

*Before the*  
**United States Patent and Trademark Office**  
Alexandria, VA

*In re*

Determining Whether a Claim Element is Well-Understood, Routine, Conventional for Purposes of Subject Matter Eligibility

Docket No. PTO-P-2018-0033-0001

**COMMENTS OF  
COMPUTER & COMMUNICATIONS INDUSTRY ASSOCIATION**

In its Notice of Proposed Rulemaking, published in the Federal Register at 83 Fed. Reg. 17536 (Apr. 20, 2018) (NPRM), the United States Patent and Trademark Office (USPTO) solicited comments on its subject matter eligibility guidance to the Patent Examining Corps as contained in the *Berkheimer* memorandum. The Computer & Communications Industry Association (CCIA)<sup>1</sup> submits the following comments.

**I. Summary of CCIA’s Positions**

The *Berkheimer* guidance memorandum<sup>2</sup> modifies USPTO examination procedure, requiring examiners to support 35 U.S.C. § 101 rejections with particular types of evidence at the “step 2B” phase when a claim element is alleged to be routine, conventional, and/or well-understood. In particular, the *Berkheimer* memorandum requires an examiner to provide a citation to evidence in the form of an applicant admission in the specification, a court decision, certain types of publications, or a statement of official notice. The cited evidence is used to show that the claim element is routine, conventional, and/or well-understood.

CCIA notes that routine, conventional, and well-understood aspects of technology are the least likely to be documented. This is particularly true in the software arts, where there is a limited tradition of formal publication and where the best evidence of routine practices is often contained in source code which may or may not be publicly accessible. These issues with accessing evidence of conventionality are likely to create significant difficulties in implementing the *Berkheimer* guidance in some of the areas of arts where rejections under 35 U.S.C. § 101 are most likely to occur.

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<sup>1</sup> CCIA is an international nonprofit membership organization representing companies in the computer, Internet, information technology, and telecommunications industries. Together, CCIA’s members employ nearly half a million workers and generate approximately a quarter of a trillion dollars in annual revenue. CCIA promotes open markets, open systems, open networks, and full, fair, and open competition in the computer, telecommunications, and Internet industries. A complete list of CCIA members is available at <http://www.ccianet.org/members>.

<sup>2</sup> Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*) (Apr. 19, 2018), available at <https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF>.

CCIA also notes that, while “[t]he mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional,”<sup>3</sup> there are sources of prior art that provide *prima facie* well-understood, routine, and/or conventional prior art. For example, prior art found in a textbook or similar reference work should be considered to be routine without requiring any analysis from the examiner.

Finally, CCIA notes that the memorandum states that “[a] finding that an element is well-understood, routine, or conventional cannot be based only on the fact that the specification is silent with respect to describing such element.” While this is correct, if an element is not well-understood, routine, or conventional, the specification’s silence would appear to be *prima facie* evidence that the element fails to meet the written description and/or enablement requirements of 35 U.S.C. § 112 and thus that the claim is not allowable.<sup>4</sup> CCIA proposes that the guidance should acknowledge this issue by requiring the examiner to reject the claim under 35 U.S.C. § 112, if the claim is directed to an abstract idea under *Alice* step 1 and the specification is silent as to a claim element, unless the claim element is well-understood, routine, and conventional.

## II. Routine Aspects of Software Are the Least Likely to Be Documented

While routine and conventional techniques are readily described in the literature in some fields, the same is not necessarily true in the software arts. In fact, many of the most routine and conventional aspects of software are undocumented except in the source code of existing software. This source code is often unavailable and is generally considered difficult to search for. USPTO Director Kappos spoke about this issue in 2012, noting difficulties with respect to “software, where much prior art is in the form of previously written software, which is difficult to find and more difficult to understand unless you wrote it.”<sup>5</sup> An FTC report received similar comments from stakeholders, arguing that time constraints do not allow adequate searches for software prior art.<sup>6</sup>

This is relevant because examiners are less likely to identify and cite sources of prior art that are more difficult to access and search. Consistent with Director Kappos’s comments, a recent GAO study of examiner behavior, based in part on examiner interviews, found that software-related non-patent literature was the prior art source examiners were most likely to search “rarely” or “never.”<sup>7</sup>

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<sup>3</sup> *Berkheimer v. HP, Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018).

<sup>4</sup> While a routine claim element would be enabled by the knowledge of a person of ordinary skill in the art, there must still be some written description of the claim element somewhere in the application as filed. To the extent that a routine claim element is in the original claims, but is not described in the specification, it would be considered a conventional element, enabled, and described. To the extent that the claim element was present in neither the original claims nor described in the specification, the examiner should issue a new matter rejection under § 132.

<sup>5</sup> USPTO Director David Kappos, *An Examination of Software Patents* (Nov. 20, 2012), available at <https://www.uspto.gov/about-us/news-updates/examination-software-patents>.

<sup>6</sup> See FTC, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* at 10 n. 35 (Oct. 2003), available at <https://www.ftc.gov/sites/default/files/documents/reports/promote-innovation-proper-balance-competition-and-patent-law-and-policy/innovationrpt.pdf>.

<sup>7</sup> See GAO, *Patent Office Has Opportunities to Further Improve Application Review and Patent Quality* 4-5 (Sept. 16, 2016), available at <https://www.gao.gov/assets/680/679830.pdf>; cf. Cohen, *Reverse Engineering and the Rise of Electronic Vigilantism: Intellectual Property Implications of “Lock-Out” Programs*, 68 S. Cal. L. Rev. 1091, 1178 (1995) (“In an area that relies so heavily on published, ‘official’ prior art, a rejection based on ‘common industry knowledge’ that does not appear in the scholarly literature is unlikely.”).

