Please see the attached document.

Sincerely,

Christopher A. Mohr

VP for Intellectual Property and General Counsel

Software & Information Industry Association

1090 Vermont Ave. NW, Ste. 600

Washington, D.C. 20016

Direct: 202-789-4442

Mobile: 202-215-5987

Docket No. PTO-P-2018-0059

Examining Computer-Implemented Functional Claims Limitations
for Compliance with 35 U.S.C. 112

Comments of the Software and Information Industry Association

March 8, 2019

The Software & Information Industry Association (SIIA) appreciates the opportunity to respond to the request for comments on *Examining Computer-Implemented Functional Claim Limitations for Compliance With 35 U.S.C. 112* ("112 Guidance") published by the United States Patent and Trademark Office ("USPTO" or "Office") in the Federal Register on January 7, 2019.

SIIA is the principal U.S. trade association for the software and digital content industries. With over 800 member companies, SIIA is the largest association of software and content publishers in the country. Our members range from start-up firms to some of the largest and most recognizable corporations in the world. The innovative companies that make up SIIA's membership rely on patents to protect their inventions, but also depend on the ability to manufacture, develop, and sell their products free from improper assertions of exclusive rights. Consequently, SIIA's members are involved in patent litigation as both patentees and accused infringers; they cannot be categorized as generally plaintiffs or generally defendants.

SIIA members have benefited greatly from the patents they own. Yet they also rely on the boundaries of patent protection, as clear boundaries preserve and protect their ability to innovate. As such, SIIA's collective membership sits at the crossroads of the countervailing interests in many of the ongoing intellectual property debates in recent years. Our members are keenly focused on issues surrounding intellectual property protection and the effect of IP laws on the pace-setting companies in our digital age. The statutory requirement of clearly defining the metes and bounds of claim language is especially important in the context of computer-implemented inventions.

We commend the USPTO's efforts to provide additional guidance and training to examiners on how to apply this important body of law to improve the consistency of examination. Ensuring that the guidance is a clear as possible, and consistent with governing precedent, will increase the predictability of patent rights. Our comments here are made with those concerns in mind.

I. Overview and Summary of Comments

The focus of the 112 Guidance is on issues that arise when computer-implemented inventions are examined for compliance with 35 U.S.C. § 112. SIIA agrees with the Office that sufficient description of a computer-implemented algorithm is critical to multiple requirements of § 112. The 112 Guidance is an excellent description of those issues and the caselaw supporting them. SIIA is concerned, however, that ambiguities in the 112 Guidance remain and warrant further attention by the Office.

First, we believe that continuing to stress a "presumption" regarding the application of § 112(f), although technically accurate, may lead to confusion. Whether § 112(f) is triggered depends entirely on the structure or lack of structure recited in the claim. Under *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015) (en banc), the presumption plays no substantive role in the analysis. SIIA recommends the Office clarify that point to examiners who may have been initially trained differently and who will continue to put undue weight on the existence or lack of a presumption.

Second, the law surrounding §§ 112(b) and (f) establishes that when a computer-implemented claim limitation is expressed functionally (as most are), the algorithm that performs the function is a part of the *structure* that corresponds to the claimed function. The 112 Guidelines stress that point, and that a disclosure lacking an algorithm renders a § 112(f) limitation indefinite under § 112(b). SIIA recommends the Office consider whether the role of an algorithm should apply in a similar way when determining whether claim language triggers § 112(f) in the first place.

Finally, given the importance of issues surrounding § 112 and computer-implemented inventions, SIIA recommends that the Office undertake a more rigorous approach to monitoring examiners' application of § 112.

II. Detailed Comments

A. The Office should ensure that functional claims to computer-implemented inventions are properly analyzed under § 112(f)

The 112 Guidance notes that the requirements of 35 U.S.C. § 112(a), (b), and (f) are "particularly relevant to computer-implemented functional claims." (112 Guidance at 57). SIIA agrees. The advent of the information age has placed considerable stress on current law in part because software is inherently functional. As a result, software patents consistently push the boundaries of functional claiming, which is permitted only via 35 U.S.C. § 112(f).

