. Most inventions – particularly process inventions – can be described as involving human activity. Without more explanation and limitation, this category could "swallow" all process inventions. We suggest following the reasoning of *Alice*, which appears to indicate that this description is simply a way to describe the "fundamental economic practices" found ineligible in both *Bilski* and *Alice*. Responding to the patentee's contention that abstract ideas are only "pre-existing fundamental truths," thus excluding *Alice*'s patented inventions from the abstract idea category, the *Alice* Court explained that "[t]he patent in *Bilski* simply involved a 'series of steps instructing how to hedge risk.' Although hedging is a longstanding commercial practice, it is a method of organizing human activity, not a 'truth' about the natural world 'that has always existed.'" *Alice*, 134 S.Ct. at 2356. (citations omitted). If the Office maintains this category, it should explain its meaning more clearly and explain how it differs from "fundamental economic practices."

When an examiner contends that a claim is directed to a "fundamental economic practice," guidance should distinguish between evidence needed to support this finding and evidence relevant to proving obviousness or lack of novelty. Proof of a "fundamental economic practice" should require more than a showing of obviousness, for example. The former should require proof that the practice is indeed fundamental to the field it occupies, something that has been

² Another example similar to Example 1 is an invention involving data structures. *See, e.g. In re Lowry*, 32 F.3d 1579, 1580 (Fed. Cir. 1994) ("Data structures are the physical implementation of a data model's organization of the data.").

widely known and relied on, and thus a subset of situations where any alleged abstract idea could be found obvious or lacking novelty.

With respect to mathematical formulae, we note the example of the robotic arm in the description of streamlined eligibility analysis. We agree that the robotic arm is a good example of an invention that need not be fully evaluated under steps 2A and 2B, but note that the invention specifically contemplates using “mathematical relationships” to operate. The Office should provide a better explanation of when a claimed invention may include a mathematical equation (or any other abstract idea) and nevertheless be subject to streamlined analysis, such as when it is clear the claim does not pre-empt any judicial exception. For example, if an invention including a mathematical formula is clearly directed to a specific application in a technical field, such as the invention in *Diamond v. Diehr*, would it be subject to streamlined analysis? Should an invention including a mathematical formula that clearly improves the operation of a computer system, such as through parallel processing, also be subject to streamlined analysis? We believe it should be the case in both instances, because these types of inventions can easily be identified as eligible without resorting to a detailed and time-consuming two-part analysis. The vast majority of inventions should not implicate eligibility concerns, and a better understanding of the streamlined analysis and when it applies should help focus examiners’ attention on the appropriate cases.

Finally, we suggest omitting “an idea of itself” as a category. The Court in *Alice* did not identify this as a separate category of abstract ideas, but used the phrase to more generally refer to the meaning of an abstract idea: “The ‘abstract ideas’ category embodies ‘the longstanding rule that ‘[a]n idea of itself is not patentable.’” *Alice*, 134 S.Ct. at 2355. (citations omitted). In any event, without more explanation this type of open-ended exception is impossible to apply.

Step 2B: What is “something more”?

In IBM’s 2014 Comments, attached hereto, we provided and explained examples of computer-implemented inventions that satisfy both steps 1 and 2 of the Supreme Court’s eligibility framework (steps 2A and 2B of the Interim Guidance). We strongly urge the Office to develop more specific examples or guidance along these lines to show that:

- System software inventions below the application layer (such as BIOS software and middleware) are not directed to abstract ideas and improve the functioning of the computer and thus satisfy steps 2A and 2B.
- Improvements to system software, such as improvements to an operating system, are similarly not directed to abstract ideas and also improve the functioning of the computer, thus satisfying steps 2A and 2B.
- If application software, or an improvement thereto, is directed to an abstract idea, it nevertheless satisfies step 2B if, e.g., a) its functionality

and operability is limited to a computer environment, b) its claims include meaningful limitations to prevent pre-emption, and/or c) it improves the functioning of the computer. *DDR Holdings, LLC v. Hotels.com, LP*, 773 F.3d 1245, 1257-59, 113 U.S.P.Q.2d 1097, 1105-07 (Fed. Cir. 2014); *Alice*, 134 S. Ct. at 2359 - 60.

Examples such as these would help examiners understand how to distinguish between inventions that may implicate eligibility concerns and those that will not.

