

AMENDING ALICE: ELIMINATING THE  
UNDUE BURDEN OF “SIGNIFICANTLY MORE”*Michael R. Woodward\**

## INTRODUCTION

In 2014, the Supreme Court decided *Alice Corp. v. CLS Bank*,<sup>1</sup> significantly expanding the use of the judicially created exceptions to patent eligibility in the lower courts and at the United States Patent and Trademark Office (“USPTO”).<sup>2</sup> The two-step test set out by the Court entails rejecting or invalidating a patent as being directed to ineligible subject matter under 35 U.S.C. § 101 through the use of the judicially created exceptions.<sup>3</sup> In applying the *Alice* two-step test, courts have arbitrarily utilized inquiries in its eligibility analysis which have historically been reserved for patentability analysis.<sup>4</sup> Additionally, the Court has failed to give any reasonable guidance as to what constitutes an “abstract idea.”<sup>5</sup> As such, inventors and practitioners are left to wonder how to successfully overcome an *Alice* rejection. The Supreme Court has been cautious to discourage patent examiners and the lower courts from an expansive application of the

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<sup>1</sup> *Alice Corp. Pty. Ltd. v. CLS Bank Int’l.*, 134 S. Ct. 2347 (2014).

<sup>2</sup> See John Duffy, *Opinion Analysis: The Uncertain Expansion of Judge-Made Exceptions to Patentability*, SCOTUSBLOG (June 20, 2014), <http://www.scotusblog.com/2014/06/opinion-analysis-the-uncertain-expansion-of-judge-made-exceptions-to-patentability/> (“[T]his Court has embraced and expanded judge-made exceptions to patentability.”).

<sup>3</sup> See *Alice*, 134 S. Ct. at 2352. The judicially created exceptions to patent eligible subject matter include abstract ideas, natural laws, and natural phenomena. See *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70–71 (2012)).

<sup>4</sup> See Letter from Donna P. Suchy, Section Chair, Intellectual Prop. Law Section of Am. Bar Ass’n, to Hon. Michelle K. Lee, Dir., U.S. Patent and Trademark Office (Mar. 28, 2017) (on file with the Am. Bar Ass’n, <http://patentdocs.typepad.com/files/letter-5.pdf>).

<sup>5</sup> See David Raczkowski, *We Need More Guidance on Applying ‘Abstract Idea’*, LAW360 (Aug. 14, 2014), <http://www.kilpatricktownsend.com/~media/Files/articles/2014/We%20Need%20More%20Guidance%20on%20Applying%20Abstract%20Idea.ashx>.

judicially created exceptions.<sup>6</sup> However, judges and USPTO examiners have felt bound by the broad, sweeping language utilized by the Court, striking down a clear majority of patents facing an *Alice* challenge or rejection as a result.<sup>7</sup>

An effective patent system, providing incentive for scientific research and development, is critical in bringing innovation to an ever increasingly global marketplace.<sup>8</sup> Innovation today occurs across borders and the needs for greater efficiency, increased predictability, and reliability for applicants are crucial in today's global economy.<sup>9</sup> With the recent changes in U.S. patent law, the availability for protection for many of these scientific developments may be dwindling. Many of the leading Silicon Valley companies have begun to turn away from patents and are instead protecting their ideas using copyright and trade secret law, or simply investing money elsewhere.<sup>10</sup> Patent filing numbers were down in the 2015 fiscal year for the first time since 2009, the year of an economic recession.<sup>11</sup> With the decreased possibility of protecting their intellectual property, the innovative culture surrounding Silicon Valley and these leading companies may be stifled. As such, it is crucial that the Court clarify the bounds of the patent statutes and reign in the use of the judicially created exceptions to section 101 sooner rather than later.

This paper will proceed as follows: Part I will provide a brief overview of United States patent law. Part II will examine a series of cases at the Supreme Court analyzing section 101 leading up to and including the *Alice* decision. The impact of the *Alice* decision will then be analyzed in Part III by looking at Federal Circuit decisions

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<sup>6</sup> See *Alice*, 134 S. Ct. at 2354 (quoting *Mayo*, 566 U.S. at 70–71) (“At some level, all inventions embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”).

<sup>7</sup> See Timothy B. Lee, *Software Patents Are Crumbling, Thanks to the Supreme Court*, VOX (Sept. 12, 2014), <https://www.vox.com/2014/9/12/6138483/software-patents-are-crumbling-thanks-to-the-supreme-court>.

<sup>8</sup> See David J. Kappos, *Patent Law Harmonization: The Time is Now*, LANDSLIDE, July–Aug. 2011, at 16.

<sup>9</sup> See *id.* at 16, 18.

<sup>10</sup> See Conor Cawley, *Silicon Valley Is No Longer the Leader in Patent Filings*, TECH.CO (Aug. 2, 2016), <https://tech.co/silicon-valley-not-leader-patent-filings-2016-08> (stating that Silicon Valley has been surpassed as the top region for patent filings by Japan and China); see Alexis Kramer, *Trade Secret Cases Surge as Race for New Tech, Top Talent Heats Up*, BLOOMBERG BNA (May 10, 2017), <https://www.bna.com/trade-secret-cases-n73014450731/> (discussing the surge in trade secret litigation among tech companies).

<sup>11</sup> See USPTO, PERFORMANCE AND ACCOUNTABILITY REPORT 185 tbl.2 (Fiscal Year 2015), available at <https://www.uspto.gov/sites/default/files/documents/USPTOFY15PAR.pdf#page=187>.

applying the *Alice* test and the almost uniform plea from inventors, patent attorneys, and academics alike for the Court to revisit the bounds of the judicially created exceptions to section 101. In Part IV, it will be argued that, while possibly well meaning, the application of the *Alice* test is contrary to congressional intent as it introduces concepts of patentability into the eligibility analysis. Further, the test places district court judges in a difficult position interpreting laws and technologies which they are often unfamiliar with.<sup>12</sup> Finally, Part V will attempt to provide a solution to the problems presented by *Alice* by removing the undue burden of requiring “significantly more.”<sup>13</sup>

## I. OVERVIEW OF PATENT LAW

A patent is a government grant which is meant to promote scientific progress.<sup>14</sup> This grant allows the patent owner the right to exclude others from making, using, or selling the claimed invention for a set number of years.<sup>15</sup> A patent offers a limited monopoly over the invention to the inventor and thus encourages innovation by allowing the exclusion of others from the marketplace in exchange for a complete disclosure of the invention.<sup>16</sup> The disclosure of the invention allows for others to benefit from the knowledge and to further build on the disclosed invention.

The first United States Patent Act was passed in 1790.<sup>17</sup> This act was modified, largely by Thomas Jefferson, in 1793 to include the first definition of patentable subject matter: “any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement on any art, machine, manufacture or composition of matter.”<sup>18</sup> The Patent Act was modified again in 1836,

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<sup>12</sup> Jeanne C. Fromer, *Bend or Break? The Patent System in Crisis: District Courts as Patent Laboratories*, 1 U.C. IRVINE L. REV. 307, 315–16 (2011).

<sup>13</sup> *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 73 (2012)).

<sup>14</sup> See U.S. CONST. art. I, § 8, cl. 8 (“To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”).

<sup>15</sup> See 35 U.S.C. § 271(a) (2012). For a utility patent in the United States, this right to exclude extends for twenty years from the filing date. See U.S. Patent and Trademark Office, *General Information Concerning Patents*, USPTO <https://www.uspto.gov/patents-getting-started/general-information-concerning-patents> (last visited Aug. 15, 2017).

<sup>16</sup> See U.S. Patent and Trademark Office, *supra* note 15.

<sup>17</sup> See Press Release, U.S. Patent and Trademark Office, *The U.S. Patent System Celebrates 212 Years* (Apr. 9, 2002) (on file at <https://www.uspto.gov/about-us/news-updates/us-patent-system-celebrates-212-years>).

<sup>18</sup> Patent Act of 1793, ch. 11, § 1, 1 Stat. 318–23 (1793); Tony Dutra, *Thomas Jefferson’s*

but the first modern Patent Act was laid out in 1952.<sup>19</sup> The Patent Act of 1952 added that an invention must be non-obvious as well as being new and useful.<sup>20</sup> The next major shift in U.S. patent law came in 2011 with the Leahy-Smith America Invents Act (“AIA”).<sup>21</sup> The AIA amended the patent law from a “first to invent” system, where the first applicant to invent was entitled to the patent, to a “first inventor to file” system, where the first applicant to file the application at the USPTO is entitled to the patent.<sup>22</sup>

#### A. Patentability Requirements in the United States

To obtain a patent, U.S. patent law has four basic requirements: the invention must be of a patentable eligible subject matter;<sup>23</sup> the invention must be novel;<sup>24</sup> the invention must be non-obvious;<sup>25</sup> and the invention must be useful.<sup>26</sup> While this paper will focus on the subject matter eligibility requirement, it is important to understand the other requirements as they will serve as the basis in determining patent-eligible subject matter in the absence of the current *Alice* test.<sup>27</sup>

Subject matter eligibility is governed by 35 U.S.C. § 101 which states that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”<sup>28</sup> As such, section 101 sets out four basic categories of patent-eligible categories, into which an applicant’s invention must fall: (1) process; (2) machine; (3) manufacture; and (4) composition of matter.<sup>29</sup>

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*Patent Law Balance: Happy Independence Day*, BLOOMBERG BNA: INTELL. PROP. BLOG (July 5, 2012), <https://www.bna.com/thomas-jeffersons-patent-b12884910491/>.

<sup>19</sup> See MacKenzie Brown, *A Brief History of Patents: Patent Law Past and Present*, CADCROWD (Mar. 24, 2016), <https://www.cadcrowd.com/blog/a-brief-history-of-patents-patent-law-past-and-present/>.

<sup>20</sup> *See id.*

<sup>21</sup> *See id.*; Leahy-Smith America Invents Act, Pub. L. No. 112–29, § 1, 125 Stat. 284, 284 (2011).

<sup>22</sup> *See* Brown, *supra* note 19.

<sup>23</sup> 35 U.S.C. § 101 (2012).

