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FEDERAL CIRCUIT'S UNCONVENTIONALITY APPROACH TO PATENT-INELIGIBILITY CHALLENGES IN A MOTION TO DISMISS

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ABSTRACT

Under *Alice Corp. Pty. v. CLS Bank International*, when a claim is found directed to a patent-ineligible subject matter, the claim is still patent-eligible if it includes an inventive concept. The Federal Circuit's case law has indicated that an alleged inventive concept with unconventionality may satisfy step two of the *Alice* standard. Specifically, this paper demonstrates that the case law suggests a way to prove such unconventionality. That is, a patent specification or a patentee's complaint must include four topics: (1) prior art technology; (2) how a system executing the claimed invention performs differently from the prior art technology; (3) the benefits derived from the claimed unconventional system; and (4) a specific feature operating differently from the prior art technology. With these factual statements, a patent may survive a patent-ineligibility challenge in a motion to dismiss.

Keywords: Patent-eligibility, 35 U.S.C. § 101, inventive concept, unconventional, non conventional

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I. INTRODUCTION

A patentable invention under 35 U.S.C. § 101 requires the invention to fall within any category of a "process, machine, manufacture, or composition of matter, or any new and useful improvement thereof[.]"[1] The Supreme Court has held that § 101 "contains an important implicit exception [that] '[l]aws of nature, natural phenomena, and abstract ideas' are not patentable."[2]

In 2014, the Supreme Court in *Alice Corp. Pty. v. CLS Bank International* finalized a two-part inquiry for determining whether a claim is patent-eligible under § 101.[3] The first step asks "whether the claims at issue are directed to one of those patent-ineligible concepts."[4] The second step "consider[s] the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application."[5]

Step two of the *Alice* standard specifically searches for an inventive concept "—*i.e.*, 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 [ineligible concept] itself.'"[6] While "[p]atent eligibility under 35 U.S.C. § 101 is an issue of law[,]"[7] the step two analysis "may contain disputes over underlying facts."[8] For example, step two "is satisfied when the claim limitations involve more than performance of well-understood, routine, [and] conventional activities previously known to the industry." [9] But,

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[1] 35 U.S.C. § 101; *see also* Bilski v. Kappos, 561 U.S. 593, 601 (2010) ("Section 101 thus specifies four independent categories of inventions or discoveries that are eligible for protection: processes, machines, manufactures, and compositions of matter.").

[2] Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. 66, 70 (2012).

[3] *See* Alice Corp. Pty. v. CLS Bank Int'l, 573 U.S. 208, 217 (2014); *see also* Kevin E. Noonan & Andrew W. Torrance, *Biotechnology Patent Law Top Ten of 2018 Broad Wins, Sovereignty Loses, and Patent Dance*, 52 AKRON L. REV. 637, 650 (2018) (discussing a district court decision that applied the *Alice* standard).

[4] *Alice Corp. Pty.*, 573 U.S. at 217. For computer-implemented inventions, step one may focus on whether a claim recites an improvement in computer functionality. *See* Finjan, Inc. v. Blue Coat Sys., Inc., 879 F.3d 1299, 1304–06 (Fed. Cir. 2018) ("The question, then, is whether this behavior-based virus scan in the '844 patent constitutesan improvement in computer functionality. We think it does.").

[5] *Alice Corp. Pty.*, 573 U.S. at 217.

[6] *Id.* at 217–18 (emphasis and alteration in original).

[7] OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1362 (Fed. Cir. 2015).

[8] Berkheimer v. HP Inc., 881 F.3d 1360, 1368 (Fed. Cir. 2018).

[9] *Berkheimer*, 881 F.3d at 1367 (internal quotation marks omitted and alteration in original); *see also* BSG Tech LLC v. Buyseasons, Inc., 899 F.3d 1281, 1290–91 (Fed. Cir. 2018) ("If a claim's only 'inventive concept' is the application of an abstract idea using *conventional* and well-understood techniques, the claim has not been transformed

"whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact."[10]

Before *Alice Corp. Pty.*, it was not required to specifically show any inventive concept of the claimed invention to pass the patent-eligibility test.[11] The machine-or-transformation test ("MOT") guided practitioners to carefully draft a process claim that avoids finding of patent-ineligibility.[12] The MOT is a two-part inquiry.[13] First, "an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article."[14] Second, "the involvement of the machine or transformation in the claimed process must not merely be an insignificant extra-solution activity."[15] For example, a claim with a patent-ineligible process may become patent-eligible if it recites a structure in a form of claim limitations that can perform the functions of the structure, while the claim limitations should not comprise of language merely repeating an intended use of the claimed process nor amounting to extra-solution activity.[16]

After *Alice Corp. Pty.*, even a system claim may not survive a patent-ineligibility challenge.[17] The *Alice* standard creates an inventor-unfriendly standard for determining what an inventive concept is.[18] Professor Andres Sawicki has criticized that "the 'inventive concept' demands that the inventor point to something unusual or

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into a patent-eligible application of an abstract idea.") (emphasis added). In *Mayo Collaborative Servs.*, the Supreme Court held that "the steps in the claimed processes (apart from the natural laws themselves) involve well-understood, routine, conventional activity previously engaged in by researchers in the field." 566 U.S. at 73. In *Alice Corp. Pty.*, when considering the claim elements separately under step two, the Supreme Court criticized that "the function performed by the computer at each step of the process is '[p]urely *conventional*.'" 573 U.S. at 225 (alteration in original and emphasis added). Additionally, the Court noted that "the use of a computer to obtain data, adjust account balances, and issue automated instructions; all of these computer functions are 'well-understood, routine, *conventional* activit[ies]' previously known to the industry." *Id.* (alteration in original and emphasis added) (citing *Mayo Collaborative Servs.*, 566 U.S. at 73).

[10] *Berkheimer*, 881 F.3d at 1368. Contrarily, "[t]he analysis under *Alice* step one is whether the claims as a whole are 'directed to' an abstract idea, regardless of whether the prior art demonstrates that the idea or other aspects of the claim are known, unknown, conventional, unconventional, routine, or not routine." CardioNet, L.L.C. v. InfoBionic, Inc., 955 F.3d 1358, 1372 (Fed. Cir. 2020).

[11] *See* Timothy J. Busse, *The Relativity of an Abstract Idea: A Practicable Approach to Alice's Inventive Concept*, 16 HOUS. BUS. & TAX L.J. 252, 265–66 (2016) ("At *Mayo* step two, the Court manipulated the precedent set forth in *Mayo*, *Benson*, *Flook*, and *Diehr* to expound upon the 'inventive concept' standard.").

[12] *See* Robert A. King, *Developing a Successful Intellectual Property Program*, 2011 WL 1120279, at *3 (Aspatore 2011) ("The machine or transformation test represents a 'safe harbor' for claim drafting. Many patent practitioners draft claims to meet this test, and, in many cases, starting with the minimum amount of machine-related references in the claims."); Peter Ludwig, *Machine-or-Transformation Test Hits the Board: Patent-Eligible Subject Matter Following Bilski*, 92 J. PAT. & TRADEMARK OFF. SOC'Y 139, 141–55 (2010); Ping-Hsun Chen, *Patent-Eligibility Standard for Network Architecture Patents Under the Federal Circuit's Jurisprudence*, 36 SANTA CLARA HIGH TECH. L.J. 1, 10 (2019) (addressing that the Federal Circuit has abrogated the MOT test).

[13] *See In re* Bilski, 545 F.3d 943, 961 (Fed. Cir. 2008).

[14] *Id.*

[15] *Id.* at 962; *see also* Amdocs (Isr.) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1311 (Fed. Cir. 2016) (Reyna, J., dissenting) ("[E]xtra-solution activity, by definition, describes activity unrelated to how the solution is achieved.").

[16] *See* Bradley D. Blanche, *The Unintended Effects of Bilski on the Patentability of Software and Computer-Related Invention*, 2009 WL 2510888, at *8 (Aspatore 2009).

[17] *See* Ping-Hsun Chen, *Patent Eligibility of Online Application Software After Internet Patents Corp. v. Active Network, Inc.*, 99 J. PAT. & TRADEMARK OFF. SOC'Y 97, 105-06, 108–10 (2017) (discussing the patent-ineligibility issue concerning recitation of a computer).

[18] *See* Andres Sawicki, *The Central Claiming Renaissance*, 103 CORNELL L. REV. 645, 664–68 (2018) (addressing the issues of the *Alice* standard).

surprising in her application of the prohibited subject matter."[19] Unfortunately, the need to present any unusual or surprising feature is urged during the early stage of patent litigation, because an issue of patent-ineligibility can be brought in a motion to dismiss under Federal Rule of Civil Procedure ("Rule") 12(b)(6).[20] A patentee is often forbidden from going through claim construction to define the claimed invention.[21]

In *Cellspin Soft, Inc. v. Fitbit, Inc.*,[22] the Federal Circuit vacated the district court's motion to dismiss because the district court failed to acknowledge the patentee's factual allegations in the complaint concerning the patent-eligibility issue of the disputed claims.[23] The district court required the patentee to cite the specification to support that the claimed inventive concept was unconventional, but the Federal Circuit considered the district court's approach as misreading its case law. [24] The Federal Circuit restated that a district court must take allegations in the complaint as true.[25] Eventually, the Federal Circuit concluded that the patentee "made specific, plausible factual allegations about why aspects of its claimed inventions were *not conventional*"[26] and held that the disputed claims included an inventive concept.[27]

The question arising from *Cellspin Soft, Inc.* is how to successfully allege that the claim has unconventionality to survive a motion to dismiss. In fact, the Federal Circuit's case law may have shown that unconventionality of an invention may be a key for such an invention to survive a patent-ineligibility challenge under step two.[28]

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[19] *Id.* at 667.

[20] *See* Genetic Techs. Ltd. v. Merial L.L.C., 818 F.3d 1369, 1373 (Fed. Cir. 2016) ("We have repeatedly recognized that in many cases it is possible and proper to determine patent eligibility under 35 U.S.C. § 101 on a Rule 12(b)(6) motion."); *see also* Rebecca Lindhorst, Note, *Two-Stepping Through Alice's Wasteland of Patent-Eligible Subject Matter: Why the Supreme Court Should Replace the Mayo/Alice Test*, 69 CASE W. RES. L. REV. 731, 752 (2019) (discussing determination of patent-eligibility on a motion to dismiss); Robert Daniel Garza, *Software Patents and Pretrial Dismissal Based on Ineligibility*, 24 RICH. J.L. & TECH. 1, 56–63 (2018) (discussing patent-ineligibility-based dismissals under Rule 12(b)(6) & Rule 12(c)).