In the years before the 1952 Patent Act, the Supreme Court repeatedly held that patentees may not draft claims in purely functional terms. *See, e.g.*, *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1, 8-10 (1946); *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 371 (1938); *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245, 256-57 (1928)). Functional language with no supporting structure lacks "definite limitation" because it can be accomplished through any means. *Gen. Elec. Co.*, 304 U.S. at 372. Such claims replace "structural definition" with "indeterminate adjectives," rendering them indefinite. *Id.* at 371; *Holland Furniture*, 277 U.S. at 258 ("vague and indefinite description").

Congress responded to *Halliburton* by enacting the precursor to 35 U.S.C. § 112(f), which states that "[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." Section 112(f) thus permits limited functional claiming, but only when tethered to the structure, material or acts that support the claimed function. The "point" of section 112(f)'s restrictions "is to avoid pure functional claiming." *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). As a result, SIIA believes an examiner's threshold conclusion about whether to apply § 112(f) is critical for computer-implemented inventions. A computer-implemented functional claim that does not invoke § 112(f) likely runs afoul of *Halliburton*.

SIIA supports the USPTO's recognition of the problems associated with functional claiming as well as the need to ensure that § 112(f) applies equally to creatively drafted claims that do not recite the classic "means for" language. We therefore commend the Office for stressing that other "generic placeholders" can likewise trigger the

presumption. (112 Guidance at 59) (listing as other generic placeholders, *mechanism*, *module*, *device*, *unit*, *component*, *element*, *member*, *apparatus*, *machine*, and *system*). But we think more should be done to ensure the robust application of § 112(f) in the computer-implemented invention space.

1. The Office should clarify that § 112(f) is triggered based on the absence of structure, not because of a presumption

The 112 Guidance accurately describes the appropriate test for determining the application of § 112(f), which depends in part on the presence or absence of term "means for" or a similarly structure-free "nonce" term. (112 Guidance at 58-59). But although the Office is correct that precedent refers to such a term as creating a "presumption" regarding the application of § 112(f), that presumption is not substantive—the outcome of the test turns entirely on whether the claim term recites sufficient structure for performing the claimed function and not the presumptive starting point. If insufficient structure is recited alongside a function, the result is that § 112(f) applies regardless of the "presumption," and if sufficient structure is recited, § 112(f) is not triggered. The term "presumption" orients the test in terms of whether one is looking for the presence or absence of structure, but the result turns entirely on whether sufficient structure is present and not on whether a presumption applied at the outset.

SIIA recommends that the USPTO clarify this point to examiners. Many examiners were initially trained pre-*Williamson*, when the USPTO used the lack of the term "means" as a strong, if not conclusive indication that § 112(f) was not triggered. *See, e.g.*, *Supplementary Examination Guidelines for Determining Compliance with 35 U.S.C. 112 and for Treatment of Related Issues in Patent Applications*, 76 Fed. Reg. 7162, 7167 (Feb. 9, 2011) (explaining that the rebuttable presumption triggered by the lack of "means for" "is not readily overcome"); Manual of Patent Examining Procedure, 8th ed., rev. 6 (2007), § 2181 ("[A] claim element that does not include the phrase 'means for' or 'step for' will not be considered to invoke 35 U.S.C. 112, sixth paragraph."). Because the Office's previous approaches to § 112(f) made the lack of the "presumptive" language either dispositive, or "not readily overcome," SIIA believes even referring to a "presumption" may sow

confusion in the examining corps, and thus inconsistent treatment of § 112(f). We acknowledge that the Federal Circuit in *Williamson* used the term "presumption," but because a detailed analysis of the test demonstrates that the term merely orients the test and does not create any actual substantive presumption, the Office should be clearer about that in its examiner training and guidance.