<sup>24</sup> *Id.* § 102(a)–(f).

<sup>25</sup> *Id.* § 103(a).

<sup>26</sup> *Id.* § 101.

<sup>27</sup> *See* Stuart P. Meyer, *Judge Mayer’s Concurrence in IV Shows the Problem with Judicially Created Exceptions*, FENWICK & WEST: BILSKI BLOG (Oct. 10, 2016), <http://www.bilskiblog.com/blog/2016/10/judge-mayers-concurrence-in-iv-shows-the-problem-with-judicially-created-exceptions.html>.

<sup>28</sup> 35 U.S.C. § 101.

<sup>29</sup> *See id.*

Additionally, section 101 recognizes that a new use or improvement of a known invention is also patent-eligible (e.g. using a known chemical compound for a previously unknown use, the unknown use, and not the known compound, may be patented).<sup>30</sup>

The Supreme Court has specifically identified three categories of non-statutory subject matter which may not be patented.<sup>31</sup> These judicially created exceptions are the focus of the *Alice* decision.<sup>32</sup> They are “[l]aws of nature, natural phenomena, and abstract ideas.”<sup>33</sup> Within these judicially created exceptions to section 101 are things such as mathematical formulas, scientific principles, inventions that do not work (e.g. perpetual motion devices), naturally occurring substances, and unmodified living organisms.<sup>34</sup>

Novelty has been a staple of patent law dating by the eighteenth century.<sup>35</sup> For any effective patent system to function, an invention must be new to obtain a patent.<sup>36</sup> 35 U.S.C. § 102 states that a patent will not be novel if “the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.”<sup>37</sup> Section 102 carves out exceptions for disclosures made within one year of the filing date by the applicant or a person who obtained the information from the applicant and for certain disclosures appearing in patent applications.<sup>38</sup>

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<sup>30</sup> See *id.*; MANUAL OF PATENT EXAMINING PROCEDURE § 2112.02(II) (9th ed., 7th rev. 2015) (listing cases where a new use or improvement of a known invention was patent-eligible).

<sup>31</sup> See *Evaluating Subject Matter Eligibility Under 35 USC § 101: Aug. 2012 Update*, U.S. PATENT AND TRADEMARK OFF., at 20, [https://www.uspto.gov/sites/default/files/patents/la\\_wexam/101\\_training\\_aug2012.pdf](https://www.uspto.gov/sites/default/files/patents/la_wexam/101_training_aug2012.pdf) (last visited Aug. 18, 2017).

<sup>32</sup> See *Alice Corp. Pty. Ltd. v. CLS Bank Int'l.*, 134 S. Ct. 2347, 2352 (2014) (“The question presented is whether these claims are patent eligible under 35 U.S.C. §101, or are instead drawn to a patent-ineligible abstract idea.”).

<sup>33</sup> See *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012)).

<sup>34</sup> See, e.g., *Diamond v. Chakrabarty*, 447 U.S. 303, 309–10 (1980) (finding that a new bacterium produced by the patentee with markedly different characteristics from any found in nature is patentable); *CLS Bank Int'l v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1283 (Fed. Cir. 2013) (“[A] person cannot truly ‘invent’ an abstract idea or scientific truth. He or she can discover it, but not invent it.”), *aff’d Alice*, 134 S. Ct. 2347 (2014); Gleb Epelbaum, *From Benson to Alice: Evolution of Patent Eligibility of Computer-Implemented Inventions under 35 U.S.C. § 101*, 87 TEMP. L. REV. ONLINE 15, 15 (2014) (“The Court deemed . . . algorithms by themselves to be unpatentable abstract ideas.”); Eugene R. Quinn, Jr., *Intellectual Property in an Information Economy: Abusing Intellectual Property Rights in Cyberspace: Patent Misuse Revisited*, 28 WM. MITCHELL L. REV. 955, 968 (2002) (stating that an invention that is inoperative should not receive patent protection).

<sup>35</sup> See *Brown*, *supra* note 19.

<sup>36</sup> See generally 35 U.S.C. § 102(a) (2012) (listing “novelty” as a condition for patentability).

<sup>37</sup> *Id.* § 102(a)(1).

<sup>38</sup> *Id.* § 102(b)(1)–(2).

Further, U.S. patent law requires that an invention be non-obvious in view of the prior art.<sup>39</sup> Section 103 states:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.<sup>40</sup>

Section 103 requires that, at the time of filing, the claimed invention has more than just minor and inconsequential differences between the invention and the prior art.<sup>41</sup> In determining whether an invention is obvious, courts will evaluate: (1) the scope and content of the prior art; (2) the differences between the invention and the prior art; (3) the level of ordinary skill in the art; and (4) any secondary considerations and objective indicia of non-obviousness.<sup>42</sup> Some examples of secondary considerations which might point to an invention being non-obvious include commercial success, failure of others, long felt but unsolved need in the field, the existence of licensing of the invention, copying of the invention, unexpected results, and skepticism of experts (stating the invention is unusual).<sup>43</sup>

Additionally, 35 U.S.C. § 112 requires that a patent application describe the invention, and the manner or process of using it, in “full, clear, concise, and exact terms” so as to enable a person having ordinary skill in the art to make and use the invention.<sup>44</sup> Moreover, “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.”<sup>45</sup>

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<sup>39</sup> See *id.* § 103. “Prior art” is a term often used in the patent field to describe a reference, such as a patent or printed publication, or a type of knowledge, such as public knowledge or use, which is used by examiners at the USPTO during prosecution, or by courts during litigation, to show why an application is not novel or why it is obvious. See Gene Quinn, *What Is Prior Art?*, IPWATCHDOG (Oct. 2, 2010), <http://www.ipwatchdog.com/2010/10/02/what-is-prior-art/id=12677/>.

<sup>40</sup> 35 U.S.C. § 103.

<sup>41</sup> See *id.*

<sup>42</sup> See *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966)).

<sup>43</sup> See *id.*; Kevin Moran et. al., *A Review of PTAB Cases Involving Secondary Considerations*, LAW360 (July 31, 2015), <http://www.law360.com/articles/685235/a-review-of-ptab-cases-involving-secondary-considerations>.

<sup>44</sup> 35 U.S.C. § 112(a).

<sup>45</sup> *Id.* § 112(b).

Further, the application must set out the “best mode” for carrying out the invention.<sup>46</sup> The Federal Circuit has held that section 112 contains two requirements, a written description requirement and an enablement requirement.<sup>47</sup> These requirements ensure that the invention is reasonably described in a way to allow one having ordinary skill in the art to know what the invention is and how to practice it, thus eliminating vague and overbroad language from claims.<sup>48</sup>

There is also a requirement that the invention be useful, however this is rarely an obstacle to patentability.<sup>49</sup> Effectively, this requires that the invention be “useful” in some way, which is usually satisfied by an explicit statement in the specification of the patent.<sup>50</sup>

## II. EVOLUTION OF SECTION 101 AT THE SUPREME COURT

Between 2010 and 2014, the Supreme Court issued four decisions<sup>51</sup> culminating with *Alice*, which narrowed the scope of patent protection by significantly expanding the judicially created exceptions of patent eligible subject matter.<sup>52</sup> These decisions have introduced a concept of “inventiveness” into the section 101 analysis—a requirement which should be expressly reserved for

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<sup>46</sup> *Id.* § 112(a).

<sup>47</sup> *See id.* § 112(c) (containing the written description requirement and the enablement requirement); *see also* *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (“[Section 112] contains a written description requirement separate from enablement.”).

<sup>48</sup> *See* 2012-2100 MANUAL OF PATENT EXAMINING PROCEDURE § 2163 (9th ed., rev. 2012) (“The ‘written description’ requirement implements the principle that a patent must describe the technology that is sought to be patented; the requirement serves both to satisfy the inventor’s obligation to disclose the technologic knowledge upon which the patent is based, and to demonstrate that the patentee was in possession of the invention that is claimed.’ . . . Further, the written description requirement promotes the progress of the useful arts by ensuring that patentees adequately describe their inventions in their patent specifications in exchange for the right to exclude others from practicing the invention for the duration of the patent’s term.”); *Id.* § 2164 (“The purpose of the requirement that the specification describe the invention in such terms that one skilled in the art can make and use the claimed invention is to ensure that the invention is communicated to the interested public in a meaningful way.”).

<sup>49</sup> *See* 35 U.S.C. § 101 (emphasis added) (“Whoever invents or discovers any new and *useful* process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”).

<sup>50</sup> *See* Gene Quinn, *Understanding the Patent Law Utility Requirement*, IPWATCHDOG (Nov. 7, 2015), <http://www.ipwatchdog.com/2015/11/07/understanding-the-patent-law-utility-requirement/id=63007/> (providing an overview of the different ways in which the utility requirement can be satisfied).

<sup>51</sup> *See* *Alice Corp. Pty. Ltd. v. CLS Bank Int’l.*, 134 S. Ct. 2347 (2014); *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012); *Bilski v. Kappos*, 561 U.S. 593 (2010).

<sup>52</sup> *See Alice*, 134 S. Ct. at 2360 (first quoting *Mayo*, 566 U.S. at 72; then citing *Parker v. Flook*, 437 U.S. 584, 593 (1978)); Duffy, *supra* note 2.

analysis under sections 102 and 103.<sup>53</sup> While many of the patents struck down under this test developed by the Supreme Court may indeed be undeserving of patent protection, the analysis used by the Court is at odds with congressional intent.<sup>54</sup> These decisions, discussed below, have required Examiners at the USPTO and judges at the lower courts to strike down patents prematurely, rather than analyzing the novelty and non-obviousness of the inventions at the correct stage.