[21] *See, e.g.*, *Genetic Techs. Ltd.*, 818 F.3d at 1374 ("In many cases, too, evaluation of a patent claim's subject matter eligibility under § 101 can proceed even before a formal claim construction."); Content Extraction & Transmission L.L.C. v. Wells Fargo Bank, Nat. Ass'n, 776 F.3d 1343, 1349 (Fed. Cir. 2014) ("Although the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter, claim construction is not an inviolable prerequisite to a validity determination under § 101."); *cf.* Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Canada (U.S.), 687 F.3d 1266, 1273–74 (Fed. Cir. 2012) ("[I]t will ordinarily be desirable—and often necessary—to resolve claim construction disputes prior to a § 101 analysis, for the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter."); CG Tech. Dev., L.L.C. v. William Hill U.S. Holdco, Inc., 404 F. Supp. 3d 842, 851 (D. Del. 2019) ("Therefore, I will not complete the § 101 analysis until I construe 'reliability information.' Defendants' motion to dismiss based on § 101 is denied."); RideApp, Inc. v. Lyft, Inc., No. 18-CV-07152-JST, 2019 WL 7834759, at *2 (N.D. Cal. Aug. 15, 2019) ("The Court will defer ruling on § 101 patent eligibility until after it has construed the claims, including determining whether any of the claims are indefinite.").

[22] Cellspin Soft, Inc. v. Fitbit, Inc., 927 F.3d 1306 (Fed. Cir. 2019).

[23] *See* John C. Gatz, *Decisions in Brief*, 12 LANDSLIDE 56, 58 (A.B.A. 2019).

[24] *See* Jasper L. Tran & J. Sean Benevento, *Alice at Five*, 2019 PATENTLY-O PAT. L.J. 25, 90 (2019) (analyzing *Cellspin Soft, Inc.*).

[25] *See Cellspin Soft, Inc.*, 927 F.3d at 1317–18.

[26] *Id.* (emphasis added).

[27] *Id.* at 1318.

[28] *See, e.g.*, Bascom Glob. Internet Servs., Inc. v. AT&T Mobility L.L.C., 827 F.3d 1341, 1349-52 (Fed. Cir. 2016); Amdocs (Isr.) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1299-1306 (Fed. Cir. 2016); Aatrix Software, Inc. v. Green Shades Software, Inc., 882 F.3d 1121, 1129-30 (Fed. Cir. 2018); ChargePoint, Inc. v. SemaConnect, Inc., 920 F.3d 759, 773-75 (Fed. Cir. 2019); Uniloc USA, Inc. v. ADP, L.L.C., 772 F. App'x 890, 898-902 (Fed. Cir.

Therefore, this article explores a line of cases where the Federal Circuit's patent-eligibility determination depends on whether the alleged inventive concept was unconventional. Particularly, this article attempts to determine whether this unconventionality approach to patent-eligibility is a stable methodology and whether the Federal Circuit has established a bright line between patent-eligible and patent-ineligible subject matters for Internet-implemented inventions. Next, Part II discusses the review standard of a patent-ineligibility issue in a motion to dismiss. Part III analyzes a series of cases where the Federal Circuit looked for the unconventional nature of a claimed invention when determining whether the claimed invention contains an inventive concept. Finally, Part IV illustrates the nature of the Federal Circuit's unconventionality approach.

II. RULE 12(B)(6) AND PATENT-INELIGIBILITY ISSUE

Rule 8(a)(2) requires a plaintiff's complaint to contain "a short and plain statement of the claim showing that the pleader is entitled to relief."[29] On the other hand, Rule 12(b)(6) allows a defendant to assert by motion a defense based on a plaintiff's "failure to state a claim upon which relief can be granted."[30] If a Rule 12(b)(6) motion is granted, a complaint will be dismissed.[31] But, a court may grant a plaintiff's motion for leave to amend, so the plaintiff can provide sufficient factual allegations in a new complaint to survive another Rule 12(b)(6) motion.[32]

In considering whether to grant a motion to dismiss under Rule 12(b)(6), courts accept "as true the complaint's factual allegations and constru[e] them in the light most favorable to the plaintiff."[33] But, the district court in *Cellspin Soft, Inc.* deviated from that standard by requiring a patentee to cite the specification to support factual allegations.[34]

U.S. Patent Nos. 8,738,794 ("'794 Patent"), 8,892,752 ("'752 Patent"), 9,258,698 ("'698 Patent"), and 9,749,847 ("'847 Patent") were four asserted patents in *Cellspin Soft, Inc.*[35] The district court found the disputed claims directed to an abstract idea of "a method of acquiring, transferring, and publishing data and multimedia content on

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2019); Cellspin Soft, Inc. v. Fitbit, Inc., 927 F.3d 1306, 1316-19 (Fed. Cir. 2019); Bridge & Post, Inc. v. Verizon Commc'ns, Inc., 778 F. App'x 882, 884 (Fed. Cir. 2019); *see generally* Matthew B. Hershkowitz, Note, *Patently Insane for Patents: A Judge-by-Judge Analysis of the Federal Circuit's Post-Alice Patentable Subject Matter Eligibility of Abstract Ideas Jurisprudence*, 28 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 109, 133-67 (2017) (observing that different judges take different approaches to applying the *Alice* standard and, specifically under *Alice* step two, some judges consider whether the claimed components or steps were generic or conventional).

[29] FED. R. CIV. P. 8(a)(2).

[30] FED. R. CIV. P. 12(b)(6).

[31] *See* Rao v. BP Prod. N. Am., Inc., No. 04 C 6040, 2006 WL 8440359, at *3 (N.D. Ill. Feb. 24, 2006).

[32] *See, e.g.*, Young v. Everhome Mortg., No. CIV 12-14738, 2013 WL 2395171, at *2 (E.D. Mich. May 31, 2013).

[33] Aatrix Software, Inc. v. Green Shades Software, Inc., 890 F.3d 1354, 1357 (Fed. Cir. 2018) (Moore, J., concurring) (per curiam) (applying the Eleventh Circuit's case law); *see also* Ashcroft v. Iqbal, 556 U.S. 662, 678 (2009) ("To survive a motion to dismiss, a complaint must contain sufficient factual matter, accepted as true, to 'state a claim to relief that is plausible on its face.'").

[34] *See Cellspin Soft, Inc.*, 927 F.3d at 1313.

[35] *Id.* at 1309.

one or more websites,"[36] and did not contain an inventive concept.[37]

In its decision, the district court mainly focused on the '794 Patent and briefly addressed the patent-ineligibility issues of the other three patents.[38] Regarding the '794 Patent, the district court first opined that the components recited in the disputed claims behave in their expected, ordinary functions.[39] In addition, the district court criticized that the disputed claims were merely "set in a 'technological environment' consisting of conventional components and utiliz[ing] standard technology,"[40] such that "such invocations of computers and networks that are not even arguabl[y] inventive are insufficient to pass the test of an inventive concept."[41]

In responding to the patentee's six arguments stating the benefits gained from the inventiveness of the claimed invention, the district court found them unpersuasive.[42] The district court acknowledged that the specification of the '794 Patent supported the first benefit, i.e., the efficiencies of the claimed inventions,[43] but it concluded that "a method which utilizes known and conventional computer components to achieve an improvement in the efficiency or speed of a previously- manual process does not constitute a sufficient inventive concept."[44] As for the five other alleged benefits, the district court rejected all of them, because the patentee failed to cite the specification to support these allegations.[45]

Furthermore, the district court criticized that the patentee's amended complaint had the same flaws.[46] The district court noted that the patentee's allegations concerning technological improvements were not based on the specification.[47] Regarding those specification-related allegations, the district court disagreed that the cited portions of the specification actually support the relevant allegations.[48]

Finally, regarding the '752 Patent, '698 Patent, and '847 Patent, the district court opined that the patentee failed to allege how each patent was sufficiently different from the '794 Patent to acquire any inventive concept.[49] Therefore, the district court found all disputed claims patent-eligible.[50]

On appeal, the Federal Circuit disapproved of the district court's approach and illustrated why the district court applied an incorrect standard for reviewing a patent-ineligibility issue on a motion to dismiss.[51] That is, the district court erred in discounting the allegations in the patentee's amended complaint because of the

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[36] Cellspin Soft, Inc. v. Fitbit, Inc., 316 F. Supp. 3d 1138, 1150 (N.D. Cal. 2018).
[37] *Id.* at 1152, 1155.
[38] *Id.* at 1152–55.
[39] *Id.* at 1152.
[40] *Id.* (citing Intellectual Ventures I L.L.C. v. Symantec Corp., 838 F.3d 1307, 1319 (Fed. Cir. 2016)).
[41] *Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1153 (citing Elec. Power Grp., L.L.C. v. Alstom S.A., 830 F.3d 1350,1355–56 (Fed. Cir. 2016)).
[42] *Id.*
[43] *Id.*
[44] *Id.* (citing OIP Techs., Inc. v. Amazon.com, Inc., 788 F.3d 1359, 1363 (Fed. Cir. 2015)).
[45] *Id.* at 1153–54.
[46] *Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1154.
[47] *Id.*
[48] *Id.*
[49] *Id.* at 1155.
[50] *Id.*
[51] *See Cellspin Soft, Inc.*, 927 F.3d at 1316–18.

patentee's failure to cite the specification to support the allegations.[52]

The Federal Circuit started with its precedent, *Aatrix Software, Inc. v. Green Shades Software, Inc.*,[53] and concluded that it "repeatedly cited allegations in the *complaint* to conclude that the disputed claims were potentially inventive." [54] In addition, the Federal Circuit derived from *Aatrix Software, Inc.* two legal propositions.[55] First, while it is not "to say that any allegation about inventiveness, wholly divorced from the claims or the specification, defeats a motion to dismiss, plausible and specific factual allegations that aspects of the claims are inventive are sufficient." Second, "[a]s long as what makes the claims inventive is recited by the claims, the specification need not expressly list all the reasons why this claimed structure is unconventional."[56] Under these principles, the Federal Circuit held that the patentee's complaint successfully "made specific, plausible factual allegations about why aspects of its claimed inventions were not conventional[.]" [57] In addition, the Federal Circuit criticized that "[t]he district court erred by not accepting those allegations as true."[58]

Secondly, the Federal Circuit discussed why the district court misapplied *Berkheimer v. HP Inc.*[59] to support the denial of the patentee's allegations.[60] Among other things, the district court held that the disputed patent in *Berkheimer* described an inventive feature "in a purportedly unconventional manner[,]" whereas the patentee here failed to "identify any portion of the specification which describes the purportedly inventive [features or benefits.]"[61] But, the Federal Circuit opined that the district court's view on *Berkheimer* did not comply with *Aatrix Software, Inc.*,[62] because under *Aatrix Software, Inc.*, "patentees who adequately allege their claims contain inventive concepts survive a § 101 eligibility analysis under Rule 12(b)(6)."[63] Finally, the Federal Circuit reaffirmed a "principle, implicit in *Berkheimer* and explicit in *Aatrix*, that factual disputes about whether an aspect of the claims is inventive may preclude dismissal at the pleadings stage under § 101."[64]

Lastly, the Federal Circuit pointed to *Bascom Global Internet Services, Inc. v. AT&T Mobility L.L.C.*[65] and emphasized that "the 'limited record' [in *Bascom*] did not

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[52] *See id.* at 1317–18.