As noted above, the Office must do more than merely reference, at a high level, lower court decisions. Many of these decisions are in direct conflict with one another. For example, the Office uses *RCT* as a basis for one example of an eligible claim, and *Digitech* as a basis for an example of an ineligible one. *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859, 97 U.S.P.Q.2d 1097 (Fed. Cir. 2010); *Digitech Image Techs. v. Electronics for Imaging, Inc.*, 758 F.3d 1344, 111 U.S.P.Q.2d 1717 (Fed. Cir. 2014). In describing the *RCT*-based example, the Office states that the presence of a mathematical algorithm in the claim triggers step 2A, but the claim is nevertheless eligible because “additional steps tie the mathematical operation (the blue noise mask) to the processor’s ability to process digital images.” In the example based on *Digitech*, a mathematical algorithm is also recited, but the claim does not satisfy step 2 because “[t]he gathering and combining merely employs mathematical relationships to manipulate existing information to generate additional information in the form of a ‘device profile,’ without limit to any use of the device profile.” Does this mean that the Office is making a distinction similar to that made in *In re Abele*?³

Another area where the Office should provide more guidance is the treatment of mathematical formulae with regard to step 2B. As noted above in the context of identifying an abstract idea, the mere presence of a mathematical equation in a claim does not necessarily mean the claim is directed to an abstract idea, and the robotic arm example shows that the claim may be found eligible using the streamlined analysis. However, in our experience the presence of a mathematical equation often results in a summary ineligibility rejection. We urge the Office to clarify when such claims qualify for the streamlined analysis, or when they should be examined under step 2B – *i.e.* if the focus of the claim is not on the mathematical equation (such as the robotic arm), streamlined analysis should be available. The Office should provide additional examples. Would the invention in *Diamond v Diehr* be subject to the streamlined analysis? Also, the Office should provide additional examples of claims that include mathematical

³ See *In re Abele*, 684 F.2d 902, 907; 214 U.S.P.Q.2d 682 (C.C.P.A. 1982): “Rather, Walter should be read as requiring no more than that the algorithm be ‘applied in any manner to physical elements or process steps,’ provided that its application is circumscribed by more than a field of use limitation or non-essential post-solution activity. Thus, if the claim would be ‘otherwise statutory,’ *id.*, albeit inoperative or less useful without the algorithm, the claim likewise presents statutory subject matter when the algorithm is included.”

equations but still satisfy step 2B since, e.g, the claimed invention improves the functioning of a computer or improves a particular technology. (See Example 3 in IBM's 2014 Comments "Cryptographic communications system and method" to Rivest et al). We know from these examples that the presence of a mathematical equation performed on a computer does not automatically render a claim ineligible, and the Office needs to ensure that examiners analyze these claims carefully and consistently.

Another example of claimed inventions including mathematical equations that should satisfy the test for eligibility are those whose functionality requires use of the computing environment. While merely allowing a calculation to be performed faster than it would be by a person, standing alone, may not be "something more," functionality that requires a computer certainly would be. For example, if it would be impossible to achieve the functionality of the claimed invention in the lifetime of a person without the use of a computer, then the computer is performing an essential function and cannot be discounted in the eligibility analysis. Furthermore, if the process requires particular computer operations that a person would never perform, that also supports the fact that the process does not have an analog outside the computer environment. Often such inventions also involve intermediate data structuring steps which will affect the physical location and structure of a data file (see Example 1). We urge the Office to include additional examples of eligible claims including mathematical equations to illustrate these points.

Step 2B of the eligibility analysis incorporates the concept of pre-emption. If the examiner has shown that a claim recites an abstract idea, then step 2B directs the examiner to determine if any claim element, or combination of elements, provides "something more" than the abstract idea. As noted in the guidelines, the important inquiry is whether the claim "include[s] additional features to ensure that the claim describes a process or product that applies the exception in a meaningful way, such that it is more than a drafting effort designed to monopolize the exception." We do not have examples of detailed analysis of step 2B (see above) to see how examiners are applying this step. This follows from the fact that the Office Actions to date do not explain, prove or properly identify the abstract idea when making an "abstract idea" eligibility rejection. We believe that clear identification of an abstract idea will help the examiner properly to apply step 2B of the test, and only reject claims that truly pre-empt the identified abstract idea.