2. *The Office should clarify that an algorithm is a necessary component of the structure that achieves a computer-implement function at both steps of the § 112(f) analysis*

The § 112(f) analysis has two steps. The first step is determining whether that section has been triggered. The second step looks to the specification "to determine the structure, material, or act for performing the claimed function." (112 Guidance at 59). According to caselaw discussed in the 112 Guidance, the corresponding structure for a computer-implemented invention is not just generic computer hardware running software, but also the software itself. More specifically, the specification must include an algorithmic structure to perform the recited function. As the Office explains, "the corresponding structure for performing the specific computer function is not simply a general purpose computer by itself but a special purpose computer as programmed to perform the disclosed algorithm." (112 Guidance at 59) (citing *In re Aoyoma*, 656 F.3d 1293, 1297 (Fed. Cir. 2011)). The algorithm can be expressed in a variety of ways including a sequence of steps, a formula, flow chart, etc. (112 Guidance at 59-60, 61-62) (citing *Finisar Corp. v. DirecTB Grp., Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008)).

There is no sound reason to treat structure any differently in the first § 112(f) step than in the second.

Consider a claim to a computer-implemented invention with a limitation reciting a means for performing function *f(x)*. If the specification clearly links *f(x)* to a specific hardware processor programmed with algorithm *y*, the precedent discussed above would lead to the conclusion that the proper scope of the claim language is limited to the specific disclosed processor *programmed with algorithm y* and equivalents thereof. If the specification recited the processor but omitted algorithm *y*, the claim would violate the definiteness requirement of § 112(b) for lacking sufficient structure to perform the recited function. (112 Guidance at 59) ("For a

computer-implemented 35 U.S.C. 112(f) claim limitation, the specification must disclose an algorithm for performing the claimed specific computer function, or else the claim is indefinite under 35 U.S.C. § 112(b).").

Now consider a claim with a limitation reciting a specific hardware processor for performing *f(x)*. Assuming the specific hardware processor is recited specifically in the claim rather than via a nonce word, current USPTO guidance would not lead an examiner to look for algorithm *y* in the claim. As a result, the claim would not be subject to § 112(f) and would read on the specific hardware processor *programmed with any algorithm* to perform *f(x)*. That outcome is inconsistent with the precedent requiring identifying structure for the purposes of the second step of the § 112(f) analysis. A claimed software invention that neither triggers § 112(f) nor specifically includes an algorithm amounts to a purely functional claim because it reads on any software that produces the recited function. The ability of others to write their own program does not solve the problem because "the fact the one of skill in the art could program a computer to perform the recited functions cannot create structure where none otherwise existed." *Williamson*, 792 F.3d at 1351.

Given the established connection between an algorithm and the structure necessary to carry out a computer-implemented invention when analyzing the second step of § 112(f), SIIA recommends that the 112 Guidance be revised to clarify that when a claim recites a functionally-claimed computer-implemented invention without also reciting an algorithm, it necessarily lacks sufficient structure to perform the function and so should be treated as invoking § 112(f). The 112 Guidance properly stresses the role of an algorithm when it comes to computer-implemented inventions that invoke § 112(f), but it fails to address the role of an algorithm when deciding whether § 112(f) is invoked in the first place.

B. <u>The Office should monitor examination of computer-implemented inventions for compliance with 35 U.S.C. § 112</u>

A significant focus of the 112 Guidance is on whether a claim invokes § 112(f), with a presumption that it does triggered by the presence or absence of the term "means." *See Williamson*, 792 F.3d at 1349 (reinforcing the presumption while overruling earlier

precedent holding that that the lack of the term "means" triggered a "strong" presumption that § 112(f) is not invoked).

SIIA agrees that § 112 is particularly relevant to examination of computer implemented inventions and fully supports the USPTO's emphasis on § 112 issues contemporaneous with revisions to the section 101 guidance. Because there is a clear overlap between claims with potential eligibility issues and those with potential section 112 issues, as demonstrated by the Office's attention to both sections at the same time, we recommend that the Office take steps to better monitor examination in this area. Specifically, SIIA recommends that the USPTO begin tracking the frequency of section 112 rejections, and their type (i.e., § 112(a), § 112(b), etc.), in the context of computer-implemented inventions as well as in instances where a rejection is also made under section 101. We also recommend that the office require examiners to specifically indicate whether 35 U.S.C. § 112(f) has been applied, and why or why not, when examining computer-implemented functional claims.

Thank you for considering our views.

Respectfully submitted,

Christopher A. Mohr

Vice President for Intellectual Property and General Counsel