[53] Aatrix Software, Inc. v. Green Shades Software, Inc., 882 F.3d 1121 (Fed. Cir. 2018).

[54] *Cellspin Soft, Inc.*, 927 F.3d at 1317 (emphasis in original) (citing *Aatrix Software, Inc.*, 882 F.3d at 1128).

[55] *See id.* at 1317–18.

[56] *Id.* at 1317.

[57] *Id.* at 1317–18.

[58] *Id.* at 1318.

[59] Berkheimer v. HP Inc., 881 F.3d 1360 (Fed. Cir. 2018).

[60] *See Cellspin Soft, Inc.*, 927 F.3d at 1318. Originally, the patentee used *Berkheimer* to argue that the defendant's motion to dismiss should be denied because "the question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field . . . must be proven by clear and convincing evidence." *Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1154, n.12. But, the district court disagreed. *See Cellspin Soft, Inc.*, 927 F.3d at 1313.

[61] *Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1154, n.12; *see Cellspin Soft, Inc.*, 927 F.3d at 1313.

[62] *Cellspin Soft, Inc.*, 927 F.3d at 1318.

[63] *Id.* (quoting *Aatrix Software, Inc.*, 882 F.3d at 1126–27).

[64] *Id.*; *see also* Simio, L.L.C. v. FlexSim Software Prod., Inc., No. 2:18-CV-00853, 2019 WL 5423609, at *3 (D. Utah Oct. 23, 2019) ("*Cellspin* merely reiterates established principles from *Berkheimer* and *Aatrix* that 'plausibleand specific factual allegations that aspects of the claims are inventive are sufficient' at the pleading stage[.]").

[65] Bascom Glob. Internet Servs., Inc. v. AT&T Mobility L.L.C., 827 F.3d 1341 (Fed. Cir. 2016).

demonstrate that the [claimed inventive step] 'had been conventional or generic.'"[66] Likewise, the Federal Circuit applied the correct standard and further held that "[o]n *the limited record here*, and at this stage in the case, we reach the same result with respect to the elements recited by the asserted claims."[67] Because the patentee had successfully alleged the inventive concept, the Federal Circuit stated that it "ha[d] no basis, at the pleadings stage, to say that these claimed techniques, among others, were well-known or conventional as a matter of law."[68] Thus, the Federal Circuit concluded that the asserted claims here did not lack an inventive concept when it accepted the patentee's allegations as true.[69]

After *Cellspin Soft, Inc.*, it is clear that courts cannot disregard what is stated in a complaint concerning the patent-eligible nature of a claimed invention.[70] However, the Federal Circuit has allowed courts not to "'accept as true allegations that contradict matters properly subject to judicial notice or by exhibit,' such as the claims and the patent specification."[71] For example, in *Secured Mail Solutions L.L.C. v. Universal Wilde, Inc.*, the Federal Circuit denied the claimed inventive concept, because many of the technologies the claimed inventive concept relied upon were well-known and could be discerned from the disputed patents themselves.[72] In addition, some district courts have rejected "conclusory or generalized statements, and fanciful or exaggerated allegations,"[73] or "non-specific, conclusory allegations of inventiveness divorced from the claims and specification[.]"[74] One district court in Utah even stated that *Cellspin Soft, Inc.* "does not mean that 'any allegation about inventiveness . . . defeats a motion to dismiss.'"[75]

Nonetheless, *Cellspin Soft, Inc.* provided a way to allege "[a]n inventive concept [that] reflects something more than the application of an abstract idea using 'well-

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[66] *Cellspin Soft, Inc.*, 927 F.3d at 1318 (citing *Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1350).

[67] *Id.* (emphasis added).

[68] *Id.*

[69] *Id.*

[70] *See, e.g.*, Pebble Tide L.L.C. v. Arlo Techs., No. CV 18-1767-LPS, 2020 WL 509183, *4 (D. Del. Jan. 31, 2020) ("So any purported failure of the specification here to affirmatively disclose how unconventional the ordered combination is, is not fatal to the plaintiff's claims."); Stormborn Techs., L.L.C. v. Topcon Positioning Sys., Inc., 444 F. Supp. 3d 1119, 1128 (N.D. Cal. 2020) ("Although these benefits over prior art are not clearly stated in the specification, the Federal Circuit has 'repeatedly cited allegations in the *complaint* to conclude that the disputed claims were potentially inventive.'" (emphasis in original)). *Cf.* Cellwitch Inc. v. Tile, Inc., No. 4:19-cv-01315-JSW, 2019 WL 10734767, at *6 (N.D. Cal. Nov. 21, 2019) ("While the court stated that it relied on allegations in the complaint to find a claim inventive, the Federal Circuit stressed that any allegation about inventiveness, completely separate from the claims or specification, would not defeat a motion to dismiss.").

[71] Secured Mail Sols. L.L.C. v. Universal Wilde, Inc., 873 F.3d 905, 913 (Fed. Cir. 2017) (citing Anderson v. Kimberly-Clark Corp., 570 F. App'x 927, 931 (Fed. Cir. 2014)).

[72] *See id.* at 912.

[73] Yanbin Yu v. Apple Inc., 392 F. Supp. 3d 1096, 1102 (N.D. Cal. 2019); *see* Hybrid Audio, L.L.C. v. Asus Computer Int'l, No. 3:17-CV-05947-JD, 2019 WL 3037540, at *2 (N.D. Cal. July 11, 2019); Thompson v. TCT Mobile, Inc., No. CV 19-899-RGA-SRF, 2020 WL 1531333, at *10 (D. Del. Mar. 31, 2020) ("But such conclusory descriptions are not 'plausible and specific factual allegations' that the user interface is inventive sufficient to survive step two."); Rothschild Digital Confirmation, L.L.C. v. Skedulo Holdings Inc., No. 3:19-CV-02659-JD, 2020 WL 1307016, at *2 (N.D. Cal. Mar. 19, 2020) ("Even so, a patentee cannot avoid dismissal for ineligible claims purely on the basis of conclusory or generalized factual allegations.").

[74] Data Scape Ltd. v. Spotify USA Inc., No. CV 19-4367 PSG (SKx), 2019 WL 7905735, at *9 (C.D. Cal. Aug. 22, 2019).

[75] Simio, L.L.C. v. FlexSim Software Prod., Inc., No. 2:18-CV-00853, 2019 WL 5423609, at *3 (D. Utah Oct. 23, 2019).

understood, routine, and conventional activities previously known to the industry[,]'"[76] as the Federal Circuit opined that the patentee had "made specific, plausible factual allegations about why aspects of its claimed inventions were not conventional[.]" [77] This approach looking for unconventional features of an invention is not new as this article will address in Part III. But, *Cellspin Soft, Inc.* along with *Aatrix Software, Inc.*may clarify what constitutes unconventionality of an invention.[78]

III. FEDERAL CIRCUIT'S CASES APPLYING THE UNCONVENTIONALITY APPROACH

A. Bascom Global Internet Services, Inc. v. AT&T Mobility L.L.C.

In *Bascom Global Internet Services, Inc. v. AT&T Mobility L.L.C.*, the Federal Circuit affirmed that the new patent-eligibility standard considers "whether various claim elements simply recite 'well-understood, routine, conventional activit[ies].'" [79] However, the Federal Circuit began to acknowledge that "an inventive concept can be found in the *non-conventional and non-generic arrangement* of known, conventional pieces."[80] In *Bascom Global Internet Services, Inc.,* the disputed patent was U.S. Patent No. 5,987,606 ("'606 Patent") entitled "Method and System for Content Filtering Information Retrieved from an Internet Computer Network." [81] The district court dismissed the complaint under Rule 12(b)(6), finding the asserted claims patent-ineligible.[82] On appeal, the Federal Circuit found that the disputed claims passed step two of the *Alice* standard.[83]

The patented technology was filtering software attempting to prevent a computer user from accessing certain websites without being bypassed by such user.[84] It utilized certain communication networks to implement individually customizable filtering at a remote ISP (Internet service provider) server. [85] These networks are composed of remote ISP servers and user computers.[86] Before browsing websites, a user is required to first log into an ISP server that then identifies the user's filtering profile.[87] Then, when the user accesses a specific website from their computer, the ISP server will check whether visiting such website is allowable according the user's

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[76] *Cellspin Soft, Inc.*, 927 F.3d at 1316 (quoting *Aatrix Software, Inc.*, 882 F.3d at 1128).

[77] *Id.* at 1317–18.

[78] *See infra* Part IV.A.

[79] Bascom Glob. Internet Servs., Inc. v. AT&T Mobility L.L.C., 827 F.3d 1341, 1350 (Fed. Cir. 2016) (alteration in original) (quoting *Alice Corp. Pty.*, 573 U.S. at 225).

[80] *Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1350 (emphasis added); *see also* Kurt Prange, *Blockchain & Business Methods: How Business Method Patents May Be Redeemed by Furthering Blockchain Innovation*, 18 COLO. TECH. L.J. 185, 200 (2020) (discussing *Bascom Glob. Internet Servs., Inc.*).

[81] *Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1343.

[82] *Id.* at 1346.

[83] *See id.* at 1349–52.

[84] *Id.* at 1343–44.

[85] *Id.* at 1344.

[86] *Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1344–45.

[87] *Id.*

filtering profile.[88]

The disputed claims of the '606 Patent were categorized into two groups.[89] The first group focused on "individual-customizable filtering on a remote ISP server[.]"[90] The second group related to "a hybrid filtering scheme implemented on the ISP server[.]"[91] The Federal Circuit agreed with the district court that "the limitations of the claims, taken *individually*, recite generic computer, network and Internet components, none of which is inventive by itself[,]" but disagreed with the district court's step two analysis of the ordered combination of limitations. [92] The Federal Circuit acknowledged that "local computers, ISP servers, networks, network accounts, or filtering" were neither invented by the patentee nor described as inventive in the specification.[93] However, the Federal Circuit found the present case was where "an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces."[94]

The Federal Circuit recognized the inventive concept as "the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user."[95] According to the patentee, the inventive concept relied on some ISP servers capable of "identify[ing] individual accounts that communicate with the ISP server" and "associat[ing] a request for Internet content with a specific individual account."[96] Additionally, the claimed inventive concept was implemented by "associating individual accounts with their own filtering scheme and elements while locating the filtering system on an ISP server."[97] Consequently, the claimed invention allegedly embraced "both the benefits of a filter on a local computer

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[88] *See id.* at 1345.

[89] *See id.*

[90] *Id.* For instance, claim 1 recited "a content filtering system for filtering content retrieved from an Internet computer network by individual controlled access network accounts" with a key limitation:

> a remote ISP server coupled to said client computer and said Internet computer network, said ISP server associating each said network account to at least one filtering scheme and at least one set of filtering elements, said ISP server further receiving said network access requests from said client computer and executing said associated filtering scheme utilizing said associated set of logical filtering elements.

Id.

