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Patent-Eligibility of Computer Software Inventions in a Post-Alice Era

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Decided on June 19, 2014, the ***Supreme Court*** decision on ***Alice Corp. v. CLS Bank International[1]*** has introduced a lot of uncertainty regarding patent-eligibility of certain types of technologies. In particular, *Alice* indicated that abstract ideas (*e.g.,* business methods), even when carried out by a generic computer, do not automatically become patent eligible. *Alice* did provide, however, that if the subject matter "improves the functioning of the computer itself" or "any other technology", such subject matter may be patent-eligible. In this way, one can see this as leaving open the possibility of finding computer software patent-eligible.

Since then, a number of cases have tackled the issue on how to apply the new *Alice* guidelines set by the Supreme Court with respect to computer software. In the following decision (summary judgment at a district level court), the remarks provided by Judge Pfaelzer may be helpful in evaluating the patent-eligibility of computer software under 35 U.S.C. § 101 in the post-*Alice* era.

California Institute of Technology (Caltech) asserted four different patents against Defendants (*e.g.,* Hughes Network Systems, LLC, DISH Network Corporation, DISH Network LLC, and dishNet Satellite Broadband LLC.[2] The asserted claims within

the four patents were directed towards computer software that performed error correction. Judge Pfaelzer denied the Defendant's motion for summary judgment explaining in the opinion that the asserted software claims were patentable (or probably more appropriately patent-eligible) subject matter under 35 U.S.C. § 101. So why are we looking at this case? Although the opinion pertains to a district court level summary judgment decision, the reasoning by Judge Pfaelzer nevertheless provides a logical framework under which future evaluation of patents encompassing computer software in a post-*Alice* era may be understood and performed. Judge Pfaelzer also includes remarks regarding other recent patent cases encompassing computer software in the post-Alice era (*e.g., Digitech*, *Planet Bingo*, *buySafe* and *McRO*) within the decision.

Judge Pfaelzer believed the cases before the Federal Circuit provided multiple opportunities to clarify the use of 35 U.S.C. § 101 with reference to computer software. These cases (*e.g., Digitech*, *Planet Bingo*, *buySafe* and *McRO*), however, either 1) did not provide very much information for guidance on how to perform the determination of patentable subject matter regarding software patents (*e.g., Planet Bingo* and *buySafe*) or 2) provided outcomes seemingly at odds with judicial precedent and/or congressional intent (*e.g., Digitech* and *McRO*).

In *Digitech Image Technologies, LLC v. Electronics for Imaging, Inc.****[3]***, the Court invalidated the claims at issue, because 1) the device claims were not directed towards a machine or manufacture within the meaning of 35 U.S.C. § 101, and 2) the method claims were directed towards a mathematical algorithm without additional limitations. Judge Pfaelzer noted, however, that the Supreme Court in *Alice* never declared that patents directed at compute software were all unpatentable, thereby implicitly indicating that software may be patentable. Furthermore, Judge Pfaelzer noted that Congress contemplated that some computer programs would be eligible for patent protection. Therefore, 35 U.S.C. § 101 should not be read as excluding computer software being considered as patent-eligible subject matter. *Digitech's* decision, however, appeared to adhere to a bright-line rule indicating that if the claim included a mathematical algorithm, the claim would not be patentable. This rule appears contrary to judicial precedent and congressional intent, since computer software may rely on using algorithms of some sort. Judge Pfaelzer also noted that the reliance on whether the device applied to a machine suggests that the "machine or transformation test" proposed in *Bilski v. Kappos****[4]*** is necessary for patentability. The U.S. Supreme Court decision in *Bilski*, however, denoted that the "machine or transformation" test should be viewed as being merely an important and useful clue.

With *Planet Bingo, LLC v. VKGS LLC****[5]*** and *buySafe, Inc. v. Google, Inc.****[6]***, Judge Pfaelzer believed that the asserted claims covered obvious examples of ineligibility (*e.g.,* managing a bingo game *in Planet Bingo* and creating a contractual relationship over the Internet in *buySafe*). These claims consisted only of generic and conventional steps that have been performed for many years prior to the implementation of computers. The use of computer elements for these cases included no meaningful additional limitations as required under the second step of *Mayo****[7]***. Even though these cases correctly invalidated the claims, there was no real guidance provided as to what kind of meaningful limitation may render computer software patent-eligible.