Examiner training and patent community collaboration

In addition to problems with the content of Office Actions, we have experienced delay in many cases in receiving examiner responses to our amendments and remarks for applications subject to abstract idea eligibility rejections. We believe extensive education is needed to ensure examiners issue supported, and timely, Office Actions. We understand the challenge posed by

changing and unsettled law, but training examiners on the current state of eligibility and providing and explaining examples should prevent the most significant gaps and delays in examination.

The patent community can help the Office improve guidance on eligibility issues. The Office should continue to provide opportunities for the patent community to provide feedback, as it did in the January roundtable. In addition, the Office should continue to solicit feedback as it updates guidance, including development of detailed MPEP provisions, such as the formulation of form paragraphs, and the evidence and explanation required therein for making a *prima facie* showing of ineligibility.

Given what appears to be a widespread increase in ineligibility rejections from the Office, we respectfully request that the Office set up a special applicant 101 hotline, and expedite correction of inappropriate or incomplete 101 rejections. Such rejections should not be counted as proper notifications under 35 USC §132; and as a result, 1) the applicant should be entitled to a patent term adjustment under 35 USC §154(b)(1)(A)(i) for any delay by the Office beyond the statutory time limit (14 months) until receipt of a properly explained and supported Office Action, and 2) a subsequent proper Office Action should be non-final. We believe the Office should pay particular attention to applications where only §101 rejections are made since these Office Actions appear susceptible to faulty analysis. For example, where an examiner alleges that a claimed invention is directed to a “fundamental economic practice,” it is more likely than not that the claim is also susceptible to a prior art rejection. The absence of the latter is an indication that such prior art does not exist or is not being applied properly to the claims.

Conclusion

In conclusion, IBM appreciates the opportunity to comment on the Interim Guidelines. We look forward to working with the Office to improve eligibility guidance for examiners and the public. We strongly encourage the Office to continue its collaboration with the public and obtain feedback on how computer-implemented inventions are being examined as it further improves subject matter eligibility guidelines.

Respectfully submitted,

Manny W. Schechter
Chief Patent Counsel
Intellectual Property Law
IBM Corporation

[email redacted]

Voice: 914-765-4260

Fax: 914-765-4390

Marian Underweiser
Intellectual Property Law Counsel
IBM Corporation

[email redacted]

Voice: 914-765-4403

Fax: 914-765-4390

December 16, 2014

Via electronic mail to [email redacted]

Attention: Jack Harvey, Director, Technology Center 2800.

IBM Corporation comments in response to "Request for Comments and Notice of Roundtable on USPTO Use of Crowdsourcing to Identify Relevant Prior Art"

IBM thanks the United States Patent and Trademark Office (USPTO) for the opportunity to comment on the use of crowdsourcing for identification of relevant prior art as part of the patent prosecution process. IBM strongly supports the USPTO's effort.

In response to the Questions:

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? Some examples of how the public traditionally uses crowdsourcing include: passively monitoring discussions (thread) between parties on crowdsourcing Web sites, and posting a question on a crowdsourcing Web site and viewing responses to the posted question.

Crowdsourcing can be used in several ways to help identify relevant prior art. As in the Peer to Patent pilot program, published applications can be posted to websites for public comment, optimally in a collaborative fashion. The prior art identified by the public can then be ranked (by vote) and the top ranking entries can be sent automatically to the USPTO. This would achieve a balance between allowing the public to openly comment, yet avoid overwhelming the USPTO with numerous potentially irrelevant entries.

The USPTO could also reach out directly to expert volunteers by email or through a collective interface such as an expert marketplace. The marketplace could be used to facilitate a more impartial method of reaching out; for example a tool could randomly choose one of multiple volunteers in the appropriate technical area to whom to forward the request. In order to alleviate any ex parte or similar concerns, a template request for art could be easily developed that could be used in either situation.

Crowdsourcing could also be used in ways that complement identification of relevant prior art. It could be used to identify experts who could be contacted for additional prior art and encourage them to volunteer; or it could be used to determine the level of ordinary skill in the appropriate art area.

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? Some examples of how the public traditionally engages in follow-up communications on crowdsourcing Web sites include: a conversation on the thread with a particular party who responded to the posted question to clarify information the party provided, and a conversation on the thread with a particular party who responded to the initial posting to request additional information.

Having the ability to pursue follow up communications with crowdsourcing participants is an integral part of being able to identify the best relevant prior art. If a party has provided information which, if clarified, would help the examiner, there is no reason why such communication should be prohibited, as long as it is a matter of public record. Likewise, answering a request for additional (publicly available) information should be permissible.