[91] *Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1345. For example, claim 23 recited "an ISP server for filtering content forwarded to controlled access network account generating network access requests at a remote client computer, each network access request including a destination address field." *Id.* But, claim 23 dependent on claim 22 (an independent claim), *see id.*, and covered a key limitation:

> a plurality of inclusive-lists of allowed sites, each controlled access user associated with at least one of said plurality of inclusive-lists of allowed sites, said filtering program further allowing said network access request if said requested destination address exists on said at least one associated inclusive-list.

Id. at 1346.

[92] *Id.* at 1349.

[93] *Id.*

[94] *Id.* at 1350.

[95] *Id.*

[96] *Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1350.

[97] *Id.*

and the benefits of a filter on the ISP server."[98]

Ultimately, the Federal Circuit opined that "[o]n this limited record, this specific method of filtering Internet content cannot be said, as a matter of law, to have been *conventional* or generic."[99] However, the Federal Circuit did not address what constitutes the unconventional features of the alleged inventive concept.[100] Rather, the Federal Circuit focused on whether the disputed claims "recite a *specific*, discrete implementation of the abstract idea of filtering content" without preempting all ways of Internet content-filtering.[101] The Federal Circuit noted that the disputed patent "describes how its *particular* arrangement of elements is a technical improvement over prior art ways of filtering [unwanted] content."[102] In addition, the Federal Circuit recognized the disputed patent as "claiming a technology-based solution (not an abstract-idea-based solution implemented with generic technical components in a conventional way)[.]" [103] Moreover, the Federal Circuit distinguished the disputed claims from claims "without providing a *specific* technical solution beyond simply using generic computer concepts in a conventional way."[104] That is, the Federal Circuit found that the disputed claims "carve[d] out a *specific* location for the filtering system (a remote ISP server) [that gives] users the ability to customize filtering for their individual network accounts."[105]

B. *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*

In *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, while applying the *Alice* standard by "examin[ing] earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided[,]"[106] the Federal Circuit affirmed that a claim may "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." [107] In *Amdocs (Israel) Ltd.*, four patents were involved: U.S. Patents Nos. 7,631,065 ("'065 Patent"), 7,412,510 ("'510 Patent"), 6,947,984 ("'984 Patent"), and 6,836,797 ("'797 Patent"), all originating from U.S. Patent No. 6,418,467.[108] The district court granted the defendant's motion for judgment on the pleadings under Rule 12(c) because the disputed claims were found patent-ineligible.[109] However, the Federal Circuit vacated the district court's judgment.[110]

The patented technology provided a system that helps network service

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[98] *Id.*

[99] *Id.* (emphasis added).

[100] *See id.*at 135–52.

[101] *Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1350 (emphasis added).

[102] *Id.* (emphasis added).

[103] *Id.* at 1351.

[104] *Id.* at 1352 (emphasis added).

[105] *Id.* (emphasis added).

[106] Amdocs (Isr.) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1294 (Fed. Cir. 2016).

[107] *Id.* at 1300 (emphasis added) (citing DDR Holdings, L.L.C. v. Hotels.com, L.P., 773 F.3d 1245, 1256–59 (Fed. Cir. 2014); *Bascom Glob. Internet Servs., Inc.*, 827 F.3d at 1349–52).

[108] *Id.* at 1290–91.

[109] *Id.* at 1290.

[110] *Id.* at 1307.

providers "account for and bill for internet protocol ('IP') network communications."[111] The '065 Patent's specification described prior art systems "that stored information in one location, which made it difficult to keep up with *massive record flows* from the network devices and which required huge databases."[112] To solve the problem, the claimed system utilized network devices, information source modules ("ISMs"), gatherers, a central event manager ("CEM"), a central database, a user interface server, and terminals or clients operated in a distributed manner.[113] Under the distributed manner, "the network usage records are processed close to their sources before being transmitted to a centralized manager."[114] The advantage was minimization of the data-load impact on network and system resources.[115] Specifically, the claimed system included "distributed gathering, filtering, and enhancements that enable load distribution" and then "allow data to reside close to the information sources[.]"[116] Therefore, the claimed system could "reduc[e] congestion in network bottlenecks, while still allowing data to be accessible from a central location."[117]

Four disputed patents protected the patented technology in different aspects.[118] The '065 Patent focused on "merging data in a network-based filtering and aggregating platform" and "enhancing networking accounting data records."[119] The '510 Patent concerned "reporting on the collection of network usage information."[120] The '984 Patent related to "reporting on the collection of network usage information from a plurality of network devices."[121] Finally, the '797 Patent involved "generating a single record reflecting multiple services for accounting purposes."[122]

All these representative claims included limitations relying on a distributed architecture that the Federal Circuit considered to support the patent-eligibility of the disputed claims.[123] For instance, claim 1 of the '065 Patent recited a limitation "computer code for using the accounting information with which the first network accounting record is correlated to *enhance* the first network accounting record" (the enhancing limitation).[124] The term "enhance" was construed to mean: "apply a number of field enhancements in a distributed fashion."[125] Thus, the Federal Circuit opined that the enhancing limitation was an inventive concept because of its dependency on

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[111] *Amdocs (Isr.) Ltd*., 841 F.3d at 1291.

[112] *Id.* at 1292 (emphasis added) (citing U.S. Patent No. 7,631,065 col.4, ll.39–42 (filed Dec. 7, 2001)).

[113] *See id.* at 1291–92.

[114] *Id.* at 1300.

[115] *Id.* at 1291.

[116] *Amdocs (Isr.) Ltd*., 841 F.3d at 1291–92.

[117] *Id.* at 1292.

[118] *See id.* at 1291.

[119] *Id.* Claim 1 of the '065 Patent was representative and recited "a computer program product embodied on a computer readable storage medium for processing network accounting information." *Id.*at 1299.

[120] *Id.* at 1291. The representative claim of the '510 Patent was claim 16 reciting "a computer program product stored in a computer readable medium for reporting on a collection of network usage information from a plurality of network devices." *Id.* at 1302.

[121] *Amdocs (Isr.), Ltd*, 841 F.3d at 1291. Claim 1 of the '984 Patent was representative and recited "a method for reporting on the collection of network usage information from a plurality of network devices." *Id.* at 1304.

[122] *Id.* at 1291. Claim 1 of the '797 Patent was a representative claim reciting "a method for generating a single record reflecting multiple services for accounting purposes." *Id.* at 1305.

[123] *See id.* at 1299–306.

[124] *Id.* at 1300 (emphasis added).

[125] *Id.* (quoting Amdocs (Israel) Ltd. v. Openet Telecom, Inc., 761 F.3d 1329, 1340 (Fed. Cir. 2014)).

the invention's distributed architecture.[126]

The Federal Circuit also relied on a portion of the specification of the '065 Patent and found that "this distributed enhancement is a critical advancement over the prior art[.]" [127] Therefore, the Federal Circuit held that claim 1 "entails an *unconventional* technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases)." [128] Moreover, the Federal Circuit noted that the enhancing limitation needs those arguably generic components (e.g., network devices and gatherers) to "operate in an *unconventional* manner to achieve an improvement in computer functionality."[129]

However, the Federal Circuit did not describe a standard for determining "unconventionality." [130] Rather, the Federal Circuit looked to some technological solution to a technological problem or some technical improvement over prior art technologies.[131] Nevertheless, the Federal Circuit's reasoning may imply the nature of "unconventionality."[132] For instance, in concluding claim 1 "entails an unconventional technological solution[,]" the Federal Circuit specified a portion of the specification comparing the data flows in the claimed distributed architecture and the prior art system.[133] Hence, "unconventionality" may require identification of what advancement the claimed inventive concept would provide over prior art technology.

Secondly, in stating that "any and all generic enhancement of data in a similar system" would not be preempted, the Federal Circuit noted that claim 1 "depends upon a *specific* enhancing limitation that necessarily incorporates the invention's distributed architecture." [134] Consequently, the Federal Circuit held that claim 1 "provides the requisite 'something more' than the performance of 'well-understood, routine, [and] *conventional* activities previously known to the industry.'"[135] Therefore, "unconventionality" may be shown by what specific limitation a claim would include for executing the claimed inventive concept.

Lastly, the Federal Circuit opined that the benefits of claim 1 "are possible because of the distributed, remote enhancement that produced an *unconventional* result—reduced data flows and the possibility of smaller databases." [136] Therefore, evidence showing "unconventionality" may cover what benefit the claimed inventive concept would offer.

C. *Aatrix Software, Inc. v. Green Shades Software, Inc.*

In *Aatrix Software, Inc. v. Green Shades Software, Inc.*, the Federal Circuit

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[126] *See Amdocs (Isr.), Ltd.*, 841 F.3d at 1300.
[127] *Id.* (emphasis added).
[128] *Id* (emphasis added).
[129] *Id.* at 1300–01 (emphasis added).
[130] *See id.* at 1300–02.
[131] *See Amdocs (Isr.), Ltd.*, 841 F.3d at 1300–02.
[132] *See infra* Part III.B.
[133] *Amdocs (Isr.), Ltd.*, 841 F.3d at 1300 (quoting U.S. Patent No. 7,631,065 col.4 ll.33–42 (filed Dec. 7, 2001)).
[134] *Id.* at 1301 (emphasis added).
[135] *Id.* (alteration in original and emphasis added).
[136] *Id.* at 1302 (emphasis added).

stated that "[i]f the elements involve 'well-understood, routine, [and] conventional activity previously engaged in by researchers in the field,' they do not constitute an 'inventive concept.'" [137] On the other hand, the Federal Circuit affirmed that "the second step of the *Alice/Mayo* test is satisfied when the claim limitations involve more than performance of well-understood, routine, [and] conventional activities previously known to the industry."[138] There, the district court found the disputed claims patent-ineligible, dismissed the case, and rejected the patentee's motion to leave to amend the complaint.[139] On appeal, the Federal Circuit abrogated the district court's decision and specifically found that the proposed complaint, if taken as true, would have proven patent-eligibility.[140]

In *Aatrix Software, Inc.,*there were two asserted patents: U.S. Patents No. 7,171,615 ("'615 Patent") and 8,984,393 ("'393 Patent"), which share essentially the same specification. [141] The patented technology involved "systems and methods for designing, creating, and importing data into a viewable form on a computer so that a user can manipulate the form data and create viewable forms and reports." [142] For example, the representative claim recited a data processing system "which has three main components: a form file, a data file, and a viewer."[143] The claimed invention used in-house form development tools to create and design the form file that can "model the physical characteristics of an existing form, including the calculations and rule conditions required to fill in the form."[144] Then, through an Aatrix Universal File ("AUF"; that is, the data file), data from third-party applications could be "'seamlessly imported' into the form file program to populate the form fields."[145] Eventually, the viewer relied on the form file and the AUF together to calculate the data and further allowed a user who creates a report by reviewing and changing the values in the form fields.[146]

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[137] Aatrix Software, Inc. v. Green Shades Software, Inc., 882 F.3d 1121, 1128 (Fed. Cir. 2018) (alteration in original) (citing *Mayo Collaborative Servs.*, 566 U.S. at 73).