### A. *Bilski v. Kappos*

The patent at issue in *Bilski* involved a method for hedging against the risk of price fluctuation in commodities trading.<sup>55</sup> The Federal Circuit had held that the patent was invalid under section 101, stating that for a patent to be eligible under section 101 it must be either tied to a particular machine or apparatus, or transform a particular article into a different state or thing (the “[M]achine-or-[T]ransformation test”).<sup>56</sup>

The Supreme Court stated that the Federal Circuit incorrectly held that the machine-or-transformation test was the sole test for determining patent eligible subject matter.<sup>57</sup> Rather, the machine-or-transformation test is simply one tool for determining patent eligible subject matter.<sup>58</sup> However, in deciding that the patent was not eligible under section 101, the Court introduced the first elements of “inventiveness” back into section 101 analysis by comparing the claims of the patent to known prior art.<sup>59</sup> Interestingly, the Court

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<sup>53</sup> See 35 U.S.C. §§ 101–03 (2012); see also *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 72–73.) (“We have described step two of this analysis as a search for an ‘inventive concept.’”).

<sup>54</sup> See *Alice*, 134 S. Ct. at 2355; Eric Gutttag, *The Broken Patent-Eligibility Test of Alice and Mayo: Why We Urgently Need to Return to Principles of Diehr and Chakrabarty*, IPWATCHDOG (Sept. 25, 2014), <http://www.ipwatchdog.com/2014/09/25/broken-patent-eligibility-test-of-alice-and-mayo/id=51370/>.

<sup>55</sup> See *Bilski*, 561 U.S. at 599.

<sup>56</sup> See *In re Bilski*, 545 F.3d 943, 949, 956 (Fed. Cir. 2008) (first quoting *Flook*, 437 U.S. 584, 588 n.9 (1978); then citing *Diamond v. Diehr*, 450 U.S. 175, 184 (1981)), *aff'd*, *Bilski*, 561 U.S. 593 (2010).

<sup>57</sup> See *Bilski*, 561 U.S. at 604.

<sup>58</sup> See *id.* (“This Court’s precedents establish that the machine-or-transformation test is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101. The machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible ‘process.’”).

<sup>59</sup> See *id.* at 611 (quoting *In re Bilski*, 545 F.3d at 1013 (Rader, J., dissenting)) (“In light of these precedents, it is clear that petitioners’ application is not a patentable ‘process.’ Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk: ‘Hedging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class.’”).

concluded by stating “[t]oday, the Court once again declines to impose limitations on the Patent Act that are inconsistent with the Act’s text.”<sup>60</sup> However, over the next four years, the Court would do exactly that.

### B. *Mayo v. Prometheus Labs*

In 2012, the Court significantly expanded on the inventiveness concept in section 101 which it introduced in *Bilski*. The patent at issue involved a method for determining the proper dosage of thiopurine drugs.<sup>61</sup> The Court characterized the process as simply reciting a law of nature, a judicially created exception to section 101.<sup>62</sup> The method required only distributing a drug, reading the level of a metabolite, and determining whether it falls within the desired range, a process which the body performs naturally.<sup>63</sup> The Court characterized the issue before it as the following:

The question before us is whether the claims do significantly more than simply describe these natural relations. To put the matter more precisely, do the patent claims add enough to their statements of the correlations to allow the processes they describe to qualify as patent eligible processes that apply natural laws?<sup>64</sup>

The Court separated the claim into its steps, analyzing each, and concluding that:

[T]he claims inform a relevant audience about certain laws of nature; any additional steps consist of well understood, routine, conventional activity already engaged in by the scientific community; and those steps, when viewed as a whole, add nothing significant beyond the sum of their parts taken separately. For these reasons we believe that the steps are not sufficient to transform unpatentable natural correlations into patentable applications of those regularities.<sup>65</sup>

The requirement that the steps do more than “consist of well

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<sup>60</sup> *Bilski*, 561 U.S. at 612.

<sup>61</sup> *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72 (2012) (“The claims purport to apply natural laws describing the relationships between the concentration in the blood of certain thiopurine metabolites and the likelihood that the drug dosage will be ineffective or induce harmful side effects.”).

<sup>62</sup> *See id.*

<sup>63</sup> *See id.* at 73–74.

<sup>64</sup> *Id.* at 77.

<sup>65</sup> *Id.* at 79–80.

understood, routine, conventional activity already engaged in by the scientific community” expressly injects novelty and obviousness analysis into the determination of whether a patent consists of eligible subject matter. The Court specifically relied on *Diamond v. Diehr* to reach its conclusion;<sup>66</sup> however, the Court ignored an important aspect of *Diehr*. Specifically, that “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.”<sup>67</sup>

For whatever reason, the Court ignored both its prior holding in *Diehr*, and its own warning in this very case<sup>68</sup> and established a two-part test for determining subject matter eligibility under section 101, which would be later defined in *Alice*.<sup>69</sup> The test is often described as having steps 1, 2(a) and 2(b).<sup>70</sup> Step 1 requires the court to determine if the patent is directed to one of the four categories of eligible subject matter set out in section 101.<sup>71</sup> If the answer to step 1 is yes, step 2(a) has the court determine whether the claims of the patent are directed at a patent ineligible subject matter (i.e. a judicially created exception).<sup>72</sup> If the answer is no, the patent is eligible.<sup>73</sup> If the answer to step 2(a) is yes, step 2(b) requires the court to determine whether the claimed processes have transformed the unpatentable subject matter into patent eligible applications through applying the natural law, abstract idea, or natural phenomena in a way that is not “well-understood, routine, conventional activity.”<sup>74</sup> The second step of this process inherently requires the court to determine the novelty of the claims.<sup>75</sup>

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<sup>66</sup> See *Mayo*, 566 U.S. at 81 (citing *Diamond v. Diehr*, 450 U.S. 175, 177–79 (1981)).

<sup>67</sup> *Diehr*, 450 U.S. at 188–89.

<sup>68</sup> See *Mayo*, 566 U.S. at 71 (“The Court has recognized, however, that too broad an interpretation of this exclusionary principle could eviscerate patent law.”).

<sup>69</sup> See *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) (quoting *Mayo*, 566 U.S. at 77–78).

<sup>70</sup> See U.S. PATENT AND TRADEMARK OFFICE, 2014 INTERIM ELIGIBILITY GUIDANCE QUICK REFERENCE SHEET 1 (2014), [https://www.uspto.gov/patents/law/exam/2014\\_eligibility\\_qrs.pdf](https://www.uspto.gov/patents/law/exam/2014_eligibility_qrs.pdf) [hereinafter 2014 INTERIM ELIGIBILITY GUIDANCE QUICK REFERENCE SHEET].

<sup>71</sup> See *id.*

<sup>72</sup> See *id.*

<sup>73</sup> *Id.*

<sup>74</sup> *Mayo*, 566 U.S. at 73 (citations omitted); 2014 INTERIM ELIGIBILITY GUIDANCE QUICK REFERENCE SHEET, *supra* note 70, at 1.

<sup>75</sup> To determine whether a claim is not routine or well understood in the field is essentially asking if the invention is new. See *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1347 (Fed. Cir. 2015) (discussing that an analysis analogous to novelty and obviousness aids in the determination of the second step of the test).

*C. The Alice Decision*

In June 2014, the Supreme Court issued its unanimous decision in *Alice*.<sup>76</sup> The issue decided by the Court was relatively narrow: whether a business method implemented utilizing a generic computer transforms the abstract idea into a patent eligible claim.<sup>77</sup> First, the Court discussed that the question of whether the claims at issue were directed to an abstract idea was not a difficult inquiry.<sup>78</sup> The Court declined to give any further guidance on what constitutes an abstract idea, simply stating:

In any event, we need not labor to delimit the precise contours of the “abstract ideas” category in this case. It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here. Both are squarely within the realm of “abstract ideas” as we have used that term.<sup>79</sup>

In doing so, the Court failed to define what constitutes an abstract idea. Instead, they relied on the rather circular logic that an abstract idea is one which has been held to be abstract in the past.<sup>80</sup>

The Court also reaffirmed the two-part test set out in *Mayo v. Prometheus* for judicially created exceptions.<sup>81</sup> Step 2 of the test requires the Court to first determine whether the claims are directed at a patent ineligible concept (such as an abstract idea).<sup>82</sup> Second, if the claims are directed at a patent ineligible concept, the Court looks for something which “transform[s] the nature of the claim’ into a patent-eligible application.”<sup>83</sup> The Court has described the second step as a search for an “inventive concept,” which they describe as “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.’”<sup>84</sup>

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<sup>76</sup> *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2351 (2014).

<sup>77</sup> *See id.* at 2351–52.

<sup>78</sup> *See id.* at 2357.

<sup>79</sup> *See id.*

<sup>80</sup> *See id.*

<sup>81</sup> *See id.* at 2355 (citations omitted); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 77–78 (2012).

<sup>82</sup> *See Alice*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 71).

<sup>83</sup> *Id.* (quoting *Mayo*, 566 U.S. at 78).

<sup>84</sup> *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 73). European patent law contains a similar requirement to an inventive concept called the inventive step. *See* JOHN RICHARDS, OBVIOUSNESS AND INVENTIVE STEP – NEW DIFFERENCES? (2009), [http://fordhamconference.com/wp-content/uploads/2010/08/John\\_Richards\\_Obviousness\\_and\\_Inventive\\_Step\\_New\\_Diff](http://fordhamconference.com/wp-content/uploads/2010/08/John_Richards_Obviousness_and_Inventive_Step_New_Diff)

Having quickly decided that the claims in *Alice* were directed to an abstract idea, a majority of the opinion focused on the second step of the test. The Court found that the use of a generic computer to implement an abstract idea was not sufficient to satisfy the second step.<sup>85</sup> The Court stated that the use of a computer was a routine, well understood, and conventional activity which does not amount to “significantly more” as required by the test.<sup>86</sup> “[T]he claims at issue amount to ‘nothing significantly more’ than an instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer.”<sup>87</sup>

The Court believed *Alice* to be a “minor case,” in which the Court was not setting new precedent, but rather following its own previous decisions.<sup>88</sup> The Court clearly did not anticipate, or intend, the effects of this decision which have been seen in practice.<sup>89</sup> Software is not mentioned in the text of the *Alice* opinion. The Court did not believe this was a case about software patents and was even told during oral arguments by CLS that “[t]his is not the death of software patents . . . [t]his will not affect software patents.”<sup>90</sup> In fact, the Court attempted to dissuade lower courts from an over-expansive application of the judicially created exceptions:

[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law. At some level, “all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” Thus, an invention is not rendered ineligible for patent simply because it involves an abstract concept.<sup>91</sup>

### III. THE IMPACT OF ALICE

Traditionally, the most common rejections seen by applicants were

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erences.pdf (last visited Sept. 1, 2017). However, this inquiry under European patent law is done during the obviousness analysis, rather than subject matter eligibility. *See id.*

<sup>85</sup> *See Alice*, 134 S. Ct. at 2360.

