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Federal Circuit Patent Bulletin: *Visual Memory LLC v. NVIDIA Corp.*

August 15, 2017

"[T]he key question is 'whether the focus of the claims is on the specific asserted improvement in computer capabilities [or], instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool.'"

On August 15, 2017, in *Visual Memory LLC v. NVIDIA Corp.*, the U.S. Court of Appeals for the Federal Circuit (O'Malley, Hughes, Stoll*) reversed and remanded the district court's dismissal under Federal Rule of Civil Procedure 12(b)(6) of Visual's complaint alleging that NVIDIA infringed U.S. Patent No. 5,953,740, which related to a memory system with programmable operational characteristics that can be tailored for use with multiple different processors without the accompanying reduction in performance, based on the district court's ruling that the '740 patent claims were invalid for patent ineligible subject matter under 35 U.S.C. § 101. The Federal Circuit stated:

Section 101 defines the scope of patent-eligible subject matter as "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." To this broad universe of eligible subject matter, the Supreme Court has long-recognized an exception: laws of nature, natural phenomena, and abstract ideas are not patent-eligible because they represent "the basic tools of scientific and technological work." Permitting patent protection for these ideas could thwart the purpose of the patent laws because it "might tend to impede innovation more than it would tend to promote it." The "framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts" comprises two steps. The first step requires courts to "determine whether the claims at issue are directed to one of those patent-

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ineligible concepts." If they are, the court must then analyze whether the claim elements, either individually or as an ordered combination, contain an "inventive concept" that "'transform[s] the nature of the claim' into a patent-eligible application."

Our analysis begins with Alice step one. Although the two steps in the Alice framework "involve overlapping scrutiny of the content of the claims," the "Supreme Court's formulation makes clear that the first-stage filter is a meaningful one, sometimes ending the § 101 inquiry." In this regard, we must articulate with specificity what the claims are directed to and "ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea." . . .

Our review of the '740 patent claims demonstrates that they are directed to an improved computer memory system, not to the abstract idea of categorical data storage. Claim 1 requires a memory system "having one or more programmable operational characteristics, said characteristics being defined through configuration by said computer based on the type of said processor," and "determin[ing] a type of data stored by said cache." . . . None of the claims recite all types and all forms of categorical data storage. The specification explains that multiple benefits flow from the '740 patent's improved memory system. As an initial matter, the specification discloses that a memory system with programmable operational characteristics defined by the processor connected to the memory system permits "different types of processors to be installed with the subject memory system without significantly compromising their individual performance." [T]he claims here are directed to a technological improvement: an enhanced computer memory system. The '740 patent's claims focus on a "specific asserted improvement in computer capabilities"—the use of programmable operational characteristics that are configurable based on the type of processor—instead of "on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." [T]he specification discusses the advantages offered by the technological improvement. Accordingly, this is not a case where the claims merely recite the "use of an abstract mathematical formula on any general purpose computer," "a purely conventional computer implementation of a mathematical formula," or "generalized steps to be performed on a computer using conventional computer activity."

T]he dissent contends that the claimed programmable operational characteristic is "nothing more than a black box," that "the patent lacks any details about how [the invention's purpose] is achieved," and that "because the '740 patent does not describe how to implement the 'programmable operational characteristic' and requires someone else to supply the innovative programming effort, it is not properly described as directed to an improvement in computer systems." There are three flaws with this conclusion. First, the patent includes a microfiche appendix having a combined total of 263 frames of computer code. The dissent assumes that this code would not teach one of ordinary skill in the art the "innovative programming effort" required for a computer to configure a programmable operational characteristic of a cache memory (e.g., whether to store only code data or code and non-code data) based on the type of processor connected to the memory system. Such an assumption is improper when reviewing a dismissal under Rule 12(b)(6), where all factual inferences must be drawn in favor of the non-moving party. Second, whether a patent specification teaches an ordinarily skilled artisan how to implement the claimed invention presents an enablement issue under 35 U.S.C.§ 112, not an eligibility issue under § 101. "Enablement is a legal determination of whether a

patent enables one skilled in the art to make and use the claimed invention." Moreover, the implementation details of how to configure a programmable operational characteristic of a memory system may well fall within the routine knowledge of one of ordinary skill in the art, and "a patent need not teach, and preferably omits, what is well known in the art." Third, the dissent assumes that the "innovative" effort in the '740 patent lies in the programming required for a computer to configure a programmable operational characteristic of a cache memory. This assumption is inconsistent with the patent specification itself. The specification makes clear that the inventors viewed their innovation as the creation of "a memory system which is efficiently operable with different types of host processors," and the patent discloses how to implement such a memory system. . . .

To be sure, the concept of categorical data storage underlies the '740 patent's claims in that claim 1 requires a programmable operational characteristic that "determines a type of data stored by said cache." But this is not enough to doom a claim under § 101 because the claims are not so limited, and "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." Nor is the '740 patent's use of conventional computer components, by itself, fatal to patent eligibility where the claims "are directed to an improvement in the functioning of a computer." Because we conclude that the claims of the '740 patent are not directed to an abstract idea, we need not proceed to step two of the Alice test.