[138] *Id.* (alteration in original and emphasis added and citations omitted).

[139] *Id.* at 1124.

[140] *See id.* at 1130.

[141] *Id.* at 1123.

[142] *Aatrix Software, Inc.*, 882 F.3d at 1123.

[143] *Id.* Claim 1 of the '615 Patent was representative and recited:

> 1. *A data processing system* for designing, creating, and importing data into, a viewable form viewable by the user of the data processing system, comprising:
> (a) a form file that models the physical representation of an original paper form and establishes the calculations and rule conditions required to fill in the viewable form;
> (b) a form file creation program that imports a background image from an original form, allows a user to adjust and test-print the background image and compare the alignment of the original form to the background test-print, and creates the form file;
> (c) a *data file* containing data from a user application for populating the viewable form; and
> (d) a form viewer program operating on the form file and the data file, to perform calculations, allow the user of the data processing system to review and change the data, and create viewable forms and reports.

Id. at 1123–24 (emphasis in original).

[144] *Id.* at 1123.

[145] *Id.*

[146] *Id.*

The Federal Circuit recognized the proposed second amended complaint as supporting that the claimed date file, alone or in combination with other elements, could be an inventive concept under step two.[147] The Federal Circuit noted that those new allegations "if accepted as true, contradict the district court's conclusion that the claimed combination was conventional or routine." [148] Besides, the Federal Circuit found that the proposed complaint contained concrete allegations supporting both that "individual elements and the claimed combination are *not* well-understood, routine, or conventional activity" and that the claimed combination improves the functioning of the computer.[149]

The Federal Circuit focused its analysis on the "data file" limitation alleged as "an improvement in the importation of data from third-party software applications."[150] The Federal Circuit acknowledged that the patentee had cited the specification to support the related allegations concerning the improved data importation.[151] On the other hand, in responding to the defendant's oral argument the Federal Circuit stated that "this purported improvement in importation of data is in fact a routine and conventional use of a computer," and noted that the defendant "conceded that nothing in the specification describes this importation of data as conventional."[152] Moreover, the Federal Circuit discredited the district court's finding that the "data file" limitation was "a 'well understood' and 'routine' component and function of a computer[.]"[153] The Federal Circuit criticized that this finding was not grounded on any reasoning or evidence nor supported by the record at the motion-to-dismiss stage.[154] Therefore, the Federal Circuit held that the district court erred in not permitting the patentee to file the proposed second amended complaint.[155]

Unfortunately, the *Aatrix* Court did not explain a clear rule for determining whether an inventive concept involves "*more than* performance of well-understood, routine, [and] conventional activities previously known to the industry."[156] The only standard was whether the patentee had relied on the specification to make factual allegations about the alleged inventive concept.[157]

D. *Uniloc USA, Inc. v. ADP, L.L.C.*

While the *Amdocs* decision indicates that family patents with shared or overlapping specifications may pass the *Alice* standard together, *Uniloc USA, Inc. v. ADP, L.L.C.* may show an opposite result.[158] In *Uniloc USA, Inc.*, U.S. Patent Nos.

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[147] *Aatrix Software, Inc.*, 882 F.3d at 1126.
[148] *Id.* at 1128.
[149] *Id.* (emphasis added).
[150] *Id.* at 1129.
[151] *Id.*
[152] *Aatrix Software, Inc.*, 882 F.3d at 1129.
[153] *Id.*
[154] *Id.*
[155] *See id.* at 1129–30.
[156] *See id.* at 1128–30 (emphasis added).
[157] *See Aatrix Software, Inc*., 882 F.3d at 1129 ("[The patentee] cites the specification as support for its argument that the claimed data file contains an inventive concept directed to improved importation of data and interoperability with third-party software.").
[158] *See infra* Part III.D.

6,324,578 ("'578 Patent"), 6,510,466 ("'466 Patent"), 6,728,766 ("'766 Patent"), and 7,069,293 ("'293 Patent") were allegedly infringed. [159] The patented technology generally involved management of applications (or programs) on a computer network, or a client-server environment, that includes a server supporting client stations.[160] These four patents protected different aspects of the patented technology.[161] The '578 and '766 Patents shared a common specification, while the '466 and '293 Patents shared a common specification.[162]

The district court granted two motions to dismiss in separate decisions partially because of the patent-ineligibility of the patents-in-suit.[163] On appeal, the Federal Circuit reversed and remanded the district court's grant of a motion to dismiss based on the patent ineligibility of the '293 and '578 Patents, but affirmed the district court's dismissal with respect to the '466 and '766 Patents.[164] Specifically, the Federal Circuit found that the '293 Patent passed step one without going through step two and the '578 Patent passed both step one and step two.[165] On the other hand, the Federal Circuit found that the '466 and '766 Patents failed the *Alice* two-step analysis.[166]

The '578 Patent focused on "obtaining user and administrator sets of configuration preferences for applications and then executing the applications using both sets of obtained preferences."[167] The Federal Circuit considered the positioning of the application launcher program on the client site and the configurable preferences on the server together as an inventive concept.[168] The Federal Circuit noted that "[t]he positioning of these components on the application server together with the application launcher on the client computer" allowed customized installation of applications based

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[159] Uniloc USA, Inc. v. ADP, L.L.C., 772 F. App'x 890, 892 (Fed. Cir. 2019).

[160] *See* Uniloc USA, Inc. v. AVG Techs. USA, Inc., No. 2:16-CV-00393-RWS (LEAD), 2017 WL 1154927, at *1 (E.D. Tex. Mar. 28, 2017).

[161] *See* Uniloc USA, Inc. v. ADP, L.L.C., 279 F. Supp. 3d 736, 739 (E.D. Tex. 2017).

[162] *Id.*

[163] *See Uniloc USA, Inc.*, 772 F. App'x at 892; *AVG Techs. USA, Inc.*, 2017 WL 1154927, at *10; *ADP, L.L.C.*, 279 F. Supp. 3d at 751–52.

[164] *Uniloc USA, Inc.*, 772 F. App'x at 892.

[165] *Id.* at 898–99.

[166] *Id.* at 899–902.

[167] *ADP, L.L.C.*, 279 F. Supp. 3d at 740.

[168] *See Uniloc USA, Inc.*, 772 F. App'x at 898–99. The representative claim of the '578 Patent was claim 1 reciting:

> 1. A method for management of configurable application programs on a network comprising the steps of:
> installing an application program having a plurality of configurable preferences and a plurality of authorized users on a server coupled to the network;
> *distributing an application launcher program associated with the application program to a client* coupled to the network;
> *obtaining a user set of the plurality of configurable preferences* associated with one of the plurality of authorized users executing the application launcher program;
> obtaining *an administrator set of the plurality of configurable preferences from an administrator*; and
> executing the application program using the obtained user set and the obtained administrator set of the plurality of configurable preferences responsive to a request from the one of the plurality of authorized users.

ADP, L.L.C., 279 F. Supp. 3d at 740 (emphasis added).

on the administrator and user sets of preferences.[169] Acknowledging that "[t]here has been no showing or determination that such a network architecture was *conventional*[,]"[170] the Federal Circuit held that the district court erred in finding claim 1 of the '578 Patent patent-ineligible.[171]

The '466 Patent related to "installing application software on the server and providing instances of that software to the clients for execution."[172] According to the patentee, the improvement provided by the claimed invention over the prior art was achieved via "a user desktop interface that includes 'display regions associated with application programs for which the user is authorized.'"[173] But, the Federal Circuit found that the claimed display regions were "simply icons that execute programs."[174] In addition, the Federal Circuit noted that when the defendants contended that the claimed display regions were "all conventional," the patentee failed to "argue that the display icons or the user desktop incorporate any *unconventional* software or perform any *unconventional* functionality" or that "using an icon to access an application is in any way *unconventional*."[175]

Moreover, because of its view on the claimed user desktop interface, the Federal Circuit disagreed with the patentee's proposed inventive concept framed as the ordered combination of "the various software limitations and their interaction" in the disputed claims.[176] The Federal Circuit criticized that "the 'software limitations' are merely the *conventional* ones" and that "[t]here is nothing *unconventional* about the [alleged] 'ordered combination[.]'" [177] The Federal Circuit also opined that the district court correctly found that the specification "describes the prior art client- application server architecture, which necessarily includes a user interface, and allows

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[169] *Uniloc USA, Inc.*, 772 F. App'x at 899.

[170] *Id.* (emphasis added); *see also* Cisco, *What Is Network Architecture?*, https://www.cisco.com/c/en/us/solutions/enterprise-networks/what-is-network-architecture.html (last visited Dec. 8, 2020) ("Network architecture refers to the way network devices and services are structured to serve the connectivity needs of client devices."). Here, the positioning of the application launcher program on the client site and the configurable preferences on the server is a kind of network architecture. *See Uniloc USA, Inc.*, 772 F. App'x at 899.

[171] *Id.*

[172] *AVG Techs. USA, Inc.*, 2017 WL 1154927, at *2.

[173] *Uniloc USA, Inc.*, 772 F. App'x at 899.

[174] *Id.*

[175] *Id.* at 899–900 (emphasis added).

[176] *See Uniloc USA, Inc.*, 772 F. App'x at 900. The representative claim of the '466 Patent was claim 1 reciting:

> 1. A method for management of application programs on a network including a server and a client comprising the steps of:
> installing a plurality of application programs at the server;
> receiving at the server a login request from a user at the client;
> establishing a user desktop interface at the client associated with the user responsive to the login request from the user, *the desktop interface including a plurality of display regions associated with a set of the plurality of application programs installed at the server for which the user is authorized*;
> receiving at the server a selection of one of the plurality of application programs from the user desktop interface; and
> providing an instance of the selected one of the plurality of application programs to the client for execution responsive to the selection.

AVG Techs. USA, Inc., 2017 WL 1154927, at *2 (emphasis added); *see Uniloc USA, Inc.*, 772 F. App'x at 901.

[177] *Uniloc USA, Inc.*, 772 F. App'x at 900 (emphasis added).

the transmission of an application program from a server to a client for installation."[178] Eventually, among other things, the Federal Circuit affirmed the district court's patent-ineligibility decision concerning the '466 Patent.[179]

Lastly, the '766 Patent involved "the management of licenses for the application software" to maintain "license-related policies and information in the client-server environment such that license availability can be communicated to clients on a user-specific basis."[180] In deciding that there was no inventive concept in claim 1 of the '766 Patent under step two,[181] the Federal Circuit found that "[n]othing about the licensing policy, the application server, or the notification of authorization is asserted as unique or *non-conventional* from the way that those components ordinarily function." [182] Rather, the Federal Circuit concluded that the licensing policy, the application server, and the authorization notification operated in a conventional way. [183] In addition, the Federal Circuit opined that "the real-time availability of authorization information" alleged by the patentee as an inventive concept was merely "a staple of a *conventional* network." [184] Therefore, among other things, the Court upheld the district court's decision on the patent-ineligibility of the '766 Patent.[185]

Like *Bascom* and *Amdocs*, the *Uniloc* Court did not define "unconventionality."[186] Instead, the line between "conventional" and "unconventional" was drawn by whether the specification has disclosed the elements of the claimed inventive concept as conventional components.[187] The *Uniloc* approach is similar to the *Aatrix* approach.