<sup>86</sup> *See id.* at 2359–60 (quoting *Mayo*, 566 U.S. at 79).

<sup>87</sup> *Alice*, 134 S. Ct. at 2360 (quoting *Mayo*, 566 U.S. at 79).

<sup>88</sup> *See* Robert P. Sachs, *Two Years After Alice: A Survey of the Impact of a “Minor Case” (Part 1)*, BILSKI BLOG (June 16, 2016), <http://www.bilskiblog.com/blog/2016/06/two-years-after-alice-a-survey-of-the-impact-of-a-minor-case.html>.

<sup>89</sup> *See* Robert P. Sachs, *Alicestorm in the Dog Days of Summer*, BILSKI BLOG (Sept. 7, 2016), <http://www.bilskiblog.com/blog/2016/09/alicestorm-in-the-dog-days-of-summer.html>.

<sup>90</sup> Transcript of Oral Argument at 42–43, *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014) (No. 13-298); *see also* Sachs, *supra* note 88 (discussing that the Court did not believe that *Alice* would have a significant impact on software patents).

<sup>91</sup> *Alice*, 134 S. Ct. at 2354 (first citing *Mayo*, 566 U.S. at 71; then quoting *Mayo*, 566 U.S. at 71; and then citing *Diamond v. Diehr*, 450 U.S. 175, 187 (1981)).

based on sections 102 and 103.<sup>92</sup> However, following the Supreme Court's decision in *Alice*, the number of section 101 rejections has grown, especially with regard to software-related patent applications.<sup>93</sup> Challengers to patents have had a nearly seventy percent success rate in invalidating patents for failing to claim a subject matter that is patent-eligible.<sup>94</sup> Those patents which have survived these challenges have often done so at the expense of severely limiting the scope of their claims.<sup>95</sup>

This “minor” case has had a significant impact on patent practitioners across the country.<sup>96</sup> Kenneth Adamo, a partner at Kirkland & Ellis, discussed that “[n]o U.S. Supreme Court patent case has ever had so large an effect in so short a time as *Alice Corp. Pty. Ltd. v. CLS Bank Int'l.*”<sup>97</sup> Mark Lemley, a Professor of Law at Stanford Law School, stated that

I think *Alice* is a real sea change on the patentable subject matter issue. I've heard a lot of folks talk about how *Alice* doesn't really use the word “software” so it doesn't really change anything, but I honestly think that's wishful thinking.<sup>98</sup>

Professor Lemley continued “what I would say is a majority of the software patents being litigated right now, I think, are invalid under *Alice*.”<sup>99</sup> Professor Lemley's prediction proved to be correct, as sixty-seven of the patents challenged under a section 101 defense motion have been found to be invalid.<sup>100</sup> As of March 31, 2017, the Federal Circuit has heard eighty-eight cases on this matter and have

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<sup>92</sup> See Yuri Eliezer, *The 2 Most Common Rejections of a Patent Application*, SMARTUP (Feb. 3, 2015), <https://www.smartuplegal.com/learn-center/the-2-most-common-rejections-of-a-patent-application>.

<sup>93</sup> See James Cosgrove, *The Most Likely Art Units for Alice Rejections*, IPWATCHDOG (Dec. 14, 2015), <http://www.ipwatchdog.com/2015/12/14/the-most-likely-art-units-for-alice-rejections/id=63829/>; Robert Sachs, *An Update on Section 101 Rejection Rates at The USPTO*, LAW360 (Oct. 21, 2015) <http://www.law360.com/articles/716742/an-update-on-section-101-rejection-rates-at-the-uspto>.

<sup>94</sup> See *SCOTUS Alice Decision is Taking a Toll on Computer-Related Patents*, HAUG PARTNERS (Feb. 16, 2016), <http://www.haugpartners.com/article/scotus-alice-decision-is-taking-a-toll-on-computer-related-patents/>.

<sup>95</sup> See *id.*

<sup>96</sup> See Sachs, *supra* note 88; see Gene Quinn, *The Ramifications of Alice: A Conversation with Mark Lemley*, IPWATCHDOG (Sept. 4, 2014), <http://www.ipwatchdog.com/2014/09/04/the-ramifications-of-alice-a-conversation-with-mark-lemley/id=51023/>.

<sup>97</sup> Kenneth Adamo, *Where Do We Stand One Year After Alice?*, LAW360 (June 17, 2015), <http://www.law360.com/articles/668773/where-do-we-stand-one-year-after-alice>.

<sup>98</sup> Quinn, *supra* note 96.

<sup>99</sup> *Id.*

<sup>100</sup> Sachs, *supra* note 88.

only found eight cases with patent eligible claims.<sup>101</sup> The graph reproduced below, compiled by the team at BilskiBlog, shows the dramatic impact *Alice* has had to date in federal courts, the Patent Trial and Appeal Board (“PTAB”), and the ITC.<sup>102</sup>

	Total Invalid		
	Total	Under §101	% Invalid
Fed. Ct. Decisions	473	317	67.0%
Federal Circuit	88	80	90.9%
District Courts	385	237	61.6%
Patents	837	502	60.0%
Claims	23597	15661	66.4%
Motions on Pleadings	248	154	62.1%
PTAB CBM Institutions	152	129	84.9%
PTAB CBM Final	89	87	97.8%
PTAB PGR	7	3	42.9%
ITC	12	5	41.7%

As of 3/31/17

Additionally, the *Alice* decision has significantly increased the workload on the already overburdened USPTO.<sup>103</sup> Not only are attorneys and applicants struggling with the application of *Alice*, but so too are patent examiners.<sup>104</sup> With greater inconsistency in applying *Alice* comes more rejections based on 35 U.S.C. § 101, but also an increase in applicant rebuttals and appeals of examiner

<sup>101</sup> See Robert R. Sachs, *AliceStorm Update for Q1 2017*, BILSKI BLOG (Apr. 6, 2017), <http://www.bilskiblog.com/blog/2017/04/alicestorm-update-for-q1-2017.html>; see also *Thales Visionix, Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017) (citing *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014)); *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1306–07 (Fed. Cir. 2016); *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1316 (Fed. Cir. 2016); *Rapid Litig. Mgmt. v. CellzDirect, Inc.*, 827 F.3d 1042, 1052 (Fed. Cir. 2016); *BASCOM Glob. Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1346 (Fed. Cir. 2016); *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1259 (Fed. Cir. 2014).

<sup>102</sup> Sachs, *supra* note 101.

<sup>103</sup> See Manny Schecter, *The Unforeseen Impact of Alice*, IPWATCHDOG (March 26, 2015), <http://www.ipwatchdog.com/2015/03/26/the-unforeseen-impact-of-alice/id=56105/> (“A conservative approach might assume a patent examiner will need about 15 minutes more per rejection to deal with the new uncertainties of patentable subject matter. Assume just 10,000 of the 500,000 or so utility patent applications are affected. Simple arithmetic indicates 2,500 more hours would be needed for patent examiners to address the affected applications.”).

<sup>104</sup> See *id.*

decisions.<sup>105</sup> The lack of clarity resulting from *Alice* adversely affects applicants, attorneys, examiners and taxpayers.<sup>106</sup>

#### A. *Impact at the Federal Circuit*

Recently, the Federal Circuit has become a graveyard for patents facing an *Alice* challenge under section 101.<sup>107</sup> The court has felt bound by the broad language set out in *Mayo* and *Alice*, and as a result has invalidated a clear majority of patents they have seen in this context.<sup>108</sup> Guided by the Supreme Court, the Federal Circuit, along with district courts, have introduced concepts of patentability (novelty and obviousness) into the eligibility determination.<sup>109</sup> The result has been an expansion of the judicially created exceptions<sup>110</sup> and a blurring of the lines between patent statutes.<sup>111</sup> This is evident from the court's description of the current approach in *Trading Techs. v. CQG*:

We reiterate the Court's recognition that "at some level, all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." This threshold level of eligibility is often usefully explored by way of the substantive statutory criteria of patentability, for an invention that is new, useful and unobvious is more readily distinguished from the generalized knowledge that characterizes ineligible subject matter. This analysis is facilitated by the Court's guidance whereby the claims are viewed in accordance with "the general rule that patent claims 'must be considered as a whole'."

As demonstrated in recent jurisprudence directed to eligibility, and as illustrated in the cases cited ante, the claim

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<sup>105</sup> *Id.*

<sup>106</sup> Schecter conservatively estimates that the *Alice* decision alone could cost the USPTO an additional six million dollars per year. *See id.*

<sup>107</sup> *See* Sachs, *supra* note 101.

<sup>108</sup> *See, e.g.*, Sachs, *supra* note 101.

<sup>109</sup> *See, e.g.*, *Trading Techs. Int'l, Inc. v. CQG, Inc.*, 675 F. Appx. 1001, 1005–06 (Fed. Cir. 2017).

<sup>110</sup> *See* Gene Quinn, *PTAB Declares MRI Machine an Abstract Idea, Patent Ineligible Under Alice*, IPWATCHDOG (Jan. 3, 2017), <http://www.ipwatchdog.com/2017/01/03/ptab-mri-machine-abstract-idea-patent-ineligible/id=76554/> (discussing the result in one case, where the USPTO found an MRI machine to be an abstract idea. The finding of a machine, one of the specifically crafted categories of patent eligible subject matter, to be directed to an abstract idea, and therefore ineligible, illustrates the overreach of section 101 which has resulted from *Alice*).