Even searching patent prior art for software involves unique difficulties. Software patents have traditionally been classified according to end-use, meaning that software for controlling the temperature of a pizza oven and software for controlling the temperature of a kiln would be classified differently even though the underlying software concepts are identical.<sup>8</sup> As a result, classification-based examiner search techniques are more difficult to employ with respect to software and often miss relevant prior art.

Beyond the difficulty of searching software prior art, there is simply less evidence regarding routine and conventional practices in software. Source code, the primary repository of routine and conventional software practices, is frequently proprietary and the machine code that is distributed is difficult for a human to read. And unlike some other areas of technology, there is no tradition of extensive scholarly publication in software.<sup>9</sup> The combination of these factors means that documentation may be difficult or impossible to obtain.

Because of these difficulties in locating the appropriate evidence, examiners in the software arts would become less likely to make § 101 rejections, even where such a rejection is appropriate based on routine practices of software development.

In order to mitigate this concern, the USPTO should reconsider whether it is appropriate to apply the *Berkheimer* memorandum in the same way to software-related patents. To the extent the USPTO determines that such application is appropriate, the USPTO must investigate ways to ensure examiners can search non-traditional software prior art such as source code in an effective manner and ensure that examiners are not overly reliant on classification-based search, given the classification problems described above. While this might include creating an internal source code database accessible via standard USPTO search tools, such a database would not be sufficient to mitigate this concern as source code would remain difficult to search. The USPTO could also consider the formation of a cadre of examiners with significant software development experience to which questions regarding whether a claim element is directed to routine and conventional practices in software could be referred.

### III. Certain Types of Prior Art Should Be Assumed to Be Conventional

Part III of the NPRM discusses the types of evidence an examiner may use to support a subject matter rejection. In particular, section III.A.3 notes that the examiner may cite to a “publication that demonstrates the well-understood, routine, conventional nature of the additional element(s)” and that the “nature of the publication” is relevant to understanding whether something is routine and conventional.<sup>10</sup>

Certain types of publications are effectively documentation of what is routine and conventional. In particular, the contents of textbooks, guidebooks, programming language

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<sup>8</sup> See Lemley et al., *Software and Internet Law* 332 (2000).

<sup>9</sup> See, e.g., U.S. Congress Office of Technology Assessment, *Computer Software and Intellectual Property*, OTA-BP-CIT-61 at 9 (March 1990) (“published literature does not completely embody the development of the fields of software and computer science”); Lemley & Cohen, *Patent Scope and Innovation*, 89 Cal. L. Rev. 1, 13 (2001) (“most software inventions are not described in published journals ... [they] exist in the source code of commercial products and services that are available to customers ... source code is hard to catalog or search for ideas”); Cohen, *Reverse Engineering*, *supra* note 7, at 1178 (“Many new developments in computer programming are not documented in scholarly publications at all”).

<sup>10</sup> NPRM at 17537.

documentation, and similar basic resources are *prima facie* descriptions of the routine and conventional. While some of these types of prior art might contain a limited amount of non-routine prior art, the vast majority of the information contained within would qualify as routine and conventional. The USPTO should identify categories of references which would qualify for this presumption of conventionality so that examiners have guidance as to what references they can most easily rely on in a step 2 analysis and guidance as to the indicia that might suggest that the contents of a non-categorized reference would qualify as routine and conventional.

#### **IV. Silence in the Specification With Respect to a Claim Element Implies Either Conventionality or Lack of Written Description**

Patent applicants are obligated to set out “a written description of the invention,” and to do so “in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.”<sup>11</sup> This obligation does not require a patent applicant to recite elements that are so well-known they do not require detailed description. However, if an element is not well-known, then the patent application fails to comply with 35 U.S.C. § 112 if it does not describe that element in the specification. Reflecting this, the *Berkheimer* NPRM states that “the analysis as to whether an element (or combination of elements) is widely prevalent or in common use is the same as the analysis under 35 U.S.C. 112(a) as to whether an element is so well-known that it need not be described in detail in the patent specification.”

However, the NPRM also proposes a rule that “finding that an element is well-understood, routine, or conventional cannot be based only on the fact that the specification is silent with respect to describing such element.”<sup>12</sup>

If the specification is silent as to an element, and that element is not considered well-understood, routine, and/or conventional, then the examiner must issue a rejection under 35 U.S.C. § 112. It would be legally incorrect for an examiner to allow a claim which contains an element which is not described in the specification, but which the examiner has held to be unconventional or non-routine.

In particular, the final rule should emphasize that if an examiner issues a § 112(a) rejection with respect to an undescribed claim element which the applicant traverses by arguing that the element is so well-known to a person of ordinary skill in the art that it need not be described in the specification, the examiner is not just permitted to but must find the claim element to be routine and conventional based on the applicant’s own admission. Similarly, if the examiner issues a § 101 rejection with respect to an undescribed claim element which the applicant traverses by arguing that the claim element is not routine and conventional, the examiner is not just permitted to but must refuse to allow the claim under § 112(a), again based on the applicant’s own admission.

#### **V. Conclusion**

Given the problems with prior art in the software space, it is the position of CCIA that application of the unmodified *Berkheimer* memorandum to software-implemented inventions is

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<sup>11</sup> 35 U.S.C. § 112(a).

<sup>12</sup> NPRM at 17537.

inappropriate. In addition, the final rule should emphasize both the conventionality of the contents of certain types of prior art as well as the implications of a silent specification with regard to the interplay of § 101 and § 112.

CCIA appreciates the Office's careful consideration of the above comments.

Respectfully submitted,

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