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Global considerations for PCT applications in the field of computer science

Thomas L. Lederer, Dennemeyer & Associates S.A., discusses the complexities of patent applications in the field of computer science, thinking particularly about a selection of specific jurisdictions.

Patent law constantly evolves. Unfortunately, different jurisdictions evolve differently. Or maybe that is fortunate, because every country thereby adds to a global view on these issues. Computer-implemented inventions are a field where much commotion is taking place at the moment, particularly since the technology is fairly new.

More than two years have passed since *Alice Corp. v. CLS Bank International* was handed down in the United States. When the Supreme Court decision first came out in 2014, it was received very differently. The comments on the decision vacillated from “it didn’t do much to say what kinds of software should be patentable” (Washington Post) and “it did offer guidance that should help to invalidate some of the more egregious software patents” (The Electronic Frontier Foundation) to “Are Software Patents Dead? Nearly, According to ‘Alice’” (Business Insider).

As a short recap, Alice allegedly tried to provide guidance on software patent eligibility in the majority opinion, which was written by Justice Clarence Thomas.

In order to clear the uncertainty whether the patent eligibility test laid out in the *Mayo* decision earlier applied only to natural principles or also to “abstract ideas and general principles”, the Alice decision confirmed that the test was general. The “abstract ideas and general principles” were held to include the subject-matter of so-called software patents.

Based on the “*Mayo framework*”, the Supreme Court applied a two-step test to form an opinion on patent eligibility. If in the first step it is found that the claims in question refer to an “abstract idea” then in a second step it needs to be checked whether the claims add anything to the abstract idea “to transform the abstract idea into a patent-eligible invention”. If no such transformation is within the claims, no patent should be granted.

Two years have passed and the lower courts in the United States have had to apply the Supreme Court decision to their cases. Although – as a practitioner before the European Patent Office and other national patent offices in Europe – these developments are interesting, they do not directly impact our day-to-day work. However, if you have clients from the United States, it is not only helpful to understand the mindset of someone directly affected by these decisions, but also crucial to understand the differences between the different systems in order to facilitate the necessary client attorney communication.

However, there is now a new twist. In October 2016, *Intellectual Ventures v. Symantec* was decided by the United States Court of Appeals for the Federal Circuit, and the legal pundits quickly reported that Judge Mayer made two points in his concurring opinion:

“(1) patents constricting the essential channels of online communication run afoul of the First Amendment; and (2) claims directed to software implemented on a generic computer are categorically not eligible for patent.”

The issue on whether patents can disrupt Free Speech shall be left to the colleagues in the United States, but the second point is immediately interesting. Why shouldn’t a software implemented on a generic computer categorically be eligible for patent protection? Would that mean that inventors in the field of computer science could only receive patents if they modified the hardware?

I often have discussions with computer scientists, programmers, and even software users on whether software *per se* should be patentable or not. Usually, I try to build

Résumé

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some parable in order to get the dialog partners to understand my position on computer-implemented inventions. When I read Judge Mayer's opinion, I immediately wondered whether this would be the same as telling a chemist that all future inventions need to include a modification of his generic lab equipment if he wants to receive a patent on compositions.

When Dennis Crouch, Law Professor at the University of Missouri School of Law, postulates, "Declaring that software implemented on a generic computer falls outside of section 101 would provide much-needed clarity and consistency in our approach to patent eligibility," he seems to desire exactly that situation for software developers.

On the contrary, the latest Guidelines for Examination at the European Patent Office (EPO) state in Part F-IV 3.9.1: "A common type of CII relates to subject-matter where all the method steps can fully be carried out by computer program instructions running on means

which, in the context of the invention, provide generic data processing functions. Such means can, for example, be embedded in a personal computer, smartphone, printer etc."

Also, the Federal Circuit had stated in *Enfish v. Microsoft* in May 2016 that "we are not persuaded that the invention's ability to run on a general-purpose computer dooms the claims." A statement, by the way, Circuit Judge Stoll repeated in aforementioned Federal Circuit decision *Intellectual Ventures v. Symantec* in an opinion dissenting in part.

And even now, in November 2016, the Federal Circuit writes in *Amdocs (Israel), Ltd. v. Openet Telecom, Inc.*: "In contrast, we have found eligibility when somewhat facially-similar claims are directed to an improvement in computer functionality [...] or recite a sufficient inventive concept under step two – particularly when the claims solve a technology-based problem, even with conventional, generic components, combined in an unconventional manner." This is much closer to EP practice than the current Supreme Court's opinion.