<sup>111</sup> *See* Lewis Hudnell, *The Post-Alice Blend of Eligibility and Patentability*, LAW360 (July 26, 2017), <http://www.law360.com/articles/944437/the-post-alice-blend-of-eligibility-and-patentability>.

elements are considered in combination for evaluation under Alice Step 1, and then individually when Alice Step 2 is reached. Applying an overview of this evolving jurisprudence, the public interest in innovative advance is best served when close questions of eligibility are considered along with the understanding flowing from review of the patentability criteria of novelty, unobviousness, and enablement, for when these classical criteria are evaluated, the issue of subject matter eligibility is placed in the context of the patent-based incentive to technologic progress.<sup>112</sup>

The introduction of patentability concepts into the eligibility determination in “close questions” has resulted in an overbroad application of section 101 in federal courts and at the USPTO.<sup>113</sup>

### 1. Federal Circuit Decisions Finding Eligible Claims

While this section focuses on decisions which have found patent eligible subject matter after *Alice*, it is important to remember that the Federal Circuit has invalidated ninety percent of the patents which it has reviewed under section 101 after *Alice*.<sup>114</sup> The cases discussed below are the exceptions rather than the norm for patent owners facing a challenge based on *Alice*. However, these cases are a signal that the Federal Circuit is slowly beginning to recognize the problems *Alice* has caused and is attempting to carve out patent eligibility for deserving patents.

#### i. DDR Holdings

Following the Supreme Court’s decision in *Alice*, a large number of those in the community were of the opinion that the decision signaled the end of software patents.<sup>115</sup> As software patents generally apply some known process or method on a computer, it was difficult to see

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<sup>112</sup> *Trading Techs.*, 675 F. Appx at 1005–06 (internal citations omitted) (first quoting *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014); then citing *BASCOM Global Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1347 (Fed. Cir. 2016)).

<sup>113</sup> See *Trading Techs.*, 675 F. App’x at 1006; see also David Kappos, *Over-Reliance on Section 101 Puts Innovation at Risk*, PARTNERSHIP FOR AM. INNOVATION (May 8, 2015), <http://partnershipforamericaninnovation.org/over-reliance-on-section-101-puts-innovation-at-risk/> (“[T]he judicial branch and the U.S. Patent and Trademark Office recently seem to have made Section 101 the issue for determining if a patent is valid, at times to the exclusion of all others.”).

<sup>114</sup> See Sachs, *supra* note 101.

<sup>115</sup> See, e.g., Philip McKay & Bradlee R. Frazer, *Software Patents Are Dead! Long Live Software Patents!*, HAWLEY TROXELL (Oct. 9, 2015), <http://www.hawleytroxell.com/2015/10/software-patents-are-dead-long-live-software-patents/>.

how a software patent would ever satisfy the second step of the *Alice* test.<sup>116</sup> However, in December of 2014, the Federal Circuit offered some hope, finding the software patent at issue in *DDR Holdings v. Hotels.com* to be patent eligible.<sup>117</sup>

The patent at issue (the ‘399 patent) in *DDR Holdings* involved e-commerce system which allowed a host website to take visitors who clicked on a third party advertisement to a composite webpage, rather than directing the visitor to the third party’s webpage.<sup>118</sup> The composite webpage maintained the “look and feel” of the host webpage, while displaying the third-party products, thus allowing the host webpage to retain its visitor traffic.<sup>119</sup> The court had a difficult time classifying the claims of the ‘399 patent as directed to an abstract idea as the claims were directed at a problem that was unique to the internet, rather than a known business method or algorithm.<sup>120</sup> The court balked at deciding whether the claims were directed an abstract idea, thus illustrating the difficulty for practitioners of predicting when claims will be considered to be directed to an abstract idea.<sup>121</sup> Ultimately the court held that, step one notwithstanding, the claims satisfied step two of the *Alice* test.<sup>122</sup>

The court reasoned that the claims of the ‘399 patent contained an inventive concept because the claims were not directed generally at the internet or applied through a generic computer.<sup>123</sup> Rather, “the claims at issue here specify how interactions with the Internet are manipulated to yield a desired result—a result that overrides the routine and conventional sequence of events ordinarily triggered by

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<sup>116</sup> *See id.*

<sup>117</sup> *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1259 (Fed. Cir. 2014).

<sup>118</sup> *See id.* at 1248–49.

<sup>119</sup> *See id.*; *see also* U.S. Patent No. 7,818,399 cols. 27–28 l. 19 (filed Jan. 30, 2006) (claiming the system disclosed in the ‘399 patent).

<sup>120</sup> *See DDR Holdings*, 773 F.3d at 1257.

<sup>121</sup> *See id.* The Supreme Court has previously held that an abstract idea is one which falls within the bounds of previously defined abstract ideas. *See Alice Corp. Pty. Ltd. v. CLS Bank Int’l.*, 134 S. Ct. 2347, 2357 (2014). However, if courts continue to pass on the question of whether a claim is directed to an abstract idea inventors and patent attorneys will be left to guess as to whether their claims will be classified as abstract.

<sup>122</sup> *See DDR Holdings*, 773 F.3d at 1257. Although the court characterized the claims of the ‘399 patent as overcoming step 2 of *Alice*, the language suggests that the court believed the claims were not directed to an abstract idea under step 1. *See* Bart Eppenauer, *DDR Holdings – Federal Circuit Forges a Sensible Path on Software Patents*, PATENTLY-O (Dec. 14, 2014), <https://patentlyo.com/patent/2014/12/holdings-sensible-software.html>.

<sup>123</sup> *See DDR Holdings*, 773 F.3d at 1258–59 (“[The claims of the ‘399 patent do not] recite a commonplace business method aimed at processing business information, applying a known business process to the particular technological environment of the Internet, or creating or altering contractual relations using generic computer functions and conventional network operations, such as the claims in *Alice*, *Ulramercial*, *buySAFE*, *Accenture*, and *Bancorp*.”).

the click of a hyperlink.”<sup>124</sup> As such, the Federal Circuit opened the door for software patents after *Alice*. Ultimately, the court found that where a software patent is directed at an internet-centric problem, the patent is eligible under section 101.<sup>125</sup>

*ii. Enfish*

In May of 2016, software patents took another step forward after *Alice* when the Federal Circuit held that the patents at issue in *Enfish v. Microsoft Corp.* were “not directed to an abstract idea.”<sup>126</sup> The *Enfish* claims describe the steps of configuring a computer memory in accordance with a self-referential table.<sup>127</sup> First, the court provided guidance on the meaning of “directed to” stating that:

The “directed to” inquiry, therefore, cannot simply ask whether the claims involve a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions involves a law of nature and/or natural phenomenon—after all, they take place in the physical world. . . . Rather, the “directed to” inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether “their character as a whole is directed to excluded subject matter.”<sup>128</sup>

Next, the court discussed that where a claim improves a computer’s functioning or improves an existing process, the claim might not be directed to an abstract idea.<sup>129</sup> Contrary to the opinion of many after the *Alice* decision, the court stated that “we [do not] think that claims directed to software, as opposed to hardware, are inherently abstract and therefore only properly analyzed at the second step of the Alice analysis.”<sup>130</sup> Signaling a shift in the analysis of software patents under section 101, the court held that it is proper to look to whether a claim is focused on the improvement of computer functionality itself, and thus not an abstract idea, under the first step of *Alice*.<sup>131</sup>

The court noted that the claims of the *Enfish* patent were directed

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<sup>124</sup> *Id.* at 1258.

<sup>125</sup> *See id.* at 1259.

<sup>126</sup> *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

<sup>127</sup> *See id.* at 1330.

<sup>128</sup> *Id.* at 1335 (citations omitted).

<sup>129</sup> *See Enfish*, 822 F.3d at 1335 (citing *Alice Corp. Pty. Ltd. v. CLS Bank Int’l.*, 134 S. Ct. 2347, 2356, 2358–59, 2355–60 (2014)).

<sup>130</sup> *Enfish*, 822 F.3d at 1335.

<sup>131</sup> *See id.* (“Therefore, we find it relevant to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the Alice analysis.”).

at a specific self-referential table for a computer database.<sup>132</sup> Further, the court pointed out the improvements that the table provided to an existing process as taught by the specification of the patent.<sup>133</sup> In overturning the district court's holding that the patents were invalid under section 101, the Federal Circuit stated that the district court "oversimplified" and "downplayed" the invention's benefits to find an abstract idea.<sup>134</sup> Finding the claims directed to the improved functionality of a computer, the court stopped at step one of the *Alice* test, finding the claims to be patent eligible.<sup>135</sup>

### *iii.* BASCOM

In June of 2016, the Federal Circuit continued the development of section 101 case law with *BASCOM v. AT&T*.<sup>136</sup> The patent at issue in *BASCOM* was an invention for filtering content on the internet by individual controlled access network accounts.<sup>137</sup> The court held that the claims of the patent were directed to the abstract idea of filtering content on the internet "because it is a longstanding, well-known method of organizing human behavior, similar to concepts previously found to be abstract."<sup>138</sup>

Turning to the second step of the *Alice* test, the court found that the claims included additional elements, such as a generic computer, network, and internet components that did not amount to significantly more when considered individually.<sup>139</sup> However, the Federal Circuit found that the district court erred when considering the limitations as an ordered combination.<sup>140</sup> Notably, the court pointed out the confusion in applying the *Alice* test at the district court, stating "[t]he district court's analysis in this case, however, looks similar to an obviousness analysis under 35 U.S.C. § 103, except lacking an explanation of a reason to combine the limitations as claimed."<sup>141</sup> The court held that an inventive concept can be found

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<sup>132</sup> *See id.* at 1337.

<sup>133</sup> *See id.* (citations omitted) ("Moreover, our conclusion that the claims are directed to an improvement of an existing technology is bolstered by the specification's teachings that the claimed invention achieves other benefits over conventional databases, such as increased flexibility, faster search times, and smaller memory requirements.").

<sup>134</sup> *See id.* at 1338.

<sup>135</sup> *See id.* at 1339.

<sup>136</sup> *BASCOM Glob. Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016).

<sup>137</sup> *See id.* at 1345; U.S. Patent No. 5,987,606 claim 1 (filed Mar. 19, 1997).

<sup>138</sup> *BASCOM*, 827 F.3d at 1348 (citations omitted).

<sup>139</sup> *See id.* at 1349.

<sup>140</sup> *See id.* at 1349–50 (citation omitted).

