

# Tips For Drafting Patents That Won't Need Alice Step 2

By **Phillip Articola**

In *Visual Memory v. Nvidia Corporation*, decided Aug. 15, 2017, the Federal Circuit held, in a 2-1 decision,[1] that Visual Memory's claims directed to an improved cache memory system recite patent-eligible subject matter under 35 U.S.C. § 101.[2] Based on the rationale in that case, as well as other cases in which the Federal Circuit has found software-related claims to recite patent-eligible subject matter under 35 U.S.C. § 101, a patent application drafter can improve the chances that claims he/she writes pass muster under step one of the Alice two-step patent-eligibility test, thereby not requiring an analysis of the claims under Alice step two.



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## Alice Two-Step Test

For the past few years, the U.S. Patent and Trademark Office and the Federal Circuit has been applying the Alice two-step test for determining patent eligibility of software-related claims, based on the U.S. Supreme Court's Alice decision.[3] Alice step one involves determining whether a claim is directed to an abstract idea. If the claim is not directed to an abstract idea, then the claim recites patent-eligible subject matter. If the claim is directed to an abstract idea, then the claim is analyzed under Alice step two, to determine whether the claim recites "significantly more" than an abstract idea. If so, the claim recites patent-eligible subject matter. When applying Alice step two, the decision-maker is to determine whether any element of the claim, or combination of elements of the claim, is sufficient to ensure that the claim as a whole amounts to significantly more than an abstract idea.[4]

Provided below is a discussion of recent Federal Circuit cases that have found software-related claims to recite patent-eligible subject matter. Each case provides guidance to a patent application drafter to improve the chances that his/her claims would be found to recite patent-eligible subject matter by a USPTO patent examiner, by the USPTO's Patent Trial and Appeal Board, and by the Federal Circuit if the case is appealed that far.

## Enfish Holding

Enfish's patents at issue[5] are directed to a self-referential database. In its decision finding that the Enfish claims recite patent-eligible subject matter under Alice step one, the Federal Circuit cited several passages in the Enfish patents, which described in detail the improvements of Enfish's invention over conventional nonself-referential databases. For example, the Federal Circuit cited a passage in the Enfish patents for its conclusion "that the claims are directed to an improvement of an existing technology" based on "the specifications teachings that the claimed invention achieves other benefits over conventional databases, such as increased flexibility, faster search times, and smaller memory requirements." The Enfish decision cited with approval the Federal Circuit's *Openware*[6] holding, which found that text in the patent specification that disparaged the prior art is relevant to determine the scope of the invention.

Since the Federal Circuit found the Enfish claims recite patent-eligible subject matter under Alice step one, the Federal Circuit did not need to address Alice step two.

## **McRO Holding**

McRO's patents at issue[7] are directed to automatically animating lip synchronization and facial expression of animated characters. Similar to the Enfish patents, McRO's patents disparaged conventional approaches for lip synchronization that are "very tedious and time consuming, as well as inaccurate due to the large number of keyframes necessary to depict speech." Further, McRO's patents explained that "the present invention overcomes many of the deficiencies of the prior art and obtains its objectives by providing an integrated method ... allowing for rapid, creative, and expressive animation products to be produced in a very cost effective manner." The Federal Circuit explains that McRO's patent "aim[s] to automate a 3-D animator's tasks ... through rules that are applied to the timed transcript to determine the morph weight outputs."

The Federal Circuit applied Alice step one, and held that McRO's "claims are limited to rules with specific characteristics," whereby "[t]he specific, claimed features of these rules allow for the improvement realized by the invention." The Federal Circuit then cited a portion of McRO's specification that explains "the claimed invention here is allowing computers to produce accurate and realistic lip synchronization and facial expressions in animated characters that previously could only be produced by human animators." From this disclosure, the Federal Circuit held that McRO's claims are directed to a patentable, technological improvement over the existing, manual 3-D animation techniques," and thus are not directed to an abstract idea when applying Alice step one. Like the Enfish decision, the Federal Circuit did not need to address Alice step two.