Ultimately the best prior art is that which is most relevant to the claim being examined, so an examiner might wish to focus such communications appropriately to achieve the highest degree of relevance.

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? (See 35 U.S.C. 122(c).)

As long as the patent applications are already published, and therefore a matter of public record, then IBM does not believe there would be an issue with the use of crowdsourcing tools. IBM also does not believe there is a need for inserting a “buffer” entity between the Examiners and the crowdsourcers; Examiners are trained professionals and the addition of an added layer of complexity would unduly complicate the process and increase costs. If, as IBM has proposed, collaboration among the crowdsourcers will be possible (like in the Peer to Patent pilot), it will be difficult to restrict the level of commentary on such tools. For example, restricting arguments regarding patentability (currently not allowed under the Preissuance Submissions Program) will be nearly impossible in an open forum. Examiners should be trained to ignore such arguments and simply use the features of the prior art found in order to improve examination, as was done during the Peer to Patent pilot. It is in the best interest of the patent system that patents be of the highest quality rather than exclude information from a form over substance perspective.

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?

It is helpful to the public, applicants, and USPTO personnel to establish a record of what prior art was found as well as where. For the public, it establishes a feedback loop to demonstrate the effectiveness of participation in the various crowdsourcing tools available. Citation to the particular tool (or even the URL of the page) would be an excellent means of specific feedback. For applicants, documenting the crowdsourcing should be considered a part of documenting the search strategy as is done currently. For USPTO personnel, it would be helpful for both other examiners to learn about good sources of prior art, as well as a specific track record for

subsequent personnel working on the same application. Because of the dynamic nature of crowdsourcing (as opposed to generally a point in time traditional search for prior art), revisiting the particular tool may yield improved results in a subsequent stage of examination such as a continuation or an appeal.

IBM actively participates in the Preissuance Submissions program, and we need to be able to see how effective our submissions are in order to continue our investment in the program. When prior art is cited in an office action, it is a clear indicator of the use of the prior art, however we suspect that other submissions are “helpful” and worth the time and effort to submit. For example, a reference might not be cited, but could be used to increase understanding of a technical aspect of the invention, or to help direct a search in a more productive direction. A clear indication of “helpfulness” is not currently available. If items submitted through the Preissuance Program could each be rated (e.g. used, helpful, cumulative, not relevant) that would be very useful feedback.

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 crowd sourcing, would applicants choose to participate in the crowdsourcing program? What considerations would inform the applicant's decision?

IBM would certainly choose to opt-in to the use of crowdsourcing, as we believe increased opportunities to find relevant prior art will improve the quality of the resulting patent. More generally, IBM believes that no opt-in is needed as all applications are currently subject to the Preissuance Submissions Program once published, and other crowdsourcing tools would not be significantly different in their impact; they are just other avenues to find relevant prior art. If the process of crowdsourcing would lengthen the time of prosecution, it might be advisable to have an opt-out available if there is a time sensitivity in the case of a particular patent application.

Conclusion

In conclusion, IBM strongly believes in the use of crowdsourcing to find relevant prior art for use in the examination of patent applications. We were at the forefront of crowdsourcing with the Peer to Pilot program, and actively participate in the current Preissuance Submissions program. Continued and expanded use of crowdsourcing will benefit the public, applicants, and the USPTO by helping to locate the best prior art and improve the overall quality of issued patents, a goal that should be sought by all participants in the patent system.

Respectfully submitted,

Manny W. Schechter
Chief Patent Counsel
Intellectual Property
Law IBM Corporation
[email redacted]
Voice: (914) 765-4260

Alison D. Mortinger

Counsel, Strategy and Policy
Intellectual Property Law
IBM Corporation
[email redacted]
Voice: (914) 765-4416

April 30, 2015

Via Electronic Mail
[email redacted]

Attention: Michael Cygan, Senior Legal Advisor,
Office of Patent Legal Administration,
Office of the Deputy Commissioner for Patent Examination Policy

Re: IBM Corporation Comments on “Request for Comments on Enhancing Patent Quality,” 80 Fed. Reg. 6475 (February 5, 2015)

IBM thanks the United States Patent and Trademark Office (Office) for the opportunity to provide comments on the Office’s proposals to enhance patent quality. We appreciate the Office’s commitment to improving patent operations and procedures, enhancing the customer experience, enhancing patent quality, and improving existing quality metrics. Our comments center mainly on the Office’s new quality proposals with brief comments relating to some of the existing quality efforts as identified by the Office.