<sup>141</sup> *Id.* at 1350.

under step 2 of *Alice* where there is a “non-conventional and non-generic arrangement of known, conventional pieces.”<sup>142</sup> The court ultimately found that the ordered combination of limitations in the patent was sufficient to transform the abstract idea of filtering content on the internet into a patent eligible invention.<sup>143</sup>

*iv. McRO, Inc.*

The patents at issue in *McRO, Inc.* involved a method for automatic lip synchronization for computer generated characters.<sup>144</sup> The district court held that the patents were directed to the abstract idea of “automated rules-based use of morph targets and delta sets for lip-synchronized three-dimensional animation.”<sup>145</sup> The Federal Circuit disagreed, pointing to the improvement to computer functionality provided by the invention.<sup>146</sup> The court explained that “[t]he claimed rules here, however, are limited to rules with certain common characteristics, i.e., a genus.”<sup>147</sup>

The *McRO, Inc.* court, like the Supreme Court, cautioned that district courts “must be careful to avoid oversimplifying the claims’ by looking at them generally and failing to account for the specific requirements of the claims.”<sup>148</sup> The court held that

[w]hen looked at as a whole, claim 1 is directed to a patentable, technological improvement over the existing, manual 3-D animation techniques. The claim uses the limited rules in a process specifically designed to achieve an improved technological result in conventional industry practice.<sup>149</sup>

## 2. Summary

The Federal Circuit has held that a patent may satisfy the *Alice* test when it is directed to non-generic problems specific to the internet,<sup>150</sup> specific improvements to the functionality of a computer

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<sup>142</sup> See *id.* Although noting that the district court erred in using analysis similar to obviousness under section 103, the terms used by the Federal Circuit (“non-conventional” and “non-generic”) have the hallmarks of obviousness analysis. See *id.*

<sup>143</sup> See *id.* at 1352.

<sup>144</sup> See *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1303 (Fed. Cir. 2016).

<sup>145</sup> See *McRO, Inc. v. Sony Computer Entm’t Am., LLC*, 55 F. Supp. 3d 1214, 1226 (C.D. Cal. 2014).

<sup>146</sup> See *McRO, Inc.*, 837 F.3d at 1313 (citation omitted).

<sup>147</sup> See *id.*

<sup>148</sup> *Id.* (quoting *TLI Commc’ns. LLC v. AV Auto, L.L.C.*, 823 F.3d 607, 611 (Fed. Cir. 2016)).

<sup>149</sup> *McRO Inc.*, 837 F.3d at 1316 (citing *Alice Corp. Pty. Ltd. v. CLS Bank, Int’l*, 134 S. Ct. 2347, 2358 (2014)).

<sup>150</sup> See *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1259 (Fed. Cir. 2014).

or existing system,<sup>151</sup> or through the non-conventional ordered combination of known pieces.<sup>152</sup> It seems that, based on the claims found to be eligible, the Federal Circuit requires that claims be essentially novel or unobvious when they are found to be directed to a judicially created exception. While these holdings provide some guidance to practitioners on how to overcome *Alice*, they are still left to guess when an invention will be classified as an abstract idea<sup>153</sup> or when an Examiner or district court will improperly apply section 102, 103 or 112 analysis at the section 101 stage, forcing the filing of costly appeals.<sup>154</sup> Practitioners and litigators must now take care to specifically point out the improvements provided by the invention or risk being rejected or invalidated under *Alice*.

### B. Calls for Reconsideration

#### 1. *Sequenom, Inc. v. Ariosa Diagnostics, Inc.*<sup>155</sup>

Several judges have expressed concern that the current section 101 jurisprudence sweeps too far and excludes inventions which deserved protection, such as the one at issue in *Sequenom*.<sup>156</sup> In his concurrence to the majority opinion which invalidated the patent for being ineligible subject matter under section 101, Judge Linn stated:

I join the court's opinion invalidating the claims of the '540 patent only because I am bound by the sweeping language of the test set out in [Mayo]. In my view, the breadth of the second part of the test was unnecessary to the decision reached in Mayo. This case represents the consequence—perhaps unintended—of that broad language in excluding a meritorious invention from the patent protection it deserves and should have been entitled to retain.<sup>157</sup>

The case was denied rehearing en banc at the Federal Circuit, where concern was again raised about the current state of section 101.<sup>158</sup> Judge Dyk, in a concurrence of the denial of rehearing en

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<sup>151</sup> See *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

<sup>152</sup> See *BASCOM Glob. Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016).

<sup>153</sup> See Raczkowski, *supra* note 5.

<sup>154</sup> See Hudnell, *supra* note 111; Schecter, *supra* note 103.

<sup>155</sup> *Sequenom, Inc. v. Ariosa Diagnostics, Inc.*, 136 S. Ct. 2511 (2016).

<sup>156</sup> See *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1372 (Fed. Cir. 2015); see also *id.* at 1380 (Linn, J., concurring) (citation omitted); *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 809 F.3d 1282, 1287 (Fed. Cir. 2015) (Lourie, J., concurring); *Id.* (Dyk, J., concurring).

<sup>157</sup> *Ariosa Diagnostics, Inc.*, 788 F.3d at 1380 (Linn, J., concurring) (citation omitted).

<sup>158</sup> See *Ariosa Diagnostics, Inc.*, 809 F.3d at 1284; *Id.* at 1287 (Dyk, J., concurring).

banc, stated:

Yet I share the concerns of some of my colleagues that a too restrictive test for patent eligibility under 35 U.S.C. § 101 with respect to laws of nature (reflected in some of the language in *Mayo*) may discourage development and disclosure of new diagnostic and therapeutic methods in the life sciences, which are often driven by discovery of new natural laws and phenomena. This leads me to think that some further illumination as to the scope of *Mayo* would be beneficial in one limited aspect. At the same time I think that we are bound by the language of *Mayo*, and any further guidance must come from the Supreme Court, not this court.<sup>159</sup>

The language used by several judges at the Federal Circuit would indicate that this may have been an ideal case for the Supreme Court to address the concerns that have arisen post-*Alice*.<sup>160</sup> However, on June 27, 2016, the Supreme Court denied cert. in this case.<sup>161</sup> With this action, the Court signaled that it is not prepared to reconsider its decision in *Alice*, even with a number of Federal Circuit judges expressing concern over the unclear and broad language of the section 101 tests set out in *Mayo* and *Alice*.

## 2. Judge Newman's Concurrence in *BASCOM*

Judge Newman has also expressed concern over the expansive application of section 101 since the *Alice* decision.<sup>162</sup> Judge Newman suggested that the two-step test of *Alice* is not always necessary to resolve these disputes.<sup>163</sup> She proposed that the court could, and should, decide some of these issues under patentability rather than eligibility.<sup>164</sup> Judge Newman stated that:

35 U.S.C. § 112(a) requires a written description in “full, clear, concise, and exact terms,” and § 112(b) requires “claims particularly pointing out and distinctly claiming the subject matter” of the invention. The process, machine, manufacture, or composition of Section 101 must comply with Section 112.

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<sup>159</sup> *Id.* (Dyk, J., concurring).

<sup>160</sup> See Gene Quinn, *Supreme Court Denies Cert. in Sequenom v. Ariosa Diagnostics*, IPWATCHDOG (June 27, 2016), <http://www.ipwatchdog.com/2016/06/27/70409/id=70409/>.

<sup>161</sup> *Sequenom, Inc. v. Ariosa Diagnostics, Inc.*, 136 S. Ct. 2511 (2016).

<sup>162</sup> *BASCOM Glob. Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352 (Fed. Cir. 2016) (Newman, J., concurring).

<sup>163</sup> See *id.* at 1352–53.

<sup>164</sup> See *id.* at 1354.

Subject matter that complies with Section 112 averts the generality or vagueness or imprecision or over-breadth that characterize abstract ideas. These are conditions of patentability, not of eligibility. The “conditions and requirements of this title” weed out the abstract idea.<sup>165</sup>

Therefore, she opines that the requirements of sections 102, 103, and 112 are generally sufficient to guard against the concerns raised by the Court in the current section 101 analysis under *Alice*.<sup>166</sup>

### 3. Calls for Change from the Community

Many commentators have expressed concern with the Court’s decision in *Alice*.<sup>167</sup> These calls from the community include general uneasiness, proposed amendments to section 101, and even calls for abolishment of section 101 altogether.<sup>168</sup> Two leading intellectual property associations, the Intellectual Property Owners Association (“IPO”) and the American Intellectual Property Law Association (“AIPLA”), have proposed legislative amendments to section 101 to correct the recent Supreme Court decisions relating to subject matter eligibility.<sup>169</sup> One prominent voice in particular has called for a complete abolishment of section 101. Former director of the USPTO David Kappos, and current partner at Cravath, Swaine & Moore, has called for the United States to abolish section 101 to harmonize the foreign patent laws.<sup>170</sup> At the Federal Circuit Judicial Conference, former director Kappos acknowledged that decisions like *Alice* have caused a “real mess” in patent law.<sup>171</sup> Kappos justified his position by stating: “[i]t’s time to abolish Section 101, and the reason I say that is that Europe doesn’t have 101 and Asia doesn’t have 101 and

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<sup>165</sup> *Id.*

<sup>166</sup> *See id.* at 1355.

<sup>167</sup> *See, e.g.,* Jorge A. Goldstein et al., *The Time Has Come to Amend 35 U.S.C. § 101*, 44 AIPLA Q. J. 171, 171 (2016); Letter from Donna P. Suchy, *supra* note 4; Chris Coons, *A Few Thoughts on the Supreme Court’s Section 101 Jurisprudence*, IPWATCHDOG (Feb. 8, 2017), <http://www.ipwatchdog.com/2017/02/08/thoughts-supreme-courts-section-101-jurisprudence/id=78166/>.

<sup>168</sup> *See, e.g.,* Jorge Goldstein et al., *Is It Time to Amend 101?*, IPWATCHDOG (Sept. 25, 2016), <http://www.ipwatchdog.com/2016/09/25/time-to-amend-101/id=72825/>.

