



8 March 2019

Mail Stop Comments – Patents

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Attention: Nicole D. Haines, Senior Legal Advisor, Office of Patent Legal Administration

Via email: 112Guidance2019@uspto.gov

Re: Comments on USPTO's 2019 Examining Computer-Implemented Functional Claim Limitations for Compliance with 35 U.S.C § 112 Guidance

Dear Ms. Haines and Mr. West:

On 7 January 2019 the USPTO published its most recent guidance and request for comments pertaining to examining computer-implemented functional claim limitations for compliance with 35 U.S.C § 112 (“112 Guidance”).¹ IPO supports the effort to provide greater predictability for stakeholders concerning patentability of inventions involving computer-implemented functions. The approach to examination of computer-implemented functional limitations laid out in the 112 Guidance, along with the USPTO's simultaneous issuance of the 2019 Revised Patent Subject Matter Eligibility Guidance, is a good step towards ensuring that examination of computer-implemented claims will more closely parallel the requirements set forth in 35 U.S.C. § 112.

Certain parts of the 112 Guidance appear to shift examination burdens onto applicants. Additionally, the 112 Guidance generally addresses the legal standards at a high level but does not provide specific guidance, such as examples, that would help illustrate to examiners and applicants the line that the USPTO intends to draw on these issues. The following comments describe parts of the 112 Guidance that IPO might benefit from modification or clarification.

1. Claim Interpretation

The 112 Guidance instructs examiners to use a three-prong analysis, set forth in MPEP § 2181, for evaluating whether computer-implemented claim limitations invoke 35 U.S.C. § 112(f).² That involves the following determinations:

- (A) the claim limitation uses the term “means” or “step” or a term used as a substitute for “means” that is a generic placeholder (also called a nonce term or a non-structural term having no specific structural meaning) for performing the claimed function;
- (B) the term “means” or “step” or the generic placeholder is modified by functional language, typically, but not always linked by the transition word “for” (e.g., “means for”) or another linking word or phrase, such as “configured to” or “so that”; and

¹ 84 Fed. Reg. 57.

² 84 Fed. Reg. 58.

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(C) the term “means” or “step” or the generic placeholder is not modified by sufficient structure, material, or acts for performing the claimed function.

Significant practical problems are likely to result from broad application of this approach because the evaluations undertaken in steps (A) and (C) of the three-prong analysis are described primarily by referencing case law that will be challenging to apply correctly in the limited time budgeted to examiners. We are concerned that examiners’ application of the three-prong analysis will not be consistent and that it will not be consistently applied elsewhere in the USPTO outside the examining corps. A lack of consistency will in turn make it difficult for IPO members to draft applications whose claim limitations will be interpreted in predictable ways (whether the intent is to invoke § 112(f) or not).

Step (A) of the three-prong analysis, for instance, is susceptible to arbitrary determinations. Although using the term “means” will lead to a predictable determination at step (A) that the analysis should continue to step (B), the 112 Guidance does not describe situations where alternative terminology will be interpreted by the USPTO as a “substitute” for the term “means,” a “nonce term” or a “non-structural term having no specific structural meaning.” The 112 Guidance states that “a substitute term can act as a generic placeholder for the term ‘means’ where that term would not be recognized by one of ordinary skill in the art as being sufficiently definite structure for performing the claimed function.” MPEP § 2181 further states both that “[f]or a term to be considered a substitute for ‘means,’ and lack sufficient structure for performing the function, it must serve as a generic placeholder and thus not limit the scope of the claim to any specific manner or structure for performing the claimed function” and that “[t]he examiner must carefully consider the term in light of the specification and the commonly accepted meaning in the technological art.”

Although the discussion of step (A) might be consistent with the case law on this point, it is not particularly helpful for understanding how examiners will reach determinations under step (A). For instance, it is unclear how to know when one of ordinary skill in the art would recognize a term as “sufficiently definite structure,” as sufficiency of definiteness appears to be a legal determination under § 112(b), not a factual one. Moreover, there is no explanation of what constitutes a “specific manner or structure for performing the claimed function.” Additionally, there is no explanation of how much factual support must be presented to establish the “commonly accepted meaning in the technological art.” Finally, there is no discussion of how an Office Action should explain the basis for the determination, which might cause the issuance of Office Actions that lack any explanation. As a result, evaluations under step (A) are likely to be performed in a different way and with a different level of detail by each patent examiner.