Lastly, Judge Pfaelzer provided comments on a district level court case *McRO Inc. v. Sega of America, Inc****[8]***, decided a few weeks prior on Sept. 22, 2014. The asserted patents in *McRO* were directed towards computer software used to automate animation of lip synchronization and facial expressions of 3D characters. The district court, in this case, found the claims invalid under 35 U.S.C. § 101. Judge Pfaelzer, however, had issue with how the district court reached that decision. In particular, the district court in *McRO* used a point of novelty approach to filter out claim elements found in the prior art before evaluating the remaining portions of the claim for abstractness. This approach, however, is believed to be erroneous for three reasons. The first reason is that novelty is not relevant when determining whether the underlying subject matter is patent-eligible. The issue of novelty is addressed in other sections of the Patent Act (*e.g.*, Section 102). Furthermore, judicial precedent discourages courts from dissecting a claim into old and new elements when evaluating a claim. The second reason is that the approach used in *McRO* appears to combine the two-step analysis of *Mayo*. In particular, *Mayo* instructs the courts to first evaluate the claims to determine if the claims are directed to an abstract idea (step one), and then if the claims are determined to include an abstract idea, determine whether there is anything more than the abstract idea or conventional elements (step two). In contrast, *McRO* performs the filtering prior to the determination of whether claims were directed towards an abstract idea. The last reason is that the *McRO* approach appears to invalidate all software patents. Most inventions build upon what is known, as well as based on scientific or technical principles that seem abstract when viewed in isolation. Such an outcome is contrary to congressional intent.

In view of the above, Judge Pfaelzer performed the two-step analysis described in *Mayo* in evaluating the claims subject to the summary judgment. In particular, Judge Pfaelzer indicated that the Court must first identify, as the first step, whether a claim is directed to an abstract idea. Afterwards, the Court must then determine, in the second step, whether there is an inventive concept that appropriately limits the claim such that it does not preempt a significant amount of inventive activity.

In applying the first step, Judge Pfaelzer concluded that the claims-at-issue included the abstract idea of encoding and decoding data for error correction. In applying the second step, Judge Pfaelzer then evaluated the claims to ascertain if there were additional meaningful limitations (*i.e.,* inventive concepts) for each patent. Even though many of the limitations are mathematical algorithms, the algorithms themselves are narrowly defined and are directed to a particular error correction process (*i.e.,* does not pre-empt the entire field of error correction). In this way, the claims did not preempt all other possible techniques for effective error correction. For each of the evaluated claims, the Court found certain steps for achieving error correction to be unconventional and new. For example, in one claim (*e.g.,* claim 1 of U.S. patent 7,421,032, hereafter the '032 Patent), the Court found unconventional in its use of the irregular repetition of message bits and its use of a prior parity bit to calculate a subsequent parity bit. Such elements are not necessary for achieving error correction and further, greatly limits the scope of the claim (*i.e.* does not preempt the entire field of error correction). Rather, these elements are directed towards a particular form of error correction. In conclusion, the Court found that the claims of the four patents were patentable under 35 U.S.C. § 101.

Judge Pfaelzer also addressed an argument raised by the Defendant that some elements recited in the asserted claims (*e.g.,* calculating parity bit values) were directed towards mental steps that can be performed by a person with a pencil and paper. The pencil-and-paper analysis, which can also be seen in a number or USPTO rejections related to evaluating the patentability of a claim under 35 U.S.C. § 101, is often interpreted as evaluating a human's ability to replicate the algorithms of the software using a pencil and paper. Judge Pfaelzer, however, noted that the pencil and paper analysis is generally used as a stand-in for a different concern: evaluating whether an activity existed before the invention of computers. In fact, the pencil-and-paper analysis should not be necessarily directed towards whether a human can replicate the math involved. In other words, the computer software codes do not become conventional simply because humans can do math thereby replicating what the computer software codes are directed towards. Furthermore, with respect to the '032 Patent, Judge Pfaelzer concluded a human would not be capable of generating actual parity bits despite being able to perform calculations that may yield a value of a parity bit. In conclusion, at least in this area of technology (*e.g.,* error correction), a pencil-and-paper analysis may not be an appropriate or useful test in determining whether the asserted claims are patent-eligible. Instead of the pencil-and-paper analysis, the Court must ask whether the asserted claims include an inventive concept that sufficiently limits the claim's preemptive effect. Since the asserted claims, included unconventional steps that limited claim scope to a particular method of error correction, the Court found that the claims were patent-eligible.

Through the above decision, Judge Pfaelzer provides a roadmap for understanding the recent patent cases that encompass computer software (*e.g., Digitech*, *Planet Bingo*, *buySafe* and *McRO*), as well as an overview of how patent claims may be evaluated for compliance under 35 U.S.C. § 101 going forward.

[1] 134 S. Ct. 2347, 82 L. Ed. 2d 296, 189 L. Ed. 2d 296 (2014).

[2] *Cal. Inst. Of Tech. v. Hughes Communes., Inc.* 2014 U.s. Dist. LEXIS 109774 (C.D. Cal., Aug. 6, 2014)

[3] 758 F.3d 1344 (Fed. Cir. 2014)

[4] 561 U.S. 593, 130 S. Ct. 3218, 177 L. Ed. 2d 92 (2010)

[5] 576 Fed. App'x 1005 (Fed. Cir. 2014)

[6] 765 F.3d 1350 (Fed. Cir. 2014)

[7] *Mayo Collaborative Services v. Prometheus Laboratories, Inc.,* 132 S. Ct. 1289, 182 L. Ed. 2d 321 (2012)

[8] 2014 U.S. Dist. LEXIS 135267, 2014 WL 4749601 (C.D. Cal. Sept. 22, 2014)