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PATENTABLE SUBJECT MATTER: ALICE DOES NOT PERMIT THE DEAD TO FROLIC IN A 3D WONDERLAND

Hao J. Wu*

IN *McRO, Inc. v. Bandai Namco Games America, Inc.*, the Central District of California sought to clarify the test for patentable subject matter under 35 U.S.C. § 101 after the Supreme Court’s seismic *Alice Corp. Pty. Ltd. v. CLS Bank Int’l* decision.¹ In particular, the court articulated that when determining whether a patent claim is directed to a patent-ineligible subject matter or whether a patent-ineligible claim contains adequate “inventive concept” to permit patentability, the court must first eliminate conventional activity from the claim.² Applying this method, the court invalidated several patent claims related to “automatically animating the lip synchronization and facial expressions of three-dimensional characters” as being directed to patent-ineligible abstract ideas.³ Although the court sought to articulate a clear method for identifying patent-ineligible claims, the court ultimately misapplied the test for patent-eligibility by improperly conflating 35 U.S.C. § 102 novelty analysis and § 101 eligibility analysis.⁴

Plaintiff McRO sued twenty-four separate defendants for direct or indirect infringement of United States Patent Nos. 6,307,576 (‘576 Patent) and 6,611,278 (‘278 Patent), each related to methods for “automatically animating the lip synchronization and facial expressions of 3D characters.”⁵ Historically, three-dimensional (3D) graphic artists would synchronize lip animations to a sound recording using a manual technique, known as the “morph target” approach, to assign various 3D-generated

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1. *McRO, Inc. v. Bandai Namco Games Am., Inc.*, CV 12-10327-GW FFMX, 2014 WL 4749601, at *6 (C.D. Cal. Sept. 22, 2014), *argued*, No. 15-1080 (Fed. Cir. Dec. 11, 2015); *see Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2352 (2014).

2. *McRO*, 2014 WL 4749601, at *9 (citing *Mayo Collaborative Serv. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1298 (2012)).

3. *Id.* at *1, *13.

4. *See id.* at *9–11 (applying a point-of-novelty approach for patent-eligibility determinations); 35 U.S.C. § 101 (2011) (establishing subject matter eligibility requirements); 35 U.S.C. § 102 (2011) (establishing novelty requirements for patentability).

5. *McRO*, 2014 WL 4749601, at *1; U.S. Patent No. 6,307,576 col. 11 l. 27–47 (issued Oct. 23, 2001); U.S. Patent No. 6,611,278 col. 11 l. 42–58 (issued Aug. 26, 2003).

mouth positions to a variety of “phonemes” (“the smallest unit of speech . . . corresponding to a single sound”).⁶ Rather than animating every deviation from a neutral mouth position (“morph weight”),⁷ 3D artists utilized a “keyframe” approach, in which the artists would manually specify the morph weights at important time intervals, and a separate computer program would then generate the morph weights at each animation frame between the keyframes.⁸

McRO’s patents described the aforementioned animation techniques (“prior art”) as “tedious, time consuming, and inaccurate,”⁹ and sought to provide “an extremely rapid and cost effective means to automatically create lip synchronization and facial expression in [3D] animated characters.”¹⁰ McRO’s patents addressed the prior art deficiencies by using automated methods for creating morph weights in relation to a “time[-]aligned phonetic transcription” (a chronological transcript of each phoneme in a sound recording).¹¹ The claimed invention utilized automation rules to output a sequence of keyframe morph weights based on an inputted time-aligned phonetic transcript or any other form of time-aligned data.¹²

The Central District of California consolidated McRO’s twenty-four infringement actions into one suit.¹³ The consolidated defendants jointly filed a “Motion for Judgment on the Pleadings Based on Unpatentability under 35 U.S.C. § 101.”¹⁴ The defendants argued that McRO’s asserted ’576 and ’278 Patent claims were “directed to a fundamental, abstract animation practice, namely, the abstract idea of rules-based synchronization of animated mouth movement.”¹⁵ Additionally, they argued that the asserted patent claims covered the patent-ineligible abstract idea of “using rules for [3D] lip synchronization, without requiring specific content for those rules”¹⁶ and merely “set[ting] forth a previously-known animation method as a series of mathematical steps, and instruct[ing] [a 3D artist] to perform those steps on a computer” did not rescue the claims from invalidity.¹⁷

Although the court initially believed that the asserted ’576 and ’278 Patent claims were not directed to an abstract idea,¹⁸ it ultimately granted

6. See *McRO*, 2014 WL 4749601, at *1; ’576 Patent col. 1 l. 34–36 (defining phonemes).

7. See *McRO*, 2014 WL 4749601, at *2; ’576 Patent col. 1 l. 58–col. 2 l. 1, col. 2 l. 16–22, col. 2 l. 23–28 (defining morph weights).