<sup>169</sup> *See* AM. INTEL. PROP. LAW ASS’N, AIPLA LEGISLATIVE PROPOSAL AND REPORT ON PATENT ELIGIBLE SUBJECT MATTER 4 (May 12, 2017), <http://www.aipla.org/resources/2/reports/2017AIPLADirect/Documents/AIPLA%20Report%20on%20101%20Reform-5-19-17-Errata.pdf>; INTEL. PROP. OWNERS ASS’N, PROPOSED AMENDMENTS TO PATENT ELIGIBLE SUBJECT MATTER UNDER 35 U.S.C. § 101, at 1 (Feb. 7, 2017), [http://www.ipo.org/wp-content/uploads/2017/02/20170207\\_IPO-101-TF-Proposed-Amendments-and-Report.pdf](http://www.ipo.org/wp-content/uploads/2017/02/20170207_IPO-101-TF-Proposed-Amendments-and-Report.pdf).

<sup>170</sup> *See* Ryan Davis, *Kappos Calls for Abolition of Section 101 of Patent Act*, LAW360 (Apr. 12, 2016), <https://www.law360.com/articles/783604>.

<sup>171</sup> *See id.*

they seem to be doing just fine in constraining patent-eligible subject matter.”<sup>172</sup>

Additionally, the current Director of the USPTO, Michelle Lee, has acknowledged that changes may need to be made to section 101.<sup>173</sup> Recognizing that many deserving patents had been removed from eligibility following *Alice*, Director Lee, speaking at the IAM Patent Law and Policy conference in front of over thirty industry leaders, stated that “legislative discussions may include venue reform and possibly changes to § 101.”<sup>174</sup> Director Lee noted that these changes could come at the judicial, administrative, or legislative level.<sup>175</sup>

#### IV. THE ISSUES WITH ALICE

##### A. *The Search for “Inventiveness” in Section 101 is Contrary to Congressional Intent*

In 1981, the Supreme Court recognized that an analysis analogous to novelty and obviousness under section 101 was inappropriate.<sup>176</sup> The Court stated:

It has been urged that novelty is an appropriate consideration under § 101. Presumably, this argument results from the language in § 101 referring to any “new and useful” process, machine, etc. Section 101, however, is a general statement of the type of subject matter that is eligible for patent protection “subject to the conditions and requirements of this title.” Specific conditions for patentability follow and § 102 covers in detail the conditions relating to novelty. The question therefore of whether a particular invention is novel is “wholly apart from whether the invention falls into a category of statutory subject matter.”<sup>177</sup>

The Court recognized that the Patent Act of 1952 intended for novelty analysis to belong solely under section 102’s purview.<sup>178</sup> The Senate Report stated that “[s]ection 101 sets forth the subject matter

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<sup>172</sup> *Id.*

<sup>173</sup> See Matthew Anderson, *Legislative Changes to 35 U.S.C. § 101*, AM. U. INTELL. PROP. BRIEF (Dec. 7, 2016), <http://www.ipbrief.net/2016/12/07/legislative-changes-to-35-usc-%C2%A7-101/>.

<sup>174</sup> *Id.*

<sup>175</sup> See *id.*

<sup>176</sup> *Diamond v. Diehr*, 450 U.S. 175, 189–90 (1981).

<sup>177</sup> *Id.* (first quoting *In re Bergy*, 596 F.2d 952, 960–61 (C.C.P.A. 1979); then citing *Nickola v. Peterson*, 580 F.2d 898, 906 (6th Cir. 1978)).

<sup>178</sup> *Diehr*, 450 U.S. at 190–91.

that can be patented, ‘subject to the conditions and requirements of this title.’ The conditions under which a patent may be obtained follow, and section 102 covers the conditions relating to novelty.”<sup>179</sup> It is clear that Congress intended the requirements of novelty and obviousness to fall outside the purview section 101 by including the words “subject to the conditions and requirements of this title” in section 101, those conditions being sections 102, 103, and 112.<sup>180</sup> Further, Congress intended section 101 to be broad.<sup>181</sup> When discussing section 101, Congress stated that patentable subject matter may include “anything under the sun that is made by man.”<sup>182</sup> Section 101 has remained unchanged since the passage of the 1952 Act.<sup>183</sup>

However, the Court has seemingly ignored this guidance with their decisions in *Mayo* and *Alice* by requiring a showing of inventiveness or substantially more, terms that inherently lead to analysis analogous to novelty and obviousness under section 101. In fact, the Federal Circuit has recognized this, stating “[o]ther precedent illustrates that pragmatic analysis of §101 is facilitated by considerations analogous to those of §§102 and 103 as applied to the particular case.”<sup>184</sup> The Court has improperly read a limitation into section 101 which Congress has explicitly not intended.<sup>185</sup> In doing so, the Supreme Court has significantly expanded the use of judicially created exceptions, thereby narrowing the scope of patent eligible inventions under section 101.<sup>186</sup> Chief Justice Roberts, in a recent discussion at Rensselaer Polytechnic Institute, stated that the Court sometimes has trouble with the technology underlying patents at issue before it and often decides patent cases based on broader concepts of statutory construction and interpretation.<sup>187</sup> While this

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<sup>179</sup> S. REP. NO. 82-1979, at 2399 (1952), as reprinted in 1953 U.S.C.C.A.N. 2394, 2399.

<sup>180</sup> See 35 U.S.C. § 101 (2012); see also *id.* §§ 102(a), (d), 103(a), 112 (providing for the requirements of novelty, non-obviousness, and written description).

<sup>181</sup> See S. REP. NO. 82-1979, as reprinted in 1953 U.S.C.C.A.N. 2394, 2399.

<sup>182</sup> *Id.* (“A person may have ‘invented’ a machine or a manufacture, which may include anything under the sun that is made by man, but it is not necessarily patentable under section 101 unless the conditions of the title are fulfilled.”).

<sup>183</sup> 35 U.S.C. § 101 (2012).

<sup>184</sup> *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1347 (Fed. Cir. 2015).

<sup>185</sup> See *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980) (quoting *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 199 (1933)) (“[C]ourts ‘should not read into the patent laws limitations and conditions which the legislature has not expressed.’ . . . Congress plainly contemplated that the patent laws would be given wide scope.”).

<sup>186</sup> See Duffy, *supra* note 2.

<sup>187</sup> See Rensselaer Polytechnic Institute, *A Conversation with Chief Justice John G. Roberts, Jr.*, YOUTUBE (Apr. 12, 2017), <https://www.youtube.com/watch?v=TuZEKIRgDEg&feature=youtu.be> (discussing this issue beginning at the 29:35 mark of the video).

may be an effective process in other areas of the law, it has led to instability and unpredictability due to the intricacies of patent law and difficulty in applying the test for lower court judges.

The Court has removed the focus in these cases from the broad concept of eligibility intended by Congress<sup>188</sup> to a vague and unworkable model of a search for inventiveness under section 101.<sup>189</sup> The expansion of the judicially created exceptions by the Court in *Mayo* and *Alice* has created a new section 101 which now requires “anything under the sun that is made by man,” so long as it adds significantly more to known activities.<sup>190</sup> As such, the showing of “any new and useful process, machine, manufacture, or composition of matter”<sup>191</sup> is no longer sufficient to satisfy the requirement of section 101 in many cases.

### B. *The Undue Burden of “Significantly More”*

“At some level, ‘all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’”<sup>192</sup> In reiterating this warning from *Mayo*, the Court in *Alice* seems to have foreseen one of the issues which would stem from its decision. The unwillingness to define what constitutes an abstract idea, coupled with district court judges’ unfamiliarity with the technology underlying these patents, and patent law in general, has led to issues in applying the *Alice* test. Due to these issues, lower courts tend to break down claims to the level of a law of nature, natural phenomenon, or an abstract idea when dealing with certain technologies.<sup>193</sup> The result is that many patent applicants and owners are forced to face the undue burden of showing “significantly more” to satisfy the requirement of section 101.<sup>194</sup>

The Supreme Court has repeatedly held that an abstract idea is one which falls within the bounds of previously defined abstract ideas.<sup>195</sup> This type of circular logic tends to create unpredictability

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<sup>188</sup> See S. REP. NO. 82-1979, as reprinted in 1953 U.S.C.C.A.N. 2394, 2399.

<sup>189</sup> See *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72–73 (2012)) (“We have described step two of this analysis as a search for an ‘inventive concept.’”).

<sup>190</sup> See *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980); *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 72–73).

<sup>191</sup> 35 U.S.C. § 101 (2012) (emphasis added).

<sup>192</sup> *Alice*, 134 S. Ct. at 2354 (quoting *Mayo*, 566 U.S. at 71).

<sup>193</sup> See, e.g., *Enfish, LLC v. Microsoft Corp.*, 56 F. Supp. 3d 1167, 1175, 1176 (C.D. Cal. 2014), *aff’d in part and rev’d in part, remanded by* 822 F.3d 1327 (Fed. Cir. 2016).

<sup>194</sup> *Alice*, 134 S. Ct. at 2360 (quoting *Mayo*, 566 U.S. at 72–73).

<sup>195</sup> See *Alice*, 134 S. Ct. at 2357 (“In any event, we need not labor to delimit the precise

for patent applicants and owners.<sup>196</sup> The Federal Circuit has recognized this issue with the *Alice* test, stating:

Whether the more detailed analysis is undertaken at step one or at step two, the analysis presumably would be based on a generally-accepted and understood definition of, or test for, what an ‘abstract idea’ encompasses. However, a search for a single test or definition in the decided cases concerning § 101 from this court, and indeed from the Supreme Court, reveals that at present there is no such single, succinct, usable definition or test. . . . That is not for want of trying; to the extent the efforts so far have been unsuccessful it is because they often end up using alternative but equally abstract terms or are overly narrow.<sup>197</sup>

District courts play a central role in patent litigation.<sup>198</sup> However, despite their importance, the current section 101 jurisprudence puts district courts in a position to fail.<sup>199</sup> Construing a patent’s claims requires a district court judge to analyze the claims from the viewpoint of a person having ordinary skill in the relevant field.<sup>200</sup> However, district court judges are ill-equipped to make these crucial factual determinations as they often have no technical training.<sup>201</sup>

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contours of the ‘abstract ideas’ category in this case. It is enough to recognize that there is no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here. Both are squarely within the realm of ‘abstract ideas’ as we have used that term.”).