In view of all of these issues, IPO suggests that the 112 Guidance be supplemented with detailed examples in which the USPTO does and does not interpret a non-“means” term as a generic placeholder. Doing so will introduce more predictability into examiners’ analysis and will enable applicants to draft applications presenting fewer hard-to-parse claim limitations.

Step (C) presents similar problems, because it is unclear what amount of “structure, material, or acts” will be considered “sufficient” to avoid a § 112(f) invocation. IPO suggests that the USPTO supplement the guidance to provide detailed examples that delineate the difference between sufficient and insufficient recitations of structure, material, or acts in a claim.

Separately, IPO notes several comments in the 112 Guidance that appear to suggest that examiners should draw inferences concerning an applicant’s position regarding invocation of § 112(f) from the response (or lack thereof) of an applicant to statements made in an Office Action. For instance, the 112 Guidance states that “[i]n response to the Office action, if applicant does not want to have the claim limitation interpreted under 35 U.S.C. 112(f), applicant may: (1) Present a sufficient showing to establish that the claim limitation recites sufficient structure to perform the claimed function so as to avoid interpretation under 35 U.S.C. 112(f); or (2) amend the claim limitation in a way that avoids interpretation under 35 U.S.C. 112(f) (e.g., by reciting sufficient structure to perform the claimed function).”³ Similarly, the 112 Guidance states that “[i]f the applicant disagrees with the examiner’s interpretation of the claim limitation, the applicant has the opportunity during the application process to present arguments, and amend the claim if needed, to clarify whether § 112(f) applies.”⁴

In view of these statements, it is possible that a failure to contest a § 112(f) invocation determination made in an Office Action will be viewed by an examiner as tacit acceptance of the Office’s position regarding invocation of § 112(f). But in many cases, invocation of § 112(f) is not relevant to any of the rejections presented in an Office Action, or not relevant to the traversal of the rejections presented in an Office Action. Where discussion of a § 112(f) invocation determination is not relevant to resolution of the rejections, no inference should be drawn.

Practical problems would result from the USPTO drawing inferences regarding applicant intent from a failure to respond to a statement in an Office Action concerning § 112(f) invocation. Such determinations are not appealable, so disagreements about § 112(f) invocation cannot be adjudicated by the PTAB unless the § 112(f) invocation is relevant to adjudicating the propriety of a rejection. Moreover, the 112 Guidance specifically, and correctly, notes that “[a]pplication of 35 U.S.C. § 112(f) is driven by the claim language, *not by applicant’s intent or mere statements to the contrary.*”⁵ Thus, even if the applicant has an affirmative belief concerning whether a claim limitation invokes § 112(f), whether an applicant responds on the record regarding that invocation determination is not, in and of itself, relevant to the legal question. For these reasons, IPO requests that the USPTO clarify its guidance to make clear that the

³ 84 Fed. Reg. 59.

⁴ 84 Fed. Reg. 61

⁵ *Id.* (emphasis added). Indeed, Judge Newman noted as much in the *Williamson* case. *Williamson v. Citrix*, 792 F. 3d 1339, 1359 (Fed. Cir. 2015) (en banc) (Newman, dissenting) (“With today’s en banc change of law, as the case *sub judice* illustrates, everyone must guess whether the claimed ‘module’ is claimed as a function or an apparatus or something else, and whether it is to be limited by the ‘structure, material, or acts described in the specification and equivalents thereof.’”).

existence of applicant statements regarding propriety of a § 112(f) invocation should not be used to infer applicant intent or acquiescence regarding that issue.