Existing Quality Efforts

The Office identified fifteen (15) existing patent quality efforts.

In response to the existing patent quality efforts, we kindly ask the Office to see our prior submissions, including our recent comments in response to the “2014 Interim Guidance on Patent Subject Matter Eligibility”, “USPTO Use of Crowdsourcing to Identify Relevant Prior Art”, and “Discussion Regarding Strategies for Improving Claim Clarity: Glossary Use in Defining Claim Terms” (see attachments).

With regards to:

1) Patent Examiner Technical Training Program

IBM encourages the Office to continue its efforts in providing technical training for its patent examiners and depending on the technology areas identified by the Office, we would be willing to provide speakers when appropriate.

The Office identified six (6) new proposals under three pillars. Our comments are directed to these 6 new proposals:

Excellence in Work Product

1) Applicant Requests for Prosecution Review of Selected Applications

The Office of Patent Quality Assurance (OPQA) is responsible for the overall assessment and measurement of patent examination quality and therefore, the focus of this program should be on spotting emerging “macro” issues and trends, such as recent developments in the patent laws that impact the quality of the examination process.

The Office’s request for comments on “2014 Interim Guidance on Patent Subject Matter Eligibility” demonstrates the challenges emerging issues raise in providing uniformity and consistency in the examination of patent applications.

As IBM noted in its 2014 Comments, we have observed, in the vast majority of instances where our patent applications are subject to 101 rejections, that there is no reasoning or evidence provided in support of the rejection (see IBM’s Comments on “2014 Interim Guidance on Patent Subject Matter Eligibility”). Here is where the OPQA could provide assistance during the prosecution of the application.

For example, with respect to patent eligibility, an applicant may request OPQA to review a 101 rejection. OPQA could review the examiner’s rejection in light of the Office’s 2014 Interim Guidance to ensure the examiner is properly implementing the Interim Guidance (e.g., providing a well-reasoned rejection). Where there are inconsistencies between the Interim Guidance and its implementation, OPQA could recommend changes to the Office in order to bring consistency and uniformity to the examination process.

To ensure that the program is focused on resolving “macro” issues impacting the overall quality of patent examination, there needs to be a balanced approach between OPQA’s role and the examiner’s role in the prosecution of the application. For example, OPQA’s overall responsibility is the assessment and measurement of patent examination quality. The examiner’s role is to examine the patent application. Therefore, the Office needs to be careful that this program does not become a *de facto* appeals process.

Currently, an applicant has a number of avenues to address specific issues relating to patent examination (e.g., examiner interview, SPE review, assistance from ombudsman, appeal, etc.). However, in certain situations where the patent law is in flux, which is currently happening with the recent developments in patent-eligibility under 35 USC § 101, having OPQA review the submitted application to ensure there is a well-reasoned rejection that “clearly communicate findings, conclusions, and their bases” would greatly enhance patent examination quality and expedite prosecution (see MPEP 2103(VI)).

Should this program be implemented, a number of questions will need to be addressed, including:

1. Does review include interceding in the prosecution of the application or looking for inconsistencies in a general pool?
2. Is there a fee associated with the request?
3. How will OPQA determine which applications within the pool to look at? What metrics/criteria will OPQA use in its selection process?
4. What happens to the applications that are not reviewed? If there is a fee, does the applicant get a refund?
5. How will OPQA manage the additional workload generated from these requests? Will there be additional, sufficient-staffing?
6. What happens to applications that are sitting in the pool waiting for selection by OPQA? Is there a period of time in which OPQA shall make its selection and if the application is not selected within that time period, what happens to the application?
7. Will applications be eligible for patent term adjustment (PTA)?
8. Will OPQA findings become part of the prosecution record?

Working together, the public and the Office can resolve these rapid developments in the law and this program could be tailored to achieve this.

2) Automated Pre-Examination Search

We recommend expanding the automated pre-examination search to include non-patent references and foreign patents and publications. Limiting the search to U.S. patents and U.S. patent applications may fall short of the Office objective of providing the best art as soon as possible to the examiner. Additionally, we recommend expanding the capabilities of the search tool. While PLUS uses an algorithm to identify terms that are frequently used in the application, this method of searching may not be as effective for all applications (e.g., chemical/biotech, pharma, design, and mechanical arts). Other search functions may be more applicable for certain arts (e.g., concept-semantic searching, relational word searching, natural language searching, etc.). The databases searched should include commercial data sources (e.g., Derwent, IP.COM, etc.).