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[178] *Id.* (citing *AVG Techs. USA, Inc.*, 2017 WL 1154927, at *15); *see also* U.S. Patent No. 6,510,466 col.1 l.57 – col.2 l.11 (filed Dec. 14, 1998).

[179] *See Uniloc USA, Inc.*, 772 F. App'x at 900–01.

[180] *AVG Techs. USA, Inc.*, 2017 WL 1154927, at *2.

[181] *Uniloc USA, Inc.*, 772 F. App'x at 902. Claim 1 of the '766 Patent was representative and recited:

> 1. A method for management of license use for a network comprising the steps of:
> maintaining *license management policy information* for a plurality of application programs at *a license management server*, the license management policy information including at least one of a user identity based policy, an administrator policy override definition or a user policy override definition;
> receiving at the license management server a request for a license availability of a selected one of the plurality of application programs from a user at a client;
> determining the license availability for the selected one of the plurality of application programs for the user based on the maintained license management policy information; and
> *providing* an unavailability indication to the client responsive to the selection if the license availability indicates that a license is not available for the user or *an availability indication if the licensed availability indicates that a license is available for the user*.

AVG Techs. USA, Inc., 2017 WL 1154927, at *2 (emphasis added); *see Uniloc USA, Inc.*, 772 F. App'x at 901.

[182] *Uniloc USA, Inc.*, 772 F. App'x at 902 (emphasis added).

[183] *Id.*

[184] *Id.* (emphasis added).

[185] *See id.*

[186] *See id.* at 899–902.

[187] *See Uniloc USA, Inc.*, 772 F App'x at 899–902.

E. *Cellspin Soft, Inc. v. Fitbit, Inc.*

In *Cellspin Soft, Inc. v. Fitbit, Inc.*, the patented technology involved "connecting a data capture device, *e.g.*, a digital camera, to a mobile device so that a user can automatically publish content from the data capture device to a website."[188] The Federal Circuit followed two legal propositions: (1) "[a]n inventive concept reflects something more than the application of an abstract idea using 'well-understood, routine, and conventional activities previously known to the industry'"[189]; and (2) "[i]f a claim's only 'inventive concept' is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea."[190] The Federal Circuit considered the patentee's allegations as "identify[ing] several ways in which its application of capturing, transferring, and publishing data was *unconventional*."[191] Eventually, the Federal Circuit found the disputed claims patent-eligible under the step two analysis.[192]

Before the patented technology was invented, "the conventional method for publishing data and multimedia content on a website was time-consuming required and manual user intervention[.]"[193] As the '794 Patent described, traditionally a user takes a picture via, for instance, a digital camera and stores the picture on a memory device of the camera.[194] When the user decides to publish the picture onto a website, she has to transfer the picture to a computer off-line by plugging, for example, a cable such as a universal serial bus ("USB") or a memory stick to the computer that then uploads the picture onto the designated website.[195] The '794 Patent characterized this traditional approach as manual uploading that "takes time and may be inconvenient for the user."[196]

To solve the problem, the patented technology utilized "a digital data capture device in conjunction with a Bluetooth™ ("BT") enabled mobile device for publishing data and multimedia content on one or more websites automatically or with minimal user intervention[,]" where the data capture device is physically separated from the mobile device. [197] The patented technology was protected by the '794 Patent, '752 Patent, '698 Patent, and '847 Patent, which shared the same specification.[198]

The disputed claims of the '794 Patent included two independent claims, 1 and

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[188] Cellspin Soft, Inc. v. Fitbit, Inc., 927 F.3d 1306, 1309 (Fed. Cir. 2019).

[189] *Id.* at 1316 (quoting *Aatrix Software, Inc.*, 882 F.3d at 1128).

[190] *Id.* (quoting BSG Tech L.L.C. v. Buyseasons, Inc., 899 F.3d 1281, 1290–91 (Fed. Cir. 2018)).

[191] *Id.* (emphasis added).

[192] *Id.* at 1319.

[193] Cellspin Soft, Inc. v. Fitbit, Inc., 316 F. Supp. 3d 1138, 1144 (N.D. Cal. 2018) (citing U.S. Patent No. 8,738,794 col.1, ll.38–47 (filed June 19, 2013)).

[194] *Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1144; *see* U.S. Patent No. 8,738,794 col.1, ll.38–41 (filed June 19, 2013).

[195] *Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1144; *see* U.S. Patent No. 8,738,794 col.1, ll.41–45 (filed June 19, 2013).

[196] U.S. Patent No. 8,738,794 col.1 ll.45–47 (filed June 19, 2013); *see Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1144.

[197] *See* U.S. Patent No. 8,738,794 col.1 ll.64–67 – col.2 ll.1–3 (filed June 19, 2013); *see Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1144.

[198] *Cellspin Soft, Inc.*, 927 F.3d at 1309.

16, reciting the same subject matter.[199] For instance, claim 1 had two features.[200] The first feature was referred to as "establishing a paired connection between the data capture device and the mobile device *before* data is transmitted between the two."[201] The second feature included a step of detecting and signaling the new data for transfer to the mobile device and a step of transferring the new data from the data capture device to the mobile device.[202]

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[199] *Cellspin Soft, Inc.*, 927 F.3d at 1310. Other disputed claims covered (1) claims 2–4, 7 and 9 (dependent claims of claim 1) and (2) claims 17, 18, 20 and 21 (dependent claims of claim 16). *See Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1145; *see also* U.S. Patent No. 8,738,794 cols.11–15 (filed June 19, 2013).

[200] *See Cellspin Soft, Inc.*, 927 F.3d at 1311. Claim 1 of the '794 Patent recited:

> 1. A method for acquiring and transferring data from a Bluetooth enabled data capture device to one or more web services via a Bluetooth enabled mobile device, the method comprising:
> providing a software module on the Bluetooth enabled data capture device;
> providing a software module on the Bluetooth enabled mobile device;
> *establishing a paired connection* between the Bluetooth enabled data capture device and the Bluetooth enabled mobile device;
> acquiring new data in the Bluetooth enabled data capture device, wherein new data is data acquired after the paired connection is established;
> detecting and signaling the new data for transfer to the Bluetooth enabled mobile device, wherein detecting and signaling the new data for transfer comprises:
> determining the existence of new data for transfer, by the software module on the Bluetooth enabled data capture device; and
> *sending a data signal to the Bluetooth enabled mobile device*, corresponding to existence of new data, by the software module on the Bluetooth enabled data capture device automatically, over the established paired Bluetooth connection, wherein the software module on the Bluetooth enabled mobile device listens for the data signal sent from the Bluetooth enabled data capture device, wherein if permitted by the software module on the Bluetooth enabled data capture device, the data signal sent to the Bluetooth enabled mobile device comprises a data signal and one or more portions of the new data;
> *transferring the new data from the Bluetooth enabled data capture device to the Bluetooth enabled mobile device* automatically over the paired Bluetooth connection by the software module on the Bluetooth enabled data capture device;
> receiving, at the Bluetooth enabled mobile device, the new data from the Bluetooth enabled data capture device;
> applying, using the software module on the Bluetooth enabled mobile device, a user identifier to the new data for each destination web service, wherein each user identifier uniquely identifies a particular user of the web service;
> *transferring the new data received by the Bluetooth enabled mobile device along with a user identifier to the one or more web services*, using the software module on the Bluetooth enabled mobile device;
> receiving, at the one or more web services, the new data and user identifier from the Bluetooth enabled mobile device, wherein the one or more web services receive the transferred new data corresponding to a user identifier; and
> making available, at the one or more web services, the new data received from the Bluetooth enabled mobile device for public or private consumption over the internet, wherein one or more portions of the new data correspond to a particular user identifier.

Id. at 1310–11 (emphasis in original).

[201] *Id.* at 1310–11 (emphasis in original).

[202] *See Cellspin Soft, Inc.*, 927 F.3d at 1311 (citing U.S. Patent No. 8,738,794 col.12, ll.1–2 (filed June 19, 2013)). The second feature was referred to as a "push mode." *Id*. On the other hand, claim 16 utilized a "pull mode."

Regarding the '752 Patent, the asserted claims covered two subject matters: (1) "a method for transferring data from a Bluetooth enabled data capture device to a remote internet server via a Bluetooth enabled mobile device" (claim 1 and its dependent claims 2 and 4-5); and (2) "a method for transferring data to a remote internet server by a Bluetooth enabled mobile device" (claim 12 and its dependent claims 13 and 14).[203] Claim 1 of the '752 Patent was allegedly different.[204] Although claim 1 of the '752 Patent was similar to claim 1 of the '794 Patent,[205] the Federal Circuit identified two different features.[206] First, the mobile device and data capture device were connected by using a cryptographic encryption key. [207] Second, the hypertext transfer protocol ("HTTP") was implemented for data transmission.[208]

Regarding the '698 Patent, the disputed claims included four independent claims reciting four subject matters. [209] Claim 1 recited "a machine-implemented

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Id. (citing U.S. Patent No. 8,738,794 col.14, ll.30–35 (filed June 19, 2013)). The "pull mode"-related limitations included:

> detecting the new data for transfer to the Bluetooth enabled mobile device, wherein detecting the new data for transfer comprises:
> polling the Bluetooth enabled data capture device using the software module on the Bluetooth enabled mobile device over the established paired Bluetooth connection, wherein the Bluetooth enabled data capture device listens for the polling request sent from the Bluetooth enabled mobile device; and
> determining the existence of new data for transfer, by the software module on the Bluetooth enabled data capture device[.]

See U.S. Patent No. 8,738,794 claim 16.

[203] *Cellspin Soft, Inc.*, 927 F.3d at 1311; *see* U.S. Patent No. 8,892,752 cols.11–14 (filed June 4, 2014).

[204] *Cellspin Soft, Inc.*, 927 F.3d at 1311. The patentee did not treat claims 12–14 of the '752 Patent differently from claim 1 of the '794 Patent in terms of the patent-eligibility analysis. *See id.*

[205] *Id.*

[206] *Id.*

[207] *Id.* (citing U.S. Patent No. 8,892,752 col.11, ll.54–56 (filed June 4, 2014)). The related limitation recited "establishing a secure paired Bluetooth connection between the Bluetooth enabled data capture device and the Bluetooth enabled mobile device, wherein the secure paired Bluetooth connection uses a *cryptographic encryption key*[.]" U.S. Patent No. 8,892,752 col.11, ll.52–56 (filed June 4, 2014) (emphasis added).