The Federal Circuit even writes in *Amdocs* that the invention "achieve[s] a technological solution to a technological problem", which comes very closely to the EPO Guidelines' statement: "the presence of an inventive step under Art.56 requires a non-obvious technical solution to a technical problem".

It will be interesting – even from Europe – to keep an eye on where the future decisions will lead the US; and in particular, to see whether the Federal Circuit will adopt the Supreme Court's opinion.

Meanwhile, the rest of the world is not idling. In 2016, new Examination Guidelines were published in India, Singapore, Australia and Brazil.

In India, according to the new guideline, a three-stage test is to be performed. After *construing the claim*, and after the subject-matter in question has passed the hurdle of not being a *mathematical*

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method, a business method or an algorithm, the actual invention needs to be claimed *in conjunction with a novel hardware*. It also clearly says, “*The computer program in itself is never patentable*”.

Singapore has also raised the bar for computer-implemented inventions. There also “*a program for a computer*” is not considered to be an invention and therefore not patentable, but a “*computer implemented invention*” could be patentable subject matter.

For claims directed to computer-implemented inventions it is to be determined, what contribution the hardware brings to the invention, and the hardware must be integral to the invention so that the actual contribution can comprise the hardware.

In other words, the hardware components must interact with the technical problem at hand. If a generic computer system only performs a method the interaction would not be considered to be sufficient and not directed towards the solving of a specific problem.

Now, in Australia, a computer implemented invention is “*only patentable if what is claimed ‘as a matter of substance’ meets the requirements for a manner of manufacture and in particular is not a mere scheme, abstract idea or mere information*”. So the office has amended the *Patent Manual of Practice & Procedure* following the decisions *Research Affiliates LLC v Commissioner of Patents* and *Commissioner of Patents v RPL Central Pty Ltd* to cite “*considerations that may be relevant to whether a computer related invention is in substance a manner of manufacture*”. These include (*inter alia*):

- whether the claimed method merely requires generic computer implementation.
- whether the computer is merely an intermediary or tool for performing the method while adding nothing of substance to the idea.
- whether the alleged invention lies in the way the method or scheme is carried out in a computer.
- whether the alleged invention lies in more than the generation, presentation or arrangement of intellectual information.

While for a successful application the upper two items should be answered “*no*” and the latter two items should be answered “*yes*”, the complete section of the patent manual seems to offer less “*guidance*” than the documents in other countries. This might seem to give the Examiner and the applicant more space to argue, but it could also indicate that the specific “*requirements*” for patents on computer implemented invention are not completely clear at the moment.

Brazil has published new patent examination guidelines for computer-implemented inventions in December 2016, after they were pending since 2012. Also in Brazil, “*computer programs themselves are not patentable*”. The office determined in the pending version, “*that the computer program itself [...] refers to the literal elements of creation,*

such as source code, understood as an organized set of instructions written in a particular computational language.” The program itself is excluded from patentability.

Methods that are based on algorithms are patentable in the largest South American country, since the steps of such methods are clearly described. However, regarding the program, the proposal further elaborates, “*the simple interaction between the computer program and the hardware does not guarantee that the creation, as a whole, is considered an invention. It is necessary to discern a technical effect beyond this interaction...*” Being familiar with the current and previous approaches (e.g. contribution approach, further technical effect, etc.) of the EPO guidelines, this might get interesting. “*...therefore, the technical effect of an invention must be intentional and directly controlled by the proposed invention, it does not matter if this technical effect is internally or externally to the processing unit.*” The proposed guidelines then list examples like reduce memory access time, control of a robot element or better reception or radio signal. These examples apparently would satisfy the criterion of technical effect, “*even when internal to the computer.*”

In China, amendments to the Examination Guidelines have been proposed, with public comments being accepted until end of November 2016. The proposed amendments seem to make obtaining business method patents easier if the business method is novel and if there is a technical element; meaning these applications are not excluded automatically from patentability. Also, it seems to get easier to receive patents for software enabled inventions as the proposed draft specifically seems to include “*programs*” as patent eligible. Further, the applicant apparently does not need to “*describe in detail which parts of the computer program are to be performed and how to perform them*”.

All in all, when applying for a patent on computer-implemented inventions, you should be aware that the different jurisdictions of the world do have very different approaches. Unfortunately, applicants cannot expect to have patents granted with similar scope when entering different national phases of their PCT application.

Consequently, a good piece of advice would be to seek help from local patent attorneys of the countries the applicant is interested in before filing the computer-implemented PCT application; although, we know that sometimes there is not enough time to do so. But, we should spend the time on our patent. After all: “*It is the time you have spent on your rose that makes your rose so important.*” – Antoine de Saint-Exupéry, *The Little Prince*.