The search report should consist of the best art found, so quality over quantity should be the objective of the automated pre-examination search. An analytics tool could be employed to rate the references as most relevant within the search criteria. An examiner using a visualization tool could quickly look at the scores generated and get a quick summary of the reference relevance.

Because of the potential volume of references generated from the automatic searches, the examiner should be given professional discretion to determine the relevance of the search results. Here, the analytics tool can assist the examiner in quickly identifying the best references to investigate, saving time and improving the efficiency of the search results.

The Office could run a pilot program measuring the effectiveness and quality of the search results, map which search functions appear to generate the best results for the different arts, and report its findings to the public. The Office could seek public input based on these findings.

3) Clarity of the Record

1. Making claim construction explicit in the record

We encourage the Office to make the examiner's claim construction explicit in the record. It is vital that the public is given adequate notice of the scope of the inventor's exclusionary rights. As Judge Giles Rich said, "**the name of the game is the claim ...** [and] the function of claims is to enable everyone to know, without going through a lawsuit, what infringes the patent and what does not." (see e.g., Giles S. Rich, *The Extent of the Protection and Interpretation of Claims - American Perspectives*, 21 INT'L REV. INDUS. PROP. & COPYRIGHT L. 497, 499, 501 (1990) as quoted in *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1539 (Fed. Cir. 1995)(emphasis in original)). Indeed, the claim places the public on notice of the scope of the patentee's right to exclude (see, e.g., *Johnson & Johnson Assoc. Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1052 (Fed. Cir. 2002) (*en banc*)). Accordingly, claim construction needs to be addressed early in the prosecution.

Claim construction is the basis on which the rest of examination occurs and therefore, it's important for the examiner to focus on this as an initial matter before determining whether the claims satisfy the statutory requirements under 35 U.S.C. §§ 101, 102, 103, and 112. A clear understanding of the examiner's claim construction from the beginning of examination will promote compact prosecution, reduce pendency, and increase the efficiency and quality of patent examination.

While some additional time may be required in explaining the examiner's claim construction, the MPEP clearly states, "USPTO personnel must first determine the scope of a claim by thoroughly analyzing the language of the claim before determining if the claim complies with each statutory requirement for patentability." (MPEP 2103C. Review the Claims). Given that the examiner has already construed the claims before determining statutory patentability, any additional time should be minimal. Moreover, the benefits of clear, unambiguous claims clearly weigh in favor making claim construction explicit.

To assist the examiner's claim construction, we suggest employing an analytics tool to generate glossaries (see e.g., IBM's comments in response to "Discussion Regarding Strategies for Improving Claim Clarity: Glossary Use in Defining Claim Terms."). Since the best source of determining the meaning of a claim term is the specification, the analytics tool could identify inconsistencies in the same claim term and between the specification and the plain meaning of a claim term (see MPEP 2111.01 ("the greatest clarity is obtained when the specification serves as a glossary for the claim terms.")). In the first office action, the examiner could list the results of the glossary terms along with the examiner's claim construction, including the scope of claim terms, whether the preamble is limiting or not, and whether a limitation is being interpreted as functional.

Because the applicant is in the best position to define his/her invention, the applicant must be given an opportunity to rebut the examiner's claim construction. It's important the claims properly define the invention and the appropriate time to address claim construction issues is during prosecution rather than attempting to resolve them in litigation. If the examiner is interpreting a limitation as functional or the preamble as limiting, the record should explicitly state that. Likewise, the record should reflect whether the applicant agrees or disagrees with the examiner's claim construction. Where there are differences in interpretation, the applicant has the opportunity to amend or clarify the meaning of the claims.

By addressing claim construction issues early in the examination process, both the examiner and applicant can work together to clearly define the metes and bounds of the applicant's invention. As the Office recognized, "issuing patents with clear and definite claim language is a key component to enhancing the quality of patents and raising confidence in the patent process." (see MPEP 2173). Clear and unambiguous claim construction serves the public notice function, enhances patent quality, and stimulates innovation.

2. Further detail in the recordation of interviews, pre-appeal conference decisions, and appeal conference

We support an atmosphere of open dialog to resolve issues and further prosecution. Verbal communication encourages this open dialog and provides a proper setting for open and frank discussion. The examiner interview plays a key role in facilitating this open dialog and resolving issues to advance prosecution. Parties should be free to communicate verbally without concerns that their conversation may inadvertently create unintended consequences in the prosecution record.