<sup>196</sup> Another way to describe the Court’s test to determine when a claim is directed to an abstract idea is “I know it when I see it,” leaving patentees to guess when judges or examiners will “see” an abstract idea. See Salvador Bezos et al., *Amdocs: An ‘I Know It When I See It’ Test for Abstract Ideas*, LAW360 (Nov. 18, 2016), <https://www.law360.com/ip/articles/863531/amdocs-an-i-know-it-when-i-see-it-test-for-abstract-ideas>.

<sup>197</sup> *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016).

<sup>198</sup> See Fromer, *supra* note 12, at 311–12 (“Almost ninety percent of patent cases are settled in the district court. Of the small remaining number that are adjudicated on the merits, only about half are appealed to the Federal Circuit, leaving the district courts as the final arbiters on patent law in the other half.”).

<sup>199</sup> See generally Rensselaer Polytechnic Institute, *supra* note 187 (discussing that even at the Supreme Court, the Justices have trouble with the technology, often relying on lawyers and amicus briefs to see the “patent issues.”).

<sup>200</sup> See Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005) (citations omitted). For some technologies, ordinary skill in the relevant field may mean the skill only one with advanced technical degrees may possess, putting district court judges in the precarious position of ascertaining this advanced level of knowledge over the length of a single trial, forcing judges to rely on lawyers to explain the complicated technologies to them. See Rensselaer Polytechnic Institute, *supra* note 187 (discussing that even the Supreme Court relies on lawyers and amicus briefs to explain the technology and the impacts to it, beginning at the 29:35 mark of the video).

<sup>201</sup> See Fromer, *supra* note 12, at 315 (“District court judges are principally not technically trained—and even when they are, it is certainly not in every area in which patents might be granted—making it very hard for them to understand often complex patented technologies and the industries in which they occur.”).

Patents under attack from *Alice* are typically in the fields of software or biotechnology, which are difficult to comprehend, even to those with technical training.<sup>202</sup> As a result, district courts will often break down claims to their fundamental elements, which are inevitably directed to laws of nature, natural phenomena, or abstract ideas, despite the Supreme Court's warning.<sup>203</sup> This may be because it is much easier for a district court to do this and then ask "now show me what significantly more this claim provides to satisfy section 101," rather than properly construe the technical and complex claims themselves. This then places an undue burden on the patent owner to essentially show novelty and unobviousness at the section 101 stage to accommodate the district court, even if the claims are not truly directed to a judicially created exception. The claims found to be eligible under section 101 at the Federal Circuit after *Alice* seem to require them to be novel or unobvious,<sup>204</sup> and therefore should be analyzed properly under sections 102 and 103, rather than section 101.

Due to the lack of clarity as to what constitutes an abstract idea and the lack of technical training for judges and juries dealing with often complex patents, patent owners are often unjustifiably required to show "significantly more" at the section 101 stage. Rather than truly determining whether a claim constitutes an abstract idea, district courts may break down claims to a level which falls within the bounds of previously defined abstract ideas and place the burden on the patent owner to show what more the claims add to be patent-eligible.<sup>205</sup> District courts already often struggle with the intricacies of patent law<sup>206</sup> and blurring the lines between patent statutes by introducing patentability concepts into the eligibility analysis has only compounded the problem.

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<sup>202</sup> See *id.*; Robert R. Sachs, *Alicestorm Update February 2017*, BILSKIBLOG (Mar. 16, 2017), <http://www.bilskiblog.com/blog/2017/03/alicestorm-update-february-2017.html> (showing that the highest fields with patents challenged under *Alice* include software, communications, business methods, and biotech).

<sup>203</sup> See, e.g., *Enfish, LLC v. Microsoft Corp.*, 56 F. Supp. 3d 1167, 1176 (C.D. Cal. 2014), *aff'd in part and rev'd in part, remanded by* 822 F.3d 1327 (Fed. Cir. 2016); see *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014) (first citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012), and then citing *Diamond v. Diehr*, 450 U.S. 175, 187 (1981)).

<sup>204</sup> See *supra* Part III.a.2.

<sup>205</sup> See, e.g., *Enfish, LLC*, 56 F. Supp. 3d at 1176.

<sup>206</sup> See Fromer, *supra* note 12, at 316 ("District court judges tend to lack backgrounds in patent law and see patent cases rarely. As such, district courts are unlikely to have a good grasp of the law's many intricacies.").

## V. A POSSIBLE SOLUTION

While some have suggested legislative or administrative changes are necessary to correct the *Alice* decision,<sup>207</sup> a clarification by the Court could be sufficient. While a legislative amendment may provide more guidance for the courts, Congress all too often does fails to act.<sup>208</sup> Therefore, a legislative fix to section 101 is unlikely to occur anytime soon.<sup>209</sup> Although the Court has shown an unwillingness to reconsider their decision,<sup>210</sup> a judicial modification of section 101 interpretation would be the easiest and most effective way to correct the shortcomings of *Alice*.

The judicially created exceptions are established and appropriate law.<sup>211</sup> However, the requiring of “significantly more” to overcome a judicially created exception has created havoc in the patent system. Instead of placing this undue burden on patent applicants and owners, the Court should only require a showing of anything more than the judicially created exception to satisfy scrutiny under section 101. This has already been shown to be a workable system.<sup>212</sup> This “amendment” to *Alice* will place concepts of patentability properly in sections 102 and 103.<sup>213</sup> Additionally, the concerns of the Court will still be addressed as well known and routine activities will inevitably be struck down under sections 102 and 103.<sup>214</sup> Further, as Judge Newman pointed out, claiming vague and generic elements such as a “generic computer” will cause the patent to fail the written description and enablement requirements of section 112.<sup>215</sup> Clarifying the boundaries of the patent statutes will provide lower courts and the USPTO with the guidance needed to provide the

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<sup>207</sup> See Goldstein et al., *supra* note 168, at 171; Letter from Donna P. Suchy, *supra* note 4; Coons, *supra* note 167.

<sup>208</sup> See Meyer, *supra* note 27.

<sup>209</sup> See *id.*

<sup>210</sup> See Quinn, *supra* note 54.

<sup>211</sup> See *Alice Corp. v. CLS Bank: The Supreme Court Weighs in On Patent-Eligibility*, FINNEGAN: IP UPDATES (June 20, 2014), <http://www.finnegan.com/ipupdates/pubdetail.aspx?pub=7932180f-f53a-4cbd-8f0d-7ae4b4b24d5d>.

<sup>212</sup> Article 52(2) of the European Patent Convention sets out exceptions to patentable inventions, but only excludes them “as such,” meaning anything more satisfies this section’s requirement, and places the application into patentability analysis, rather than eligibility. See Convention on the Grant of European Patents art. 52(2)–(3), Oct. 5, 1973, 1065 U.N.T.S. 254.

<sup>213</sup> Removing the search for inventiveness in section 101 will better define the boundaries of the patent statutes. See *supra* Part IV.a.

<sup>214</sup> See Letter from Donna P. Suchy, *supra* note 4.

<sup>215</sup> *BASCOM Glob. Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1354 (Fed Cir. 2016) (Newman, J., concurring) (citations omitted).

predictability and consistency which are crucial in the patent system.

### CONCLUSION

At its heart, the Court's decision in *Alice* states a reasonable premise: taking well known, routine activities and performing them on a generic computer does not create a patentable invention.<sup>216</sup> However, in doing so, the Court set out a two-part test which has expanded the judicially created exceptions to section 101 and blurred the lines between patent statutes. The problems with *Alice* do not reside in the intent of the Court or with the general principle behind the test, but rather in the application of the test in the lower courts and at the USPTO. The vague standard of "significantly more," the difficulty in defining what constitutes an abstract idea, and lower courts' general unfamiliarity with patent law and the technologies underlying them has led to inconsistent and improper results of patents being struck down prematurely at the section 101 stage.<sup>217</sup> Many of the patents struck down under *Alice* should be allowed to face section 102 and 103 scrutiny, overcoming true prior art to justify why they are worthy of patent protection, rather than being forced to answer these questions under section 101 without being able to distinguish from proper prior art.

The concerns of the Court can be served by the novelty, obviousness, and written description standards as routine, conventional activities, by definition, will almost never be novel or unobvious, and as such, will be properly struck down under sections 102, 103, or 112.<sup>218</sup> The judicially created exceptions may be a convenient public policy tool for the Supreme Court to contain "patent trolls,"<sup>219</sup> but it is not an excuse to deny patent protection to deserving

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<sup>216</sup> See *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2359 (2014).

<sup>217</sup> See Ryan Davis, *Alice Rejections Frustrating Patent Applicants, USPTO Told*, LAW360 (Nov. 14, 2016), <https://www.law360.com/articles/860056/alice-rejections-frustrating-patent-applicants-uspto-told>.

<sup>218</sup> See Letter from Donna P. Suchy, *supra* note 4.

<sup>219</sup> See Meyer, *supra* note 27; David Applegate, *Who Are Patent Trolls And What Will H.R. 9 Do About Them?*, FORBES (May 29, 2015), <https://www.forbes.com/sites/econostats/2015/05/29/who-are-patent-trolls-and-what-will-h-r-9-do-about-them/#75c2eab71582> ("Like the proverbial troll who waits under the bridge to collect a toll from unwary passers-by, a 'patent troll' is, by definition, any person or entity that owns a patent but does not produce the patented product or practice the patented method. Instead, the so-called 'troll' exacts a toll, in the form of a license fee, from other persons or entities the 'troll' believes infringes (or do infringe) the patent."); see Michael Skelps, *Supreme Court's Alice Decision Protected My Small Businesses from Patent Trolls*, THE HILL (July 7, 2016), <http://thehill.com/blogs/congress-blog/judicial/286691-supreme-courts-alice-decision-protected-my-small-businesses-from> (discussing how, often, a "troll" patent will be vague and broad, so as to cover a wide range of products).

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inventions. Maintaining the proper bounds of each section of the patent statutes will lead to more consistent results, while still addressing the concerns of the Court.