2. Indefiniteness Under § 112(b)

In addressing compliance of computer-implemented claim limitations with respect to indefiniteness requirements under 35 U.S.C. § 112(b), the 112 Guidance emphasizes more recent Federal Circuit opinions than current MPEP guidance to support that, for computer-implemented functional claim limitations, (1) the relevant patent specification must disclose an algorithm for performing all the claimed functions, and (2) when the specification discloses an algorithm that provides sufficient structure for some but not all of the claimed functions, then the claim is rejected as indefinite.⁶

The 112 Guidance makes clear that “a person of ordinary skill in the art plays no role whatsoever in determining whether an algorithm must be disclosed as structure for a functional claim element.”⁷ However, the 112 Guidance further states that “[t]he sufficiency of the algorithm is determined in view of what one of ordinary skill in the art would understand as sufficient to define the structure and make the boundaries of the claim understandable.”⁸

The 112 Guidance, however, does not adequately instruct patent examiners with regard to when an algorithm expressed in the specification provides sufficient structure for multiple claimed functions, especially when one of the claimed functions might be directed to structure that would be known to one of ordinary skill in the art. For example, a claimed function of “storing an identified parameter in memory” might be one of multiple necessary computer-implemented claim limitations of a claim as a whole. It is unclear if citing a computer-implemented claim limitation in the specification or a flow chart in the figures is sufficient in view of what one of ordinary skill in the art would understand as sufficient.

To help clarify this potential ambiguity, IPO suggests that the USPTO supplement the discussion with examples of what “one of ordinary skill in the art would understand as sufficient to define the structure and make the boundaries of the claim understandable.”

3. Written Description Under § 112(a)

The 112 Guidance on written description could be improved by providing examples related to software inventions to clarify the application of new cases that have issued since the prior guidelines issued in 2011. The 2011 guidelines on written description focused on the unpredictable arts, where it can be difficult to predict whether or not the disclosure of one or a few species showed that the inventor has possession of the genus. Software is a more predictable art, which should result in a lower requirement for showing possession of a claimed genus based on disclosure of one or a few species.

⁶ See 84 Fed. Reg. 60 (citing *Advanced Ground Information Sys., Inc. v. Life360, Inc.*, 830 F.3d 1341 (Fed. Cir. 2016) and *Media Rights Techs., Inc. v. Capital One Financial Corp.*, 800 F.3d 1366, 1374 (Fed. Cir. 2015)).

⁷ See 84 Fed. Reg. 60 (citing *EON Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 623 (Fed. Cir. 2015)).

⁸ 84 Fed. Reg. 60.

The 112 Guidance, by delving deeply into case law, might cause the same confusion that prior subject matter eligibility section 101 guidance caused by requiring examiners to understand and synthesize the case law to properly examine applications for written description. A simple test, similar to the test in the section 101 guidance, should be utilized for the predictable arts. For example, examiners should first look at each element and determine whether or not the functions recited therein are fairly well known in the art. Then examiners should look at elements that include functions that do not seem well known. If an algorithm is disclosed for such elements, there is no issue with written description. If an algorithm is not disclosed, then the claim element should be evaluated more closely by searching the specification for some description that shows possession.

The 112 Guidance states that “[t]he level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology. Information that is well known in the art need not be described in detail in the specification.” This statement is helpful, but it should be made clear by example what is meant by information that is well known in the art. For example, a claim element that recites: “storing data” should not be rejected based on lack of written description.

*Vasudevan*⁹ is cited several times in the 112 Guidance at a high level of generality. An example should be provided pointing out that the element at issue in *Vasudevan* related to “accessing disparate databases,” which was found by the district court not to satisfy the written description requirement. The element in question was not a conventional element such as “storing data.” Rather, expert testimony was required in reversing the decision of invalidity at the summary judgment stage. This case should not be emphasized in the 112 Guidance to infer that all elements should be subjected to a rigorous analysis for compliance with the written description requirement. Only those elements that are not well known should be subjected to a rigorous analysis for compliance with the written description requirement.