8. See *McRO*, 2014 WL 4749601, at *2 (citing ’576 Patent col. 2 l. 29–34).

9. *Id.* at *2 (citing ’576 Patent col. 2 l. 34–37).

10. *Id.* (quoting ’576 Patent col. 2 l. 50–54).

11. *Id.* at *1 (quoting ’576 Patent col. 2 l. 64–col. 3 l. 12); see also ’576 Patent col. 1 l. 32–34 (defining time-aligned phonetic transcript).

12. *McRO*, 2014 WL 4749601, at *2 (quoting ’576 Patent col. 3 l. 3–7).

13. *Id.* at *1 nn.1–2.

14. *Id.* at *1.

15. *Id.* at *7 (quotations omitted).

16. *Id.*

17. *Id.* at *3.

18. *Id.* at *8.

the defendants' motion for judgment on the pleadings and invalidated the asserted claims under § 101 for being directed to an abstract idea.¹⁹ The court's initial determination rested on the fact that the claims appeared to be tangible and related to a specific technological process, did not claim a monopoly on the entire field of animating the human mouth during speech, and did not cover "prior art methods of computer assisted, but non-automated, lip synchronization for three-dimensional computer animation."²⁰ It was only after stripping away elements of the asserted patent claims that were already present in the prior art, including the morph target and keyframe approaches, that the court concluded that the asserted claims only added "the use of rules, rather than artists, to set the morph weights and [keyframe] transitions between phonemes . . . specified at the highest level of generality."²¹ The court interpreted the asserted claims as not disclosing any specific automation rules and leaving the ultimate creation of rules to 3D artists.²² The court then concluded that since the patent claims covered "all such [automation] rules," the asserted '576 and '278 Patent claims effectively preempted the entire field of "lip synchronization using a rules-based morph target approach" and was therefore directed to a patent-ineligible abstract idea.²³

35 U.S.C. § 101 broadly defines "the subject matter eligible for patent protection"²⁴ as "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof"²⁵ The Supreme Court has limited the scope of patentable subject matter by establishing "three specific exceptions to § 101's broad patent-eligibility principles: 'laws of nature, physical phenomena, and abstract ideas.'"²⁶ By prohibiting patents on these fundamental concepts, the patent system prevents individuals from "wholly pre-empt[ing]" public access to the "basic tools of scientific and technological work."²⁷

In *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, the Supreme Court expanded a two-step patent-eligibility test, first articulated in *Mayo Collaborative Serv. v. Prometheus Labs., Inc.*, to govern all § 101 eligibility

19. *Id.* at *13; *see also* 35 U.S.C. § 101 (2011) (reciting subject matter eligibility requirements).

20. *McRO*, 2014 WL 4749601, at *8.

21. *Id.* at *11.

22. *Id.*

23. *Id.*

24. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014).

25. 35 U.S.C. § 101 (2011) ("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.").

26. *Bilski v. Kappos*, 561 U.S. 593, 601 (2010) (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980)); *see also* *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013) (reiterating that "[l]aws of nature, natural phenomena, and abstract ideas are not patentable").