The relatively informal process of an Applicant Initiated Interview Request Form or an Examiner Initiated Request Form sets the proper stage to develop or clarify outstanding

issues in the application. After the interview, both parties have able means to formalize the outcome of the interview (e.g., office actions and amendments). Accordingly, we have some reservations that providing written details of every verbal communication may chill interview communications and hinder the advancement of prosecution. However, the reason for an examiner's change in position as a result of an interview should be recorded in the record.

3. Where a statement of the reasons for allowance is necessary, providing a more detailed summary of the reasons for allowing a claim

We have experienced situations where the examiner has given a detailed summary and situations where the Notice of Allowance lacks any detailed summary. Interestingly, we noticed an overall reduction on application pendency in the majority of our cases where there is a detailed summary vs. none. We are not sure of the correlation between the two but, we encourage the Office to explore this relationship and perhaps, conduct its own study on the effect of an examiner's detailed summary of reasons for allowance and the reduction on pendency.

The reasons for allowance should be somewhere in the record, but they need not necessarily be provided with a Notice of Allowance. For example, an applicant may explain how an amendment to a claim distinguishes over the prior art – if the examiner simply indicates acceptance of the amendment as so distinguishing, that acceptance in essence explains the reasons for allowance. An example of the opposite extreme would be a first action allowance without any clear explanation as to the claim features absent from the prior art – in such case the examiner should provide reasons for allowance with a Notice of Allowance.

Excellence in Measuring Patent Quality

4) Review of and improvements to Quality Metrics

IBM encourages the Office to be more transparent as to how the metrics are calculated and what factors are used to give a final score. The public should be able to recreate the quality metrics and provide suggestions for improving them. While the current quality metrics are helpful in understanding the quality of the Office process, additional metrics are needed to measure the quality of the patent itself. The Office could add metrics that measure results of appeals and court determinations of patent invalidity.

Additionally, we encourage the Office to provide more relevant data points in the course of prosecution so the data can be searched on and analyzed by the public and by the

Office, such as the frequency of different grounds for rejections (e.g., 101, 112, 102, 103 and nature of art asserted (e.g., patent art, non-patent art)).

We recommend the Office survey patent applicants periodically. These surveys could be used to assist the Office in identifying and prioritizing quality issues. For example, the surveys could provide a list of patent quality issues and ask applicants to prioritize their frequency or importance, ask applicants to identify the top patent quality issues, or seek specific input such as how effective interviews are in resolving issues and further prosecution.

Excellence in Customer Service

5) Review of the Current Compact Prosecution Model and the Effect on Quality

IBM thanks the Office for its continuing efforts to expedite prosecution and improve overall application pendency. Compact prosecution has helped the Office in resolving issues in a timely manner.

An opportunity to resolve patentability issues before final office action is issued is desirable to all parties involved. While an applicant should be disciplined in working toward allowable subject matter, there may be a sense of losing urgency in bringing the case to finality if all the applicant has to do is pay an additional fee to avoid a final office action. Perhaps, the Office could limit the number of non-final office actions that can be filed on the same issue or increase the fee after the second non-final office action to encourage quick resolutions of patentable issues.

6) In-Person Interview Capability with All Examiners

IBM kindly request more information on how this program will be implemented and how the Office will address issues such as: (1) preserving confidentiality of the in-person interview, (2) the need to adjust the examiner's workload and time for travel, and (3) the impact of travel on the examiner's productivity in other cases?

Also, it would be helpful if the Office could provide statistics on whether in-person interviews are more efficient than telephonic interviews.

Conclusion

In conclusion, IBM appreciates the opportunity to comment on the Office's proposals to enhance patent quality. We support the Office's continuing commitment to work with the patent community to improve patent quality and enhance the customer experience. We encourage the Office to continue to seek feedback from the public as the Office moves forward in developing a new paradigm of patent quality.

Respectfully submitted,

Manny W. Schechter
Chief Patent Counsel
Intellectual Property
Law IBM Corporation
[email redacted]
Voice: 914-765-4260
Fax: 914-765-4390

Kurt P. Goudy
Intellectual Property Law Counsel
IBM Corporation
[email redacted]
Voice: 914-765-4595
Fax: 914-765-4390