## **Visual Memory Holding**

Visual Memory's patent at issue[8] is directed to an improvement in cache memory, in which a cache memory "possess[es] programmable operational characteristics that are programmable based on the type of processor connected to the memory system." Based on this improvement, the invention "offers faster access to main memory and increases system performance," as explained in the patent specification and as cited with approval by the Federal Circuit in a 2-1 majority opinion.

In this regard, the Federal Circuit majority opinion found that the Visual Memory claims at issue are similar to the Enfish claims, in that both are directed to an improvement of an existing technology. Similar to the Enfish decision, the Federal Circuit majority opinion cited passages from the Visual Memory patent specification that explained the benefits of Visual Memory's cache over conventional caches. From this, the Federal Circuit majority opinion held that "the [Visual Memory] claims are directed to a technological improvement: an enhanced computer memory system," and, since "the specification discusses the advantages offered by the technological improvement ..., 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," which are cases in which claims were found by the Federal Circuit majority opinion to be directed to patent-ineligible subject matter.

Additionally, the Federal Circuit majority opinion cited 263 frames of computer code included as an appendix in the Virtual Memory patent for “teach[ing] 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 ... based on the type of processor connected to the memory system.” Based on these 263 frames of computer code, and based on the fact that all factual inferences must be drawn in favor of the nonmoving party (Visual Memory in this case), the Federal Circuit majority opinion held that the decision by the district court to dismiss this case under Rule 12(b)(6) as having claims that do not meet 35 USC Section 101 was improper.

Like with the Enfish decision and the McRO decision, since the Visual Memory claims met Alice step one, the Federal Circuit majority opinion did not need to address Alice step two. The Federal Circuit reversed the decision of the district court that found the claims to be patent ineligible.

## **Tips for Patent Application Drafters**

Based on the above three decisions finding patent-eligible subject matter for software-related claims by the Federal Circuit, under Alice step one a patent application drafter should strongly consider explaining in detail the benefits of the claimed invention with respect to the conventional art, since that appears to have been a factor in finding claims patent-eligible in these cases. This explanation may even go as far as disparaging the conventional art, in order to highlight the improvements provided by way of the claimed invention, as was cited with apparent approval by the Federal Circuit in Enfish and McRO.

Also, based on the Visual Memory decision, a patent application drafter should strongly consider including source code and/or pseudo code in a software-related patent application that he/she is drafting, in order to get around any possible “black box” issue that the dissenting opinion in Virtual Memory cited as a basis for possibly finding a claim patent ineligible under the Alice two-step test. Such source code and/or pseudo code may be included as an appendix to the patent application, as was done in the Visual Memory patent.

Lastly, if the patent application drafter is fortunate enough to be writing a patent application on an invention that includes a combination of software-related features and hardware-related features such as sensors or antennas, then, like the Federal Circuit decision in *Thales Visionix Inc. v. United States*,<sup>[9]</sup> care should be taken to explain in detail in the patent application the improvement in the use of the hardware-related features (as controlled by software) over conventional approaches that use the same hardware-related features, as this was an important reason why the Federal Circuit held that Thales claims recite patent-eligible subject matter under Alice step one.

Good luck!

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[1] The majority opinion was written by Judge Stoll, joined by Judge O'Malley. The dissenting opinion was written by Judge Hughes.

[2] 35 USC § 101: Inventions patentable. Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

[3] See *Alice Corp. Prop. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014).

[4] See, for example, 2014 Interim Eligibility Guidance Quick Reference Sheet issued by USPTO.

[5] *Enfish LLC v. Microsoft Corporation et al.*, 822 F.3d 1327 (Fed. Cir. 2016).

[6] *Openware Sys., Inc. v. Apple Inc.*, 808 F.3d 509 (Fed. Cir. 2015). Openware Sys. Inc. has since changed its name to Unwired Planet LLC.

[7] *McRO Inc. v. Bandai Namco Games America*, 837 F.3d 1299 (Fed. Cir. 2016).

[8] *Visual Memory v. Nvidia Corporation*, Appeal No. 2016-2254 (Fed. Cir. 2017).

[9] *Thales Visionix Inc. v. United States*, Appeal No. 2015-5150 (Fed. Cir. 2017).