[208] *Cellspin Soft, Inc.*, 927 F.3d at 1311 (citing U.S. Patent No. 8,892,752 col.12 ll.16–36 (filed June 4, 2014)). The related limitation recited:

> transferring the encrypted data from the Bluetooth enabled data capture device to the Bluetooth enabled mobile device, over the established secure paired Bluetooth connection, wherein the Bluetooth enabled mobile device has access to the internet, wherein the Bluetooth enabled mobile device is configured to receive the encrypted data and obtain the new data from the encrypted data using the cryptographic encryption key, *wherein the Bluetooth enabled mobile device is configured to attach a user identifier, an action setting and a destination web address of a remote internet server to the obtained new data*, wherein the user identifier uniquely identifies a particular user of internet service provided by the remote internet server, *wherein action setting comprises one of a remote procedure call (RPC) method and hypertext transfer protocol (HTTP) method*, and wherein the Bluetooth enabled mobile device is configured to send the obtained new data with the attached user identifier, an action setting and a destination web address to a remote internet server.

U.S. Patent No. 8,892,752 col.12, ll.17–37 (filed June 4, 2014) (emphasis added).

[209] *See Cellspin Soft, Inc.*, 927 F.3d at 1311. Claims 1, 3–5, 7-8, 10–13 and 15–20 were allegedly infringed. *Id*. Claims 1, 5, 8 and 13 were independent claims. *See* U.S. Patent No. 9,258,698 cols.11–14 (filed Nov. 5, 2014).

method of media transfer."[210] Claim 5 recited "a short-range wireless enabled digital camera device" implemented by the method of claim 1.[211] Claim 8 recited "a system for transferring media," but contained essentially the same limitations of claim 5. [212] Finally, claim 13 recited "a non-transitory computer-readable medium" essentially used for executing the method of claim 1.[213]

Lastly, the '847 Patent included claim 1 with limitations also similar to the limitations in claim 1 of the '752 Patent.[214] But, claim 1 of the '847 Patent was a system claim with two different features.[215] The first feature was a Bluetooth enabled data capture device that cryptographically authenticates the identity of a Bluetooth enabled cellular phone before connecting the phone and transmitting data. [216] The second feature was a mobile application that listens for the event notification sent from the data capture device and corresponding to the acquired new-data and utilizes HTTP to transfer the new-data to a website over the cellular data network.[217]

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[210] *See* U.S. Patent No. 9,258,698 cols.11–12 (filed Nov. 5, 2014). Claims 3 and 4 were dependent on claim 1. *See id.*

[211] U.S. Patent No. 9,258,698 col.12; *see also Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1146. Claims 7, 17 and 19 were dependent claims of claim 5. *See* U.S. Patent No. 9,258,698 cols. 12, 13, 16. The patentee singled out claim 5 for a separate patent-eligibility argument. *Cellspin Soft, Inc.*, 927 F.3d at 1311. Unlike the '794 Patent and '752 Patent, claim 5 of the '698 Patent specifically recited a "digital camera" that communicates with a cellular phone through "short-range wireless" signals, rather than reciting a generic data capture device with Bluetooth enablement. *See id.* at 1311–12. Otherwise, claim 5 included limitations similar to the limitations of claim 1 of the '752 Patent. *Id.* at 1312.

[212] *See* U.S. Patent No. 9,258,698 cols.12–14. Claims 10, 12 and 20 were dependent claims of claim 8. *See id.* at cols.13, 14, 16.

[213] *See* U.S. Patent No. 9,258,698 cols.11, 12, 14, 15. Claims 15, 16 and 18 depended on claim 13. *See id.* at cols.15, 16.

[214] *Cellspin Soft, Inc.*, 927 F.3d at 1312.

[215] *See id.*

[216] *Id.* (citing U.S. Patent No. 9,749,847 col.12, ll.14–25 (filed Dec. 19, 2014)). The related limitation recited:

> a first Bluetooth communication device configured to establish a paired Bluetooth wireless connection between the Bluetooth enabled data capture device and a Bluetooth enabled cellular phone, *wherein the Bluetooth enabled data capture device is configured to cryptographically authenticate identity of the Bluetooth enabled cellular phone when the first Bluetooth communication device establishes the paired Bluetooth wireless connection*[.]

U.S. Patent No. 9,749,847 col.12, ll.17–25 (filed Dec. 19, 2014) (emphasis added).

[217] *Cellspin Soft, Inc.*, 927 F.3d at 1312 (citing U.S. Patent No. 9,749,847 col.12 ll.42–51, 62–67 (filed Dec. 19, 2014)). The related limitation recited:

> a mobile application in the Bluetooth enabled cellular phone comprising executable instructions that, when executed by a second processor inside the Bluetooth enabled cellular phone controls the second processor to:
> detect and receive the acquired new-data, comprising:
> *listen for the event notification, sent from the Bluetooth enabled data capture device*, over the established paired Bluetooth wireless connection, wherein the event notification corresponds to the acquired new-data; and
> receive the event notification and the acquired new-data, from the Bluetooth enabled data capture device, …;
> store the new-data received over the established paired Bluetooth wireless connection, …; and
> *use HTTP to transfer the new-data received over the established paired Bluetooth wireless connection*, along with user information stored in the second memory device of the

On appeal, the Federal Circuit focused on analyzing the '794 Patent[218] because the district court treated the '794 Patent as a representative of all other patents.[219] The Federal Circuit agreed that the disputed claims were directed to an abstract ideaand characterized it as the broad idea of "capturing and transmitting data from one device to another."[220] However, the Federal Circuit found that the patentee's complaint included statements showing "why aspects of its claimed inventions were not *conventional*, *e.g.*, its two-step, two-device structure requiring a connection *before* data is transmitted." [221] The Federal Circuit acknowledged the patentee's view on the inventive concept of the claim invention. [222] In general, the claimed inventiveness covered a two-step, two-device structure requiring a data-capturing step and a data-publishing step performed in two different devices between which a paired connection is established before data is transmitted via HTTP from one device to the other device.[223]

Like *Bascom* and *Amdocs*, the *Cellspin* Court did not describe what constitutes "unconventionality."[224] Nonetheless, the Federal Circuit illustrated other aspects of the claimed inventive concept when it responded to the defendant's arguments.[225]

First, regarding the defendant's allegation that the disputed claims simply "replace a USB or similar cable with Bluetooth[,]" the Federal Circuit noted that "even assuming that Bluetooth was conventional at the time of these inventions, implementing a well-known technique with particular devices in a specific combination, like the two-device structure here, can be inventive." [226] The Federal Circuit emphasized that when describing the inventiveness of the claimed inventions, the patentee "did more than simply label techniques as inventive."[227] Rather, the patentee "pointed to evidence suggesting that these techniques had not been implemented in a similar way."[228] For example, the patentee alleged that "[i]t was not until 2009 or later when the leading tech companies, such as Facebook and Google, started releasing HTTP APIs for developers to utilize a HTTP transfer protocol for mobile devices."[229] Therefore, the Federal Circuit concluded that it is sufficiently to say that the patentee "has claimed significantly more than the idea of capturing, transferring, or publishing data."[230]

Second, when rejecting the defendant's argument that the claimed inventive elements "amount to nothing more than minor variations in the technological

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> cryptographically authenticated Bluetooth enabled cellular phone, to the website, over the cellular data network[.]

U.S. Patent No. 9,749,847 col.12, ll.42–51, 62–67 (filed Dec. 19, 2014) (emphasis added).

[218] *See Cellspin Soft, Inc.*, 927 F.3d at 1315–17.

[219] *Cellspin Soft, Inc.*, 316 F. Supp. 3d at 1155; *see Cellspin Soft, Inc.*, 927 F.3d at 1313.

[220] *Cellspin Soft, Inc.*, 927 F.3d at 1315.

[221] *Id.* at 1317–18 (emphasis added).

[222] *See id.* at 1316–17.

[223] *See id.* at 1316–19.

[224] *See id.* at 1316–17.

[225] *See Cellspin Soft, Inc.*, 927 F.3d at 1318–19.

[226] *Id.* at 1318.

[227] *Id.*

[228] *Id.*

[229] *Id.* at 1319.

[230] *Cellspin Soft, Inc.*, 927 F.3d at 1319.

environment in which the abstract ideas are implemented[,]" the Federal Circuit compared *Electric Power Group, L.L.C. v. Alstom S.A.*[231] with the present case.[232] The Federal Circuit characterized *Electric Power Group, L.L.C.* as a case of "merely applying an abstract idea to a "particular technological environment" to an extent that such application "was not enough to transform the underlying idea into something patent eligible[,]" as opposed to the present case where the disputed "claims that use an environment—a computer, a mobile phone, etc.—to do significantly more than simply carry out an abstract idea are patent eligible." [233] Specifically, the Federal Circuit found that the asserted claims here "recite[d] a specific, plausibly inventive way of arranging devices and using protocols rather than the general idea of capturing, transferring, and publishing data."[234]

IV. NATURE OF THE UNCONVENTIONALITY APPROACH

A. What Constitutes Unconventionality

In *BSG Tech L.L.C. v. Buyseasons, Inc.*, the Federal Circuit criticized that the patentee did not "argue that other, non-abstract features of the claimed inventions, alone or in combination, are *not* well-understood, routine and *conventional* database structures and activities."[235] Recently, the Federal Circuit in *Bridge and Post, Inc. v. Verizon Communications*, *Inc.* questioned that the patentee did not "argue that any individual limitation of the [disputed] patent is *unconventional* or non-routine."[236] But, the question is what constitutes unconventionality.

While the Federal Circuit is yet to provide the contours of "unconventionality" that an inventive concept requires, *Aatrix* and *Cellspin* together may guide us to identify what is unconventional in an inventive concept.[237] What these two decisions looked for is specifically helpful for patentees to make successful allegations in a complaint or for patent drafters to describe patent-eligible innovation in a specification.