27. *Bilski*, 561 U.S. at 658 (quoting *Diamond v. Diehr*, 450 U.S. 175, 185 (1981) (Breyer, J., concurring); *Chakrabarty*, 447 U.S. at 309; *Gottschalk v. Benson*, 409 U.S. 63, 67, 72 (1972)).

determinations.²⁸ First, a court must determine “whether the claims at issue are directed to one of those patent-ineligible concepts”—“laws of nature, natural phenomena, and abstract ideas.”²⁹ Although the *Alice* Court did not “delimit the precise contours of the ‘abstract ideas’ category,” Supreme Court precedent indicates that abstract ideas encompass “mathematical algorithms, including those executed on a generic computer,” and “some fundamental economic and conventional business practices.”³⁰ Second, if the claims at issue are directed to patent-ineligible concepts, a court must determine whether any part of the patent claims contain an “inventive concept”—“an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [patent-ineligible concept] itself.”³¹ Although a patent claim covering an unpatentable abstract idea is not saved by simply “[s]tating [the] abstract idea while adding the words ‘apply it’”³² or by “limiting the use of [the] abstract idea ‘to a particular technological environment,’”³³ a claim covering an unpatentable abstract idea is patent-eligible if it “improve[s] an existing technological process.”³⁴

In determining the patent-eligibility of the asserted ’576 and ’278 Patent claims, the district court stated that “it is not enough to view the claims in isolation,” instead, any “well-understood, routine, conventional activity previously used in the field” must first be filtered out of the claimed invention.³⁵ Therefore, “where a [patent] claim recites tangible steps, but the only new part of the claim is an abstract idea,” the claim may be characterized as seeking to patent an abstract idea.³⁶ The court justified this “point-of-novelty” approach to patent-eligibility by emphasizing the Supreme Court’s historical concern with “patents that consist of old material with the addition of a new, but abstract, idea . . .”³⁷ After removing prior art elements from the asserted patent claims, the court concluded that the point-of-novelty for the asserted claims involved the “idea of using rules, including timing rules, to automate the process of generating keyframes” and “set[ting] the morph weights and transitions between phonemes.”³⁸ Believing that the asserted claims specified rules-

28. *Alice*, 134 S. Ct. at 2355 (citing *Mayo Collaborative Serv. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012)).

29. *Id.* at 2354–55; see also *Myriad*, 133 S. Ct. at 2116.

30. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (citing *Alice*, 134 S. Ct. at 2356; *Bilski*, 561 U.S. at 611–12; *Benson*, 409 U.S. at 64).

31. *Alice*, 134 S. Ct. at 2355.

32. *Alice*, 134 S. Ct. at 2358 (quoting *Mayo*, 132 S. Ct. at 1294).

33. *Id.* (quoting *Bilski*, 561 U.S. at 610–11).

34. *Id.* at 2358.

35. *McRO, Inc. v. Bandai Namco Games Am., Inc.*, CV 12-10327-GW FFMX, 2014 WL 4749601, at *9 (C.D. Cal. Sept. 22, 2014), *argued*, No. 15-1080 (Fed. Cir. Dec. 11, 2015); see *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2352 (2014) (internal quotation marks omitted).

36. *Id.*

37. *Id.* (citing *Gen. Elec. Co. v. Wabash Appliance Corp.*, 304 U.S. 364, 371 (1938)).

38. *Id.* at *10–11.

based generation of morph weights and keyframes “at the highest level of generality” and that “the user, not the patent, provides the rules,” the court reasoned that the claims preempted “the field of [] lip synchronization using a rules-based morph target approach” and was therefore an impermissible patent on an abstract idea.³⁹

By filtering out all conventional activities from the asserted '576 and '278 Patent claims before engaging in step one of the *Alice/Mayo* patent-eligibility test, the district court improperly conflated § 101 eligibility analysis with § 102 novelty analysis. Despite summarizing the *Alice/Mayo* test's first step as “[i]f the claim is not directed to a patent-ineligible concept, then the test stops at step one,”⁴⁰ the court did not abide by its own instructions.⁴¹ Instead of terminating the patent-eligibility analysis after the court initially determined that the asserted claims were not directed to an abstract idea,⁴² the court proceeded to borrow the inventive concept analysis of the *Alice/Mayo* test's second step, filtering out any conventional or regular activity and recharacterizing the asserted claims as being directed to a patent-ineligible abstract idea.⁴³ Although the Supreme Court has recognized that there might be some overlap between § 101 patent-eligibility analysis and § 102 novelty analysis, this has been limited to the *Alice/Mayo* test's second step, the search for an inventive concept.⁴⁴ Against its own sage advice, the district court resurrected a long-discarded point-of-novelty approach to patent-eligibility by first applying the *Alice/Mayo* test's second step to ascertain the novel elements of the asserted patent claims, before returning to the *Alice/Mayo* test's first step to characterize the claims as being directed to a patent-ineligible abstract idea.⁴⁵