The citation to *Rivera*¹⁰ and characterization of its holding might also cause confusion in the examining corps and could lead to overuse of written description rejections. The discussion of *Rivera* infers that describing a pod in the specification and claiming a container does not constitute possession of the broader term “container,” but the case is more involved than that characterization. As noted in the decision, “(1) every embodiment and teaching in the specification shows the ‘pod’ and the cartridge or container as distinct elements; (2) the distinction of the ‘pod’ from the cartridge or container is fundamental to the problem and solution taught in the specification; and (3) the embodiments shown in the specification would not work without a separate filter.” The *Rivera* discussion should be clarified or supported with examples that demonstrate that it is not a simple case of a pod being a species of a container and not sufficient to show possession of the generic container. Absent such clarification,

⁹ *Vasudevan Software, Inc., v. MicroStrategy, Inc.*, 782 F.3d 671 (Fed. Cir. 2015).

¹⁰ *Rivera v. Int’l Trade Comm’n*, 857 F.3d 1315 (Fed. Cir. 2017).

examiners might broadly interpret the discussion to reject claim elements that should not be rejected.

4. Enablement Under § 112(a)

The 112 Guidance also cites *Vasudevan*¹¹ with regard to enablement. In *Vasudevan*, the claims were directed to accessing disparate databases and the Federal Circuit explained that “[a] claim is sufficiently enabled even if ‘a considerable amount of experimentation’ is necessary, so long as the experimentation ‘is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed.’”¹² IPO believes that *Vasudevan* is cited as a teaching example of how to apply the *Wands* factors to computer-implemented functions, but the 112 Guidance should clarify that *Vasudevan* does not change the *Wands* factors with regard to undue experimentation.

The enablement discussion also cites the recent *Boston Univ. v. Everlight Elecs. Co.*¹³ for the premise that the specification need not disclose what is well known in the art, particularly “with respect to computer-implemented inventions due to the high level of skill in the art and the similarly high level of predictability in generating programs to achieve an intended result without undue experimentation.” IPO notes, however, that *Boston Univ.* involved the deposition of layers in LEDs (i.e., not necessarily a computer-implemented invention). Unless the USPTO believes that *Boston Univ.* changes the extent to which well-known features must be disclosed in the specification, IPO respectfully submits that the previously cited *Auto. Techs. Int’l, Inc. v. BMW of N. Am., Inc.*¹⁴ is a more appropriate case to cite for computer-implemented functions.

5. Request for Training Examples Applying the 112 Guidance

In the future, the USPTO could further improve the 112 Guidance by providing training examples. For example, the USPTO could create a set of examples specific to claim interpretation, indefiniteness, written description, and enablement. For simplicity, the USPTO might repurpose some of the examples used in the Section 101 Subject Matter Eligibility Guidance.

With respect to claim interpretation, IPO suggests that the USPTO include training examples of what is a sufficient level of structure to trigger plain meaning vs. § 112(f) interpretation. Page 14 of the 112 Guidance states that “A computer-implemented functional claim may also be indefinite when the three-prong analysis for determining whether the claim limitation should be interpreted under 35 U.S.C. 112(f) is inconclusive because of ambiguous words in the claim.” In a typical situation, the examiner should be able to determine whether the claim term is properly interpreted by applying § 112(f) or plain meaning. If the examiner cannot make the determination conclusively, this could have some bearing on a § 112(b) analysis, but the examiner

¹¹ *Supra* note 6.

¹² *Id.* at 684 (quoting *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)).

¹³ 896 F.3d 1357 (Fed. Cir. 2018).

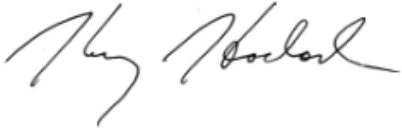
¹⁴ 501 F.3d 1274 (Fed. Cir. 2007)

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should still state on the record what interpretation is being invoked for purposes of the Office Action to keep prosecution compact. The training examples could be used to clarify this point.

We thank the USPTO for permitting IPO to provide comments and would welcome any further dialogue or opportunity to provide additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Henry Hadad". The signature is fluid and cursive, with the first name "Henry" being more prominent than the last name "Hadad".

Henry Hadad
IPO President