1. Software-Based Innovation: Aatrix Software, Inc. v. Green Shades Software, Inc.

In the proposed second amended complaint, the allegations that the *Aatrix* Court considered as true showed that "individual elements and the claimed combination are not well-understood, routine, or conventional activity." [238] These allegations may help define "unconventionality" for software-based innovation in two aspects. First, the claimed invention must process data differently from prior art technology. For example, the complaint stated that the claimed invention "allow[ed]

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[231] Elec. Power Grp., L.L.C. v. Alstom S.A., 830 F.3d 1350, 1354–55 (Fed. Cir. 2016).
[232] *See Cellspin Soft, Inc.*, 927 F.3d at 1319.
[233] *Id.*
[234] *Id.*
[235] BSG Tech L.L.C. v. Buyseasons, Inc., 899 F.3d 1281, 1291 (Fed. Cir. 2018) (emphasis added).
[236] Bridge & Post, Inc. v. Verizon Commc'ns, Inc., 778 F. App'x 882, 884 (Fed. Cir. 2019) (emphasis added).
[237] *See infra* Part IV.A.
[238] *Aatrix Software, Inc.*, 882 F.3d at 1128–30.

data to be imported into the viewable electronic form from outside applications[,]" as opposed to "[p]rior art forms solutions [that] allowed data to be extracted *only from* widely available databases with published database schemas, not the proprietary data structures of application software."[239]

Second, the claimed invention must improve the functionality of a system that implements it. For instance, the complaint in *Aatrix Software, Inc.* described that the claimed invention "in-creased the efficiencies of computers processing tax forms" and "saved storage space both in the users' computers' RAM (Random Access Memory, which is fast, short-term storage used by running programs) and hard disk (permanent slower storage used for files and programs when not running)."[240]

2. Equipment-Based Innovation: Cellspin Soft, Inc. v. Fitbit, Inc.

The allegations that the *Cellspin* Court accepted as true may define "unconventionality" for equipment-based innovation in three aspects. First, a system implementing the claimed invention must operate differently from prior art systems.[241] For example, the amended complaint described prior art devices as an "inferior" system requiring "a [data] capture device with built in mobile wireless Internet," such that the data capture device was "bulky, expensive in terms of hardware, and expensive in terms of requiring a user to purchase an extra and/or separate cellular service for the data capture device."[242] On the other hand, the amended complaint characterized the claimed unconventional system as a "two-step, two-device structure[,]" so as to enable the claimed invention to perform a data-capturing step and data-publishing step separately in "different device[s] linked via a wireless, paired connection."[243]

Second, the claimed invention must provide benefits derived from the claimed unconventional system.[244] For example, the amended complaint asserted at least four benefits: (1) the data capture device "only needs to serve one core function—capturing data—and does not need to incorporate other hardware and software components that might be needed to store data or publish it onto the Internet"; (2) such components for storing or publishing data can be placed on a user's mobile device, such that "data capture devices [would] be smaller and cheaper to build"; (3) using data capture devices would be simpler because, for instance, "one mobile device with one data plan controls several data capture devices"; and (4) "uploading data via a separate device, *wirelessly paired to* the data capture device, allows users to access and upload data even if the capture device is physically inaccessible to the user."[245]

Third, the claimed invention must contain a specific feature operating differently from prior art technology. [246] For instance, the amended complaint in

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[239] *Id.* at 1127 (emphasis added).

[240] *Id.*

[241] *See Cellspin Soft, Inc.*, 927 F.3d at 1316.

[242] *Id.*

[243] *Id.*

[244] *See id.* at 1316–17 ("Cellspin also alleged that this structure provided various benefits over prior art systems.").

[245] *Id.* at 1317 (emphasis aadded).

[246] *See Cellspin Soft, Inc.*, 927 F.3d at 1317 ("Cellspin also alleged that its specific ordered combination of elements was inventive.").

Cellspin Soft, Inc. compared prior art devices and the claimed inventions by focusing on the former device capable of forwarding "data to a mobile device as captured[,]" while the latter device "require[d] establishing a paired connection between the mobile device and the data capture device *before* data is transmitted." [247] This inventive feature was allegedly to ensure "that data is only transmitted if the mobile device is capable of receiving it."[248] Additionally, the amended complaint alleged "its use of HTTP, by an 'intermediary device' and while the data is 'in transit,' as being inventive" and "non-existent" prior to the claim invention.[249] All these stated features led the *Cellspin* Court to conclude that the patentee had "alleged that [the claimed invention's] specific ordered combination of elements was inventive."[250]

B. An Approach Unlike Novelty

In *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, the Supreme Court recognized that "in evaluating the significance of additional steps, the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap."[251] There, the Court considered whether "any additional steps consist of well-understood, routine, conventional activity already engaged in by the scientific community[,]" such that "those steps, when viewed as a whole, add nothing significant beyond the sum of their parts taken separately" and, therefore, "are not sufficient to transform unpatentable natural correlations into patentable applications of those regularities."[252] One commentator has questioned that the *Mayo* approach was "a *de facto* exercise of searching for novelty, or non-obviousness in a subset of the claims."[253] However, the *Mayo* Court noted "that need not always be so."[254]

The Federal Circuit case law has shown that its unconventionality approach is not merely a search for novelty.[255] Prior to *Cellspin Soft, Inc.*, the Federal Circuit in *ChargePoint, Inc. v. SemaConnect* held that "adding novel or non-routine components is not necessarily enough to survive a § 101 challenge." [256] The Federal Circuit emphasized that a claimed inventive concept "must be 'sufficient to ensure that the patent in practice amounts to significantly more' than a patent on the abstract idea."[257] With that, the Federal Circuit disagreed that the patentee had "presented sufficient factual allegations to preclude dismissal at the Rule 12(b)(6) stage" by specifically

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[247] *Id.* (emphasis in original).

[248] *Id.*

[249] *See id.*

[250] *Id.*

[251] *Mayo Collaborative Servs.*, 566 U.S. at 90.

[252] *Id.* at 79–80.

[253] Kristy J. Downing, Esq., *Patent Eligibility's Doctrinal Exclusions . . . Lately, A Scary Movie Too Difficult to Watch: Concrete Solutions and Suggestions*, 22 MARQ. INTELL. PROP. L. REV. 231, 270–71 (2018); *see also* Andrew Kanel, *The Federal Circuit's Treatment of Rule 12 Dismissals for Lack of Patent Eligible Subject Matter*, 53 AKRON L. REV. 1053, 1065 (2019) ("The eligibility analysis of *Mayo* does overlap with the novelty inquiry under § 102 when evaluating whether additional steps are well-known, routine, or conventional.").

[254] *Mayo Collaborative Servs.*, 566 U.S. at 90.

[255] *See infra* Part IV.B.

[256] ChargePoint, Inc. v. SemaConnect, Inc., 920 F.3d 759, 773 (Fed. Cir. 2019) (citing Ultramercial, Inc. v. Hulu, L.L.C., 772 F.3d 709, 715 (Fed. Cir. 2014)).

[257] *Id.* (citing *Mayo Collaborative Servs.*, 566 U.S. at 72–73).

arguing that "its patents represent an *unconventional* solution to technological problems in the field, and thus contain an inventive concept."[258]

The patented technology in *ChargePoint, Inc.* related to the operation of multiple charging stations for electric vehicles.[259] Four disputed patents, U.S. Patent Nos. 7,956,570 ("'570 Patent"), 8,138,715 ("'715 Patent"), 8,432,131 ("'131 Patent"), and 8,450,967 ("'967 Patent"), shared the same specification and protected the claimed invention in four aspects. [260] Briefly, the claimed invention provided "*networked* charging stations" subject to "network connectivity [that] allows the stations to be managed from a central location, allow[ing] drivers to locate charging stations in advance, and allows all users to interact intelligently with the electricity grid."[261] But, the Federal Circuit held that all disputed claims were "directed to the abstract idea of communicating over a network for device interaction."[262]

Under step two of the *Alice* standard, the Federal Circuit held that the claimed inventive concept was the abstract idea itself. [263] In responding to the patentee's argument that the disputed "patents claim charging stations *enabled* to use networks, not the network connectivity itself[,]" [264] the Federal Circuit criticized that "the specification gives no indication that the patented invention involved how to add network connectivity to these charging stations in an *unconventional* way."[265] Rather, the Federal Circuit noted that the disputed claims and specification showed that "it is clear that network communication is the only possible inventive concept."[266] Actually, the Federal Circuit acknowledged that the patentee had identified the technical problems and an unconventional way to solve the problems.[267] However, the Federal Circuit opined that although "the alleged 'inventive concept' that solves problems identified in the field is that the charging stations are network-controlled[,] network control is the abstract idea itself[.]"[268] Thus, the Federal Circuit concluded that the disputed claims were patent-ineligible.[269]

Unlike the plaintiff's allegations recognized by the *Cellspin* Court, the alleged unconventional solution in *ChargePoint, Inc.* did not touch how the claimed invention utilizes network control differently from the traditional network control technology.[270] Instead, the patentee in *ChargePoint, Inc.* focused on the claimed network control itself by pointing out three features: "(a) the ability to turn electric supply on based on

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[258] *Id.*

[259] *Id.* at 763.

[260] *Id.* at 764. The asserted claims of the '715 Patent covered an apparatus controlled by a remote server that directs electricity flow, while one claim specifically included a charging initiator physically connecting a charging station to an electric vehicle. *Id.* The alleged claims of the '131 Patent related to an apparatus capable of modifying electricity flow based on demand response communications sent by the server. *Id.* The disputed method claims of the '967 Patent "related to using the network-controlled charging stations [with] the idea of demand response." *Id.* Lastly, the asserted claims of the '570 Patent covered a network-controlled, charging station system. *Id.*

[261] *ChargePoint, Inc.*, 920 F.3d at 763.

[262] *Id.* at 773.

[263] *Id.* at 774–775.

[264] *Id.* at 775 (emphasis in original).

[265] *Id.* (emphasis added).

[266] *ChargePoint, Inc.*, 920 F.3d at 775.

[267] *See id.* at 774.

[268] *Id.*

[269] *Id.* at 775.

[270] *See id.* at 774.

communications from a remote server; (b) a 'network-controlled' charging system; and (c) a charging station that receives communication from a remote server, including communications made to implement a demand response policy."[271]

Therefore, *ChargePoint* and *Cellspin* together indicate that the unconventionality approach is not a novelty test. The unconventionality approach requires a patentee to describe not only the claimed inventive concept, but also prior art technology intended to be improved.[272] However, the unconventionality approach is different from the novelty analysis under 35 U.S.C. § 102, which requires a prior art reference to disclose "all the claimed limitations arranged or combined in the same way as in the claim."[273] By contrast, the unconventionality approach does not focus on whether all limitations of a claim have been disclosed by alleged prior art technology.[274] Rather, a patentee/applicant must compare the claimed inventive concept and prior art technology by explaining how they operate differently.[275]

V. CONCLUSION

The case law concerning patent-eligibility analysis indicates that whether an alleged inventive concept exists depends on whether the claimed limitations, individual or as an order combination, are well-understood, routine, conventional activities. The Federal Circuit in several cases has adopted the unconventionality approach. However, the Federal Circuit has not defined what constitutes an unconventional feature of the claimed inventive concept. Nevertheless, *Aatrix* and *Cellspin* together may suggest a guideline for lower courts or practitioners to follow. A patent specification or a patentee's complaint must include four topics. The first topic is prior art technology. The second topic explains how a system executing the claimed invention performs differently from the prior art technology. The third topic covers the benefits derived from the claimed unconventional system. Finally, the fourth topic describes a specific feature in the claimed invention as being operated differently from the prior art technology. With these factual statements taken together, a patent may survive a patent-ineligibility challenge in a motion to dismiss.

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[271] *ChargePoint, Inc.*, 920 F.3d at 774; *see also* Corrected Brief for Plaintiff-Appellant at 58–59, ChargePoint, Inc. v. SemaConnect, Inc., 920 F.3d 759 (Fed. Cir. 2019) (No. 2018-1739), 2018 WL 2023220.

[272] *See supra* Part IV.A.

[273] Kennametal, Inc. v. Ingersoll Cutting Tool Co., 780 F.3d 1376, 1381 (Fed. Cir. 2015) (internal quotation marks omitted).

[274] *See supra* Part IV.A.

[275] *See id.*