The district court's erroneous application of the point-of-novelty approach is contrary to the Supreme Court's modern patent-eligibility jurisprudence. The Supreme Court long ago abandoned the point-of-novelty approach, clarifying that “[i]t is inappropriate to dissect [patent] claims into old and new elements and then to ignore the presence of the old elements in the analysis.”⁴⁶ Carried to its extreme, the process of “dissecting a claim into old and new elements” in a quest to find a patent-ineligible abstract idea would “make all inventions unpatentable because all inventions can be reduced to underlying principles of nature which, once known, make their implementation obvious.”⁴⁷ Since patent claims

39. *Id.* at *11.

40. *Id.* at *4 (internal quotation marks omitted) (summarizing *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014)).

41. *Id.* at *10.

42. *Id.* at *9.

43. *Id.* at *9–10.

44. *See Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1304 (2012).

45. *McRO*, 2014 WL 4749601, at *9–11.

46. *Cal. Inst. of Tech. v. Hughes Commc'ns Inc.*, 59 F. Supp. 3d 974, 982 (C.D. Cal. 2014) (quoting *Diamond v. Diehr*, 450 U.S. 175, 188 (1981)).

47. *Diehr*, 450 U.S. at 189 n.12.

that disclose new combinations of well-known steps may be patentable, “the ‘novelty’ of any element or steps in a process” is irrelevant for § 101 patent-eligibility analysis.⁴⁸

Although the Central District of California erroneously invalidated several of McRO’s ’576 and ’278 Patent claims by utilizing a point-of-novelty approach and applying the *Alice/Mayo* patent-eligibility test out of order, this does not mean that the disputed ’576 and ’278 Patents claims are not invalid. Whether these claims can survive § 102’s novelty requirement, § 103’s non-obviousness requirement, § 112’s enablement requirement, or any other patentability requirement provided by Title 35 of the United States Code is a separate question.⁴⁹ Furthermore, since McRO has appealed the Central District of California’s judgment to the Federal Circuit, the Defendants-Appellees, along with a supporting amicus brief, have made alternative § 101 patent-ineligibility arguments.⁵⁰ Because this case places into question the patentability of software in general,⁵¹ the legal community considers the *McRO* appeal to be one of the most important technology cases of 2015.⁵²

On December 11, 2015, Federal Circuit Judges Jimmie Reyna, Richard Taranto, and Kara Stoll heard oral arguments on McRO’s appeal.⁵³ Recognizing the Supreme Court’s lack of guidance in determining abstractness, Judge Stoll questioned both McRO and the Defendants-Appellees on how to determine whether a patent claim is directed to an abstract idea.⁵⁴ Judge Taranto compared McRO’s patents to a hypothetical patent teaching automation rules for implementing the unknown, inner workings

48. *Hughes*, 59 F. Supp. 3d at 982 (quoting *Diehr*, 450 U.S. at 188–89).

49. *Compare* 35 U.S.C. § 101 (2011) (establishing that “[w]hoever 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*”) (emphasis added), *with* 35 U.S.C. § 102 (2011) (establishing novelty requirement for patentability), *and* 35 U.S.C. § 103 (2011) (establishing non-obviousness requirement for patentability), *and* 35 U.S.C. § 112 (2011) (establishing written description, enablement, and best mode requirements for patentability).

50. *See* Corrected Brief for Plaintiff-Appellant, *McRO, Inc. v. Bandai Namco Games Am., Inc.*, (Fed. Cir. Dec. 11, 2015) (No. 15-1080), 2015 WL 1205511; Brief of Defendants-Appellees, *McRO, Inc. v. Bandai Namco Games Am., Inc.*, (Fed. Cir. Dec. 11, 2015) (No. 15-1080), 2015 WL 3819567; Brief of the Electronic Frontier Foundation as Amici Curiae Supporting Defendants-Appellees, *McRO, Inc. v. Bandai Namco Games Am., Inc.*, (Fed. Cir. Dec. 11, 2015) (No. 15-1080), 2015 WL 3970276.

51. *Hughes*, 59 F. Supp. 3d at 990 (“[I]t is difficult to imagine any software patent that survives under *McRO*’s approach—most inventions today build on what is known in the art, and an improvement to software will almost inevitably be an algorithm or concept which, when viewed in isolation, will seem abstract. This analysis would likely render all software patents ineligible, contrary to Congress’s wishes.”).

52. *See* Kelly Knaub, *Technology Cases to Watch in 2015*, LAW360 (Jan. 2, 2015, 4:06 PM ET), <http://www.law360.com/articles/600924/technology-cases-to-watch-in-2015> [perma.cc/LX9Y-3BF5].

53. Michael Macagnone, *Fed. Circ. Questions Application of Alice to Lip-Sync Tech*, LAW360 (Dec. 11, 2015, 5:24 PM ET), <http://www.law360.com/articles/717673/fed-circ-questions-application-of-alice-to-lip-sync-tech> [perma.cc/22FY-T7AF].

54. Oral Argument, *McRO, Inc. v. Bandai Namco Games Am., Inc.*, UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, at 10:22–10:50, 20:44–21:06, <http://oralarguments.ca9.uscourts.gov/default.aspx?fl=2015-1080.mp3> [perma.cc/5GAF-MNYN] [hereinafter *McRO Oral Arguments*].

of a human brain when recognizing faces, which seem to be an “unbelievably patentable invention.”⁵⁵ The Defendants-Appellees, echoing the district judge,⁵⁶ argued that even if the idea of automated lip-syncing rules are patentable, McRO’s patents were patent-ineligible because they failed to disclose specific automation rules.⁵⁷ In response, the panel questioned whether the lack of specific automation rules is actually a § 112 enablement issue, instead of a § 101 eligibility issue.⁵⁸ Further, Judge Reyna questioned whether the district judge committed legal error by inventing a “third step” for patent-eligibility analysis—stripping out all conventional activity present in the prior art when determining whether a patent claim is direct to an abstract idea.⁵⁹

The Central District of California’s decision in *McRO, Inc. v. Bandai Namco Games America, Inc.* brings discord, not clarity, to § 101 patent-eligibility analysis.⁶⁰ While the *Alice* Court left the responsibility of determining when the two-part patent-eligibility test is satisfied to the Federal Circuit and the district courts,⁶¹ the *McRO* decision ignores the warnings of Supreme Court precedent and has the potential to greatly limit the range of human invention.

55. Macagnone, *supra* note 53; *McRO Oral Arguments*, *supra* note 54, at 12:38–13:19.

56. *McRO, Inc. v. Bandai Namco Games Am., Inc.*, CV 12-10322-GW FFMX, 2014 WL 4749601, at *11 (C.D. Cal. Sept. 22, 2014), *argued*, No. 15-1080 (Fed. Cir. Dec. 11, 2015).

57. Macagnone, *supra* note 53; *McRO Oral Arguments*, *supra* note 54, at 13:19–15:20.

58. *McRO Oral Arguments*, *supra* note 54, at 15:20–20:44, 27:00–29:20; *see also* 35 U.S.C. § 112 (2011) (establishing that “[t]he [patent] specification shall contain . . . the manner and process of making and using [the invention], 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 [invention] . . .”).

59. Macagnone, *supra* note 53; *McRO Oral Arguments*, *supra* note 54, at 24:39–25:32.

60. *See* Cal. Inst. of Tech. v. Hughes Commc’ns Inc., 59 F. Supp. 3d 974, 988–90 (C.D. Cal. 2014) (criticizing *McRO* as reaching the wrong conclusion).

61. *McRO, Inc. v. Bandai Namco Games Am., Inc.*, CV 12-10327-GW FFMX, 2014 WL 4749601, at *6 (C.D. Cal. Sept. 22, 2014), *argued*, No. 15-1080 (Fed. Cir. Dec. 11, 2015); *see also* *Hughes*, 59 F. Supp. 3d at 986 (“When the Supreme Court leaves questions open, lower courts have a duty to offer their views and develop the law. Lower courts have endeavored to fulfill this responsibility with regard to § 101, but the resulting decisions demonstrate the continuing uncertainty surrounding software patentability.”).

